REMEDIAL INVESTIGATION, FEASIBILITY STUDY, AND CLEANUP ACTION PLAN

1700 Airport Way South, Seattle, Washington

Prepared for: Evergreen Treatment Services

Project No. AS180043 • May 23, 2025 DRAFT

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A Geosyntec Company

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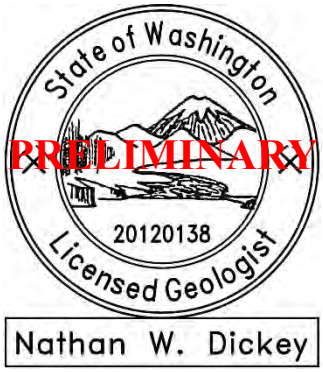
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Aspect Consulting, a Geosyntec Company



Nathan Dickey, LG
Geologist
nathan.dickey@geosyntec.com

Dave Cook, LG, CPG
Senior Principal Geologist
dave.cook@ geosyntec.com

Jasmin Toro
Project Engineer
jasmin.toro@geosyntec.com

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Acronyms

APH	air-phase hydrocarbons
ARAR	applicable or relevant and appropriate requirement
Aspect	Aspect Consulting
BaP	benzo(a)pyrene
CAP	Cleanup Action Plan
cDCE	cis-1,2-dichloroethene
CMIP5	Coupled Model Inter-comparison Project
CMMP	Construction Monitoring and Management Plan
COCs	contaminants of concern
COCPs	contaminants of potential concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CSM	conceptual site model
CUL	Cleanup level
cVOCs	chlorinated solvents
DCA	disproportionate cost analysis
DQR	data quality review
-DRO	diesel-range organics
ECA	Environmental Critical Area
Ecology	Washington Department of Ecology
ECs	engineering controls
EHD	Environmental Health Disparities
EPA	US Environmental Protection Agency
ETS	Evergreen Treatment Services
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FS	Feasibility Study
GCMP	Groundwater Compliance Monitoring Plan

-GRO	gasoline-range organics
HSD	City of Seattle Human Services Department
HUD	United States Department of Housing and Urban Development
IBL	Information By Location
IBS	In Situ Bioremediation
ISCO	injection of chemical oxidants
mg/kg	milligrams/kilograms
µg/L	micrograms per liter
MNA	monitored natural attenuation
MTCA	Model Toxics Control Act
NCEI	National Centers for Environmental Information
NEPA	National Environmental Protection Act
NFA	No Further Action
NOAA	National Oceanic and Atmospheric Administration
NWES	Northwest EnviroService, Inc.
OSHA	Occupational Safety and Health Act
-ORO	oil-range organics
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethylene
PSCAA	Puget Sound Clean Air Agency
QA\QC	quality assurance / quality control
RAOs	remedial action objectives
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI/FS	Remedial Investigation/Feasibility Study
ROI	radius of influence
SEPA	State Environmental Policy Act
SHARP	Site Hazard Assessment and Rating Process

SPU	Seattle Public Utilities
SVE	soil vapor extraction
SVOCS	semivolatile organic compounds
TCE	trichloroethylene
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbons
UIC	Underground Injection Control
USC	United States Code
USGS	U.S. Geological Survey
UW	University of Washington
VOC	volatile organic compound
WAC	Washington Administrative Code
WADOH	Washington State Department of Health
WRIA	Water Resource Inventory Area
WTN	Washington Tracking Network

Executive Summary

Aspect Consulting, a Geosyntec Company, (Aspect) prepared this combined Remedial Investigation (RI), Feasibility Study (FS), and Cleanup Action Plan (CAP) on behalf of Evergreen Treatment Services (ETS) for their facility at 1700 Airport Way South in Seattle, Washington (Site). The source of contamination on the Site, which consists of certain heavy metals, polycyclic aromatic hydrocarbons (PAHs), and chlorinated solvents (cVOCs) in soil, groundwater, and soil gas, is determined to be historical fill placed during regrading projects completed in early Seattle history, and from undocumented releases from historical industrial operations on the Site.

1700 Airport Way South (the Property) is currently owned by ETS, an opioid addiction treatment and social services provider. The Property is developed with one Building featuring two wings connected via an open breezeway. Each wing features a subgrade basement extending approximately 5 feet below ground surface. ETS is currently working toward redeveloping the Property with a purpose-built treatment facility (the New Building) to expand its treatment service capacity. ETS is seeking grant funding from multiple sources to support the redevelopment project.

Under Washington State's Model Toxics Control Act, "Site" is defined as any area where a hazardous substance or petroleum product, other than a consumer product in consumer use, has been deposited, stored, disposed of, placed, or otherwise come to be located (WAC 173-340-200). As determined in this report, the "Site" is defined as the extent of contamination identified in soil and groundwater on the Property and in groundwater under the west-adjoining, city-owned right-of-way of Airport Way South. The nature and extent of contamination has been sufficiently characterized and delineated, as described in this report.

Historically, the Property was part of a larger site occupied by an industrial manufacturer, Western Blower, of large industrial fans. Northwest Enviroservice (later Emerald Services) operated a hazardous waste processing facility on the property to the north and used the warehouses on the Site for some of its operations. The entire Northwest Enviroservice operational area was listed by the US Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) as a contaminated Site. Corrective Action measures were undertaken by Northwest Enviroservice for the Site under the direction of the EPA in the 1990s. The ETS Property, was removed from the cleanup action because the EPA and Ecology determined that only an Environmental Restrictive Covenant would be needed to manage limited arsenic-, lead-, cadmium, petroleum-, benzo(a)pyrene-contaminated soil and concrete at the Property. The Environmental Restrictive Covenant, dated December 7, 2016, involves three restrictions/requirements: (1) limiting non-conforming zoning classification uses, (2) restricting use of groundwater, and (3) restricting the alteration of existing structures without prior written approval from Ecology.

That is one part of the cleanup action proposed for the ETS Subject property – restricting groundwater use and maintaining a protective cap on contaminated soil. The second

component of a cleanup action at the ETS property will involve remedial action related to a solvent plume discovered during ETS' purchase of the Property in 2021. The solvent source is a sump/drain in the north warehouse building that will be demolished as part of ETS' redevelopment of the Site. Therefore, the CAP component on this document focuses on the solvent plume, and it should be considered as a supplemental element to the pre-existing (and planned-to-be-maintained) environmental covenant on this property.

The selected cleanup action for the solvent plume at the Site includes a sump removal and limited remedial excavation around it, *in-situ* treatment of contaminants via injection of chemical oxidants (ISCO), monitored natural attenuation (MNA) of remaining contamination in groundwater, and implementation of engineering (chemical vapor barrier, as needed) and institutional controls (updating the environmental covenant, if needed) for the Property. Remedial excavation would be completed during demolition of the existing Building. ISCO treatment would occur following regrading of the Property but prior to construction of the New Building. Engineering controls would be implemented during construction of the New Building. MNA would follow construction of the New Building and continue for up to 5 years. Institutional controls, currently in place on the Property, would be revised as appropriate following construction and/or completion of the cleanup action.

ETS plans to implement the selected cleanup action in conjunction with the planned redevelopment of the Property.

After implementation of the cleanup action it is expected that the Property and/or Site will qualify for a written no further action determination from Ecology.

This Executive Summary should only be used in the context of the full report.

1 Introduction

Aspect Consulting, a Geosyntec Company (Aspect), presents the Remedial Investigation (RI), Feasibility Study (FS), and Cleanup Action Plan (CAP) in this combined RI/FS/CAP Report for the property located at 1700 Airport Way South in Seattle, Washington (King County tax parcel number 766620-2855) herein referred to as the Property. The location of the Property is shown on Figure 1.

This RI/FS/CAP was prepared in accordance with the Model Toxics Control Act (MTCA), Chapter 70A.305 Revised Code of Washington (RCW), and its implementing regulations, Chapter 173-340 Washington Administrative Code (WAC, together with MTCA), including the requirements of WAC 173-340-350 through -380.

The Property is currently owned by Evergreen Treatment Services (ETS), an opioid addiction treatment and social services provider, and is developed with one Building with two wings connected via an open breezeway. The Building was constructed between 1914 to 1915 and was used to produce industrial blowers for sawmills and furnaces until the late 1960s. The Property was vacant until 1979, when it began being used as part of a larger hazardous waste management facility based at 1500 Airport Way South, north of the Property. The Property was used for business administration and materials management until 1995, when hazardous waste management operations at the 1500 Airport Way South facility ceased and the facility began regulatory closure. ETS moved into the southern wing of the Building as a tenant in 1997. Following a boundary line adjustment establishing the current extent of the Property, a restrictive environmental covenant was recorded on the Property in 2017. Aspect began providing environmental support to ETS regarding the Property in 2018, and the northern portion of the Building was used for management of non-hazardous materials by the Property owner until ETS acquired the Property in 2021. In January 2024, the Building suffered a catastrophic water main break which rendered most of the structure unusable.

ETS is currently working toward redeveloping the Property with a purpose-built treatment facility (the New Building) to expand its treatment service capacity and ETS is seeking grant funding from multiple sources to support the redevelopment project.

Under MTCA, “Site” is defined as any area where a hazardous substance or petroleum product, other than a consumer product in consumer use, has been deposited, stored, disposed of, placed, or otherwise come to be located (WAC 173-340-200). As determined in this report, the “Site” is defined as the extent of contamination identified in soil and groundwater on the Property and in groundwater under the west-adjoining public right-of-way of Airport Way South.

1.1 Purpose and Objectives

The purpose of this RI/FS/CAP Report is to present the results of the independent RI, independent FS, and CAP completed for the Site. Specifically:

- The purpose of the RI is to adequately characterize a contaminated site, including the distribution of hazardous substances and the threat they pose to human health and the environment, to enable cleanup standards to be established for the Site, and cleanup action alternatives to be developed in an FS (WAC 173-340-350).
- The purpose of the FS is to develop and evaluate cleanup action alternatives to enable the selection of a cleanup action that meets the requirements in WAC 173-340-360 and conforms, as appropriate, to the expectations in WAC 173-340-370 (WAC 173-340-351).
- The purpose of the CAP is to document the selected cleanup action and to specify the cleanup standards and other requirements the cleanup action must meet (WAC 173-340-380).

The objectives of this report are as follows

- To fulfill the requirements for enrollment of the Site into the Washington State Department of Ecology's (Ecology's) Expedited Voluntary Cleanup Program (EVCP), and;
- To provide a comprehensive report of the known environmental condition of the Property and expected conditions after redevelopment for review by the City of Seattle Human Services Department (HSD). This review is needed to fulfill applicable requirements of the National Environmental Protection Act (NEPA) as needed to obtain Community Development Block Grant funding provided by the United States Department of Housing and Urban Development (HUD).

1.2 Report Organization

The remaining sections of this report have been organized as follows:

- Section 1 – Introduction
- Section 2 – Site Description and Background
- Section 3 – Remedial Investigation presents the results of the RI and the conceptual site model (CSM), identifies the contaminants of concern (COCs), and describes the cleanup standards selected for the Site.
- Section 4 – Feasibility Study presents the remedial action objectives (RAOs), identifies alternative cleanup actions, and selects the preferred cleanup action.
- Section 5 – Cleanup Action Plan describes the elements of the selected cleanup action, including compliance monitoring.
- Section 6 – Conclusion
- Section 7 – References
- Section 8 – Limitations

2 Site Description and Background

This section describes the Site, surrounding properties, historical uses of the Property, the physical setting, and reviews information relevant to environmental justice.

2.1 Site and Property Description

The Site is defined as the extent of contamination identified in soil and groundwater on the Property and in groundwater under the west-adjoining public right-of-way of Airport Way South. The Property is located at 1700 Airport Way South in Township 24 North, Range 4 East, Section 8 in the City of Seattle in King County, Washington (Figure 1). It comprises King County tax parcel no. 766620-2855, covering approximately 32,516 square feet (0.75 acres), as indicated in tax assessor records. The Site is currently developed with an approximately 15,500-square-foot, 2-story wood-framed Building with two wings separated by a breezeway. The wings are connected at the second story over the breezeway. Both wings feature a basement with a floor approximately 4-5 feet below street grade, and the south wing features a concrete loading dock accessible from the breezeway.

The south wing is a former warehouse with administrative offices which were converted for use by ETS in 1997. The wing has been largely unused since the Building was severely damaged by a water line break in early 2024. The basement was used for employee parking until 2024.

The north wing is a former warehouse that prior to ETS' use was used by Emerald Recycling, a subsidiary of Clean Harbors, as part of their used-oil recycling facility. The north wing is currently in partial use by ETS for storage of equipment and supplies. The central courtyard and parking areas of the Site are currently used to provide addiction treatment services out of Mobile Medical Units operated by ETS.

2.2 Surrounding Property Descriptions

The Property is situated in an area of various commercial and industrial commercial use, as follows:

- **North –** The north-adjacent property is occupied by Emerald Recycling/Clean Harbors as a used-oil recycling facility.
- **East –** Interstate 5 is located east of the Property.
- **South –** The south-adjacent property is a multitenant light industrial property. Tenants include a clothing print shop, cabinet maker, recording studio, window tinting service, product design studio, and martial arts school.
- **West –** The property to the west across Airport Way South includes Holgate Center office building and CenturyLink garage and storage facility. Tenants of the Holgate Center include the Department of Social and Health Services and Quest Diagnostics.

2.3 Historical Use of Property

The historical use of the Site was determined by review of records obtained for previous environmental due diligence reports (Aspect, 2019a; 2021; 2024). The earliest available historical records indicate that the Site was first developed with residential property as early as 1893 (EDR, 2024). At that time, present-day Airport Way South was a wood plank road at the eastern edge of the Elliott Bay tide flats, and the dwellings were possibly built on wharf-like structures supported by timber piles. Between 1907 and 1914, waste soil from the Jackson Street Regrade and Dearborn Street Regrade projects (completed north of the Site) were used to fill in the tide flats west of Beacon Hill, likely including the footprint of the Property (Bagley, 1916; Williams, 2017).

2.3.1 Western Blower – 1910s to 1960s

Records indicate that Western Blower constructed the on-Site Building between 1914 and 1915 and that in 1937, a 350-gallon fuel tank was installed to supply an oil-burning boiler in the central portion of the Building. Building plans dated to 1942 indicate the basement of the north wing featured a paint spray booth, metal shop, metal plating areas, and a sump. Western Blower occupied the Property until the 1960s, and the Site was reportedly vacant in the 1970s. Copies of referenced records are included in Appendix A.

2.3.2 Northwest EnviroService – 1979 to 1995

Northwest EnviroService, Inc. (NWES) began operating a tank cleaning service at 1500 Airport Way South (north of the Site) in 1979 (NWES, 1995; 1996). In 1987, NWES expanded operations onto the Site as part of a 1.3-acre facility between Airport Way South and Interstate 5, spanning from South Atlantic Street to the north and South Holgate Street to the south. Operations on the Site included business administration and materials handling. Facility operations were regulated by Ecology under the Resource Conservation and Recovery Act (RCRA).

In 1995, NWES discontinued its hazardous-waste operations and started RCRA closure of the hazardous-waste handling aspect of the facility. Since their use of the Site (known as the Western Blower Property) was limited, closure of this portion of the Property was conducted separately from the remainder of the Property to the north where more hazardous-waste handling (aka oil recycling) activities were focused. The following provides a summary of NWES' use of the Site, as provided in the following reports:

- "Northwest EnviroService Inc. Interim Status Closure Plan, Western Blower Property" (1995 Closure Plan; NWES, 1995)
- "Northwest EnviroService Inc, Western Blower Property RCRA Closure Sampling Results" (1996 Results Report; NWES, 1996)

Little information is available in the 1995 Closure Plan or 1996 Results Report providing specifics on Site use, chemical handling, or materials storage. NWES states in the reports that Site use included "administrative and warehouse activities," and "sealed and containerized wastes were unloaded from trucks at the load/unload dock and transported to the north-adjacent NWES property for processing." The loading dock near the center of the Building was used for loading and unloading hazardous waste. Containerized waste was then transferred to the north-adjacent parcel, also owned by NWES, for

processing. NWES used the Building space to store pumps, hoses, and other equipment. The north wing of the Building included an area for repairing pumps and a parts washer.

A figure in the report refers to the north wing of the Building as the "Stores Building." King County tax assessor records indicate that the south wing included laboratory space for organic and inorganic sample preparation, most likely for waste disposal characterization.

The 1995 Closure Plan stated the following activities were to be completed for facility closure:

- Remove waste inventory
- Decontamination of Site concrete, sumps, tanks, and equipment
- Disposal of contaminated materials
- Collection of samples to certify completion of closure

The language in the 1995 Closure Plan does not provide details about specific storage tanks or sumps to be decontaminated on the Site. The 1996 Results Report summarizes results from the post-closure sample collection on the Site including three concrete samples, two shallow soil samples, and two groundwater samples from wells[1] MW-1 and MW-2. Samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCS), pesticides, polychlorinated biphenyls (PCBs), sulfide, total petroleum hydrocarbons (TPH), dioxins, metals, and cyanide.

In concrete samples, cadmium was reportedly detected at a concentration of 200 milligrams per kilogram (mg/kg), exceeding the applicable MTCA cleanup level (CUL) for unrestricted land use (NWES, 1996). In soil samples, arsenic, TPH, and benzo(a)pyrene (BaP) were detected at concentrations less than the current MTCA Method A CULs. In groundwater samples, manganese was detected at a concentration of 3,400 micrograms/liter (µg/L) in the sample from MW-2, which exceeded the drinking water standard at the time (2,200 µg/L), and exceeds the current drinking water standard (50 µg/L; WADOH, 2023). Since the laboratory reports were not included in the digital copies of reports reviewed by Aspect, these results cannot be included as part of the RI described in Section 3 but are discussed here as part of the historical context of the Site.

In 1997, Ecology provided an opinion that No Further Action (NFA) or investigation would be required for closure of the Western Blower property except for the recording of a restrictive covenant restricting land use, limiting building alterations, and prohibiting groundwater use. NWES vacated the south wing of the Building in 1997 and began operating the former hazardous waste facility as Emerald Recycling, a processor of nonhazardous waste – primarily used oil (Aspect, 2024).

2.3.3 Emerald Recycling and ETS– 1997 to Present

ETS moved into the south wing of the Building in 1997. In 2017, the Western Blower property was divided into two parcels: the current Property, and the current north-

[1] Monitoring wells were decommissioned or destroyed sometime between 1995 and 2010 (Aspect, 2024)

adjoining property (King County Parcel 7666202861), and the environmental covenant for the Property revised to allow continued use by ETS (Ecology, 2017). Meanwhile, Emerald Recycling (also known as Emerald Services[2]) used the north wing of the Building for materials storage until 2020. ETS acquired the Site from Emerald Services in 2021. In 2024, the Building suffered significant damage from water line break, significantly reducing the usable area for ETS' operations. Since then, ETS has primarily provided treatment services on-Site from temporary structures and Mobile Medical Units located in the central courtyard and parking areas (Aspect, 2024).

2.4 Future Use of the Site

ETS intends to redevelop the Site to improve its capacity to provide treatment services. Specifically, the Site redevelopment plan involves demolishing the current structures and building new structures into an integrated behavioral health and wellness center for the treatment of opioid use disorder specializing in low-barrier, whole-person care.

Redevelopment of the Site is proposed to occur in two Phases. Phase 1 would demolish the current Building completely and build a new structure on the north end of the Property with parking and landscaping placed across the central and southern portions of the Property. Demolition of the current Building would include removal of all structural features of the north wing of the warehouse, including the concrete slab and walls of the basement, and filling of the leftover cavity with clean, imported structural fill. The walls and floor of the basement of the southern wing of the Building would be similarly demolished and the Site would be regarded to be approximately level with Airport Way South Following regrading, the New Building would be built as a two-story wood-framed structure featuring a slab-on-grade foundation covering approximately 10,000 square feet. New hardscaping would be built over regraded areas not covered by the New Building, consisting of either concrete or asphalt over a base course of imported gravel and sand. A copy of the draft Site Improvement Plan is included in Appendix A.

Phase 2 of the redevelopment would build additional clinic space over the parking area on the southern portion of the Site. There is currently no timeline for completion of Phase 2 of the redevelopment. The redeveloped Site is expected to be operated by ETS for the foreseeable future.

2.5 Physical Setting

The project Site is located in the Puget Lowland region, characterized by heterogeneous, glacially deposited sediments within a large topographic basin. According to the Geologic Map of Seattle, produced by the U.S. Geological Survey (USGS) and the Pacific Northwest Center for Geological Mapping Studies, the Site and properties westward are underlain by artificial fill over tide flat deposits (Troost et al., 2005). The eastern boundary of the Site abuts a steep slope beneath current Interstate 5, separating the Site from the northern portion of the Beacon Hill neighborhood. The slope is underlain mainly by Quaternary continental glacial drift deposits from the Pleistocene, including pre-Fraser-age deposits from about 70,000 to 20,000 years ago. The Site features a slight westward slope, with the western boundary and properties west of the

[2] Emerald Services was acquired by Clean Harbors, Inc., in 2016, but still operates the facility at 1500 Airport Way South as Emerald Recycling.

Site situated at approximate Elevation[3] 24 feet. The eastern boundary of the Site, abutting the steep slope under Interstate 5, is at approximate Elevation 27 feet.

GeoEngineers, Inc. (GeoEngineers) completed a geotechnical investigation on the Site in 2023, based on multiple sources of soil data including Aspect soil boring logs from 2018 (GeoEngineers, 2023). Based on the geotechnical investigation report and appended soil boring logs, the Site is underlain by approximately 11 to 16 feet of undocumented imported fill featuring anthropogenic debris including fragments of wood, brick, glass, ceramics, and coal. The fill overlies soft estuarine deposits ranging in thickness from 5 to 19 feet thick, thickening to the west with distance from the steep slopes east of the Site. The estuarine deposits consist of soft interbedded silt and clay, which are underlain by glacially consolidated soils consisting of very stiff to hard silt and clay. The top of these soils appears to slope to the west, increasing in depth from approximately 16 feet below ground surface (bgs; approximate Elevation 15 feet) on the eastern Property boundary to approximately 30 feet bgs (approximate Elevation -5 feet) on the western Property boundary. The glacially consolidated soils reportedly continue deeper than the maximum depth explored on the Site (approximately 35 feet bgs; approximate Elevation -10 feet). The floor of the basement under each wing of the Building is at approximate Elevation 19.4 feet based on survey reports for the Site.

2.6 Climatological Characteristics

Ecology has identified that preparing and adapting to climate change impacts, including rising sea levels, extreme precipitation events, severe drought, increased wildfire risk, and marine water acidification, is a critical challenge for the state (Ecology, 2023a). To assess the vulnerability of a Site remedy to climate change, Ecology requires collection of sufficient information, based on the best available science, regarding current and projected local and regional climatological characteristics to determine which could affect the migration of hazardous substances or the resilience of cleanup action alternatives (WAC 173- 340-350(6)(f)). Current and projected climatological characteristics were assessed based on tools and data sources identified in Ecology's *Sustainable Remediation: Climate Change Resiliency and Green Remediation—A Guide for Cleanup Project Managers* (Ecology, 2023a), and Ecology's Site Hazard Assessment and Rating Process (SHARP; Ecology 2023b).

The following sources were reviewed

- The 2022 Washington State Climate Summary from the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI);
- Projected climate changes for Census Tract 5303300930 (which includes the Site) and relative severity as reported by the Washington Tracking Network (WTN) Information By Location (IBL) Tool;

[3] Elevations in this document are presented in feet relative to the National Vertical Datum of 1988.

- Relative sea level rise projections from the Washington Coastal Hazards Resilience Network and mapping by the University of Washington (UW) Climate Impacts Group (CIG); and
- Federal Emergency Management Agency (FEMA) flood maps.

Copies of data products and maps referenced in this section are included in Appendix A.

2.6.1 Air Temperature

Average near-surface air temperatures in Washington have increased by approximately 2 degrees Fahrenheit (°F) since the beginning of the twentieth century and are projected to continue increasing through the year 2100, resulting in fewer freezing days (maximum daily temperature less than 32°F) and additional hot days (maximum daily temperature greater than 90°F) over time (NCEI, 2022).

The WTN database includes statistics reflective of projected changes in air temperature for each census tract in Washington for the 30-year period centered around 2050 (2036 to 2065) relative to a historical baseline period (1976 to 2005) under Representative Concentration Pathway 8.5 (RCP 8.5) from Phase 5 of the Coupled Model Inter-comparison Project (CMIP5). These statistics include the projected change in annual cooling degree days (WTN, 2020a), the projected change in annual heating degree days (WTN, 2020b), and the projected number of annual days which exceed the historical 99th percentile temperature (WTN, 2020c). Results for the census tract encompassing the Site were accessed via the Washington State Department of Health (WADOH) Environmental Health Disparities (EHD) Map[4] and are summarized in Table A-1 (Appendix A). Relative to the rest of Washington, the Site is projected to experience a moderately high decrease in cool weather, a moderately high increase in hot weather, and a moderate increase in extremely hot weather (WADOH, 2022).

2.6.2 Precipitation and Storms

Regionally, the projected change in total annual precipitation is uncertain but changes in seasonal patterns are projected to result in decreasing precipitation during summer and increasing precipitation during winter (NCEI, 2022). Winter snowpack volumes across the state are projected to decrease as precipitation is projected to increasingly fall as rain instead of snow due to increasing average temperatures. These changes in precipitation patterns would decrease water availability during summer and increase the risk of spring flooding. Heavy rainfall events (greater than 2 inches of precipitation in western Washington) are projected to occur with increased frequency, which would increase flood risk relative to historical patterns.

The WTN database includes an estimate of relative change in average annual precipitation between a historical baseline period (1976 to 2005) and the projected 30-year period centered around 2050 (2036 to 2065) under RCP 8.5 of CMIP5 (WTN, 2020d). Results for the census tract encompassing the Site are summarized in Table A-1 (Appendix A). Relative to the rest of Washington, the Site is projected to experience a high increase in annual precipitation.

[4] https://fortress.wa.gov/doh/wtnibl/WTNIBL/

The FEMA Flood Insurance Rate Map (FIRM) depicts areas impacted by flooding at least once every 100 years (1 percent annual chance flood) according to historical data and modeling. The map shows that the Site is in an area of minimal flood hazard. Projected changes in seasonal precipitation patterns may increase the annual chance of flooding. A "FIRMette" generated for the Site vicinity is included in Appendix A.

2.6.3 Sea Level Rise

Regionally, rising sea levels will increase the frequency of tidal floods and seawater incursion on coastal sites. Since 1900, global mean sea level has risen by approximately 7-8 inches and is likely to increase an additional 1-4 feet by 2100 (NCEI, 2022).

The UW CIG maintains visualizations[5] of projected relative sea level rise for each Water Resource Inventory Area (WRIA) in Washington. The Site is located in WRIA 9 (Duwamish/Green), and copies of data visualizations generated for the coastal section of the WRIA nearest the Site are included in Appendix A. Based on these visualizations, there is a 1 percent chance sea level rise will meet or exceed 5.1 feet by 2100 under RCP 8.5. Seattle Public Utilities (SPU) maintains a map[6] of areas impacted by 2-5 feet of sea level rise based on the results of the Washington Coastal Resilience Project (Miller et al., 2018). The Site is not indicated as being potentially impacted by coastal flooding due to relative sea level rise of up to 5 feet, which would increase the Mean Higher High Water elevation to approximately 19 feet. The elevation of the Site ranges from approximate Elevations 24 to 27 feet.

2.6.4 Wildfire and Landslide Vulnerability

The Site is not located in a vegetated area prone to drought, near the urban-forest interface, or in a forested area, and does not use planted vegetation for erosion control. Therefore, despite projected increases in hot weather, the Site does not appear to be particularly vulnerable to increased wildfire risk due to climate change.

GeoEngineers (2023) identified historical records identifying the slope east of the Site as an Environmental Critical Area (ECA), a potential slide area, and a known historical slide area. Historical records indicate the slide debris was removed by the City of Seattle soon after the slide occurred in 1934 and that the area of the slide was regraded prior to construction of Interstate 5 in the 1960s. Based on these records, GeoEngineers "judge[d] that the construction of [Interstate 5] structure stabilized the landslide-prone area" (GeoEngineers, 2023). Although annual precipitation is expected to increase due to climate change, the Site does not appear to be particularly vulnerable to increased landslide risk due to climate change.

[5] https://cig.uw.edu/projects/interactive-sea-level-rise-data-visualizations/
[6] https://www.seattle.gov/utilities/protecting-our-environment/community-programs/climate-change/projections-and-maps

2.7 Environmental Justice Screening

Washington State is committed to reducing environmental and health disparities in the state and improving the health of all its residents. State and national studies have found that people of color and low-income people continue to be disproportionately exposed to environmental harms in the places they live. These disparities are amplified when environmental impacts are overlaid on communities with preexisting social and economic barriers.

To address and prevent such environmental health disparities, Ecology requires remedial investigations to include a determination of whether the population threatened by a contaminated Site includes a likely vulnerable population or overburdened community (WAC 173- 340-350(6)(h)(iii)), which are defined to mean the same as under the Healthy Environmental for All (HEAL) Act, Chapter 70A.02 RCW, as follows:

- Vulnerable populations are groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to: (i) adverse socioeconomic factors, such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms; and (ii) sensitivity factors, such as low birth weight and higher rates of hospitalization. Vulnerable populations include, but are not limited to, racial or ethnic minorities, low-income populations, populations disproportionately impacted by environmental harms, and populations of workers experiencing environmental harms.
- An overburdened community is defined as a geographic area where vulnerable populations face multiple, combined environmental harms and health impacts and includes, but is not limited to, highly impacted communities. Highly impacted communities are communities designated by the WADOH based on cumulative impact analyses or a community located in census tracts that are fully or partially on "Indian country" as defined in 18 United States Code (USC) Sec. 1151.

In accordance with the legislation, this remedial investigation includes an environmental justice screening to determine whether the potentially exposed population includes a likely vulnerable population or overburdened community. In “Implementation Memorandum No. 25: Identifying Likely Vulnerable Populations and Overburdened Communities under the Cleanup Regulations”, Ecology (2024) established the following test criteria to determine if the potentially exposed population includes a likely vulnerable or overburdened community

- The EHD Index reported by WADOH’s EHD Map for the census tract is rank 9 or 10;
- The Demographic Index reported by the US Environmental Protection Agency’s (EPA’s) EJScreen tool for the census tract is at or above 80th percentile for Washington State; or
- The Supplemental Demographic Index reported by EPA’s EJScreen tool for the census tract is at or above the 80th percentile for Washington State.

2.7.1 Environmental Health Disparities Map

On the EHD Map, WADOH assigns an environmental health disparity index to each census tract using a 1 (low) to 10 (high) ranking scale based on several environmental health factors (WADOH, 2022). The EHD Map was accessed on May 16, 2025, for this assessment.

The Site has an overall environmental health disparity ranking of 9, which is considered high. This ranking is calculated based on environmental exposures, environmental effects, socioeconomic factors, and sensitive populations, described as follows:

- Environmental exposures had a high (10) ranking for the Site, due to reported diesel exhaust PM2.5 emissions, reported PM2.5 concentrations, proximity to heavy traffic roadways, and reported toxic releases from industrial facilities.
- Environmental effects had a high (10) ranking for lead risk from building materials used in housing, proximity to hazardous waste facilities, proximity to hazardous waste treatment storage and disposal facilities, proximity to Superfund sites, and reported wastewater discharge.
- Socioeconomic factors had a moderate (5) ranking for the community with a high percentage of residents who are people of color and a high percentage of residents whose primary language is not English.
- Sensitive populations had a moderate (5) ranking for the community due to a high rate of low birth weight but a low rate of death from cardiovascular disease.

2.7.2 EJScreen

EPA took EJScreen offline in February 2025. On April 1, 2025, Ecology notified MTCA practitioners via email that new demographic assessments should solely use the first criteria in Implementation Memo No. 25, which relies on WADOH's EHD map, until Ecology identifies alternative reliable data sources or alternative demographic criteria.

2.7.3 Screening Results

This assessment assumes the demographic data for the census tract containing the Site is representative of the population potentially exposed to contaminants present on the Site. The census tract containing the Site is ranked 9 on the Environmental Health Disparities Index reported by WADOH. Based on this result, the potentially exposed population includes a likely vulnerable population or overburdened community.

3 Remedial Investigation

Multiple subsurface investigations have been completed at the Site since 1995. Copies of reports provided by EPA and Ecology describing investigations prior to Aspect's work on the Site are missing key information required to verify data usability. The reported results of those investigations are discussed in Section 2.3 but included as part of this RI. Copies of the reports reviewed in this section are included in Appendix B and should be reviewed for more detailed information.

3.1 Field Investigations

3.1.1 Phase II ESA – Aspect, 2019

Aspect completed a Phase II Environmental Site Assessment (Aspect, 2019b; the "2019 Phase II ESA") consisting of soil, groundwater, and soil gas sampling to evaluate

- the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Site;
- the potential presence of soil contamination associated with current or past sources of contamination on the Site or nearby adjacent properties; and
- the potential presence of groundwater contamination associated with current or past sources of contamination on the Site or nearby upgradient properties.

The Phase II ESA included installation of four permanent groundwater monitoring wells (AMW-1 through AMW-4; Figure 2) on and off the Site and collection of soil gas samples via four temporary soil gas sampling points. Copies of soil boring and well construction logs are included in Appendix C. Copies of laboratory reports are included in Appendix D.

A total of six soil samples were submitted for analysis based on field observations and analyzed for TPH as gasoline-range organics (TPH-GRO) via Northwest Method NWTPH-Gx, TPH as diesel- and oil-range organics (TPH-DRO and -ORO) via Northwest Method NWTPH-Dx, and metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) using EPA Method 6020B. Additionally, two samples were submitted for analysis of VOCs using EPA Method 8260D and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA Method 8270D/SIM. Soil results are summarized in Tables 1a and 1b, and discussed in Section 3.2.3.

Four temporary subslab soil gas samples (SV-1 through SV-4; Figure 4) were collected and submitted for analysis of VOCs by EPA Method TO-15. At the time of this report, the soil gas investigation was completed in accordance with available Ecology guidance regarding vapor intrusion assessment (Ecology, 2018a; 2018b; 2018c), which has since been incorporated into the current Ecology guidance (Ecology, 2022a). These results are presented on Table 2 in comparison to current Ecology screening levels protective of commercial workers (Ecology, 2022b) and discussed in Section 3.2.5.

Groundwater was encountered in all four monitoring wells. Groundwater measurements are summarized in Table 3a. Four groundwater samples were collected from the four wells installed during the Phase II ESA and submitted for analysis of gasoline-range TPH

by Northwest Method NWTPH-Gx, diesel- and oil-range TPH by Northwest Method NTWPH-Dx, VOCs by EPA Method 8260D, dissolved metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) by EPA Method 6020B, and total cyanide by EPA Method SM 4500-CN. Groundwater analytical results are summarized in Table 3b and discussed further in Section 3.2.4.

3.1.2 Sump Cleanout and Soil Vapor Sampling – Aspect, 2020

In 2020, the basement sump in the north warehouse and on-Site stormwater system were cleaned based on recommendations presented in the 2019 Phase II ESA (Aspect, 2020). After the sump and stormwater systems were cleaned, two subslab soil gas samples were collected from temporary soil gas sampling points and analyzed for VOCs and air-phase petroleum hydrocarbons. Analytical results are summarized on Table 2 and Figure 4 and discussed in Section 3.2.5. A copy of the laboratory report is included in Appendix D.

3.1.3 Subsurface Investigation – Aspect, 2025

From October 2024 to December 2024, Aspect completed a supplemental subsurface investigation to assess the potential nature and extent of contamination shallow soil and groundwater in the vicinity of the sump in the basement of the north warehouse and to assess the current status of contamination in groundwater identified by previous investigations (Aspect, 2025).

Seven soil borings (AB-01 through AB-06 and AMW-05) were completed to depths ranging from approximately 8 to 15 feet bgs to characterize soil in the vicinity of the sump in the basement of the North Warehouse. Borings were terminated at refusal or when the top of the native estuarine deposits was encountered. Soil boring locations are shown on Figures 2, 3a, 3b, and 3c. Copies of soil boring logs are included in Appendix C.

During this subsurface investigation, a total of 14 soil samples were analyzed for one or more of the following analytes: TPH-GRO by Northwest Method NWTPH-Gx, TPH-DRO and -ORO by Northwest Method NWTPH-Dx, VOCs by EPA Method 8260D, PAHs by EPA Method 8270E, and total arsenic, cadmium, chromium, lead, and mercury by EPA Method 6020B.

Soil boring AMW-5 was completed as a groundwater monitoring well. The construction of AMW-5 expanded the network of monitoring wells associated with the Site to a total of five wells, and groundwater samples were collected from each well. The groundwater samples were analyzed for TPH-GRO by Northwest Method NWTPH-Gx, TPH-DRO and -ORO by Northwest Method NWTPH-Dx, VOCs by EPA Method 8260D, PAHs by EPA Method 8270E, and total and dissolved arsenic, cadmium, chromium, lead, and mercury by EPA Method 200.8.

Previously, the monitoring well network had been surveyed relative to an arbitrary elevation datum. On December 5, 2024, the expanded well network was surveyed relative to NAVD88. Groundwater well construction details are summarized in Table 3a. A copy of the survey report is included in Appendix A.

3.2 Remedial Investigation Results

The results of the subsurface investigations completed since 2018, described below, provide enough clarity on the source, nature, and extent of the contamination to serve as a remedial investigation of the Site.

3.2.1 Geology and Hydrogeology

Soils observed during field investigations consisted primarily of artificial fill soil overlying native estuarine sediments. The fill material was observed to generally be composed of reworked silty sand with gravel, with artificial debris including shards of glass, bricks, and wood. The observed estuarine sediments were composed of interbedded silty sand, sand with silt, sandy clay, and sand with gravel. Estuarine sediments included some seashell fragments and trace rootlets. Soil boring logs are included in Appendix C. An interpretation of the subsurface geology is presented in cross-section on Figure 7.

Groundwater elevations are summarized on Table 3a and depicted on Figures 5a and 5b. During both groundwater sampling events, groundwater elevations ranged from approximate Elevations 18 to 19.5 ft, and the groundwater gradient was generally southward with a shallow hydraulic gradient of about 0.014 to 0.017 feet per foot.

3.2.2 Soil

In previous reports, the analytical results for soil samples are evaluated against the applicable MTCA Method A or Method B CULs for unrestricted land use. Metals concentrations were also evaluated against naturally occurring metals background concentrations for the region (Ecology, 1994). Analytical results of soil samples collected for this RI are summarized in Tables 1a and 1b, shown on Figures 3a through 3c, and illustrated in the cross-section on Figure 7. For this RI, the analytical results are compared against the CULs selected in Section 3.4.2.

Concentrations of cadmium, lead, and PAHs exceeding the selected CULs were detected in soil representative of the surficial fill layer underlying the Site and were either not detected or detected at concentrations less than the selected CULs in samples representative of estuarine deposits underlying the fill material. Other metals, including arsenic, chromium, and mercury, were either not detected or detected at concentrations less than the selected CUL. Analytical results for metals and PAHs are summarized in Table 1a.

TPH-DRO was detected in several samples but at concentrations less than the selected CUL. Additionally, the laboratory indicated the detected concentration of TPH-DRO did not match the fuel standard used for quantification, indicating the detected pattern of TPH is not representative of a recent release of diesel product. Analytical results for TPH and VOCs associated with TPH are summarized in Table 1b.

Chlorinated solvents including tetrachloroethylene (PCE) and its common degradation products[7] were detected in soil at various depths beneath the north warehouse, but not detected in soil beyond the footprint of the north wing of the warehouse. Analytical

[7] The most common degradation products of PCE are TCE, cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride

results for VOCs including PCE, its degradation products, and other halogenated solvents are summarized in Table 1b.

3.2.3 Groundwater

In previous reports, the analytical results for groundwater samples were evaluated against the applicable MTCA Method A or Method B CULs for unrestricted land use. The analytical results of groundwater samples collected for this RI are compared to the CULs selected in Section 3.4.2 and summarized in Table 3b.

Groundwater analytical results from samples collected in 2018 and 2024 indicate the presence of dissolved arsenic at concentrations exceeding the selected CUL, but these detected concentrations are likely naturally occurring due to reducing conditions in the shallow aquifer.

TPH-DRO was detected in groundwater samples from AMW-2 (in 2018 and 2024) and AMW-5 (in 2024) at concentrations less than the applicable MTCA Method A CUL. Similar to the soil results, the laboratory indicated that the chromatographic pattern of the detected hydrocarbons did not match the fuel standard used for quantitation, indicating the detected pattern is not representative of a recent release of diesel product.

Vinyl chloride was detected at concentrations exceeding the selected CUL in the groundwater sample from AMW-1 in 2018 and 2024. Vinyl chloride and cis-1,2-dichloroethene (cDCE) were detected at concentrations exceeding the selected CULs in the sample from AMW-5 in 2024. No other VOCs were detected at concentrations greater than the laboratory reporting limits in groundwater samples collected during the subsurface investigation.

3.2.4 Soil Gas

In 2018, the following contaminants of potential concern were detected at concentrations greater than the current Ecology screening levels protective of commercial workers[8] at SV-4: benzene and vinyl chloride. SV-4 was not analyzed for total air-phase hydrocarbons (APH). Soil gas results are summarized in Table 2.

Acrolein was detected in the sample from SV-3 at a concentration exceeding the Ecology screening level protective of commercial workers. However, acrolein is commonly detected in samples of soil gas without a known source and based on the lack of evidence of use of acrolein on the Site and lack of detections in other media, this detection is not considered to be representative of subslab soil gas conditions.[9]

[8] Ecology provides default vapor intrusion risk-based indoor air levels protective of workers. These levels apply to sites where adults who are working inside commercial buildings are likely the receptors who represent the reasonable maximum exposure to indoor air contamination caused by vapor intrusion (Ecology, 2022b)

[9] Eklund (2020) explains that post-sampling reactions can occur between ketone solvents and the summa canister lining material which produce acrolein. Eklund also explains that 1,3-butadiene is commonly associated with use of heavy tools during installation of subslab soil gas sampling points and is typically not found in follow-up testing.

In 2020, the following contaminants of potential concern were detected at SV-5, located south of the sump and near the previous SV-4 sample location: total APH, benzene, and vinyl chloride.

3.2.5 Data Quality Review

Data presented in this report meet data quality objectives in accordance with MTCA requirements (WAC 173-340-830). Sample collection, handling, and chain-of-custody protocols were followed to achieve representative data for a given matrix, in accordance with industry-standard practices. Chemical analysis of the samples was conducted by an Ecology-accredited laboratory, using MTCA-required analytical methods (Ecology methods for petroleum mixtures and EPA Standard Methods for other analytes). Those analytical methods, in conjunction with a Contract Laboratory Program, specify quality control (QC) procedures (lab method blanks, spikes, internal standards, etc.) to ensure the analytical results are of known quality and acceptable to achieve project objectives.

The laboratory conducted an internal quality assurance (QA) review of the generated results, and qualified results to identify QC concerns in accordance with their standard operating procedures for each analytical method. The laboratory also defined additional data qualifiers to more completely explain QC concerns regarding particular results when necessary, such as when a sample was diluted prior to analysis, or if a sample chromatograph pattern did not resemble the fuel standard used for quantitation.

Upon receipt of the data, Aspect reviewed the analytical results and laboratory report. Qualifiers were assigned to results, as applicable, based on laboratory flagging and report notes. Laboratory results were loaded and managed in a controlled database environment, with assorted data entry QC procedures, ensuring data integrity and consistency.

3.2.5.1 Data Quality Review

In accordance with QA/QC procedures, Aspect performed a data quality review (DQR) of all analytical data for this study. Aspect's standard DQR was developed based on the EPA Stage 2A data validation, with minor modifications designed to meet Aspect's internal data quality and management program goals and the project objectives. Laboratory QA/QC sample results (including a combination of blanks, blank spike and spike duplicate, matrix spike and spike duplicate, surrogate, and lab duplicate recoveries), laboratory-applied flags, and laboratory-provided analysis comments are reviewed. Based on this review, qualifier flags are assigned to the data where appropriate, which indicate data usability for study goals and objectives. Data qualifiers assigned to results for this study include:

1. Data assigned an X (poor match to fuel standard) may be used for both qualification and quantification purposes, but the chromatograms should be reviewed to assess the source of the detected concentration.

2. Data assigned a J (internal standard recovery out of control limits) may be biased due to the analytical control standard concentration falling out of the acceptable range. This data may not be appropriate for qualification or quantification purposes, but are included for historical reference.

3. Values without qualification meet all data measurement quality objectives and are suitable for use.

Based on review of the laboratory QA/QC results, the results of Aspect's DQR, and review of the data qualifiers, it is our opinion that the data presented in this report generally meet data quality objectives in accordance with MTCA requirements (WAC 173-340-830) and are considered acceptable to achieve project objectives.

3.3 Conceptual Site Model

This section presents the CSM, which was developed from the results of the RI and is the basis for developing remedial alternatives for the Site. The CSM covers soil conditions, contaminant release, nature and extent of contamination, contaminant fate and transport, and a preliminary exposure assessment for potential receptors.

3.3.1 Contaminants of Concern and Affected Media

The COCs retained for the Site are based on the occurrence of chemicals positively identified at concentrations exceeding the applicable MTCA Method A CULs during the RI. The COCs for this Site based on this criterion are:

- Arsenic, cadmium, lead, cPAHs (including benzo[a]pyrene), trichloroethylene (TCE), and vinyl chloride in soil
- APH, benzene, and vinyl chloride in soil gas
- Arsenic, cDCE, and vinyl chloride in groundwater

3.3.2 Source, Nature, and Extent of Contamination

Two historical primary sources of contamination have been identified for the Site:

1. **Historical contaminated fill** placed at the Site which contains artificial debris and contaminants associated with uncontrolled dumping of material derived from regrading projects completed by the City of Seattle in the early 1900s (metals, cPAHs, APH, benzene).
2. **The sump in the basement of the north wing of the Building** located in the vicinity of historical Site operations which likely included the use of solvents without a dedicated solvent recovery system and were discharged into the sump.

The nature of contamination on the Site is divided into two distinct sources: (1) PAHs (including cPAHs identified as a COC) and metals (including arsenic, cadmium, and lead retained as COCs) derived from artificial debris contained in the historical contaminated fill across the Site, and (2) chlorinated solvents including TCE and its degradation products[10] (cDCE, tCDE and vinyl chloride) derived from undocumented releases from historical Site operations focused around the sump.

The extent of contamination has been identified by the RI. The results of the RI corroborate the understanding stated in the Site's current environmental covenant that

[10] TCE degradation products include cis-1,2 dichloroethylene (cDCE), trans-1,2 dichlorethylene (tDCE), and vinyl chloride.

shallow soils across the Site are contaminated with metals and cPAHs including the COCs identified above. The historical fill extends between approximate Elevations 9 to 16 feet on the Site.[11] Groundwater has been identified at approximate Elevations 18 to 19.5 feet on the Site.

Chlorinated solvents including TCE, cDCE, and vinyl chloride, have been identified in soil, soil gas, and/or groundwater under the basement of the north wing of the Building. These appear to be derived from undocumented releases of solvents into the sump in the basement of the north wing of the Building.

3.3.3 Contaminant Fate and Transport

Data evaluated during the RI indicate that contaminated soil and groundwater at the Site is the result of (1) placement of contaminated fill across the Site and (2) release of chlorinated solvents around the sump associated with historical use of the north wing of the on-Site Building. Transport mechanisms for COCs include adsorption and advection through groundwater movement. Transport of COCs from vadose zone soil into deeper soil via infiltration of meteoric water is currently severely limited due to the Site being completely covered in hardscaping in accordance with the current environmental covenant.

Contaminants in fill soil (metals and cPAHs) are the direct result of the historical placement of contaminated fill material at the Site. Fill material extends to depths ranging from 11 to 16 feet bgs across the Site, and the top of the shallow unconfined groundwater aquifer is approximately 4-6 feet bgs. Groundwater testing indicates arsenic from historical fill has mobilized into groundwater, but other metals (including the soil COCs of cadmium and lead) and cPAHs have not leached into groundwater at concentrations exceeding MTCA.

During the two groundwater monitoring events completed at the Site (in December 2018 and November 2024), static groundwater was measured to be less than 1 foot below the top of the basement slabs of the Building (approximately 5 to 6 ft bgs). This indicates that during the regional wet season, there is less than one foot of vadose zone soil between the opening of the sump in the north wing of the Building and saturated soils. Data collected during the RI suggests that soil in the vicinity of the sump is discontinuously contaminated with chlorinated solvents, but groundwater samples from AMW-5 (immediately downgradient of the sump) and AMW-1 (approximately 60 feet downgradient of AMW-5) indicate chlorinated solvents have mobilized along the hydraulic gradient in the shallow unconfined aquifer. However, the groundwater sample from AMW-1 collected in November 2024 contained approximately 17 percent less vinyl chloride (2.4 micrograms per liter [ug/L] than was detected in the sample collected in December 2018 (2.9 ug/L). Along with the lack of detection of PCE or TCE in groundwater samples, and the lack of detection of cDCE in AMW-1 despite the detection in AMW-5, suggests the plume of chlorinated solvents in groundwater is naturally degrading and attenuating.

Finally, COCs in soil and groundwater may be transported via volatilization into vadose zone soil gas and advection to openings in the ground surface.

[11] Ground surface elevation varies from approximate Elevations 24 to 27 feet across the Site.

3.3.4 Receptors and Exposure

The nature and extent of COCs in soil and groundwater determine the potential exposure pathways and receptors at the Site. The following section provides a description of the potential exposure pathways and receptors for the contamination at the Site.

3.3.4.1 Soil Exposure Pathways

Two soil exposure pathways, direct contact and leaching-to-groundwater, have been considered for current and potential future uses of the Site as follows:

- **Direct contact pathway:** The direct contact pathway considers both dermal contact and ingestion of soil beneath the Site, to a maximum depth of 15 feet bgs. Soil explorations show shallow soil impacts between approximately 1 to 12.5 feet bgs (Elevation 10.4 to 18.9 ft). The area of contaminated soil is currently capped and covered with pavement and/or structure which effectively prevents exposure, as long as these surfaces are maintained. However, there is a potential for workers to be exposed to soil contamination when redevelopment commences and the surfaces on the Property are temporarily removed. Therefore, the direct contact pathway is considered potentially complete.
- **Soil leaching-to-groundwater pathway:** The soil leaching-to-groundwater pathway requires consideration of the highest beneficial use of groundwater at the Site in accordance with WAC 173-340-357(2)(d). There are currently no beneficial uses of groundwater identified for the Site or the Site vicinity due to the restrictive covenant prohibiting groundwater use on the Site and industrial land use in the Site vicinity. Therefore, the soil leaching-to-groundwater pathway is considered incomplete.

The soil exposure pathways at the Site will be incomplete after the redevelopment is complete and the structural cap across the Site is rebuilt.

3.3.4.2 Groundwater Exposure Pathways

The groundwater exposure pathway considers ingestion of groundwater at the Site. The pathway is considered incomplete for the following reasons:

- Ingestion of groundwater at the Site is considered an incomplete pathway because any use of groundwater at the Property is forbidden by the current environmental covenant.
- Potable water for the Property and surrounding properties is served by a municipal water supply.
- According to the Regulatory Environmental Database Search (EDR) report generated for Aspect's Phase I ESA of the Property, there are no resource protection or public drinking water wells within a 1/4-mile radius of the Property (Aspect, 2024).

3.3.4.3 Vapor Exposure Pathways

The vapor intrusion pathway includes exposure to volatilized soil gas from chemicals dissolved in groundwater, separate nonaqueous phase chemicals, and chemicals sorbed to soil particles in the subsurface. Based on the detected concentration of COCs in soil gas

samples and lack of indoor air assessment, this exposure pathway is currently potentially complete. The planned redevelopment of the Property is expected to address vapor intrusion concerns and to render the vapor exposure pathway incomplete. This mitigation is described further in Section 5.

3.3.4.4 Terrestrial Ecological Evaluation

The purpose of a Terrestrial Ecological Evaluation (TEE) is to assess the potential risk to terrestrial plants and/or animals that live entirely or primarily on affected land. The Site qualifies for a TEE exclusion under WAC 173-340-7491(1)(c)(i), *For sites contaminated with hazardous substances other than those specified in (c)(ii) of this subsection, there is less than 1.5 acres of contiguous undeveloped land on the site or within 500 feet of any area of the site."* A copy of the TEE form documenting this exclusion is provided in Appendix A.

3.4 Cleanup Standards

Cleanup standards consist of a CUL for each hazardous substance that is present at a Site and the location at which the CUL must be met (point of compliance; WAC 173-340-700(3)). This section presents the appliable or relevant and appropriate requirements, contaminants of concern, CULs, and points of compliance based on the results of the remedial investigation.

3.4.1 Applicable or Relevant and Appropriate Requirements

The most applicable or relevant and appropriate requirement (ARAR) for the Site is Ecology's MTCA CULs and regulations that address the implementation of a cleanup under MTCA (Chapter 173.105D RCW; Chapter 173-340 WAC). Other potential ARARs include:

- Federal Clean Water Act (33 USC 1251)
- Federal Water Quality Standards (40 Code of Federal Regulations [CFR] Part 131)
- Federal Small Business Liability Relief and Brownfields Revitalization Act (115 Stat. 2356)
- Federal Davis-Bacon Act (ch. 411, 46 Stat. 1494)
- Occupational Safety and Health Act (OSHA; 29 CFR Subpart 1910.120)
- Water Pollution Control (Chapter 90.48 RCW)
- Water Resources Act of 1971 (Chapter 90.54 RCW)
- Water Quality Standards for Surface Waters of the State of Washington (Chapter 178-201A WAC)
- Hazardous Waste Management (Chapter 70.105 RCW)
- Dangerous Waste Regulations (Chapter 173-303 WAC)
- Solid Waste Management Reduction and Recycling (Chapter 70.95 RCW)
- Washington Industrial Safety and Health Act (Chapter 49.17 RCW)

- Archaeological Sites and Resources (Chapter 27.53 RCW)
- Washington Clean Air Act (Chapter 70.94 RCW)
- State Environmental Policy Act (SEPA; Chapter 43.21C RCW, Chapter 173-802 WAC, and Chapter 197-11 WAC)
- Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 WAC)
- Underground Injection Control (UIC) Program (Chapter 173-218 WAC)
- Puget Sound Clean Air Agency (PSCAA) Regulations (http://www.pscleanair.org)
- Permits from local municipalities, as required, for activities at the Site; examples include City of Seattle demolition, grading, and street use or right-of-way permits

3.4.2 Cleanup Levels

Cleanup actions conducted in accordance with MTCA must comply with cleanup standards for identified COCs and affected media, as well as applicable regulatory requirements based on federal and state laws (WAC 173-340-710). Cleanup standards for the Site include establishing CULs and the points of compliance at which those CULs will be attained in soil, groundwater, and air.

The selected CULs for affected media at the Site are:

- **Soil:** MTCA Method A CULs for unrestricted use
- **Groundwater:** MTCA Method A CULs for protection of drinking water as a beneficial use
- **Soil Gas:** Soil Gas screening levels protective of commercial workers

Other constituents not retained as COCs are generally screened against the MTCA Method A CULs or applicable MTCA Method B CULs if a MTCA Method A CULs is not yet established.

3.4.3 Point of Compliance

The standard points of compliance for the Site are adopted as follows:

- **Soil *for protection from direct contact*.** Ground surface to a depth of 15 feet bgs.
- **Soil *for protection of groundwater***. Throughout the Site.
- **Groundwater *for protection of drinking water*.** Extending vertically from the upper-most depth of the saturated zone to the lowest depth potentially affected.
- **Air *for protection from inhalation*.** Ambient and indoor air throughout the Site.

When it is not practicable to achieve CULs in soil at the standard points of compliance, the cleanup action may involve containment of hazardous substances. In accordance with WAC 173-340-740(6)(f), remedies involving containment may still be determined to comply with cleanup standards, provided:

1. The selected remedy is permanent to the maximum extent practicable.

2. The cleanup action is protective of human health and the environment.

Appropriate institutional controls (IC)s, including compliance monitoring and periodic reviews, are implemented.

4 Feasibility Study

The purpose of the FS is to identify a cleanup action that will achieve the RAOs. Under WAC 173-340-360(4)(c), a cleanup action must take into account current and future uses of the Property.

The FS considers the requirements under 173-340-350 WAC, Site-specific conditions, and the criteria defined in 173-340-360 WAC for screening and evaluation of potentially feasible remedial alternatives for the Site.

4.1 Remedial Action Objectives

RAOs are medium-specific or site-specific goals for protecting human health and the environment. They are established based on the nature and extent of contamination, potential receptors, and current or potential future exposure pathways. The RAOs for the Site consist of the following:

- Minimize or prevent risk to human health from ingestion of and direct contact with soil containing one or more COCs at concentrations above their respective MTCA CULs.
- Minimize or prevent risk to human health from ingestion of and direct contact with groundwater containing one or more COCs at concentrations above their respective MTCA CULs.
- Mitigate potential future risk to human health from inhalation of contaminants in indoor air at concentrations above MTCA CULs through the vapor intrusion pathway.

The goals of the cleanup action are to design and implement a remedy for the Site that is compatible with the planned construction of the New Building, consistent with MTCA, protects human health and the environment, and qualifies the Site for a written determination that no further remedial action is necessary at the Site.

4.2 Assumptions in Remedial Alternatives Development

The following assumptions were made in developing remedial alternatives:

- The extent of contamination is limited to the extent identified in Section 3.3.2.
- Alternatives will not include remediation off-Property (i.e., it is assumed that cleanup of on-Property contamination will result in natural attenuation of off-Property groundwater contamination).

4.3 Identification and Evaluation of Technologies

This section identifies and screens applicable remedial technologies that may be effective cleanup action components for the Site based on the RAOs. The technologies that are retained through this screening process are used to develop the remedial alternatives in the following sections. Applicable remediation technologies for addressing the areas requiring further remediation at the Site include:

- **Institutional Controls (ICs).** Measures to limit or prohibit activities that may interfere with the integrity of a cleanup action or result in exposure to hazardous substances (e.g., limitations on the use of the Property or resources, such as an environmental covenant or maintenance requirements for engineering controls [ECs]).
- **Engineering Controls (ECs).** Containment and/or mitigation systems designed to prevent or limit the movement of, or the exposure to, hazardous substances (e.g., paving/capping, vapor barriers).
- **Monitored Natural Attenuation (MNA).** Monitoring the reduction of contaminants through natural processes over time (e.g., biodegradation).
- **Soil Vapor Extraction (SVE).** Extracting contaminants in the form of soil vapor and introducing oxygen into the unsaturated zone to enhance microbial activity.
- **In Situ Chemical Oxidation (ISCO).** Injecting or mixing an oxidant, such as potassium permanganate or sodium persulfate, into the subsurface to react with and destroy contaminants.
- **In Situ Bioremediation (ISB).** Introducing oxygen (aerobic) or other electron acceptors (anaerobic) into the subsurface to stimulate microbial biodegradation of contaminants (e.g., injecting a soil amendment or bioventing).
- **Soil Excavation and Off-Site Disposal.** Removal of impacted soil, followed by off-site disposal.

These technologies are summarized and screened based on their potential effectiveness, implementability, and relative cost in Table 4. Technologies with low effectiveness or implementability were not retained for development of remedial alternatives. The technologies retained for further development as remedial alternatives are:

- ICs
- ECs
- MNA
- ISCO
- Soil Excavation and Off-Site Disposal

4.4 Selection and Description of Remedial Alternatives

The following remedial alternatives were selected for evaluation in this FS:

- Alternative 1 –MNA
- **Alternative 2** – Source excavation and MNA
- **Alternative 3** – Source excavation, *in situ* treatment, and MNA

Alternative 1 assumes no redevelopment, but maintenance of the current institutional controls including a hardscape cap. Alternatives 2 and 3 assume demolition of current building structures and future redevelopment of the Property with buildings and pavement acting as a protective cap maintained with amended ICs.

Each alternative is described and conceptual design criteria and assumptions are briefly discussed, providing the basis for estimating the cost of each alternative. The estimates are Present Value costs using a discount factor of 2.3 percent[12]. They have an intended accuracy in the range of -30 to +50 percent.

The elements that make up the remedial alternatives and the estimated cost of each alternative are summarized in Appendix A.

4.4.1 Alternative 1 – MNA and Institutional Controls

Alternative 1 includes the following:

- ICs, as an administrative mechanism to ensure long-term performance of the cleanup actions, are required for a cleanup action that involves containment of contaminated media (WAC 173-340-740(6)(f)(iv)). The ICs do not include physical actions to remediate or mitigate impacts on environmental media on the Property. ICs will be utilized in the form of administrative/legal tools to (1) provide notification regarding the presence of contaminated materials; (2) regulate the disturbance/management of these materials and the cleanup action components; and (3) provide for long-term care of cleanup actions, including long-term monitoring. The ICs may include deed restrictions which restrict land use and soil disturbance without Ecology approval.
- MNA reduces contaminant concentrations in groundwater by natural processes such as biodegradation, abiotic degradation, adsorption, and dilution. MNA does not include significant infrastructure but does rely on appropriate conditions for effectiveness. MNA will consist of long-term groundwater and vapor intrusion monitoring. A long-term groundwater monitoring plan would be developed to track contaminant attenuation over time.

Contaminant concentrations in soil, groundwater, and soil gas would be expected to decrease over time via natural attenuation, but only at a very slow rate. Monitoring wells included in MNA monitoring are shown in Figure 8a.

This alternative may be implemented without redevelopment of the Property. Cap inspection and maintenance, vapor intrusion monitoring, and groundwater monitoring would be required indefinitely, but 15 years is assumed for cost estimating purposes in accordance with EPA guidance (EPA, 1988).

4.4.2 Alternative 2 – Source Excavation and MNA

Alternative 2 includes the following:

- Demolition of the sump and removal and off-Site disposal of shallow contaminated soil in the general vicinity of the sump and known shallow soil exceedances. The assumed extent of the excavation is approximately 25 feet by 40 feet to depth reaching approximate Elevation 18 feet (approximately 2 feet

[12] Discount factor based on real interest rate on US Treasury 30-year notes and bonds, Circular A-94 Appendix C, Office of Management and Budget (Revised November 2024).

below the top of the basement slab). However, the final excavation extent may be modified in the field during excavation by field screening and soil sampling.

- Shallow soil excavation to physically remove soil by standard excavation practices and technology with off-Site disposal at a permitted disposal facility. Excavation and off-Site removal of contaminated soil would address the exposure pathways by permanently removing secondary contaminant sources from the Site. However, excavation dewatering is considered impracticable, therefore only excavation of vadose soils is retained.

- Regrading of the Site to support redevelopment with no below-grade structures. A chemical vapor barrier will be constructed at grade beneath new structures with the buildings and hardscapes acting as a hard cap.

- MNA of groundwater and ICs as described in Alternative 1. However, based on the assumption that sump removal and shallow soil excavation would remove significant contaminant mass from the Site, MNA is assumed to only be necessary for 10 years rather than the 15 years assumed in Alternative 1.

The various elements of this alternative are shown on Figure 8b. This alternative may not be implemented without demolition of the Site structures prior to redevelopment of the Property.

4.4.3 Alternative 3 – Source Excavation, In Situ Treatment, and MNA

Alternative 3 includes the following:

- MNA of groundwater and ICs as described in 4.3.1 with the exceptions as described in Section 4.3.2, and the additional exception that the duration of groundwater monitoring is reduced to twice-annually for up to 5 years.

- Source excavation, regrading, and a chemical vapor barrier beneath new structures with the buildings and hardscapes as a cap as described in Section 4.3.2.

- *In-situ* treatment of groundwater and remaining contaminated soil below the vadose zone via application of chemical oxidizers, known as ISCO. ISCO is a remediation technology that involves injecting or mixing an oxidation agent with organic COCs in soil and groundwater and transforming them into nonhazardous or less toxic compounds that are more stable, less mobile, and/or inert. Oxidants will react with the organic COCs, causing the rapid and complete chemical destruction of many organic chemicals and producing carbon dioxide and water. Oxidizing agents used during ISCO at the Site may include permanganate, peroxide, persulfate, percarbonate, and ozone. Oxidants can also liberate naturally occurring metals in the subsurface and can be toxic to native bacteria. ISCO oxidants can persist in the treatment area for a period of weeks to months; however, multiple rounds of ISCO treatment can be required.

- ISCO treatment will be introduced to the subsurface through direct-push injection points in a 10-foot treatment thickness in the vadose or saturated zone. A 7-foot

radius of influence (ROI) is assumed for planning purposes. The injection layout is designed to target contamination around the sump and downgradient of the sump at the Property boundary. Injections within the planned building footprint would be conducted prior to building construction.

The various elements of this alternative are shown on Figure 8c. This alternative may not be implemented without demolition of the Site structures prior to redevelopment of the Property.

4.5 Evaluation of Remedial Alternatives

This section discusses the minimum requirements and procedures for selecting cleanup actions under MTCA (WAC 173-340-360).

4.5.1 MTCA Threshold Requirements

Cleanup actions selected under MTCA must meet four "threshold" requirements identified in WAC 173-340-360(2)(a) to be accepted by Ecology. All cleanup actions must:

- Protect human health and the environment
- Comply with cleanup standards
- Comply with applicable state and federal laws
- Provide for compliance monitoring

When selecting from remedial alternatives that meet the threshold requirements, the following three criteria, identified in WAC 173-340-360(2)(b), must be evaluated:

- **Use permanent solutions to the maximum extent practicable.** A disproportionate cost analysis (DCA) is conducted to assess the extent to which the remedial alternatives address this criterion. The general procedure for conducting a DCA is described in Section 4.4.3.
- **Provide a reasonable restoration time frame.** MTCA places a preference on remedial alternatives that can be implemented in a shorter period of time.
- **Consider public concerns.** Consideration of public concerns is an inherent part of the Site cleanup process under MTCA. This FS considers public concerns as a component of the DCA.

4.5.2 MTCA Disproportionate Cost Analysis

A DCA is conducted to determine whether a cleanup action uses permanent solutions to the maximum extent practicable. This is done by evaluating the relative benefits and costs of remedial alternatives. Seven criteria are considered in the evaluation as specified in WAC173-340-360(3)(f):

- **Protectiveness** – The overall protectiveness of human health and the environment, including the degree to which existing Site risks are reduced, time required to reduce the risks and attain cleanup standards, on-Site and off-Site risks during implementation, and improvement in overall environmental quality.

- **Permanence** – The degree to which the alternative reduces the toxicity, mobility, or volume of hazardous substances, including the adequacy of destroying hazardous substances, the reduction or elimination of hazardous substance releases and sources of releases, the degree of irreversibility of treatment, and the characteristics and quantity of the treatment residuals.
- **Cost** – The remedy design, construction, and long-term operation and maintenance expense costs to implement the alternative.
- **Long-term effectiveness** – The degree of certainty that the alternative will successfully and reliably address contamination that exceeds applicable CULs until CULs are attained, the magnitude of the residual risk with the alternative in place, and the effectiveness of controls to manage treatment residue and remaining wastes.
- **Short-term risk management** – The risks to human health and the environment during construction and implementation of the alternative, and the effectiveness of measures that will be taken to manage such risks.
- **Implementability** – Includes consideration of whether the alternative is technically possible; the availability of necessary off-Site facilities, services, and materials; administrative and regulatory requirements; scheduling, size, and complexity of the alternative; monitoring requirements; access for construction, operations, and monitoring; and integration with existing facility operations and other current or potential remedial actions.
- **Consideration of public concerns** – Includes concerns from individuals, community groups, local governments, state agencies, and other interested organizations.

The DCA is based on a comparative evaluation of an alternative's cost against the other six criteria (environmental benefits). Per WAC 173-340-360(3)(e)(i), cost is disproportionate to benefits if the incremental cost of an alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the alternative over that of the lower-cost alternative.

4.6 Alternatives Evaluation with Respect to MTCA Threshold Requirements

The remedial alternatives are evaluated for compliance with MTCA's threshold criteria as described in Section 4.4.1. All three alternatives provide for compliance monitoring and are expected to be protective of human health and the environment. Alternative 1 may not reach cleanup standards within a reasonable restoration time frame, while Alternatives 2 and 3 may. All three alternatives rely on natural attenuation to achieve groundwater cleanup standards. Alternative 3 includes additional active remediation of the groundwater plume to achieve groundwater cleanup standards. All three alternatives are carried forward to the next stage of evaluation.

4.7 Disproportionate Cost Analysis

A DCA is performed to evaluate whether a cleanup action uses permanent solutions to the maximum extent practicable. The DCA quantifies the environmental benefits of each remedial alternative, and then compares alternative benefits versus costs.

In accordance with WAC 173-340-360(5)(c)(ii), the ranking of alternatives by degree of permanence is the alternative numbering in reverse—Alternative 1 has the lowest degree of permanence and Alternative 3 has the highest degree of permanence (Table 5).

MTCA defines a permanent cleanup action as "a cleanup action in which cleanup standards of Part 7 of this chapter can be met without further action being required at the site being cleaned up or any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances." (WAC 173-340-200).

The DCA is performed in Table 6, and summarized on Figure 8d. Environmental benefit is quantified by first rating the alternatives with respect to each of the criteria (except cost[13]) discussed in Section 4.4.2. Rating values are assigned on a scale of 1 to 5, where 1 indicates the criterion is satisfied to a very low degree, and 5 indicates the criterion is satisfied to a very high degree. Since Ecology does not consider the criteria to be of equal importance, each criterion is assigned a "weighting factor." Based on Ecology's input for feasibility studies conducted at similar sites, weighting factors are assigned as follows:

- Overall protectiveness: 30 percent
- Permanence: 20 percent
- Long-term effectiveness: 20 percent
- Short-term effectiveness: 10 percent
- Implementability: 10 percent
- Consideration of public concerns: 10 percent

A MTCA benefits ranking is then obtained for each alternative by multiplying the six rating values by their corresponding weighting factors and summing the weighted values. Finally, the benefits ranking of each alternative is divided by the alternative's estimated cost (in $million) to obtain a benefit/cost ratio, which is a relative measure of the cost effectiveness of the alternative.

4.7.1 Benefits Rankings, Estimated Costs, and Benefit/Cost Ratios

The MTCA benefits rankings, estimated costs, and benefit/cost ratios for Alternatives 1 through 3 are presented at the bottom of Table 6.

Benefit rankings were selected based on the following analysis:

- **Overall protectiveness**: Alternative 1 is the least protective because it relies solely on ICs to eliminate exposure pathways.

[13] The cost criterion factors into the DCA after the environmental benefit is quantified.

- **Permanence**: Contaminant mass removal via excavation has the highest permanence. Alternative 1 has the lowest permanence because of its reliance on ICs. Alternative 3 has the highest permanence because of the additional contaminant mass destruction from *in-situ* treatment beyond Alternative 2.
- **Long-term effectiveness**: Scores for this criterion increase with the incremental treatment achieved by each additional Alternative because the additional treatment increases reliability and decreases risk associated with residuals.
- **Short-term effectiveness**: Construction implementation increases the risk to workers' health by exposing them to contamination and operation of heavy machinery and trucking of waste. MNA has the lowest short-term risk to human health associated with construction implementation but does little to address risk associated with current exposure pathways in the short-term. Therefore Alternatives 1 and 2 have similar short-term risk. Alternative 3 includes additional short-term implementation risks associated with drilling and handling of oxidant chemicals that outweigh the additional short-term risk associated with groundwater CUL exceedances.
- **Implementability**: All three alternatives are readily implementable, but MNA is most easily implemented. Alternatives 2 and 3 rely on demolition of the Site Building by others, which is expected as part of redevelopment of the Site.
- **Consideration of public concerns**: Ecology manages public considerations equally no matter which alternative is selected, so all three alternatives rank equally in this criterion.

The benefit rankings range from a low of 2.3 for Alternative 1 to a high of 4.3 for Alternative 3. Estimated costs[14] range from $570,000 (Alternative 1) to $810,000 (Alternative 3). Benefit/cost ratios range from 4.0 (Alternative 1) to 4.9 (Alternative 3).

4.7.2 Disproportionate Cost Analysis Recommendation

In accordance with WAC 173-340-360(5)(c)(iii), Alternative 3 is selected as the baseline alternative. Alternative 3 is selected because while all alternatives rely on capping and are therefore not permanent, Alternative 3 achieved the highest permanence score.

The benefit/cost ratios of each Alternative are somewhat similar but incrementally increase with each Alternative. Alternative 1 has the lowest estimated cost but also provides the lowest benefit/cost ratio. Alternative 3 has the highest estimated cost but provides the greatest benefit/cost ratio. Alternative 2 is estimated to be slightly less costly than Alternative 3, and provides a slightly lower benefit/cost ratio (4.7).

Based on this, Alternative 3 is the preferred cleanup action alternative for the Site.

[14] Estimated costs are presented in Net Present Value in 2025 dollars, based on a discount rate of 2.3 percent.

5 Cleanup Action Plan

This section presents the proposed CAP for implementing the preferred remedial action evaluated during the FS. A CAP is a required part of the Site cleanup process under MTCA. The following sections provide supplemental detail on the selected remedy, including points of compliance, and time frame for the cleanup.

5.1 Description of Selected Remedy

The selected remedial alternative for implementation during the cleanup action was developed through evaluation of the Site conditions and applicable remedial technologies in the FS (Section 4). This section provides a more detailed description of the selected remedial alternative. The selected cleanup action includes the following elements:

- Source removal, consisting of the excavation and removal of vadose zone soil containing concentrations of COCs exceeding the CULs for the Site in the vicinity of the historical sump in the basement of the north wing of the Building. Source removal will occur concurrently with the demolition of the Building as part of the planned redevelopment.
- *In-situ* treatment of groundwater and remaining contaminated soil below the vadose zone via application of chemical oxidizers (ISCO), upgradient of the former sump and along the Property line downgradient of the former sump. Treatment would occur after regrading the Property is completed as part of the planned redevelopment.
- MNA of contaminants in groundwater across the Site. MNA may begin during redevelopment construction or after construction is completed as part of the planned redevelopment.
- ECs and ICs implemented during redevelopment, including construction of a chemical vapor barrier under the New Building, modification of the existing environmental covenant to describe the revised Site use, and implementation of a long-term plan for long-term monitoring of the ECs.

A description of the cleanup elements is provided in the following sections.

5.1.1 Sump Removal and Remedial Excavation

The primary element of the cleanup action is source removal, consisting of the demolition of the primary release point identified on the Site (the sump in the basement of the north wing of the Building) and removal from the Site of contaminated soil in the vadose zone.

Sump removal will occur during demolition of subgrade structures under the north wing of the Building as part of the planned redevelopment. Before demolition commences, monitoring well AMW-5, which is located in the basement of the north wing of the Building, will be decommissioned in accordance with applicable state laws.

The extent of remedial excavation is shown on Figure 9a. During remedial excavation, the estimated total volume of soil to be removed containing concentrations of COCs above the CULs at the Site is approximately 74 cubic yards.

Confirmation soil sampling will be completed to document soil conditions at the limits of excavation. The number and location of confirmation soil samples will be determined in coordination with Ecology at the time of cleanup. Generally, the sampling is expected to consist of the collection of a minimum of one sidewall sample per 20 lineal feet from depths where contaminated soil has been identified or where field evidence of contamination is identified during excavation, and one bottom sample per 400 square feet of the remedial excavation. The soil samples will be analyzed for the COCs.

A Construction Monitoring and Management Plan (CMMP) will be developed to provide guidelines for field screening, segregation, sampling, and disposition of soil that will be excavated in the course of mass excavation for the New Building. If contaminated soil is encountered during mass excavation in areas outside of the planned remedial excavation, the contaminated soil will be excavated, sampled, and transported off the Property for disposal and soil samples will be collected and analyzed to confirm removal of the contaminated soil.

5.1.2 Regrading and In Situ Chemical Oxidation Injections

Following demolition of subgrade structures across the Property and remedial excavation, the Site will be regraded in preparation for construction of the New Building. Clean structural fill will be imported and used to fill the voids left by the removal of subgrade structures on the Site. The regrading and building construction effort will include excavation and off-Site disposal of approximately 648 cubic yards of contaminated historical fill soil from the vicinity of the north wing of the current Building. The planned regrading extent is shown on Figure 9b.

Confirmation soil sampling will be completed to document soil conditions at the limits of excavation. Generally, the sampling is expected to consist of the collection of a minimum of one sidewall sample per 50 lineal feet from depths where contaminated soil has been identified or where field evidence of contamination is identified during excavation, and one bottom sample per 1,000 square feet of the remedial excavation. The soil samples will be analyzed for the COCs.

Following regrading of the Site, ISCO treatment will be introduced to the shallow unconfined groundwater aquifer on-Site through direct-push injection points in a 10-foot treatment thickness in the contaminated saturated zone (approximate Elevations 8 to 18 feet; approximately 6 to 16 feet bgs). Proposed injection locations are shown on Figure 9b. Injected oxidants will react with the organic COCs, causing the rapid and complete chemical destruction of many organic chemicals and producing carbon dioxide and water. Oxidizing agents used during ISCO at the Site may include permanganate, peroxide, persulfate, percarbonate, and/or ozone. The composition and volume of oxidizing agents to be used during treatment will be determined prior to implementation of cleanup.

5.1.3 Monitored Natural Attenuation

Pursuant to MTCA, cleanup actions cannot rely primarily on monitoring where it is technically possible to implement a more permanent cleanup action for the Site. The

natural attenuation of dissolved-phase COCs in shallow groundwater is already occurring at the Site, and the attenuation rate will be enhanced by the more permanent removal of contaminated soil and targeted *in Situ* treatment of shallow groundwater. The concentrations of any residual chlorinated solvents comprising the shallow groundwater exceedances will continue to attenuate through natural processes.

Based on the nature and magnitude of COC concentrations in shallow groundwater, the proposed removal of contaminated soil coupled with the targeted *in Situ* treatment, the permanent cleanup actions followed by MNA are estimated to achieve the CULs and RAOs for shallow groundwater in approximately 5 years.

Following completion of ISCO injections, a summary Groundwater Compliance Monitoring Plan (GCMP) will be developed for Ecology's review. The GCMP will document the groundwater monitoring program and include the final locations of monitoring wells, monitoring frequency, location-specific monitoring analytes, analytical methods, and data evaluation and reporting protocols.

Prior to beginning groundwater monitoring, a replacement monitoring well will be installed near the former location of AMW-5. Groundwater wells expected to be monitored during MNA are shown on Figure 9c.

5.1.4 Engineering/Institutional Controls

After excavation and removal of contaminated soil and treatment of shallow groundwater, contaminated material will remain on Site in the areas that are capped. ECs and ICs in the form of an impervious cap and environmental covenant will be implemented to maintain the protectiveness of the remedy.

ECs will include construction of an engineered hard cap across the Site in areas where fill material has been placed or where the existing hard cap is damaged during demolition. The hard cap design will be developed by the redevelopment design team and reviewed by Aspect for compliance with hard cap requirements under the existing covenant. A chemical vapor barrier will be constructed beneath the foundation of the New Building to protect Site occupants from potential intrusion of contaminated volatile COCs. A summary Engineering Design Report will be developed describing the product, installation design, and inspection requirements.

ICs will include revision of the existing environmental covenant on the Property to describe the use of the Site following redevelopment, the nature and extent of remaining contamination following cleanup action, and monitoring requirements for maintenance of the ECs. Prohibitions on land use, groundwater use, and other restrictions currently in place for the Property will be reviewed and included in the revised covenant as appropriate.

5.2 Schedule for Implementation

ETS is currently working through the master use permitting and environmental review processes required to implement redevelopment of the Property. Implementation of the cleanup action is dependent on the redevelopment schedule.

The redevelopment schedule currently assumes demolition in the first to second quarter (Q1-Q2; January-June) of 2026, with regrading occurring in the second to third quarter (Q2-Q3; March to September) of 2026. Construction of the New Building would commence in the third or fourth quarter (Q3-Q4; July to December) of 2026. Construction of the New Building would be completed in 2027. Based on this estimated redevelopment schedule, the implementation schedule for the cleanup action is estimated as follows:

- Q1-Q2 2026: Sump Removal and Remedial Excavation
- Q2-Q3 2026: Regrading and ISCO Treatment
- Q3-Q4 2026: Implementation of ECs and ICs
- 2027 to 2031: MNA
- 2032: Revision of ICs with results of MNA.

Upon public recording of the final revised environmental covenant, it is anticipated that Ecology would be able to issue a Property or Site NFA opinion. A Site NFA will be possible provided residual impacted soil and/or groundwater located under the impervious cap of the Property and in the Airport Way South right-of-way remains in place in accordance with the ECs/ICs described above. Annual inspections to confirm land use has not changed and the cap remains in place will be a condition of the ICs, with periodic reviews from Ecology occurring on a 5-year review interval.

5.3 Restoration Timeframe

Complete restoration of the Site is not expected to be feasible due to the extent of contamination present in historical fill, and cleanup of contaminated historical fill on the Site would be complicated by the likely presence of contamination in historical fill on surrounding properties. However, cleanup of the chlorinated solvents likely released during historical operations on the Site is expected to be completed within 5 years, following remedial excavation, ISCO treatment, and MNA summarized in the estimated implementation schedule, above.

6 Conclusions

The RI has identified COCs in soil, groundwater, and soil gas on the Site related to historical fill and historical industrial operations. Based on the data collected in the RI, concentrations of certain COCs (metal and PAHs) in soil exceeding the MTCA CULs are present throughout the historical fill layer underlying the Site, which was placed throughout the vicinity of the Site during regrading activities early in Seattle's history. Concentration of chlorinated solvents have been identified in soil and groundwater around a sump located in the basement of the north wing of the current Building on-Site, which were likely released during historical industrial operations. The nature and extent of chlorinated solvents have been sufficiently characterized and delineated, as described in this report, to select a cleanup action for the Site.

The FS reviewed three cleanup alternatives for the Site, each with increasing cost and increasing benefit. The selected cleanup action for the Site is Alternative #3: Source Excavation, In Situ Treatment, and MNA. This remedy offers the greatest benefit/cost ratio, fastest restoration timeframe, and greatest permanence.

After documenting implementation of the cleanup action, it is expected that the Site will meet the standard for no further remedial action with the conditions described in the restrictive environmental covenant for the Property.

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8 Limitations

Work for this project was performed for Evergreen Treatment Services (Client), and this report 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 report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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

TABLES

Table 1a. Soil: Metals and PAHs

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

Analyte	MTCA Method A CUL	MTCA Method B CUL	Puget Sound Background Soil Level[3]	AB-01 10/31/2024 AB-01-01.5	AB-01 10/31/2024 AB-01-09	AB-02 10/31/2024 AB-02-03	AB-02 10/31/2024 AB-02-09.5	AB-03 10/31/2024 AB-03-01	AB-03 10/31/2024 AB-03-07	AB-04 10/31/2024 AB-04-02.5	AB-04 10/31/2024 AB-04-10	AB-05 11/01/2024 AB-05-02.5	AB-05 11/01/2024 AB-05-13	AB-06 11/01/2024 AB-06-01	AB-06 11/01/2024 AB-06-08.5
Location Name				AB-01	AB-01	AB-02	AB-02	AB-03	AB-03	AB-04	AB-04	AB-05	AB-05	AB-06	AB-06
Sample Date				10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	11/01/2024	11/01/2024	11/01/2024	11/01/2024
Sample Name				AB-01-01.5	AB-01-09	AB-02-03	AB-02-09.5	AB-03-01	AB-03-07	AB-04-02.5	AB-04-10	AB-05-02.5	AB-05-13	AB-06-01	AB-06-08.5
Surface Elevation[1] (ft NAVD88)				19.5	19.5	19.5	19.5	19.5	19.5	26.0	26.0	19.5	19.5	19.5	19.5
Sample Depth (ft bgs)				1.5	9.0	3.0	9.5	1.0	7.0	2.5	10	2.5	13	1.0	8.5
Sample Elevation[2] (ft NAVD88)				18.0	10.5	16.5	10.0	18.5	12.5	23.5	16.0	17.0	6.5	18.5	11.0
				results in milligrams per kilogram (mg/kg)											
Metals															
Arsenic	20	0.67	7	**4.5**	**4.6**	**3**	**18**	**9.2**	**3.6**	**4.8**	**3.4**	**7.6**	**3.3**	**6.5**	**4**
Cadmium	2	80	1	**1.9**	< 1 U	**40**	**2.2**	**220**	**70**	< 1 U	< 1 U	**1.2**	< 1 U	**18**	< 1 U
Chromium	2000	0.38	48	**32**	**23**	**16**	**37**	**13**	**32**	**19**	**16**	**39**	**19**	**24**	**31**
Copper	*ne*	3200	36	--	--	--	--	--	--	--	--	--	--	--	--
Lead	250	*ne*	24	**45**	**46**	**15**	**2900**	**19**	**75**	**29**	**60**	**73**	**46**	**68**	**32**
Mercury	2	*ne*	0.07	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Nickel	*ne*	1600	48	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	*ne*	24000	85	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)															
1-Methylnaphthalene	*ne*	20	*na*	**0.11**	**0.019**	< 0.005 U	**0.085**	< 0.005 U	< 0.005 U	**0.012**	**0.011**	< 0.005 U	< 0.005 U	**0.036**	**0.17**
2-Methylnaphthalene	*ne*	320	*na*	**0.18**	**0.0088**	**0.0054**	**0.13**	**0.0058**	< 0.005 U	**0.0098**	**0.02**	< 0.005 U	**0.0083**	**0.078**	**0.21**
Acenaphthene	*ne*	4800	*na*	**0.3**	**0.18**	< 0.005 U	**0.063**	**0.011**	< 0.005 U	**0.016**	< 0.005 U	**0.025**	< 0.005 U	**0.15**	**0.014**
Acenaphthylene	*ne*	*ne*	*na*	**0.0085**	< 0.005 U	**0.0056**	**0.05**	< 0.005 U	< 0.005 U	**0.016**	< 0.005 U	**0.0051**	< 0.005 U	**0.0079**	**0.0053**
Anthracene	*ne*	24000	*na*	**0.33**	< 0.005 U	< 0.005 U	**0.086**	**0.012**	< 0.005 U	**0.03**	< 0.005 U	**0.017**	< 0.005 U	**0.14**	< 0.005 U
Benzo(g,h,i)perylene	*ne*	*ne*	*na*	**0.35**	**0.022**	**0.079**	**0.28**	**0.057**	**0.012**	**0.28**	**0.026**	**0.17**	**0.0054 J**	**0.26**	**0.015 J**
Fluoranthene	*ne*	3200	*na*	**4.3**	**0.09**	**0.058**	**0.8**	**0.11**	**0.033**	**0.63**	**0.031**	**0.33**	**0.019**	**0.97**	**0.1**
Fluorene	*ne*	3200	*na*	**0.34 J**	**0.012**	< 0.005 U	**0.11**	**0.01**	< 0.005 U	**0.012**	< 0.005 U	**0.017**	< 0.005 U	**0.17**	**0.037**
Naphthalene	5	1600	*na*	**0.78**	**0.025**	**0.0082**	**0.15**	**0.0065**	**0.0058**	**0.014**	**0.024**	**0.0051**	**0.0058**	**0.42**	**0.33**
Phenanthrene	*ne*	*ne*	*na*	**1.9 J**	**0.061**	**0.022**	**0.6**	**0.079**	**0.018**	**0.32**	**0.022**	**0.06**	**0.014**	**0.53**	**0.18**
Pyrene	*ne*	2400	*na*	**2.2**	**0.07**	**0.053**	**0.79**	**0.078**	**0.034**	**0.54**	**0.046**	**0.24**	**0.015**	**0.61**	**0.067**
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)															
Benz(a)anthracene	*ne*	*ne*	*na*	**0.88**	**0.036**	**0.05**	**0.29**	**0.053**	**0.017**	**0.22**	**0.036**	**0.13**	**0.0084**	**0.33**	**0.029**
Benzo(a)pyrene	0.1	0.19	*na*	**0.46**	**0.026**	**0.078**	**0.3**	**0.06**	**0.012**	**0.29**	**0.022**	**0.16**	**0.0074 J**	**0.33**	**0.024 J**
Benzo(b)fluoranthene	*ne*	*ne*	*na*	**0.91**	**0.03**	**0.09**	**0.44**	**0.09**	**0.022**	**0.33**	**0.031**	**0.24**	**0.01 J**	**0.49**	**0.033 J**
Benzo(k)fluoranthene	*ne*	*ne*	*na*	**0.25**	**0.01**	**0.028**	**0.12**	**0.021 J**	**0.0065**	**0.11**	**0.0089**	**0.061**	< 0.005 UJ	**0.12**	**0.011 J**
Chrysene	*ne*	*ne*	*na*	**1**	**0.059**	**0.055**	**0.36**	**0.058**	**0.021**	**0.3**	**0.036**	**0.14**	**0.012**	**0.51**	**0.057**
Dibenzo(a,h)anthracene	*ne*	*ne*	*na*	**0.091**	< 0.005 U	**0.019**	**0.062**	**0.012 J**	< 0.005 U	**0.049**	**0.006**	**0.023 J**	< 0.005 UJ	**0.062**	< 0.005 UJ
Indeno(1,2,3-cd)pyrene	*ne*	*ne*	*na*	**0.34**	**0.017**	**0.064**	**0.21**	**0.051**	**0.01**	**0.27**	**0.027**	**0.14**	< 0.005 UJ	**0.24**	**0.01 J**
Total cPAHs TEQ[4]	0.1	0.19	*na*	**0.717**	**0.0361**	**0.104**	**0.416**	**0.0833 J**	**0.018**	**0.391**	**0.0333**	**0.221 J**	**0.0101 J**	**0.459**	**0.0331 J**

See notes and definitions on Page 2.

Table 1a. Soil: Metals and PAHs

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

Analyte	MTCA Method A CUL	MTCA Method B CUL	Puget Sound Background Soil Level[3]	AMW-1 12/09/2018 AMW-1-12.5	AMW-2 12/09/2018 AMW-2-2.5	AMW-2 12/09/2018 AMW-2-5.5	AMW-3 12/09/2018 AMW-3-5.0	AMW-4 12/09/2018 AMW-4-2.5	AMW-4 12/10/2018 AMW-4-8.0	AMW-5 10/31/2024 AMW-5-01	AMW-5 11/01/2024 AMW-5-12
Surface Elevation[1] (ft NAVD88)				24.1	23.8	23.8	23.2	23.2	25.6	19.5	19.5
Sample Depth (ft bgs)				12.5	2.5	5.5	5.0	2.5	8.0	1.0	12
Sample Elevation[2] (ft NAVD88)				11.6	21.3	18.3	18.2	20.7	17.6	18.5	7.5
				results in milligrams per kilogram (mg/kg)							
Metals											
Arsenic	20	0.67	7	**27.8**	**6.93**	--	**5.39**	**5.59**	< 1 U	**5.9**	**16**
Cadmium	2	80	1	**2**	< 1 U	--	< 1 U	< 1 U	< 1 U	**53**	**1.2**
Chromium	2000	0.38	48	**22.2**	**42.6**	--	**34.1**	**18.2**	**23.4**	**39**	**12**
Copper	*ne*	3200	36	**404**	**28.7**	--	**29.8**	**22**	**11.4**	--	--
Lead	250	*ne*	24	**4720**	**35.3**	--	**5.21**	**32.1**	**7.35**	**160**	**1700**
Mercury	2	*ne*	0.07	< 1 UJ	< 1 U	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Nickel	*ne*	1600	48	**19.6**	**44**	--	**49.7**	**21.5**	**35.7**	--	--
Zinc	*ne*	24000	85	**911**	**66.8**	--	**48.8**	**71.2**	**25.7**	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)											
1-Methylnaphthalene	*ne*	20	*na*	--	--	--	--	--	--	**0.013**	**0.0072**
2-Methylnaphthalene	*ne*	320	*na*	--	--	--	--	--	--	**0.022**	**0.0077**
Acenaphthene	*ne*	4800	*na*	--	--	--	--	--	--	**0.085**	< 0.005 U
Acenaphthylene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.02**	< 0.005 U
Anthracene	*ne*	24000	*na*	--	--	--	--	--	--	**0.11**	< 0.005 U
Benzo(g,h,i)perylene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.58**	**0.0074**
Fluoranthene	*ne*	3200	*na*	--	--	--	--	--	--	**1**	**0.022**
Fluorene	*ne*	3200	*na*	--	--	--	--	--	--	**0.11**	< 0.005 U
Naphthalene	5	1600	*na*	< 0.05 U	--	--	--	--	< 0.05 U	**0.034**	**0.017**
Phenanthrene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.56**	**0.02**
Pyrene	*ne*	2400	*na*	--	--	--	--	--	--	**0.79**	**0.019**
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)											
Benz(a)anthracene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.013**	--	**0.36**	**0.011**
Benzo(a)pyrene	0.1	0.19	*na*	--	--	--	< 0.01 U	**0.02**	--	**0.59**	**0.01**
Benzo(b)fluoranthene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.028**	--	**0.78**	**0.012**
Benzo(k)fluoranthene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	< 0.01 U	--	**0.28**	< 0.005 U
Chrysene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.017**	--	**0.47**	**0.011**
Dibenzo(a,h)anthracene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	< 0.01 U	--	**0.1**	< 0.005 U
Indeno(1,2,3-cd)pyrene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.018**	--	**0.49**	**0.0051**
Total cPAHs TEQ[4]	0.1	0.19	*na*	--	--	--	< 0.00755 U	**0.02707**	--	**0.796**	**0.0134**

Notes and Definitions:

[1] Surface elevation estimated from survey maps of the Site, relative to the North American Vertical Datum of 1988 (NAVD88). See Report for details.

[2] Sample elevation calculated from by subtracting the measured sample depth in feet below ground surface (ft bgs) from the ground surface elevation.

[3] Natural background concentrations for the Puget Sound region, from Ecology (1994). See Report for details.

[4] Total carcinogenic PAHs (cPAHs) calculated using toxicity equivalency factors (TEQs) in accordance with Ecology's Implementation Memorandum #10 (2015).

CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
na	Not applicable
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Red Bold	Detected concentration exceeds the Puget Sound Natural Background concentration.
Blue Shaded	Detected concentration exceeds the MTCA Method A Cleanup Level or the MTCA Method B Cleanup Level if Method A is not established.

Table 1b. Soil: TPH and VOCs

DRAFT

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

			Location Name	**AB-01**	**AB-01**	**AB-02**	**AB-02**	**AB-03**	**AB-03**	**AB-04**	**AB-04**	**AB-05**	**AB-05**	**AB-06**	**AB-06**
			Sample Date	**10/31/2024**	**10/31/2024**	**10/31/2024**	**10/31/2024**	**10/31/2024**	**10/31/2024**	**10/31/2024**	**10/31/2024**	**11/01/2024**	**11/01/2024**	**11/01/2024**	**11/01/2024**
			Sample Name	**AB-01-01.5**	**AB-01-09**	**AB-02-03**	**AB-02-09.5**	**AB-03-01**	**AB-03-07**	**AB-04-02.5**	**AB-04-10**	**AB-05-02.5**	**AB-05-13**	**AB-06-01**	**AB-06-08.5**
			Surface Elevation[1] (ft NAVD88)	**19.5**	**19.5**	**19.5**	**19.5**	**19.5**	**19.5**	**26.0**	**26.0**	**19.5**	**19.5**	**19.5**	**19.5**
			Sample Depth (ft bgs)	**1.5**	**9.0**	**3.0**	**9.5**	**1.0**	**7.0**	**2.5**	**10**	**2.5**	**13**	**1.0**	**8.5**
			Sample Elevation[2] (ft NAVD88)	**18.0**	**10.5**	**16.5**	**10.0**	**18.5**	**12.5**	**23.5**	**16.0**	**17.0**	**6.5**	**18.5**	**11.0**
Analyte	**MTCA Method A CUL**	**MTCA Method B CUL**	results in milligrams per kilogram (mg/kg)											
Petroleum Hydrocarbons (TPH)														
Gasoline Range Organics (GRO)	30	*ne*	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	**8.3**	< 5 U
Diesel Range Organics (DRO)	2000	*ne*	**170 X**	**83 X**	< 50 U	**100 X**	< 50 U	< 50 U	< 50 U	**210 X**	**75 X**	< 50 U	**71 X**	**310 X**
Motor Oil Range Organics (ORO)			< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	**360**	< 250 U	< 250 U	< 250 U	**530**
DRO and ORO			**170 X**	**83 X**	< 250 U	**100 X**	< 250 U	< 250 U	< 250 U	**570 X**	**75 X**	< 250 U	**71 X**	**840 X**
BTEX														
Benzene	0.03	18	< 0.002 U	< 0.002 U	**0.0025**	**0.018**	< 0.002 U	**0.0079**	< 0.002 U	< 0.002 U	**0.0032**	**0.0036**	**0.0024**	< 0.002 U
Toluene	7	6400	**0.0054**	**0.0043**	**0.0055**	**0.018**	**0.041**	**0.061**	< 0.002 U	**0.012**	**0.0029**	**0.0075**	**0.0085**	**0.009**
Ethylbenzene	6	8000	**0.0034**	< 0.002 U	< 0.002 U	**0.0057**	< 0.002 U	**0.015**	< 0.002 U	**0.0026**	< 0.002 U	**0.0029**	**0.0036**	**0.012**
o-Xylene	*ne*	16000	**0.0029**	< 0.002 U	< 0.002 U	**0.0065**	< 0.002 U	**0.0038**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0028**	**0.0024**
m,p-Xylenes	*ne*	16000	**0.0064**	**0.006**	< 0.004 U	**0.009**	< 0.004 U	**0.016**	< 0.004 U	**0.007**	< 0.004 U	< 0.004 U	**0.009**	< 0.004 U
Total Xylenes	9	16000	**0.0093**	**0.006**	< 0.004 U	**0.0155**	< 0.004 U	**0.0198**	< 0.004 U	**0.007**	< 0.004 U	< 0.004 U	**0.0118**	**0.0024**
PCE and Degredation Products														
Tetrachloroethene (PCE)	0.05	480	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0036**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Trichloroethene (TCE)	0.03	12	**0.013**	**0.064**	**0.012**	< 0.002 U	**0.058**	**0.16**	< 0.002 U	**0.019**	**0.0037**	< 0.002 U	**0.11**	**0.003**
cis-1,2-Dichloroethene (cDCE)	*ne*	160	**0.0051**	**0.016**	**0.0051**	**0.31**	**0.035**	**0.14**	< 0.002 U	**0.01**	**0.011**	< 0.002 U	**0.018**	**0.038**
trans-1,2-Dichloroethene (tDCE)	*ne*	1600	< 0.002 U	**0.0023**	< 0.002 U	< 0.002 U	< 0.002 U	**0.13**	< 0.002 U	**0.0028**	**0.0036**	< 0.002 U	**0.0068**	< 0.002 U
Vinyl Chloride (VC)	*ne*	0.67	< 0.002 U	< 0.002 U	< 0.002 U	**0.51**	< 0.002 U	**0.017**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0026**
Other VOCs														
1,1,1,2-Tetrachloroethane	*ne*	38	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	2	160000	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1,2,2-Tetrachloroethane	*ne*	5	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	*ne*	18	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	*ne*	180	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1-Dichloroethene	*ne*	4000	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1-Dichloropropene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	*ne*	64	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	*ne*	0.0063	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	*ne*	34	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	*ne*	800	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	*ne*	0.23	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	0.005	0.5	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
1,2-Dichlorobenzene	*ne*	7200	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	*ne*	11	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
1,2-Dichloropropane	*ne*	27	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	*ne*	800	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	*ne*	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	*ne*	190	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	*ne*	48000	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Chlorotoluene	*ne*	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U

Notes and definitions on Page 4.

Table 1b. Soil: TPH and VOCs

DRAFT

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

		Location Name	AB-01	AB-01	AB-02	AB-02	AB-03	AB-03	AB-04	AB-04	AB-05	AB-05	AB-06	AB-06
		Sample Date	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	11/01/2024	11/01/2024	11/01/2024	11/01/2024
		Sample Name	AB-01-01.5	AB-01-09	AB-02-03	AB-02-09.5	AB-03-01	AB-03-07	AB-04-02.5	AB-04-10	AB-05-02.5	AB-05-13	AB-06-01	AB-06-08.5
		Surface Elevation[1] (ft NAVD88)	19.5	19.5	19.5	19.5	19.5	19.5	26.0	26.0	19.5	19.5	19.5	19.5
		Sample Depth (ft bgs)	1.5	9.0	3.0	9.5	1.0	7.0	2.5	10	2.5	13	1.0	8.5
		Sample Elevation[2] (ft NAVD88)	18.0	10.5	16.5	10.0	18.5	12.5	23.5	16.0	17.0	6.5	18.5	11.0
Analyte	MTCA Method A CUL	MTCA Method B CUL	results in milligrams per kilogram (mg/kg)											
Other VOCs (continued)														
2-Hexanone	*ne*	400	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-Chlorotoluene	*ne*	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	*ne*	6400	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Acetone	*ne*	72000	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ
Bromobenzene	*ne*	640	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromodichloromethane	*ne*	16	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	*ne*	130	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	*ne*	110	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	*ne*	14	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	*ne*	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	*ne*	*ne*	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Chloroform	*ne*	32	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	*ne*	*ne*	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	*ne*	12	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	*ne*	800	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	*ne*	16000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Isopropylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Methyl tert-butyl ether (MTBE)	0.1	560	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Methylene Chloride	0.02	94	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ
n-Hexane	*ne*	4800	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	*ne*	16000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Trichlorofluoromethane	*ne*	24000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U

See notes and definitions on Page 4.

Table 1b. Soil: TPH and VOCs

DRAFT

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

		Location Name	AMW-1	AMW-2	AMW-2	AMW-3	AMW-4	AMW-4	AMW-5	AMW-5
		Sample Date	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/10/2018	10/31/2024	11/01/2024
		Sample Name	AMW-1-12.5	AMW-2-2.5	AMW-2-5.5	AMW-3-5.0	AMW-4-2.5	AMW-4-8.0	AMW-5-01	AMW-5-12
		Surface Elevation[1] (ft NAVD88)	24.1	23.8	23.8	23.2	23.2	25.6	19.5	19.5
		Sample Depth (ft bgs)	12.5	2.5	5.5	5.0	2.5	8.0	1.0	12
		Sample Elevation[2] (ft NAVD88)	11.6	21.3	18.3	18.2	20.7	17.6	18.5	7.5
Analyte	**MTCA Method A CUL**	**MTCA Method B CUL**	results in milligrams per kilogram (mg/kg)							
Petroleum Hydrocarbons (TPH)										
Gasoline Range Organics (GRO)	30	*ne*	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Diesel Range Organics (DRO)	2000	*ne*	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	**110 X**	< 50 U
Motor Oil Range Organics (ORO)			< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
DRO and ORO			--	--	--	--	--	--	**110 X**	< 250 U
BTEX										
Benzene	0.03	18	< 0.03 U	--	--	--	--	< 0.03 U	**0.0047**	**0.03**
Toluene	7	6400	< 0.05 U	--	--	--	--	< 0.05 U	**0.008**	**0.026**
Ethylbenzene	6	8000	< 0.05 U	--	--	--	--	< 0.05 U	**0.0066**	**0.0072**
o-Xylene	*ne*	16000	< 0.05 U	--	--	--	--	< 0.05 U	**0.005**	**0.0052**
m,p-Xylenes	*ne*	16000	< 0.1 U	--	--	--	--	< 0.1 U	**0.0097**	**0.0064**
Total Xylenes	9	16000	< 0.1 U	--	--	--	--	< 0.1 U	**0.0147**	**0.0116**
PCE and Degredation Products										
Tetrachloroethene (PCE)	0.05	480	< 0.025 U	--	--	--	--	< 0.025 U	< 0.002 U	< 0.002 U
Trichloroethene (TCE)	0.03	12	< 0.02 U	--	--	--	--	< 0.02 U	**0.03**	< 0.002 U
cis-1,2-Dichloroethene (cDCE)	*ne*	160	< 0.05 U	--	--	--	--	< 0.05 U	**0.0024**	**0.95**
trans-1,2-Dichloroethene (tDCE)	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	**0.002**
Vinyl Chloride (VC)	*ne*	0.67	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	**1.7**
Other VOCs										
1,1,1,2-Tetrachloroethane	*ne*	38	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	2	160000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1,2,2-Tetrachloroethane	*ne*	5	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	*ne*	18	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	*ne*	180	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1-Dichloroethene	*ne*	4000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	*ne*	64	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	*ne*	0.0063	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	*ne*	34	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	*ne*	0.23	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	0.005	0.5	< 0.05 U	--	--	--	--	< 0.05 U	< 0.005 U	< 0.005 U
1,2-Dichlorobenzene	*ne*	7200	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	*ne*	11	< 0.05 U	--	--	--	--	< 0.05 U	< 0.003 U	< 0.003 U
1,2-Dichloropropane	*ne*	27	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	*ne*	190	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	*ne*	48000	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U
2-Chlorotoluene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U

Notes and definitions on Page 4.

Table 1b. Soil: TPH and VOCs

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

Analyte	MTCA Method A CUL	MTCA Method B CUL	AMW-1 12/09/2018 AMW-1-12.5	AMW-2 12/09/2018 AMW-2-2.5	AMW-2 12/09/2018 AMW-2-5.5	AMW-3 12/09/2018 AMW-3-5.0	AMW-4 12/09/2018 AMW-4-2.5	AMW-4 12/10/2018 AMW-4-8.0	AMW-5 10/31/2024 AMW-5-01	AMW-5 11/01/2024 AMW-5-12
Surface Elevation[1] (ft NAVD88)			24.1	23.8	23.8	23.2	23.2	25.6	19.5	19.5
Sample Depth (ft bgs)			12.5	2.5	5.5	5.0	2.5	8.0	1.0	12
Sample Elevation[2] (ft NAVD88)			11.6	21.3	18.3	18.2	20.7	17.6	18.5	7.5
			results in milligrams per kilogram (mg/kg)							
Other VOCs (continued)										
2-Hexanone	*ne*	400	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U
4-Chlorotoluene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	*ne*	6400	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U
Acetone	*ne*	72000	< 0.5 U	--	--	--	--	< 0.5 U	< 5 UJ	< 5 UJ
Bromobenzene	*ne*	640	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromodichloromethane	*ne*	16	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	*ne*	130	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	*ne*	110	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	*ne*	14	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	*ne*	*ne*	< 0.5 U	--	--	--	--	< 0.5 U	< 0.1 U	< 0.1 U
Chloroform	*ne*	32	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	*ne*	*ne*	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	*ne*	12	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	*ne*	16000	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
Isopropylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Methyl tert-butyl ether (MTBE)	0.1	560	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
Methylene Chloride	0.02	94	< 0.5 U	--	--	--	--	< 0.5 U	< 0.4 UJ	< 0.4 UJ
n-Hexane	*ne*	4800	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	*ne*	16000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Trichlorofluoromethane	*ne*	24000	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U

Notes and Definitions:

[1] Surface elevation estimated from survey maps of the Site, relative to the North American Vertical Datum of 1988 (NAVD88). See Report for details.

[2] Sample elevation calculated from by subtracting the measured sample depth in feet below ground surface (ft bgs) from the ground surface elevation.

MTCA	Model Toxics Control Act
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
X	The laboratory indicated the chromatographic pattern of detected TPH does not match the fuel standard used for quantitation.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Blue Shaded	Detected concentration exceeds the MTCA Method A Cleanup Level or the MTCA Method B Cleanup Level if Method A is not established.

Table 2. Soil Gas: Analytical Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Location Name		SV-1	SV-2	SV-3		SV-4	SV-5
Sample Date		12/10/2018	12/10/2018	12/10/2018	09/10/2020	12/10/2018	09/17/2020
Sample Name		SV-1-181210	SV-2-181210	SV-3-181210	SV-3-091020	SV-4-181210	SV-5-091720
Leak Testing Results (% Helium):		< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U
Analyte	Ecology Screening Levels Protective of Commercial Workers*	Results in micrograms per cubic meter (µg/m^3)					
Air-Phase Hydrocarbons (APH)							
C5 - C8 Aliphatic Hydrocarbons	*ne*	--	--	--	**3100**	--	**29000 E**
C9 - C12 Aliphatic Hydrocarbons		--	--	--	**860**	--	**22000**
C9 - C10 Aromatic Hydrocarbons		--	--	--	< 420 U	--	< 1000 U
Total APH**	13,000	--	--	--	**4,389**	--	**52,135 E**
Polcyclic Aromatic Hydrocarbons							
Naphthalene	11	< 0.73 U	< 0.79 U	< 0.79 U	< 4.5 U	**1.2**	< 11 U
Benzene, Toluene, Ethylbenzene, and Total Xylenes							
Benzene	50	**3.8**	**4.1**	**19**	**29**	**150**	**170**
Toluene	650000	**25**	**25**	**39**	< 320 U	**260**	< 790 U
Ethylbenzene	130000	**5.6**	**5**	**6.7**	< 7.4 U	**11**	< 18 U
m,p-Xylenes	13000	**20**	**18**	**20**	**20**	**24**	< 36 U
o-Xylene		**7**	**6.2**	**7.1**	< 7.4 U	**18**	**37**
Total Xylenes		**27**	**24.2**	**27.1**	**20**	**42**	**37**
PCE and Degredation Products							
Tetrachloroethene (PCE)	1500	< 9.5 U	< 10 U	< 10 U	< 120 U	< 10 U	< 280 U
Trichloroethene (TCE)	95	**26**	< 0.4 U	**14**	**40**	**43**	**61**
cis-1,2-Dichloroethene (cDCE)	5200	< 0.56 U	< 0.59 U	**2.9**	**35**	**220**	**70**
trans-1,2-Dichloroethene (tDCE)	5200	< 0.56 U	< 0.59 U	< 0.59 U	< 6.7 U	**43**	**110**
Vinyl Chloride (VC)	44	< 0.36 U	< 0.38 U	< 0.38 U	< 4.3 U	**320 E**	**280**
Volatile Organic Compounds							
1,1,1-Trichloroethane	650000	< 0.76 U	< 0.82 U	< 0.82 U	< 9.3 U	< 0.82 U	< 23 U
1,1,2,2-Tetrachloroethane	6.7	< 0.19 U	< 0.21 U	< 0.21 U	< 2.3 U	< 0.21 U	< 5.8 U
1,1,2-Trichloroethane	24	< 0.15 U	< 0.16 U	< 0.16 U	< 1.9 U	< 0.16 U	< 2.3 U
1,1,2-Trichlorotrifluoroethane	650000	< 1.1 U	< 1.1 U	**2.1**	< 13 U	< 1.1 U	< 32 U
1,1-Dichloroethane	240	< 0.57 U	< 0.61 U	**1.7**	< 6.9 U	**0.91**	< 17 U
1,1-Dichloroethene	26000	< 0.56 U	< 0.59 U	**0.62**	< 6.7 U	**5.1**	< 17 U
1,2,4-Trichlorobenzene	260	< 1 U	< 1.1 U	< 1.1 U	< 13 U	< 1.1 U	< 31 U
1,2,4-Trimethylbenzene	7800	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.8**	< 100 U
1,2-Dibromoethane (EDB)	0.65	< 0.11 U	< 0.12 U	< 0.12 U	< 1.3 U	< 0.12 U	< 3.2 U
1,2-Dichlorobenzene	26000	< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,2-Dichloroethane (EDC)	15	< 0.057 U	< 0.061 U	< 0.061 U	< 0.69 U	< 0.061 U	< 1.7 U
1,2-Dichloropropane	110	**0.9**	**0.85**	**0.58**	< 3.9 U	**0.57**	< 9.7 U
1,3,5-Trimethylbenzene	7800	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.6**	< 100 U
1,3-Dichlorobenzene	*ne*	< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,4-Dichlorobenzene	35	< 0.34 U	< 0.36 U	< 0.36 U	< 3.9 U	< 0.36 U	< 9.7 U
1-Propene	*ne*	< 1 U	< 1 U	**52**	**180**	**1700 E**	**2100 E**
2-Butanone	650000	**17**	**13**	**30**	< 50 U	**24**	< 120 U
2-Chlorotoluene	*ne*	< 7.2 U	< 7.8 U	< 7.8 U	< 88 U	< 7.8 U	< 220 U
2-Hexanone	3900	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
4-Methyl-2-pentanone	390000	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Acetone	*ne*	**130**	**160**	**430 E**	**640**	**780 E**	< 600 U
Acrolein	2.6	< 1.3 U	< 1.4 U	**3.8**	< 35 U	< 1.4 U	< 87 U
Allyl Chloride	65	< 1.8 U	< 1.9 U	< 1.9 U	< 27 U	< 1.9 U	< 66 U
Bromodichloromethane	11	< 0.094 U	< 0.1 U	< 0.1 U	< 1.1 U	< 0.1 U	< 2.8 U
Bromoform	350	< 2.9 U	< 3.1 U	< 3.1 U	< 35 U	< 3.1 U	< 87 U
Bromomethane	650	< 2.2 U	< 2.3 U	< 2.3 U	< 40 U	< 2.3 U	< 98 U
Butane	*ne*	**15**	**19**	**44**	**400**	**2000 E**	**2000**
Carbon Disulfide	91000	< 8.7 U	< 9.3 U	< 9.3 U	< 110 U	< 9.3 U	< 260 U
Carbon Tetrachloride	65	< 0.88 U	< 0.94 U	< 0.94 U	< 5.3 U	< 0.94 U	< 13 U
Chlorobenzene	6500	< 0.64 U	< 0.69 U	< 0.69 U	< 7.8 U	< 0.69 U	< 19 U
Chloroethane	1300000	< 3.7 U	< 4 U	< 4 U	< 45 U	**7.9**	< 110 U
Chloroform	17	**0.46**	**0.61**	**0.7**	**1.7**	< 0.074 U	< 2.1 U
Chloromethane	12000	< 2.9 U	< 3.1 U	< 3.1 U	< 63 U	< 3.1 U	< 160 U
cis-1,3-Dichloropropene	*ne*	< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Cyclohexane	780000	< 9.6 U	< 10 U	**12**	< 120 U	**150**	< 290 U
Dibromochloromethane	*ne*	< 0.12 U	< 0.13 U	< 0.13 U	< 1.4 U	< 0.13 U	< 3.6 U
Dichlorodifluoromethane	13000	**2.9**	**2.9**	**2.9**	< 8.4 U	< 0.74 U	< 21 U
Ethanol	*ne*	**280 E**	**140**	**450 E**	**570**	**250 E**	< 320 U
Ethyl acetate	9100	< 10 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Isopropyl Alcohol	*ne*	**66**	**64**	**70**	< 150 U	**79**	< 360 U
Isopropylbenzene	52000	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**8.8**	< 100 U
Methyl Methacrylate	91000	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Methyl tert-butyl ether (MTBE)	1500	< 2.5 U	< 2.7 U	< 2.7 U	< 31 U	< 2.7 U	< 76 U
Methylene Chloride	39000	< 120 U	< 130 U	< 130 U	< 590 UJ	< 130 U	< 1500 UJ
n-Hexane	91000	**13**	**18**	**29**	**79**	**290 E**	**360**
Nonane	*ne*	< 7.3 U	< 7.9 U	< 7.9 U	< 89 U	**52 J**	< 220 U
n-Propylbenzene	130000	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
Pentane	*ne*	**12**	**16**	**32**	**190**	**850 E**	**870**
Styrene	130000	< 1.2 U	< 1.3 U	**1.5**	< 14 U	< 1.3 U	< 36 U
t-Butyl alcohol (TBA)	*ne*	< 17 U	< 18 U	< 18 U	< 210 U	< 18 U	< 510 U
Tetrahydrofuran	260000	**21 J**	**21 J**	**16 J**	**28**	**16 J**	**18**
trans-1,3-Dichloropropene	*ne*	< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Trichlorofluoromethane	91000	< 3.1 U	< 3.4 U	< 3.4 U	< 38 U	< 3.4 U	< 94 U

Notes and Definitions on Page 2.

Table 2. Soil Gas: Analytical Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Location Name		SV-1	SV-2	SV-3		SV-4	SV-5
Sample Date		12/10/2018	12/10/2018	12/10/2018	09/10/2020	12/10/2018	09/17/2020
Sample Name		SV-1-181210	SV-2-181210	SV-3-181210	SV-3-091020	SV-4-181210	SV-5-091720
Leak Testing Results (% Helium):		< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U
Analyte	Ecology Screening Levels Protective of Commercial Workers*	Results in micrograms per cubic meter (µg/m^3)					
Volatile Organic Compounds (Continued)							
Vinyl Acetate	26000	< 9.9 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Vinyl Bromide	26	< 0.61 U	< 0.66 U	< 0.66 U	< 7.4 U	< 0.66 U	< 18 U
1,3-Butadiene	13	< 0.03 U	< 0.03 U	**12**	< 0.75 U	< 0.03 U	< 1.9 U
2,2,4-Trimethylpentane	*ne*	< 6.5 U	< 7 U	< 7 U	< 79 U	**380 E**	**460**
4-Ethyltoluene	*ne*	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
alpha-Chlorotoluene	7.9	< 0.072 U	< 0.078 U	< 0.078 U	< 0.88 U	< 0.078 U	< 2.2 U
Freon 114	*ne*	< 0.98 U	< 1 U	< 1 U	< 12 U	< 1 U	< 29 U
Heptane	52000	**11**	**17**	**32**	< 70 U	**140**	< 170 U

Notes and Definitions:

* Risk-based screening levels indoor air levels provided by Ecology for Sites where adults who are working inside commercial buildings are (or potentially are) the receptors who represent reasonable maximum exposure.

** Total APH calculated with nondetect concentrations as 1/2 of indicated reporting limit.

MTCA	Model Toxics Control Act
ne	Screening level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
E	Detected concentration exceeded the laboratory instrument calibration range. Reported value is an estimate.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Blue Shaded	Detected concentration exceeds the MTCA Method B screening level.

Table 3a. Groundwater: Field Measurements

DRAFT

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

		AMW-1	AMW-2	AMW-3	AMW-4	AMW-5
Well Construction Data						
Date Constructed		12/10/2018	12/10/2018	12/10/2018	12/10/2018	11/1/2025
Ecology Tag ID		BKF 905	BKF 906	BKF 907	BKF 908	BPK 160
Constructed Well Depth (ft bgs)		15	14	15	14	12
Constructed Top of Screen Depth (ft bgs		5	4	5	4	2
Top of Monument Elevation (ft NAVD88)		24.137	23.813	23.226	25.642	19.890
TOC Elevation (ft NAVD88)		23.800	23.398	22.836	25.267	19.593
Top of Screen Elevation (ft NAVD88)		19.137	19.813	18.226	21.642	17.89
Bottom of Well Elevation (ft NAVD88)		9.137	9.813	8.226	11.642	7.89
Measured Groundwater Elevations						
12/17/2018	Depth to Water (ft bTOC)	5.56	4.88	4.50	5.73	*Not Present*
	Elevation (ft NAVD88)	18.24	18.52	18.34	19.54	
11/5/2025	Depth to Water (ft bTOC)	5.67	4.90	4.55	5.55	0.80
	Elevation (ft NAVD88)	18.13	18.50	18.29	19.72	18.79

Notes:

ft = feet

NAVD88 = North American Vertical Datum of 1988

bgs = below ground surface

bTOC = below top of well casing, measured from the north edge.

Elevations provided by True North Land Surveying, Inc., dated December 11, 2024, collected using a Leica LS10.

Survey based on Washington State Department of Transportation Monument # GP17005-231

Table 3b. Groundwater: Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

				Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
				Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL		Results in micrograms per liter (ug/L)								
Metals													
Arsenic	D	5	0.058		11.4	12	4.33	2.4	20.3	14	< 1 U	< 1 U	4.3
	T				--	12	--	9.5	--	18	--	1.1	4.8
Cadmium	D	5	8		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	< 1 U
Chromium	D	50	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	**1.6**
Copper	D	*ne*	640		< 5 U	--	< 5 U	--	< 5 U	--	< 5 U	--	--
Lead	D	15	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	**1.9**	--	**7.4**	--	< 1 U	--	< 1 U	**26**
Manganese	D	*ne*	750		**575**	--	**302**	--	**680**	--	**485**	--	--
Mercury	D	2	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	< 1 U
Nickel	D	*ne*	320		**1.31**	--	**3.8**	--	**2.22**	--	**2.24**	--	--
Zinc	D	*ne*	4800		< 5 U	--	< 5 U	--	< 5 U	--	< 5 U	--	--
Conventionals													
Cyanide (total)	T	*ne*	0.005		< 0.05 U	--	< 0.05 U	--	< 0.05 U	--	< 0.05 U	--	--
Petroleum Hydrocarbons (TPH)													
Gasoline Range Organics (GRO)	T	1000	*ne*		< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Diesel Range Organics (DRO)	T	500	*ne*		< 50 U	< 50 U	**73 X**	**57 X**	< 50 U	< 50 U	< 50 U	< 50 U	**95 X**
Motor Oil Range Organics (ORO)	T				< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
DRO and ORO	T				< 250 U	< 250 U	**73 X**	**57 X**	< 250 U	< 250 U	< 250 U	< 250 U	**95 X**
BTEX													
Benzene	T	5	0.8		< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
Toluene	T	1000	640		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	T	700	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	T	1000	1600		< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 2 U	< 2 U
PCE and Degredation Products													
Tetrachloroethene (PCE)	T	5	21		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene (TCE)	T	5	0.54		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene (cDCE)	T	*ne*	16		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	22
trans-1,2-Dichloroethene (tDCE)	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl Chloride (VC)	T	0.2	0.029		2.9	2.4	< 0.2 U	< 0.02 U	< 0.2 U	< 0.02 U	< 0.2 U	< 0.02 U	23
Other VOCs													
1,1,1,2-Tetrachloroethane	T	*ne*	1.7		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	T	200	16000		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2,2-Tetrachloroethane	T	*ne*	0.22		< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U
1,1,2-Trichloroethane	T	*ne*	0.77		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
1,1-Dichloroethane	T	*ne*	7.7		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	T	*ne*	400		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloropropene	T	*ne*			< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichlorobenzene	T	*ne*	6.4		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichloropropane	T	*ne*	0.00038		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-Trichlorobenzene	T	*ne*	1.5		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

See notes and definitions on Page 3.

Table 3b. Groundwater: Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

			Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
			Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL	Results in micrograms per liter (ug/L)								
Other VOCs (continued)												
1,2,4-Trimethylbenzene	T	*ne*	80	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dibromo-3-chloropropane	T	*ne*	0.014	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
1,2-Dibromoethane (EDB)	T	0.01	0.022	< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 0.01 U
1,2-Dichlorobenzene	T	*ne*	720	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane (EDC)	T	5	0.48	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U
1,2-Dichloropropane	T	*ne*	1.2	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3,5-Trimethylbenzene	T	*ne*	80	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichlorobenzene	T	*ne*	*ne*	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichloropropane	T	*ne*	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,4-Dichlorobenzene	T	*ne*	8.1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2,2-Dichloropropane	T	*ne*	*ne*	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Butanone	T	*ne*	4800	< 10 U	< 20 U	< 10 U	< 20 U	< 10 U	< 20 U	< 10 U	< 20 U	< 20 U
2-Chlorotoluene	T	*ne*	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Hexanone	T	*ne*	40	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
4-Chlorotoluene	T	*ne*	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-Methyl-2-pentanone	T	*ne*	640	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	T	*ne*	7200	< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 UJ
Bromobenzene	T	*ne*	64	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromodichloromethane	T	*ne*	0.71	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Bromoform	T	*ne*	5.5	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
Bromomethane	T	*ne*	11	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
Carbon Tetrachloride	T	*ne*	0.63	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Chlorobenzene	T	*ne*	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroethane	T	*ne*	*ne*	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroform	T	*ne*	1.4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloromethane	T	*ne*	*ne*	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
cis-1,3-Dichloropropene	T	*ne*	*ne*	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 0.4 U
Dibromochloromethane	T	*ne*	0.52	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Dibromomethane	T	*ne*	80	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dichlorodifluoromethane	T	*ne*	1600	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Isopropylbenzene	T	*ne*	800	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Naphthalene	T	160	160	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
m,p-Xylenes	T	*ne*	1600	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methyl tert-butyl ether (MTBE)	T	20	24	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Methylene Chloride	T	5	5.8	< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 UJ
n-Hexane	T	*ne*	480	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
n-Propylbenzene	T	*ne*	800	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
o-Xylene	T	*ne*	1600	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
p-Isopropyltoluene	T	*ne*	*ne*	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
sec-Butylbenzene	T	*ne*	800	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Styrene	T	*ne*	1600	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
tert-Butylbenzene	T	*ne*	800	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,3-Dichloropropene	T	*ne*	*ne*	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 0.4 U
Trichlorofluoromethane	T	*ne*	2400	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

See notes and definitions on Page 3.

Table 3b. Groundwater: Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

			Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
			Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL	Results in micrograms per liter (ug/L)								

Notes and Definitions:

MTCA	Model Toxics Control Act
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Red Bold	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method B Cleanup Level but not the MTCA Method B Cleanup Level.
Blue Shaded	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method A Cleanup Level, or the MTCA Method B Cleanup Level if Method A is not established.

Table 4. Remedial Technology Screening

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

Remedial Technologies	Preliminary Technology Screening				
	Description	Effectiveness	Implementability	Relative Cost	Screening Result
Institutional Controls (ICs)	Measures undertaken to limit or prohibit activities that may interfere with the integrity of the cleanup action or that may result in exposure to hazardous substances at a site. Most commonly, ICs are recorded as Environmental Covenants with the property deed.	**Moderate** Effective at preventing unacceptable exposures to contamination, but does not reduce contaminant mass.	**High** Readily implementable.	**Low**	**Retained**
Engineering Controls (ECs)	Containment and/or mitigation systems designed to prevent or limit the movement of, or the exposure to, hazardous substances (e.g., paving/capping, vapor barriers).	**Moderate** Capping would be effective at preventing unacceptable exposures to contamination, but does not reduce contaminant mass.	**High** Readily implementable.	**Low**	**Retained**
Monitored Natural Attenuation (MNA)	Monitoring the reduction of contaminants through natural processes over time (e.g., biodegradation, dispersion, and dilution).	**Moderate** Extended restoration time frame, more effective for groundwater impacts than vadose zone soil.	**High** Readily implementable, but would require replacement of groundwater monitoring wells within the redevelopment area.	**Moderate**	**Retained**
Soil Vapor Extraction (SVE)	Extracting contaminants in the form of soil vapor and introducing oxygen into the unsaturated zone to enhance microbial activity. Extracted vapors are typically treated using activated carbon via adsorption or destruction via thermal oxidation.	**Low to Moderate** Provides treatment of vadose zone soil impacts. Full treatment limited by heterogeneous soils and preferential pathways or short-circuiting of air flow through fill materials and gravel surface on Property.	**Low** Extractable area severely limited by shallow groundwater and potential atmospheric short-circuiting.	**Moderate to High**	**Not Retained**
In Situ Chemical Oxidation (ISCO)	Injecting or mixing an oxidant, such as potassium permanganate or sodium persulfate, into the subsurface to react with and destroy contaminants.	**Moderate** Provides treatment of groundwater impacts. Full treatment would be limited by preferential pathways or short-circuiting of injected amendments through fill material and utility corridors.	**Moderate to High** Treatment of shallow groundwater would be readily implementable. Shallow vadose zone soil contamination may not be treatable due to potential short-circuiting and surfacing of injected amendments.	**Moderate to High**	**Retained**
In Situ Bioremediation (ISB)	Introducing oxygen (aerobic) or other electron acceptors (anaerobic) into the subsurface to stimulate microbial biodegradation of contaminants (e.g., injecting a soil amendment or bioventing).	**Low to Moderate** Same effectiveness limitations as SVE and ISCO	**Low** Same implementability concerns as SVE and ISCO	**Moderate to High**	**Not Retained**
Soil Excavation and Off-Site Disposal	Impacted soil is excavated and transported off-site for disposal.	**High** Provides fastest and most reliable treatment through removal of impacted soils from the Property.	**Low to High** Readily implementable during redevelopment of the Site. Not implementable without demolition of the on-Site Building.	**High**	**Retained**

Notes:

Green shading - technology retained for further consideration

Red shading - technology not retained for further consideration

Table 5. Summary of Remedial Alternatives

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

Alternative	Title	SOIL		SOIL GAS	GROUNDWATER
		Vadose Zone	Saturated Soils		
1	**MNA and Institutional Controls**	No treatment.	No treatment.	**Monitored Natural Attenuation (MNA)** - 15 years of groundwater and subslab soil gas monitoring.	
2	**Source Excavation, MNA, and Institutional Controls**	**Removal** - sump, slab, and contaminated shallowed soil removal. Chemical vapor barrier installed along base of redevelopment.	No treatment.	**Engineered Controls** - Chemical vapor barrier built under new building footprint during redevelopment.	**MNA** - Up to 10 years of semi-annual groundwater monitoring
3	**Source Excavation, In Situ Treatment, MNA, and Institutional Controls**	**Removal** - sump, slab, and contaminated shallowed soil removal. Chemical vapor barrier installed along base of redevelopment.	***In-Situ* Chemical Oxidation (Injections)** - 10-foot treatment thickness targeting the sump and downgradient property boundary.	**Engineered Controls** - Chemical vapor barrier built under new building footprint during redevelopment.	**MNA** - 5 years of quarterly to semi-annual groundwater monitoring.

Notes:

MNA = Monitored Natural Attenuation

"Removal" involves excavation and off-Site disposal of impacted and contaminated soil.

All alternatives include institutional controls to prevent exposure to contaminated media. See Report for details.

Table 6. Disproportionate Cost Analysis

DRAFT

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

		Alternative 1	Alternative 2	Alternative 3
	Remedial Alternatives:	**MNA and Institutional Controls**	**Source Excavation, MNA, and Institutional Controls**	**Source Excavation, In Situ Treatment, MNA, and Institutional Controls**
Criteria to Evaluate Use of Permanent Solutions to the Maximum Extent Practicable		(Note 1)	(Note 1)	(Note 1)
	Overall Protectiveness (30% Weighting Factor)	**2** This alternative will have the longest timeframe for achieving cleanup levels; however, exposure pathways can be reliably controlled via engineering and institutional controls.	**4** Similar to Alternative 1, exposure pathways can be reliably controlled during the restoration timeframe. This alternative will provide additional protectiveness in the short-term through removal of shallow contaminated soil.	**5** Similar to Alternative 2, exposure pathways can be reliably controlled during the restoration timeframe. This alternative will provide additional protectiveness in the short-term through removal of shallow contaminated soil and application of *in situ* chemical oxidation to reduce contaminant mass.
	Permanence (20% Weighting Factor)	**2** The existing impervious cap across the Site will serve as a permanent engineering control to prevent vadose zone soil impacts from leaching to groundwater.	**4** This alternative includes construction of a new impervious cap during redevelopment of the Site. This alternative also permanently removes the most contaminated vadose zone soil in the vicinity of the sump.	**5** Similar to Alternative 2, this alternative includes construction of a permanent impervious cap and permanently removes vadose zone soil. This alternative also permanently destroys contaminant mass in groundwater on the Site.
	Long-Term Effectiveness (20% Weighting Factor)	**2** The current cap will serve as a long-term engineering control to protect human health and the environment. The environmental covenant will continue to serve as a long-term protective administrative measure to establish clear rules for any future transfer of ownership or redevelopment.	**4** Similar to Alternative 1, the new impervious cap and institutional controls will protect human health and the environment. Shallow excavation will increase long-term effectiveness at achieving cleanup standards; however, landfill disposal is considered less effective than destruction/treatment.	**5** Similar to Alternative 1, the new impervious cap and institutional controls will protect human health and the environment. Shallow excavation of contaminated soils and destruction of contaminants in groundwater will greatly increase long-term effectiveness.
	Short-Term Risk Management (10% Weighting Factor)	**2** There are moderate short-term risks to occupants of the Site as the current building does not feature barriers engineered against vapor intrusion.	**4** There are low to moderate short-term health and safety risks associated with excavations into contaminated soil, but redevelopment will improve protection for future site occupants during the restoration timeframe.	**3** There are low to moderate short-term health and safety risks associated with excavations into contaminated soil, and with performing *in situ* injections on an active construction site. Redevelopment will improve protection for future site occupants during the restoration timeframe.
	Implementability (10% Weighting Factor)	**4** Moderately implementable as it requires no changes to current Site use, but Site use is currently limited by potential vapor intrusion concerns.	**3** Implementability challenges include a reliance on the redevelopment of the Site, which is subject to challenges not associated with environmental cleanup.	**2** Implementability challenges include a reliance on the redevelopment of the Site, which is subject to challenges not associated with environmental cleanup. Additional challenges are associated with implementing injections during construction.
	Consideration of Public Concerns (10% Weighting Factor)	**3** (Note 2)	**3** (Note 2)	**3** (Note 2)
	MTCA Benefits Ranking[3]	**2.3**	**3.8**	**4.3**
	Estimated Cost[4]	**$570,000**	**$810,000**	**$870,000**
	Benefit/Cost Ratio[5]	**4.0**	**4.7**	**4.9**

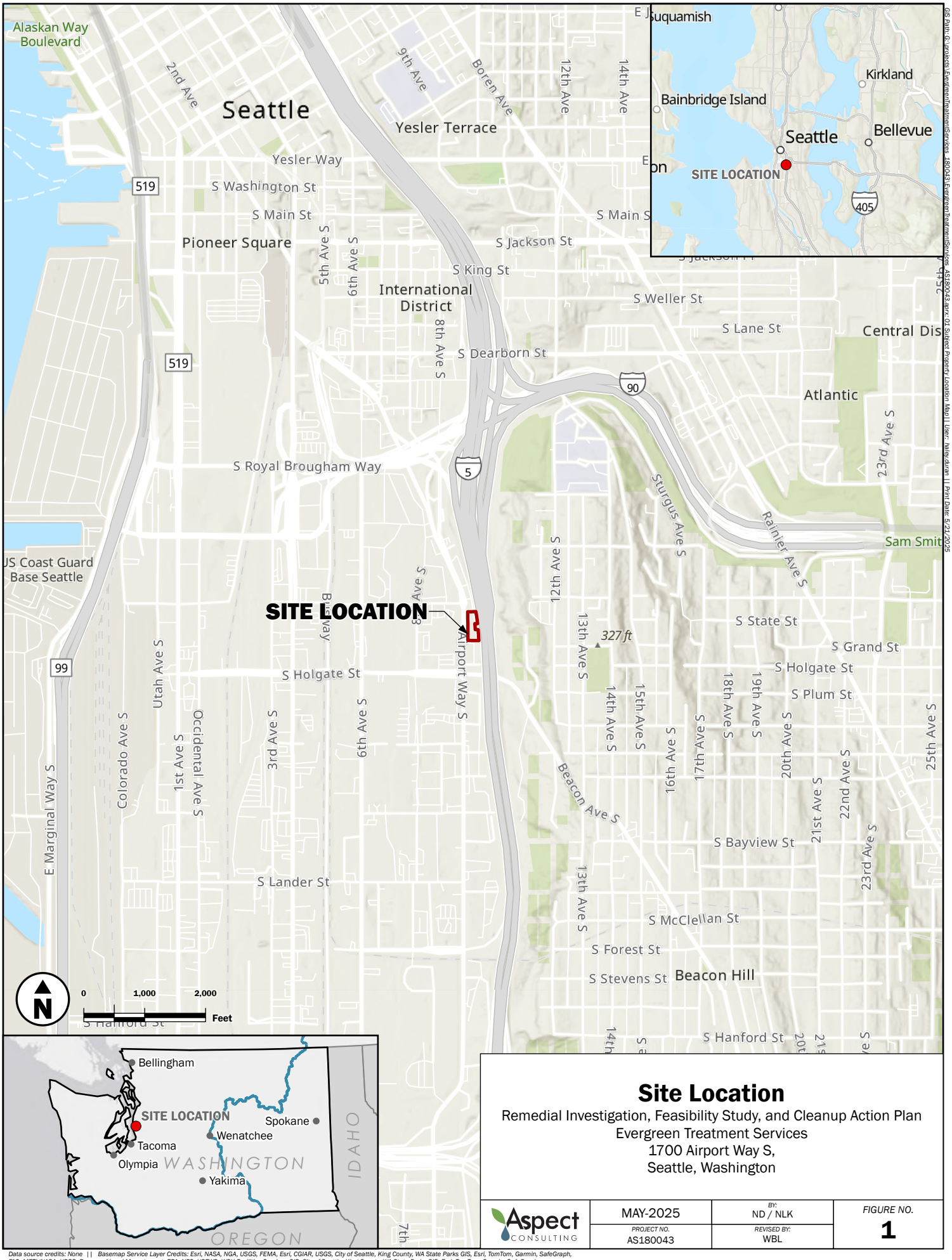
Notes:

MTCA = Model Toxics Control Act

MNA = monitored natural attenuation

1. A scale of 1 to 5 is used to rate the alternatives with respect to the MTCA benefits criteria, where "1" indicates the criterion is satisfied to a very low degree, and "5" to a very high degree. Benefits rating values are shown in **red**. Refer to text for discussion of benefits ranking rationale.
2. Ecology considers and responds to public or other stakeholder comments if received. Therefore, for purposes of this FS, all alternatives are given a rating of 3 for consideration of public concerns.
3. The MTCA benefits ranking for each alternative is obtained by multiplying the rating for each criterion by its assigned weighting factor and summing the results for the six criteria.
4. Cost are Net Present Value in 2025 dollars assuming a discount rate of 2.3%. The costs presented are preliminary, Feasibility Study-level estimates based on existing information and are estimated to be within +50 / -30% of actual costs. Total costs from the detailed cost estimates provided in Appendix A were rounded to the nearest $10,000.
5. The benefit/cost ratio is obtained by dividing the alternative's MTCA benefits ranking by its estimated cost (in $NPV million).

FIGURES



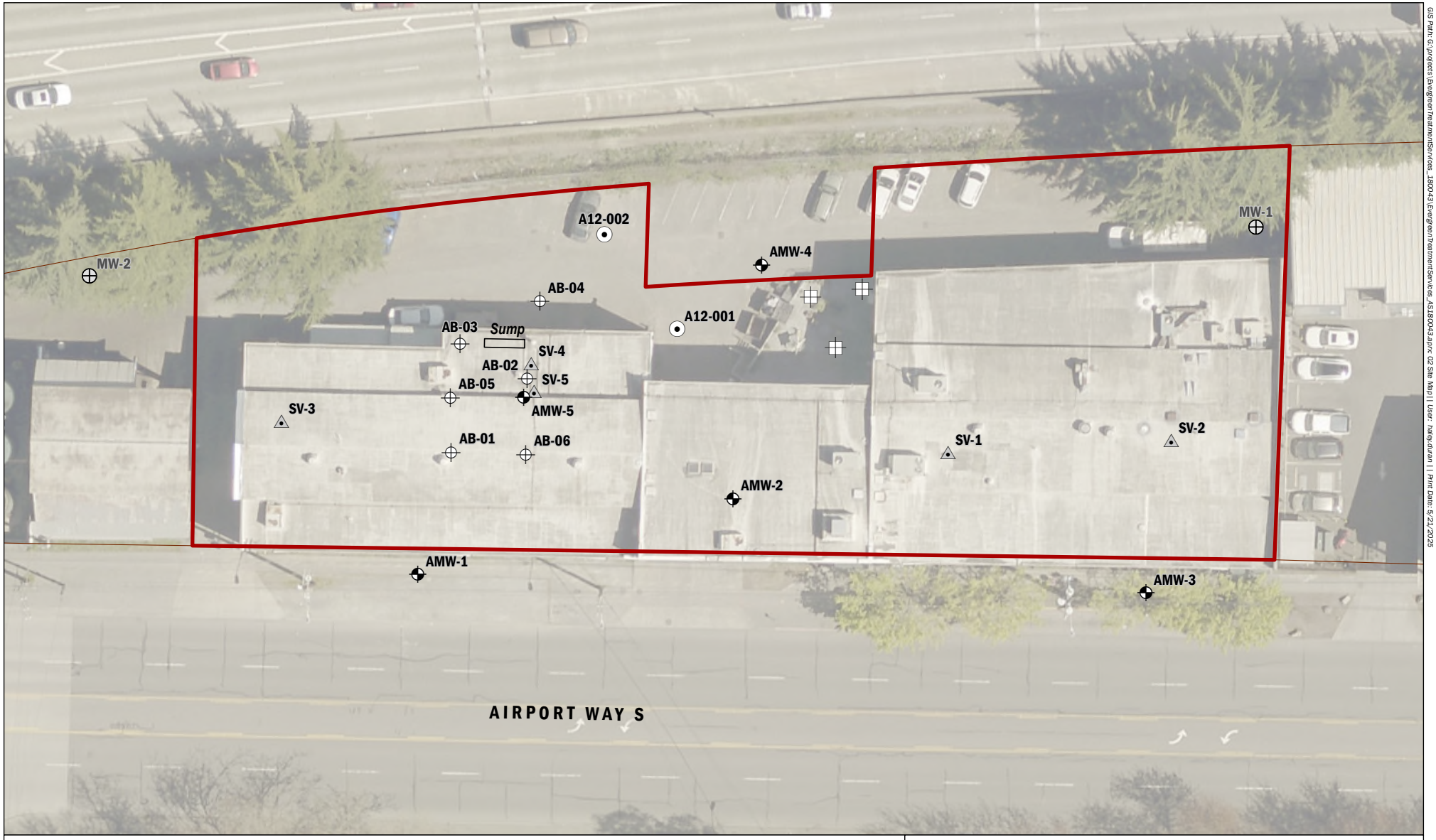
Site Location

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way S,
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 1
	PROJECT NO. AS180043	REVISED BY: WBL	

Data source credits: None || Basemap Service Layer Credits: Esri, NASA, NGA, USGS, FEMA, Esri, CGIAR, USGS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS, WSU Facilities Services GIS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, HERE, Garmin, USGS, EPA, NPS

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 01 Subject Property Location Map | User: tailor.duran | Print Date: 5/21/2025



Remedial Investigation

- Soil Gas Sample Location (Aspect, 2018-2020)
- Groundwater Monitoring Well Location (Aspect, 2018-2024)
- Soil Boring (Aspect, 2024)

Historical Site Closure Sampling

- Concrete Sample Location (NWES, 1995)
- Shallow Soil Sample Location (NWES, 1995)
- Decommissioned Well (NWES, 1995)

Site Feature

- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

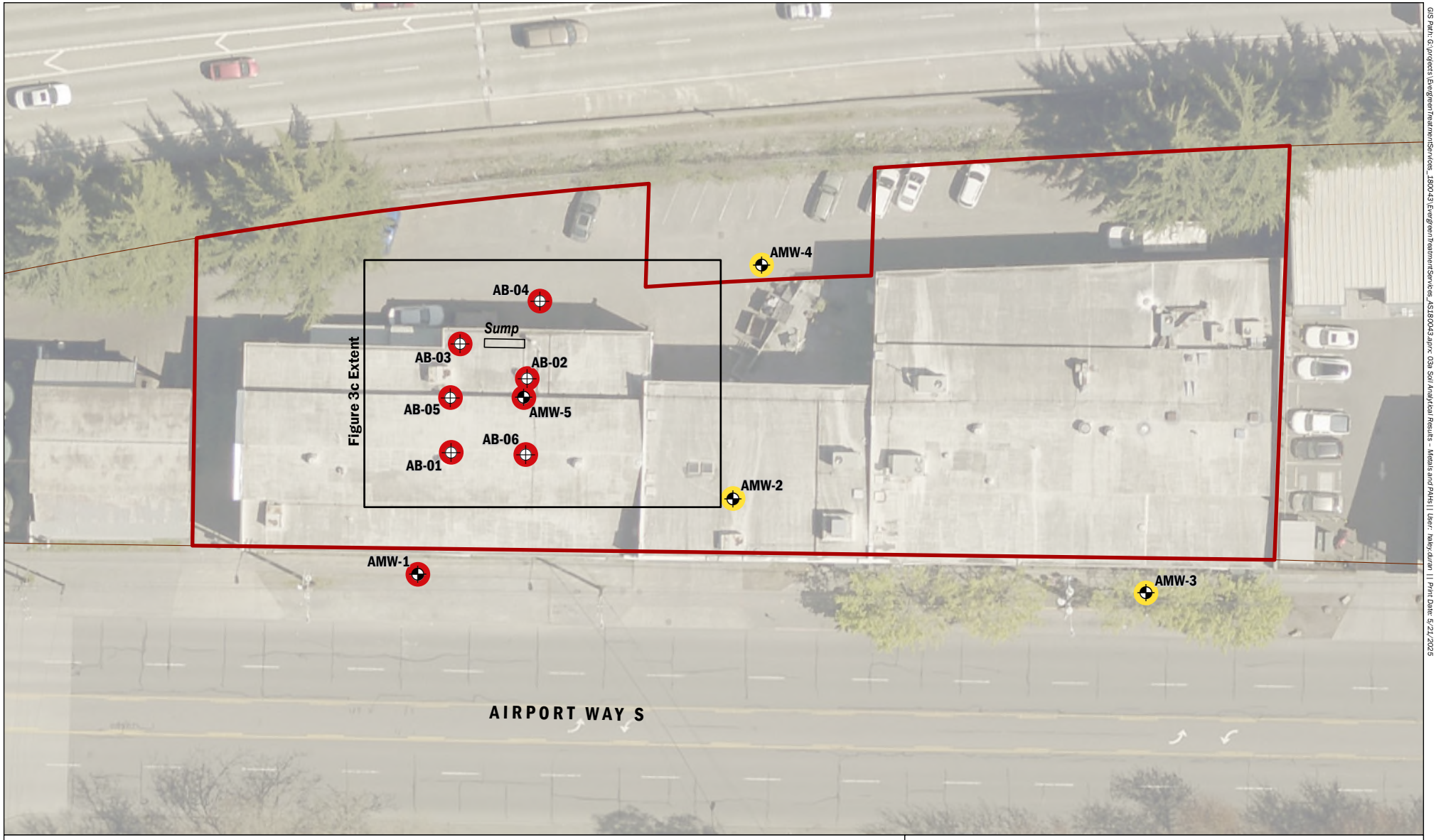
Site Map

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	MAY-2025	BY: ND / HMD	FIGURE NO. 2
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 02 Site Map || User: haley.duran || Print Date: 5/21/2025



Remedial Investigation

- Groundwater Monitoring Well Location (Aspect, 2018-2024)
- Soil Boring (Aspect, 2024)

Analytical Results

- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance

Site Features

- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

Note:
- Metals = arsenic, cadmium, chromium, lead, and mercury
- PAHs = Polycyclic Aromatic Hydrocarbons
- See Report for details regarding analytes and chosen screening levels.

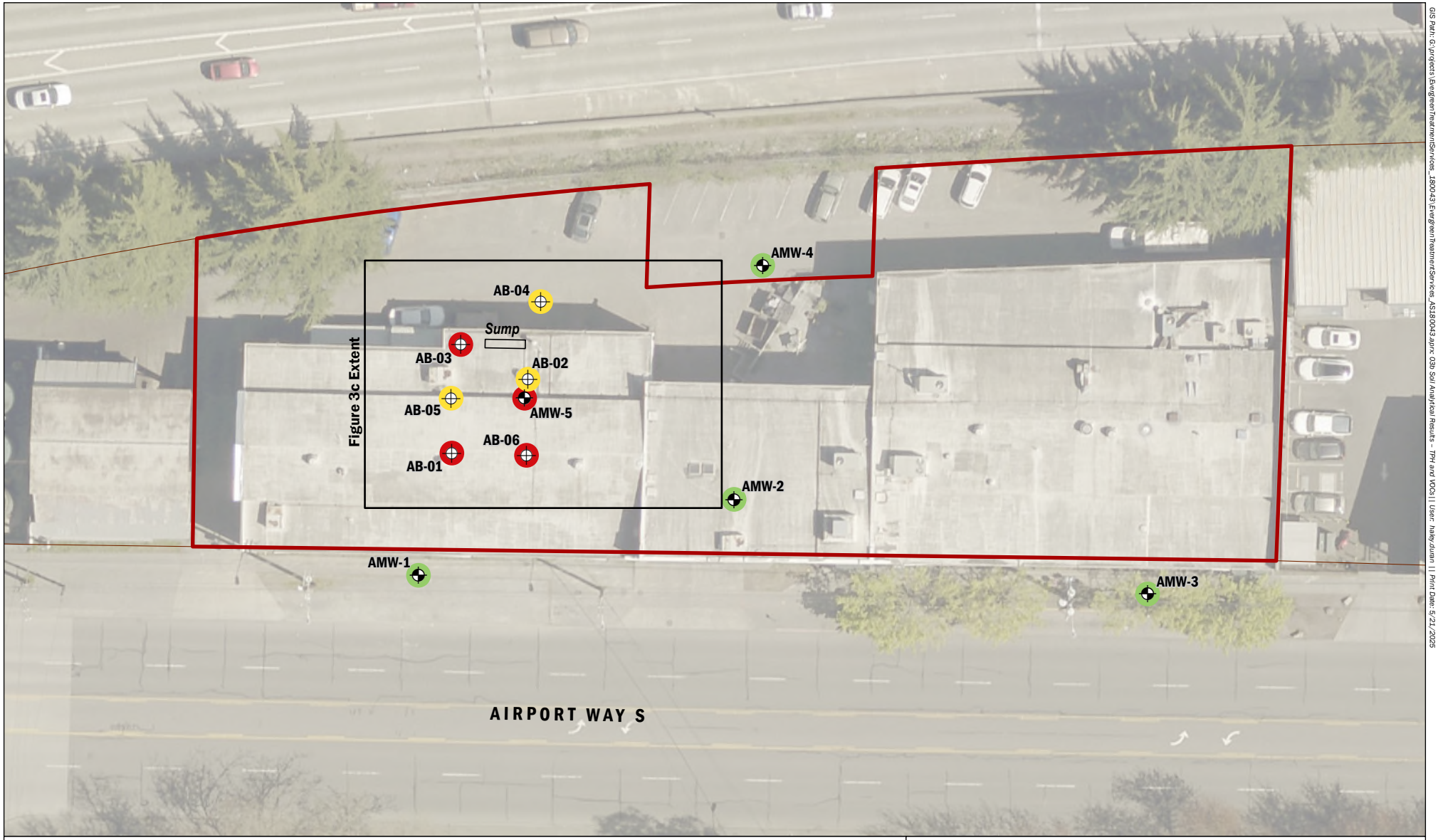
Soil Analytical Results: Metals and PAHs

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	MAY-2025	BY: ND / NLK	FIGURE NO. 3a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 03a Soil Analytical Results - Metals and PAHs || User: haley.duran || Print Date: 5/21/2025



Remedial Investigation

- Groundwater Monitoring Well Location (Aspect, 2018-2024)
- Soil Boring (Aspect, 2024)

Analytical Results

- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance
- No Analytes Detected

Site Features

- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

Note:
- TPH = Total Petroleum Hydrocarbons
- VOCs = Volatile Organic Compounds
- See Report for details regarding analytes and chosen screening levels.

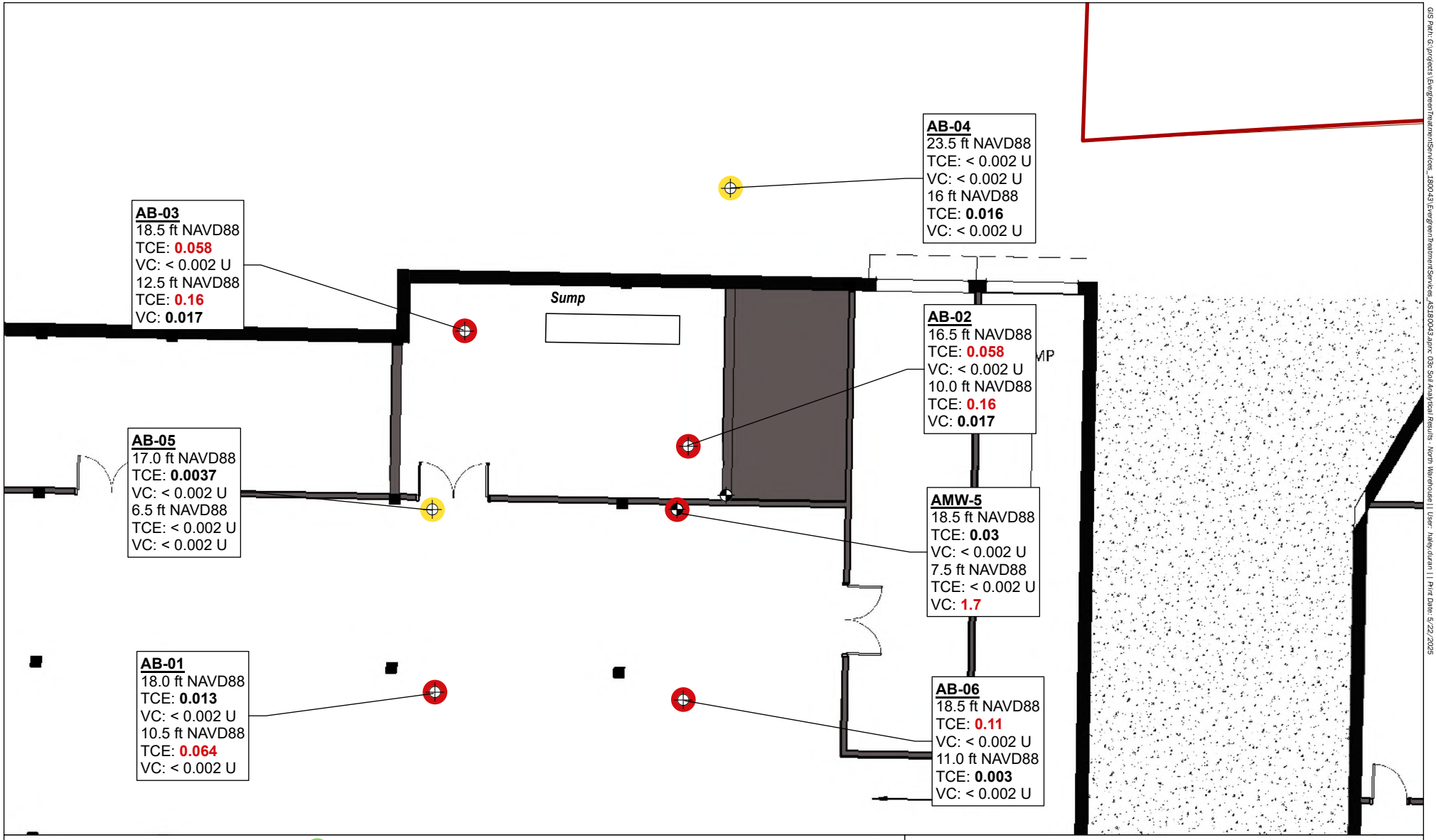
Soil Analytical Results: TPH and VOCs

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	MAY-2025	BY: ND / NLK	FIGURE NO. 3b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 03b Soil Analytical Results - TPH and VOCs || User: haley.duran || Print Date: 5/21/2025



Remedial Investigation

- Groundwater Monitoring Well (Aspect, 2018 - 2024)
- Soil Boring (Aspect, 2024)

Analytical Results

- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance
- No Analytes Detected

Site Features

- Sump
- Subject Property
- King County Tax Parcel

0 6 12 Feet

Note:
- VOCs = Volatile Organic Compounds"
- NAVD88 = North American Vertical Datum of 1988. See Report for Elevation details.
- TCE = Trichloroethylene
- VC = Vinyl Chloride
- See Report for details regarding detected analytes and applicable screening levels.
- Basement plan provided by Evergreen Treatment Services, dated January 13, 2023.

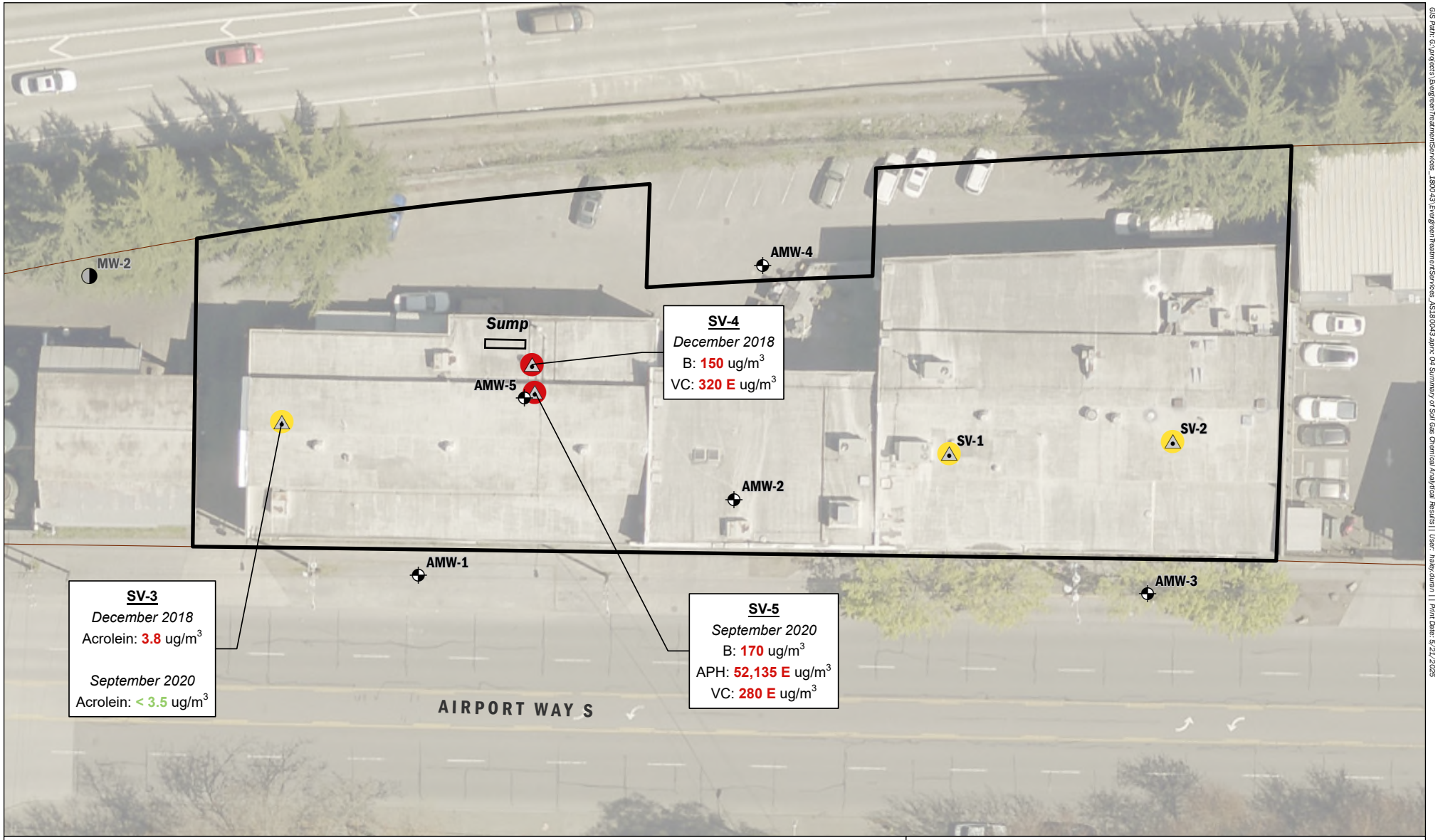
Soil Analytical Results: North Warehouse – VOCs

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 3c
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 03b Soil Analytical Results - North Warehouse || User: haley.duran || Print Date: 5/22/2025



Remedial Investigation

- Soil Gas Sample Location (Aspect, 2018-2020)
- Groundwater Monitoring Well Location (Aspect, 2018 - 2024)
- Damaged Monitoring Well

Analytical Results

- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance

Site Features

- Sump
- Subject Property
- King County Tax Parcel

N

0 25 50 Feet

Notes:
- *B: Benzene*
- *APH: Total Petroleum Hydrocarbons*
- *VC: Vinyl Chloride*

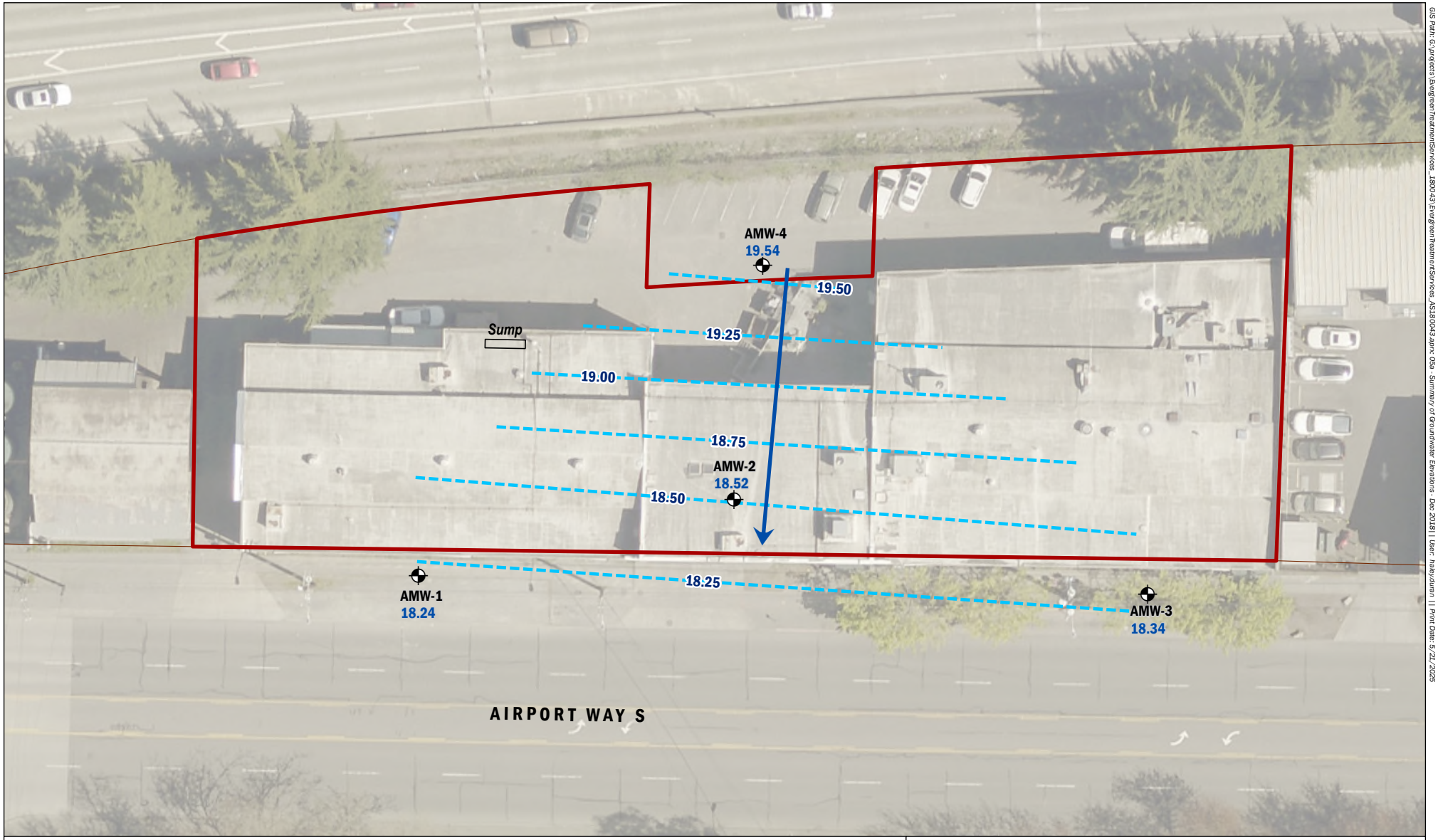
Summary of Soil Gas Chemical Analytical Results

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 4
	PROJECT NO. AS180043	REVISED BY: WBL	

Data source credits: DLC / EAC / SCC || Basemap Service Layer Credits: EagleView Technologies, Inc.

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 04 Summary of Soil Gas Chemical Analytical Results || User: haley.curran || Print Date: 5/21/2025



Groundwater Monitoring Well Location (Aspect, 2018)

GW Contour

GW Flow Direction

Sump

Subject Property

King County Tax Parcel

AMW-2 — Exploration Number

18.52 — Groundwater Elevation (ft)

N

0 20 40 Feet

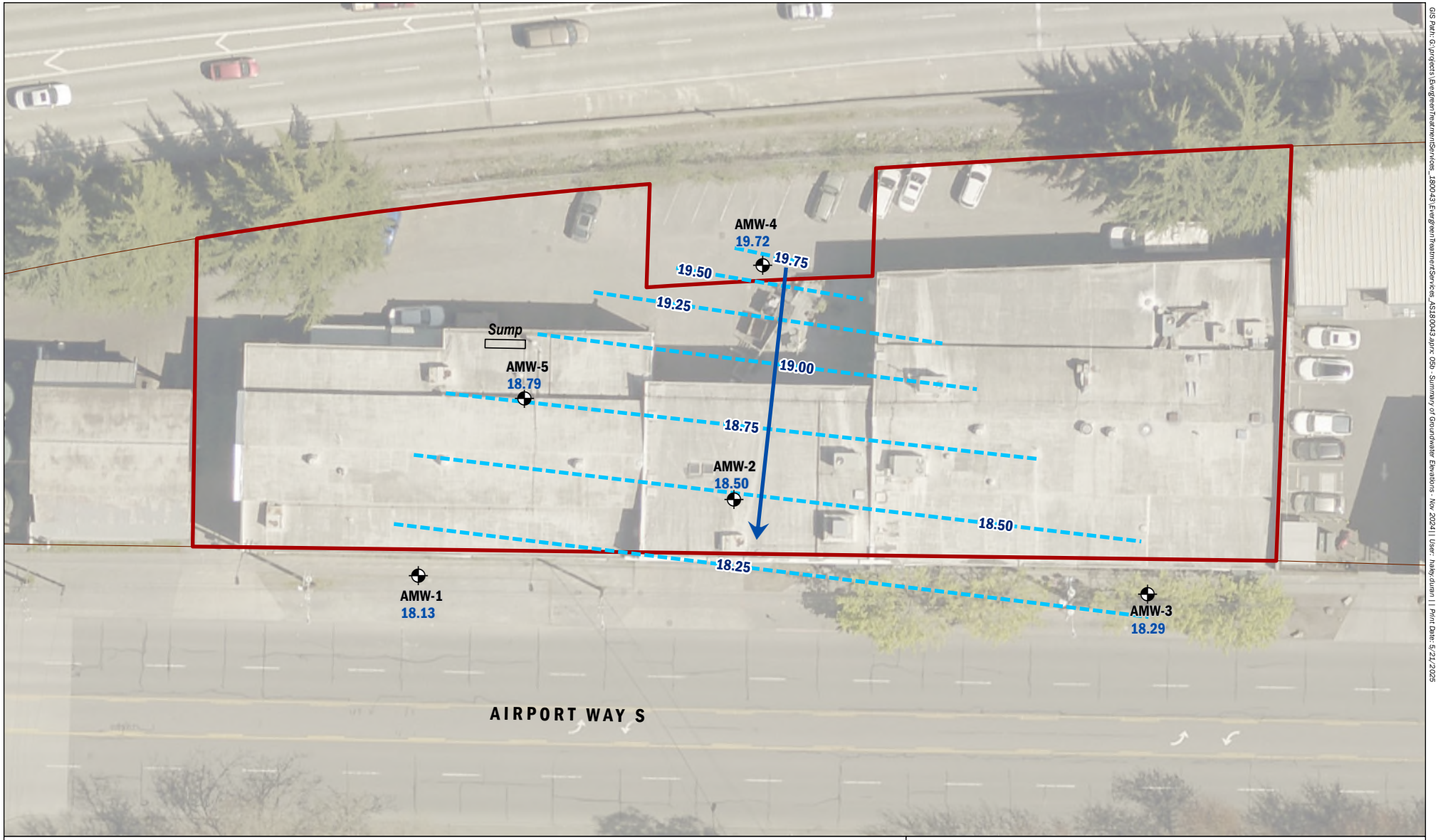
Groundwater Elevations December 2018

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 5a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 05a - Summary of Groundwater Elevations - Dec 2018 | User: haleyduran || Print Date: 5/21/2025



Groundwater Monitoring Well Location (Aspect, 2018 - 2024)

GW Contour

GW Flow Direction

Sump

Subject Property

King County Tax Parcel

AMW-2 — Exploration Number
18.50 — Groundwater Elevation (ft)

N

0 20 40 Feet

Note: AMW-5 installed in November 2024

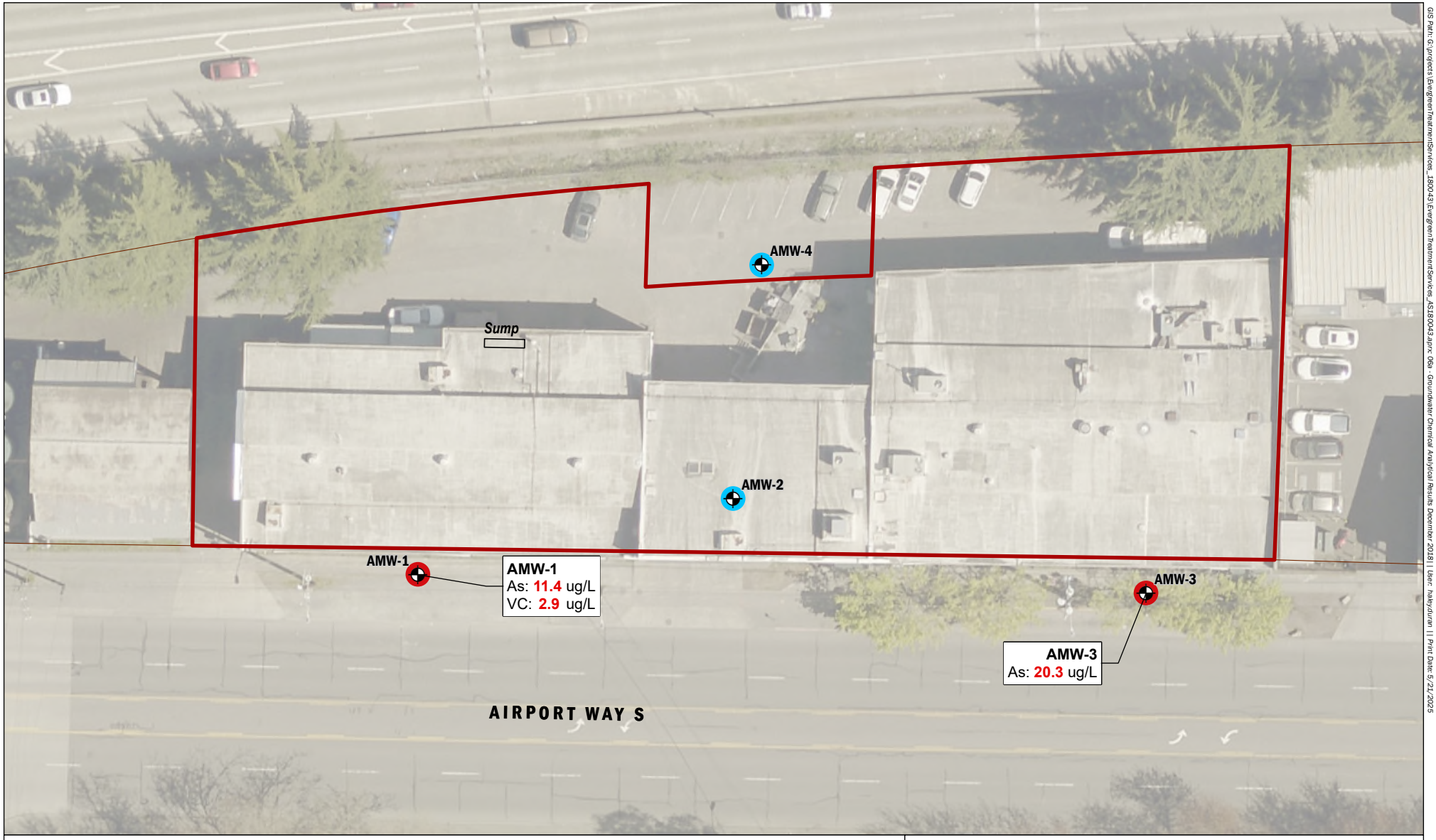
Groundwater Elevations November 2024

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	MAY-2025	BY: ND / NLK	FIGURE NO. 5b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 05b - Summary of Groundwater Elevations - Nov 2024 | User: haley.duran | | Print Date: 5/21/2025



Groundwater Monitoring Well Location (Aspect, 2018 - 2024)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

Sump

Subject Property

King County Tax Parcel

N

0 20 40 Feet

Notes:
- Only analytical results which exceed the screening level are displayed.
- As = Dissolved Arsenic
- VC = Vinyl Chloride

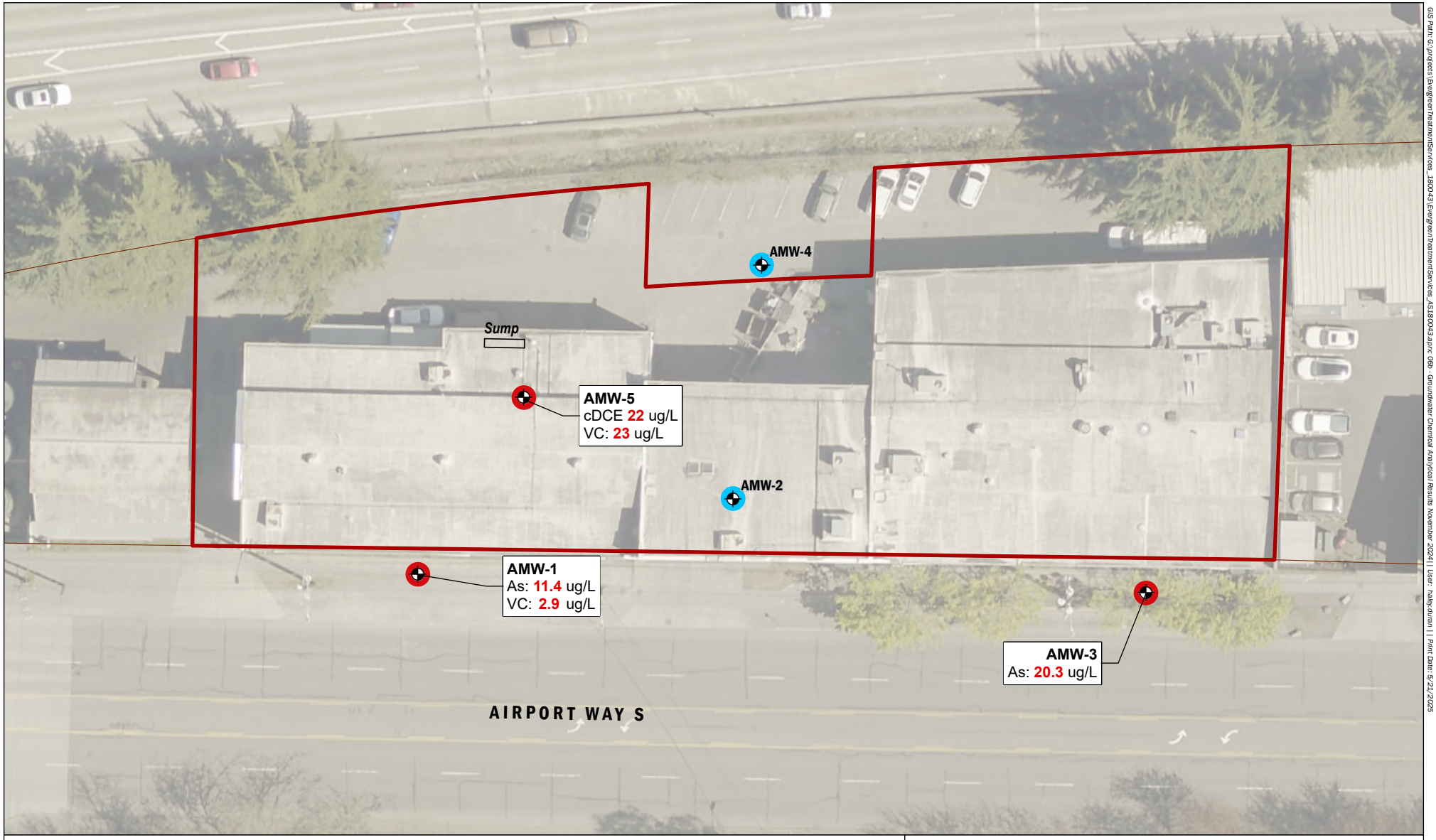
Groundwater Analytical December 2018

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 6a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 06a - Groundwater Chemical Analytical Results December 2018 | User: haleyduran | | Print Date: 5/21/2025



Groundwater Monitoring Well Location (Aspect, 2018 - 2024)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Sump

Subject Property

King County Tax Parcel

N

0 20 40 Feet

Notes:
Only analytical results which exceed the screening level are displayed.
- As = Dissolved Arsenic
- cDCE = cis-1,2-Dichloroethene
- VC = Vinyl Chloride

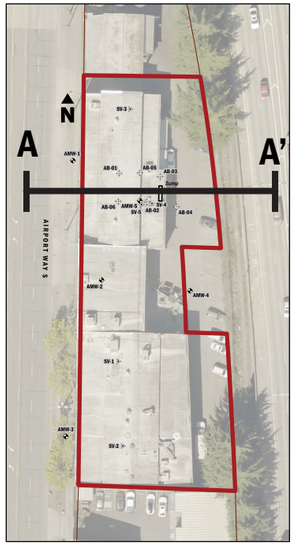
Groundwater Analytical November 2024

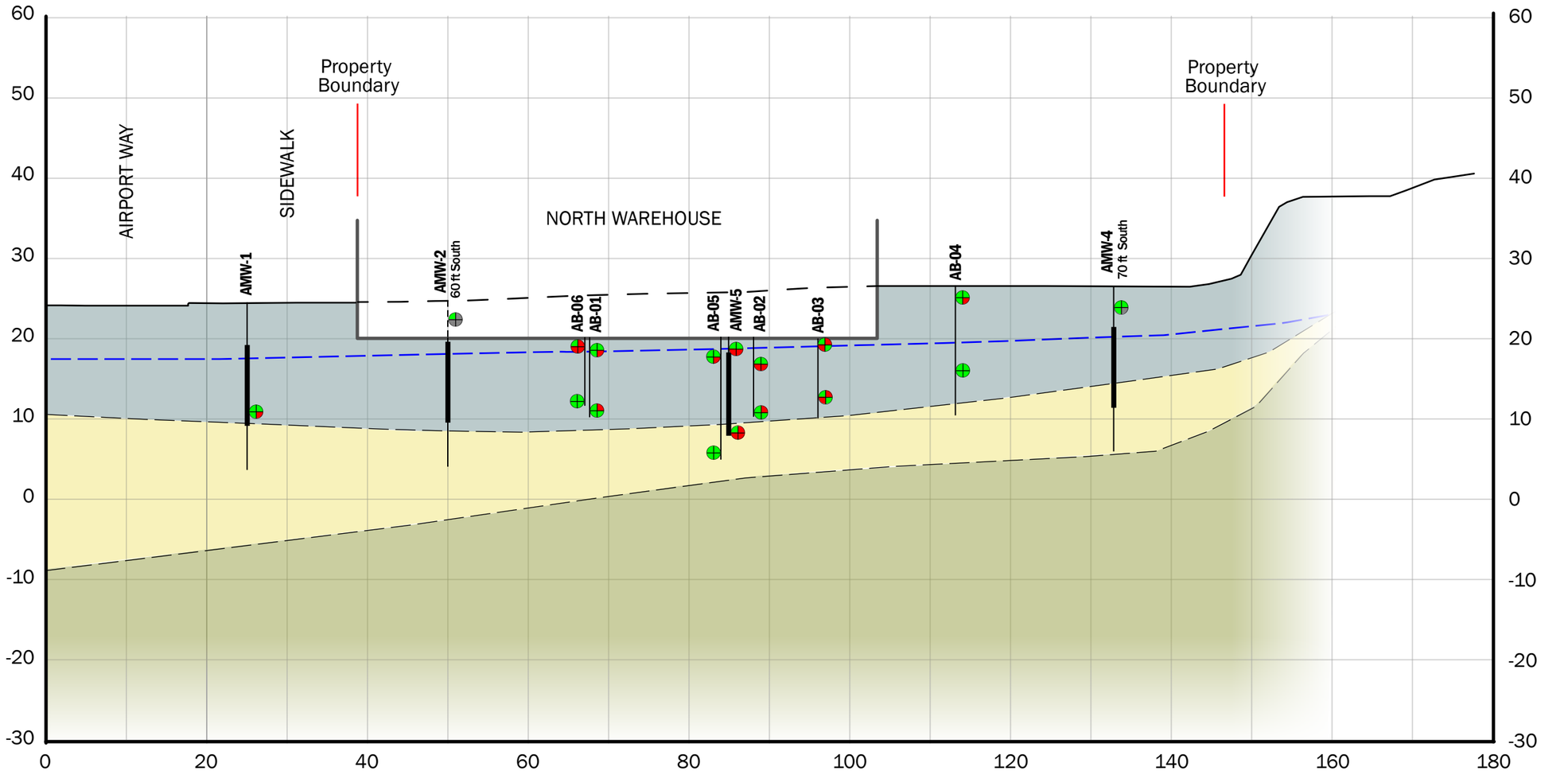
Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 6b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 06b - Groundwater Chemical Analytical Results November 2024 | User: haily.duran | | Print Date: 5/21/2025





Horizontal Scale 1" = 15'
Vertical Scale 1" = 15'
Vertical Exaggeration 1x

Legend

Lithology Graphics

- Artificial Fill
- Lacustrine Deposits
- Glacial Till

Contacts and Groundwater

- Contact - Known
- Contact - Inferred
- Groundwater - Inferred

Soil Boring and Monitoring Well Key

AMW-1 *Location Name*

Screened Interval (Monitoring Wells)

Select Chemical Analytical Results

Petroleum Hydrocarbons
Chlorinated VOCs
Metals
Polycyclic Aromatic Hydrocarbons

- *Analyte(s) detected in soil at a concentration greater than the MTCA Method A cleanup level*
- *Analyte(s) not detected or detected less than the MTCA Method A cleanup level*
- *Analyte result(s) not reported by laboratory*

Note: Some sample locations omitted for clarity. See Report for detailed results and explanations.

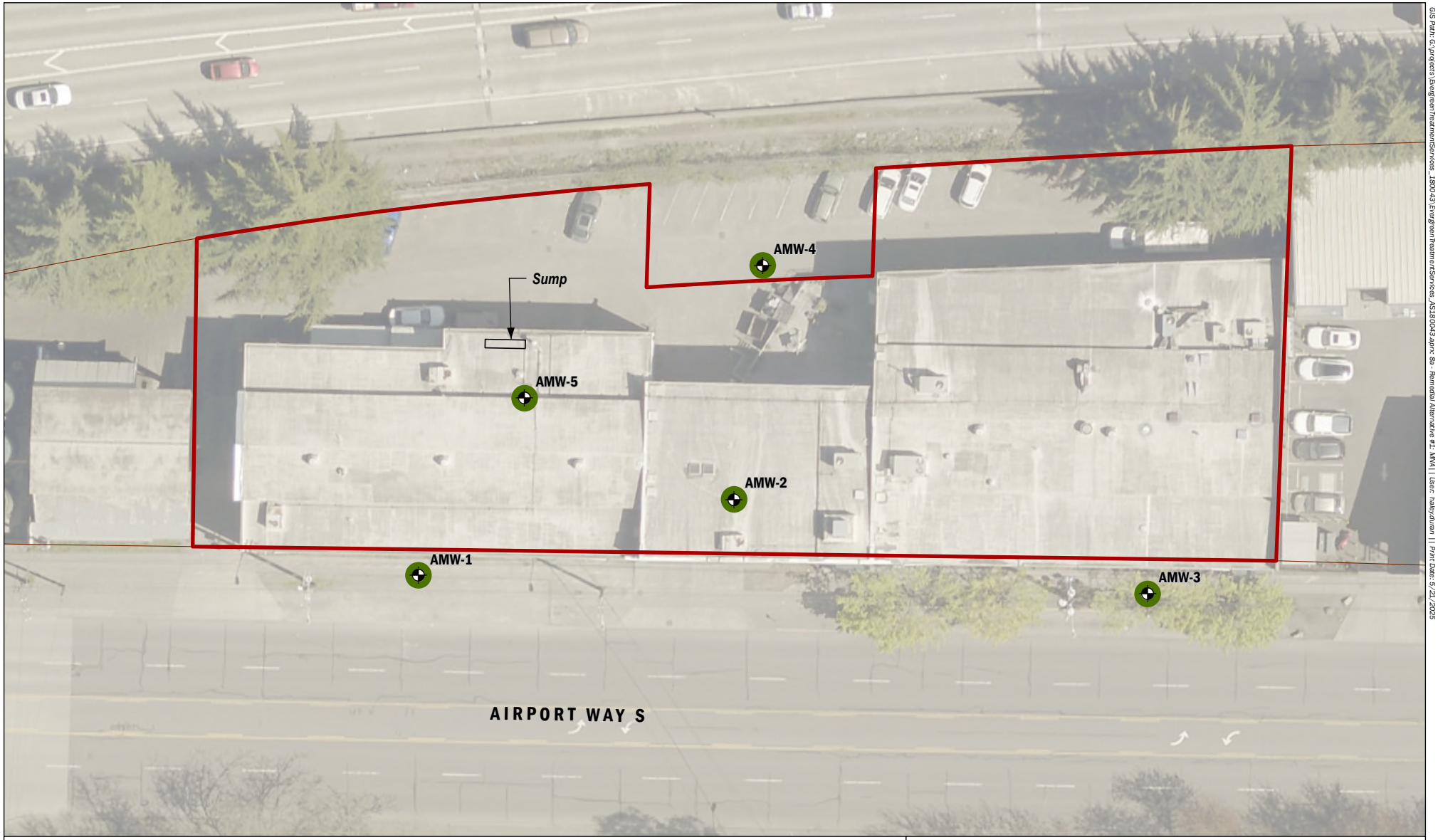
DISCLAIMER: The subsurface conditions presented in this geologic cross section are conceptual. Variations may exist between the soil and groundwater conditions depicted on this figure and those actually underlying the site. Refer to the contents of this report for further context.

Notes:
- Cross section profile based on GeoEngineers (2023), and geologic observations during investigations. See Report for details.
- Site features are approximate.

Cross Section

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	MAY-2025	BY: NWD	FIGURE NO. 7
	PROJECT NO. AS180043	REVISED BY: --	



- Groundwater Monitoring Well Location
- Groundwater MNA Wells
- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

Notes:
- MNA = Monitored Natural Attenuation
- No change to Site use assumed. See Report for details

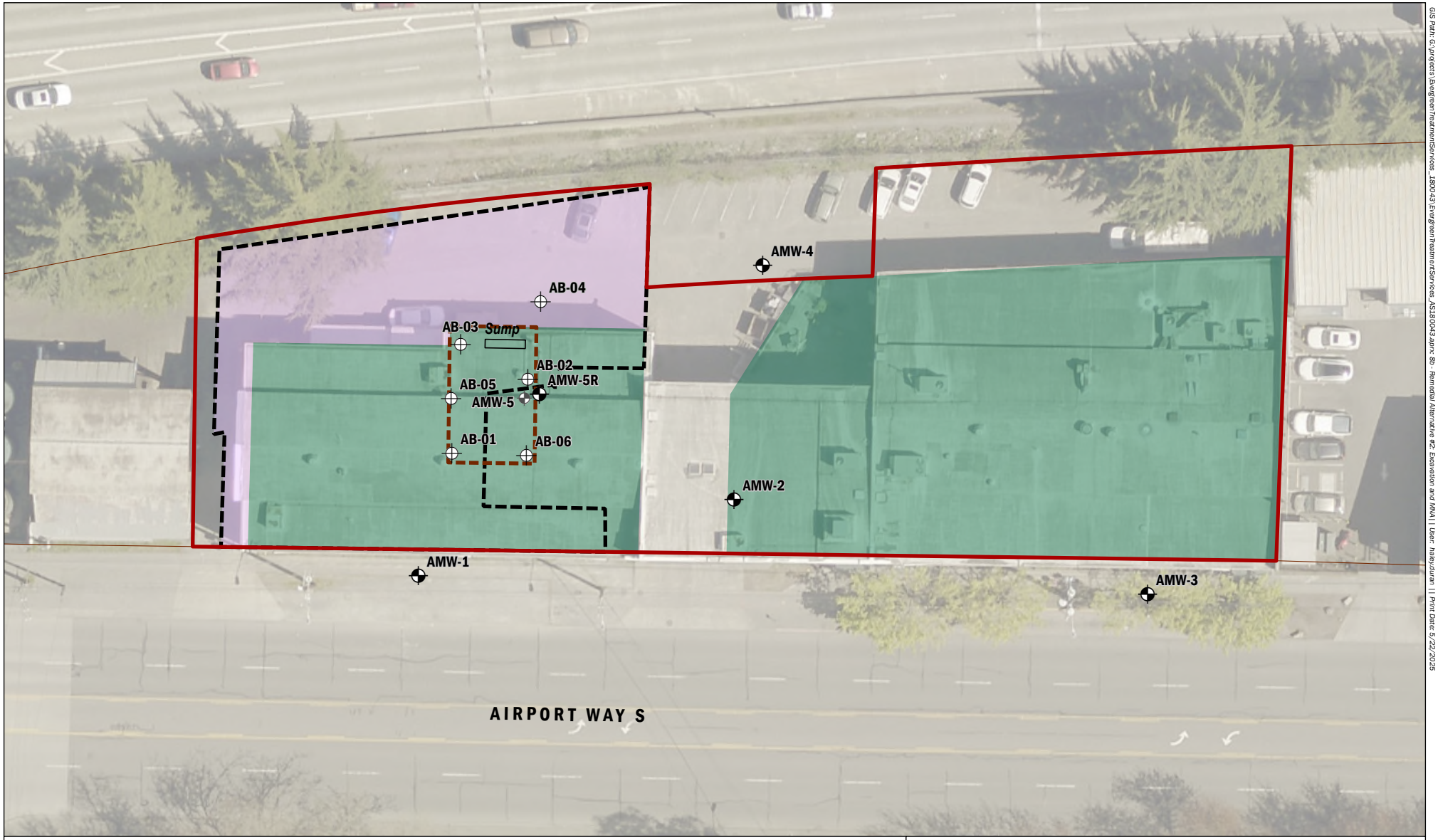
Remedial Alternative #1: MNA

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: JT / HMD	FIGURE NO. 8a
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx 8a - Remedial Alternative #1: MNA || User: haleyduran || Print Date: 5/21/2025



Soil Boring
Groundwater Monitoring Well Location
Groundwater Monitoring Well to be Decomissioned
Subgrade Demolition and Backfill
Extent of Construction Excavation
Extent of New Building

Extent of Remedial Excavation (2 ft bgs)
Sump
Subject Property
King County Tax Parcel

N

0 20 40 Feet

Note:
- Screened analytes include aresenic, cadmium, chromicum, lead, mercury, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and volatile organic compounds. Analytical results from samples collected on-property above 4 feet below ground surface, which is unsaturated soil.
- See Report for details regarding analytes and chosen screening levels.

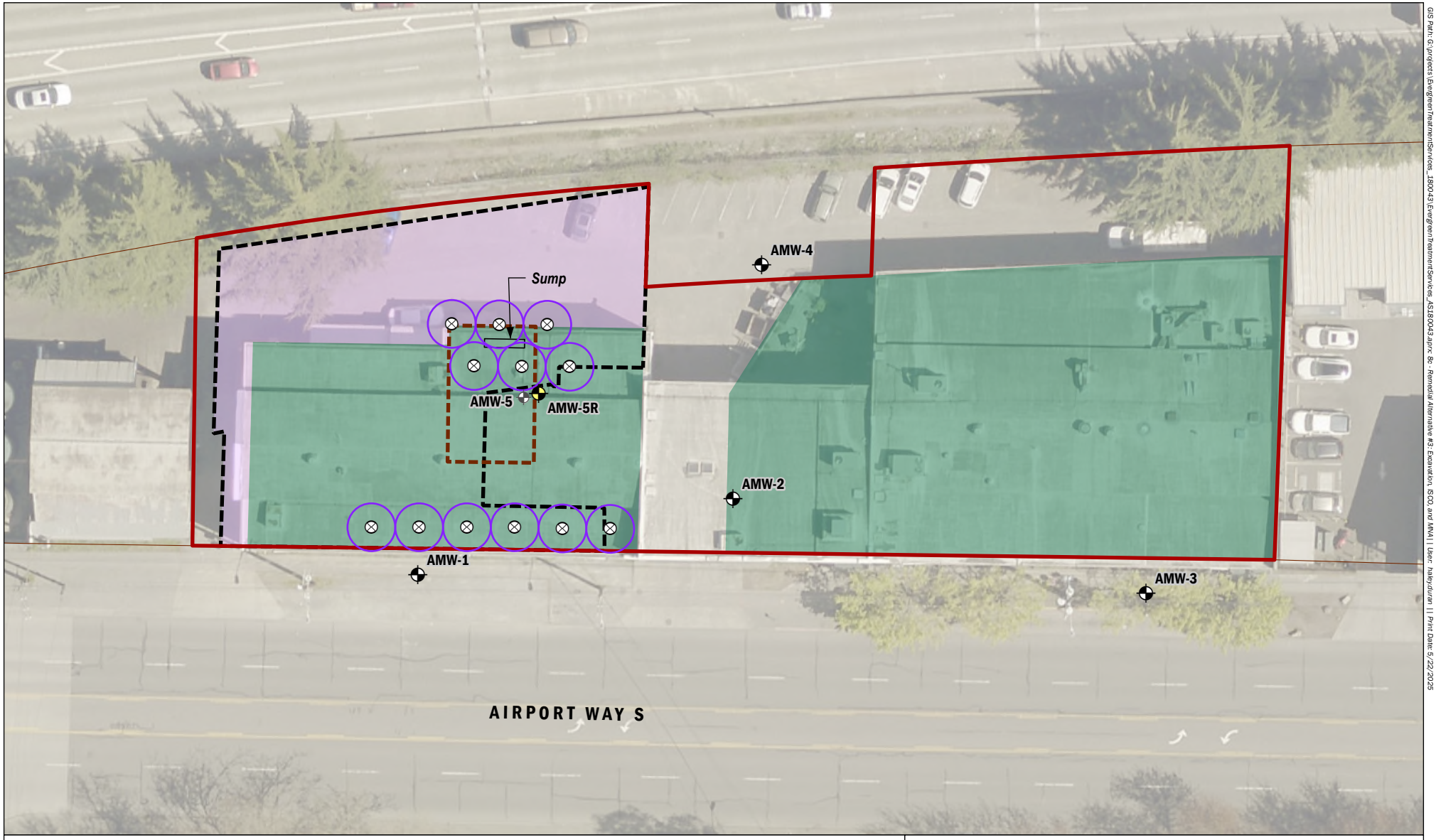
Remedial Alternative #2: Excavation and MNA

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: ND / NLK	FIGURE NO. 8b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 8b - Remedial Alternative #2: Excavation and MNA || User: haleyduran || Print Date: 5/22/2025



Groundwater Monitoring Well Location
Replacement Groundwater Monitoring Well
Groundwater Monitoring Well to be Decommissioned
Injection Point
Injection ROI
Subgrade Demolition and Backfill
Extent of Construction Excavation
Extent of New Building
Extent of Remedial Excavation (2 ft bgs)
Sump
Subject Property
King County Tax Parcel

N

0 20 40 Feet

Notes:
- Injection ROI point spacing is 14-feet center to center

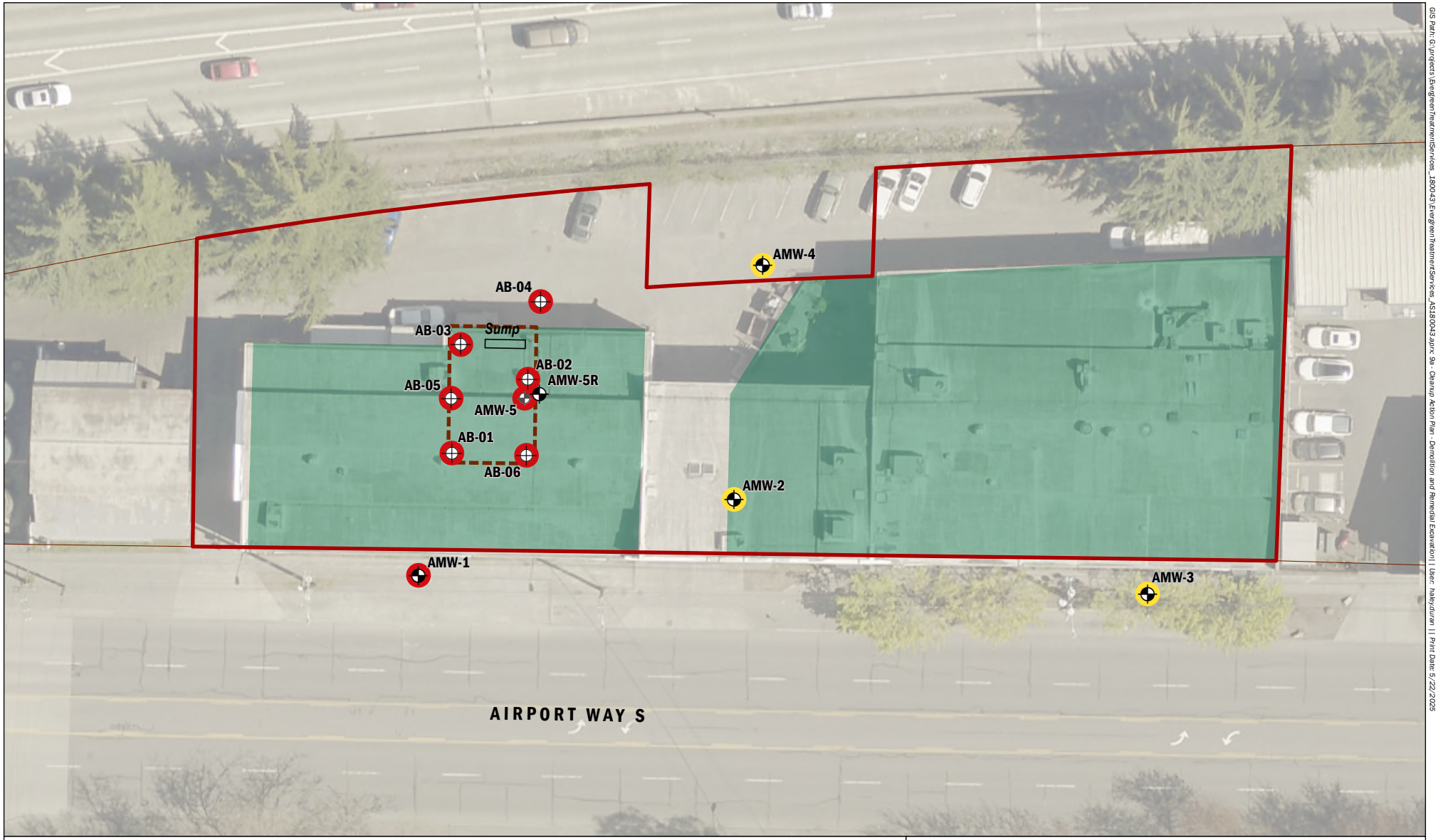
Remedial Alternative #3: Excavation, ISCO, and MNA

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: JT / HMD	FIGURE NO. 8c
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 8c - Remedial Alternative #3: Excavation, ISCO, and MNA || User: haleyduran || Print Date: 5/22/2025



- Soil Boring
- Groundwater Monitoring Well Location
- Groundwater Monitoring Well to be Decomissioned
- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance
- Subgrade Demolition Area
- Extent of Remedial Excavation (2 ft bgs)
- Sump
- King County Tax Parcel
- Subject Property

N

0 20 40 Feet

Notes:
Screened analytes include arsenic, cadmium, chromium, lead, mercury, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and volatile organic compounds - See Report for details regarding analytes and chosen screening levels.

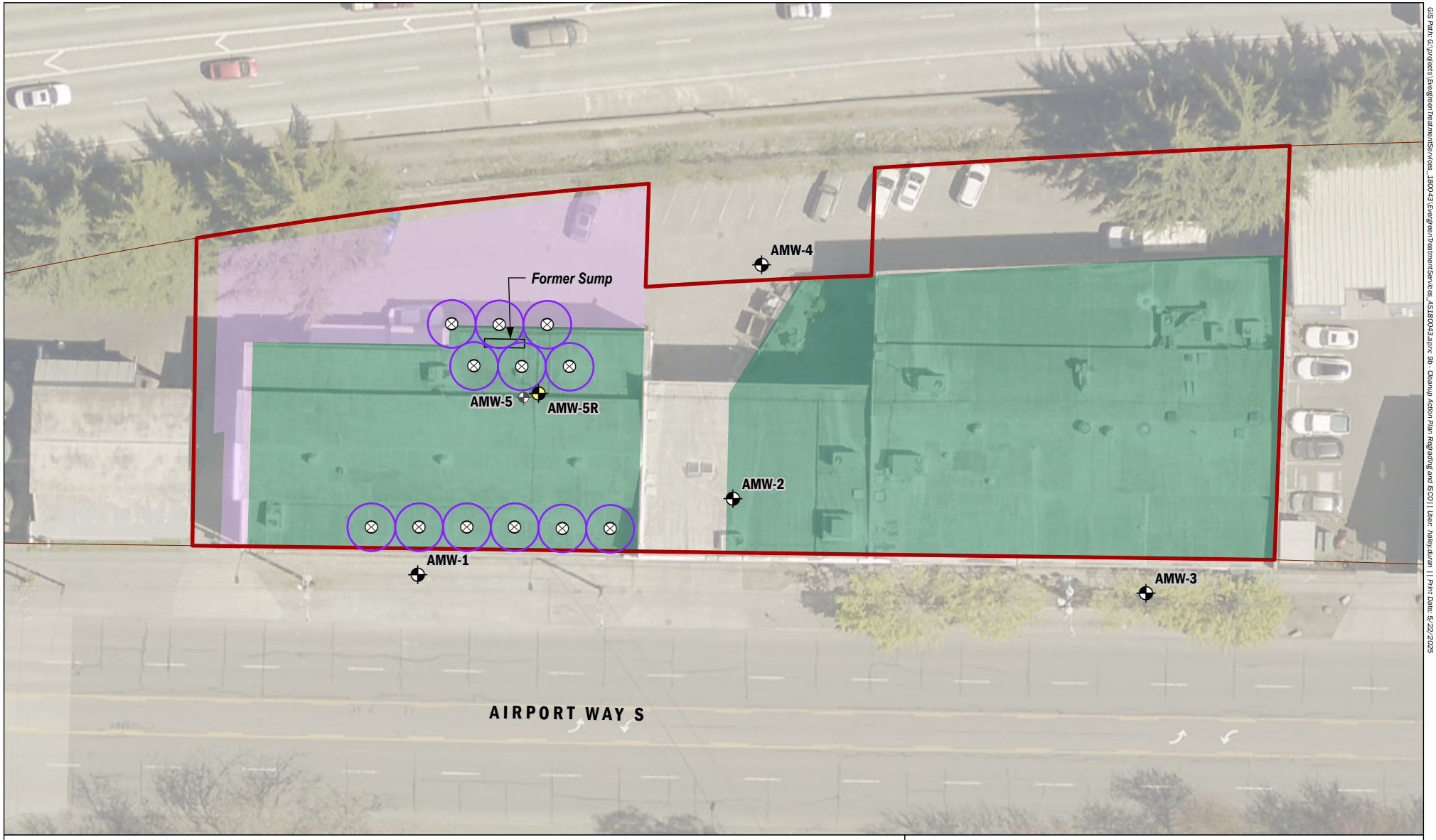
Cleanup Action Plan
Demolition and Remedial Excavation

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: JT / HMD	FIGURE NO. 9a
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx 9a - Cleanup Action Plan - Demolition and Remedial Excavation || User: haleyduran || Print Date: 5/22/2025



- Groundwater Monitoring Well Location
- Replacement Groundwater Monitoring Well
- Groundwater Monitoring Well to be Decommissioned
- ISCO Injection Point
- Injection ROI
- Sump
- Subject Property
- King County Tax Parcel

Regrading Areas

- Fill
- Excavation

N

0 20 40 Feet

Notes:
- ISCO = In Situ Chemical Oxidation
- Injection ROI point spacing is 14-feet center to center

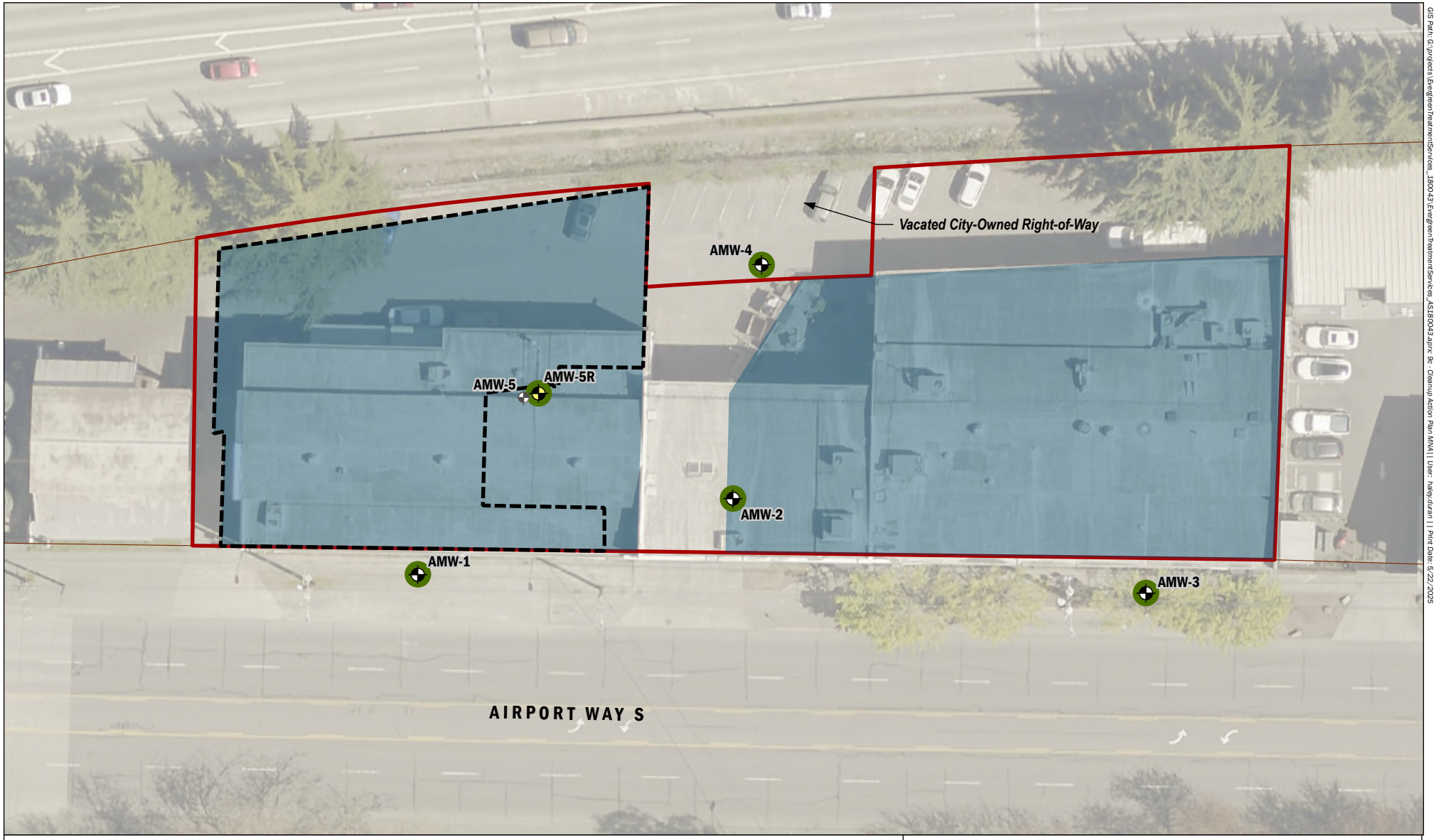
Cleanup Action Plan: Regrading and ISCO

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: JT / HMD	FIGURE NO. 9b
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 9b - Cleanup Action Plan Regrading and ISCO || User: hailey.duran || Print Date: 5/22/2025



- Groundwater Monitoring Well Location
- Replacement Groundwater Monitoring Well
- Groundwater Monitoring Well to be Decommissioned
- Groundwater MNA Wells
- Extent of New Building
- Extent of New Hardscape
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

Notes:
- AMW-5 to be replaced during construction of New Building
- Quarterly groundwater monitoring for years 1-2
- Semiannual groundwater monitoring for years 3-5

Cleanup Action Plan: MNA

Remedial Investigation, Feasibility Study, and Cleanup Action Plan
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	MAY-2025	BY: JT / HMD	FIGURE NO. 9c
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 9c - Cleanup Action Plan MNA || User: haley.duran || Print Date: 5/22/2025

APPENDIX A

Supporting Documents

1992
1800 Airport Way
Proposed office in
Bsmnt of north section

CONCRETE WALL ALL AROUND

PARTS ASSEMBLY

STORAGE

PLATING

TANK TEST

STORAGE

CORRIDOR

WATER SUPPLY

CORRIDOR

STAIRWAY UP TO MAIN OFFICE, TOILETS, OUTSIDE, ETC.

TO SOUTH SECTION →

FOREMANS OFFICE

SPRINKLER HEADS

PAINT SPRAY

CORRIDOR

STORAGE

CORRIDOR

SPRINKLER VALVE

RAMP FROM STREET UP TO MAIN FLOOR

RAMP FROM BASEMENT UP TO STREET, PITCH 4" RISE IN 24"

UP

MAIN SHOP

PACKING

⊗ = EXISTING PARTITIONS

PROPOSED OFFICE — 8' × 20' × 8' CEILING
→A FALSE CEILING UNDER PRESENT SPRINKLERS,
NEW SPRINKLERS LET DOWN THRU CEILING

← AIRPORT WAY →

BASEMENT FLOOR PLAN NORTH SECTION SCALE 3/32" = 1'-0"

WIRE MESH

PROPOSED OFFICE

AIRPORT WAY

CROSS SECTION AT A-A

PROPOSED OFFICE
IN BASEMENT OF NORTH SECTION
WESTERN BLOWER CO.
1800 AIRPORT WAY SEATTLE JULY 9, 1942

METAL COVERED

WATER SUPPLY

EXISTING SPRINKLER HEADS

FALSE CEILING

NEW SPRINKLER HEADS
WATER-TIGHT METAL COVER OVER RAFTERS
1/2" WOOD & 1/2" FIRTEX UNDER RAFTERS
AND ON WALLS →

SPACE BETWEEN PRESENT CEILING AND FALSE CEILING OPEN ON SIDES AND END FOR ACCESS

3'-0" × 6'-8" DOOR OPENS OUT

DETAIL OF PROPOSED OFFICE
SCALE 1/2" = 1'-0"
SEC. A-A

76662

1 DISTRICT
CODE NO. 61
PERMIT NO. 1

2 ADDITION SEATTLE TIDE LANDS
SECTION TWP. N. RANGE EWM: BLOCK 222 +221 TRACT OR LOT NO.
NAME 1-2-3 Legal on back
DESCRIPTION Lots 1 to 3 Blk 221 Less Ry R/W Tgw ~~Por vac Grand St West of R/W~~
Lots 5 & 6 Blk 222 and vac Grand st adj AND POR. VAC. ST. adj

3 ADDRESS --- PROPERTY 1800 Airport Way CONT. PURCHASER
4 FEE OWNER Western Blower Co. (1-5-25)
5 ARCHITECT CONTRACTOR

ORIG. COST $

6 BUILDING
Factory
2 Stories
3 Offices
3 Toilet Rms.

INTERIOR
Mill Walls
Fir Trim

FLOORS Fir 2"x6" T.& G.
Mezz 10x75 and 10x50
PLUMBING 10 Fixtures
Typical
Medium-Class

TILE WORK None

WIRING Conduit

HEATING Central
Oil Burner--Western Blower
Name--Ray

ELEVATORS

ENTRANCE ~~XXXXX~~ Y Corridors
Fir Floors & Trim--Mill Walls

CEILINGS -- STORY HEIGHT
Basement 10' 1st Flr. 10'
2nd Floor 10'

BASEMENT ~~100%~~ 75%
Concrete } 18x30
Concrete } Floor
25% wood

FOUNDATION
Concrete
P & P

ROOF
Tar Paper

STORE FRONTS

EXTERIOR
Frame--Single Kd.
Cornice Tin
Fir Trim
Tin Coping

EXTRA FEATURES 472 Sprinkers 5 Stairways-Office Plaster Brd.
88 Skylights 1 350 Fuel Tank
CONSTRUCTION Mill P & B Single--Medium
REFRIGERATION
7 CONDITION: EXTERIOR Fair INTERIOR Fair FOUND. Fair
8 MAIN SUPPORT COLUMN x FOOTING SPAN FT.
9 FIRST FLOOR JOIST INCH CENTER BRIDGED
10 BUILDING Finished
11 GROSS INCOME $ EXPENSE $ NET INCOME $
12 DEPRECIATION: COND. 55 % OBSLSE. % ECON. SUIT. % TOTAL %
YEAR BUILT 1914 REMODELED 1925
EFFECTIVE AGE 22 YEARS FUTURE LIFE 18 YEARS
DIMENSIONS 119 x 92 x SQUARE FT. AREA CUBIC FT.
137 x 66 59 x 60
25210 Sq. Ft.
29454 Total ϕ
~~23,530~~



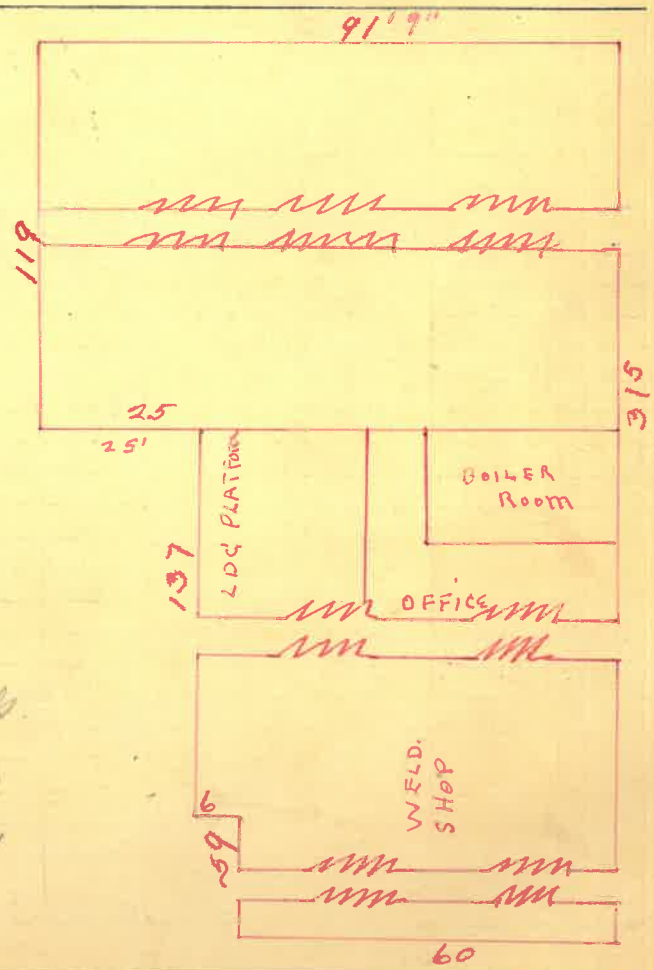
IMPROVEMENT VALUE
MAIN BUILDING $ 17200
OTHER BUILDINGS $ 6052
TOTAL ~~TAX~~ $
ASSESSED VALUE 50% $ 9110
DATE 12/15/37
LAND INFORMATION ~~23,900~~ 18,300
1. SIZE x
2. STREET --- ROAD
3. SIDEWALK
4. LANDSCAPING Seattle Tide Lnd
5. TREND LAND VALUE $
6. USE
7. DISTRICT -36600-71

C	OWNER OR CONTRACT PURCHASER	DATE	FILE NO.	PRICE	MTGE.	STAMP
			CLEAR TITLE TO ALL VAC GRAND ST. V4232-302			

REMARKS Hvy. Conc. Bldg. Floors Ramp & Platforms Mezz.2"x6" on 6"x10"--30" O.C. 2 Stringers 12"x10" on 10"x12" on 10"x10" Pasts. Loft over office 15'6"x77'9" Floor 2"x10" on 10"x12" on 10"x12" Posts--Office under loft 15'6"x44' Mill Const. Loft over End Mezz 44'6"x20'x9'--2"x10"Joist on 2-10"x12" Beams, 2 Trusses over Boiler Span 41'-10"x12" Timbers 13 Trusses 2"x6" Lattic 28' Double Ramp Timbers Const. 10"x24"--4"x12" Floor loading Plate Solid timber const. 28" Thick 50'x77' 1 350 Fuel Tank 1 Ingersall Rand Air Comp. #15384 Comp.Air Tank 5'x8' ½"Boiler Plate 1 5'x7' Fire Door Roll Type--4-3'x6' Fire Doors 903Sq.Ft. Conc. Floor 10 Unit Heaters 1 Folding Iron Door 10'x12' Also 1-2-3 Seattle Tide Lands 221 Boiler Shop Landing Platfor Frame Timber Const. Joist 4"x10"-2'0.C. Beams 1 10"x10'x77' Long 5 Seattle Tide Lands 222 4 10"x24' 30' Long 20 10"x14"x44' Long 1 10"x12" 60' Long 2 10"x24'x77' Long 1-2 3-4 W. of Ry T-y 5 6. Also Walk 1800½ Airport Way. (Shed) Mc Naughts 3rd Add. Sup'l. A. Comm. No Bldg Card.

30' = 1"

FLOOR PLAN



COMMERCIAL, FACTORY, LOFT, GARAGE -- KING COUNTY ASSESSOR, SEATTLE, WASHINGTON

23

DISTRICT	ROAD	SCHOOL	WATER	FIRE	DECREASE OR INCREASE IN ASSESSED VALUATION

RECORD OF ASSESSED VALUE					DATE	BY	REASON	LAND		BUILDING	
YEAR	AC.	LAND	BLDGS.	TOTAL				DECREASE	INCREASE	DECREASE	INCREASE
19 38		630	9180	9810							
1939		630	8480	9110	11/7 0	BH	Stat 20x 768				
1944		630	8670 (1)	9300	8/11/43	Gok	added Cranemay				190
1946		630	8600 (1)	9230	4-26-45	EN	Supr's Bldg Destroyed				
1949		1400	8600	10000	2-48	mcl	1948 Qual Bldg 8600=710		770		
1954		1400	23900	25300	5/18/53	Wm.	R.V.				
19											
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LAND CLASSIFICATION OR SEGREGATION

THIS SQUARE INDICATES _____ ACRES

LOT NO. _____

BLOCK NO. _____

SECTION N E 8

TWP. 9 4

RANGE 4

TAX LOT NO. _____

PARCEL NO. _____

AERIAL PHOTO _____

QUARTER MAP _____

PLAT MAP Tolo 5-6 3 2

1. DISTRICT

LIMITS O.L.

CODE NO. 1

PERMIT NO.

DATE

2. ADDITION S. T. L. 131

SECTION TWP. N. RANGE EWM. BLOCK 222 TRACT OR LOT NO. 5

DESCRIPTION

3. ADDRESS OF PROPERTY 1800 Airport Way Served By NP Ry.

4. FEE OWNER Western Blower Co. -1-5-25 CONTRACT PURCHASER

5. ARCHITECT CONTRACTOR

6. ORIG. BUILDING COST $ OCCUPIED BY RENTAL PER MONTH $ ESTIMATED RENTAL PER MONTH $

7. CONDITION OF EXTERIOR INTERIOR FOUNDATION FLOOR PLAN

8. BUILDING

INCL SPUR TR.

INTERIOR WALLS

FLOORS

FIRE PLACE

INTERIOR TRIM

PLUMBING

TILE WORK

INCL SPUR TR.

ATTIC

INCL SPUR TR.

HEATING

BASEMENT

FOUNDATION

ROOF

EXTERIOR WALLS

PORCHES

EXTRA FEATURES

BUILT-INS

CONSTRUCTION

CEILING HEIGHT

9. CORNER JOINTS DOWN SPOUTS SEWER CONNECTED

10. FIRST FLOOR JOIST SIZE X AND INCH CENTERS BRIDGED

11. FIRST FLOOR JOIST SUPPORT COLUMN OR POST SIZE X

12. CLASS OR GRADE NO. SHAPE NO.

13. BUILDING FINISHED OR UNFINISHED

14. DEPRECIATION: CONDITION % OBSLSE. % ECON. SUIT % TOTAL %

DATE BUILT REMODELED

EFFECTIVE AGE YEARS FUTURE LIFE YEARS

LAND INFORMATION

1. SIZE X TOPOGRAPHY GRADE FEET
2. STREET ROAD SURFACE ALLEY
3. SIDEWALK SEWERAGE WELL ELECT. PUMP
4. LANDSCAPING Seattle Tide Lands COND.
5. TREND VALUE OF LAND
6. USE OF DISTRICT VIEW
7. RESIDENTIAL ZONED

REMARKS

VOID

MAIN BUILDING	
DIMENSION	SQ. FT. AREA
X	
X	
X	
X	
PCH. X	
PCH. X	

IMPROVEMENT VALUE

MAIN BUILDING $

OTHER BUILDINGS $

TOTAL $

ASSESSED VALUE 50% $ 20.

DATE

OTHER BUILDINGS	CONSTRUCTION	FLOOR	ROOF	STY.	DIMENSION	AREA	VALUE
GARAGE					X		$
					X		
					X		
					X		
					X		

O C	OWNER OR CONTRACT PURCHASER	DATE	FILE NO.	PRICE	MTGE.	STAMP
	Told Realty Corp	9-1-67	E699429	$75,000	Assn off	

REMARKS 44' Spur Tr.

Bldg. N.V. to Lot 6/222 - S T.L.

MAJor pt. of this Lot IN McNaughts 3rd

FLOOR PLAN

VOID

FRONT

METRO

DISTRICT: ROAD	SCHOOL	WATER	FIRE
Seattle 1			

766620-2855 8410 18300 0010 VALUATION 2855

RECORD OF ASSESSED VALUE					DATE	BY	REASON	LAND		BUILDING	
YEAR	AC.	LAND	BLDG'S.	TOTAL				DECREASE	INCREASE	DECREASE	INCREASE
19 ~~38~~			~~20.~~	~~20.~~							
19 38		380	20 ~~1550~~	400	8/9	BB	add spur track				20
19 48		870	20	890	3-48	mcl	1946 Duly Bldg E #91		490		
19 56		5210	23920	29130	6-54	EP	Merged			F-J (-)	
19 59		8410	23920	32,330	8-23-57	LL	RW (Reg Legal - Ord 96392 - 10/16/57				E-5652
19 59		8410	23900	32310	10-21-57	JB	Vac Spur track -				
19 65		8410	23900	32310	5-11-64	(illegible)	(illegible)				
19 65		8410	18300	26.710	6-22-64	JC (CA)	Per Jahn - Off Rel 35 Bk E				
19											
19 71	L	16820	B	36600	T	53420*766620-2855-0	8/9				
19											
19 73		321.50	10500	426.50	3-14-72	MR	RV-1				
19 72		19620	36600	55620	7/7/72	JBS	Imp 2855 & 539260 to 140,0205			C-4645	
19 73		45050	10500	55,550	"	"	"			"	
19											
19											
19									

Evergreen Treatment Services

CLINIC SERVICES | REACH

Transforming the lives of individuals and their communities through innovative and effective addiction and social services.

RECEIVED
Date
AUG 12 2024
Dept. of Ecology - NWRO
Hazardous Waste & Toxics Reduction Program

August 1, 2024

Raman Iyer
Washington State Department of Ecology
15700 Dayton Avenue N
Shoreline, Washington 98133

Re: Change in Use Notification – 1700 Airport Way South, Seattle, WA
Environmental Restrictive Covenant No. 20171227001452

Dear Raman:

Evergreen Treatment Services (ETS) is submitting this letter to notify Washington State Department of Ecology of a Change In Use to property subject to an Environmental Restrictive Covenant (ERC). The property is located at 1700 Airport Way South in Seattle, Washington. ETS acquired the property in 2021 (referred to herein - Property or Subject Property). A former industrial building, currently being used by ETS, occupies the Property and is divided into two parts: the north portion is an unoccupied warehouse, while the south portion is used by ETS as a clinic, substance abuse treatment, and counseling facility.

Since 2018, Aspect Consulting provided environmental due diligence support for ETS' property acquisition from Western Blower Associates LLC; including soil, groundwater and soil gas evaluations. The Subject Property historically was part of a larger Site occupied by an industrial facility, Western Blower, manufacturer of large industrial fans. Northwest Enviroservice (NWES, later Emerald Services) operated a hazardous waste processing facility on the north portion of the Site (north of the ETS Subject Property). The entire property (both the NWES north parcel and Western Blower south parcel) was listed by the US Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) as a contaminated Site. Corrective Action measures were undertaken by NWES for the Site under the direction of the EPA in the 1990s. The south portion of the Site (the Western Blower Parcel, or now, the Subject Property) was removed from the cleanup action because the EPA and Ecology determined that only an Environmental Restrictive Covenant (aka the Covenant) would be needed to manage limited arsenic-, lead-, cadmium, petroleum-, benzo(a)pyrene-contaminated soil or concrete at the Subject Property. The Covenant states the following:

- "As documented in the EPA's June 17, 2011, Statement of Basis for Remedy Selection, the southern portion of the Northwest EnviroService Facility (Western Blower Parcel) contains several buildings including an administration building. In 1996, NWES requested that Ecology accept closure certification for the Western Blower Parcel. In January 1997, Ecology determined that closure was not required as there were no hazardous waste management units located on the Western Blower parcel. Ecology also determined that no

further action would be required so long as certain requirements were met, including a restrictive covenant. The EPA agrees that no further action is required and did not require further investigation of the southern portion of the NWES Facility during the RFI (RCRA Facility Investigation)."

The Covenant was recorded on the Subject Property on December 27, 2017 (Instrument No. 20171227001452) on tax parcel 766620-2855-08. The Covenant involves three restrictions/requirements: (1) limiting non-conforming zoning classification uses, (2) restricting use of groundwater, and (3) restricting the alteration of existing structures without prior written approval from Ecology. A copy of the Covenant is included in Appendix A.

ETS plans to redevelop the property to further support its mission. This will require demolition of the existing buildings on the Subject Property; currently planned for Q1 or Q2 2025, depending on permitting. Construction of new facilities will start after demolition. The new ETS facilities will be constructed at, or near, current grade in two phases (first a clinic and second, supporting facilities). At present there are no plans to remove the existing concrete slab(s), nor are there plans to excavate or remove soil beneath the slab, except for areas where old utilities may be removed or new utilities installed.

Based on this information, this letter represents notification to Ecology and compliance with Covenant No. 20171227001452 about a change in use at this property.

Sincerely,
Evergreen Treatment Services

8/1/24

Rebecca Judy
Chief Transformation Officer
rjudy@evergreentreatment.org

Attachments: Appendix A – Environmental Restrictive Covenant
Appendix B – Conceptual Redevelopment Plan

cc: Dave Cook, Aspect Consulting

Ray Liaw, Ven Ness Feldman

Appendix A

Environmental Restrictive Covenant

Davis Wright Tremaine LLP

Suite 2200
1201 Third Avenue
Seattle, WA 98101-3045

Kevin D. Badgley
206-757-8079 tel
206-757-7079 fax

kevinbadgley@dwt.com

February 20, 2018

VIA CERTIFIED MAIL;
RETURN RECEIPT REQUESTED

Evergreen Treatment Services
Attention: Linda Kruger
1700 Airport Way S.
Seattle, WA 98134

Re: Environmental Restrictive Covenant
Tax Parcel Number 766620-2855-08 (the "Property")

Dear Ms. Kruger:

Our firm represents Western Blower Associates, LLC ("Western Blower"), the owner of the Property. Enclosed please find a copy of an Environmental Restrictive Covenant made by Western Blower in favor of State of Washington, Department of Ecology recorded on December 27, 2017 as Instrument No. 20171227001452 in the official records of King County, Washington (the "ERC").

The ERC is being delivered to you as a sublessee of the Property to satisfy the notice requirements set forth in RCW 64.70.070.

If you have any questions or concerns, please do not hesitate to contact the undersigned at kevinbadgley@dwt.com or (206) 757-8079.

Best regards,

Kevin D. Badgley

Enclosure
cc: John Brigham (via email)
J. Stephan Banchero, Jr. (via email)

Record Date:12/27/2017 3:53 PM
King County, WA

(9)

Return Address:

Raman Iyer Section Manager
Hazardous Waste & Toxics Reduction Program
Northwest Regional Office
Washington Department of Ecology
3190 160 Avenue SE
Bellevue, Washington 98008-5452

20171227001452
COVENANT Rec: $82.00
12/27/2017 3:53 PM
KING COUNTY, WA

Please print or type information WASHINGTON STATE RECORDER'S Cover Sheet (RCW 65.04)

Document Title(s) (or transactions contained therein): Environmental Restrictive Covenant
Reference Number(s) of Documents assigned or released: 20151006000868 , 20171215000165
Grantor(s) Exactly as name(s) appear on document: Western Blower Associates, LLC, a Washington limited liability company
Grantee(s) Exactly as name(s) appear on document: Washington State Department of Ecology and its successors and assigns
Legal description (abbreviated: i.e. lot, block, plat or section, township, range) Parcel A, City of Seattle LBA No. 3024821, Recording No. 20161110900001, King County, Washington. Additional legal is on Exhibit A of document.
Assessor's Property Tax Parcel/Account Number ☐ Assessor Tax # not yet assigned 766620-2855-08
****THIS IS A RE-RECORDING OF INSTRUMENT NUMBER 20171215000165 WHICH WAS INADVERTENTLY RECORDED USING THE WRONG COVERSHEET AND DOCUMENT AND SHOULD HAVE BEEN RECORDED WITH THIS COVERSHEET AND THE FOLLOWING DOCUMENT FOR WESTERN BLOWER ASSOCIATES, LLC.****

Record Date:12/27/2017 3:53 PM King County, WA

Instrument Number: 20171215000165 Document:COV Rec: $83.00 Page-1 of 10
Record Date:12/15/2017 9:02 AM
Electronically Recorded King County, WA

Return Address:

Raman Iyer Section Manager
Hazardous Waste & Toxics Reduction Program
Northwest Regional Office
Washington Department of Ecology
3190 160 Avenue SE
Bellevue, Washington 98008-5452

Stewart Title Guaranty Co.

Please print or type information WASHINGTON STATE RECORDER'S Cover Sheet (RCW 65.04)

Document Title(s) (or transactions contained therein):
Environmental Restrictive Covenant
Reference Number(s) of Documents assigned or released:
20151006000860, 20151006000864, 20151006000867
Grantor(s) Exactly as name(s) appear on document:
Western Tank Properties, Inc., a Washington corporation
Grantee(s) Exactly as name(s) appear on document:
Washington State Department of Ecology and its successors and assigns
Legal description (abbreviated: i.e. lot, block, plat or section, township, range)
Parcel B, City of Seattle LBA No. 3024821, Recording No. 20161110900001, King County, Washington.
Additional legal is on Exhibit A of document.
Assessor's Property Tax Parcel/Account Number ☐ Assessor Tax # not yet assigned
766620-2860-01, 766620-2861-00, 377030-0160-02

Record Date:12/27/2017 3:53 PM King County, WA

After Recording Return to:

Raman Iyer
Section Manager
Hazardous Waste & Toxics Reduction Program
Northwest Regional Office
Washington Department of Ecology
3190 160 Avenue SE
Bellevue, Washington 98008-5452

Environmental Restrictive Covenant

THIS INSTRUMENT SUPERSEDES AND REPLACES THE ENVIRONMENTAL RESTRICTIVE COVENANT RECORDED AS INSTRUMENT NO. 20151006000868, IN THE OFFICIAL RECORDS OF KING COUNTY, WASHINGTON.

Grantor: Western Blower Associates, LLC
Grantee: State of Washington, Department of Ecology
Legal: See Exhibit A
Tax Parcel No.: 766620-2855-08

Grantor, **Western Blower Associates, LLC, a Washington limited liability company,** hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants and conveys such other rights under this environmental restrictive covenant (hereafter "Environmental Covenant") as of the 7th day of December, 2016. This instrument grants a valid and enforceable Environmental Covenant pursuant to the Washington State Uniform Environmental Covenants Act ("UECA"), Revised Code of Washington ("RCW") Chapter 64.70, to the Washington State Department of Ecology and its successors and assigns (hereafter "Ecology" or "Holder").

Grantor covenants to and with the Holder and its successors and assigns that Grantor owns the Property (as hereinafter defined) in fee simple and has the exclusive right to convey the Property or any interest therein, and that the Property is free and clear of encumbrances. Grantor will warrant and defend the title and quiet possession of the Property. The Environmental Protection Agency (hereafter "EPA") on behalf of Ecology, as the Agency, has consulted pursuant to RCW 64.70.040(5) with local land use planning authorities in the development of the land use or activity restrictions in this Environmental Covenant.

Northwest EnviroService Inc. ("NWES") operated a commercial hazardous waste management facility between 1979 and 1995 at 1500 Airport Way South in Seattle, Washington (the "NWES Facility"). NWES provided storage and treatment services to companies that generated hazardous waste. Since 1995, Emerald Recycling, Inc. has been recycling non-hazardous waste and used oil and treating industrial wastewater at the NWES Facility. A variety of contaminants remain in the soil and groundwater at the north end of the 1.25 acre site. In February 1994, NWES and the EPA entered into an Order pursuant to Section 3008(h) of RCRA. The Order requires NWES to:

- Complete a RCRA Facility Investigation ("RFI") to identify and characterize any releases of hazardous constituents from Solid Waste Management Units ("SWMUs") and Areas of Concern ("AOCs") at the NWES Facility, characterize the concentration and extent of contamination released at and from the NWES Facility, support the development of alternatives from which a corrective measure will be selected, and identify any additional SWMUs or AOCs. The April 2004 Revised Final RFI Report was approved with modifications by the EPA on June 16, 2004.

- Complete a Corrective Measures Study ("CMS") to develop and evaluate potential corrective measures to remedy any contamination at and or released from the NWES Facility which exceeds the media-specific target cleanup standards established by the EPA. The Order required NWES to identify the potential corrective measures for the containment, treatment, and/or disposal of contamination and include in the CMS the corrective measure recommended by NWES. The revised CMS is dated April 2011.

- Implement the corrective measure selected by the EPA, or exercise its right to withdraw its consent to implement the corrective measure selected by the EPA. Exercising this option would require the EPA to negotiate a new Order for remedy implementation.

As documented in the EPA's June 17, 2011, Statement of Basis for Remedy Selection, the southern portion of the NWES Facility (Western Blower parcel) contains several buildings including an administration building. In 1996, NWES requested that Ecology accept closure certification for the Western Blower parcel. In January 1997, Ecology determined that closure was not required as there were no hazardous waste management units located on the Western Blower parcel. Ecology also determined that no further action would be required so long as certain requirements were met, including a restrictive covenant. The EPA agrees that no further action is required and did not require further investigation of the southern portion of the NWES Facility during the RFI.

The EPA Remedial Action for NWES did not include the Western Blower parcel. This Environmental Covenant is a requirement of Ecology's no further action determination for the Western Blower parcel. As documented in a report of soil and concrete sample results for the Western Blower parcel, there are concentrations of arsenic, lead, benzo(a)pyrene, and total petroleum hydrocarbons ("TPH") in soil which exceed current Model Toxics Control Act ("MTCA") Method B Cleanup Level (Method A for TPH) established under WAC 173-340-705. There are also concentrations of arsenic, cadmium and TPH in concrete which exceed current MTCA Method B soil Cleanup Levels (Method A for TPH). This contamination was found in the area used to load/unload containerized hazardous waste. The two monitoring wells located on the Western Blower parcel were sampled and analyzed for 40 C.F.R. Part 260 Appendix IX groundwater monitoring constituents. Manganese was the only constituent detected above the MTCA Method B unrestricted use cleanup level for groundwater. For this reason, this Environmental Covenant also includes prohibition of groundwater use. As manganese is not a volatile contaminant, this Environmental Covenant does not include restrictions on enclosed buildings that is applicable to the other NWES parcels.

A copy of the records supporting the Western Blower parcel is on file with EPA Region 10 or its successor agency and is available for public review. In order to make arrangements for such review, a person may contact the EPA Superfund Records Center by calling telephone number (206) 553-4494. The EPA Region 10 office is located at 1200 Sixth Avenue, Seattle, Washington.

The undersigned, Western Blower Associates, LLC is the fee owner of real property (the "Property") in the County of King, State of Washington, that is subject to this Environmental Covenant. The Property is legally described in Exhibit A of this Environmental Covenant and made a part hereof by reference.

With this Environmental Covenant, Western Blower Associates, LLC as Grantor makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. Specific Restrictions and Requirements.

1. The Property shall be used in compliance with General Industrial 2 zoning classification, consistent with City of Seattle ordinances governing nonconforming uses, with the exception of the following uses: agricultural use, outdoor recreation, outdoor sports, lodging, child care centers, community centers, family support centers, elementary or secondary schools, parks, artists dwellings, caretakers quarters.

2. No groundwater may be taken for domestic, agricultural, industrial or any other use from the Property without prior written approval from Ecology.

3. a. As discussed above, the Property contains soil and concrete with contaminants including but not limited to total arsenic and TPH that are above unrestricted use cleanup levels. The Owner shall not alter, modify, or remove the existing structures in any manner that may result in the release or exposure to the environment of that contaminated soil or concrete or create a new exposure pathway without prior written approval from Ecology.

b. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil or concrete or create a new exposure pathway, is prohibited without prior written approval from Ecology, including but not limited to: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. General Restrictions and Requirements. Any activity on the Property that may interfere with the continued protection of human health and the environment is prohibited. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 3. Conveyance of interest. The Owner of the Property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. Such notice shall include the name and address of the proposed transferee. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued compliance with this Environmental Covenant.

Section 4. Lease restrictions and notification. The Owner must restrict leases to uses and activities consistent with this Environmental Covenant. Further, the Owner must notify all purchasers, lessees and easement holders of the restrictions set forth in this Environmental Covenant, and make compliance with this Environmental Covenant a condition of any conveyance of title, easement, lease or other interest in the Property.

Section 5. Notification to Ecology. Owner shall notify and obtain written approval from Ecology at least sixty (60) days in advance of any proposed activity or use of the Property in a manner that is inconsistent with the terms of this Environmental Covenant. Before approving any proposal, Ecology must issue a public notice and provide an opportunity for the public to comment on the proposal. If Ecology approves the proposal, this Environmental Covenant will be amended to reflect the change.

Section 6. Access. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times to determine compliance with this Environmental Covenant, to take samples, and to inspect records that are related to the Environmental Covenant. When practicable, Ecology or EPA will endeavor to provide Owner at least forty-eight (48) hours' notice prior to entering the Property.

Section 7. Agency's Interest. Pursuant to RCW 64.70.030, the rights granted to Ecology by this Environmental Covenant are not interests in real property.

Section 8. Liberal Construction. This Environmental Covenant shall be construed in favor of effectuating the purpose of this Environmental Covenant. If any provision is found to be ambiguous, an interpretation consistent with the purposes of this Environmental Covenant that would render the provision valid shall be favored over any interpretation that would render it invalid.

Section 9. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

Section 10. Recordation. Grantor shall record this instrument in the official records of King County, Washington and shall pay the costs associated with recording.

Section 11. Costs. Owner, upon request by Ecology, shall be obligated to pay for Ecology's costs to process a request for any modification or termination of this Environmental Covenant and any approval required by this Environmental Covenant.

Section 12. Termination and Modification. This Environmental Covenant may only be amended or terminated in accordance with the procedures and process contained in the amendment and termination provisions of UECA, RCW 64.70.090 and 64.70.100, and with the provisions of WAC 173-340-440. Ecology may approve inconsistent uses (as described in Section 6), and/or termination only after public notice and opportunity for comment. The Grantor reserves the right under WAC 173-340-440, if conditions at the Property requiring an institutional control no longer exist, to record an instrument that provides that this Environmental Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

By signing this Environmental Covenant, as per UECA, RCW 64.70.100, Grantor agrees to waive all rights to sign amendments to, and termination of, this Environmental Covenant.

Section 13. Enforcement. Compliance with this Environmental Covenant may be enforced pursuant to all applicable laws, including but not limited to CERCLA, UECA, and MTCA. Ecology shall have full enforcement rights. An action for equitable or injunctive relief for violation of this Environmental Covenant may also be maintained by the other persons and entities set forth in RCW 64.70.110. Failure by any party or person to enforce compliance with this Environmental Covenant in a timely manner shall not be deemed a waiver of the right to take subsequent enforcement actions.

Section 14. Signature and Acknowledgements. Grantor covenants that it is authorized to grant this Environmental Covenant and shall warrant and defend the same against all claims and demands challenging such authority. The undersigned parties represent and certify that they are authorized to execute this Environmental Covenant.

[Signature page to follow]

Grantor:

WESTERN BLOWER ASSOCIATES, LLC,
a Washington limited liability company

By: J Stephen Bowerman Jr

Name: John Stephen Bowerman Jr

Title: Manager

Dated: 11/17/17

STATE OF WASHINGTON
COUNTY OF KING

On this 17th day of November, 2017, I certify that J Stephen Bowerman Jr personally appeared before me, acknowledged that he/she is the MANAGER of the company that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said company, for the uses and purposes therein mentioned, and on oath stated that he/she was authorized to execute said instrument for said company.

Megan A. Cooper
Notary Public in and for the State of Washington, residing at
Everett, WA
My appointment expires 10-03-18

MEGAN A. COOPER
STATE OF WASHINGTON
NOTARY PUBLIC
MY COMMISSION EXPIRES
10-03-18

Approved as to form:

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Raman Iyer
Section Manager

Dated: 11/08/17

Exhibit A

LEGAL DESCRIPTION

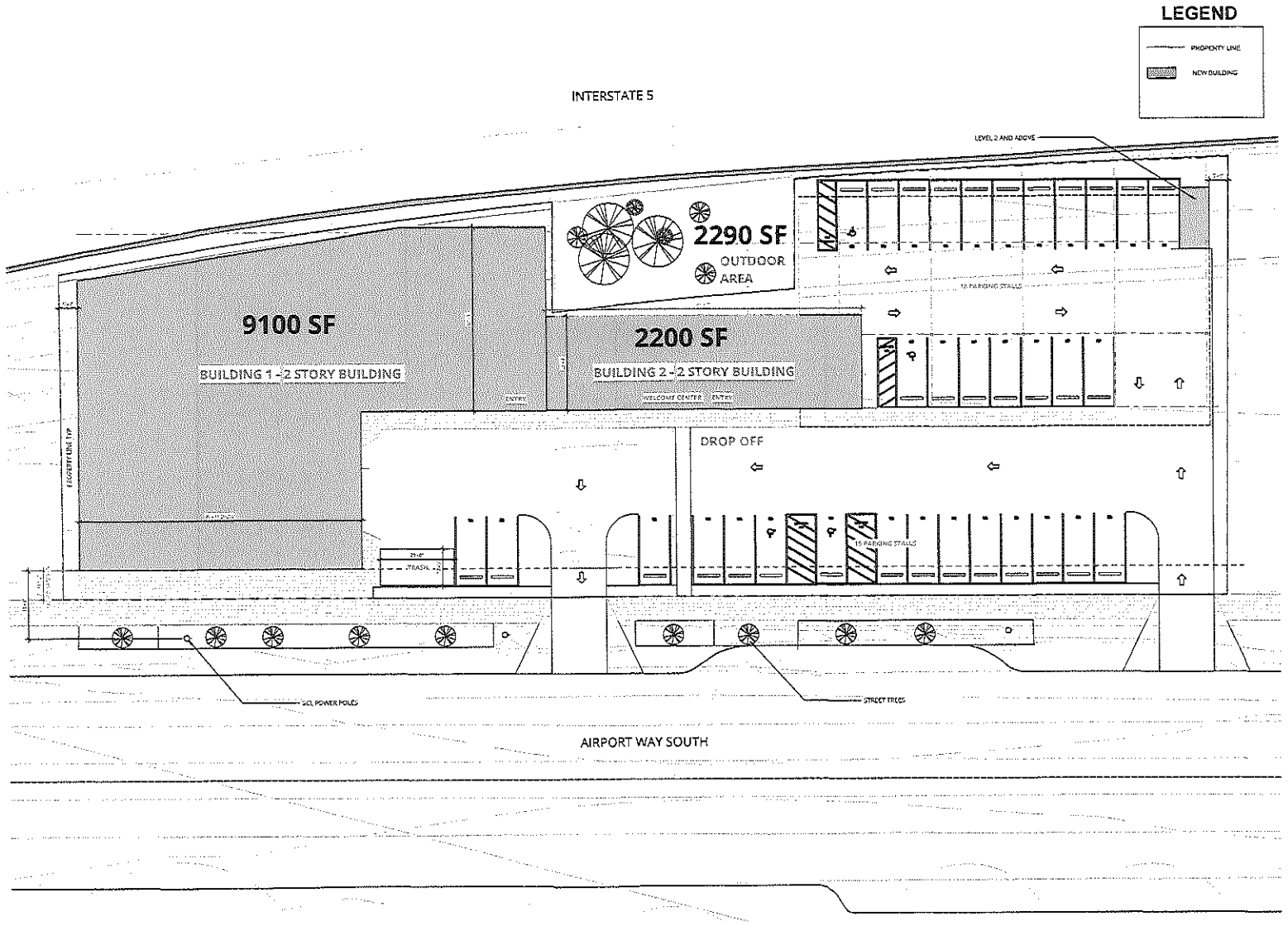
PARCEL A, CITY OF SEATTLE LOT BOUNDARY ADJUSTMENT NUMBER 3024821, RECORDED UNDER KING COUNTY RECORDING NUMBER 20161110900001, RECORDS OF KING COUNTY, WASHINGTON.

APPENDIX B

Conceptual Redevelopment Plan

EVERGREEN TREATMENT SERVICES

SITE PLAN



1 PHASE 2- LEVEL 1 - NO VACATION

Evergreen Treatment Services
1700 Airport Way South
Seattle, WA 98134

Inquiry Number: 7737352.3
August 16, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/16/24

Site Name:

Evergreen Treatment Services
1700 Airport Way South
Seattle, WA 98134
EDR Inquiry # 7737352.3

Client Name:

Aspect Consulting LLC.
710 2nd Ave S. Suite 510
Seattle, WA 98104
Contact: Nathan Dickey

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Aspect Consulting LLC. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 8792-425F-AA8A

PO # AS180043-02

Project Evergreen Treatment Services

Maps Provided:

1969
1950
1916
1904
1893

Sanborn® Library search results

Certification #: 8792-425F-AA8A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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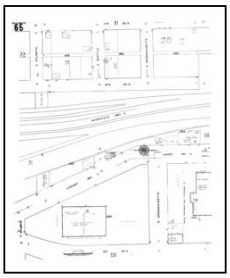
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1969 Source Sheets



Volume 1, Sheet 66
1969

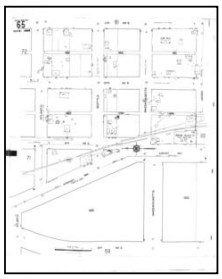


Volume 1, Sheet 65
1969

1950 Source Sheets



Volume 1, Sheet 66
1950

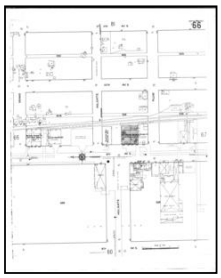


Volume 1, Sheet 65
1950

1916 Source Sheets

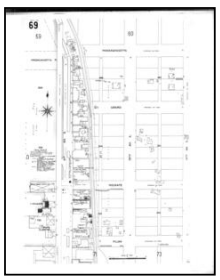


Volume 1, Sheet 65
1916

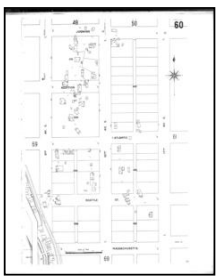


Volume 1, Sheet 66
1916

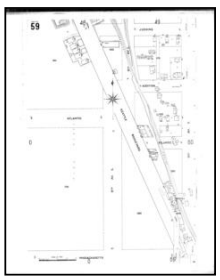
1904 Source Sheets



Volume 1, Sheet 69
1904



Volume 1, Sheet 60
1904

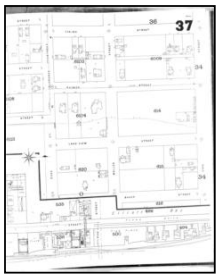


Volume 1, Sheet 59
1904

Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1893 Source Sheets

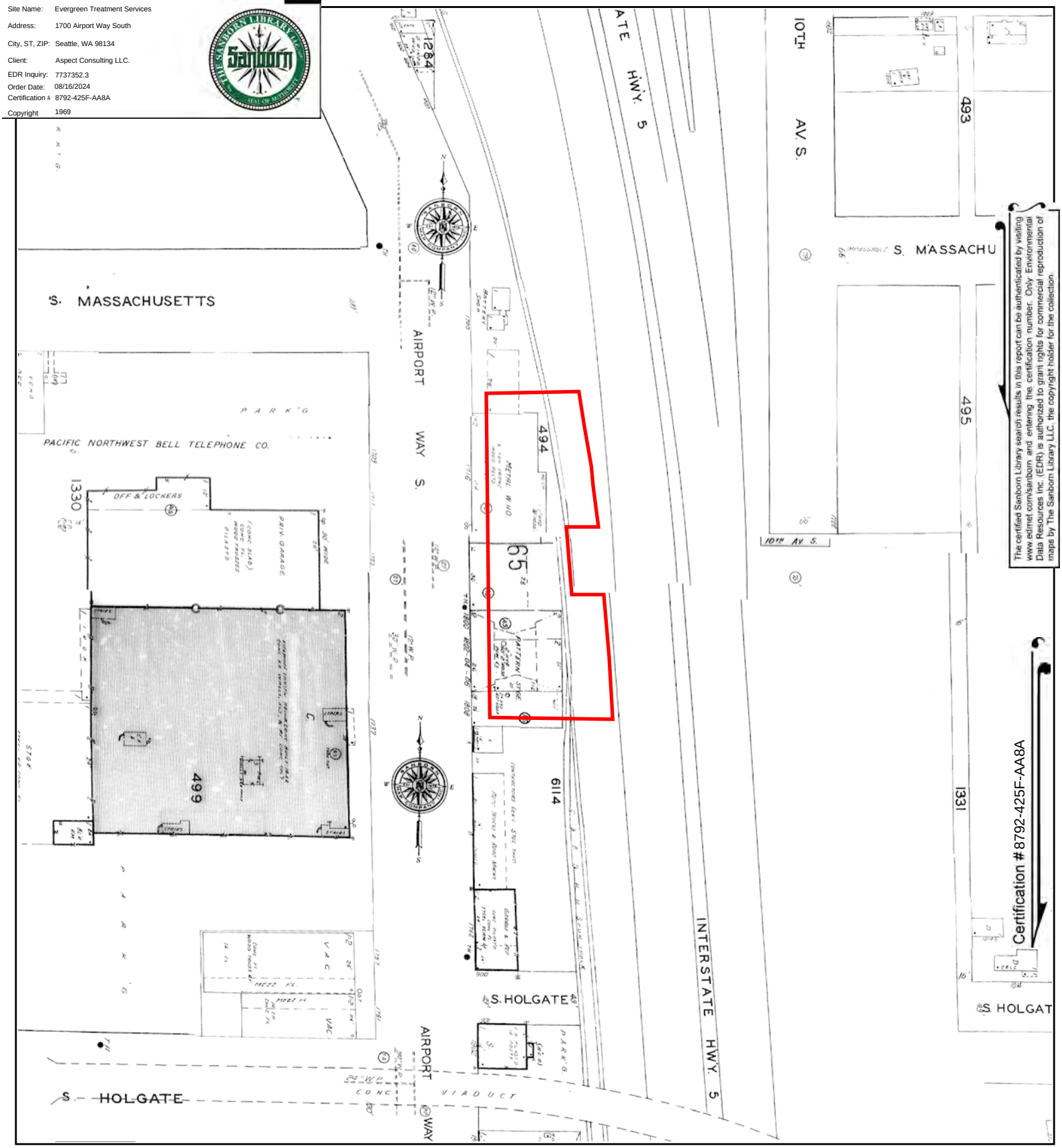


Volume 1, Sheet 37
1893

Certified Sanborn® Map

1969

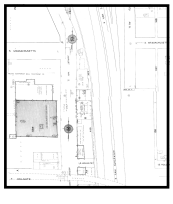
Site Name: Evergreen Treatment Services
Address: 1700 Airport Way South
City, ST, ZIP: Seattle, WA 98134
Client: Aspect Consulting LLC.
EDR Inquiry: 7737352.3
Order Date: 08/16/2024
Certification #: 8792-425F-AA8A
Copyright 1969

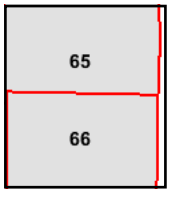


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This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600





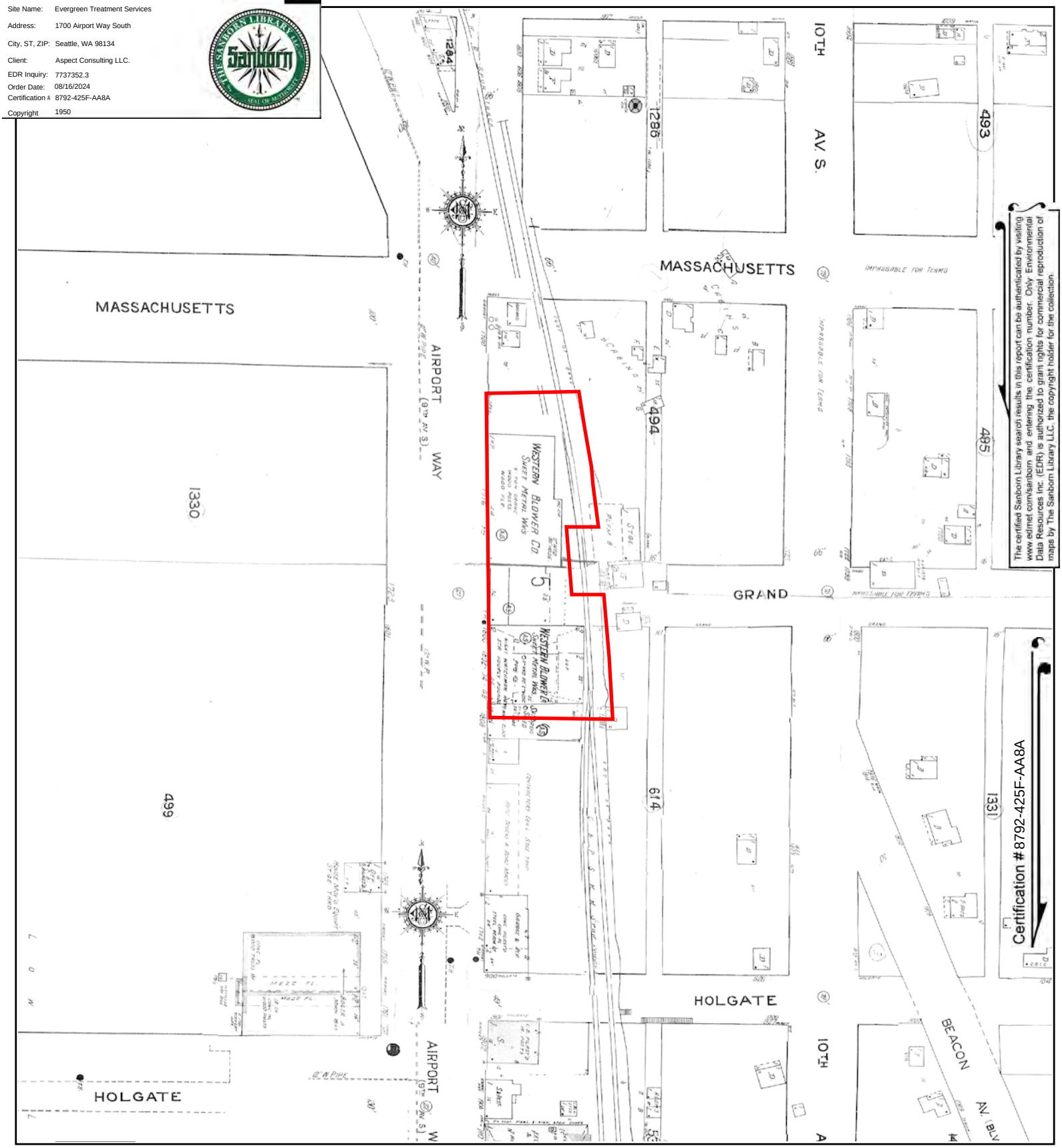
Volume 1, Sheet 65
Volume 1, Sheet 66

N

Certified Sanborn® Map

1950

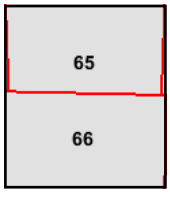
Site Name:	Evergreen Treatment Services
Address:	1700 Airport Way South
City, ST, ZIP:	Seattle, WA 98134
Client:	Aspect Consulting LLC.
EDR Inquiry:	7737352.3
Order Date:	08/16/2024
Certification #:	8792-425F-AA8A
Copyright	1950



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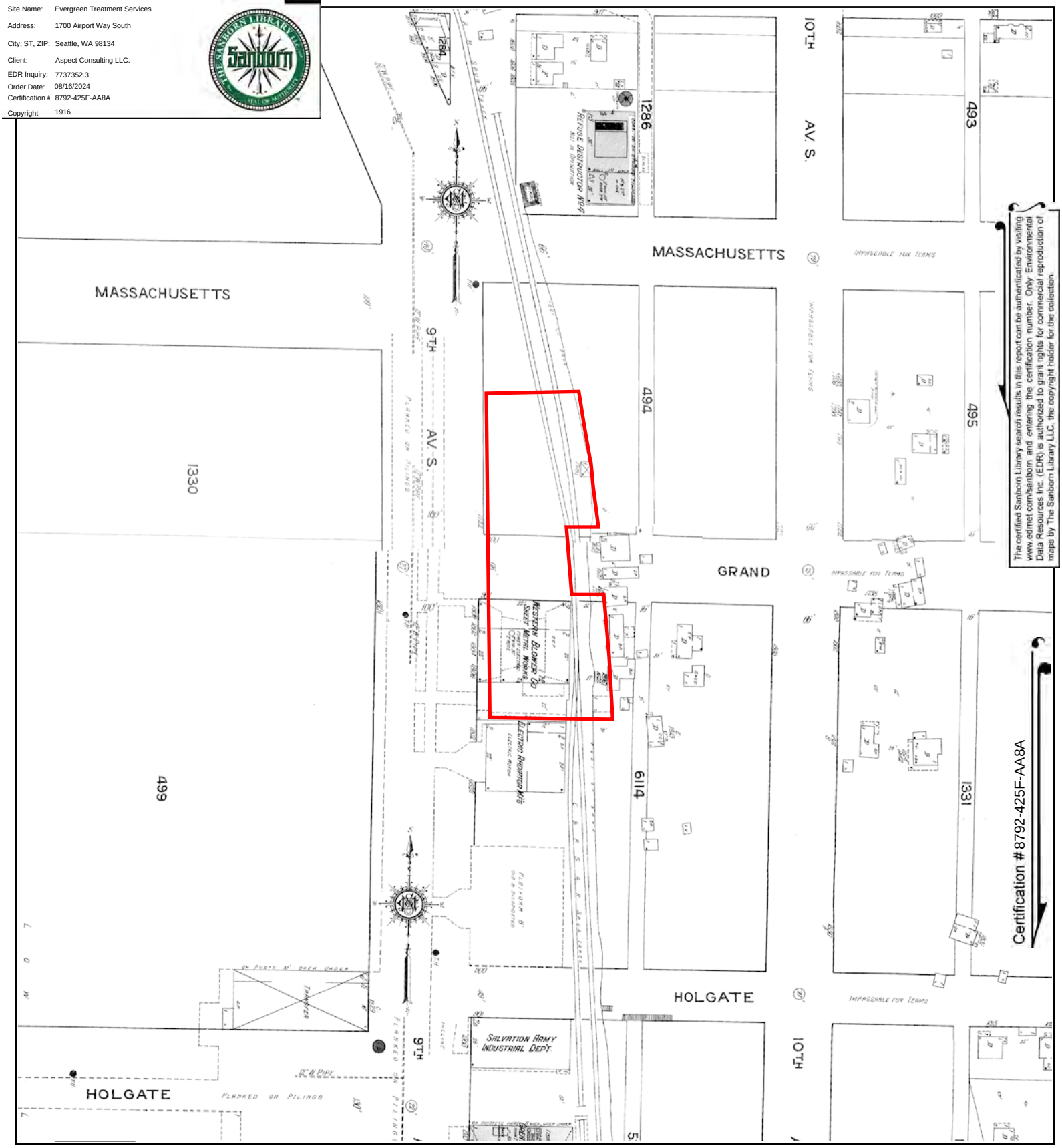
Volume 1, Sheet 65
Volume 1, Sheet 66

N

Certified Sanborn® Map

1916

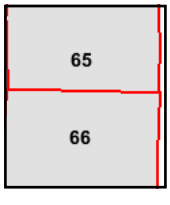
Site Name:	Evergreen Treatment Services
Address:	1700 Airport Way South
City, ST, ZIP:	Seattle, WA 98134
Client:	Aspect Consulting LLC.
EDR Inquiry:	7737352.3
Order Date:	08/16/2024
Certification #	8792-425F-AA8A
Copyright	1916



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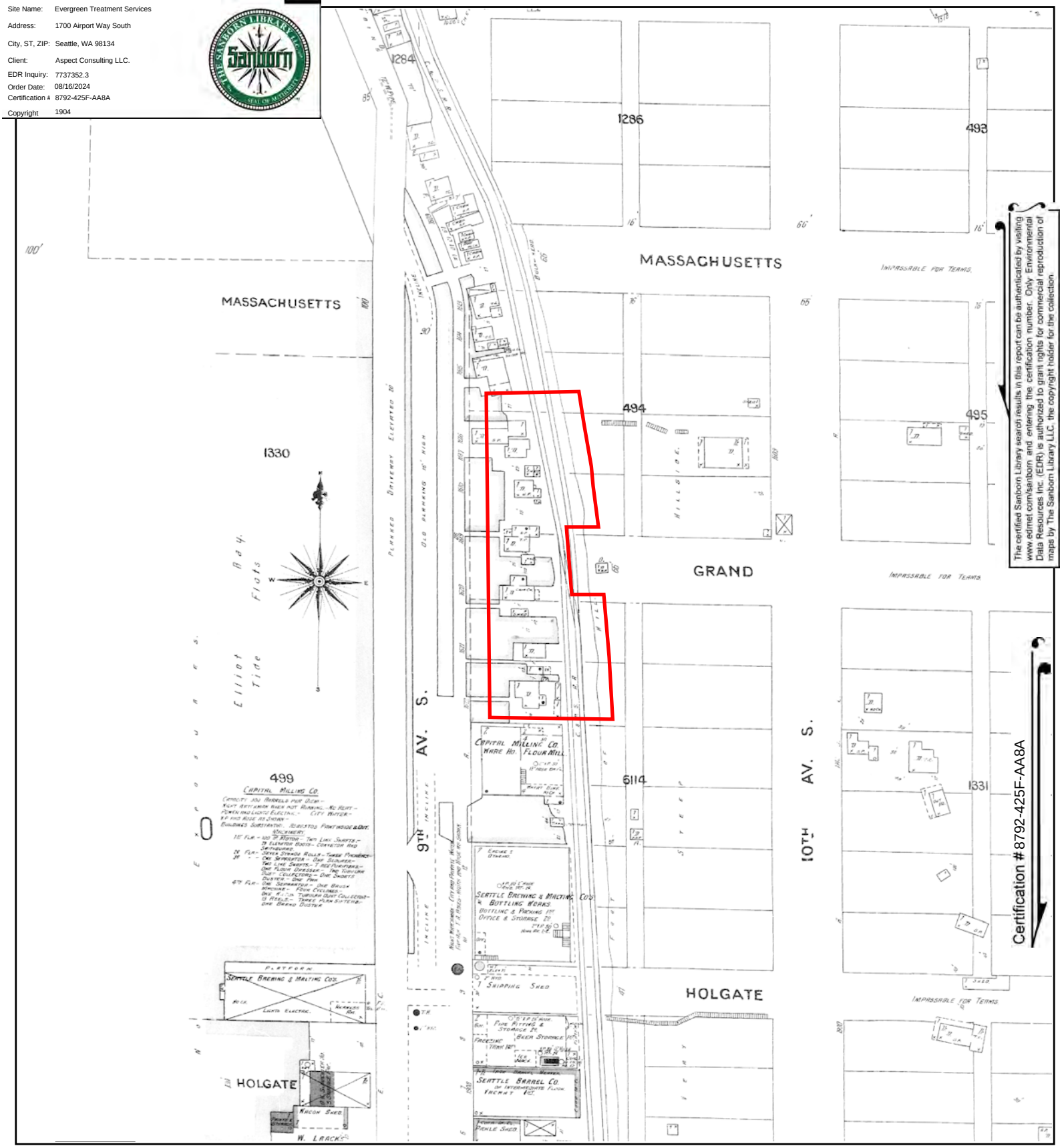
Volume 1, Sheet 66
Volume 1, Sheet 65

N

Certified Sanborn® Map

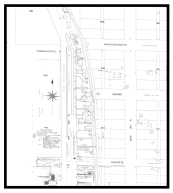
1904

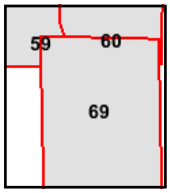
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Address:	1700 Airport Way South
City, ST, ZIP:	Seattle, WA 98134
Client:	Aspect Consulting LLC.
EDR Inquiry:	7737352.3
Order Date:	08/16/2024
Certification #	8792-425F-AA8A
Copyright	1904



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0 Feet 150 300 600





Volume 1, Sheet 59
Volume 1, Sheet 60
Volume 1, Sheet 69

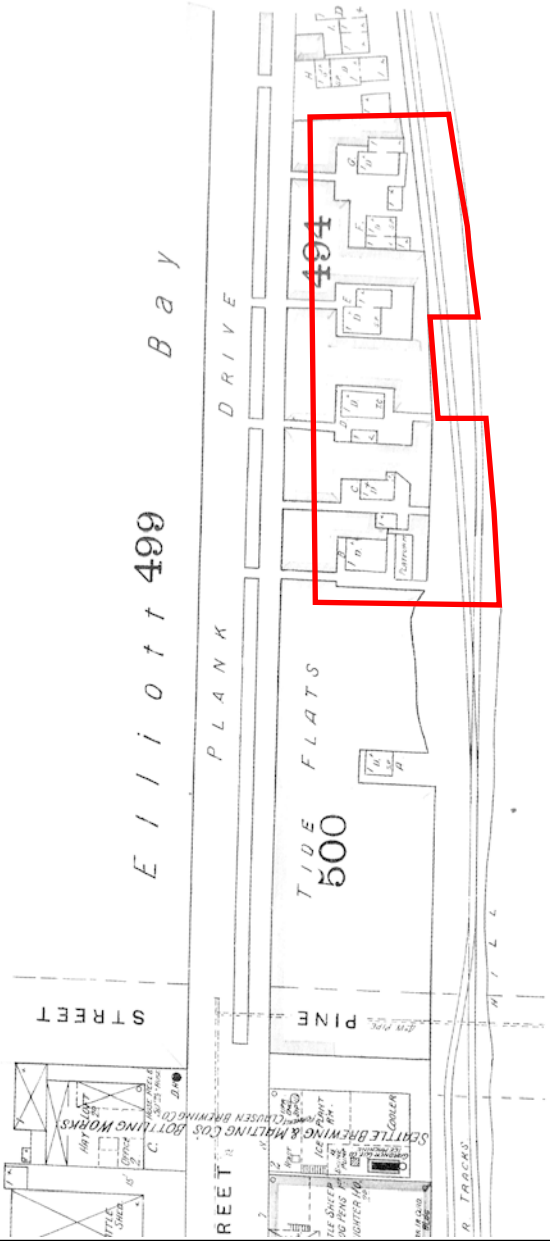
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Certified Sanborn® Map

1893

Site Name: Evergreen Treatment Services
Address: 1700 Airport Way South
City, ST, ZIP: Seattle, WA 98134
Client: Aspect Consulting LLC.
EDR Inquiry: 7737352.3
Order Date: 08/16/2024
Certification #: 8792-425F-AA8A
Copyright: 1893



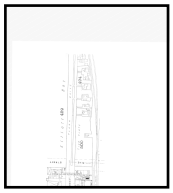
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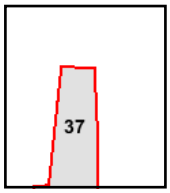
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Volume 1, Sheet 37



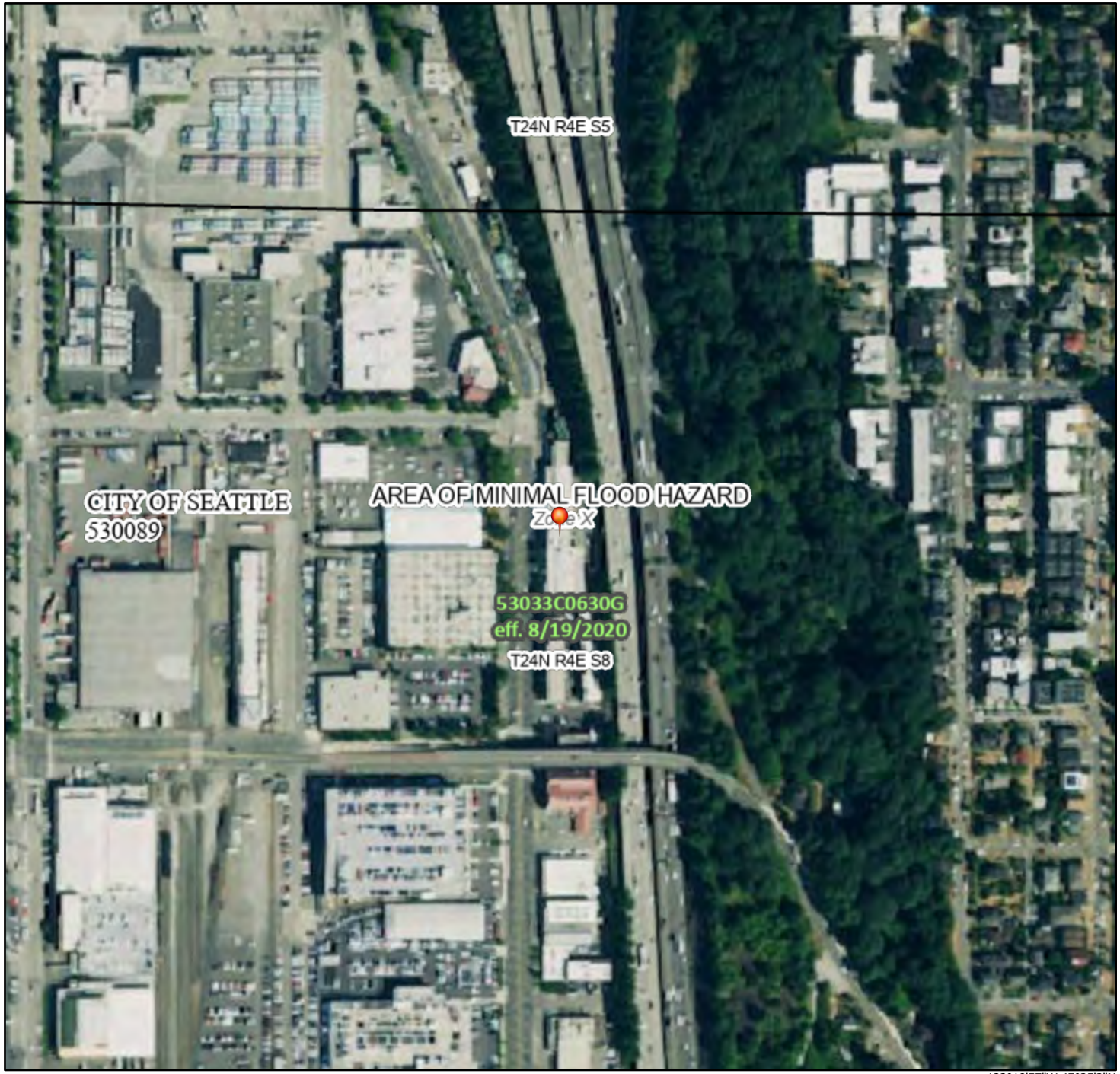


N

National Flood Hazard Layer FIRMette

FEMA

122°19'34"W 47°35'27"N



122°18'57"W 47°35'3"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/19/2025 at 6:12 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

True NORTH LAND SURVEYING, INC.
206.332.0800

JOB# 15-189.30
ASPECT CONSULTING
NATHAN DICKEY

1700 Airport Way S., Seattle, WA.

Survey Date: December 11, 2024

Monitoring Wells at 1700 Airport Way S Location

CTRL/MW	Northing	Easting	Rim Elev.	PVC Elev.	Notes	Pt #
MAGW	217899.575	1273225.439	23.933		MAG NAIL W/ TNLS CONTROL WASHER	1
MAGW	217746.745	1273222.268	24.042		MAG NAIL W/ TNLS CONTROL WASHER	3
MAG	217893.124	1273365.347	25.669		SET MAG NAIL	4
MW/AMW-1	217961.615	1273268.429	24.137	23.800	N. RIM CASE & N. 3" PVC	1002
MW/AMW-2	217877.760	1273287.486	23.813	23.398	N. RIM CASE & N. 3" PVC	1003
MW/AMW-3	217757.702	1273253.781	23.226		C/L LID	1004
MW/AMW-4	217868.285	1273354.029	25.642	25.267	N. RIM CASE & N. 3" PVC	1007
MW/AMW-5	217932.753	1273313.405	19.890	19.593	N. RIM CASE & N. 1" PVC	1010

Notes:

1. Horizontal and Vertical datums are NAD 83/11 and NAVD 88 respectively using WSDOT Mon.
2. The WSDOT Control MON# GP17005-231
3. The elevations of the lids and the 3" PVC are at the north edge, unless otherwise noted.
4. Differential levels were completed using a Leica LS10 #1
5. Monitoring Well 3, unable to level due to cars parked over it, elevations per Leica TS#16.

Select a location to view localized relative sea lev

Select County (optional)
King

Select WRIA (optional)
9, Duwamish - Green

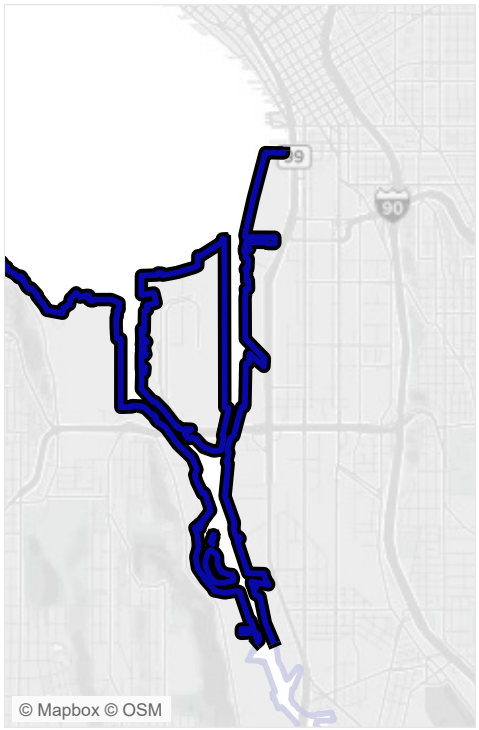
Select RSLR Magnitude(s)

- [ ] 0 ft
- [ ] 0.5 ft
- [x] 1 ft
- [ ] 1.5 ft
- [ ] 2 ft
- [x] 2.5 ft
- [ ] 3 ft
- [ ] 4 ft
- [x] 5 ft
- [ ] 6 ft
- [ ] 7 ft
- [ ] 8 ft
- [ ] 9 ft
- [x] 10 ft

Select greer se gas scenario(s)

- [x] High (RCP 8.5)
- [x] Low (RCP 4.5)

Click for full SLR report.



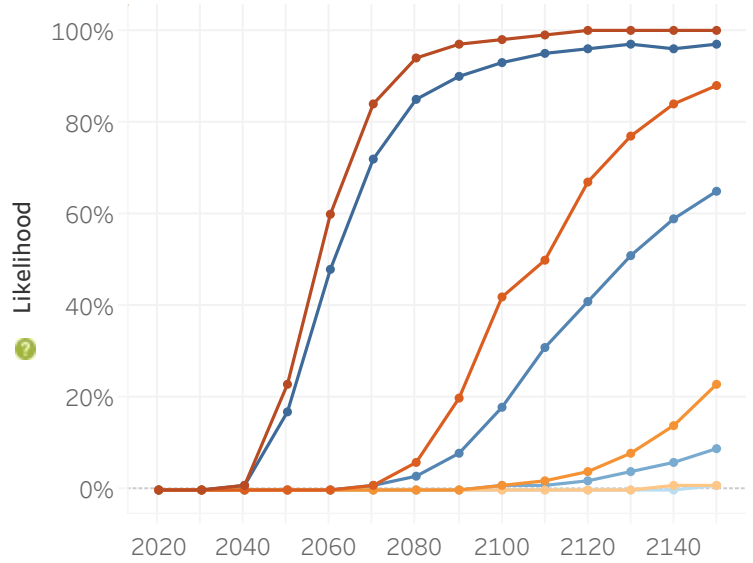
Data Estimated for **47.6°, -122.4°**
County: King
WRIA: 9, Duwamish - Green

Vertical land movement estimate and uncertainty (1 standard deviation) for this location is **-0.3 ± 0.2 ft/century** (negative when land level falls or subsides). This value is factored into these RSLR projections.

If there is a **subduction zone earthquake** this area may be subject to an additional land level change of **0.0 ft to -0.2 ft** which is NOT factored into these RSLR projections. Coastal subsidence during a subduction zone earthquake would have the effect of RAISING local relative sea level.

Likelihood of Selected RSLR(s) for This Location

Hover for details.



Scenario, RSLR

- High (RCP 8.5), 1 ft
- High (RCP 8.5), 2.5 ft
- High (RCP 8.5), 5 ft
- High (RCP 8.5), 10 ft
- Low (RCP 4.5), 1 ft
- Low (RCP 4.5), 2.5 ft
- Low (RCP 4.5), 5 ft
- Low (RCP 4.5), 10 ft

Select projections end year
2150

Likelihood Data Shown Above

	High (RCP 8.5)				Low (RCP 4.5)			
Year	1 ft	2.5 ft	5 ft	10 ft	1 ft	2.5 ft	5 ft	10 ft
2020	0%	0%	0%	0%	0%	0%	0%	0%
2030	0%	0%	0%	0%	0%	0%	0%	0%
2040	1%	0%	0%	0%	1%	0%	0%	0%
2050	23%	0%	0%	0%	17%	0%	0%	0%
2060	60%	0%	0%	0%	48%	0%	0%	0%
2070	84%	1%	0%	0%	72%	1%	0%	0%
2080	94%	6%	0%	0%	85%	3%	0%	0%
2090	97%	20%	0%	0%	90%	8%	0%	0%
2100	98%	42%	1%	0%	93%	18%	1%	0%
2110	99%	50%	2%	0%	95%	31%	1%	0%
2120	100%	67%	4%	0%	96%	41%	2%	0%
2130	100%	77%	8%	0%	97%	51%	4%	0%
2140	100%	84%	14%	1%	96%	59%	6%	0%
2150	100%	88%	23%	1%	97%	65%	9%	1%

Click here to download the full Excel data tables for this location or select "Crosstab" in the download menu below to export only the values shown here as a..

Select a location to view localized relative sea level rise (RSLR) projections.

Select County (optional)
King

Select WRIA (optional)
9, Duwamish - Green

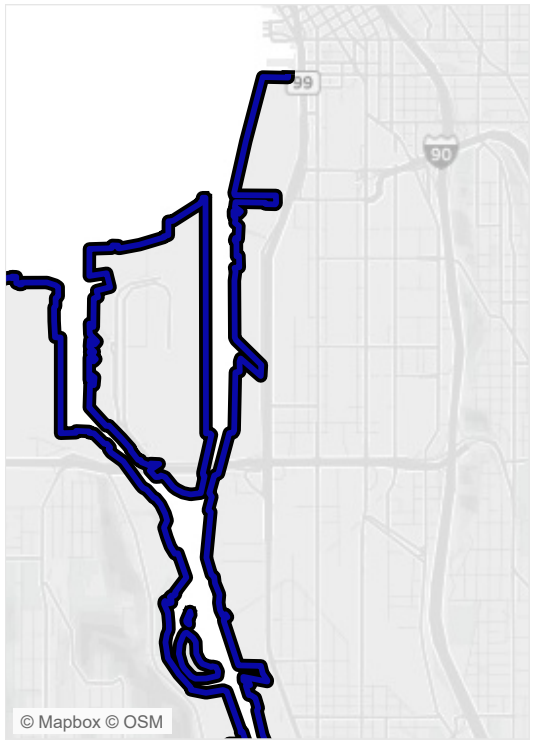
Select likelihood(s)

- [ ] 0.1%
- [x] 1%
- [x] 5%
- [ ] 10%
- [ ] 17%
- [x] 50%
- [ ] 83%
- [ ] 90%
- [x] 95%
- [ ] 99%

Select greenhouse gas scenario(s)

- [x] High (RCP 8.5)
- [x] Low (RCP 4.5)

Click for full SLR report.



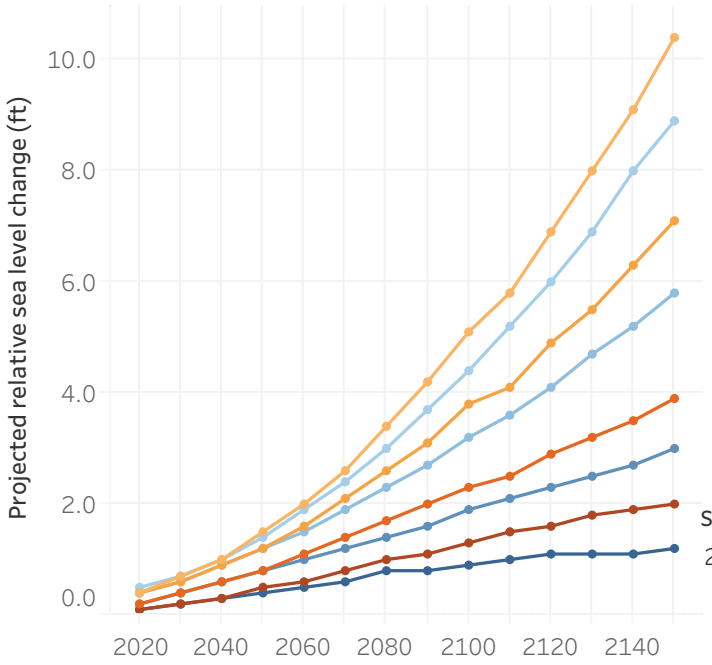
Data Estimated for **47.6°, -122.4°**
County: King
WRIA: 9, Duwamish - Green

Vertical land movement estimate and uncertainty (1 standard deviation) for this location **-0.3 ± 0.2 feet/century** (negative values represent land level fall, or subsidence). This number is factored into these RSLR projections.

If there is a **subduction zone earthquake** this area may be subject to an additional land level change of **0.0 feet to -0.2 feet** which is NOT factored into these RSLR projections. Coastal subsidence during a subduction zone earthquake would have the effect of RAISING local relative sea level.

RSLR for Selected Location

Projected changes relative to the average sea level over 1991-2009.
Hover for details.



Scenario, Likelihood

- High (RCP 8.5), 1%
- High (RCP 8.5), 5%
- High (RCP 8.5), 50%
- High (RCP 8.5), 95%
- Low (RCP 4.5), 1%
- Low (RCP 4.5), 5%
- Low (RCP 4.5), 50%
- Low (RCP 4.5), 95%

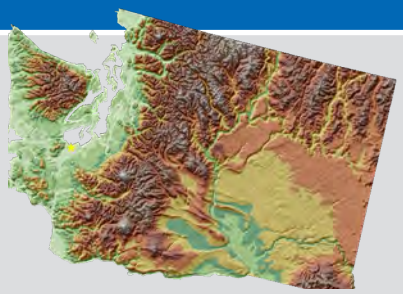
Select projections end year
2150

RSLR Projections (in feet) Shown Above

	High (RCP 8.5)				Low (RCP 4.5)			
Year	1%	5%	50%	95%	1%	5%	50%	95%
2020	0.4	0.4	0.2	0.1	0.5	0.4	0.2	0.1
2030	0.7	0.6	0.4	0.2	0.7	0.6	0.4	0.2
2040	1.0	0.9	0.6	0.3	1.0	0.9	0.6	0.3
2050	1.5	1.2	0.8	0.5	1.4	1.2	0.8	0.4
2060	2.0	1.6	1.1	0.6	1.9	1.5	1.0	0.5
2070	2.6	2.1	1.4	0.8	2.4	1.9	1.2	0.6
2080	3.4	2.6	1.7	1.0	3.0	2.3	1.4	0.8
2090	4.2	3.1	2.0	1.1	3.7	2.7	1.6	0.8
2100	5.1	3.8	2.3	1.3	4.4	3.2	1.9	0.9
2110	5.8	4.1	2.5	1.5	5.2	3.6	2.1	1.0
2120	6.9	4.9	2.9	1.6	6.0	4.1	2.3	1.1
2130	8.0	5.5	3.2	1.8	6.9	4.7	2.5	1.1
2140	9.1	6.3	3.5	1.9	8.0	5.2	2.7	1.1
2150	10.4	7.1	3.9	2.0	8.9	5.8	3.0	1.2

Click here to download the full Excel data tables for this location or select "Crosstab" in the download menu below to export only the values shown here as a .csv.

WASHINGTON



Key Messages

Temperatures in Washington have risen almost 2°F since the beginning of the 20th century. Winter warming has been evident in the below average number of freezing days and very cold nights since 1990. Under a higher emissions pathway, historically unprecedented warming is projected to continue through this century.

Rising temperatures will lead to earlier melting of the snowpack, which plays a critical role in spring and summer water supplies. The combination of this earlier melting and more precipitation falling as rain instead of snow may lead to an increase in springtime flooding.

Wildfires during the dry summer months are a particular concern for Washington, and the frequency and severity of wildfires are projected to increase.

Washington's location in the heart of the middle latitudes exposes it to frequent storm systems associated with the mid-latitude jet stream. Due to the physical barrier of the Cascade Mountains, the climate differs greatly in the western and eastern parts of the state. The Pacific Ocean provides abundant moisture, causing frequent precipitation west of the Cascade Mountains, with some locations experiencing orographic enhancement (the increase of rainfall with elevation on the upwind side of mountain ranges). The region east of the Cascades receives less precipitation due to the reduced availability of ocean moisture. Temperatures in the central and eastern portions of the state are not as strongly moderated by the ocean and exhibit a greater annual range than those in the western portion.

Since the beginning of the 20th century, temperatures in Washington have risen almost 2°F (Figure 1)**, and since 1986, all but 5 years have been above the long-term (1895–2020) average.** The hottest year on record was 2015, with a statewide average temperature of 50.0°F, which was 3.7°F above the long-term average. The overall warming trend is evident in an increased number of warm nights. Since 1990, the numbers of very cold nights in Eastern Washington and freezing days in Western Washington have both been below average (Figure 2a). However, the numbers of very warm nights in Eastern Washington and warm nights in Western Washington have both been above average since 1990 (Figure 3). The numbers of very hot days in Eastern Washington and hot days in Western Washington have been quite variable but were both generally above average during the 2015–2020 period, after below average numbers during the 2010–2014 period (Figure 2b).

Observed and Projected Temperature Change

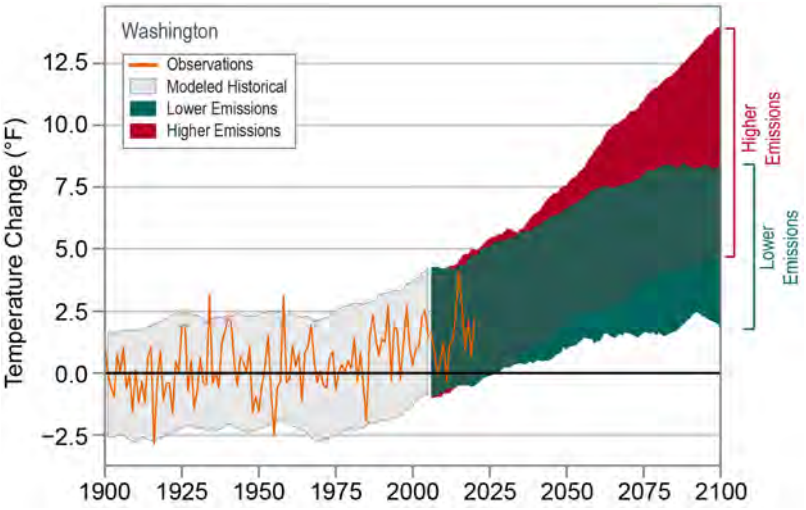
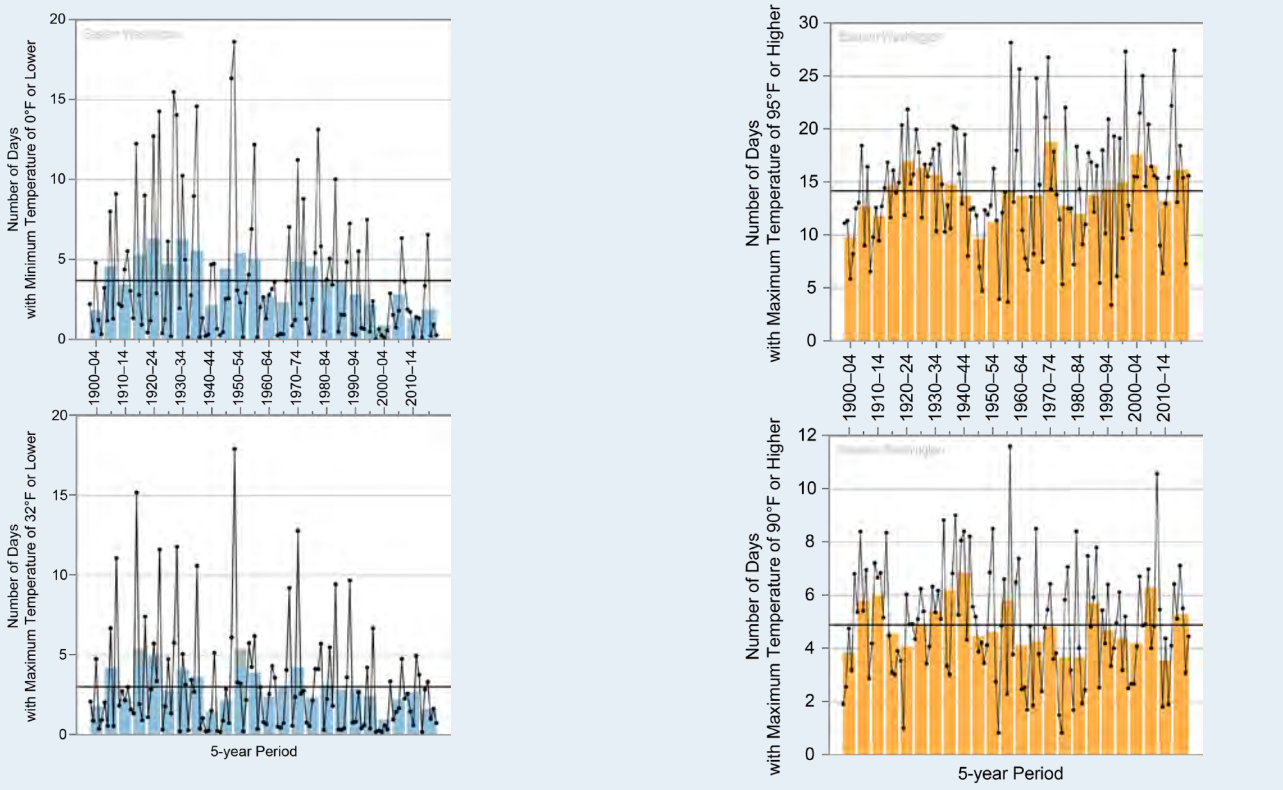


Figure 1: Observed and projected changes (compared to the 1901–1960 average) in near-surface air temperature for Washington. Observed data are for 1900–2020. Projected changes for 2006–2100 are from global climate models for two possible futures: one in which greenhouse gas emissions continue to increase (higher emissions) and another in which greenhouse gas emissions increase at a slower rate (lower emissions). Temperatures in Washington (orange line) have risen almost 2°F since the beginning of the 20th century. Shading indicates the range of annual temperatures from the set of models. Observed temperatures are generally within the envelope of model simulations of the historical period (gray shading). Historically unprecedented warming is projected to continue through this century. Less warming is expected under a lower emissions future (the coldest end-of-century projections being about 1°F warmer than the historical average; green shading) and more warming under a higher emissions future (the hottest end-of-century projections being about 10°F warmer than the hottest year in the historical record; red shading). Sources: CISESS and NOAA NCEI.

a) Observed Number of Very Cold Nights (Eastern Washington) and Freezing Days (Western Washington)

b) Observed Number of Very Hot Days (Eastern Washington) and Hot Days (Western Washington)



c) Observed Annual Precipitation

d) Observed Number of 1-Inch (Eastern Washington) and 2-Inch (Western Washington) Extreme Precipitation Events

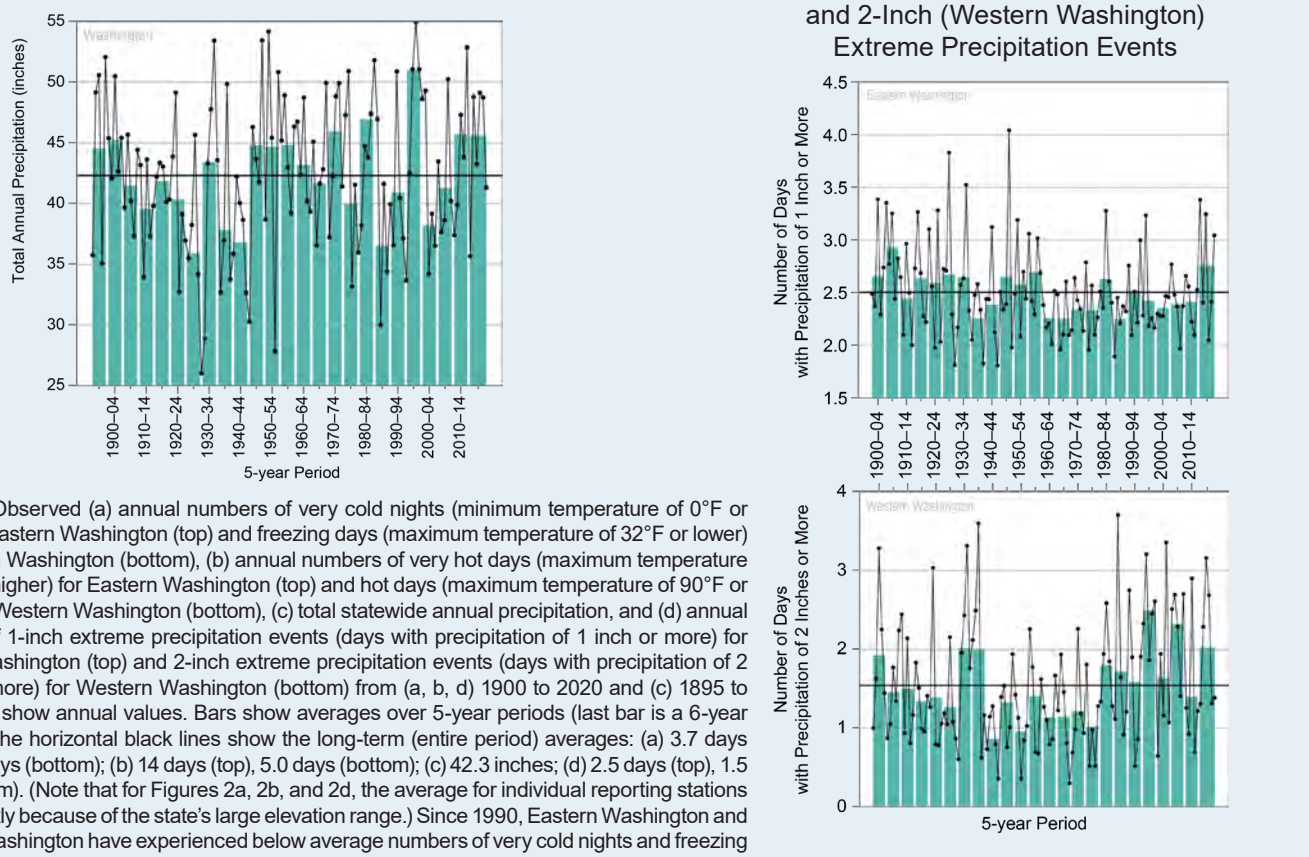


Figure 2: Observed (a) annual numbers of very cold nights (minimum temperature of 0°F or lower) for Eastern Washington (top) and freezing days (maximum temperature of 32°F or lower) for Western Washington (bottom), (b) annual numbers of very hot days (maximum temperature of 95°F or higher) for Eastern Washington (top) and hot days (maximum temperature of 90°F or higher) for Western Washington (bottom), (c) total statewide annual precipitation, and (d) annual numbers of 1-inch extreme precipitation events (days with precipitation of 1 inch or more) for Eastern Washington (top) and 2-inch extreme precipitation events (days with precipitation of 2 inches or more) for Western Washington (bottom) from (a, b, d) 1900 to 2020 and (c) 1895 to 2020. Dots show annual values. Bars show averages over 5-year periods (last bar is a 6-year average). The horizontal black lines show the long-term (entire period) averages: (a) 3.7 days (top), 3.0 days (bottom); (b) 14 days (top), 5.0 days (bottom); (c) 42.3 inches; (d) 2.5 days (top), 1.5 days (bottom). (Note that for Figures 2a, 2b, and 2d, the average for individual reporting stations varies greatly because of the state's large elevation range.) Since 1990, Eastern Washington and Western Washington have experienced below average numbers of very cold nights and freezing days, respectively, which is indicative of warming in the region. The numbers of very hot days in Eastern Washington and hot days in Western Washington have both been variable since 1990. Both annual precipitation and the number of extreme precipitation events have varied widely since the beginning of the 20th century. A typical station in Eastern Washington experiences between two and three 1-inch extreme precipitation events per year. A typical station in Western Washington experiences between one and two 2-inch events per year. Sources: CISESS and NOAA NCEI. Data: (a, b) GHCN-Daily from 17 long-term stations; (c) nClimDiv; (d) GHCN-Daily from 23 long-term stations.

Annual precipitation exhibits wide regional variations across the state. Portions of the Olympic Peninsula receive upwards of 150 inches of precipitation annually, while areas along the Columbia River in eastern interior Washington average less than 10 inches. Statewide total annual precipitation has ranged from a low of 26.0 inches in 1929 to a high of 55.0 inches in 1996. The driest multiyear periods were in the late 1920s, early 1940s, and late 1980s, and the wettest were in the early 1970s, early 1980s, and late 1990s (Figure 2c). The driest consecutive 5-year interval was 1926–1930, with an annual average of 34.6 inches, and the wettest was 1995–1999, with an annual average of 51.0 inches. Washington has not experienced any long-term trend in the number of extreme precipitation events (Figure 2d).

Most of Washington's precipitation falls during the winter months, and the Cascades can receive upwards of 400 inches of snowfall annually. **Snowpack in the mountains provides an important source of water during the drier summer months** (Figure 4)**.** Precipitation falling as rain rather than snow can have negative impacts on critical industries, such as timber and agriculture, which are also vulnerable to extreme temperatures. Wildfires during the drier summer months are a particular concern. The 2015 wildfire season was the most destructive in Washington's history, with more than 1 million acres burned (more than 6 times the average).

Under a higher emissions pathway, historically unprecedented warming is projected to continue through the end of this century (Figure 1)**.** Even under a lower emissions pathway, temperatures are projected to most likely exceed historical record levels by the middle of this century. However, a large range of temperature increases is projected under both pathways, and under the lower pathway, a few projections are only slightly warmer than historical records (Figure 1). Overall, warming will lead to increases in heat wave intensities but decreases in cold wave intensities. Unlike other locations in the United States, Seattle and other urban areas are rarely exposed to very high temperatures. Future heat waves, particularly an increase in the frequency of warm nights, could stress these communities, which are not well adapted to such events.

Temperature increases will affect basins with significant snowmelt contributions to their streamflow. Projected rising temperatures will raise the elevation of the snow line—the average lowest elevation at which snow falls. This will increase the likelihood that precipitation will fall as rain instead of snow, reducing water storage in the snowpack, particularly at those lower mountain elevations that are now on the margins of reliable snowpack accumulation. Rainfall is expected to be the dominant form of precipitation across the majority of the state by the end of this century. Higher spring temperatures will also result in earlier melting of the snowpack, with average snowpack projected to decline by up to 70% by the end of this century. This will further decrease water availability during the already dry summer months, and due to earlier spring peak flows, it will increase the risk of spring

Observed Number of
Very Warm Nights (Eastern Washington)
and Warm Nights (Western Washington)

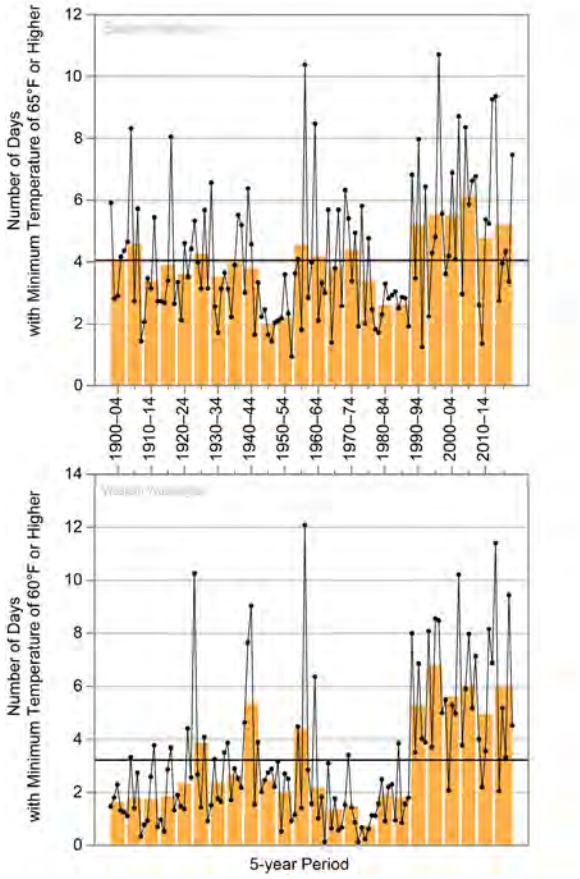


Figure 3: Observed annual numbers of very warm nights (minimum temperature of 65°F or higher) for Eastern Washington and warm nights (minimum temperature of 60°F or higher) for Western Washington from 1900 to 2020. Dots show annual values. Bars show averages over 5-year periods (last bar is a 6-year average). The horizontal black lines show the long-term (entire period) averages of 4.0 nights (top) and 2.5 nights (bottom; note that the average for individual reporting stations varies greatly because of the state's large elevation range). The numbers of very warm nights in Eastern Washington and warm nights in Western Washington have both been above average since 1900. Sources: CISESS and NOAA NCEI. Data: GHCN-Daily from 17 long-term stations.

flooding. Projected increases in heavy rainfall events by midcentury could further increase flood risk. Reductions in summer flow (projected to occur in 80% of the state's watersheds) will have important ecological implications and are a particular concern for hydropower and irrigation water supplies.

Increasing temperatures raise concerns for sea level rise in coastal areas. Since 1900, global average sea level has risen by about 7–8 inches. It is projected to rise another 1–8 feet, with a likely range of 1–4 feet, by 2100 as a result of both past and future emissions from human activities (Figure 6). Sea level rise has caused an increase in tidal floods associated with nuisance-level impacts. Nuisance floods are events in which water levels exceed the local threshold (set by NOAA's National Weather Service) for minor impacts. These events can damage infrastructure, cause road closures, and overwhelm storm drains. As sea level has risen along the Washington coastline, the number of tidal flood days has also increased at Seattle, with the greatest number (11) occurring in 1997 during a strong El Niño event (Figure 7). Some areas of the coast are rising, which has mitigated the impacts of recent sea level rise and will reduce somewhat the local projected sea level rise.

Although projections of overall annual precipitation are uncertain, summer precipitation is projected to decrease (Figure 5)**.** Drier conditions during the summer could increase reliance on diminishing snowmelt for irrigation. Additionally, the combination of drier summers, higher temperatures, and earlier melting of the snowpack would tend to increase the frequency and extent of wildfires.

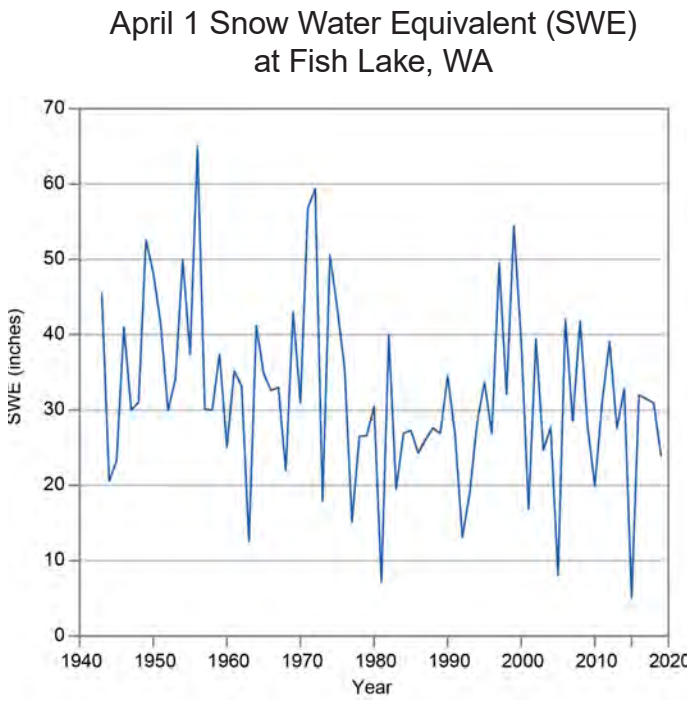


Figure 4: Variations in April 1 snow water equivalent (SWE) at the Fish Lake, Washington, snow course site from 1943 to 2019. SWE, the amount of water contained within the snowpack, varies widely from year to year, but there is a general downward trend. The extremely low snowpack levels in 2005 (third lowest) were due to below average winter precipitation and above average winter temperatures. In 2015 (record lowest), warmer than normal winter temperatures were the main driver of the drought, causing more precipitation to fall as rain rather than snow. Source: NRCS NWCC.

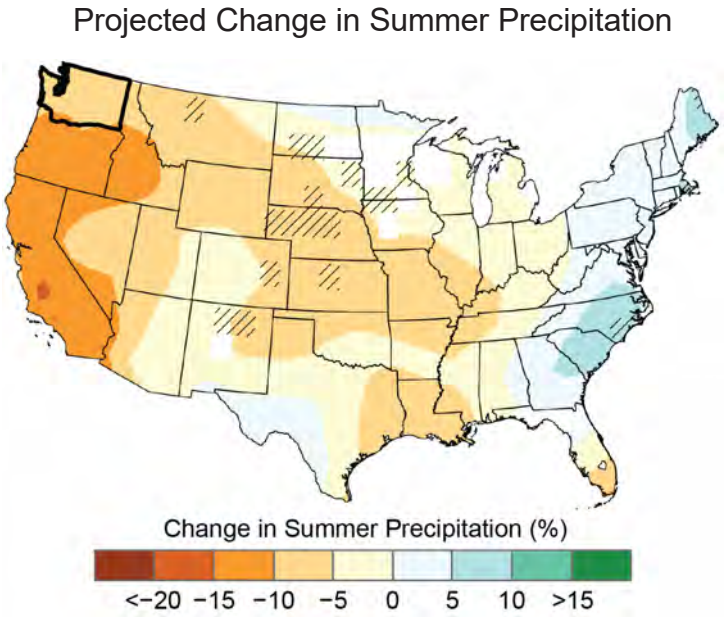


Figure 5: Projected changes in total summer (June–August) precipitation (%) for the middle of the 21st century compared to the late 20th century under a higher emissions pathway. Whited-out areas indicate that the climate models are uncertain about the direction of change. Hatching represents areas where the majority of climate models indicate a statistically significant change. Washington is projected to see a decrease in summer precipitation. Source: CISESS and NEMAC. Data: CMIP5.

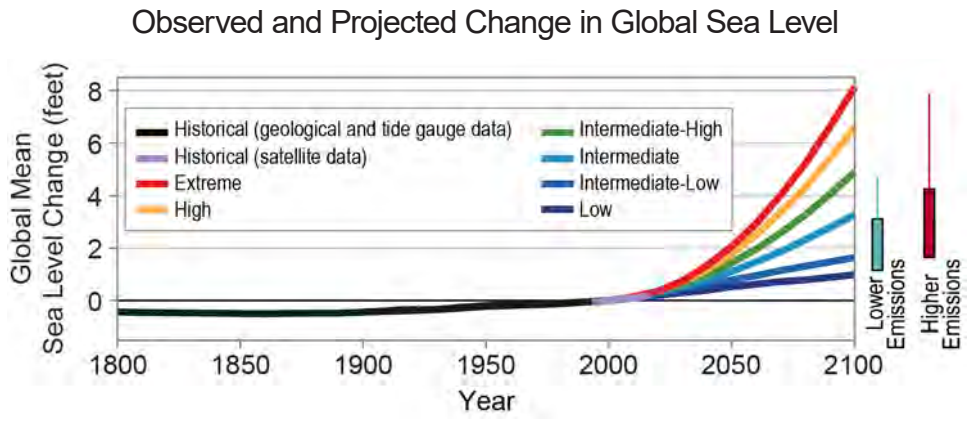


Figure 6: Global mean sea level (GMSL) change from 1800 to 2100. Projections include the six U.S. Interagency Sea Level Rise Task Force GMSL scenarios (Low, navy blue; Intermediate-Low, royal blue; Intermediate, cyan; Intermediate-High, green; High, orange; and Extreme, red curves) relative to historical geological, tide gauge, and satellite altimeter GMSL reconstructions from 1800–2015 (black and magenta lines) and the very likely ranges in 2100 under both lower and higher emissions futures (teal and dark red boxes). Global sea level rise projections range from 1 to 8 feet by 2100, with a likely range of 1 to 4 feet. Source: adapted from Sweet et al. 2017.

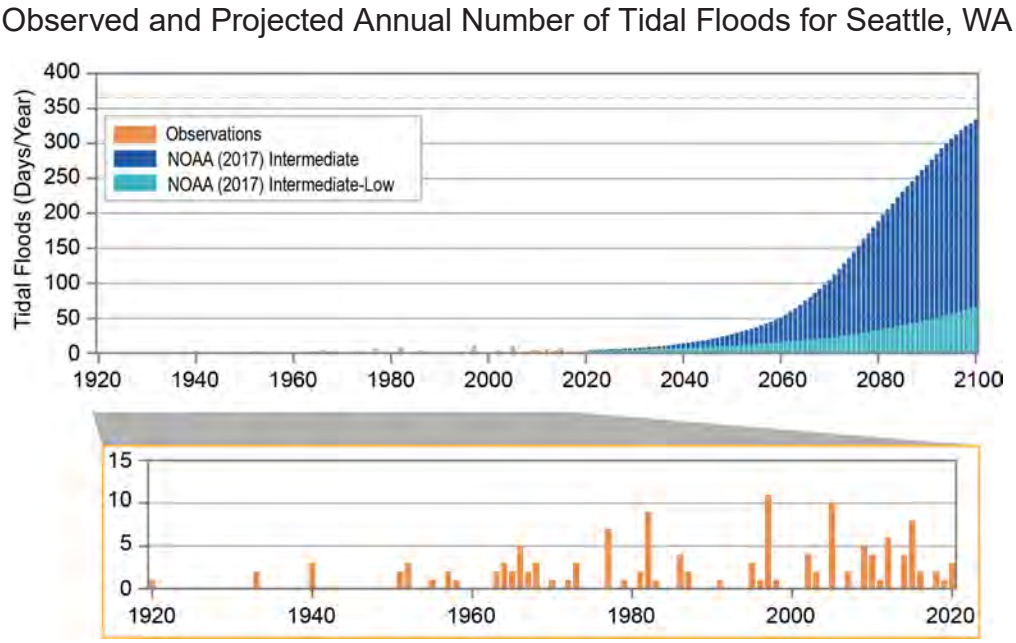


Figure 7: Number of tidal flood days per year at Seattle, Washington, for the observed record (1920–2020 orange bars) and projections for two NOAA (2017) sea level rise scenarios (2021–2100): Intermediate (dark blue bars) and Intermediate-Low (light blue bars). The NOAA (2017) scenarios are based on local projections of the GMSL scenarios shown in Figure 5. Sea level rise has caused a gradual increase in tidal floods associated with nuisance-level impacts. The greatest number of tidal flood days (all days exceeding the nuisance-level threshold) occurred in 1997 at Seattle. Projected increases are large even under the Intermediate-Low scenario. Under the Intermediate scenario, tidal flooding is projected to occur nearly every day of the year by the end of the century. Additional information on tidal flooding observations and scenarios is available online at https://statesummaries.ncics.org/technicaldetails. Sources: CISESS and NOAA NOS.

Technical details on observations and projections are available online at https://statesummaries.ncics.org/technicaldetails.

Table A-1. Summary of Projected Climate

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

Site Address:	1700 Airport Way South
City	Seattle
County:	King
Census Tract:	53033009300
Washington Tracking Network (WTN) Climate Projections[1] ~2050	
Change in Annual Cooling Degree Days[2]:	460
Change in Annual Cooling Degree Days IBL Rank[3]:	8 (Moderately High)
Change in Annual Heating Degree Days[4]:	-1241
Change in Annual Heating Degree Days IBL Rank:	8 (Moderately High)
Annual Days Over 99th Percentile Historical Temperature Threshold[5]:	27
Annual Days Over 99th Percentile Historical Temperature Threshold IBL Rank:	6 (Moderate)
Change in Annual Precipitation[6]:	5.12665%
Change in Annual Precipitation IBL Rank:	9 (High)

Notes:

[1] The WTN presents statistics reflecting the projected changes under Representative Concentration Pathway 8.5 (RCP 8.5) for the 30-year period centered around 2050 (2036 to 2065) relative to a historical baseline period (1976 to 2005). This data was last updated in September 2022 (DOH Publication 334-528, May 2024).

[2] Cooling degree days are calculated using the difference between a day's average temperature and a baseline temperature of 65 degrees Fahrenheit.

[3] The Washington Tracking Network (WTN) collates data for each census tract in Washington and ranks them from 1 (low) to 10 (high) based on the relative scores tracked by the WTN.

[4] Heating degree days are calculated using the difference between a day's average temperature and a baseline temperature of 65 degrees Fahrenheit.

[5] The number of days per year in the projected period exceeding the 99th percentile average high temperature in the historical reference period.

[6] Fractional change in projected annual precipitation as a percentage of the mean annual precipitation during the historical period.

Table A-2. Cleanup Alternatives - Rough Order of Magnitude (ROM) Cost Summary

Project No. AS180043, 1700 Airport Way S, Seattle, Washington

Cleanup Element	Alternative #1: Monitored Natural Attenuation and Institutional Controls		Alternative #2: Source Excavation and Monitored Natural Attenuation		Alternative #3: Source Excavation, In Situ Treatment, and Monitored Natural Attenuation	
	Cost	Notes	Cost	Notes	Cost	Notes
Site Preparation	$ -	None.	-	None; demolition included in assumed site redevelopment.	$ -	None; demolition included in assumed site redevelopment.
Impacted and Contaminated Soil Excavation	$ -	None.	$ 205,000	Impacted soil from shallow excavation and contaminated soil from vicinity of sump to approximately 2 feet below street grade.	$ 205,000	Impacted soil from shallow excavation and contaminated soil from vicinity of sump to approximately 2 feet below street grade.
Groundwater Treatment	$ -	None.	$ -	None.	$ 172,000	Application of groundwater treatment product either at base of excavation or via direct injection.
Vapor Intrusion Mitigation	$ -	None.	$ 233,000	Chemical vapor barrier installed beneath building slab.	$ 233,000	Chemical vapor barrier installed along base and shallow sidewalls of redevelopment.
Environmental Monitoring	$ 572,000	15 years of semi-annual groundwater and soil vapor monitoring.	$ 372,000	10 years of semi-annual groundwater monitoring.	$ 259,000	2 years of quarterly groundwater monitoring followed by 3 years of semi-annual monitoring.
TOTAL	$ 572,000		$ 810,000		$ 869,000	
ROM ESTIMATE (Rounded up to nearest $10,000)	**$ 580,000**		**$ 810,000**		**$ 870,000**	

Notes and Definitions

ROM = Rough Order of Magnitude

Costs in this Table represent a Rough Order of Magnitude (ROM) remedial cost estimate presenting environmental costs for high-level project planning purposes only. All unit costs are based on Aspect's recent project experience in this area. Unit costs are not based on contract or vendor bids and need to be vetted by the general contractor.

LIMITATIONS--Work for this project was performed for Evergreen Treatment Services (Client) and this cost estimate 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 cost estimate does not represent a legal opinion. No other warranty, expressed or implied, is made. All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Table A-3. Alternative #1: MNA - ROM Cost Estimate

DRAFT

Project No. AS180043, 1700 Airport Way S, Seattle, Washington

Description	Unit	Unit Cost	Overall Project Qty	Overall Project Extended Cost	Net Present Value[1]	Notes and Assumptions
GROUNDWATER AND VAPOR INTRUSION MONITORING - 15 YEARS					2.3%	
Semi-Annual Monitoring Events						
Sampling & Laboratory Analysis	Each	$ 12,000	30	$ 360,000	$ 302,000	Assumes two (2) semi-annual sampling events for 15 years (years 1 to 15), collecting 5 groundwater samples and two sub-slab soil vapor samples at each event (30 events).
Mid-Year Report	Each	$ 4,000	15	$ 60,000	$ 50,000	Assumes one mid-year report per year for 15 years.
Annual Report	Each	$ 8,000	15	$ 120,000	$ 101,000	Assumes one annual report per year for 15 years.
Closure Report	Each	$ 10,000	1	$ 10,000	$ 7,000	Occurs in year 15
Well decommissioning	Each	$ 1,000	5	$ 5,000	$ 1,000	Occurs in year 15
Contingency (20%)				$ 111,000	$ 111,000	Contingency not discounted
Subtotal				$ 666,000	$ 572,000	See Note 1. No activity assumed in year zero.
TOTAL				**$ 666,000**	**$ 572,000**	

Notes and Definitions

ROM = Rough Order of Magnitude

1. Net Present value assumes a discount rate of 2.3%, based on real interest rate on US Treasury 30-year notes and bonds, Circular A-94 Appendix C, Office of Management and Budget (Revised November 2024).

Costs in this Table represent a Rough Order of Magnitude (ROM) remedial cost estimate presenting environmental costs for high-level project planning purposes only. All unit costs are based on Aspect's recent project experience in this area. Unit costs are not based on contract or vendor bids and need to be vetted by the general contractor.

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Table A-4. Alternative #2: Source Excavation and MNA - ROM Cost Estimate

DRAFT

Project No. AS240184, 1520 13th Avenue, Seattle, Washington

Description	Unit	Unit Cost	Overall Project Qty	Overall Project Extended Cost	Net Present Value[1]	Notes and Assumptions
SOURCE EXCAVATION					2.30%	
Excavation Preparation						
Prepare Landfill Soil Disposal Profiles	Each	$ 1,500	2	$ 3,000	$ 3,000	Assumes two separate disposal locations for impacted soil and contaminated soil as approved by Evergreen Treatment Services and Aspect and coordinated by the General Contractor.
Impacted Soil (Metals, PAHs)						Assumed to be up to 100% of soil excavated from beyond the footprint of the North Basement; 3.5 feet deep across 5,000 square feet. Area and depth provided by ETS in Ground Disturbance Plan dated May 9, 2025; approximately 17,500 cubic feet = 648 cubic yards = 1,166 tons [1]
Excavation, Loading, and Transport	Ton	$ 35	1,166	$ 40,810	$ 40,810	Based on average of 2024 environmental contractor unit cost estimates for similar projects in Seattle, WA.
Disposal	Ton	$ 40	1,166	$ 46,640	$ 46,640	Unit cost based on disposal of as Contaminated Soil at the Heidelberg Materials Thermal Treatment facility in Everett, WA.
Contaminated Soil (Chlorinated Solvents)						Assumed to be an approximately 25-foot by 40-foot area (indicated on Figure 7) from beneath the basement slab to the top of the groundwater table approximately Elevation 18 feet NAVD88, or up to 2 feet below basement slab. Volume may be modified with additional investigation. (25 ft x 40 ft x 2 ft = 2,000 cubic feet = 74 cubic yards = 133 tons [2]).
Excavation, and Transport	Ton	$ 35	133	$ 4,655	$ 4,655	Based on average of 2024 environmental contractor unit cost estimates for similar projects in Seattle, WA.
Disposal	Ton	$ 80	133	$ 10,640	$ 10,640	Unit cost based on disposal of as Contaminated Soil at RCRA Subtitle D (non-hazardous) landfill.
Excavation Oversight & Reporting						
Oversight & Confirmation Sampling	Per Day	$ 3,500	10	$ 35,000	$ 35,000	Assumes $2,500 for field oversight and equipment; $500 for management, coordination, and communications; $500 for sample analyses. Assumes 10 days of excavation oversight.
Construction planning, oversight and regulatory support	Lump Sum	$ 10,000	1	$ 10,000	$ 10,000	Assumes construction planning, meetings, coordination and communications with Washington State Department of Ecology.
Report	Lump Sum	$ 20,000	1	$ 20,000	$ 20,000	Assumes summary report summarizing cleanup action (remedial excavation and chemical vapor barrier installation [if needed] and confirmation sampling results to be provided to the Washington State Department of Ecology.
Contingency (20%)				$ 34,149	$ 34,149	Contingency not discounted
Subtotal				$ 205,000	$ 205,000	Net Present Value assumes sump removal and contaminated soil excavation occurs in year zero.
GROUNDWATER MONITORING - 10 YEARS						
Reinstall Wells decommissioned during excavation	Each	$ 10,000	1	$ 10,000	$ 10,000	AMW-5 is expected to be decommissioned during redevelopment. A replacement well will be constructed in similar locations.
Semi-Annual Monitoring Events						
Sampling & Laboratory Analysis	Each	$ 10,000	20	$ 200,000	$ 177,000	Assumes two (2) semi-annual sampling events for 10 years (years 1 to 10), collecting 5 groundwater samples during each event (20 events)
Mid-Year Report	Each	$ 4,000	10	$ 40,000	$ 35,000	Assumes one mid-year report per year for 10 years (years 1 to 10)
Annual Report	Each	$ 8,000	10	$ 80,000	$ 71,000	Assumes one annual report per year for 10 years (years 1 to 10)
Closure Report	Each	$ 10,000	1	$ 10,000	$ 8,000	Occurs in year 10
Well decommissioning	Each	$ 1,000	5	$ 5,000	$ 4,000	Occurs in year 10
Contingency (20%)				$ 67,000	$ 67,000	Contingency not discounted.
Subtotal				$ 412,000	$ 372,000	See Note 2.
VAPOR INTRUSION MITIGATION						
Product selection support and engineering design	Lump Sum	$ 20,000	1	$ 20,000	$ 20,000	Estimate based on Aspect experience with similar projects.
Install chemical vapor barrier	Square Foot	$ 15	10,000	$ 150,000	$ 150,000	Unit cost based on typical costs for vapor barrier installation and does not include a vapor extraction system. Estimate assumes footprint is equal to proposed building footprints provided by ETS dated May 9, 2025 (approximately 10,000 sqft).
Installation oversight, consultant labor, equipment, expenses	Day	$ 3,000	8	$ 24,000	$ 24,000	Assumes $2,500 for field oversight and equipment; $500 for management, coordination, and communications. Assumes 10 days of vapor barrier construction oversight.
Contingency (20%)				$ 38,800	$ 38,800	
Subtotal				$ 233,000	$ 233,000	Net Present Value assumes vapor intrusion mitigation occurs in year zero.
TOTAL				**$ 850,000**	**$ 810,000**	

Notes and Definitions

1) One cubic yard is assumed to be equivalent to 1.8 tons.

2) Net Present value assumes a discount rate of 2.3%, based on real interest rate on US Treasury 30-year notes and bonds, Circular A-94 Appendix C, Office of Management and Budget (Revised November 2024).

Contaminated Soil is defined as soil that exceeds MTCA Method A or B cleanup levels and/or requires landfilling at Subtitle D Landfill

ft bgs = feet below ground surface

NAVD88 = North American Vertical Datum of 1988

sqft = square feet

Costs in this Table represent a Rough Order of Magnitude (ROM) remedial cost estimate presenting environmental costs for high-level project planning purposes only. All unit costs are based on Aspect's recent project experience in this area. Unit costs are not based on contract or vendor bids and need to be vetted by the general contractor. This alternative assumes an at-grade development with an underslab vapor barrier or mitigation.

LIMITATIONS--Work for this project was performed for Evergreen Treatment Services (Client) and this cost estimate 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 cost estimate does not represent a legal opinion. No other warranty, expressed or implied, is made. All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Table A-5. Alternative #3: Source Excavation, In-Situ Treatment, and MNA - ROM Cost Estimate

DRAFT

Project No. AS180043, 1700 Airport Way S, Seattle, Washington

Description	Unit	Unit Cost	Overall Project Qty	Overall Project Extended Cost	Net Present Value[1]	Notes and Assumptions
SOURCE EXCAVATION					2.30%	
Excavation Preparation						
Prepare Landfill Soil Disposal Profiles	Each	$ 1,500	2	$ 3,000	$ 3,000	Assumes two separate disposal locations for impacted soil and contaminated soil as approved by Evergreen Treatment Services and Aspect and coordinated by the General Contractor.
Impacted Soil (Metals, PAHs)						Assumed to be up to 100% of soil excavated from beyond the footprint of the North Basement; 3.5 feet deep across 5,000 square feet (3.5 ft x 5,000 ft = 17,500 cu.ft.) Area and depth provided by ETS in Ground Disturbance Plan dated May 9, 2025; approximately 17,500 cubic feet = 648 cubic yards = 1,166 tons [1]
Excavation, Loading, and Transport	Ton	$ 35	1,166	$ 40,810	$ 40,810	Based on average of 2024 environmental contractor unit cost estimates for similar projects in Seattle, WA.
Disposal	Ton	$ 40	1,166	$ 46,640	$ 46,640	Unit cost based on disposal of as Contaminated Soil at the Heidelberg Materials Thermal Treatment facility in Everett, WA.
Contaminated Soil (Chlorinated Solvents)						Assumed to be an approximately 25-foot by 40-foot area (indicated on Figure 7) from beneah the basement slab to the top of the groundwater table approximately Elevation 18 feet NAVD88, or up to 2 feet below basement slab. Volume may be modified with additional investigation. (25 ft x 40 ft x 2 ft = 2,000 cubic feet = 74 cubic yards = 133 tons [2]).
Excavation, Loading, and Transport	Ton	$ 35	133	$ 4,655	$ 4,655	Based on average of 2024 environmental contractor unit cost estimates for similar projects in Seattle, WA.
Disposal	Ton	$ 80	133	$ 10,640	$ 10,640	Unit cost based on disposal of as Contaminated Soil at RCRA Subtitle D (non-hazardous) landfill.
Excavation Oversight & Reporting						
Oversight & Confirmation Sampling	Per Day	$ 3,500	10	$ 35,000	$ 35,000	Assumes $2,500 for field oversight and equipment; $500 for management, coordination, and communications; $500 for sample analyses. Assumes 10 days of excavation oversight.
Construction planning, oversight and regulatory support	Lump Sum	$ 10,000	1	$ 10,000	$ 10,000	Assumes construction planning, meetings, coordination and communciations with Washington State Department of Ecology.
Report	Lump Sum	$ 20,000	1	$ 20,000	$ 20,000	Assumes summary report summarizing cleanup action (remedial excavation and chemical vapor barrier installation [if needed] and confirmation sampling results to be provided to the Washington State Department of Ecology.
Contingency (20%)				$ 34,149	$ 34,149	
Subtotal				$ 205,000	$ 205,000	Net Present Value assumes contaminated and impacted soil excavation occurs in year zero.
IN-SITU TREATMENT AND MONITORING						
Groundwater Treatment						Occurs in year zero.
Treatment product selection support and engineering design	Lump Sum	$ 15,000	1	$ 15,000	$ 15,000	Estimate based on Aspect experience with similar projects.
Groundwater Treatment Application	Per Day	$ 8,000	5	$ 40,000	$ 40,000	Subcontractor costs based recent experience with similar sites. Assumes approximately 6 injection points around the sump area and 6 points near the Property boundary over 5 days.
Installation oversight, consultant labor, equipment, expenses	Day	$ 3,000	5	$ 15,000	$ 15,000	Assumes $2,500 for field oversight and equipment; $500 for management, coordination, and communications. Assumes 5 days of groundwater treatment oversight.
Treatment reagent	Pounds	$ 3.50	6000	$ 21,000	$ 21,000	Reagent cost based on recent quotes for persulfate-based chemical oxidant.
Contingency (20%)				$ 81,158	$ 81,158	Contingency not discounted
Subtotal				$ 172,000	$ 172,000	Net Present Value assumes groundwater treatment occurs in year zero.
GROUNDWATER MONITORING - 5 YEARS						
Reinstall Wells decommissioned during excavation	Each	$ 10,000	1	$ 10,000	$ 10,000	AMW-5 is expected to be decommissioned during redevelopment. A replacement well will be constructed in similar locations.
Groundwater Monitoring Events (5 years)						Occurs from year 1 to year 5.
Sampling & Laboratory Analysis	Each	$ 10,000	14	$ 140,000	$ 132,000	Assumes quarterly sampling events for 2 years, then semi-annual sampling events for 3 years, collecting 5 groundwater samples at each event (14 events).
Mid-Year Report	Each	$ 4,000	9	$ 36,000	$ 19,000	Assumes one report per sampling event with one event each year included in the annual report (14 - 5 = 9).
Annual Report	Each	$ 8,000	5	$ 40,000	$ 37,000	Assumes one annual report per year for 5 years.
Closure Report	Each	$ 10,000	1	$ 10,000	$ 9,000	Occurs in year 5
Well decommissioning	Each	$ 1,000	5	$ 5,000	$ 4,000	Occurs in year 5
Contingency (20%)				$ 48,200	$ 48,200	Contingency not discounted
Subtotal				$ 289,000	$ 259,000	See Note 1.
VAPOR INTRUSION MITIGATION						
Product selection support and engineering design	Lump Sum	$ 20,000	1	$ 20,000	$ 20,000	Estimate based on Aspect experience with similar projects.
Install chemical vapor barrier	Square Foot	$ 15	10,000	$ 150,000	$ 150,000	Unit cost based on typical costs for vapor barrier installation and does not include a vapor extraction system. Estimate assumes footprint is equal to proposed building footprints provided by ETS dated May 9, 2025 (approximately 10,000 sqft).
Installation oversight, consultant labor, equipment, expenses	Day	$ 3,000	8	$ 24,000	$ 24,000	Assumes $2,500 for field oversight and equipment; $500 for management, coordination, and communications. Assumes 10 days of vapor barrier construction oversight.
Contingency (20%)				$ 38,800	$ 38,800	
Subtotal				$ 233,000	$ 233,000	Net Present Value assumes vapor intrusion mitigation occurs in year zero.
TOTAL				**$ 899,000**	**$ 869,000**	

See notes on Page 2.

Table A-5. Alternative #3: Source Excavation, In-Situ Treatment, and MNA - ROM Cost Estimate

DRAFT

Project No. AS180043, 1700 Airport Way S, Seattle, Washington

Notes and Definitions

1) Net Present value assumes a discount rate of 2.3%, based on real interest rate on US Treasury 30-year notes and bonds, Circular A-94 Appendix C, Office of Management and Budget (Revised November 2024).

2) One cubic yard is assumed to be equivalent to 1.8 tons.

Impacted Soil is defined as soil which contains detectable concentrations of contaminants less than the applicable MTCA Method A or B cleanup levels and/or requires landfilling at Subtitle D Landfill.

Contaminated Soil is defined as soil bearing contaminants at concentration which exceed applicable MTCA Method A or B cleanup levels and/or requires landfilling at Subtitle D Landfill

ROM = Rough Order of Magnitude

PAH = Polycyclic Aromatic Hydrocarbons

ft = feet

bgs = below ground surface

NAVD88 = North American Vertical Datum of 1988

sqft = square feet

Costs in this Table represent a Rough Order of Magnitude (ROM) remedial cost estimate presenting environmental costs for high-level project planning purposes only. All unit costs are based on Aspect's recent project experience in this area. Unit costs are not based on contract or vendor bids and need to be vetted by the general contractor. This alternative assumes an 1/2 level below grade development with an underslab vapor barrier and barrier on the 4 partially below grade walls.

LIMITATIONS--Work for this project was performed for Evergreen Treatment Services (Client) and this cost estimate 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 cost estimate does not represent a legal opinion. No other warranty, expressed or implied, is made. All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

APPENDIX B

Previous Environmental Reports

WA T152
7/24/95
17A

INTERIM STATUS CLOSURE PLAN
Western Blower Property

Northwest EnviroService Inc.
1700 Airport Way South Facility
Seattle, Washington

FILE COPY

July 1995

Revision #2—July 24, 1995

USEPA RCRA
3011317

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APPENDICES

Appendix A: Field Sampling and Analysis Plan in Support of Closure

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1.0 Introduction

This interim status closure plan has been prepared to describe the activities that will be undertaken to close the Resource Conservation and Recovery Act (RCRA) interim status hazardous waste management units at the Northwest EnviroService (NWES) treatment and storage facility, located at 1700 Airport Way South in Seattle, Washington (Figure 1). The site occupies 1.3 acres and is bordered by South Atlantic Street to the north, South Holgate Street to the south, Interstate I-5 to the east, and Airport Way South to the west. The NWES facility's EPA and Washington State Department of Ecology (Ecology) Identification Number is WAD 058367152.

In particular, this closure plan addresses the closure of that portion of the NWES facility referred to as the Western Blower Property. This property comprises approximately 1/3 of the total NWES facility.

The NWES facility provided treatment of industrial, commercial, and residential wastes for the Pacific Northwest, Alaska, and the Western United States. Three major categories of wastes were treated at the NWES facility: 1)Wastewater, 2) Used oil and oily wastes, and 3) Hazardous wastes (including corrosives, solvents, caustics, stabilized solids with metals and organic constituents from wastewater sludges and paint and related wastes, antifreeze, and other wastes including pesticides).

1.1 RCRA Interim Status Units Closure

The NWES facility (facility) is arranged into 12 management and operational areas as shown in Figure 2. The Western Blower Property does not contain any RCRA regulated units but it does contain operational areas which are ancillary to the operation of RCRA regulated units on the adjacent parcel of the NWES facility. The Western Blower Property encompasses a container load/unload area, administrative warehouse buildings, and a dangerous waste exempt recycling area.

The management and operational areas associated with the Western Blower Property are described below:

- **Area 11 - Solids Energy Recovery Program Area**. This area does not contain any RCRA interim status units. It formerly was the location of the dangerous waste exempt recycling area for paint wastes. Figure 2 shows the location and layout of Area 11.
- **Area 12 - Administration Building and Stores Building**. This area is used for receiving containerized wastes from transporters. The location and layout of Area 12 are shown on Figure 2.

The entire facility is paved with concrete or asphalt. A network of sumps provide secondary containment to all NWES interim status units. These sumps drain to the facility's wastewater treatment system. These sumps are designed to prevent releases to the environment and have

106099.03.ZZ • Site Vicinity Map • 9/23/96 • DK

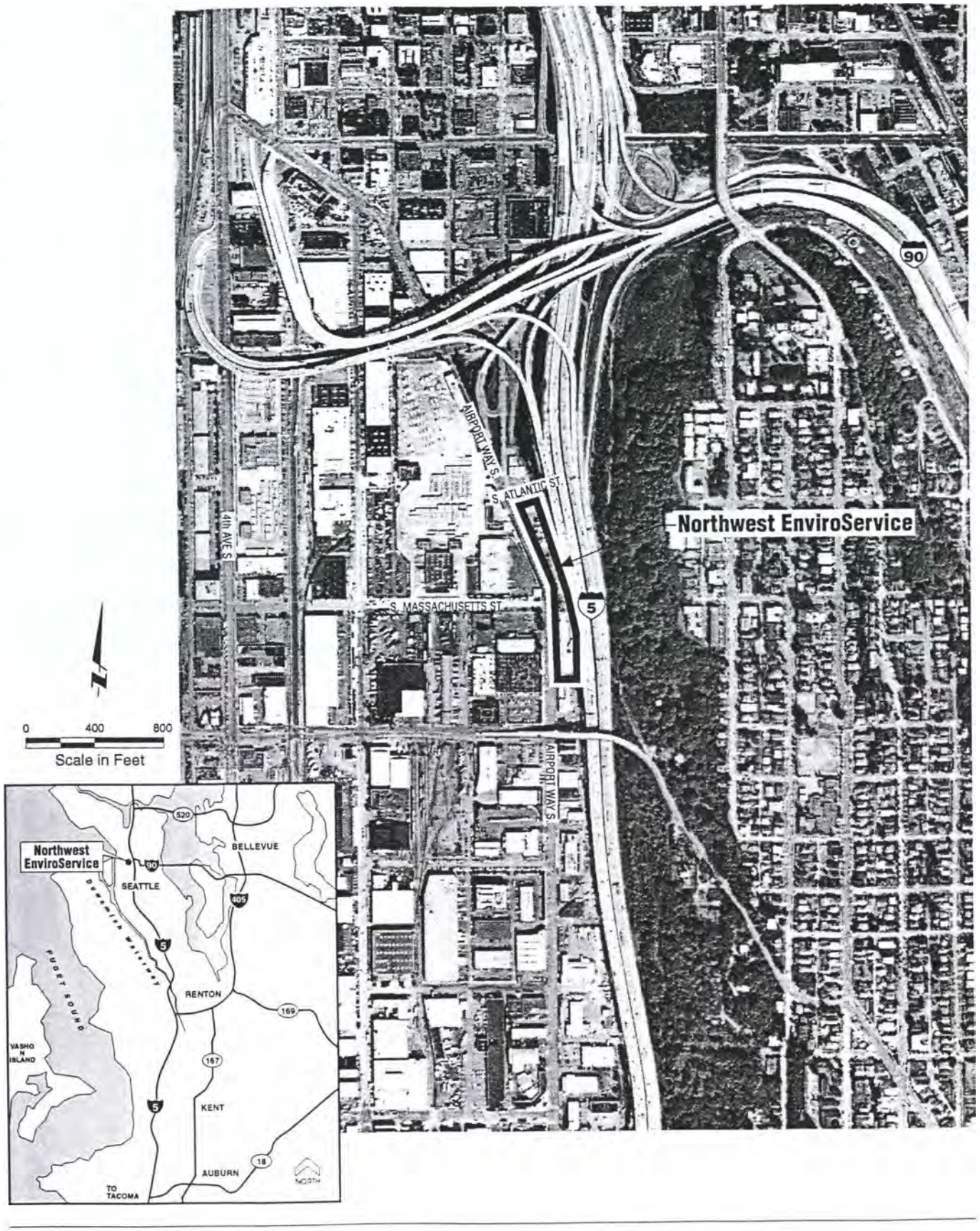


Figure 1
Location of Northwest EnviroService Treatment and Storage Facility

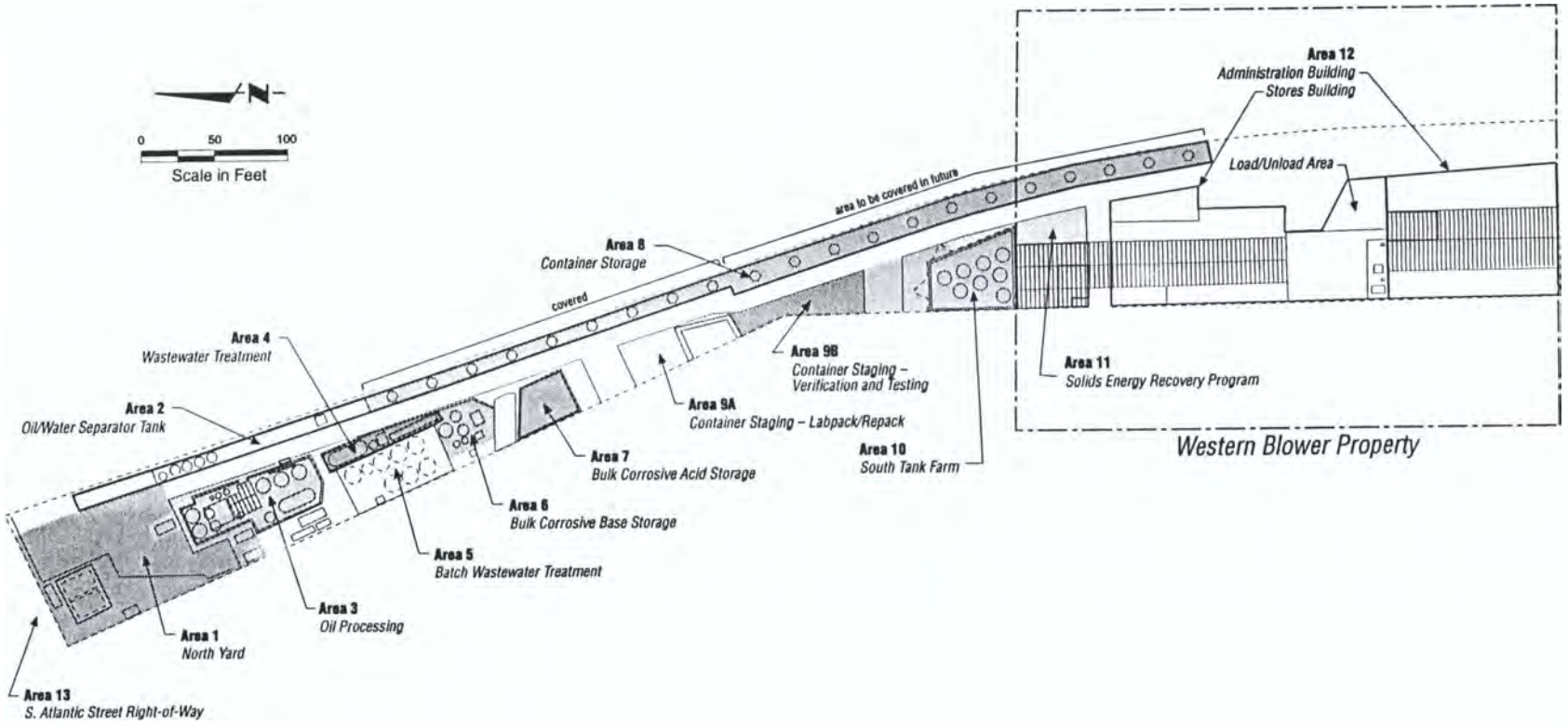


Figure 2
Facility Operational Areas

secondary containment features that meet the requirements of WAC 173-303-640-(4)(b) through (f). The facility is fenced and staffed over two shifts, which extend from 6 a.m. to 2 a.m. During the 4 hours that the facility is not staffed, it is monitored by a security guard.

1.2 General Closure Schedule and Activities

The NWES Western Blower Property will undergo final RCRA interim status closure in 1995. The facility property will be converted to nonhazardous waste operations. Most equipment and structures will remain on the property. Closure activities will begin within 45 days of the last receipt of hazardous waste in accordance with WAC 173-303-400 and 40 CFR 265.113.

NWES intends to clean close the ancillary areas in Areas 11 and 12. For units undergoing clean closure, no hazardous wastes or constituents will remain in or about the regulated units at completion. This interim status closure plan contains information necessary to undertake clean closure, including methods that will be used to:

- Remove waste inventory
- Decontaminate regulated units and related equipment
- Dispose of contaminated materials
- Perform the necessary sampling to certify completion of the closure process

The closure performance standards and decontamination activities described in this closure plan are intended to apply only to wastes subject to the requirements of WAC 173-303 and 40 CFR 265. Closure activities for Toxic Substances Control Act (TSCA) wastes subject to 40 CFR 761 have been completed per an approved TSCA closure plan. Certification of TSCA closure was submitted in February 1996 to U.S. Environmental Protection Agency (EPA) Region 10 TSCA branch representatives.

Closure activities will be monitored by an independent registered professional engineer (P.E.) to certify that, in his or her professional judgment, closure was accomplished in accordance with the specifications or standards presented in the approved closure plan. The independent P.E.'s certification will be submitted to all applicable regulatory agencies as part of NWES's certification of closure, in accordance with WAC 173-303-400 and 40 CFR 265.115. Documentation supporting the engineer's certification will be maintained at the NWES facility until NWES has been released from its financial assurance requirements for closure.

1.3 Amendment of the Closure Plan

If changes become necessary, this closure plan will be amended according to the requirements of WAC 173-303-400 and 40 CFR 265.112. NWES must submit a request for an amended closure plan under the following conditions:

- Changes that will affect the closure plan are made in operating plans, the regulated units, or facility design.

- The expected year of closure is changed.
- Unexpected events that affect the closure plan occur during closure.

Copies of this closure plan and any amendments to it will be maintained at the NWES offices at 54 South Dawson St., Seattle, WA 98108, until closure is completed and NWES is released from its financial assurance obligations.

2.0 Maximum Waste Inventory

The hazardous waste management units to be closed are listed by area in Table 1. Table 1 also summarizes the unit dimensions, maximum storage capacity, and type of material handled. The capacities of the sumps and tanks that are not subject to RCRA regulation are not included in the maximum waste inventory.

Table 1
Hazardous Waste Management Unit Descriptions

Area	Unit Description	Dimensions [a]	Construction Material	Maximum Capacity (gal)	Type of Waste Handled
11	No units	N/A	N/A	N/A	N/A
12	Container load/ unload area	W = 35' L = 45'	Concrete	80 55-gallon drums, 4,400 gallons total[b]	Containerized wastes

[a] H=height; W=width; L=length; t=thickness; D=diameter.

[b] Containers may include a combination of other DOT-approved containers in addition to 55-gallon drums. However, the maximum volume will not exceed 4,400 gallons.

3.0 Closure Performance Standards

3.1 General Performance Standards

Clean Closure Standards

Clean closure of the dangerous waste ancillary areas on the Western Blower Property is designed to:

- Eliminate, minimize, or control, to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous waste constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or atmosphere
- Minimize the need for further maintenance and post-closure care
- Return the land to the appearance and use of surrounding land areas to the degree possible, given the nature of facility operations and considering plans for future land use at the time of closure

In general, these goals will be accomplished by removing dangerous waste containers, decontaminating tanks, containers and bases containing or contaminated with dangerous wastes or dangerous waste residues from the NWES facility.

3.2 Specific Performance Standards

Clean Closure Standards

Upon completion of the clean closure, there will be no hazardous waste residues remaining in the units. Closure includes:

- Comparing analytical results from the concrete and soil samples to the approved cleanup levels. The levels of dangerous wastes or dangerous waste constituents or residues will not exceed health-based Method B soil cleanup limits as established by the Model Toxics Control Act Cleanup Regulations (MTCA) (WAC 173-340) and as adopted by the Dangerous Waste Regulations (WAC 173-303-610(3)). If health-based limits do not exist or there is insufficient toxicity data to calculate a health-based limit, the background level or the PQL (whichever is greater) will be used as the constituent-specific performance standard. In either case after comparison is made to the numerical standard, the significance of any exceedances will be reviewed based on chemical type.

NWES has been directed by Ecology to analyze closure samples for the 222 constituents listed in 40 CFR 264 Appendix IX in order to demonstrate a clean closure. To establish performance standards consistent with the Dangerous Waste Regulations, Table 2 lists all the Appendix IX compounds. Table 2 also notes which compounds have corresponding MTCA Method B soil

cleanup levels that can be calculated and those Appendix IX compounds for which a corresponding MTCA Method B soil cleanup level cannot be calculated.

An investigation of the 55 Appendix IX compounds without defined MTCA soil cleanup levels was conducted by NWES to determine which may have been handled at this facility and should be included in the closure sample analysis. Four were identified as materials that may have been handled at the facility and therefore should be included. This investigation included a review of the facility waste profile records, discussions with the NWES waste profile preparation staff, and additional facility knowledge. The remaining 51 Appendix IX compounds are not known to have been handled at the facility and are not included in the closure analysis. These compounds are noted in Table 2.

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
1	1-naphthalamine	134-32-7	See Note [a]
2	2-acetylaminofluorene; 2-aaf	53-96-3	N/C
3	2-naphthylamine	91-59-8	N/C
4	2-picoline	109-06-8	N/C
5	4,4'-ddd	72-54-8	4.00E+03
6	4-aminobiphenyl	92-67-1	N/C
7	4-nitroquinoline 1-oxide	56-57-5	N/C
8	acenaphthene	83-32-9	4.80E+06
9	acenaphthylene	208-96-8	N/C
10	acetone	67-64-1	8.00E+06
11	acetonitrile	75-05-8	4.80E+05
12	acetophenone	98-86-2	8.00E+06
13	acrolein	107-02-8	1.60E+06
14	acrylonitrile	107-13-1	1.85E+03
15	aldrin	309-00-2	5.88E+01
16	allyl chloride	107-05-1	4.00E+06
17	alpha,alpha-dimethylphenethylamine	122-09-8	N/C
18	aniline	62-53-3	1.75E+05
19	anthracene	120-12-7	2.40E+07
20	antimony	7440-36-0	3.20E+04
21	aramite	140-57-8	4.00E+04
22	arsenic	7440-38-2	1.43E+03
23	barium	7440-39-3	5.60E+06
24	benzene	71-43-2	3.45E+04
25	benzo(a)anthracene	56-55-3	1.37E+03
26	benzo(a)pyrene	50-32-8	1.37E+02
27	benzo(b)fluoranthene	205-99-2	1.37E+03
28	benzo(g,h,i)perylene	191-24-2	N/C
29	benzo(k)fluoranthene	207-08-9	1.37E+04
30	benzyl alcohol	100-51-6	2.40E+07
31	beryllium	7440-41-7	2.33E+02
32	beta-chloronaphthalene	91-58-7	6.40E+06
33	bis(2-chloroethoxy)methane	111-91-1	N/C
34	bis(2-chloroethyl)ether	111-44-4	9.09E+02
35	bis(2-ethylhexyl)phthalate	117-81-7	7.14E+04

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
36	bromodichloromethane	75-27-4	1.61E+04
37	bromoform	75-25-2	1.27E+05
38	bromomethane	74-83-9	1.12E+05
39	bromophenylphenylether, 4-	101-55-3	N/C
40	butylbenzyl phthalate, n-	85-68-7	1.60E+07
41	cadmium	7440-43-9	1.64E+02
42	carbon disulfide	75-15-0	8.00E+06
43	carbon tetrachloride	56-23-5	7.69E+03
44	chlordane	57-74-9	7.69E+02
45	chloro-1,3-butadiene, 2-	126-99-8	1.60E+06
46	chloro-m-cresol, p-	59-50-7	N/C
47	chloroaniline, 4-	106-47-8	3.20E+05
48	chlorobenzene	108-90-7	1.60E+06
49	chlorobenzilate	510-15-6	3.70E+03
50	chloroform	67-66-3	1.64E+05
51	chloromethane	74-87-3	7.69E+04
52	chlorophenol, 2-	95-57-8	4.00E+05
53	chlorophenyl phenyl ether, 4-	7005-72-3	N/C
54	chromium (trivalent)	16065-83-1	8.00E+07
55	chrysene	218-01-9	1.37E+05
56	cobalt	(Total)	See Note [a]
57	copper	7440-50-8	2.96E+06
58	cyanide	57-12-5	1.60E+06
59	dde, 4,4'-	72-55-9	2.94E+03
60	ddt, 4,4'-	50-29-3	2.94E+03
61	di-n-butyl-phthalate	84-74-2	8.00E+06
62	di-n-octyl-phthalate	117-84-0	1.60E+06
63	diallate	2303-16-4	1.64E+04
64	dibenz(a,h)anthracene	53-70-3	1.37E+02
65	dibenzofuran	132-64-9	3.20E+05
66	dibromo-3-chloropropane, 1,2-	96-12-8	7.14E+02
67	dibromochloromethane	124-48-1	1.19E+04
68	dibromoethane, 1,2-	106-93-4	1.18E+01
69	dichlorobenzene, 1,2-	95-50-1	7.20E+06
70	dichlorobenzene, 1,3-	541-73-1	7.12E+06

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
71	dichlorobenzene, 1,4-	106-46-7	4.17E+04
72	dichlorobenzidine, 3,3-	91-94-1	2.22E+03
73	dichlorodifluoromethane	75-71-8	1.60E+07
74	dichloroethane, 1,1-	75-34-3	8.00E+06
75	dichloroethane, 1,2-	107-06-2	1.10E+04
76	dichloroethene, 1,1-	75-35-4	1.67E+03
77	dichloroethene, trans-1,2-	156-60-5	1.60E+06
78	dichlorophenol, 2,4-	120-83-2	2.40E+05
79	dichlorophenol, 2,6-	87-65-0	N/C
80	dichlorophenoxyacetic acid, 2,4-	94-75-7	8.00E+05
81	dichloropropane, 1,2-	78-87-5	1.47E+04
82	dichloropropene, cis-1,3	10061-01-5	N/C
83	dichloropropene, trans-1,3	10061-02-6	N/C
84	dieldrin	60-57-1	6.25E+01
85	diethylphthalate	84-66-2	6.40E+07
86	dimethoate	60-51-5	1.60E+04
87	dimethylbenz(a)anthracene, 7,12-	57-97-6	N/C
88	dimethylbenzide, 3,3'-	119-93-7	1.09E+02
89	dimethylphenol, 2,4-	105-67-9	1.60E+06
90	dimethylphthalate	131-11-3	8.00E+08
91	dinitro-2-methylphenol, 4,6-	534-52-1	N/C
92	dinitrobenzene, 1,3-	99-65-0	8.00E+03
93	dinitrophenol, 2,4-	51-28-5	1.60E+05
94	dinitrotoluene, 2,4-	121-14-2	1.47E+03
95	dinitrotoluene, 2,6-	606-20-2	1.47E+03
96	dinoseb	88-85-7	8.00E+04
97	dioxane, 1,4-	123-91-1	9.09E+04
98	dioxin (2,3,7,8-TCDD)	1746-01-6	6.67E-03
99	diphenylamine, n,n-	122-39-4	2.00E+06
100	disulfoton	298-04-4	3.20E+03
101	endosulfan i	959-98-8	4.80E+05
102	endosulfan ii	33213-65-9	N/C
103	endosulfan sulfate	1031-07-8	See Note [a]
104	endrin	72-20-8	2.40E+04
105	endrin aldehyde	7421-93-4	N/C

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
106	ethyl chloride	75-00-3	N/C
107	ethyl methacrylate	97-63-2	7.20E+06
108	ethyl methanesulfonate	62-50-0	N/C
109	ethylbenzene	100-41-4	8.00E+06
110	famphur	52-85-7	N/C
111	fluoranthene	206-44-0	3.20E+06
112	fluorene	86-73-7	3.20E+06
113	heptachlor	76-44-8	2.22E+02
114	heptachlor epoxide	1024-57-3	1.10E+02
115	hexachlorobenzene	118-74-1	6.25E+02
116	hexachlorobutadiene	87-68-3	1.28E+04
117	hexachlorocyclohexane, alpha-	319-84-6	1.59E+02
118	hexachlorocyclohexane, beta-	319-85-7	5.56E+02
119	hexachlorocyclohexane, delta-	319-86-8	N/C
120	hexachlorocyclopentadiene	77-47-4	5.60E+05
121	hexachloroethane	67-72-1	7.14E+04
122	hexachlorophene	70-30-4	2.40E+04
123	hexachloropropene	1888-71-7	N/C
124	hexanone, 2-	591-78-6	N/C
125	indeno(1,2,3-cd)pyrene	193-39-5	1.37E+03
126	isobutyl alcohol	78-83-1	2.40E+07
127	isodrin	465-73-6	N/C
128	isophorone	78-59-1	1.05E+06
129	isosafrole	120-58-1	N/C
130	kepone	143-50-0	N/C
131	lead	7439-92-1	2.50E+05
132	lindane	58-89-9	7.69E+02
133	mercury	7439-97-6	2.40E+04
134	methacrylonitrile	126-98-7	8.00E+03
135	methapyrilene	91-80-5	N/C
136	methoxychlor	72-43-5	4.00E+05
137	methyl ethyl ketone	78-93-3	4.80E+07
138	methyl iodide; iodomethane	74-88-4	N/C
139	methyl methacrylate	80-62-6	6.40E+06
140	methyl methanesulfonate	66-27-3	N/C

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
141	methyl parathion	298-00-0	2.00E+04
142	methyl-2-pentanone, 4-	108-10-1	4.00E+06
143	methyl-5-nitroaniline, 2-	99-55-8	3.03E+04
144	methylaniline, 2-	95-53-4	4.17E+03
145	methylcholanthracene, 3-	56-49-5	N/C
146	methylene bromide	74-95-3	8.00E+05
147	methylene chloride	75-09-2	1.33E+05
148	methylnaphthalene, 2-	91-57-6	N/C
149	methylphenol, 2-	95-48-7	4.00E+06
150	methylphenol, 3-	108-39-4	4.00E+06
151	methylphenol, 4-	106-44-5	4.00E+05
152	n-nitrosomorpholine	59-89-2	N/C
153	n-nitrosopiperidine	100-75-4	N/C
154	naphthalene	91-20-3	3.20E+06
155	naphthoquinone, 1,4-	130-15-4	N/C
156	nickel (soluble salts)	7440-02-0	1.60E+06
157	nitroaniline, m-	99-09-2	N/C
158	nitroaniline, o-	88-74-4	N/C
159	nitroaniline, p-	100-01-6	N/C
160	nitrobenzene	98-95-3	4.00E+04
161	nitrophenol, 2-	88-75-5	N/C
162	nitrophenol, p-	100-02-7	6.40E+05
163	nitroso-di-n-butylamine, n-	924-16-3	1.85E+02
164	nitroso-di-n-propylamine, n-	621-64-7	1.43E+02
165	nitrosodiethylamine, n-	55-18-5	6.67E+00
166	nitrosodimethylamine, n-	62-75-9	1.96E+01
167	nitrosodiphenylamine, n-	86-30-6	2.04E+05
168	nitrosomethylethylamine, n-	10595-95-6	4.55E+01
169	nitrosopyrrolidine, n-	930-55-2	4.76E+02
170	o,o,o-triethyl phosphorothioate	126-68-1	N/C
171	o,o-diethyl o-2-pyrazinyl phosphorothioate; thionazi	297-97-2	N/C
172	oxybis (1-chloropropane), 2,2'-	108-60-1	1.43E+01
173	p-(dimethylamino) azobenzene	60-11-7	N/C
174	parathion	56-38-2	4.80E+05
175	pentachlorobenzene	608-93-5	6.40E+04

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
176	pentachloroethane	76-01-7	N/C
177	pentachloronitrobenzene	82-68-8	3.85E+03
178	pentachlorophenol	87-86-5	8.33E+03
179	phenacetin	62-44-2	N/C
180	phenanthrene	85-01-8	N/C
181	phenol	108-95-2	4.80E+07
182	phenylenediamine, p-	106-50-3	1.52E+07
183	phorate	298-02-2	1.60E+04
184	polychlorinated biphenyls; pcbs	1336-36-3	refer to Arochlors
185	polychlorinated dibenzo-p-dioxins; pcdds		see dioxin
186	polychlorinated dibenzofurans; pcdfs		see dibenzofuran
187	pronamide	23950-58-5	6.00E+06
188	propionitrile	107-12-0	N/C
189	pyrene	129-00-0	2.40E+06
190	pyridine	110-86-1	8.00E+04
191	safrole	94-59-7	N/C
192	selenium	7782-49-2	4.00E+05
193	silver	7440-22-4	4.00E+05
194	styrene	100-42-5	4.05E+02
195	sulfide	18496-25-8	See Note [a]
196	tetrachlorobenzene, 1,2,4,5-	95-94-3	2.40E+04
197	tetrachloroethane, 1,1,1,2-	630-20-6	3.85E+04
198	tetrachloroethane, 1,1,2,2-	79-34-5	5.00E+03
199	tetrachloroethene	127-18-4	1.96E+04
200	tetrachlorophenol, 2,3,4,6-	58-90-2	2.40E+06
201	tetraethyl dithiopyrophosphate	3689-24-5	4.00E+04
202	thallium (soluble salts)	7440-28-0	5.60E+03
203	tin	7440-31-5	4.80E+07
204	toluene	108-88-3	1.60E+07
205	toxaphene	8001-35-2	9.09E+02
206	trans-1,4-dichloro-2-butene	110-57-6	N/C
207	trichlorobenzene, 1,2,4-	120-82-1	8.00E+05
208	trichloroethane, 1,1,1-	71-55-6	7.20E+06
209	trichloroethane, 1,1,2-	79-00-5	1.75E+04
210	trichloroethene	79-01-6	9.09E+04

Table 2
Appendix IX Compounds to be Analyzed

	Chemical Name	CAS No.	MTCA Method B Soil Cleanup Levels (µg/kg)
211	trichlorofluoromethane	75-69-4	2.40E+07
212	trichlorophenol, 2,4,5-	95-95-4	8.00E+06
213	trichlorophenol, 2,4,6-	88-06-2	9.09E+04
214	trichlorophenoxy acetic acid, 2,4,5-	93-76-5	8.00E+05
215	trichlorophenoxy)propionic acid, 2(2,4,5-	93-72-1	6.40E+05
216	trichloropropane, 1,2,3-	96-18-4	4.80E+05
217	trinitrobenzene, 1,3,5-	99-35-4	4.00E+03
218	vanadium	7440-62-2	5.60E+05
219	vinyl acetate	108-05-4	8.00E+07
220	vinyl chloride	75-01-4	5.26E+02
221	xylene, mixture	1330-20-7	1.60E+08
222	zinc	7440-66-6	2.40E+07

[a] Indicates compound was handled by NWES but MTCA Method B soil cleanup level cannot be calculated. This compound will be included in the closure sample analysis.

N/C = indicates compound was not handled by NWES and there is insufficient toxicity data available to calculate MTCA Method B soil cleanup level.

4.0 Description of Closure Activities

4.1 General Sequence and for Closure Activities

The Western Blower Property will undergo final RCRA interim status closure in 1995. Final closure of the regulated units will constitute acceptance by Ecology of the closure operations conducted at the seven regulated unit areas and the two container staging areas.

The closure schedule for the NWES facility is presented in Figure 3. The closure will be completed within 180 days if the plan is approved within 90 days of receipt by Ecology. Closure activities are divided into four major steps:

1. Remove existing inventory, including drums and small containers staged in Area 12, and the contents of the tank in Area 11.

2. Decontaminate bulk tank emptied in Step 1 and remove equipment. (Equipment removal may involve shipping equipment to a scrap dealer or an appropriate disposal site, selling it for industrial purposes, or storing it in another location onsite.) Equipment for which the future facility owner/operator has negotiated to be left onsite will remain.

3. Decontaminate all surfaces, containment structures, and sumps in Areas 11 and 12.

4. Sample cleaned areas to verify the performance standard, as described in this closure plan and the sampling and analysis plan (SAP) which is included as Appendix A. Repeat Step 3 if necessary.

Use of NWES's wastewater treatment equipment will facilitate disposal of rinsates and decontamination residues by discharging them to King County Department of Metropolitan Services (Metro) as long as these effluents comply with NWES's wastewater discharge permit (Permit No. 7124). Solid residues will be stabilized in the waste stabilization tanks (Area 1) for offsite disposal to an approved treatment, storage, or disposal facility (TSDF).

4.2 Waste Inventory Removal Procedure

Container Wastes

The inventory removal procedures for containers will apply to Area 12. Within 90 days after receiving the final volume of dangerous waste at the NWES facility, container wastes will be removed and transported to an authorized offsite TSDF. Problem waste streams will be detailed on a case-by-case basis. Inspections of all regulated units, including the container storage areas, will continue until the P.E. certification of facility closure has been accepted by Ecology. The method of transportation and the TSDF will be the same or similar to those used during the

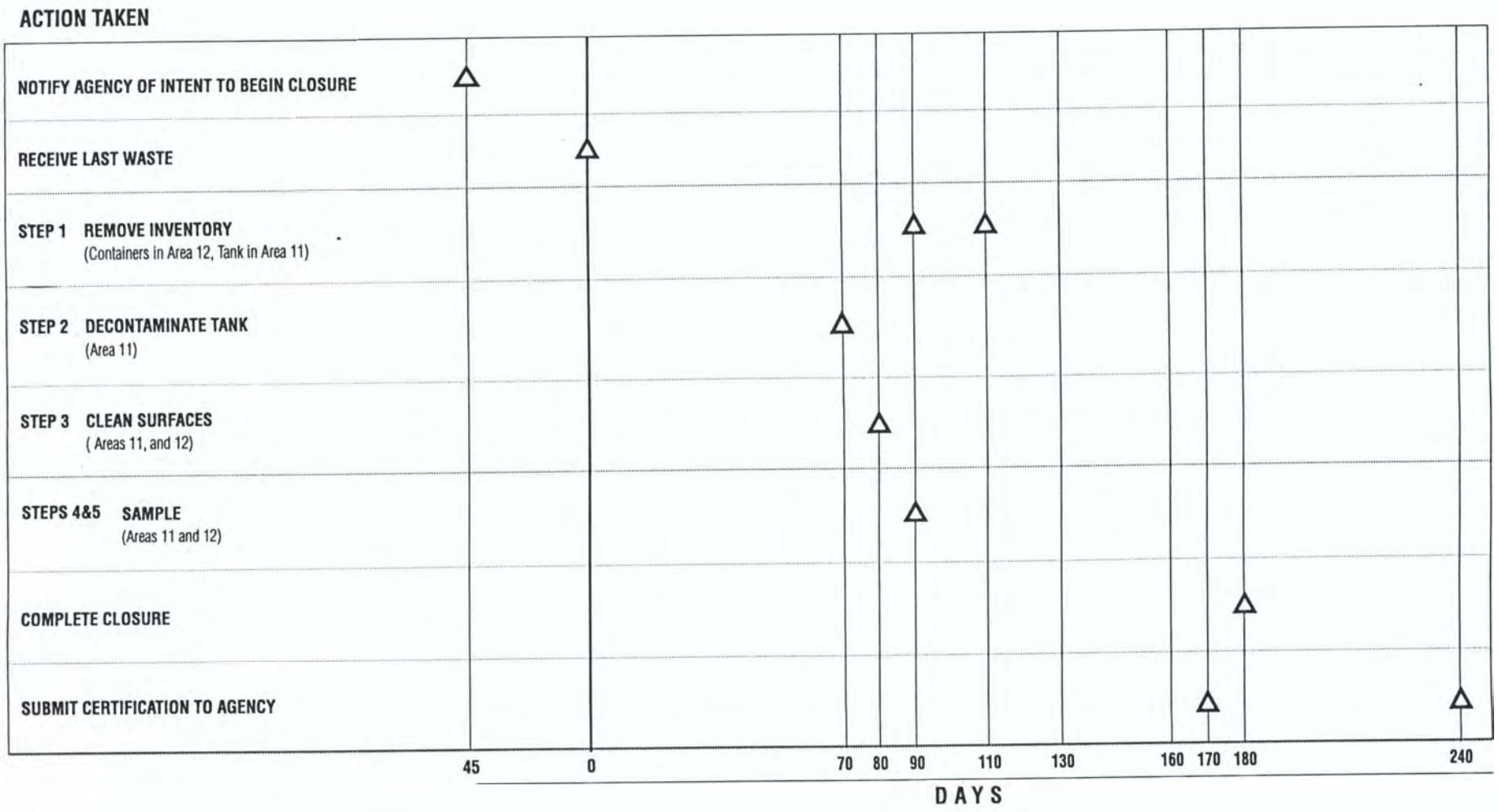


Figure 3
Facility Closure Schedule

normal operation of the facility. Containers will be packaged, labeled, and manifested for shipment according to the same in-plant procedures used during the normal facility operation.

Prior to shipment, all containers will be inspected for leakage. If any containers are found to be leaking, the waste will be transferred to non-leaking containers. Any equipment or clothing that comes into contact with the waste will be decontaminated or disposed of at an authorized TSDF.

Tank Wastes

The inventory removal procedures for tank contents apply to Area 11. Within 110 days after the final volume of dangerous waste is received at the NWES facility, tank contents will be treated, removed, transported, and disposed of to one of the following facilities as appropriate:

- An authorized TSDF for hazardous residues
- An approved Washington State Minimum Functional Standards (MFS) solid waste landfill
- Metro's publicly-owned treatment works (POTW) under the requirements of NWES's wastewater discharge permit No. 7124 for wastewater

Similarly, decontamination residues will be appropriately disposed of based on their waste characteristics and corresponding disposal requirements appropriate for the nature and quality of the waste stream.

4.3 General Decontamination Procedures

Concrete Areas

Decontamination of concrete surfaces, berms, sumps, and any other equipment or structures potentially affected by hazardous constituents will be implemented. Special attention is directed to any surfaces that were in direct contact with dangerous wastes or their residues. NWES will decontaminate concrete surfaces according to the standards as specified in 40 CFR 268.45. The concrete or sump surface first will be inspected for cracks or gaps that have not been previously sealed. Any cracks will be noted in the field log, and those capable of transmitting decontamination fluids to the underlying soil will be sealed with a water-resistant seal. Next, the surface will be cleaned using high-pressure steam or water sprays with detergents. All rinsate will be collected and tested prior to release into the NWES wastewater treatment system or a TSDF, whichever is appropriate.

Procedures will be undertaken to verify that the decontamination is complete per Ecology's *Guidance for Clean Closure of Dangerous Waste Facilities* (August 1994). These procedures are described in the SAP (Appendix A).

Tanks

After the tanks have been emptied, they will be decontaminated. NWES will decontaminate the tanks following the treatment standard prescribed for debris and specified in 40 CFR 268.45. Tanks, pumps, and piping will be triple-rinsed using high-pressure steam or water sprays with detergents. All decontamination solutions will be tested prior to discharge into the NWES wastewater treatment system or a TSDF, whichever is appropriate.

There are three types of tanks at the NWES facility: carbon steel, stainless steel, and polyethylene (see Table 3). Each tank surface will be decontaminated in a manner that is appropriate for the material and tank contents. Once tank surfaces have been treated using one of the technologies in 40 CFR 268.45 and no longer exhibit a characteristic of hazardous waste they will not need to be managed in a RCRA Subtitle C facility. Tanks intended for reuse either onsite or offsite will be similarly decontaminated. However, the future owner/tenant will be given the opportunity to review the analytical results and request additional tests. NWES will consider implementing these request accordingly. Depending on market conditions, the cleaned tanks will be sold either as scrap metal or sold for exclusive industrial use.

Table 3
Tank Decontamination Procedures

Tank Type	Procedures
Carbon steel, polyethylene, stainless steel, or concrete storage tank (oily wastewaters)	1. Hot-water and steam-spray with rotating ball
	2. Wash with TSP, alkaline surfactant (anionic, pH 11.0 or above) or "Believe"
	3. Rinse with hot water
Carbon steel, polyethylene, stainless steel, or concrete wastewater tank (corrosive liquids, wastewaters)	1. Pressure wash with water to remove suspended solids
	2. Pressure wash with ammoniating or sodium/citric acid solution (pH 5.0) or "Believe"

Sequence of Decontamination Activities

The sequence for decontamination of equipment and structures, including tanks and concrete surfaces, is as follows:

1. Before the start of closure activities for a given area, all surfaces will be visually inspected for cracks that have not been previously sealed and other openings through which possible previous spills or closure cleaning solutions and rinsates could reach underlying soils. Tanks will be inspected for leaks and drippages, both current and historical. Documentation of any cracks, openings, or leaks observed during closure will be maintained with other closure records. During the visual inspection, any stains that might suggest the presence of contaminants will also be noted. If cracks or openings are encountered, they will be sealed with a sealant that is resistant to water and the cleaning solutions that will be used during decontamination.

2. Following the visual inspection, equipment used to operate and close each area will be identified. Types of equipment that are periodically or routinely used by NWES for waste transport and handling and equipment expected to be used during the closure process are listed in Table 4.

Table 4
Equipment List

Trucks (including vacuum trucks)	Pumps
Forklifts	Pump connections
Safety equipment	Valve connections
Ladders	Transfer lines
Tools	Piping
Jackhammers	Containerized waste compactor
Drilling equipment	Decontamination equipment (brushes, buckets, etc.)
Hand augers	Steam-cleaning equipment
Sampling equipment	High-pressure wash equipment
Hoses	

Any equipment that had been used for dangerous waste handling but is not required for closure (such as forklifts, hand trucks, and shovels) will be decontaminated with hot water using a high-pressure hose, steam cleaning, and detergent solutions. This equipment will be decontaminated in Area 5. Wastewaters and rinsates will be discharged to the onsite wastewater treatment system and tested before final discharge to the POTW.

3. Each surface area that shows visual signs of past spillage will undergo a preliminary cleaning at least 1 foot in all directions beyond visual evidence of the visually

contaminated area. A heavy-duty cleaning solution will be applied to the surface area with a stiff broom, scrub brush, or similar tool. Washwaters and rinsates generated during this process will be discharged into the onsite wastewater treatment system and tested before final discharge to the POTW.

4. The concrete floors, lower wall portions, ramps, and loading dock will be washed and then decontaminated by steam cleaning. These areas will be washed twice with a detergent cleaning solution of trisodium phosphate (TSP) and then steam rinsed with plain water. Washwaters and rinsate will be discharged to the onsite wastewater treatment system and tested before final discharge to the POTW.

   Prior to any steam cleaning of open surfaces, plastic sheeting or other moisture barrier will be placed around the outside perimeter of the work area to contain possible overspray. The plastic sheeting or other barrier will be disposed of as solid waste following decontamination.

5. Containment sumps will be decontaminated following decontamination of adjacent surfaces. The containment sumps will be decontaminated by steam cleaning with a detergent cleaning solution of TSP. Washwaters and rinsate will be discharged to the onsite wastewater treatment system and tested before final discharge to the POTW.

6. Equipment used in sampling during closure activities will also be decontaminated according to the procedures outlined in the closure plan and the SAP. Portable equipment decontamination will be performed in Area 5.

If closure performance standards cannot be met using steam cleaning and pressure washing, extraction technologies provided in 40 CFR 268.45 will be used to remove the outer most layer (0.6 cm) of the concrete surface in question. A shot blasting or spalling process is one approach that will be considered. A chemical extraction process will be used on non-concrete tank surfaces.

If abrasion or chemical methods are also unsuccessful in meeting the performance standards, concrete, metal, and polyethylene surfaces from the facility will be removed and disposed of properly. The concrete surfaces will be broken into manageable-sized pieces using an impact hammer, pug mill, or other equipment. Metal and polyethylene will be cut and dismantled as necessary. Steel reinforcing rods imbedded in the concrete will be cut as necessary. The rubble and associated soils will be removed using a backhoe or other excavation equipment. This debris will be loaded and hauled to an approved offsite TSDF following proper manifesting and transportation labeling requirements. Trucks will be lined and covered prior to leaving the site to prevent release of materials en route. Any necessary notification of or approvals from local health jurisdictions will be made or obtained prior to transport.

Decontamination Solutions

During the decontamination of structures and equipment associated with the NWES facility, a combination of cleaning solutions and decontamination techniques that have the capability of removing a variety of possible waste constituents will be used. Selection of an appropriate solution will be based on the item to be decontaminated, the past use and spill history of the area to be decontaminated, and the known or suspected level of contamination. A list of the solutions expected to be used for decontamination are presented in Table 5.

Table 5
Typical Heavy-Duty Decontamination Solutions

Tetrasodium ethylenediamine tetraacetate	1 to 2 percent
Sodium tripolyphosphate	1 to 3 percent
Trisodium phosphate (TSP) (anhydrous)	1 to 3 percent
"Solar"[a] TE (or similar product)	5 to 20 percent
"Solar"[a] NP (or similar product)	0.5 to 5 percent
Ethylene glycol monobutyl ether	3 to 8 percent
"Solar"[a] S-2552	1 to 5 percent
"Believe" [b]	5 to 20 percent
Water	Balance

[a] Swift & Company
[b] SL Johnson and Son

Each constituent in the formulation has a specific function:

- Tetrasodium ethylenediamine tetraacetate is a chelant, which dissolves transition metal compounds including lead, nickel, copper, and mercury, so that they can be removed from the equipment.

- Sodium tripolyphosphate and TSP help prevent the precipitation of calcium and magnesium from the alkaline solution and act as buffers in the alkaline pH range.

- The remaining constituents, "Solar" products and ethylene glycol monobutyl ether, act as surfactants and organic coupling agents to emulsify and stabilize solvents, oils, and other organics. Such solutions are typically diluted with water in the ratio of 1:10 to 1:25.

The standard industrial washing solution that will be used is TSP. This material is commonly used in industrial cleaning applications and is typically mixed at a ratio of 1 pound per every 10 gallons of water. The solution can be sprayed at room temperature with a pressure washer or

at high temperatures with a steam cleaner. If found to be necessary to accomplish decontamination, a heavy-duty cleaning solution will be selected from available commercial products or formulated specifically for use at the facility.

5.0 Performance Standard Verification

This section addresses the sampling and analyses that will be conducted for closure performance standard verification. The detailed approach, rationale and description of field procedures are presented in the field sampling and analysis plan (SAP) (Appendix A). The SAP describes the specific methodologies to be used in collecting and analyzing samples from the facility. It also includes descriptions of the QA/QC measures to be used during sampling. The SAP will be used in conjunction with a site health and safety plan.

5.1 Sampling Objectives

The objective of the sampling and analysis plan is to collect data after decontamination is complete, that can be used to assess whether the facility surfaces in a given management area contain residual contamination at levels that exceed the closure performance standards. Based on this assessment, decisions will be made on appropriate methods for managing the closed facility or closure debris and whether additional actions are appropriate.

5.2 Selection of Sampling Sites

Section A2 of the SAP provides the approach to be used for the selection of sample locations and the quantity of samples to be collected during closure.

5.3 Sampling and Analysis Procedures

It is anticipated that the following media will be sampled during onsite closure:

- Washwater and rinsate generated during decontamination activities
- Concrete surfaces and containment sumps
- Soils

The sampling and analysis procedures and material disposition for these items are discussed individually in the following subsections. A summary of media disposition procedures is presented in Table 6.

Washwater and Rinsate Generated During Decontamination Activities

Washwater and rinsate generated during decontamination activities will be collected and tested. Fluids from different decontamination areas will not be mixed until the analytical results have been evaluated and they indicate that it is appropriate to do so.

Table 6
Contaminated Media Disposition

Sampled Media or Material	Analysis Result	Action
Washwater and rinsate solutions	See "Action"	Solutions will be analyzed for parameters necessary to assess the capability for treatment in onsite wastewater treatment system and subsequent discharge to the Metro POTW under a permit variance. Otherwise, solutions will be managed as dangerous waste; treated or disposed at an offsite TSDF
Concrete surfaces, asphalt, soil	Exceeds CPS [a] - Designated DW - Non-DW	Material will be managed as dangerous waste; treated or disposed in an offsite permitted TSDF. Material will be treated or disposed in a sanitary landfill following the preparation of a disposal plan and receipt of health department approval.

[a] Closure performance standard (CPS): depending on waste constituent, CPS will be health-based (MTCA), background, or PQL; refer to Section 4.0.

Note: Media contaminated with listed wastes are subject to land disposal restrictions (40 CFR 268) and associated management requirements.

DW: Dangerous Waste
PQL: Practical Quantitation Level
TSDF: Treatment, Storage, and Disposal Facility

Concrete Surfaces and Containment Sumps

The concrete surfaces of containment sumps, load/unload areas, and tank storage areas will be sampled according to the SAP. Concrete sampling will be accomplished by collecting chips from the surface to a depth of 1/2 inch of the structure or by collecting a core sample per the SAP.

Soils

Random and biased soil samples will be collected from several of the facility areas per the SAP. Soil samples will be obtained from the point where the concrete and soil interface.

5.4 Comparison of Analytical Results to Closure Performance Standard

For concrete surfaces, containment sumps, and other surfaces, the results of post decontamination sampling and analysis will be used to determine whether the closure performance standards described have been met. If analysis results of a containment system indicate that contaminant levels are below the closure performance standards, no additional decontamination will be conducted.

5.5 Quality Assurance/Quality Control

All data submitted to Ecology will be generated by an accredited analytical laboratory in accordance with SW-846 and/or CLP requirements. The SAP addresses the necessary QA/QC activities associated with closure. They include the following:

- Project description
- Project organization and responsibilities
- QA objectives for measurement
- Sampling procedures
- Sample custody
- Calibration procedures
- Analytical procedures
- Data reduction, validation, and reporting
- Internal quality control
- Performance and systems audits
- Preventive maintenance
- Data precision, accuracy, and completeness
- Corrective actions

5.6 Analytical Methods

Samples will be analyzed by one or more Ecology-certified laboratories using Ecology- and EPA-approved methods to determine whether performance standards have been met. The types of dangerous wastes handled at the NWES facility include:

- Acids
- Caustics
- Solvents
- Paints
- Metal-finishing solutions
- Petroleum products

The parameters of concern and associated analytical methods for these wastes are summarized in Table A-3 of Appendix A. The parameters of concern are also listed in Table 2 of this closure plan.

6.0 Inspections

Closure activities will be reviewed by an independent registered P.E. to assess whether they have been conducted in accordance with this plan. The key closure activities warranting inspection are described in Table 7.

If the P.E.'s observations indicate that closure is not being conducted in accordance with the approved closure plan, suggestions to bring the activities into accordance with the plan will be made. The observations will provide the basis for the engineer's certification of closure.

Table 7
Key Closure Activities Warranting Inspection

Closure Step	Inspection Intervals	Activity
1. Inventory removal	Initial inspection Final inspection	• First day wastes removed • When all containers are gone
2. Bulk tank decontamination	Initial inspection Intermediate inspection Final inspection	• First day tanks rinsed • Day rinsate sampled • Review of analytical data
3. Surface cleaning	Initial inspection Intermediate inspection Final inspection	• First day surfaces cleaned • Day rinsate sampled • Review of analytical data
4. Sampling	Initial inspection Intermediate inspections Final inspection	• First day of sampling • Day rinsate sampled • First day concrete sampled • Review of analytical data

7.0 Certification of Closure

Within 60 days of completion of final closure, a representative of NWES will submit a certification signed by an authorized NWES representative and the P.E. that states that the dangerous waste container and tank storage and treatment facility has been closed in accordance with this closure plan. Documentation supporting the P.E.'s certification will be maintained on file at the facility and will be furnished to the regulatory agencies upon request until NWES is released from the financial assurance requirements for closure.

8.0 Notice in Deed

NWES is a storage and treatment facility only. No intentional disposal has occurred onsite. For the clean closure of the Western Blower Property NWES is not required to submit a notice in deed.

9.0 Post Closure Care Requirements

No post-closure care for the Western Blower Property is anticipated by NWES as they are proceeding with clean closure.

10.0 Financial Requirements

10.1 Facility Closure Cost Estimate

A cost estimate has been prepared for the closure activities described in this interim status closure plan. Table 8 presents an estimated cost for the elements required to close the portion of the NWES facility known as the Western Blower Property. This is an order-of-magnitude cost estimate. As defined by the American Association of Cost Engineers, this is an estimate produced without the aid of detailed engineering data and is projected to have an accuracy of +50 percent to -30 percent. Therefore, a contingency of 10 percent has been added to this estimated cost.

10.2 Financial Assurance

NWES has selected a letter of credit as its financial assurance for closure of the facility. A signed copy of the financial assurance documentation will be sent to Ecology by certified mail after final approval of the closure plan.

Table 8
Closure Cost Estimate

Task	Quantity	Unit	Unit Price	Total
RCRA Interim Status Tanks				
1. Removal of final waste inventory based on maximum storage tank quantities and Drum storage				
• Completed prior to closure.				$0
2. Decontamination of processing tanks, piping, pumps and liners.				
a. Washing labor	2	hours	$35	$70
b. Disposal of wash water - 1 tank @ 500 gallons/tank=	200	gallons	$0.75	$150
c. Disposal cost of spill control pillows (2 drums since piping is minimal)	1	lump sum	$200	$200
Cost of new drums	1	lump sum	$50	$50
d. Dismantling of 1 tank	4	hours	$35	$140
Subtotal of RCRA Interim Status Tanks				**$610**
Containers - Staging and Loading Dock				
1. Removal of Final Waste Inventory				
• Completed prior to closure.				$0
2. Labor to Load Flatbed at NWES				
• Completed prior to closure.				$0
3. Disposal of Decontamination Water				
a. Labor	8	hours	$35	$280
b. Disposal of wash water	200	gallons	$0.25	$50
Subtotal of Containers				**$330**
Decontamination of Equipment				
1. Rental of Steam Cleaner	1	days	$75	$75
2. Disposal of Decontamination Residues (Previously figured into volumes generated)	0		$0	$0
Subtotal of Decontamination of Equipment				**$75**
Soil Sampling and Analysis				
1. Labor to Pull Representative Samples	40	hours	$55	$2,200
2. Analysis Costs - Appendix 1X	7	per	$3,500	$24,500
Subtotal of Soil Sampling and Analysis				**$26,700**
Closure Certification				
1. Labor (professional engineer)	8	hours	$85	$680
Subtotal of Closure Certification				**$680**
SUBTOTAL				
1. Subtotal				$28,395
2. Plus 10% Contingencies				$2,840
3. Supervision by NWES Personnel - 120 days closure period	40	hours	$17.50	$700
TOTAL CLOSURE COST				**$31,935**

Appendix A
Field Sampling and Analysis Plan in Support of Closure for the NWES Western Blower Property

Revision #2—July 24, 1995

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A1. Introduction

During RCRA interim status closure of the Northwest EnviroService (NWES) Airport Way facility, portions of the facility will proceed through the Washington State Department of Ecology (Ecology) clean closure process. Samples need to be collected to assure closure is completed accordingly. For clean closure, samples need to be collected from the affected media to show that the closure performance standard has been met.

For clean closure, as defined in Section 3 of the Closure Plan, NWES proposes to meet the Method B soil cleanup levels established under MTCA (WAC 173-340) for environmental media, which are based on the protection of human health and the environment. These cleanup levels have been adopted by the Dangerous Waste Regulations. If no health-based limit exists or insufficient toxicity data are available to calculate a health-based limit, the background level or the PQL (whichever is greater) will be used.

A2. Sampling Approach and Rationale

A2.1 Summary

The closure plan requires that samples be collected during closure. The sample analysis results will be compared to the performance standards to verify that clean closure has been achieved. This section summarizes the basis for developing the closure sampling approach. As discussed in the closure plan, materials to be sampled during closure include the following:

- Washwater and rinsate generated during closure decontamination activities
- Concrete surfaces and containment sumps
- Soils

The collection of samples for washwater rinsate will follow systematic, random grab sampling procedures. These sampling procedures are described in Section A3.

Two approaches will be used to collect concrete and soil samples: random samples distributed over a systematic grid and biased samples where there is obvious evidence of contamination (e.g., staining). A summary of these sampling approaches is presented in Sections A2.2 and A2.3. Sampling procedures are described in Section A3.

A2.2 Sampling Approach and Sample Size

A2.2.1 Washwaters

Because the volume of washwater rinsate generated during closure cannot be accurately estimated, a sampling strategy based on systematic, random sampling will be conducted at the time of closure. Rinse waters and decontamination fluids will be accumulated by process area before they are discharged to Metro. Grab samples from drums will be composited. No more than ten drums will be composited at a time. Grab samples from tanker trucks will not be composited. The results will be compared to Metro's discharge limits before discharge to the facility. The precise numbers and locations of samples will depend upon the number of rinsate drums at the time of closure. These numbers and locations will be documented in the field logbook.

A2.2.2 Concrete Surfaces

Concrete chips will be collected from the loading dock in Area 12.

A2.2.3 Subsurface Soils

Randomly selected soil samples will be collected from several of NWES' operation areas. Random soil sampling will follow a nonparametric approach that permits probabilistic conclusions.

This generates a sample size (n) of three samples per process area. The number of samples collected within an area is independent of the area's size, and the maximum concentration encountered is the value compared to the performance standard to assess closure status.

In order to achieve even spatial distribution within an area, sampling locations will be spaced systematically using a random starting point and an evenly spaced interval. The grid spacing is based on:

where:

$$Grid\ spacing = \sqrt{(\frac{A}{n})}$$

A = surface area
n = sample size

A2.3 Biased Sampling Approach

Several sumps and other process areas have been selected as biased sampling locations. Visual observations, staff knowledge and a review of past repair records maintained during the operating life of the facility were used to select biased sampling locations. A summary of the visual concrete inspection will be included in the field logbook.

Figure A-1 shows each area with the designated sample locations. Table A-1 presents the proposed chemical analyses for each area by sample media.

A2.4 Interpretation of Sampling Results

The decisions regarding the presence or absence of contamination at the NWES facility will be based on comparison of the analytical results with the performance standards for clean closure. If all samples meet the performance standard criteria for each constituent, the surface or the underlying area will be considered clean. If sample analysis results indicate the presence of subsurface contamination above the performance standard, additional analyses may be required to define the spatial extent and location of contamination and to establish a basis for cleanup during closure.

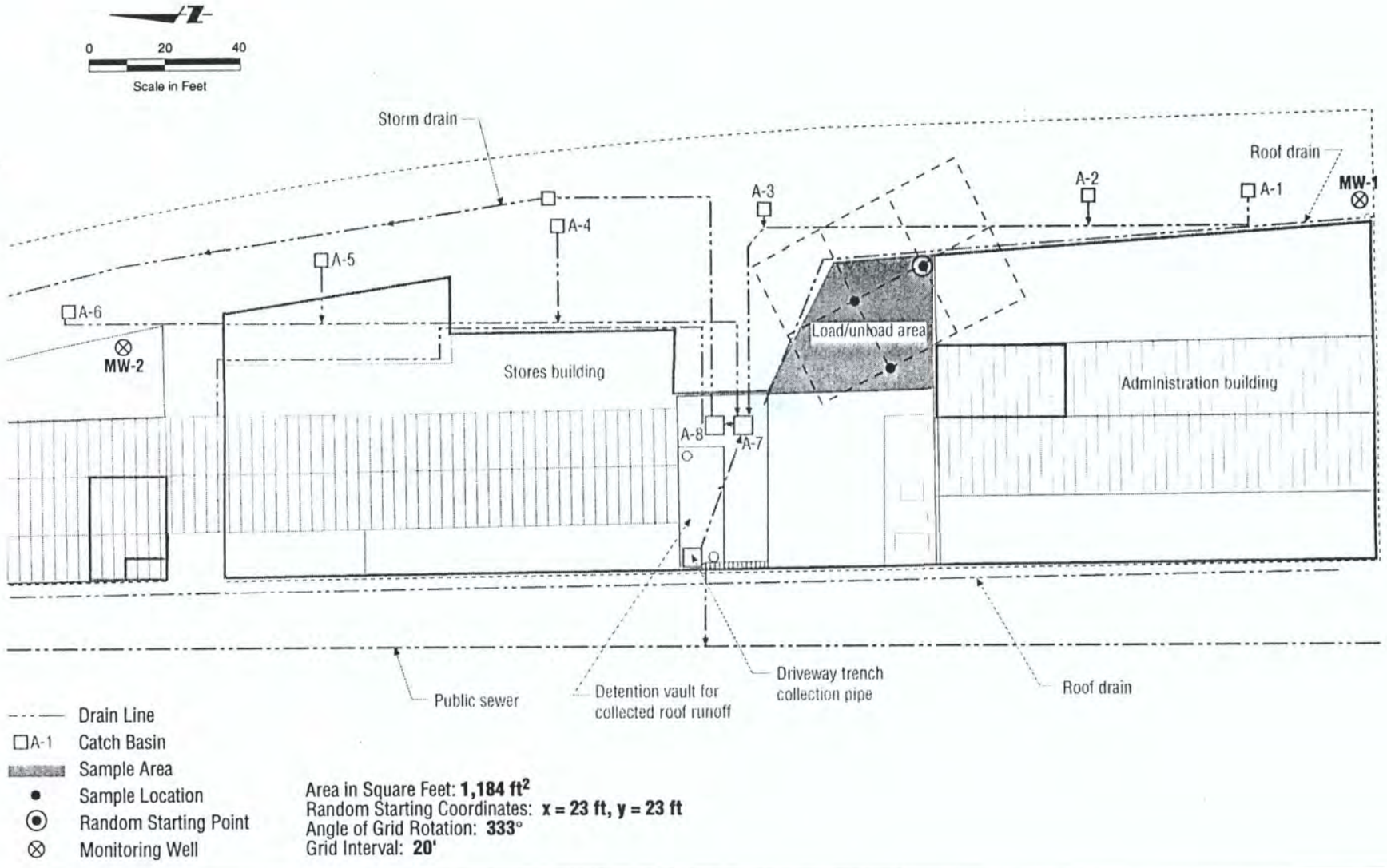


Figure A-1

Area 12 – Administration and Stores Buildings Area Sample Locations
Area 11 – Solids Energy Recovery Program Area Sample Locations

Table A-1 Summary of Sampling and Analysis				
11	Decontamination water	1 grab sample per 10 drums or 1 grab sample per tank or 1 per tanker truck	Parameters per METRO discharge permit	SW-846: 8240, 8270, 8080, 6010/7000, 9010, 9030, 8140, 8150
	Soil	2 samples	Appendix IX constituents	
12	Decontamination water	1 grab sample per 10 drums or 1 grab sample per tank or 1 per tanker truck	Parameters per METRO discharge permit	SW-846: 8240, 8270, 8080, 6010/7000, 9010, 9030, 8150, 8140
	Soil Concrete	2 samples 2 samples	Appendix IX constituents	

A3. Sampling Procedures

This section describes the procedures that NWES and contractor field personnel will use to conduct sampling, decontaminate sampling tools, label and package samples and maintain sampling records. Washwater, rinsate, and concrete sampling procedures are detailed in the following subsections and summarized in Table A-2.

A3.1 Washwater and Rinsate Generated During Decontamination

Washwater and rinsate generated during closure decontamination activities will be collected in drums or possibly in a tanker truck. Samples will be collected per the procedures outlined in Table A-1 and analyzed by the NWES laboratory, which is certified by Ecology for the required Metro discharge parameters. Fluids from different sources will not be mixed until the analytical results have been received and evaluated by NWES. After the washwater is tested, it will be discharged to NWES's wastewater treatment plant for discharge to Metro or will be sent offsite for appropriate disposal.

All drums containing washwater and rinsate generated during decontamination will be labeled with the following information:

- Process area
- Source
- Date generated
- Percent solids/liquids

Drums will be marked "hold for analysis" pending laboratory analysis. Tanker trucks will be sampled before they are emptied.

A3.2 Concrete Surfaces and Containment Sumps

Samples of concrete surfaces, including containment and sump systems, will be collected after they are decontaminated. Sampling will be accomplished by collecting concrete chips from the base of the structure to a depth of 0.6 cm. The samples to be analyzed will pass through a No. 4 sieve. In some cases, as noted in Table A-1, a core sample through the concrete will need to be collected.

Table A-2 Washwater Rinsate, and Concrete Sampling Procedures	
Media	**Sampling Procedure**
Decontamination washwater and rinsate	1. Positively identify the drum in question as a washwater or rinsate drum. Under no circumstances should any **unmarked** drums be opened by sampling personnel. 2. Carefully remove the drum bung. Splash and eye protection should be worn by sampling personnel. 3. Collect a representative sample of the drum contents using a drum thief. 4. Replace drum bung.
Concrete surfaces, sumps, and other structures	1. Select an area at the base of the concrete structure that appears to be stained. If no stained area is present, select a representative portion of the structure. 2. Collect concrete chips from the selected area using a ballpeen hammer and a cold chisel. 3. Break the concrete chips down to a size that will pass through a No. 4 sieve (3/16 inch) using the hammer and chisel. 4. Collect concrete chips into an 8-ounce glass jar with a Teflon-lined lid.
Subsurface Soil	1. Remove the concrete above the sample point by coring. 2. Use a stainless steel spoon to collect soil at the concrete/soil interface. 3. Collect the sample into an 8-ounce glass jar with a Teflon-lined lid.

A3.3 Subsurface Soils

The soil underlying several facility areas will be sampled to determine whether contamination has been caused by facility operations. Soils will be sampled through the hole bored in the overlying concrete. Soil samples will be obtained from the point where the concrete and soil interface.

If soils are removed as part of a cleanup operation, verification samples will be collected and analyzed to verify that residual chemical constituents in soils remaining after excavation are below the cleanup performance standard. Samples will be collected around the side walls and bottom of the excavation if possible. If the area is inaccessible, samples will be collected directly from the equipment excavation the soil (the bucket will be steam-cleaned before initial sampling).

A3.4 Sampling Tool Decontamination

All sampling tools that come in contact with sampling media, either for identification or verification sampling, will be properly decontaminated prior to use at the facility and between sampling locations or depth intervals. Hand tools will be decontaminated per the following minimum decontamination procedural steps:

1. Liquinox and tap-water wash
2. Tap-water rinse
3. Distilled/deionized water rinse
4. Isopropyl alcohol rinse
5. Distilled/deionized water rinse

If hand tools will not be used immediately, they will be wrapped in aluminum foil to prevent contamination until the time of use. Any drilling equipment used for sampling will be steam-cleaned before drilling begins and between drilling at each sample station.

If the analytical results indicate that performance standards have not been met as determined by NWES, a decision will be made either to decontaminate again using the same method or a more aggressive method (see Section 4.3 of the closure plan) or to cease the decontamination process and properly dispose of the material as summarized in Table 6 of the closure plan.

A3.5 Sample Containers, Preservation, and Holding Times

Table A-3 in Section A4, Methods of Analysis, presents the sample containers, preservation requirements, and holding times.

A3.6 Documentation and Field Observation

A3.6.1 Sample Identification and Labeling

All samples will be appropriately labeled for identification and tracking. Sample labels will be completed using waterproof-ink pens and affixed to containers at the time of sampling. The sample designation number will include identifiers that facilitate sample tracking. The sample designation number will contain, at a minimum, the following identifiers.

- A__ = Area (number)
- Sample media:
  - W = washwater
  - C = concrete
  - S = soil
- Sample number (three digits beginning with 001)

For example, the first concrete sample collected in Area 12 would be designated as A12-C-001.

Additional information included on the sample label will be the date and time the sample was collected, the analytical parameter(s), and the name(s) of personnel collecting the sample.

A3.6.2 Field Logbooks

The sampling team leader will maintain a field logbook that contains all information pertinent to the field sampling plan. The logbook will include at a minimum:

- Project name
- Project number
- Personnel
- Weather conditions
- Equipment calibration and decontamination
- Health and safety monitoring
- Photograph log (if photographs are taken)
- Sample data
  - Process area and location of sample
  - Date of sample collection
  - Time of sample collection
  - Type of samples taken
  - Sample identification numbers

- Sampling method
- Personnel decontamination procedures

All members of the field team will use the notebook, make entries in ink, then initial and date each page.

A3.6.3 Corrections to Documentation

Unless prohibited by weather conditions, all entries in field and laboratory notebooks will be written in waterproof ink. No accountable serialized documents will be destroyed or thrown away, even when they are illegible or contain inaccuracies that require a replacement document. When an error is made on an accountable document, the person who made the error will make the correction by crossing a line through the error and entering the correct information. The erroneous information should not be obliterated. Any subsequent error discovered on an accountable document should be corrected by the person who made the entry. All corrections will be initialed and dated.

A3.6.4 Sample Chain of Custody and Shipment

The management of samples collected in the field involves specific procedures that must be followed to ensure field sample integrity and custody. The possession of samples must be traceable from the time they are collected through the time they are analyzed by the contract laboratory.

The chain of custody of a sample is defined by the following criteria:

- The sample is in a person's possession, or is in his/her view after being in his/her possession.

- The sample was in a person's possession and was locked up or transferred to a designated secure area by him/her.

Each time the samples change hands, both the sender and receiver will sign and date a chain-of-custody form and specify which item(s) has changed hands. When a sample shipment is sent to the laboratory, the top signature copy is enclosed in plastic with the sample documentation and secured to the inside of the sample shipment containers. The second copy of the chain-of-custody form will be retained in the project files. A chain-of-custody record will be completed for each shipping container.

The following information is included on the chain-of-custody form:

- Sample number
- Signature of sampler

- Date and time of collection
- Project name and number
- Type of sample
- Number and type of container
- Inclusive dates of possession
- Signature of receiver

In addition to the labels, seals, and chain-of-custody form, other sample tracking components include the field logbook, sample request sheet, sample shipment receipt, and laboratory logbook. Before packaging samples, field personnel will make certain that the exterior of the sample container is clean and that the sample label is legible.

A3.6.5 Sample Packaging

The sample packaging and shipping containers will be assembled and packed to meet the following requirements:

- There will be no release of materials to the environment.
- Inner containers that are breakable must be packaged to prevent breakage and leakage. Completed packages must be capable of withstanding a 4-foot drop on solid concrete in the position most likely to cause damage. The cushioning and absorbent material must not be reactive with the sample contents.

The packaging procedures will be in compliance with all U.S. Department of Transportation and commercial carrier regulations. Only waterproof ice chests or coolers will be considered acceptable shipping containers.

Samples for shipment will be packed using the following procedure:

- Seal the drain plug in the cooler.
- Place vermiculite or Styrofoam peanuts in the bottom of the container.
- Wrap glass bottles with bubble wrap or Styrofoam wrapping; place them inside Ziploc-type plastic bags and then place them in the cooler.
- Add ice in double-bagged Ziploc-type plastic bags.
- Fill with vermiculite, Styrofoam peanuts, or bubble wrap.
- Place the shipping list chain-of-custody form in a plastic bag attached to the inside of the cooler lid.

- Attach two chain-of-custody seals (front and back of container) so that the seals must be broken if the cooler is opened.

- Place the name and address of the receiving laboratory in a position clearly visible on the outside of the cooler.

- Secure the lid with fiber tape.

All shipments for analysis will be transported directly to the laboratory or shipped to the laboratory via overnight courier. In either case, the laboratory will be notified immediately when samples are shipped.

A3.7 Field Quality Assurance/Quality Control Samples

Samples will be placed in new sample bottles supplied by the laboratory contracted to do the analyses. The samples will be placed in a cooler immediately after collection and maintained at approximately 4°C with ice.

Three types of field QA/QC samples are collected to document the accuracy and representativeness of the sample aliquots: field duplicate samples, equipment blank samples, and trip blank samples.

A3.7.1 Field Duplicate Samples

Field duplicate samples will be collected at a minimum of 10 percent of the sampling locations for each analytical method, including at least one sample per method. A field duplicate is obtained by collecting an additional set of bottle aliquots, at the same time, and with the same procedures as those used to collect the original sample. Field duplicate samples will be identified with the sample location number designation. For example, a field duplicate of the sample mentioned in Section A3.6.1, Sample Identification and Labeling, would be A12-C-002.

A3.7.2 Equipment Blank Samples

Equipment blank samples are organic-free water aliquots that are placed in contact with non-dedicated sampling equipment (e.g., split-spoons) after the equipment has been decontaminated using the proper decontamination procedures outlined in the sampling plan. The results from these samples are used to evaluate the integrity of the decontamination process, and to alert the field manager of possible cross-contamination of samples. A minimum of one equipment blank sample per day will be collected where non-dedicated sampling equipment is used. Equipment blanks will be identified with a letter designation with a sample location number, e.g., A12-C-003-EB. The sample location number will be the last location where the piece of equipment was used.

A3.7.3 Trip Blank Samples

Trip blank samples are also organic-free aliquots used to evaluate possible cross-contamination of samples that may occur at any time during the sample bottle handling history. The trip blank usually originates at the contract laboratory and accompanies delivery of the sample bottles to the facility. Trip blank bottles and sample analyses are usually limited to 40-ml VOAs and volatile organic analyses. Usually, one trip blank is sent for each sampling event conducted. The trip blank will be identified with the sample number A12-W-100.

A4. Methods of Analysis

For each process area at the facility undergoing RCRA interim status closure, the parameters of concern have been identified by Ecology as those constituents identified in 40 CFR 264 Appendix IX. These parameters serve as the basis for assigning analytical laboratory procedures.

For each parameter group, analytical methods are selected in accordance with Ecology's sampling and testing method requirements (WAC 173-303-110) and EPA's laboratory manual, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846). Table A-3 provides a summary of the sample handling requirements based on the analytical methods.

Table A-3
Sample Parameters, Analytical Methods, Containers, Sample Preservation, and Holding Times

Sample Parameter	EPA Method	Container	Preservation	Holding Time
Appendix IX Analyses				
Volatile Organics	8240 (SW-846)	One 4-ounce glass Teflon-lined lid	4°C	14 days
Semivolatile Organics	8250 or 8270 (SW-846)	One 8-ounce glass Teflon-lined lid	4°C	7 days for extraction, 40 days after for analysis
Metals	6010 (SW-846)		4°C	6 months Hg, 28 days CN, 14 days
Chlorinated pesticides/PCBs	8080 (SW-846)	One 4-ounce glass Teflon-lined lid	4°C	14 days until extraction 40 days after for analysis
Total Cyanide	9010 (SW-846)	One 8-ounce glass Teflon-lined lid	4°C	NA
Organophosphorus Pesticides	8140	One 4-ounce glass Teflon-lined lid	4°C	14 days until extraction 40 days after for analysis
Chlorinated Herbicides	8150	One 4-ounce glass Teflon-lined lid	4°C	14 days until extraction 40 days after for analysis
Sulfide	9030	One 4-ounce plastic	4°C	NA
Other Analyses				
Total Petroleum and Fuel Hydrocarbons (TPH)	WTPH 418.1[a] WTPH-D WTPH-G		4°C	1 month

[a] Ecology - required and recommended analyses for petroleum substances (April 1992).

A5. Management of Sampling-Derived Waste

Disposable materials generated during the sampling activities (Tyvek, booties, gloves, etc.) will be handled in a manner consistent with the protocols set forth by NWES personnel. The contents should be labeled on the side of the drum and stored onsite. They will be stored onsite for a period of less than 90 days in designated waste accumulation areas. Handling, shipment, and disposal will be commensurate with the analysis results and WAC 173-303 requirements.

Drums will be marked "hold for analysis" if laboratory analysis is being performed. They will be stored onsite for less than 90 days in designated waste accumulation areas. Handling, shipment, and disposal will be commensurate with the analysis results and WAC 173-303 requirements as well as with any protocol set forth by NWES personnel.

A6. References

U.S. Environmental Protection Agency. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* USEPA SW-846, Third Edition. 1986.

U.S. Environmental Protection Agency. *Statistical Methods for Evaluating the Attainment of Superfund Cleanup Standards.* Volume 1, Soils and Solids Media. 1988.

Conover, W. J. *Practical Nonparametric Statistics*, 2nd edition. New York: John Wiley & Sons. 1980.

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Northwest EnviroService Inc.

Western Blower Property

RCRA Closure Sampling Results

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Northwest EnviroService Inc.
Western Blower Property
RCRA Closure Sampling Results

Introduction

From 1987 until 1995, Northwest EnviroService Inc. (NWES) operated a hazardous waste treatment and storage facility whose operations were regulated by the Washington State Department of Ecology (Ecology) under the Resource Conservation and Recovery Act (RCRA). NWES discontinued its hazardous waste operations in February 1995. Currently, NWES is proceeding with RCRA closure of the facility. This report summarizes the sampling results conducted in support of closure for that portion of the NWES facility known as the Western Blower property, located at 1700 Airport Way South.

Operations Conducted on the Western Blower Property

Hazardous waste operations have not been conducted on the Western Blower property since 1995. The Western Blower property encompasses former NWES operational areas 11 and 12. Areas 11 and 12 were covered with concrete pavement before NWES commenced operations in 1987. The pavement was routinely inspected and repaired (i.e., crack sealing). Care of the pavement, combined with spill prevention practices reduced the likelihood of any contaminated release to subpavement soils.

The RCRA regulated activities that historically have occurred in Areas 11 and 12 are described below:

- Blending of paint and paint-related wastes was conducted in Area 11. These activities were performed in compliance with the Dangerous Waste Regulations recycling exemptions (WAC 173-303). These wastes were processed and pumped to a dedicated tank located within the South Tank farm on the NWES property adjacent to the Western Blower property or repackaged and stored on the adjacent NWES property. All the paint related wastes were shipped offsite to a permitted energy recovery facility or to a permitted disposal facility.
- A solids energy recovery program also occurred in Area 11. F-listed solvent rags were received by NWES as solid wastes. The rags were compacted in a rag baler and then shipped to an offsite incinerator. The liquids collected from the compactor were transferred to the dedicated tank located within the South Tank Farm for later shipment to the offsite energy recovery facility.
- Area 11 was also the location where aerosol cans were depressurized. Empty cans were punctured. Gas residues were collected in activated carbon filters and liquids were transferred to a tank located within the South Tank Farm for offsite energy recovery.

- Administrative and warehousing activities were conducted in Area 12. Sealed, containerized wastes were unloaded from trucks at the load/unload dock and transported to the adjacent NWES property for processing.

Soil and Concrete Sample Collection - Field Sampling and Analytical Methods

Samples were collected to determine if NWES operations on the Western Blower property impacted the environment. Three concrete samples were collected from the loading dock surface and four soil samples were collected from beneath the driveway in Areas 11 and 12 on January 23 and 25, 1996. Sampling procedures were conducted according to Appendix A, Field Sampling and Analysis Plan of the draft *NWES Interim Status Closure Plan, July, 1995.*

As agreed with Ecology and US EPA Region 10, the samples were analyzed for 40 CFR 264, Appendix IX compounds that have comparable Model Toxics Control Act (MTCA) Method B soil cleanup levels (CULs) and were associated with NWES operations. A total of 172 chemical constituents were analyzed for including:

- volatile organic compounds
- semivolatile organic compounds
- pesticides /PCBs
- organophosphorous pesticides
- sulfide
- TPH
- dioxins
- metals and cyanide

Because total petroleum hydrocarbons (TPH) are not either Method B or Appendix IX compound MTCA Method A soils cleanup levels were used for comparison. Table A-1 in Appendix A lists these compounds by analytical group. Table A-2 in Appendix A summarizes all of the detected compounds. Appendix B contains the analytical data quality assurance/quality control summary, and Appendix C contains the Laboratory Data Reports.

Out of all the compounds tested for, only six constituents were detected at levels exceeding their respective cleanup levels. This included:

One semivolatile compound (benzo(a)pyrene), four inorganic compounds (arsenic, beryllium, cadmium, and lead), and TPH were detected at concentrations above their respective MTCA Method B CUL. Table 1 presents these results. A discussion of these results and their significance follows:

Table 1
Western Blower Sampling Results - MTCA Method B Soil CULs Exceedance

Sample ID	Chemical Group	Parameter	MTCA Method B Soil Cleanup Level (mg/kg)	NWES Sample Concentration (mg/kg)	Lab Qualifier
A11-S001	Inorganics	ARSENIC	1.667	7.800	
A11-S001	Inorganics	LEAD	250	315	N*J
A11-S001	Semivolatiles	BENZO(a)PYRENE	0.137	0.33	J
A11-S001	TPH	TPH	200*	580	
A11-S002	Inorganics	ARSENIC	1.667	5.3	
A11-S-002	Inorganics	BERYLLIUM	0.233	0.27	B
A12-C-001	Inorganics	ARSENIC	1.667	7	B
A12-C-001	Inorganics	BERYLLIUM	0.233	0.28	B
A12-C-001	TPH	TPH	200	410	J
A12-C-002	Inorganics	ARSENIC	1.667	6.2	BJ
A12-C-002	Inorganics	BERYLLIUM	0.233	0.31	BJ
A12-C-002	Inorganics	CADMIUM	80	200	J
A12-C-002	TPH	TPH	200	1100	J
A12-C-003	Inorganics	ARSENIC	1.667	15.3	
A12-C-003	Inorganics	BERYLLIUM	0.233	0.26	B
A12-C-003	TPH	TPH	200	550	
A12-S-001	Inorganics	ARSENIC	1.667	6	
A12-S-001	Semivolatiles	BENZO(A)PYRENE	0.137	0.15	J
A12-S-002	Inorganics	ARSENIC	1.667	4.7	J
A12-S-002	TPH	TPH	200	350	J

*Value listed is for MTCA Method A CUL for Diesel.

Organic Compounds

Benzo(a)pyrene. Two soil samples exceeded the MTCA Method B soil CUL level of 0.137 mg/kg for benzo(a)pyrene: A11-S-001 (0.33 mg/kg) and A12-S-001 (0.15 mg/kg). Both sample concentrations were flagged as estimates by the analytical laboratory because the concentrations were below the analytical reporting limit (see Table B-1 in Appendix B).

Benzo(a)pyrene, a polynuclear aromatic hydrocarbon (PAH) compound, is not associated with past facility treatment operations. Further, there are no recorded spills or releases which would account for its presence at the facility. Consequently, the presence of PAHs is believed to be due to background sources. Benzo(a)pyrene, along with several other PAH compounds have been detected throughout the Puget Sound Region. The presence of PAH compounds in the soil sampled at NWES may be attributable to past industrial activities in the Puget Sound Region or be naturally occurring. The industrial activities include coal shipping or air pollution from coal combustion which was not uncommon in the Puget

Sound Region during the first half of the 20th century. A data review of five industrial facilities located along the Duwamish River found that PAHs were detected in all five sites in both soil and groundwater (CH2M HILL, February 1995).

It is also possible that benzo(a)pyrene detected in the two soil samples may be derived from natural weathering of regional coal-bearing formations, including those that drained into the Duwamish River. The source of fill material on which the Western Blower property is situated has been documented to be characteristic of the land surfaces that align the Duwamish Waterway (NWES RFI Workplan, June 1994).

Total Petroleum Hydrocarbon. TPH was reported in five samples: two soil samples (350 and 580 mg/kg) and three concrete samples (410, 550, and 1100 mg/kg). NWES did not treat oily wastes on the Western Blower property. These detections are also believed to be indicative of background conditions.

While TPH was detected in thesesamples, subsequent analyses for volatiles and semivolatile constituent failed to identify chemical compounds which are typically associated with petroleum products (i.e., naphthalene) above MTCA Method B soils CULs.

Incidental emissions and drips from areas where vehicles routinely operated is a more plausible source of TPH contaminants. The results obtained during this sampling effort are believed to be comparable to any other parking lot or roadway were vehicles are stored or operated. Another possible explanation is that the TPH analytical method 418.1 is known to give false positive results in soils due to interference from naturally occurring organic matter. Based on this information, Ecology has recently recommended that soils not be analyzed by Method 418.1 but instead be analyzed for the individual chemical compounds normally associated with petroleum compounds NWES has completed these analyses and no constituents above MTCA Method B soil CULs were detected.

Inorganic Compounds

Four metals (arsenic, beryllium, cadmium, and lead) were detected above their respective MTCA Method B soil cleanup levels.

Because metals are naturally occurring in soils, it is useful to compare measured concentrations to natural levels Ecology has determined to be acceptable (*Natural Background Soil Metals Concentration in Washington State* Pub. #94-115, 10/94). NWES has evaluated the inorganic compound results in accordance with the following Ecology guidance, "If a Method A, B, or C cleanup level is a lower concentration than natural background, the cleanup level can be established at a concentration equal to the natural background concentration." "If background levels are used as cleanup levels, no single sample should be greater than twice the 90th percentile value and less than 10% of samples should exceed the 90th percentile value" (WAC 173-340-740(7)(e). The 90th percentile is a conservative default value. Ecology anticipates that 10% will exceed this value.

Arsenic

Arsenic was detected in all 7 samples. All soils met Ecology's background criterion. One concrete sample slightly exceeded twice the 90th percentile values (15.3 versus 14.6 mg/kg). All results were below the maximum level reported for natural background levels for the Puget Sound Basin.

Beryllium

Beryllium was detected in 1 soil and 3 concrete samples at concentrations slightly above its respective MTCA Method B soil CUL (0.23 mg/kg). Like arsenic, beryllium is commonly found in the Puget Sound Region. Based on Ecology's survey, the natural background concentration of beryllium in surficial soil in the Puget Sound Basin was found to be 0.6 mg/kg. The concentration reported in the soil at NWES (0.27 mg/kg) is below the conservative 90th percentile value.

Beryllium was found in all three concrete samples in the range of 0.26 to 0.31 mg/kg. The concentrations found in the concrete samples are also below the natural background soils levels established by Ecology for Puget Sound.

Cadmium

One concrete sample exceeded the respective MTCA Method B CUL of 80 mg/kg for cadmium: A12-C-002 (200 mg/kg). Likewise, these levels exceeded the 90th percentile value for cadmium in soil (0.8 mg/kg). Cadmium was not related to facility operations and no known spills have occurred in Area 12 involving cadmium. Further, there was no visible evidence of spills or contamination that might be a source of this detected compound. (It is possible that the metal bit used to collect the concrete sample or the presence of yellow striping paint on the loading dock are sources of these anomalous detections. Both materials contain cadmium.

Lead

The natural background level of lead (90th percentile) found in the Puget Sound Basin is 24 mg/kg with a maximum concentration 207 mg/kg. Lead was detected in one NWES soil sample (315 mg/kg) above its MTCA Method A soil CUL (250 mg/kg), and above the reported background value. Lead is not associated with NWES practices. A possible explanation for the presence of lead include natural levels in fill material and/or the very close proximity of the site to Interstate 5 and Airport Way South. The major traffic volumes using these two roadways and the corresponding vehicle emissions which would contain lead is a more likely source than NWES activities. This lead concentration is comparable with lead results obtained by any EPA from three surface soil samples they collected along Airport Way South in July of 1988 (NWES RFI Workplan, June 1994).

Groundwater Sampling

On April 21, 1994, four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4), located at the NWES facility, were sampled. Monitoring wells MW-1 and MW-2 are located on the Western Blower property. MW-3 and 4 are located on the adjacent NWES property. Each groundwater sample was analyzed for 199 chemical compounds from the Appendix IX list.

Manganese was detected in MW-1 and MW-2 samples above the MTCA Method B groundwater cleanup level of 80 µg/l. All other chemical compounds analyzed for in MW-1 and MW-2 were below their respective MTCA Method B groundwater cleanup levels. Ecology has indicated that manganese is a common constituent in soils and groundwater in Western Washington. In a recent publication by Ecology, *Natural Background Soil Metals Concentrations in Washington State* (Ecology, October 1994), manganese in soil was detected

at concentrations ranging from 90 - 2,750 mg/kg. No similar background data is available for manganese in groundwater. Manganese was detected in MW-1 and MW-2 at 570 and 3400 µg/l, respectively.

Conclusion

The only organic compound detected in the NWES samples above its respective closure performance standard is benzo(a)pyrene. Since benzo(a)pyrene was not associated with past plant operations, the presence of this benzo(a)pyrene in the soil is most likely attributable to the natural weathering of regional coal-bearing formations and/or the historical use of coal in regional industrial activities.

Metal analytes that exceeded their respective closure performance standards include cadmium and lead.

The presence of cadmium (one concrete sample) and lead (one soil sample) above their MTCA CULs is believed to be anomalous detections and are also not associated with NWES activities.

TPH is detected in five of the seven samples collected above MTCA Method A CULs. The likely source of these TPH detections is most likely a result of petroleum and residuals ubiguitous throughout developed areas. There is no evidence of petroleum spills or visible product in the area sampled.

This concludes the closure sampling of NWES areas 11 and 12 located on the Western Blower Property. NWES believes that the sampling has demonstrated that the facility has met the Clean Closure Performance Standard as required in 40 CFR 265 Subpart G and WAC 173-303-610.

Appendix A

Analyte List
Detected Compounds

Table A-1 Compounds Analyzed for Western Blower RCRA Closure			
Chemical Group	Parameter	Cas Number	MTCA Method B Soil Cleanup Level (UG/KG)
Volatiles	1,1,1,2-TETRACHLOROETHANE	630-20-6	38461.53846
Volatiles	1,1,1-TRICHLOROETHANE	71-55-6	7200000
Volatiles	1,1,2,2-TETRACHLOROETHANE	79-34-5	5000
Volatiles	1,1,2-TRICHLOROETHANE	79-00-5	17543.85965
Volatiles	1,1-DICHLOROETHANE	75-34-3	8000000
Volatiles	1,1-DICHLOROETHENE	75-35-4	1666.666667
Volatiles	1,2,3-TRICHLOROPROPANE	96-18-4	480000
Volatiles	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	714.2857143
Volatiles	1,2-DIBROMOETHANE	106-93-4	11.76470588
Volatiles	1,2-DICHLOROETHANE	107-06-2	10989.01099
Volatiles	1,2-DICHLOROPROPANE	78-87-5	14705.88235
Volatiles	1,4-DIOXANE	123-91-1	90909.09091
Volatiles	2-BUTANONE	78-93-3	48000000
Volatiles	3-CHLOROPROPENE	107-05-1	4000000
Volatiles	4-METHYL-2-PENTANONE	108-10-1	4000000
Volatiles	ACETONE	67-64-1	8000000
Volatiles	ACETONITRILE	75-05-8	480000
Volatiles	ACROLEIN	107-02-8	1600000
Volatiles	ACRYLONITRILE	107-13-1	1851.851852
Volatiles	BENZENE	71-43-2	34482.75862
Volatiles	BROMODICHLOROMETHANE	75-27-4	16129.03226
Volatiles	BROMOFORM	75-25-2	126582.2785
Volatiles	BROMOMETHANE	74-83-9	112000
Volatiles	CARBON DISULFIDE	75-15-0	8000000
Volatiles	CARBON TETRACHLORIDE	56-23-5	7692.307692
Volatiles	CHLOROBENZENE	108-90-7	1600000
Volatiles	CHLOROFORM	67-66-3	163934.4262
Volatiles	CHLOROMETHANE	74-87-3	76923.07692
Volatiles	CHLOROPRENE	126-99-8	1600000
Volatiles	DIBROMOCHLOROMETHANE	124-48-1	11904.7619
Volatiles	DIBROMOMETHANE	74-95-3	800000
Volatiles	DICHLORODIFLUOROMETHANE	75-71-8	16000000
Volatiles	ETHYL METHACRYLATE	97-63-2	7200000
Volatiles	ETHYLBENZENE	100-41-4	8000000
Volatiles	ISOBUTYL ALCOHOL	78-83-1	24000000
Volatiles	METHACRYLONITRILE	126-98-7	8000
Volatiles	METHYL METHACRYLATE	80-62-6	6400000
Volatiles	METHYLENE CHLORIDE	75-09-2	133333.3333
Volatiles	STYRENE	100-42-5	404.8582996
Volatiles	TETRACHLOROETHENE	127-18-4	19607.84314
Volatiles	TOLUENE	108-88-3	16000000
Volatiles	TRANS-1,2-DICHLOROETHENE	156-60-5	1600000
Volatiles	TRICHLOROETHENE	79-01-6	90909.09091
Volatiles	TRICHLOROFLUOROMETHANE	75-69-4	24000000
Volatiles	VINYL ACETATE	108-05-4	80000000
Volatiles	VINYL CHLORIDE	75-01-4	526.3157895
Volatiles	XYLENE (TOTAL)	1330-20-7	160000000

Table A-1 Compounds Analyzed for Western Blower RCRA Closure			
Chemical Group	Parameter	Cas Number	MTCA Method B Soil Cleanup Level (UG/KG)
Semivolatiles	1,2,4,5-TETRACHLOROBENZENE	95-94-3	24000
Semivolatiles	1,2,4-TRICHLOROBENZENE	120-82-1	800000
Semivolatiles	1,2-DICHLOROBENZENE	95-50-1	7200000
Semivolatiles	1,3,5-TRINITROBENZENE	99-35-4	4000
Semivolatiles	1,3-DICHLOROBENZENE	541-73-1	7120000
Semivolatiles	1,3-DINITROBENZENE	99-65-0	8000
Semivolatiles	1,4-DICHLOROBENZENE	106-46-7	41666.66667
Semivolatiles	1,4-PHENYLENEDIAMINE	106-50-3	15200000
Semivolatiles	1-NAPHTHYLAMINE	134-32-7	
Semivolatiles	2,2'-OXYBIS(1-CHLOROPROP (1)	108-60-1	
Semivolatiles	2,3,4,6-TETRACHLOROPHENOL	58-90-2	2400000
Semivolatiles	2,4,5-TRICHLOROPHENOL	95-95-4	8000000
Semivolatiles	2,4,6-TRICHLOROPHENOL	88-06-2	90909.09091
Semivolatiles	2,4-DICHLOROPHENOL	120-83-2	240000
Semivolatiles	2,4-DIMETHYLPHENOL	105-67-9	1600000
Semivolatiles	2,4-DINITROPHENOL	51-28-5	160000
Semivolatiles	2,4-DINITROTOLUENE	121-14-2	1470.588235
Semivolatiles	2,6-DINITROTOLUENE	606-20-2	1470.588235
Semivolatiles	2-CHLORONAPHTHALENE	91-58-7	6400000
Semivolatiles	2-CHLOROPHENOL	95-57-8	400000
Semivolatiles	2-METHYLPHENOL	95-48-7	4000000
Semivolatiles	3 & 4-METHYLPHENOL	N/A	400000
Semivolatiles	3,3'-DICHLOROBENZIDINE	91-94-1	2222.222222
Semivolatiles	3,3'-DIMETHYLBENZIDINE	119-93-7	108.6956522
Semivolatiles	4-CHLOROANILINE	106-47-8	320000
Semivolatiles	4-NITROPHENOL	100-02-7	640000
Semivolatiles	5-NITRO-O-TOLUIDINE	99-55-8	30303.0303
Semivolatiles	ACENAPHTHENE	83-32-9	4800000
Semivolatiles	ACETOPHENONE	98-86-2	8000000
Semivolatiles	ANILINE	62-53-3	175438.5965
Semivolatiles	ANTHRACENE	120-12-7	24000000
Semivolatiles	ARAMITE	140-57-8	40000
Semivolatiles	BENZO(A)ANTHRACENE	56-55-3	1369.863014
Semivolatiles	BENZO(A)PYRENE	50-32-8	136.9863014
Semivolatiles	BENZO(B)FLUORANTHENE	205-99-2	1369.863014
Semivolatiles	BENZO(K)FLUORANTHENE	207-08-9	13698.63014
Semivolatiles	BENZYL ALCOHOL	100-51-6	24000000
Semivolatiles	BIS(2-CHLOROETHYL)ETHER	111-44-4	909.0909091
Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	71428.57143
Semivolatiles	BUTYLBENZYLPHTHALATE	85-68-7	16000000
Semivolatiles	CHRYSENE	218-01-9	136986.3014
Semivolatiles	DI-N-BUTYLPHTHALATE	84-74-2	8000000
Semivolatiles	DI-N-OCTYLPHTHALATE	117-84-0	1600000
Semivolatiles	DIBENZ(A,H)ANTHRACENE	53-70-3	136.9863014
Semivolatiles	DIBENZOFURAN	132-64-9	320000
Semivolatiles	DIETHYLPHTHALATE	84-66-2	64000000
Semivolatiles	DIMETHYLPHTHALATE	131-11-3	800000000
Semivolatiles	FLUORANTHENE	206-44-0	3200000

Table A-1 Compounds Analyzed for Western Blower RCRA Closure			
Chemical Group	Parameter	Cas Number	MTCA Method B Soil Cleanup Level (UG/KG)
Semivolatiles	FLUORENE	86-73-7	3200000
Semivolatiles	HEXACHLOROBENZENE	118-74-1	625
Semivolatiles	HEXACHLOROBUTADIENE	87-68-3	12820.51282
Semivolatiles	HEXACHLOROCYCLOPENTADIENE	77-47-4	560000
Semivolatiles	HEXACHLOROETHANE	67-72-1	71428.57143
Semivolatiles	HEXACHLOROPHENE	70-30-4	24000
Semivolatiles	INDENO(1,2,3-CD)PYRENE	193-39-5	1369.863014
Semivolatiles	ISOPHORONE	78-59-1	1052631.579
Semivolatiles	N-NITROSO-DI-N-BUTYLAMINE	924-16-3	185.1851852
Semivolatiles	N-NITROSO-DI-N-PROPYLAMINE	621-64-7	142.8571429
Semivolatiles	N-NITROSODIETHYLAMINE	55-18-5	6.666666667
Semivolatiles	N-NITROSODIMETHYLAMINE	62-75-9	19.60784314
Semivolatiles	N-NITROSODIPHENYLAMINE (3)	86-30-6	204081.6327
Semivolatiles	N-NITROSOMETHYLETHYLAMINE	10595-95-6	45.45454545
Semivolatiles	N-NITROSOPYRROLIDINE	930-55-2	476.1904762
Semivolatiles	NAPHTHALENE	91-20-3	3200000
Semivolatiles	NITROBENZENE	98-95-3	40000
Semivolatiles	O-TOLUIDINE	95-53-4	4166.666667
Semivolatiles	PENTACHLOROBENZENE	608-93-5	64000
Semivolatiles	PENTACHLORONITROBENZENE	82-68-8	3846.153846
Semivolatiles	PENTACHLOROPHENOL	87-86-5	8333.333333
Semivolatiles	PHENOL	108-95-2	48000000
Semivolatiles	PRONAMIDE	23950-58-5	6000000
Semivolatiles	PYRENE	129-00-0	2400000
Semivolatiles	PYRIDINE	110-86-1	80000
Pesticides/PCBs	4,4'-DDD	72-54-8	4166.666667
Pesticides/PCBs	4,4'-DDE	72-55-9	2941.176471
Pesticides/PCBs	4,4'-DDT	50-29-3	2941.176471
Pesticides/PCBs	ALDRIN	309-00-2	58.82352941
Pesticides/PCBs	ALPHA-BHC	319-84-6	158.7301587
Pesticides/PCBs	AROCLOR - 1016	12674-11-2	5600
Pesticides/PCBs	AROCLOR - 1221	11104-28-2	
Pesticides/PCBs	AROCLOR - 1232	11141-16-5	
Pesticides/PCBs	AROCLOR - 1242	53469-21-9	
Pesticides/PCBs	AROCLOR - 1248	12672-29-6	
Pesticides/PCBs	AROCLOR - 1254	11097-69-1	1600
Pesticides/PCBs	AROCLOR - 1260	11096-82-5	
Pesticides/PCBs	BETA-BHC	319-85-7	555.5555556
Pesticides/PCBs	CHLORDANE	57-74-9	769.2307692
Pesticides/PCBs	CHLOROBENZILATE	510-15-6	3703.703704
Pesticides/PCBs	DIALLATE	2303-16-4	16393.44262
Pesticides/PCBs	DIELDRIN	60-57-1	62.5
Pesticides/PCBs	ENDOSULFAN I	959-98-8	
Pesticides/PCBs	ENDOSULFAN SULFATE	1031-07-8	
Pesticides/PCBs	ENDRIN	72-20-8	24000
Pesticides/PCBs	GAMMA-BHC (LINDANE)	58-89-9	769.2307692
Pesticides/PCBs	HEPTACHLOR	76-44-8	222.2222222
Pesticides/PCBs	HEPTACHLOR EPOXIDE	1024-57-3	109.8901099

Table A-1 Compounds Analyzed for Western Blower RCRA Closure			
Chemical Group	**Parameter**	**Cas Number**	**MTCA Method B Soil Cleanup Level (UG/KG)**
Pesticides/PCBs	METHOXYCHLOR	72-43-5	400000
Pesticides/PCBs	TOXAPHENE	8001-35-2	909.0909091
O. Pesticides	DIMETHOATE	60-51-5	16000
O. Pesticides	DISULFOTON	298-04-4	3200
O. Pesticides	ETHYL PARATHION	56-38-2	480000
O. Pesticides	METHYL PARATHION	298-00-0	20000
O. Pesticides	PHORATE	298-02-2	16000
C. Herbicides	2,4,5-T	93-76-5	800000
C. Herbicides	2,4-D	94-75-7	800000
C. Herbicides	DINOSEB	88-85-7	80000
C. Herbicides	SILVEX	93-72-1	640000
General Chemistry	SULFIDE	N/A	
TPH	TOTAL PETROLEUM HYDROCARBONS	N/A	
Dioxin	2,3,7,8-TCDD	1746-01-6	0.006666667
Inorganics	ANTIMONY	7440-36-0	32000
Inorganics	ARSENIC	7440-38-2	1666.666667
Inorganics	BARIUM	7440-39-3	5600000
Inorganics	BERYLLIUM	7440-41-7	232.5581395
Inorganics	CADMIUM	7440-43-9	40000
Inorganics	CHROMIUM	7440-47-3	80000000
Inorganics	COBALT	7440-48-4	
Inorganics	COPPER	7440-50-8	2960000
Inorganics	CYANIDE	N/A	1600000
Inorganics	LEAD	7439-92-1	250000
Inorganics	MERCURY	7439-97-6	24000
Inorganics	NICKEL	7440-02-0	1600000
Inorganics	SELENIUM	7782-49-2	400000
Inorganics	SILVER	7440-22-4	400000
Inorganics	THALLIUM	7440-28-0	5600
Inorganics	TIN	7440-31-5	48000000
Inorganics	VANADIUM	7440-62-2	560000
Inorganics	ZINC	7440-66-6	24000000

Table A-2
Western Blower Sampling Results - All Detects

Sample ID	Chemical Group	Parameter	Concentration (ug/kg)	Qualifier
A11-S-001	C. Herbicides	DINOSEB	14	J
A11-S-001	Inorganics	ARSENIC	7800	
A11-S-001	Inorganics	BARIUM	131000	
A11-S-001	Inorganics	BERYLLIUM	220	B
A11-S-001	Inorganics	CHROMIUM	72100	
A11-S-001	Inorganics	COBALT	12000	B
A11-S-001	Inorganics	COPPER	98600	
A11-S-001	Inorganics	CYANIDE	4100	
A11-S-001	Inorganics	LEAD	315000	N*J
A11-S-001	Inorganics	MERCURY	1200	
A11-S-001	Inorganics	NICKEL	50700	
A11-S-001	Inorganics	TIN	8100	B
A11-S-001	Inorganics	VANADIUM	44200	
A11-S-001	Inorganics	ZINC	243000	E
A11-S-001	Semivolatiles	ACENAPHTHENE	980	
A11-S-001	Semivolatiles	ANTHRACENE	700	J
A11-S-001	Semivolatiles	BENZO(A)ANTHRACENE	620	J
A11-S-001	Semivolatiles	BENZO(A)PYRENE	330	J
A11-S-001	Semivolatiles	BENZO(B)FLUORANTHENE	430	J
A11-S-001	Semivolatiles	BENZO(K)FLUORANTHENE	290	J
A11-S-001	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	940	J
A11-S-001	Semivolatiles	CHRYSENE	760	J
A11-S-001	Semivolatiles	DIBENZ(A,H)ANTHRACENE	96	J
A11-S-001	Semivolatiles	FLUORANTHENE	3100	
A11-S-001	Semivolatiles	FLUORENE	930	
A11-S-001	Semivolatiles	INDENO(1,2,3-CD)PYRENE	190	J
A11-S-001	Semivolatiles	NAPHTHALENE	260	J
A11-S-001	Semivolatiles	PYRENE	1500	J
A11-S-001	TPH	TOTAL PETROLEUM HYDROCARBONS	580000	
A11-S-001	Volatiles	ACETONE	61	
A11-S-001	Volatiles	ETHYLBENZENE	2	J
A11-S-001	Volatiles	TOLUENE	2	J
A11-S-001	Volatiles	XYLENE (TOTAL)	10	
A11-S-002	Inorganics	ARSENIC	5300	
A11-S-002	Inorganics	BARIUM	93000	
A11-S-002	Inorganics	BERYLLIUM	270	B
A11-S-002	Inorganics	CADMIUM	1400	
A11-S-002	Inorganics	CHROMIUM	46300	
A11-S-002	Inorganics	COBALT	12900	
A11-S-002	Inorganics	COPPER	32100	
A11-S-002	Inorganics	LEAD	28200	N*J
A11-S-002	Inorganics	MERCURY	70	B
A11-S-002	Inorganics	ZINC	407000	E
A11-S-002	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	310	J
A11-S-002	Semivolatiles	CHRYSENE	86	J
A11-S-002	Semivolatiles	FLUORANTHENE	130	J
A11-S-002	Semivolatiles	PYRENE	110	J
A11-S-002	Volatiles	1,1,2,2-TETRACHLOROETHANE	2	J

Table A-2
Western Blower Sampling Results - All Detects

Sample ID	Chemical Group	Parameter	Concentration (ug/kg)	Qualifier
A11-S-002	Volatiles	1,1,2-TRICHLOROETHANE	1	J
A11-S-002	Volatiles	ACETONE	11	J
A11-S-002	Volatiles	TRICHLOROETHENE	2	J
A12-C-001	C. Herbicides	2,4-D	19	J
A12-C-001	Inorganics	ANTIMONY	4500	BNJ
A12-C-001	Inorganics	ARSENIC	7000	B
A12-C-001	Inorganics	BARIUM	149000	
A12-C-001	Inorganics	BERYLLIUM	280	B
A12-C-001	Inorganics	CADMIUM	1800	
A12-C-001	Inorganics	CHROMIUM	33700	
A12-C-001	Inorganics	COBALT	7100	B
A12-C-001	Inorganics	COPPER	27200	
A12-C-001	Inorganics	LEAD	6300	N*J
A12-C-001	Inorganics	NICKEL	24300	
A12-C-001	Inorganics	SILVER	3200	
A12-C-001	Inorganics	VANADIUM	46500	
A12-C-001	Inorganics	ZINC	46500	EJ
A12-C-001	Pesticides/PCBs	4,4'-DDE	3	
A12-C-001	Pesticides/PCBs	AROCLOR - 1260	31	
A12-C-001	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	110	J
A12-C-001	TPH	TOTAL PETROLEUM HYDROCARBONS	410000	
A12-C-001	Volatiles	ACETONE	12	J
A12-C-002	C. Herbicides	2,4-D	13	J
A12-C-002	Inorganics	ARSENIC	6200	BJ
A12-C-002	Inorganics	BARIUM	147000	J
A12-C-002	Inorganics	BERYLLIUM	310	BJ
A12-C-002	Inorganics	CADMIUM	200000	J
A12-C-002	Inorganics	CHROMIUM	28200	J
A12-C-002	Inorganics	COBALT	7100	BJ
A12-C-002	Inorganics	COPPER	252000	J
A12-C-002	Inorganics	LEAD	4200	N*J
A12-C-002	Inorganics	NICKEL	44200	J
A12-C-002	Inorganics	SILVER	241000	J
A12-C-002	Inorganics	VANADIUM	52600	J
A12-C-002	Inorganics	ZINC	254000	EJ
A12-C-002	Pesticides/PCBs	4,4'-DDE	8.5	J
A12-C-002	Pesticides/PCBs	AROCLOR - 1260	66	J
A12-C-002	TPH	TOTAL PETROLEUM HYDROCARBONS	1100000	J
A12-C-002	Volatiles	ACETONE	13	J
A12-C-003	C. Herbicides	2,4-D	16	J
A12-C-003	Inorganics	ARSENIC	15300	
A12-C-003	Inorganics	BARIUM	113000	
A12-C-003	Inorganics	BERYLLIUM	260	B
A12-C-003	Inorganics	CADMIUM	1300	
A12-C-003	Inorganics	CHROMIUM	28100	
A12-C-003	Inorganics	COBALT	6800	B
A12-C-003	Inorganics	COPPER	42000	
A12-C-003	Inorganics	LEAD	4200	N*J

Table A-2
Western Blower Sampling Results - All Detects

Sample ID	Chemical Group	Parameter	Concentration (ug/kg)	Qualifier
A12-C-003	Inorganics	NICKEL	26500	
A12-C-003	Inorganics	SILVER	2100	
A12-C-003	Inorganics	VANADIUM	55000	
A12-C-003	Inorganics	ZINC	89900	E
A12-C-003	Pesticides/PCBs	4,4'-DDE	6.5	
A12-C-003	Pesticides/PCBs	AROCLOR - 1260	30	
A12-C-003	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	190	J
A12-C-003	TPH	TOTAL PETROLEUM HYDROCARBONS	550000	
A12-C-003	Volatiles	ACETONE	8	J
A12-S-001	Inorganics	ARSENIC	6000	
A12-S-001	Inorganics	BARIUM	74400	
A12-S-001	Inorganics	BERYLLIUM	200	B
A12-S-001	Inorganics	CADMIUM	2400	
A12-S-001	Inorganics	CHROMIUM	22100	
A12-S-001	Inorganics	COBALT	14400	
A12-S-001	Inorganics	COPPER	32800	
A12-S-001	Inorganics	CYANIDE	930	
A12-S-001	Inorganics	LEAD	69800	N*J
A12-S-001	Inorganics	MERCURY	60	B
A12-S-001	Inorganics	NICKEL	30200	
A12-S-001	Inorganics	TIN	3400	B
A12-S-001	Inorganics	VANADIUM	31600	
A12-S-001	Inorganics	ZINC	98500	E
A12-S-001	Pesticides/PCBs	CHLOROBENZILATE	31	
A12-S-001	Semivolatiles	BENZO(A)ANTHRACENE	110	J
A12-S-001	Semivolatiles	BENZO(A)PYRENE	150	J
A12-S-001	Semivolatiles	BENZO(B)FLUORANTHENE	130	J
A12-S-001	Semivolatiles	BENZO(K)FLUORANTHENE	95	J
A12-S-001	Semivolatiles	CHRYSENE	140	J
A12-S-001	Semivolatiles	FLUORANTHENE	160	J
A12-S-001	Semivolatiles	INDENO(1,2,3-CD)PYRENE	140	J
A12-S-001	Semivolatiles	PYRENE	170	J
A12-S-002	Inorganics	ARSENIC	4700	J
A12-S-002	Inorganics	BARIUM	73100	J
A12-S-002	Inorganics	BERYLLIUM	160	BJ
A12-S-002	Inorganics	CADMIUM	1400	J
A12-S-002	Inorganics	CHROMIUM	20500	J
A12-S-002	Inorganics	COBALT	10500	BJ
A12-S-002	Inorganics	COPPER	45100	J
A12-S-002	Inorganics	CYANIDE	1200	J
A12-S-002	Inorganics	LEAD	103000	N*J
A12-S-002	Inorganics	MERCURY	120	J
A12-S-002	Inorganics	NICKEL	22600	J
A12-S-002	Inorganics	SILVER	11400	J
A12-S-002	Inorganics	TIN	3800	BJ
A12-S-002	Inorganics	VANADIUM	30300	J

Table A-2
Western Blower Sampling Results - All Detects

Sample ID	Chemical Group	Parameter	Concentration (ug/kg)	Qualifier
A12-S-002	Inorganics	ZINC	145000	EJ
A12-S-002	Semivolatiles	BENZO(K)FLUORANTHENE	81	J
A12-S-002	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	190	J
A12-S-002	Semivolatiles	CHRYSENE	84	J
A12-S-002	Semivolatiles	FLUORANTHENE	79	J
A12-S-002	Semivolatiles	INDENO(1,2,3-CD)PYRENE	76	J
A12-S-002	TPH	TOTAL PETROLEUM HYDROCARBONS	350000	J
A12-S-002	Volatiles	TETRACHLOROETHENE	3	J
A12-S-002	Volatiles	TRICHLOROETHENE	2	J

Table A-2
Western Blower Sampling Results - All Detects

Sample ID	Chemical Group	Parameter	Concentration (ug/kg)	Qualifier
A12-C-003	Inorganics	NICKEL	26500	
A12-C-003	Inorganics	SILVER	2100	
A12-C-003	Inorganics	VANADIUM	55000	
A12-C-003	Inorganics	ZINC	89900	E
A12-C-003	Pesticides/PCBs	4,4'-DDE	6.5	
A12-C-003	Pesticides/PCBs	AROCLOR - 1260	30	
A12-C-003	Semivolatiles	BIS(2-ETHYLHEXYL)PHTHALATE	190	J
A12-C-003	TPH	TOTAL PETROLEUM HYDROCARBONS	550000	
A12-C-003	Volatiles	ACETONE	8	J
A12-S-001	Inorganics	ARSENIC	6000	
A12-S-001	Inorganics	BARIUM	74400	
A12-S-001	Inorganics	BERYLLIUM	200	B
A12-S-001	Inorganics	CADMIUM	2400	
A12-S-001	Inorganics	CHROMIUM	22100	
A12-S-001	Inorganics	COBALT	14400	
A12-S-001	Inorganics	COPPER	32800	
A12-S-001	Inorganics	CYANIDE	930	
A12-S-001	Inorganics	LEAD	69800	N*J
A12-S-001	Inorganics	MERCURY	60	B
A12-S-001	Inorganics	NICKEL	30200	
A12-S-001	Inorganics	TIN	3400	B
A12-S-001	Inorganics	VANADIUM	31600	
A12-S-001	Inorganics	ZINC	98500	E
A12-S-001	Pesticides/PCBs	CHLOROBENZILATE	31	
A12-S-001	Semivolatiles	BENZO(A)ANTHRACENE	110	J
A12-S-001	Semivolatiles	BENZO(A)PYRENE	150	J
A12-S-001	Semivolatiles	BENZO(B)FLUORANTHENE	130	J
A12-S-001	Semivolatiles	BENZO(K)FLUORANTHENE	95	J
A12-S-001	Semivolatiles	CHRYSENE	140	J
A12-S-001	Semivolatiles	FLUORANTHENE	160	J
A12-S-001	Semivolatiles	INDENO(1,2,3-CD)PYRENE	140	J
A12-S-001	Semivolatiles	PYRENE	170	J
A12-S-002	Inorganics	ARSENIC	4700	J
A12-S-002	Inorganics	BARIUM	73100	J
A12-S-002	Inorganics	BERYLLIUM	160	BJ
A12-S-002	Inorganics	CADMIUM	1400	J
A12-S-002	Inorganics	CHROMIUM	20500	J
A12-S-002	Inorganics	COBALT	10500	BJ
A12-S-002	Inorganics	COPPER	45100	J
A12-S-002	Inorganics	CYANIDE	1200	J
A12-S-002	Inorganics	LEAD	103000	N*J
A12-S-002	Inorganics	MERCURY	120	J
A12-S-002	Inorganics	NICKEL	22600	J
A12-S-002	Inorganics	SILVER	11400	J
A12-S-002	Inorganics	TIN	3800	BJ
A12-S-002	Inorganics	VANADIUM	30300	J

Table A-2
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A12-S-002	Semivolatiles	CHRYSENE	84	J
A12-S-002	Semivolatiles	FLUORANTHENE	79	J
A12-S-002	Semivolatiles	INDENO(1,2,3-CD)PYRENE	76	J
A12-S-002	TPH	TOTAL PETROLEUM HYDROCARBONS	350000	J
A12-S-002	Volatiles	TETRACHLOROETHENE	3	J
A12-S-002	Volatiles	TRICHLOROETHENE	2	J

Appendix B

Laboratory QA/QC

Laboratory Quality Assurance/Quality Control

The samples were analyzed by Quality Analytical Laboratory (QAL) located in Redding, California, according to the specifications of the Laboratory Statement of Work (SOW) provided to the laboratory prior to the start of the project. Several analytical parameters including Organophosphorous Pesticides, Herbicides, and Total Petroleum Hydrocarbons were subcontracted to ATI/Fort Collins by QAL. These parameters were also performed according to the specifications of the SOW as requested. Any analytical exceptions are listed in the data validation reports. Electronic data deliverable (EDD) were provided by the laboratory as requested.

Data reduction, validation and reporting were conducted according to the QAPP. Data validation reports were prepared for each parameter. For parameters covered by the Contract Laboratory Program (CLP), data validation followed the USEPA CLP *National Functional Guidelines for Organic Data Review* and *National Functional Guidelines for Inorganic Data Review* (February 1994). For parameters not covered by the CLP, data were reviewed for calibrations, accuracy measurements, precision measurements, and blank sample measurements. These reports are included in the project files. Data qualifiers are incorporated into the NWES closure sampling database.

Data Assessment

The validated data have met the project quality assurance objectives described in the QAPP. The data are over 90 percent complete; that is, 90 percent of the data met the target goals for precision, accuracy, and representativeness.

Data Qualifiers

The meaning of the data qualifiers are as follows:

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected. The presence or absence of the analyte can not be verified.

In addition to the above data qualifiers, the database also includes data-reporting qualifiers originating from the laboratory. These are laboratory-specific qualifiers for inorganic data

which are procedural in nature and may or may not address data quality. A list of these data reporting qualifiers and their meaning is included below:

- B - The reported value obtained was less than the contract required detection limit, but greater than or equal to the instrument detection limit.
- E - The reported value is estimated because of interference.
- N - Spiked sample recovery not within control limits.

* - Duplicate analysis not within control limits.

Detection Limits

For 12 semivolatile compounds, the laboratory reporting limits (or PQLs) are slightly higher than the target detection limits, i.e., SW-846 Practical Quantitation Limits (PQLs) due to correction for soil moisture levels. A list of these compounds with reporting limits that exceed MTCA Method B Soil Cleanup Levels are shown in Table B-1. MTCA states "Where cleanup levels are below the PQL, compliance with cleanup standards will be based upon the PQL" (WAC 173-340-700(6)). Furthermore, MTCA states that "If those situation arise and the PQL is higher than the cleanup level the cleanup level shall be considered to have been attained ..." (WAC 173-340-707). In an implementation memorandum addressed to Ecology staff dated November 23, 1993, Ecology provided guidelines on using PQLs as cleanup standards. In it Ecology presented the results of a laboratory survey on Method Detection Limits (MDLs) and PQLs and compared them to SW-846 PQLs and MTCA Method B Cleanup Levels. In all cases, the PQLs reported in the NWES Areas 11 and 12 closure samples were within the range of PQLs found in the Ecology laboratory survey when soil moisture levels were taken into account.

As can be observed from Table B-1, 10 of the 12 compounds were not detected suggesting their respective cleanup level was achieved. Benzo(a)pyrene was detected in two soil samples both at estimated concentrations above the MTCA Method B CULs. Dibenz(a,h)anthracene was detected in 1 soil sample at below the MTCA Method B CULs. Both of these compounds are polynuclear aromatic hydrocarbons (PAH) compounds and their presence in the soil are discussed in the report.

Table B-1

PQL Comparisons

Target Compound	MTCA Method B Soil Cleanup Level (µg/kg)	SW846 PQL (µg/kg)[c]	Ecology Lab Survey PQL Range (µg/kg)[c]	NWES PQL Range (µg/kg)[a]	NWES Sample Concentration Range (µg/kg)
3,3-Dimethylbenzidine	109	1000	330-1000	690-850	ND
Benzo(a)Pyrene	137	660	5-660	690-850	150J - 330J
Dibenz(a,h)anthracene	137	660	10-660	690-850	96J
Hexachlorobenzene	625	660	17-660	690-850	ND
Hexachlorophene	24000	Not listed	Not listed	35000-44000	ND
N-Nitroso-di-n-butylamine	186	1300	330-1300	690-850	ND
N-Nitroso-di-n-propylamine	143	1300	33-1300	690-850	ND
N-Nitrosodiethylamine	6.7	1300	33-1300	690-850	ND
N-Nitrosodimethylamine	19.6	1300	33-1300	690-850	ND
N-Nitrosomethylethylamine	45.5	1300	33-1300	690-850	ND
N-Nitrosophyrrolidine	476	1300	33-1300	690-850	ND
Pentachloronitrobenzene	3846	Not listed	Not listed	4100-4400	ND

ND - Non-detect

[a] Multiple PQLs are available for each compounds due to the variation in moisture levels in the soil samples. PQLs for diluted samples are not included.

[b] SW-846 Method PQLs are listed. The PQLs are reported on dry weight basis. In cases where there are no known PQL values, a factor of 10 times the MDL is used for the PQL value.

[c] The range of 13 responses out of a survey conducted by Ecology is listed.

QAL QUALITY ANALYTICAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

Project # 106099.03.ZZ	**Purchase Order #**
Project Name NWES - RCRA CLOSURE SAMPLING	
Company Name SEA	
Project Manager or Contact & Phone # CAROLYN KOSIK/SEA	**Report Copy to:** GLEN VEDERA/SEA
Requested Completion Date: ASAP AGREEMENT	**Site ID**
Sample Disposal: Dispose ☑ Return ☐	

☐ **LGN** — One Innovation Drive, Suite C, Alachua, FL 32615-9586, (904) 462-3050 FAX (904) 462-1670

☐ **LRD** — 5090 Caterpillar Road, Redding, CA 96003-1412, (916) 244-5227 FAX (916) 244-4109

☐ **LMG** — 2567 Fairlane Drive, Montgomery, AL 36116-1622, (334) 271-2440 FAX (334) 271-3428

☐ **LKW** — Canviro Analytical Laboratories, Inc., 50 Bathurst, Unit 12, Waterloo, Ontario, Canada N2V 2C5, (519) 747-2575 FAX (519) 747-3806

THIS AREA FOR LAB USE ONLY

Lab #	**Page**	**of**
Client Service	**Price Source** A P Q S	
Acct Code	**Test Group**	
Project Code	**Ack. Gen.**	
LIMS Ver	**Login**	**Mult.**
COC Review		

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	QC ID (3 CHAR)	# OF CONTAINERS	SW 3540 AMP. 1X	SW 3580 AMP. 1X	EPA 418.1	SW 3030 AMP 1X	SW 3540 AMP 1X	SW 3520 AMP. 1X	SW 8150 AMP. 1X	METALS AMP. 1X	CYANIDE, SULFIDE
1/23/96	1310		✓			A12-C-001		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/23/96	1415		✓			A12-C-002		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/23/96	1625		✓			A12-C-003		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/23/96	1341		✓		✓	A12-S-001		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/24/96	1400		✓	✓		A12TRIPBL		3	✓								
1/25/96	1410		✓		✓	A12-S-002		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/25/96	1555		✓		✓	A11-S-001		7	✓	✓	✓	✓	✓	✓	✓	✓	✓
1/25/96	1620		✓		✓	A11-S-002		7	✓	✓	✓	✓	✓	✓	✓	✓	✓

ANALYSES REQUESTED

SAMPLE REMARKS	**LAB 1 ID**	**LAB 2 ID**

Sampled By & Title (Please sign and print name) Glen T. Vedera GLEN T. VEDERA	1/23-1/25/96	Date/Time AS ABOVE
Received By (Please sign and print name)		Date/Time
Received By (Please sign and print name)		Date/Time
Received By (Please sign and print name)		Date/Time

Relinquished By (Please sign and print name) Glen T. Vedera GLEN T. VEDERA		Date/Time 1/26/96 1505
Relinquished By (Please sign and print name)		Date/Time
Relinquished By (Please sign and print name)		Date/Time
Shipped Via UPS Fed-Ex Other ____	**Shipping #**	

HAZWRAP/NESSA:	Y N
EDATA:	Y N
QC LEVEL	1 2 3 OTHER ____
pH	**Ice**
Custody Seal	**Temp**

Batch Remarks: REPORT AS DRY WEIGHT

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: Original - LAB, Yellow - LAB, Pink - Client

REV 5/95 LAB FORM 340

CH2M HILL PHOTO RECORD FILE INDEX

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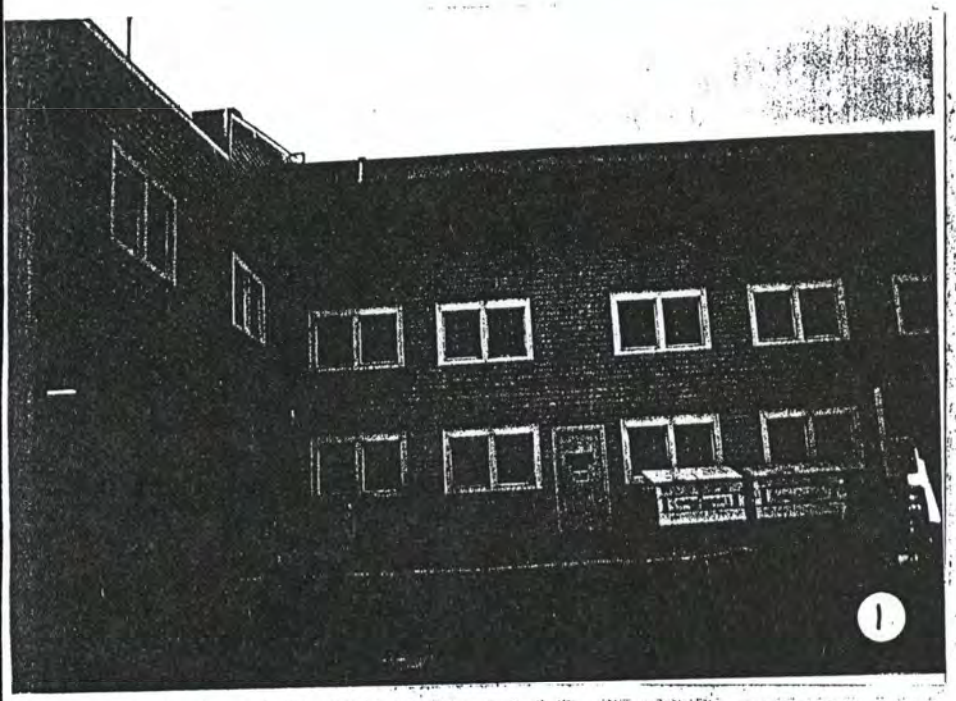
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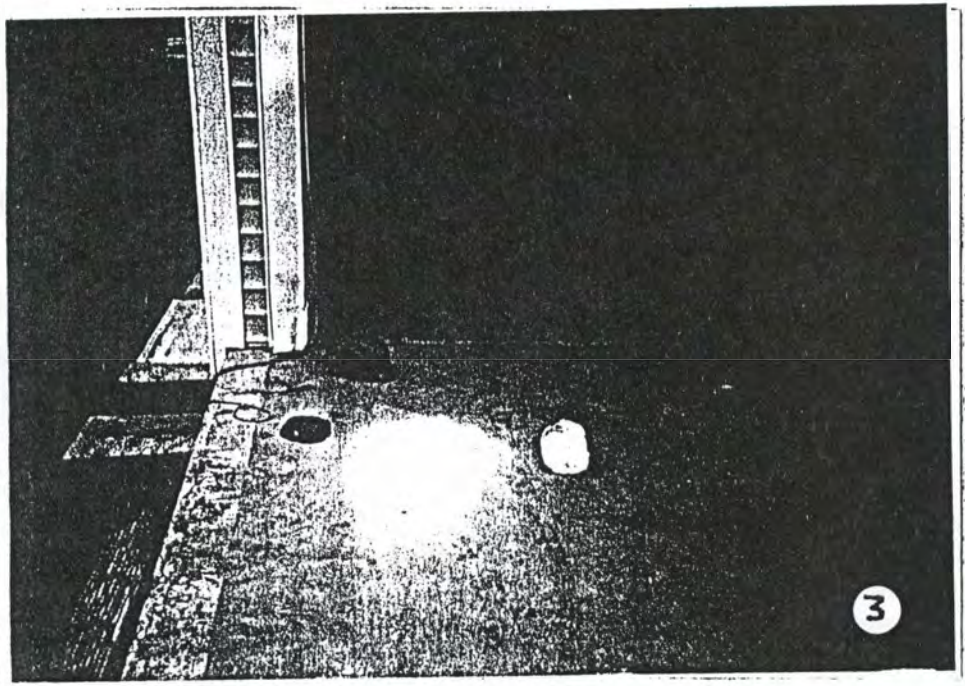
PREPARED BY: GLEN VEDERA

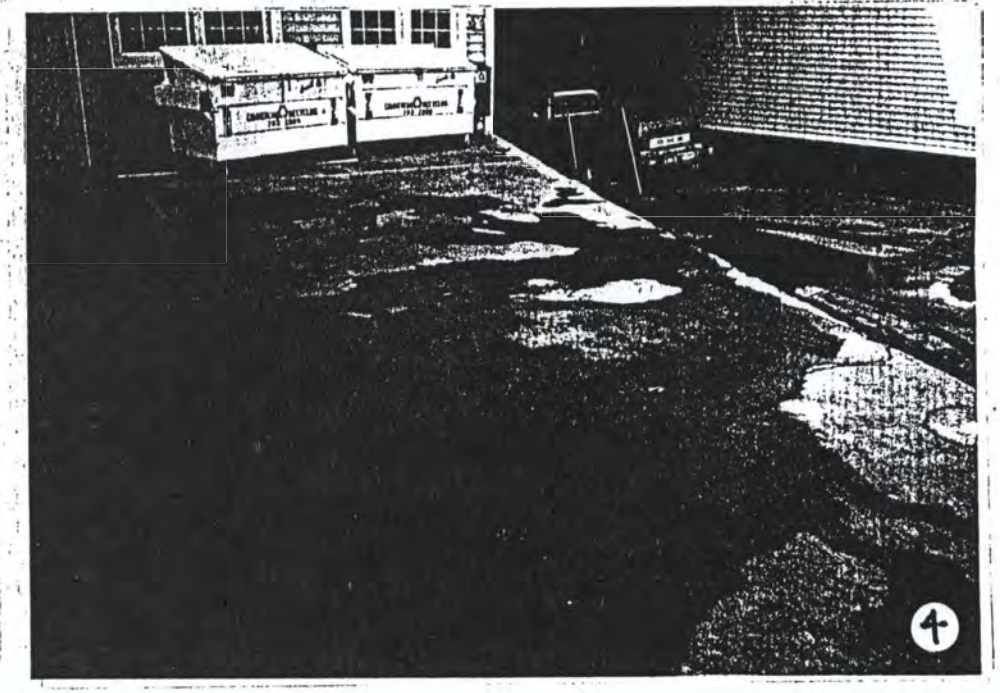
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3	SAMPLE LOCATION A12-C-001	1/23/96	
4	SAMPLE LOCATION A12-C-002	1/23/96	
5	OVERVIEW SAMPLE LOCATION A12 S-001	1/25/96	
6	CLOSE-UP OF SAMPLE LOCATION A12S-001	1/25/96	
7	OVERVIEW SAMPLE LOCATION A12-S-002	1/25/96	
8	CLOSE-UP OF SAMPLE LOCATION A12-S-002	1/25/96	
9	OVERVIEW AT SAMPLE LOCATION A11-S-001	1/25/96	
10	CLOSE-UP OF SAMPLE LOCATION A11-S-001	1/25/96	

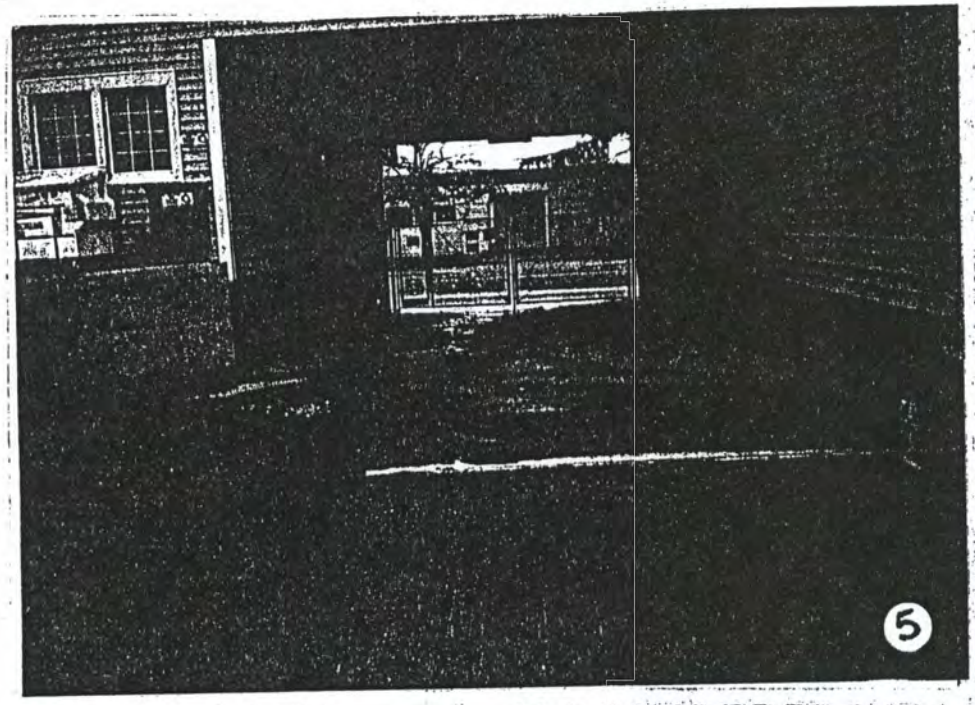
REV 1/87 FORM 303

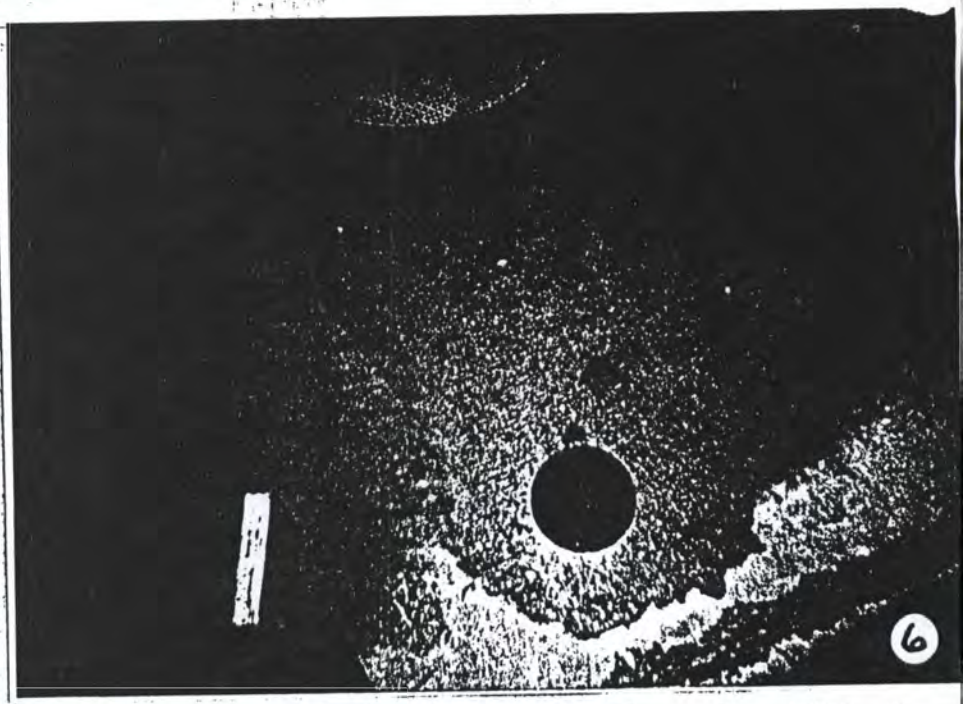

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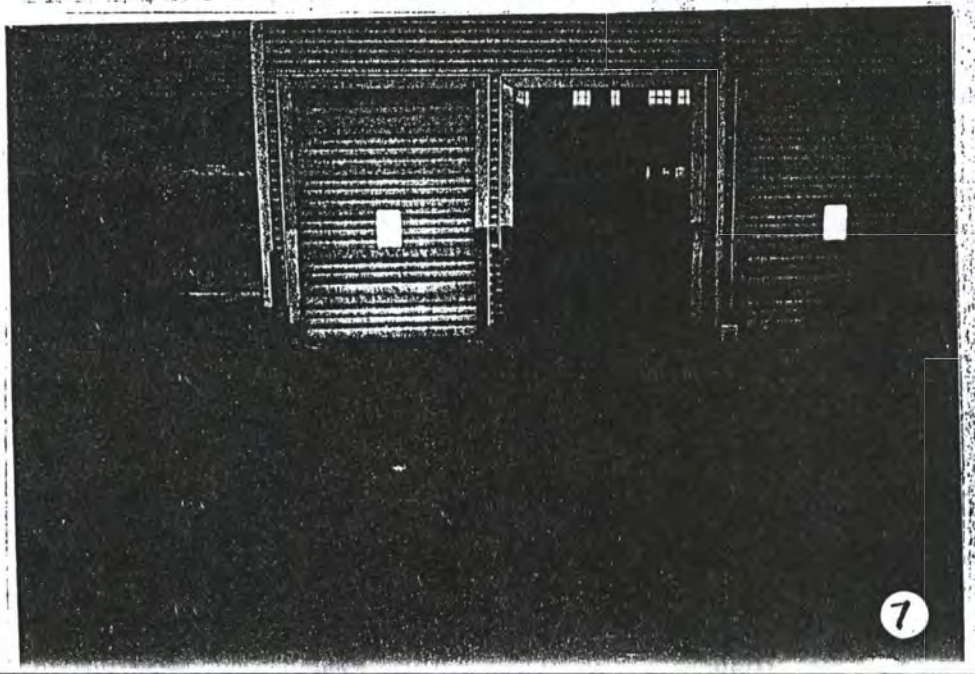

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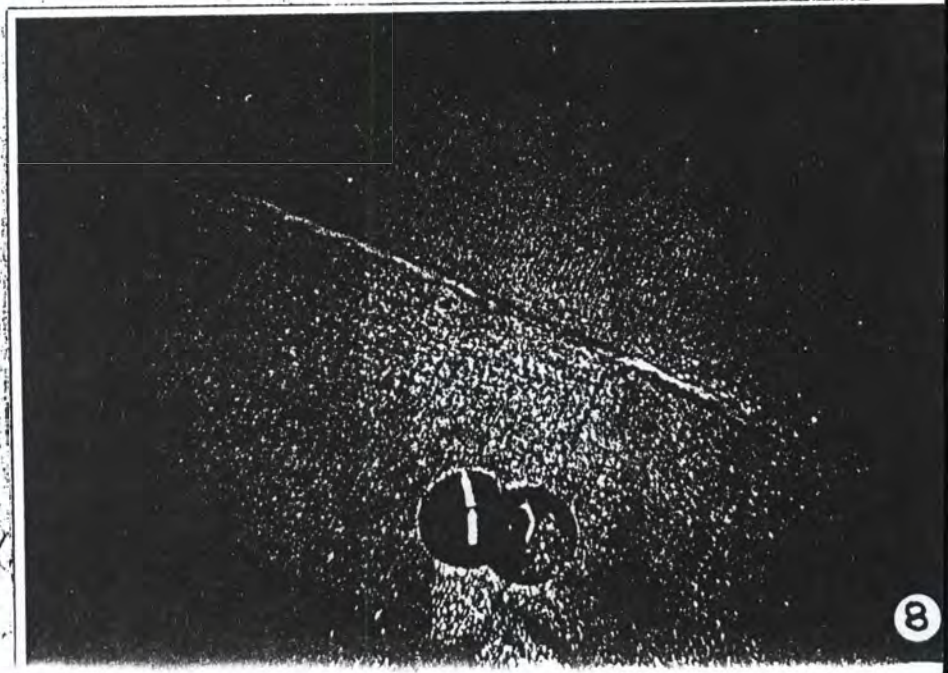

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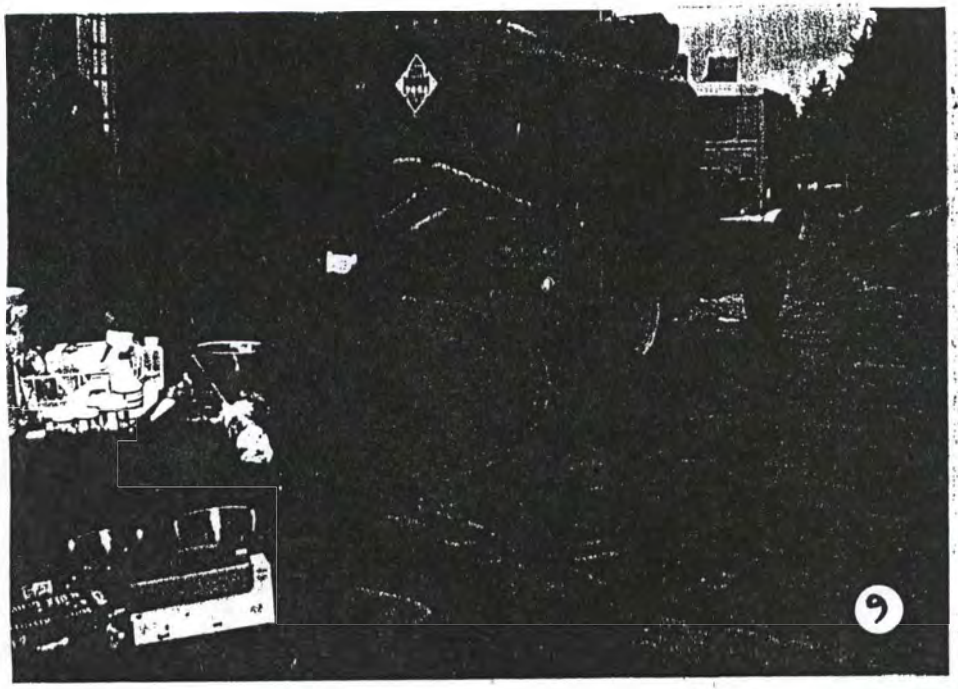

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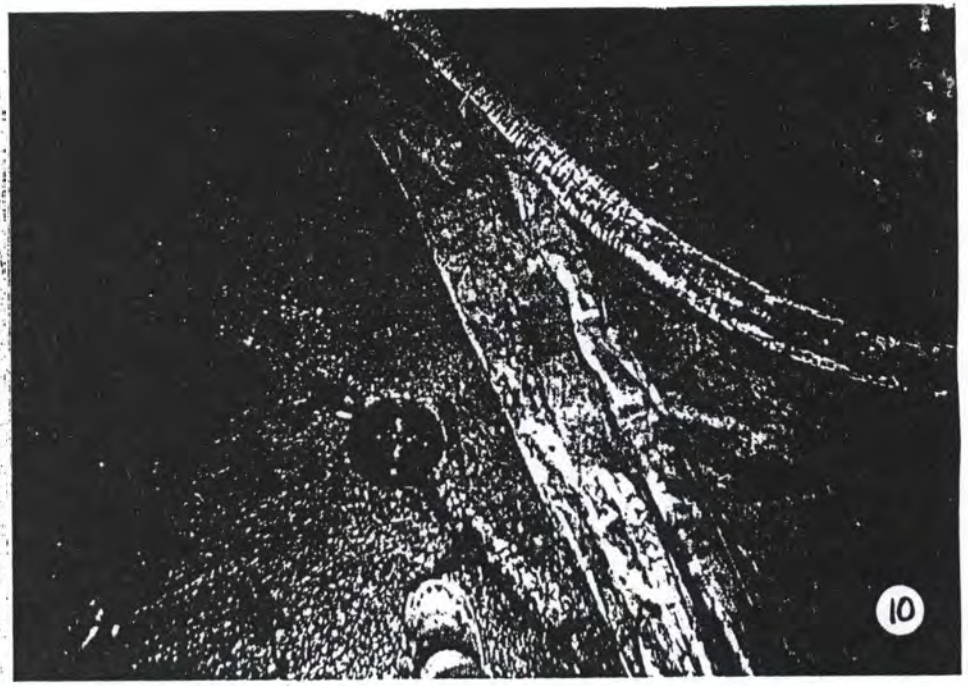

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CH2MHILL **PHOTO RECORD FILE INDEX**

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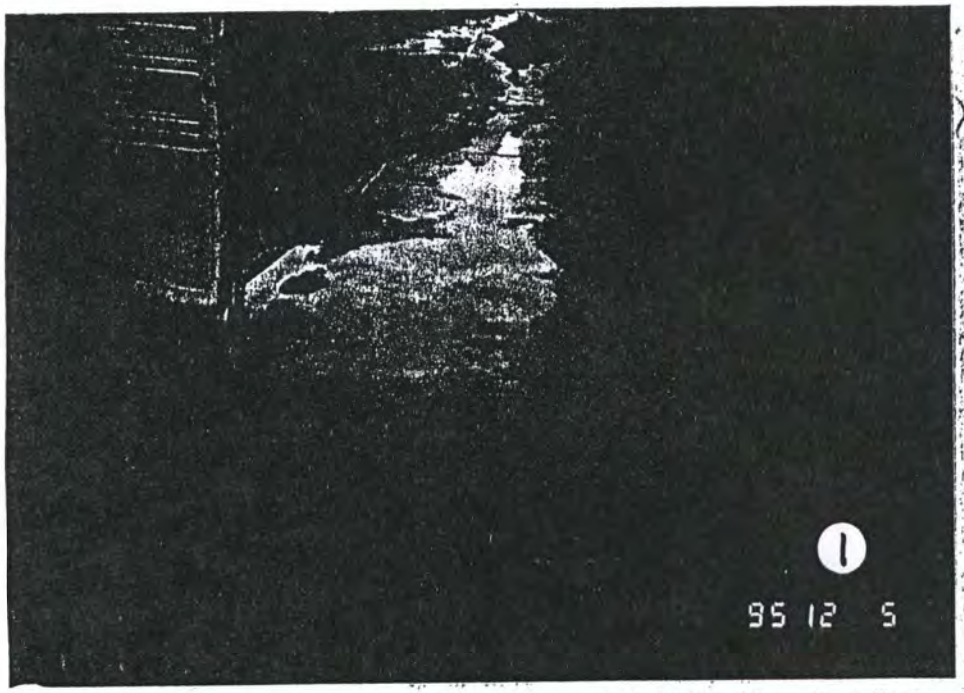
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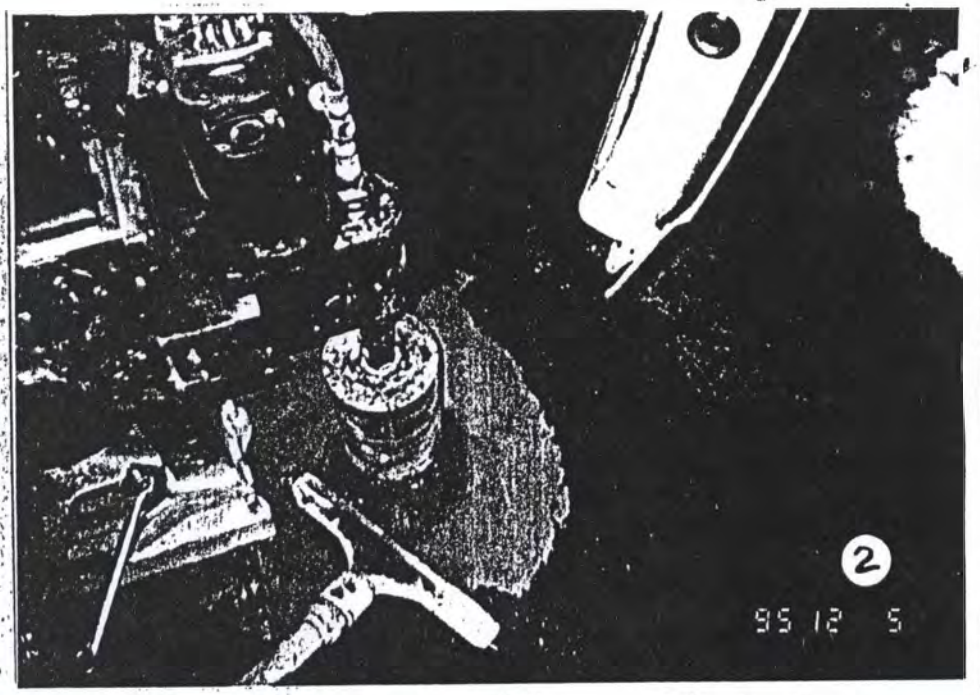
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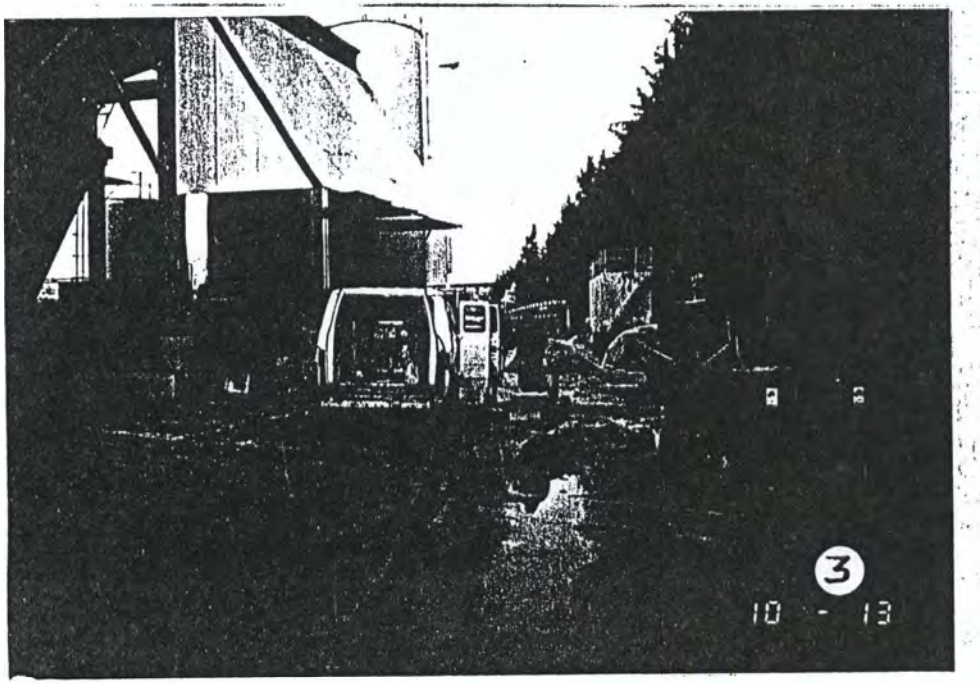
PREPARED BY: GLEN VEDERA

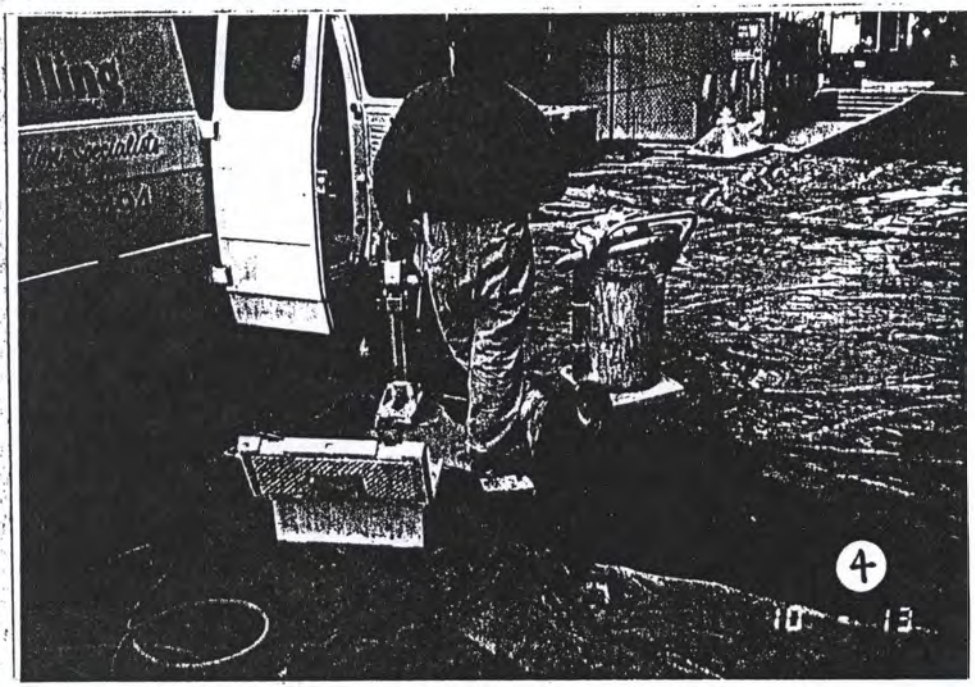
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2	A12, CORING IN ACTION AT LOCATION 002, NOTE		
	DISCOLORATION FROM CUTTING INTO RR TIE	12/5	
3	A11, LOCATION 001, OPPOSITE LEAN TO		
4	A11-001, CUTTING IN ACTION	12/5	
5	A11-001, PROXIMITY TO SUMP	12/5	
6	A11-001, CLOSE UP	12/5	
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8	A12, LOCATION 001, ADJACENT TO VAULT A7	12/5	

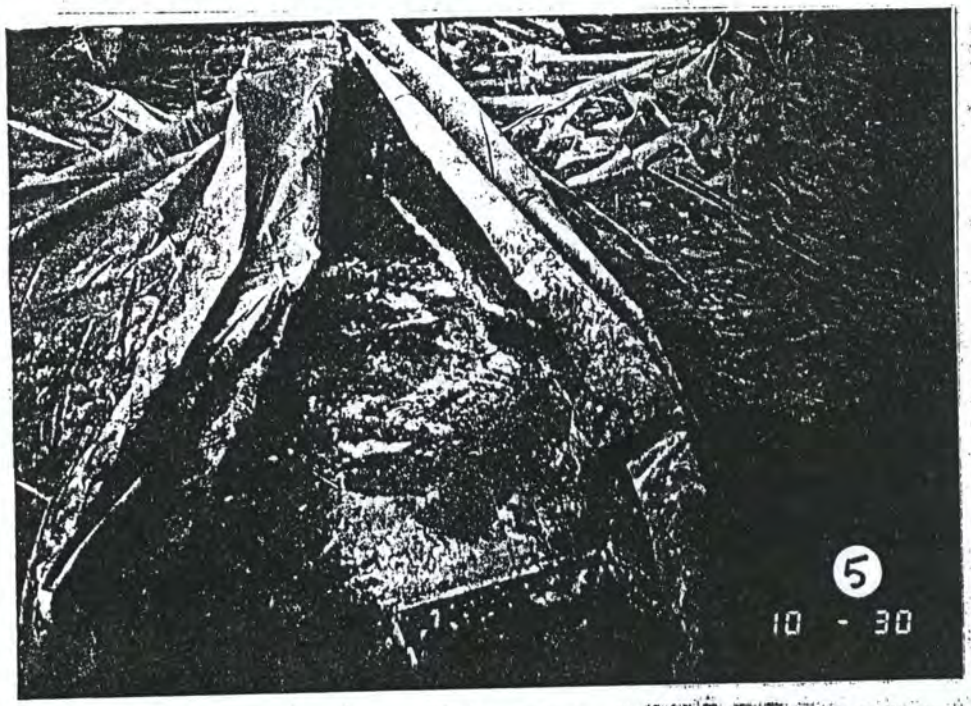
REV 1/87 FORM 303

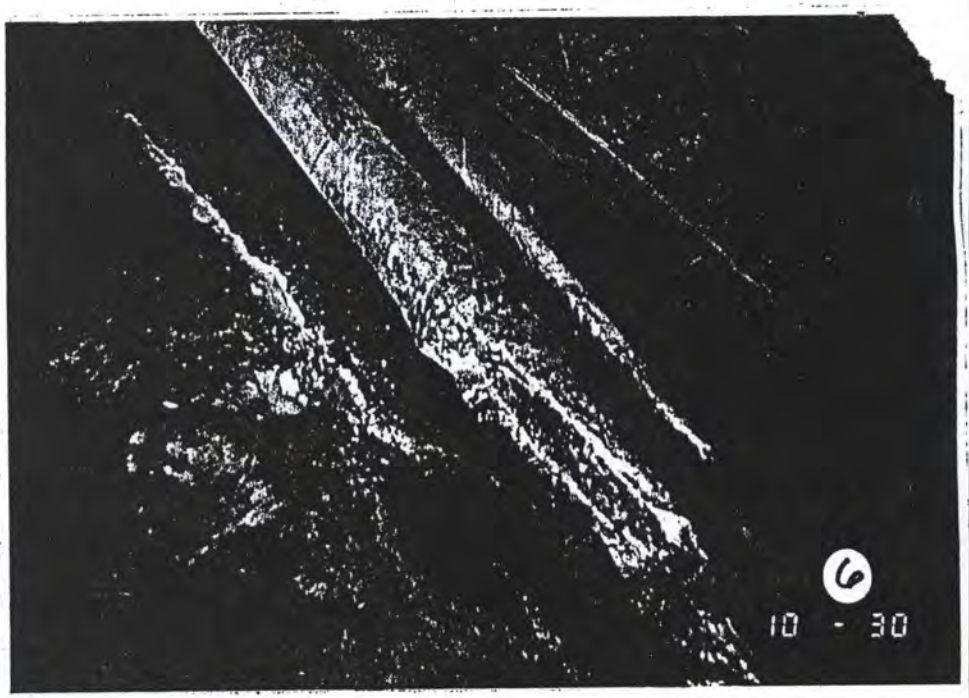

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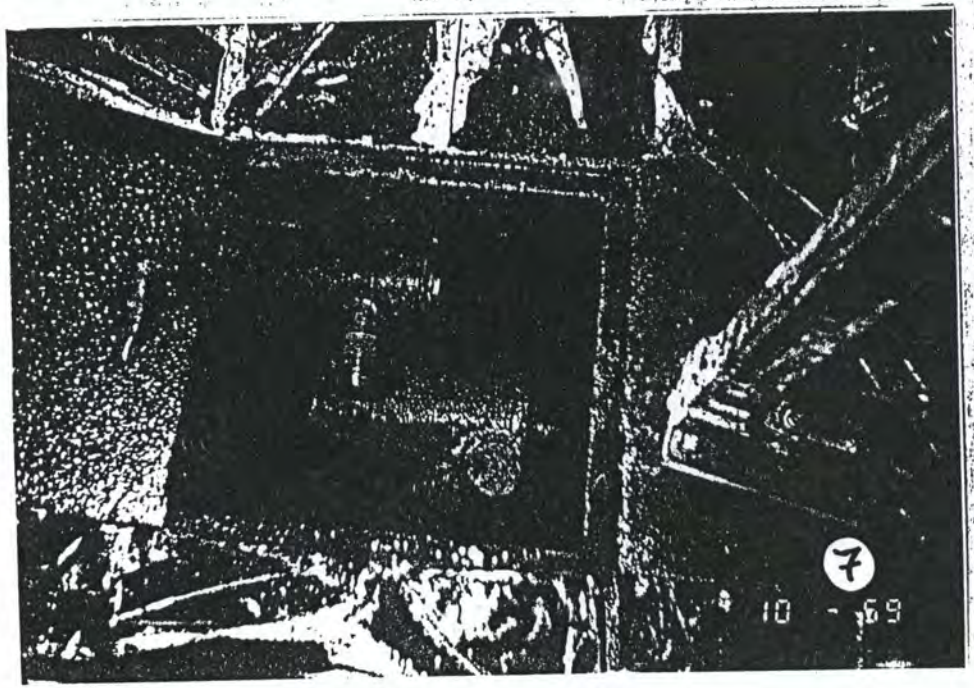

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PROJECT NWES 106099.03.ZZ RCRA CLOSURE Continued From Page

1/23/96

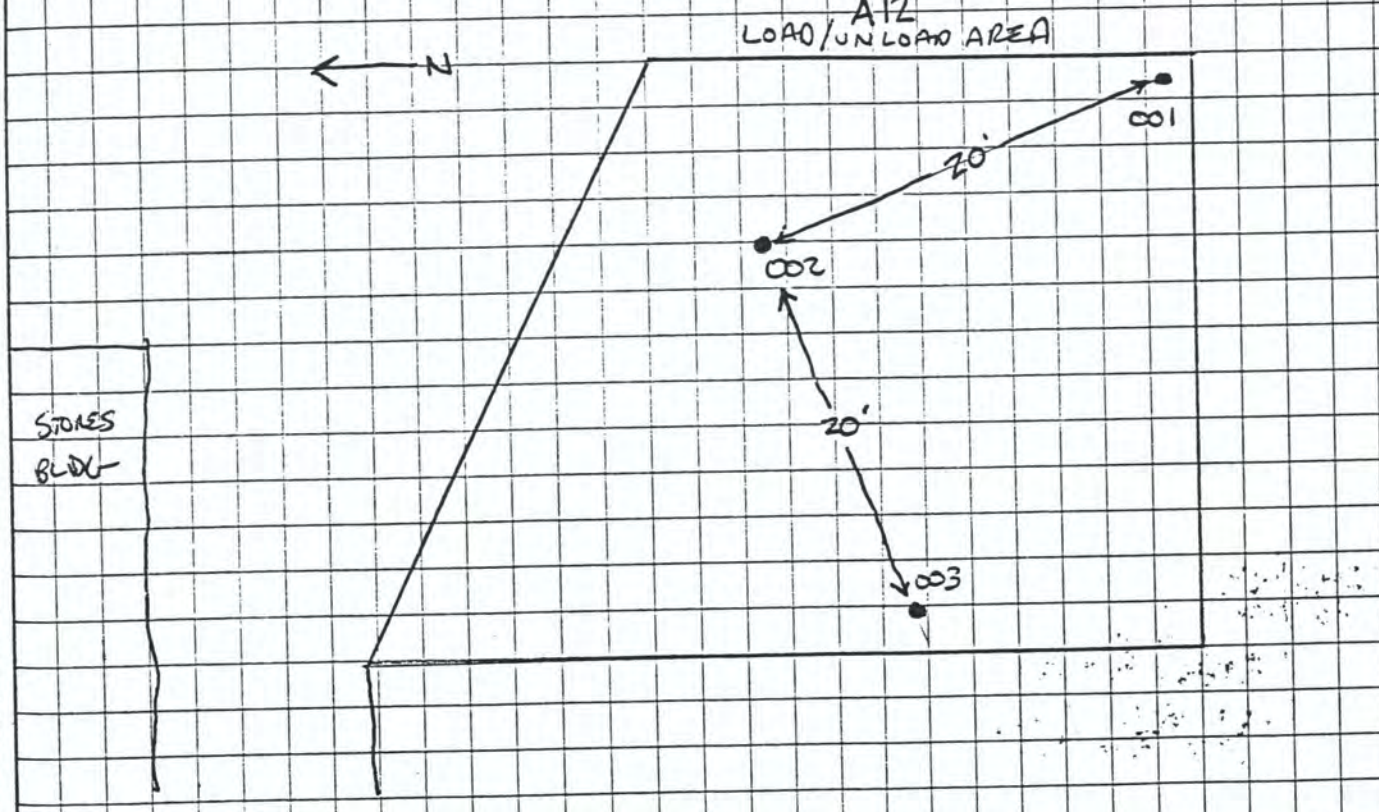
1120 VEDERA/SEA ONSITE FOR AREAS A12 BERGOSA MARK - LOAD/UNLOAD AREA

WEATHER: CLOUDY CHANGING TO RAIN

H&S: LEVEL D PPE, NO MONITORING EQUIPMENT REQD FOR CONCRETE CHIP SAMPLING.

CASWELL MIMS/NWES-WESTAC IS MY BUDDY

LAY OUT GRID PER SAP (FIGURE A-3)



METHOD: USED ROTO HAMMAR WITH NEW DEDICATED BIT AT EACH LOCATION. DECON PER PLAN BUT OMITTED HEXANE AND 10% NITRIC ACID RINSE STEPS. DRILLED SERIES OF HOLES TO ~0.6cm BELOW SURFACE AND COLLECTED DUST AND CHIPS (MIXED PRIOR TO COLLECTION)

Continued on Page

Read and Understood By

Signed 1/23/96 Date Signed Date

8.2

Notebook No. _____

PROJECT 106099.03.ZZ RCRA CLOSURE

Continued From Page _____

1310 A12-C-001

2oz	FOR:	8240 APP IX
4oz		8290 APP IX
4oz		418.1
4oz		8080 APP IX
4oz		8140 APP IX
8oz		8270 AND 8150 APP IX
8oz		APP IX METALS, CYANIDE AND SULFIDE

1415 A12-C-002 HEAVY RAIN DOWNPOUR OCCURRED MIDWAY THRU SAMPLING. PORTION OF SAMPLES DRY AND PORTION ARE MOIST TO WET.

2oz	FOR:	8240 APP-IX
4oz		8290 APP IX
4oz		418.1
4oz		8080 APP. IX
4oz		8140 APP. IX
8oz		8270 AND 8150 APP IX
8oz		APP IX METALS, CYANIDE AND SULFIDE

1625 A12-C-003

2 oz	FOR	8240 APP IX
4 oz		8290 APP IX
4 oz		418.1
4 oz		8080 APP IX
4 oz		8140 APP IX
8 oz		8270 AND 8150 APP IX
8 oz		APP IX METALS, CYANIDE AND SULFIDE

1710 OFFSITE - SECURED STORES BLDG & CASWELL LOCKED GATE

Continued on Page _____

Read and Understood By

[signature]	1/23/96		
Signed	Date	Signed	Date

1/25/96

1125 G. VEDERA AND W. LINDELL (SEA) ONSITE FOR SOIL SAMPLING IN AREAS A12 AND A11
WEATHER: OVERCAST AT FIRST WITH RAINSHOWERS LATER
LINDELL IS VEDERA'S BUDDY AND SIGNS H&S ADDENDUM AFTER REVIEW OF H&S PLAN

CALIB. H&S EQUIPMENT:

CGI MSA 260 HAZCO # 5804
CALIB W/ 0.75% PENTANE (HAZCO LOT # 39692)
ALARM @ 10% LEL
0.75% PENTANE READS 50 % LEL

O2 READS 21% OK

BLOCK END OF SAMPLE TUBE AND PUMP BALL DROPS (NO LEAKS) OK

FID FOX BOX 128 HAZCO # 3021
CALIB. W/ 100 PPM METHANE (ALPHA GAS LOT # 35323)
100PPM STANDARD CAL. GAS READS 98PPM
1150 105 Hz IN UNIT

1300-1325 REVIEW H&S PLAN WITH W. LINDELL. REVIEW SAMPLING PLAN AND WORK OUT OUR PLAN OF ATTACK

1340 SET-UP ON A12-001. COLLECTED SAMPLE WITH PREVIOUSLY DECONNED STAINLESS STEEL (SS) BOWL AND SPOON PER THE FIELD SAMPLING AND ANALYSIS PLAN. THIS IS THE LOCATION OF A ~~CRACK~~ SUMP IN THE SUMP IS MONOLITHIC, THEREFORE THE SAMPLE LOCATION IS TO ONE SIDE (EAST)

1341 A12-5-001 WELL GRADED SAND AND GRAVEL, MEDIUM BROWN, NO ODOR

2 oz CWM - 8240
4 oz CWM - 8290
4 oz CWM - 418.1
4 oz CWM - 8080
4 oz CWM - 8140
8 oz CWM - 8270 AND 8150
8 oz CWM - METALS/CYHIDE/SULFIDE

CGI = BG
OVA = 0.0 PPM

Continued on Page

Read and Understood By

T. Vedera 1/25/96
Signed Date Signed Date

PROJECT 106099.03.ZZ RCRA CLOSURE

Notebook No. _____

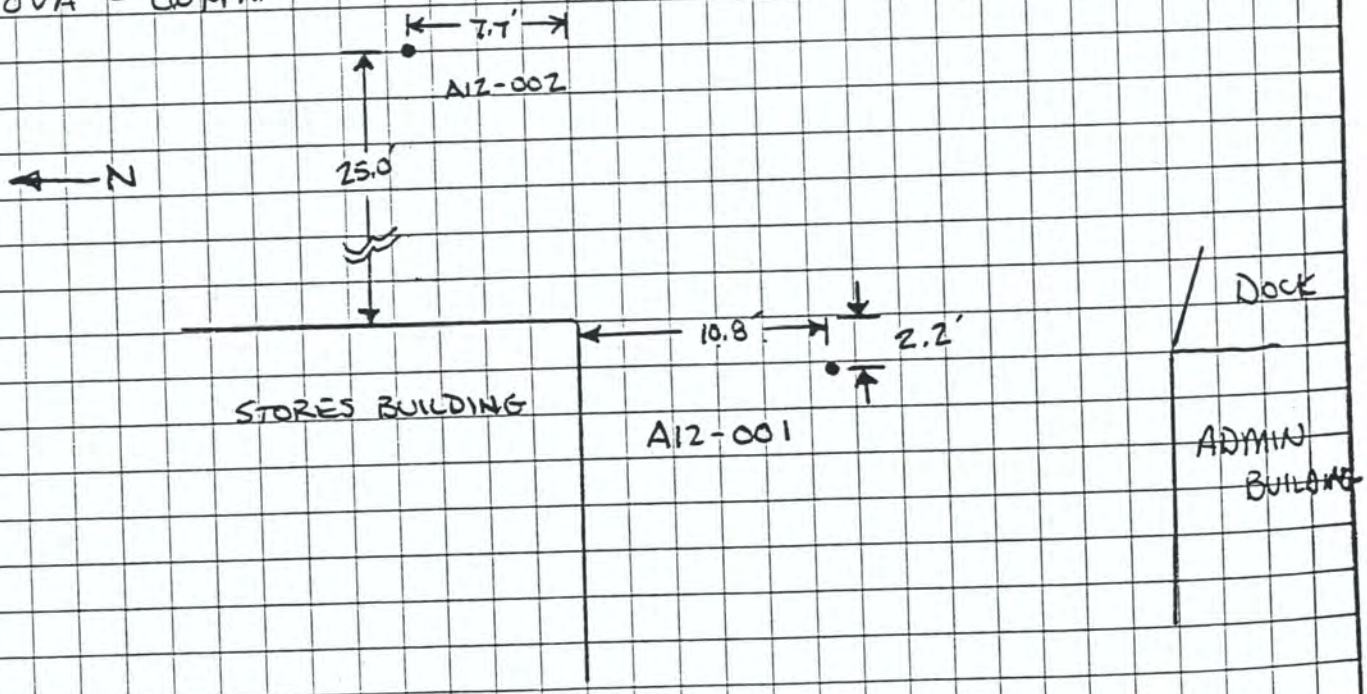
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1410 SET-UP AT A12-002. SAME PROCEDURES AS @ A12-001. THIS LOCATION IS NEXT TO A RAILROAD TIE AND THE AREA UNDER THE CONCRETE IS FLOODED WITH WATER. A SUMP PUMP DISCHARGE PIPE IS NEAR BY. THE WATER IN THE BORE HOLE APPEARS TO CYCLE WITH THE OPERATION ON THE PUMP. THIS IS THE LOCATION OF A CRACK IN THE CONCRETE COVER

1410 A12-S-002 WELL GRADED SAND AND GRAVEL, BROWN

2oz CWM - 8240
4oz CWM - 8290
4oz CWM - 418.1
4oz CWM - 8080
4oz CWM - 8140
8oz CWM - 8270 AND 8150
8oz CWM - METALS/CYANIDE/SULFIDE

CGI = BG
OVA = 00 PPM



A12 SAMPLE LOCATION PLOT

Continued on Page

Read and Understood By

J. T. Ueda — Signed
1/25/96 — Date
_____ — Signed
_____ — Date

1520-1540 USED VAC TRUCK TO REMOVE STANDING WATER AT A11-001. THIS OPERATION WAS DONE TWICE. NOTED SHEEN ON SURFACE. SAMPLE EQUIPMENT OTHERWISE SAME AS AT A12. THIS LOCATION IS TO SAMPLE UNDER A CRACK IN CONCRETE

1550 A11-S-001 TOP 1 INCH APPEARS STAINED DARK GRAY TO BLACK GRAY SILT, SAND, AND ROUNDED GRAVEL WITH SMALL WOOD DEBRIS. BELOW THIS IS BROWN SAND, SILT AND GRAVEL. SMELLS LIKE OLD PETROLEUM PRODUCT.

CGI = BG
OVA = 0.0 PPM

2 OZ CWM - 8240
4 OZ CWM - 8290
4 OZ CWM - 418.1
4 OZ CWM - 8080
4 OZ CWM - 8140
8 OZ CWM - 8270 AND 8150
8 OZ CWM - METALS/CYANIDE/SULFIDE

1620 A11-002 IS AT THE BOTTOM OF A SUMP AT THE BACK SOUTHWEST CORNER OF THE LEAN TO BUILDING. HAD TO USE A VAC TRUCK TO REMOVE STANDING WATER IN THE SUMP. NOTED A "SWAMPY" OOZE COLLECTED SAMPLE WITH SS AUGER

CGI = BG
OVA = 0.0 PPM

2 OZ CWM - 8240
4 OZ CWM - 8290
4 OZ CWM - 418.1
4 OZ CWM - 8080
4 OZ CWM - 8140
8 OZ CWM - 8270 AND 8150
8 OZ CWM - METALS/CYANIDE/SULFIDE

PACK SAMPLES AND DEMOB EQUIPMENT

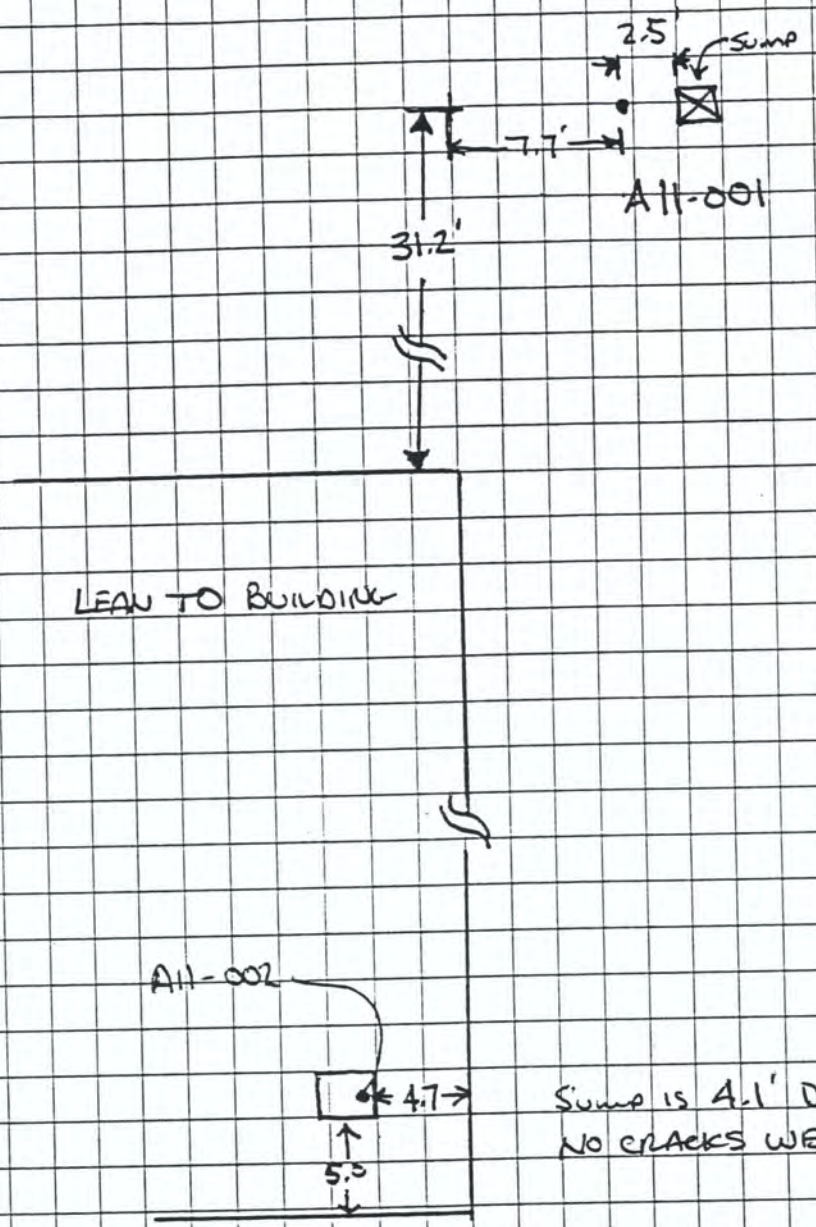
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Read and Understood By

Signed _____ Date 1/25/96

Signed _____ Date _____

OJECT 106099.03.ZZ RCRA CLOSURE



SUMP IS 4.1' DEEP FROM RIM TO BOTTOM
NO CRACKS WERE VISABLE

A11 SAMPLE LOCATION PLOT

1710 VEDERA OFFSITE, LINDELL TO LOCK UP AND FOLLOW

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
T. Veder	1/25/96		

PHASE I ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way S
Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. 180043 • February 19, 2019 • FINAL

Aspect CONSULTING

earth + water

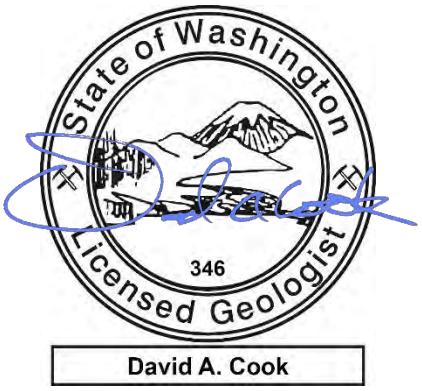
PHASE I ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way S
Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. 180043 • February 19, 2019 • FINAL

Aspect Consulting, LLC



Dana Cannon, LHG
Senior Hydrogeologist
dcannon@aspectconsulting.com

Dave Cook, LG, CPG
Principal Geologist
dcook@aspectconsulting.com

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Acronyms and Abbreviations

AAI	All Appropriate Inquiries
ALLSITES	Washington State Department of Ecology Facility/Site Identification System Listing
Aspect	Aspect Consulting, LLC
AST	aboveground storage tank
ASTM	ASTM International
AULs	activity and use limitations
bgs	below ground surface
CFR	Code of Federal Regulations
CREC	controlled REC
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources, Inc.
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ETA	Evergreen Treatment Services
FINDS	Federal Records Facility Index System/Facility Registry System
HBM	hazardous building materials
HREC	Historical Recognized Environmental Condition
mg/kg	milligrams per kilogram
msl	mean sea level
MTCA	Washington State Model Toxics Control Act
NPDES	National Pollutant Discharge Elimination System
NWES	Northwest EnviroService Inc
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
SDCI	Seattle Department of Construction and Inspection
TPH	total petroleum hydrocarbons
USGS	United States Geological Survey
UST	underground storage tank
µg/L	micrograms per liter

Executive Summary

Aspect Consulting, LLC (Aspect) has prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property located at 1700 Airport Way S in Seattle, Washington (King County tax parcel number 7666-20-2855), referred to herein as the Subject Property. The Subject Property is currently developed with one building. The southern wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS. The northern wing is a warehouse most recently used by Emerald Recycling[1] as part of their used-oil recycling facility. The building was constructed in 1914/1915 as a factory for the Western Blower Company, manufacturer of blowers for saw mills and furnaces. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, Site Location Map and Site Plan, respectively.

Commercial and Industrial Setting

The Subject Property is located in an area that has been industrially and commercially developed with manufacturing facilities and warehouses since the 1910s. The Subject Property was residential prior to this time and located adjacent to the Elliott Bay tide flats. Businesses that have operated on the Subject Property include:

- Western Blower Company – 1915 to early 1960s; blower manufacturer
- Northwest EnviroService Inc (NWES; south wing) – 1987 to 1995; administrative office and waste loading and unloading
- NWES/Emerald Recycling (north warehouse) – 1987 to present; used-oil filter processing
- Evergreen Treatment Services (south wing) – 1998 to present; opioid treatment and social services clinic

Past Environmental Sampling

NWES has completed environmental investigations on the Subject Property in 1995 and, specifically, on the north adjacent property in 2002. Subject Property investigations included collection of two soil samples and three concrete samples from the waste loading and unloading area and one groundwater sample from the well located at the southeast corner of the property. Elevated concentrations metals, polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH) in soil and concrete samples led to Ecology requiring a restrictive covenant for the Subject Property restricting soil and concrete disturbance. Groundwater use restrictions are included in the restrictive covenant due to elevated manganese concentrations in groundwater.

Investigations completed on the north adjacent NWES property found soil and groundwater impacted from metals, TPH, PAHs and volatile organic compounds (VOCs), including benzene and vinyl chloride. However, the potential for these contaminants to impact soil and groundwater at the Subject Property are low since the

[1] Emerald Recycling (aka Emerald Services) was sold to Clean Harbors in 2016.

more heavily contaminated portion of the property is located 500 feet north of the Subject Property. Furthermore, groundwater flow (i.e., contaminant transport) is towards the west, not south towards the Subject Property.

Recognized Environmental Conditions

Historical use and past sampling collectively indicate the presence of potential environmental issues to consider during the pre-acquisition due diligence period. Although limited soil and groundwater testing was done at the Subject Property, it is not sufficient to evaluate the environmental risk to property ownership or occupancy. The presence of subsurface soil/groundwater contamination does not necessarily preclude safe operations because the existing building and associated pavement provide a direct contact barrier. However, vapor migration into the building or impacted groundwater migration off-property pose potential risk. Therefore, more environmental evaluation is recommended to better understand property conditions and associated environmental risk, liability, and remedial cost prior to property acquisition/ownership.

This assessment revealed the following recognized environmental conditions (RECs) in connection with the Subject Property (which warrant further evaluation):

1. **Restrictive covenant on Subject Property.** A restrictive covenant recorded for the property requires the building and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, benzo(a)pyrene (a PAH compound), and TPH. Soil sampling locations, the basis of the covenant requirements, were north of the former loading dock, illustrated on Figure 2. Notification to the Washington State Department of Ecology (Ecology) is required for redevelopment or other disturbance to the cover. The restrictive covenant includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1 (Figure 2).

2. **Historical manufacturing on property by Western Blower.** Materials used during manufacturing may have resulted in releases of oil, solvents and metals. Historical building plans for the north warehouse area indicate the basement was the machine shop with a plating area at the northeast corner. In addition to the other contaminants listed above, a cyanide release can be associated with metals plating.

3. **Spills and releases to drains from former property use by NWES.** NWES used the loading dock located towards the center of the Subject Property building for loading and unloading hazardous and nonhazardous waste from 1987 to 1995. Environmental reports indicate hazardous waste handling and treatment was completed on the northern adjacent property, also owned by NWES. Limited sampling completed in 1995 identified metals, oil and PAH contamination in soil and concrete.

4. **Used-oil recycling activities by Emerald Recycling.** . Practices may have resulted in releases of oil, solvents, and metals on the northern portion of the Subject Property.

5. **Large engine maintenance/cleaning (north warehouse).** Large engines were potentially cleaned or maintained on main warehouse floor.

6. **Fill material**. Based on borings completed on the north adjacent property, approximately 10 feet of undocumented fill material underlies the Subject Property. Fill material can result in elevated concentrations of metals, oil, and PAHs in soil.

7. **Potential heating oil underground storage tank.** Historical building records indicate the Subject Property was heated by an oil burner. The boiler room was located near the west central entrance to the building.

The results of this study indicate a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on property potential sources, and a risk for vapor encroachment or intrusion to Subject Property structures.

This executive summary should be used only in the context of the full report.

1 Introduction

Aspect Consulting, LLC (Aspect) has prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property located at 1700 Airport Way S. in Seattle, Washington (King County tax parcel number 7666-20-2855), referred to herein as the Subject Property. The Subject Property is currently developed with one building. The south wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS. The north wing is a warehouse most recently used by Emerald Recycling, a subsidiary of Clean Harbors, as part of their used-oil recycling facility. The building was constructed in 1914/1915 as a factory for the Western Blower Company, manufacturer of blowers for saw mills and furnaces. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, *Site Location Map* and *Site Plan*, respectively.

The purpose of the Phase I ESA is to identify, to the extent practicable using standard methods, the presence or likely presence of Recognized Environmental Conditions (RECs) associated with the Subject Property. As defined by Section 1.1.1 of ASTM International (ASTM) E1527-13, RECs are: hazardous substances or petroleum products under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the properties or into the ground, groundwater, or surface water of the properties. RECs can be further evaluated as:

- Controlled RECs (CRECs), defined as "a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a NFA letter or equivalent, or meeting risk-based criteria established by the regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls…"

  CRECs are considered a REC; however, the risk to the property can be low if the engineering controls and subsurface conditions remain unchanged.

- Historical RECs (HRECs), defined as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls."

  HRECs are not considered RECs because the represented conditions have been previously addressed to the satisfaction of the applicable regulatory authority with no use restrictions, and do not pose a threat of environmental impact to the property.

A summary of the RECs, CRECs, and HRECs to the Subject Property, if identified, is presented in Section 7 of this report. The Phase I ESA was performed in general accordance with the ASTM E1527-13 guidelines and the U.S. Environmental Protection

Agency's (EPA) Title 40 Code of Federal Regulation (40 CFR) Part 312 *Standards and Practices for All Appropriate Inquiries (AAI)*. Deviations from these guidelines are described in Section 1.3 of this report.

1.1 Scope of Work

The scope of services for this ESA consisted of the following tasks:

Site Reconnaissance

1. Conduct a visual inspection of the Subject Property and surrounding properties to identify potential sources of contamination and to document the status of the Subject Property at the time of this assessment. Photographs obtained during the site reconnaissance are included in Appendix A.

Interviews

2. Interview the ESA User for property information and the purpose of the ESA. The User Questionnaire and property information provided by the User are included in Appendix B.

3. Interview a "key site manager" with knowledge of the current and historical uses of the Subject Property as identified by the User or Subject Property owner, and request that the "key site manager" interview be conducted during the site reconnaissance, or by telephone if they are unavailable at the time of the reconnaissance. The "key site manager" is defined in ASTM E1527-13 as "the person identified by the owner or operator of a property as having good knowledge of the uses and physical characteristics of the property."

4. Attempt to interview current occupants whose operations are the most likely to use, store, treat, handle, or dispose of hazardous substances now or in the past, or who are most likely to have information regarding other potential RECs. And, attempt interviews with past occupants to fill historical use data gaps, except where duplicative of information obtained from other sources. For abandoned properties, attempt to interview one or more owners or occupants of neighboring or nearby properties.

5. Interview a representative of the State and/or local agencies, such as the local fire department, health department, and/or State environmental or human health regulatory agencies as necessary to gather information or fill data gaps regarding the history of the Subject Property and surrounding properties that may pose a potential REC.

Records Acquisition and Review

6. Review property information to identify ownership, confirm the legal description/location, and identify property use restrictions, where present. This information is included in Appendix B.

7. Request and review all previous environmental reports for the Subject Property, including reports regarding hazardous building materials (HBM), summarize pertinent information in the reports, and evaluate the environmental risk

associated with report findings and data gaps, if warranted. Pertinent sections of previous environmental reports are included in Appendix C.

8. Review historical records to identify past land use activities at the Subject Property (to the first developed use,[2] or 1940, whichever is earlier) and surrounding properties, and evaluate the environmental risk associated with the identified activities. Historical records obtained are included in Appendix D.

9. Review physical setting information to identify the topographic, hydrologic, geologic, and hydrogeologic conditions in the area of the Subject Property, including the current 7.5-minute topographic map (provided by the U.S. Geological Survey [USGS] or equivalent). Sources reviewed are listed in Section 5 and/or are included in Appendix D.

10. Contact potential sources of environmental records, including Federal and State regulatory databases, and review records provided to identify facilities with past or current regulatory enforcement activities of environmental concern. The search includes facilities on, or formerly on, the Subject Property, and at distances designated in ASTM E1527-13. The regulatory database search report is included in Appendix E.

Evaluation and Report

11. Preparation of this Phase I ESA report to document the findings, significant data gaps, and conclusions of the assessment, and to present recommendations for further investigation, if needed. Declaration of the environmental professional who completed this assessment is included in Section 9.

1.2 Significant Assumptions

The conclusions of this Phase I ESA are based on research of readily available and reasonably ascertainable[3] current and historical information sources, interviews, and a site reconnaissance visit as described in Section 1.1. When possible, Aspect researched multiple sources to corroborate information. Aspect has assumed that the information sources reviewed are correct unless another source indicated otherwise.

The scope of services did not include an environmental compliance audit or a hazardous building material (HBM; e.g., asbestos, lead-based paint, radon, lead in drinking water, toxic mold, urea-formaldehyde insulation and other materials) survey of onsite structures or debris as part of this Phase I ESA. If existing HBM reports were provided for Aspect review, they are summarized in Section 3.4 and included in Appendix C.

The scope of services did not include soil, groundwater, soil gas, indoor or outdoor air, or surface water sampling. If existing environmental reports describing sampling activities

[2] The term "developed use" is defined in ASTM E1527-13 as "agricultural uses and placement of fill dirt."

[3] The term "reasonably ascertainable" is defined in ASTM E1527-13 as "information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.

were provided for Aspect review, they are summarized in Section 3.5 and included in Appendix C.

1.3 Deviations to Scope of Work

Aspect did not enter and observe all office and clinical spaces within the existing Subject Property building during our site reconnaissance, because the spaces were in active use; however, representative spaces were observed to gather knowledge on typical use of all spaces. The un-observed spaces are unlikely to contain more than *de minimis* quantities of hazardous materials and this deviation is unlikely to alter the findings of this study and is not considered a significant data gap.

2 Subject Property Description

This section presents a description of the Subject Property and adjoining properties and a summary of the physical setting. Characteristics of the Subject Property and adjoining properties are shown on the *Site Plan*, Figure 2.

2.1 Current Use and Development

The Subject Property is developed with an elongated building consisting of a north and south wing with timber-frame construction and concrete basement foundations. The two wings are connected with second- and third-story offices and breezeway at street level used as the central access driveway for the Subject Property The south wing was converted into office space in the 1980s. ETS occupies the central office space and south wing. The north wing was most recently used by Emerald Recycling as part of their used-oil recycling facility. The Subject Property vicinity is commercially and industrially developed with transit bus garage/maintenance, distribution warehouses, office buildings, and retail (see Section 4.2).

2.2 Physical Setting

According to the Geologic Map of Seattle, produced by the USGS and the Pacific Northwest Center for Geological Mapping Studies, the Subject Property and properties westward are underlain by tide flat deposits. The steep hillslope to the immediate east is underlain mainly by Quaternary continental glacial drift deposits from the Pleistocene including pre-Fraser-age glaciation, about 70,000 to 20,000 years ago (Troost et al., 2005). Historical Sanborn maps for the predevelopment Subject Property vicinity indicate that the Elliott Bay tide flats were located at the Subject Property and Airport Way S. was a plank road. The tide flats were filled in the early 1900s. Today, the immediate Subject Property vicinity is generally flat and situated at approximate elevation 25 feet above mean sea level (msl), as shown on the current USGS 7.5-minute topographic map for Seattle South, WA, included in Appendix D.

Based on our review of boring logs from adjacent properties, properties in the vicinity are often underlain by approximately 10 feet of imported fill containing wood, brick, slag, concrete, and metal debris. Previous explorations on the north adjacent property encountered alternating strata of clay, silt, and silty sand beneath imported fill soil.

Subsurface investigations completed to the north identified two water-bearing zones separated by a clay unit. The shallower aquifer is at 10 to 15 feet below ground surface (bgs) and the lower aquifer below 20 feet bgs. Monitoring wells completed in the shallow aquifer indicate groundwater flow is to the west.

3 User-Provided Information and Interviews

This section presents a summary of the information provided to Aspect by the User, the Subject Property representative identified as the "key site manager" for this study, previous environmental reports for the Subject Property, and information available in Aspect's files for the neighborhood.

3.1 User Questionnaire and Interview

A copy of the User Questionnaire, completed by Ms. Kruger, is included in Appendix B. The questionnaire is used to obtain user-provided information (e.g., title records, environmental liens, etc.) that may identify conditions that pose a possible environmental concern or REC to the Subject Property. Title records were not provided, and a title records search was not conducted as part of this Phase I ESA.

3.2 Property Representative Interviews

The following representatives of ETS, the current business occupant of the south portion of the Subject Property, have been interviewed: Linda Kruger, Chief Operating Officer, and Denis Ibragimov, Facilities Manager. The ETS representatives were interviewed during the site reconnaissance conducted on May 25, 2018. Two property owner representatives were interviewed via phone on February 8 and 11, 2019: Steve Banchero, Chief Operating Officer for Cedar Grove, and Jerry Bartlett, former Environmental Manager for Cedar Grove and NWES. Information provided by the ETS and property owner representatives is included in Section 4, Subject Property Reconnaissance and Section 5, Historical Use Information.

3.3 Information Regarding Environmental Liens

Ms. Kruger provided information regarding activity or other use limitations (AULs) for the Subject Property. An environmental restrictive covenant for the Subject Property parcel was recorded with King County in 2018. AULs and supporting environmental data are discussed in the following section. Aspect was not provided information regarding any environmental liens on the property. Neither Ms. Kruger nor Mr. Banchero is aware of any environmental liens associated with the Subject Property.

3.4 Previous Environmental Reports

Two previous environmental reports were identified for the Subject Property: "Northwest EnviroService Inc. Interim Status Closure Plan, Western Blower Property" (Closure Plan; NWES, 1995) and "Northwest EnviroService Inc, Western Blower Property RCRA Closure Sampling Results" (Results Report; NWES, 1996). Additional historical use activities were provided by Mr. Banchero, representing the property owner. He has been familiar with the Subject Property since NWES's purchase in 1987. Copies of these reports are provided in Appendix C.

From 1987 to 1995, NWES operated a hazardous waste treatment and storage facility that occupied 1.3 acres between Airport Way and Interstate 5 spanning from S Atlantic Street to the north and S Holgate Street to the south, including the Subject Property. Site

operations were regulated by the Washington State Department of Ecology (Ecology) under the Resource Conservation and Recovery Act (RCRA).

In 1995, NWES discontinued its hazardous waste operations and started RCRA closure of the hazardous waste handling aspect of the facility. Since their use of the Western Blower Property (Subject Property) was limited, closure of this portion of the property was conducted separate from the remainder of the property to the north where more hazardous waste handling activities were focused. The following provides a summary of NWES's use of the Subject Property, as provided in the 1995 and 1996 NWES reports, and closure activities completed in 1995. The Closure Plan includes the shed-like structure just north of the Subject Property; however, our summary focuses on the Subject Property.

Little information is available in the 1995 and 1996 NWES reports providing specifics on site use, or chemical handling or storage. NWES states in the reports that Subject Property use included "administrative and warehouse activities," and "Sealed and containerized wastes were unloaded from trucks at the load/unload dock and transported to the adjacent NWES property for processing." In our interview with Mr. Banchero, he stated that NWES converted the south wing into offices. The loading dock near the center of the Subject Property building was used for loading and unloading hazardous waste (Figure 2). Mr. Banchero stated that containerized waste was then transferred to the north-adjacent parcel, also owned by NWES, for processing. NWES used the Subject Property warehouse space to store pumps, hoses, and other equipment. The north warehouse included an area for repairing pumps and a parts washer.

A figure in the report refers to the north warehouse as the "Stores Building." King County tax assessor records indicate that the southern portion of the south wing included laboratory space for organic and inorganic sample preparation, most likely for waste disposal characterization.

The 1995 Closure Plan stated the following activities were to be completed for site closure:

- Remove waste inventory
- Decontamination of site concrete, sumps, tanks, and equipment.
- Disposal of contaminated materials
- Collection of samples to certify completion of closure

The language in the 1995 report does not provide details about specific storage tanks or sumps to be decontaminated on the Subject Property. The 1996 report provides results from the post-closure sample collection that included three concrete samples, two shallow soil samples, and two groundwater samples from wells MW-1 and MW-2. Sample locations are depicted on Figure 2. Concrete samples had elevated metals concentrations with cadmium at 200 milligrams/kilogram (mg/kg). The Washington State Model Toxics Control Act (MTCA) cleanup level for cadmium for unrestricted site use is 2 mg/kg. Arsenic, total petroleum hydrocarbons (TPH), and benzo(a)pyrene were detected in soil samples with only benzo(a)pyrene exceeding MTCA Method A cleanup level of 0.1

mg/kg. Manganese was detected in groundwater at a concentration of 3,400 micrograms/liter (µg/L), which has a drinking water standard of 2,200 µg/L.

In 1997, Ecology determined no further action or investigation would be required for site closure; however, a restrictive covenant would need to be placed on the property. The restrictive covenant has the following stipulations:

- The property shall be used in compliance with General Industrial 2 zoning classification per City of Seattle ordinances.
- Property groundwater shall not be used for domestic, agricultural, industrial, or any other use.
- Existing structures cannot be altered or modified in any manner that may result in the release or exposure to the environment of contaminated soils or concrete, without prior Ecology approval.
- Existing paved surface must be maintained to prevent the release or exposure to the environment of contaminated soils or concrete. Any activity that would pierce or damage the surface is prohibited without prior Ecology approval.

SUMMARY—The following data gaps were identified from our review of previous studies:

1. Soil sampling was limited to two locations on the Subject Property and focused on shallow soil conditions.
2. Groundwater conditions downgradient/west of the property or catch basins and associated piping were not characterized.
3. Potential impacts to indoor air due to vapor intrusion pathway were not assessed in previous studies.

For these reasons, there is potential for residual contaminants to be present in Subject Property soil or groundwater at concentrations greater than today's MTCA Method A or B cleanup levels. This is considered a REC by this study.

4 Subject Property Reconnaissance

4.1 Subject Property Observations

On May 25, 2018, Dana Cannon of Aspect conducted a site reconnaissance to document the current status of the Subject Property. Aspect was accompanied by representatives of ETS, Linda Kruger, Director of Operations and Denis Ibragimov, Facilities and Public Safety Manger. The site reconnaissance focused on areas or uses with potential environmental implications (if present), including potential chemical storage, chemical usage, and waste disposal practices, and signs of activities other than those documented in the historical records. An additional visual inspection was completed of the Subject Property on November 8, 2018, and property use appeared unchanged from observations made on May 25, 2018.

At the time of our site reconnaissance, the Subject Property was occupied by two tenants: Emerald Recycling in the north wing as part of their used-oil recycling facility and ETS in the south wing. The Subject Property was accessed via Airport Way S.

Aspect did not enter and observe all office spaces or treatment rooms within the existing Subject Property building during our site reconnaissance; however representative spaces were observed. Because the un-observed spaces are unlikely to contain more than *de minimis* quantities of hazardous materials, this deviation is unlikely to alter the findings of this study and is not considered a significant data gap.

A summary of our observations from the site visit is provided in Table 1, below. Approximate locations of the features described below are shown on Figure 2, Site Plan. Photographs of the Subject Property are provided in Appendix A.

SUMMARY—Evidence of the following RECs were identified during the site reconnaissance:

- Used-oil processing conducted by Emerald Recycling on the northern portion of the Subject Property.
- Oily wastewater disposal to the sump located at the southeast corner of the north wing.

Table 1. Subject Property Observations

Feature	Observed? Yes	Observed? No	Comments
Evidence of underground storage tanks (USTs)		X	Not observed.
Aboveground storage tanks (ASTs)	X		One observed on the east side of the north wing, a representative of Emerald Recycling stated that water is pumped from a sump in the southeast corner of the warehouse basement into the tank that is emptied approximately every two weeks.
Chemical, hazardous substances, and petroleum products use or storage	X		North wing used for processing a storage of used-oil filters.
Hydraulic hoists		X	Not observed.
Drums or other containers	X		North wing: Multiple drums used to store used-oil filters and demulsifiers used for cleaning floors and workers clothing and personal protection.
Evidence of leaks and spills of hazardous materials or corrosion		X	Not observed.
Evidence of past uses of the Subject Property	X		North wing continues to be used as a warehouse. South wing has been renovated. Heavy lifting equipment remains mounted on north warehouse ceiling.
Hazardous waste		X	Not observed.
Solid waste	X		Refuse dumpsters are located in the parking area on the east side of the property.
Unmanaged waste or debris piles		X	Not observed.
Potable water supply	X		Municipal system.
Sewage disposal system (including septic systems and drainfields)	X		Municipal system.
Heating/Cooling System	X		Natural gas connection observed in basement of south wing. North heating unit not observed. Current heating systems are not considered a REC. Mr. Banchero, key site manager, indicated the property was heated with natural gas when NWES acquired the property in 1987.
Electrical transformers or other PCB-containing equipment		X	Not observed.
Interior floor drains, sumps, or drywells	X		Floor drains observed in floor of north wing. Sump located at southeast corner of north warehouse. Wastewater from laundry machine used to clean oily gloves and clothes of workers is discharged directly to sump. Sump water pumps to exterior AST discussed above.
Stormwater drainage	X		Four catch basins observed along paved parking area on east side of building. A review of City of Seattle side sewer card indicated catchbasins discharge to city combined main sewer in Airport Way near driveway at center of property..
Oil/water separators		X	Not observed.
Standing water or pools of liquid (e.g., pits, ponds, lagoons, etc.)	X		Not observed; however, Mr. Ibragimov of ETS stated that during the rainy season, water enters along east side of the basement foundation of the south wing.
Wells (including dry wells, irrigation wells, injection wells, abandoned wells, water supply, monitoring wells, or other wells)	X		Monitoring well observed at southeast corner of Subject Property installed during previous investigations (see Section 6.2.2) were observed in the locations shown on Figure 2.

Feature	Observed?		Comments
	Yes	No	
Discolored or stressed vegetation		X	Not observed.
Discolored or stained pavement		X	Not observed.
Unusual odors		X	Not observed.
Other Environmental Condition(s) of Concern		X	Not observed.

4.2 Adjoining Property Use Observations

Adjoining properties were observed from adjacent rights-of-way on May 25, 2018. Adjoining properties or buildings were not entered. The Subject Property is situated in an area that is generally heavily developed with commercial and light industrial uses. A description of the conditions observed on the adjoining properties during the site reconnaissance visit is presented below.

North – The north adjacent property is occupied by Emerald Recycling/Clean Harbors as a used-oil recycling facility. Site use and environmental investigations related to this facility are discussed in more detail in Section 6.2.2.

East – Interstate 5 is located east of the Subject Property.

South – The south adjacent property is a multitenant light industrial property. Tenants include a clothing print shop, electric bike sales, computer consultant, and paint store.

West – The property to the west across Airport Way includes Holgate Center office building and Centurylink garage and storage facility. Tenants of the Holgate Center include Department of Social and Health Services and Quest Diagnostics.

Adjoining property uses and locations relative to the Subject Property are shown on Figure 2, Site Plan.

Adjoining property uses do not represent RECs to the Subject Property.

5 Historical Use Information

The history of the Subject Property and adjoining properties was compiled through review of historical sources and reasonably ascertainable information pertaining to the Subject Property. Historical sources reviewed by Aspect included:

- Aerial photographs obtained from EDR and King County dated 1936, 1943, 1953, 1956, 1965, 1969, 1975, 1977, 1980, 1985, 1990, 1998, 2006, 2011, 2015, and 2016.
- Sanborn® Fire Insurance maps obtained from EDR dated 1893, 1904, 1916, 1950, and 1969.
- Topographic maps obtained from EDR for the years 1894, 1895, 1897, 1908, 1909, 1968, 1973, 1983, and 2014.
- Excerpts from historical city directories obtained from EDR for approximate 5-year intervals from 1935 through 2005. Note that Airport Way S. address numbering changed such that the Subject Property was listed at 1800 Airport Way S. prior to 1980.
- Current and historical tax assessor documents provided by King County and Puget Sound Archives.

- Historical site plans ETS acquired from Seattle Department of Construction and Inspection (SDCI).
- Pertinent information provided during interviews with the User, key site manager for the Subject Property, and others, as appropriate (see Section 3).

The historical resources acquired during this study is in general accordance with the requirements of ASTM 1527-13 Section 8.3; when reviewed collectively, no historical record acquisition "data failures"[4] were identified. Copies of the historical records obtained from the sources above are provided in Appendix C. The following subsections provide a synopsis of the findings of the historical review.

5.1 Subject Property

The earliest record of the Subject Property is an 1893 Sanborn map, which shows the lot as residential properties possibly built on wharf-like structures at the eastern edge of the Elliott Bay tide flats. At that time, present-day Airport Way S was a wood plank road.

Tax assessor records indicate the Subject Property was developed in 1914 by Western Blower Company. The 1916 Sanborn map only illustrates the south warehouse suggesting the factory was built incrementally. SDCI's historical building plans from 1942 indicate the basement of the north wing included a paint spray booth and shop and plating areas. Tax assessor records indicate a 350-gallon fuel tank was on the property and the building was heated with oil burner. City directory listings indicate Western Blower occupied the property until the 1960s and the Subject Property is listed as vacant in the 1970s.

NWES started operating a tank cleaning service north of the Subject Property in the late 1970s. As detailed in Section 3.4, NWES expanded operations to the Subject Property in 1987. NWES operated a commercial hazardous waste management facility, providing storage and treatment to businesses that generate hazardous waste up until 1995. NWES moved out of the south wing of the Subject Property building in 1995. Refer to Section 3.4 for details on NWES Subject Property use.

Tax assessor records indicate the South Subject Property building was renovated in 1997 for use by ETS.

SUMMARY – The historical use of the Subject Property for manufacturing and use of heating oil may have resulted in releases of petroleum, solvents, and/or metals to subsurface soil and/or groundwater, which is a REC to the Subject Property. In addition to the other contaminants listed above, a cyanide release can be associated with metals plating.

5.2 Adjoining and Surrounding Properties

As early as the 1890s, adjacent and nearby properties were generally residentially developed to north, south, and east of the Subject Property. The Elliott Bay tide flats bordered the Subject Property to the west which by the mid-1910s were mostly filled.

[4] Data failure is defined in ASTM as a failure to achieve the historical research objectives, even after reviewing the standard historical sources that are reasonable ascertainable and likely to be useful. "

Following this time, the neighborhood gradually developed with light industrial and commercial uses, as described below.

North—A service station operated on the property north of the Subject Property from the 1920s into the 1950s after which the property is listed vacant in city directories. A battery supply store operated on the property in the 1960s and 1970s. In the 1980 aerial photo, the north adjacent property is vacant used for parking. Tax assessor records indicate the large tanks currently present on the property were installed in the early 1980s by NWES, which remains on the property today.

West—Properties on the west side of Airport Way S were undeveloped until the early 1950s. The present-day office building west of the south Subject Property building was built in 1951. Tenants have included Western Electric Company, Eddie Baurer mail order offices, Quest Diagnostics and Washington State Department of social and Health Services.

South—The south adjacent property was developed with a flour mill in the early 1900s. The property was redeveloped with a radiator manufacturing facility by 1916; however the building is no longer present in the 1936 aerial photo. From the 1940s through the 1970s, the property was occupied by Bay Construction, excavation contractors. During this period, the area immediately south was used as a storage yard and a building was located at the northeast corner of S Holgate Street and Airport Way S. As discussed in Section 6, the property to the south underwent a cleanup during redevelopment.

East—Railroad tracks were located on the east side of the property from the early 1900s until they were removed in the 1980s. A steep hillslope is located east of the Subject Property. It has been mostly undeveloped with some residences in the early 1900s to 1940s. Interstate 5 is shown under construction in the 1965 aerial photo and completed by 1969.

6 Regulatory Environmental Records Review

Aspect requested and reviewed records and database listings pertaining to the Subject Property obtained from regulatory and government agencies to identify conditions that may pose a REC to the Subject Property. A summary of the requested records and unresponsive agencies is presented in Section 6.1, and findings of the records review are presented in Section 6.2.

6.1 Requested Records

Regulatory Environmental Database Search—Aspect contracted Environmental Data Resources, Inc. (EDR) to conduct a regulatory agency databases search for listings pertaining to the Subject Property and surrounding properties within the standard ASTM-prescribed search radii. The database search was completed on May 14, 2018. Aspect reviewed database listings for the Subject Property and adjoining properties. For the remaining database search results, Aspect used the following screening criteria to focus the review based on the high density of listed sites in the area and our understanding of the hydrogeologic conditions in the vicinity:

- Sites listed only on databases that are not indicative of a past release were considered low risk and were not reviewed. For this study, these databases include: RCRA, AST, UST, HMIRS, FINDS, ALLSITES, and NPDES.
- Any non-adjacent sites in the EDR report that were located greater than 1/2 mile in any direction from the Subject Property were eliminated as low risk for contaminant migration to the Subject Property.
- Sites located downgradient and greater than 1/4 mile from the Subject Property were eliminated as low risk for contaminant migration to the Subject Property.

Aspect also reviewed a list of "orphan" sites, or sites identified in the databases with incomplete address information. Aspect's review found that the orphan site listings are not located within a 1-mile radius of the Subject Property and, therefore, the orphan site listings were excluded from further evaluation. The results of the database search by EDR are included in Appendix E.

Washington State Department of Ecology—On May 21, 2018, Aspect requested a file review for the Subject Property, adjoining properties that were identified in the regulatory databases, and for nearby listed sites that were identified as listed sites of concern during Aspect's review of the database listings. Aspect received a response to our request on June 7 identifying multiple files for review for the north adjacent property, Northwest EnviroServices. Details are discussed below.

Environmental Protection Agency—Aspect submitted a public records request to Environmental Protection Agency on June 14, 2018, for any Subject Property records. Aspect has received a response to our request on July 13, 2018. Records provided from EPA have been summarized in Section 3.4.

Seattle Fire Department—Aspect contacted the Seattle Fire Marshal's office on June 1, 2018 to request any records pertaining to hazardous materials storage or underground storage tank closure. Aspect received a response June 30, 2018. The Seattle Fire Marshal's had no records for the Subject Property.

6.2 Records Review Findings

6.2.1 Subject Property

The Subject Property was identified by EDR on the following regulatory databases: FINDS, FTTS. These listings are related to waste reporting issues by NWES from the early 1990s when they occupied the Subject Property. NWES failed to report storage of polychlorinated biphenyl (PCB) waste on the property. NWES's historical use of the Subject Property has been previously identified as an REC.

6.2.2 Adjoining and Surrounding Properties

The following adjacent and surrounding properties were identified (Figure 2):

1. **Northwest EnviroServices (NWES), 1500 Airport Way**
   Waste treatment services, Adjacent north, crossgradient

As discussed in Section 3.4, NWES operated a commercial hazardous waste management facility from 1979 through 1995, providing storage and treatment to businesses that generate hazardous waste. NWES received and treated various waste streams including wastewater, used-oil, metals, solvents, paint, and corrosive materials. Since 1995, Emerald Recycling has been recycling nonhazardous waste and used oil and treating industrial waste water at the NWES Facility. As a hazardous waste management facility, NWES was identified by EDR on multiple regulatory databases including CSCSL, SPILLS, ICR, RCRA-TSDF, UST.

Aspect reviewed Ecology files for the NWES facility. In 2002, NWES completed a RCRA Facility Investigation which included soil sampling and groundwater monitoring (NWES, 2004). Soil and groundwater were contaminated from releases related to NWES's site use. The more heavily impacted area was approximately 400 feet north of the Subject Property. Groundwater flow, thus contaminant transport, is to the west towards Airport Way S.

The nearest groundwater monitoring well to the Subject Property, MW-7 is located approximately 125 north of the northwest Subject Property corner. Benzene and vinyl chloride, which pose a potential risk for vapor intrusion impacting indoor air, were detected in groundwater at 7 µg/L and 1 µg/L, respectively. These values exceed MTCA Method B screening levels for assessing potential impacts to indoor air, which are 2.4 µg/L and 0.3 µg/L, respectively for benzene and vinyl chloride.

Files records also include data related to a 100–200-gallon diesel release that occurred in May 2012 at the south end of the NWES property, west of the south tank farm (CH2MHill, 2012). Approximately 22 cubic yards of soil were removed from the sidewalk area between the NWES property and Airport Way S. Further excavation was not possible due to subsurface utilities.

6.2.3 Area-Wide Contamination

Aspect also conducted a search of state and federal websites for readily available information that may concern areawide soil and groundwater contamination in the Subject Property vicinity.

6.2.3.1 Asarco Smelter Plume

According to Ecology's website, wide-spread lead and arsenic contamination in near-surface soil has been identified throughout a large zone in the south Puget Sound region, that originated from an Asarco copper smelter that historically operated in Tacoma, Washington for over 100 years. The Subject Property is located inside the zone, in the area of least impact with typical range of arsenic detections between non-detect and 20 parts per million (ppm) (the MTCA cleanup level for arsenic) (Ecology, 2018). Based on our experience in the neighborhood, there is low likelihood of significant impact to the Subject Property from the Asarco smelter, and it is not considered a REC.

6.2.3.2 Radon Zones

According to EPA's Map of Radon Zones, the Subject Property vicinity and King County are mapped within Radon Zone 3, defined as areas with low potential for radon gas and a predicted average indoor screening levels of less than 2.0 picoCuries per liter (pCi/L)

(EPA, 2018). This is well below the EPA recommended Action Level for radon of 4.0 pCi/L; therefore, radon is not considered a REC.

7 Evaluation

7.1 Significant Data Gaps

No significant data gaps, as defined in Section 3 of the ASTM, were identified by this study.

7.2 Findings and Conclusions

Aspect has performed a Phase I ESA in conformance with the scope and limitations of ASTM E1527-13 for the Former Western Blower property located at 1700 Airport Way S in Seattle, Washington. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the Subject Property, with the following exceptions:

1. **Restrictive covenant on Subject Property.** A restrictive covenant recorded for the property requires the building and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, benzo(a)pyrene (a polycyclic aromatic hydrocarbon [PAH] compound), and TPH. Soil sampling locations, the basis of the covenant requirements, were north of the former loading dock, illustrated on Figure 2. Notification to Ecology is required for redevelopment or other disturbance to the cover. The restrictive covenant includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1 (Figure 2).

2. **Historical manufacturing on property by Western Blower.** Materials used during manufacturing may have resulted in releases of oil, solvents and metals. Historical building plans for the north warehouse area indicate the basement was the machine shop with a plating area at the northeast corner. In addition to the other contaminants listed above, a cyanide release can be associated with metals plating.

3. **Spills and releases to drains from former property use by NWES.** NWES used the loading dock located towards the center of the Subject Property building for loading and unloading hazardous and nonhazardous waste from 1987 to 1995. Environmental reports indicate hazardous waste handling and treatment was completed on the northern adjacent property, also owned by NWES. Limited sampling completed in 1995 identified metals, oil and PAH contamination in soil and concrete.

4. **Used-oil recycling activities by Emerald Recycling.** Practices may have resulted in releases of oil, solvents, and metals on the norther portion of the Subject Property.

5. **Large-engine maintenance/cleaning (north warehouse).** Large engines were potentially cleaned or maintained on main warehouse floor.

6. **Fill material.** Based on borings completed on the north adjacent property, approximately 10 feet of undocumented fill material underlies the Subject

Property. Fill material can result in elevated concentrations of metals, oil, and PAHs in soil.

7. **Potential heating oil underground storage tank.** Historical building records indicate the Subject Property was heated by an oil burner. The boiler room was located near the west central entrance to the building.

7.3 Recommended Further Action

Although limited soil and groundwater testing was done at the Subject Property, it is not sufficient to evaluate the environmental impact or risk to the property. Therefore, more environmental evaluation is necessary to better understand environmental risk, liability, and remedial cost prior to property acquisition/ownership. The results of this study indicate a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on property potential sources, and a risk for vapor encroachment or intrusion to Subject Property structures.

8 References

CH2MHill, 2012, Emerald Services Airport Way South Facility, May 17, 2012 Diesel Release Summary, July 19, 2012.

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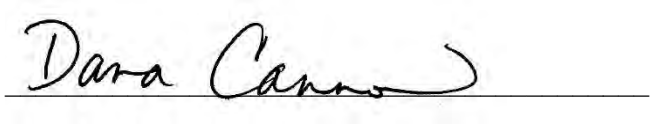
U.S. Environmental Protection Agency (EPA), 2018, EPA Map of Radon Zones including State Radon Information and Contacts, accessed November 21, 2018. https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information#radonmap

Washington State Department of Ecology (Ecology), 2018, Washington State Everett and Tacoma Smelter Search, accessed November 21, 2018. https://fortress.wa.gov/ecy/smeltersearch/

9 Declaration of Environmental Professional

"I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Sec. 312.10 of 40 CFR Part 312.

"I have the specific qualifications based on education, training, and experience to assess a property to the nature, history, and setting of the Subject Property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."[5]



Dana Cannon, LHG
Senior Hydrogeologist

9.1 Qualifications of Environmental Professional

Dana Cannon is a registered licensed hydrogeologist (LHG) in Washington State (#2412) with at least 10 years of full-time experience completing Phase I ESAs. Dana Cannon meets the definition of an Environmental Professional per 40 CFR Part 312.

[5] A person who does not qualify as an Environmental Professional may assist in the conduct of all appropriate inquiries in accordance with ASTM E 1527-13, if such a person is under the supervision or responsible charge of a person meeting the definition of an environmental professional when conducting such activities.

10 Limitations and Exceptions

This Phase I Environmental Site Assessment was prepared for use by Evergreen Treatment Services ("Client") and may not be relied upon by any other person or entity without the express written consent of Aspect Consulting, LLC (Aspect). The Phase I Site Assessment was prepared in accordance with the agreement between Aspect and Client, dated May 9, 2018 ("Agreement") as well as ASTM E1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" and 40 CFR Part 312, U.S. Environmental Protection Agency (EPA)'s "Innocent Landowners, Standards for Conducting all Appropriate Inquiries".

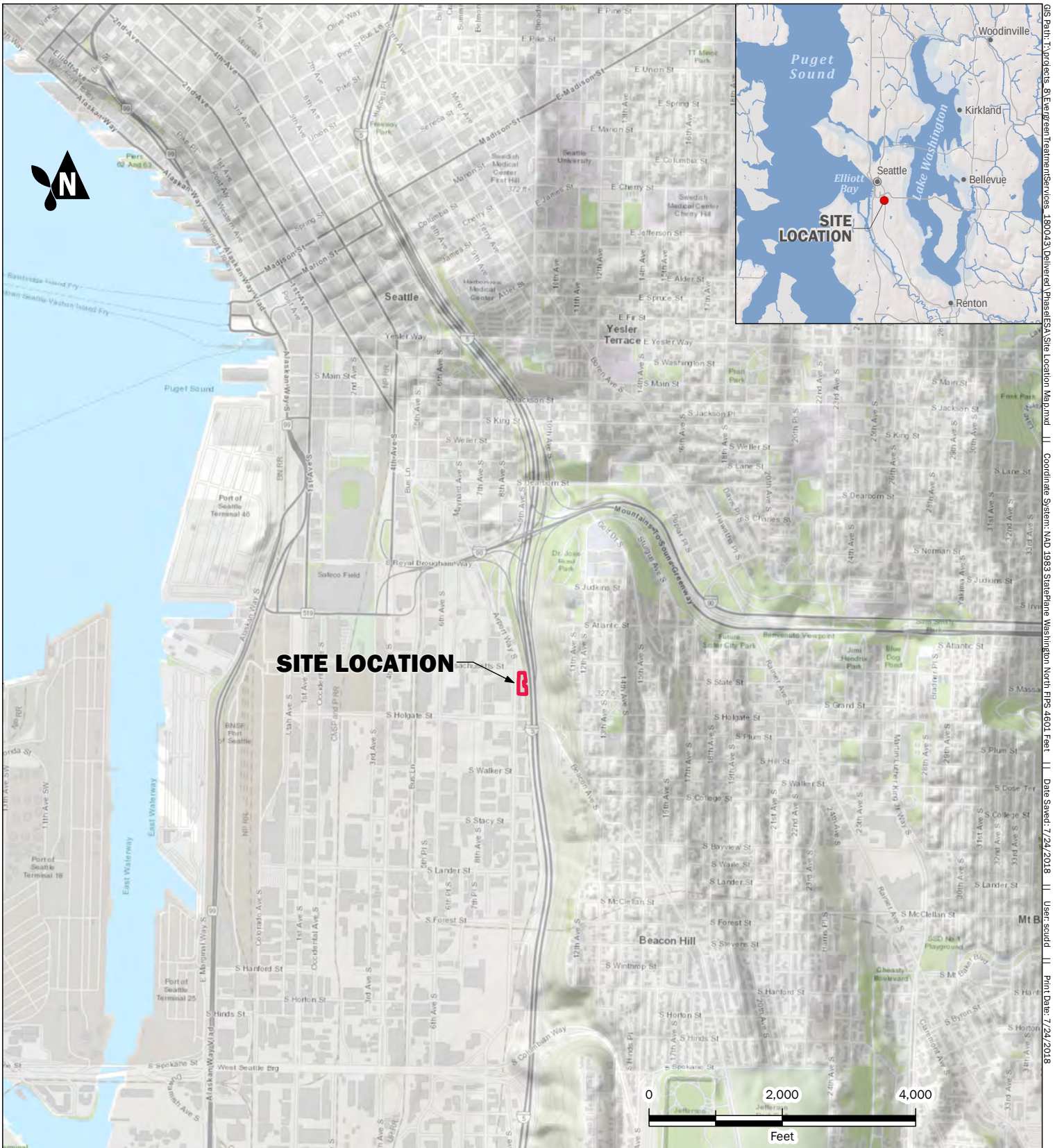
This report was prepared in accordance with recognized standards of professionals in the same locality and involving similar conditions. No other warranty, express or implied, is made by Aspect.

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

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

We appreciate the opportunity to perform these Services. If you have any questions please call Dana Cannon or Dave Cook.

FIGURES





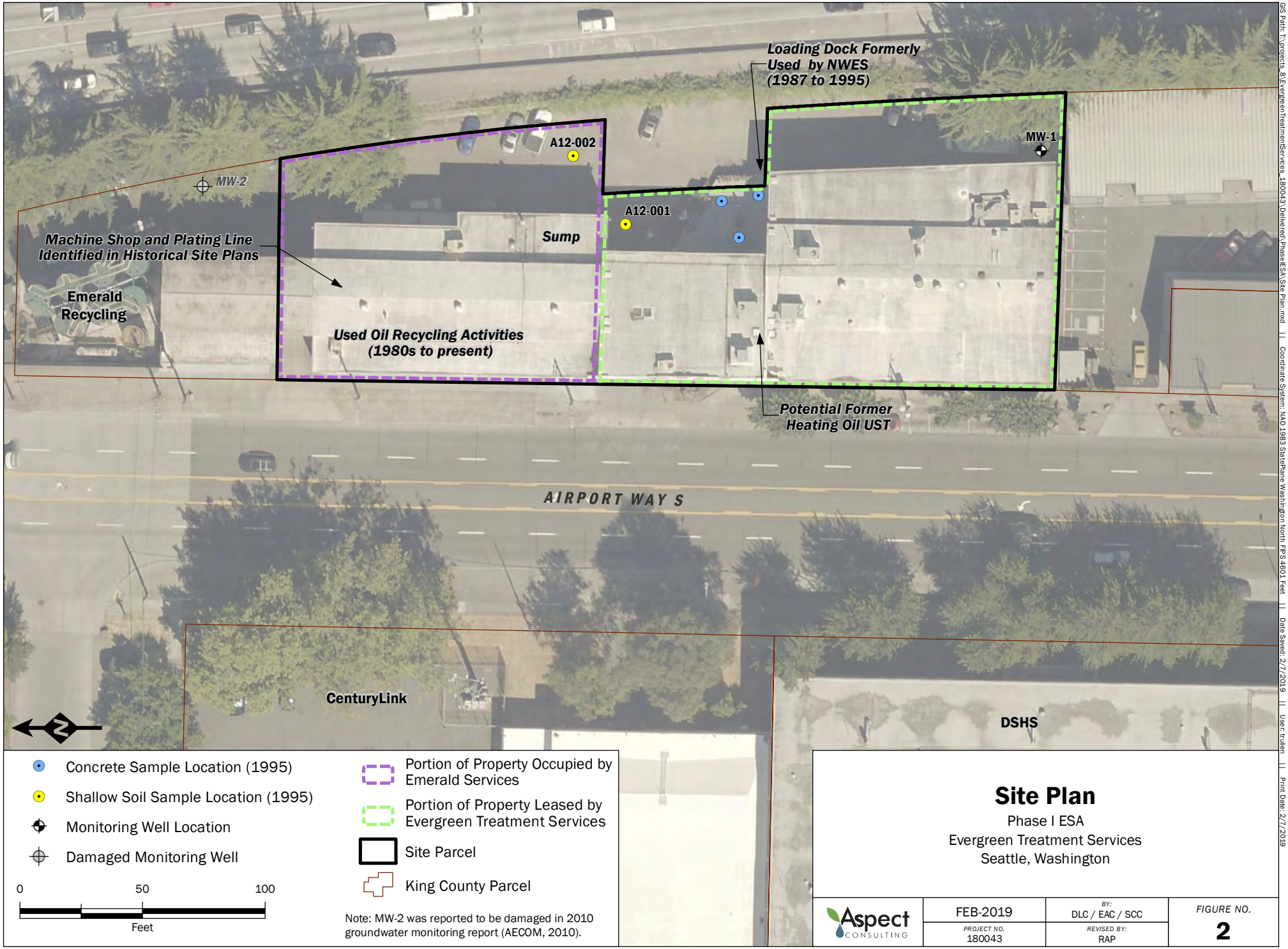
Site Location Map

Phase I ESA
Evergreen Treatment Services
Seattle, Washington

Aspect CONSULTING	JUL-2018	BY: DLC / SCC	FIGURE NO. 1
	PROJECT NO. 180043	REVISED BY: ---	

Basemap Layer Credits || 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), swisstopo, © OpenStreetMap contributors, and the GIS User Community
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Site Plan

Phase I ESA
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	FEB-2019	BY: DLC / EAC / SCC	FIGURE NO. 2
	PROJECT NO. 180043	REVISED BY: RAP	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Delivered\Phase ESA\Site Plan.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 2/7/2019 || User: trullen || Print Date: 2/7/2019

PHASE II ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way South, Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. 180043 • February 21, 2019 • FINAL

Aspect CONSULTING

earth + water

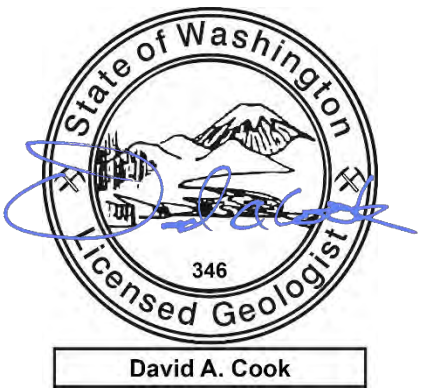
PHASE II ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way South, Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. 180043 • February 21, 2019 • FINAL

Aspect Consulting, LLC



Dave Cook, LG, CPG
Principal Geologist
dcook@aspectconsulting.com

Dana Cannon, LHG
Senior Hydrogeologist
dcannon@aspectconsulting.com

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Executive Summary

Aspect Consulting, LLC (Aspect) completed a Phase II Environmental Site Assessment (ESA) at 1700 Airport Way S in Seattle, Washington (King County tax parcel number 7666-20-2855) (herein referred to as the Subject Property) in December 2018. The Subject Property is currently developed with one building. The south wing of the building includes a former warehouse that has been converted into office space and treatment rooms used by Evergreen Treatment Services (ETS). The north wing of the building is a warehouse most recently used by Emerald Recycling as part of their used oil recycling facility. The building was initially constructed in 1914/1915 as a factory for the Western Blower Company, manufacturer of blowers for saw mills and furnaces. The Subject Property is shown relative to surrounding physical features in the Vicinity Map, Figure 1. The Subject Property is currently privately owned and zoned as industrial.

The objectives of the Phase II ESA services completed at the Subject Property were to:

1) Evaluate the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Subject Property.
2) Evaluate the potential presence of soil contamination associated with current or past sources of contamination on the Subject Property or on nearby adjacent properties.
3) Evaluate the potential presence of groundwater contamination associated with current or past sources of contamination on the Subject Property or on nearby upgradient properties.

Based on the Phase I ESA that Aspect previously conducted, several potential sources of contamination were identified on the Subject Property. Recognized Environmental Conditions (RECs) identified in the Phase I ESA are summarized on Figure 2 and include historical manufacturing operations by Western Blower Company and hazardous and non-hazardous waste handling by Northwest EnviroService as well as recent used oil waste handling in the northern portion of the Subject Property. These property-use activities indicate a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on property potential sources, and a risk for vapor encroachment or intrusion to Subject Property structures.

Based on the RECs identified in the Phase I ESA, COPCs identified for the Subject Property include:

- Gasoline-range total petroleum hydrocarbons (TPH)
- Diesel- and oil-range TPH
- Volatile organic compounds (VOCs), which include chlorinated solvents
- Metals
- Cyanide

For this Phase II ESA investigation, Aspect advanced four soil borings that were completed as monitoring wells. The Phase II ESA sampling program included installation of four monitoring wells: two towards the center of the Subject Property near the former loading dock and one just west (or downgradient) of each wing of the property building. Aspect also completed four temporary soil gas sampling points. Select samples were submitted for laboratory analysis. Soil, groundwater, and soil gas conditions beneath the Subject Property are summarized below.

Soil

Prior to site development, the Subject Property was located at the edge of the Elliott Bay tide flats, which were filled in the early 1900s. This is reflected in the soils observed during sampling. Fill material was observed up to a depth of 15 to 19 feet below ground surface (bgs). Fill soils consist of silty fine to coarse sand and sandy silt. In all borings except AMW-3 to the south, fragments of brick, glass, ceramics, and shell were observed between 9 and 15 feet bgs. Fill soils are underlain by a clay to sandy clay unit (representative of historical tideflat deposits).

Six soil samples were selected for laboratory analysis based on field observations and relative to identified RECs. Two analytes were detected above the Model Toxics Control Act (MTCA) Method A cleanup levels (CULs). These exceedances were at 12.5 feet bgs at location AMW-1 at concentrations of 27.8 and 4,720 milligrams per kilogram (mg/kg) for arsenic and lead, respectively. The arsenic value slightly exceeds the CUL of 20 mg/kg while lead is more than an order of magnitude greater than the CUL of 250 mg/kg.

VOCs, gasoline-, diesel-, and oil-range TPHs, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), cadmium, chromium, copper, manganese, mercury, nickel, and zinc either were not detected or were detected in soil at concentrations less than the MTCA Method A or B CULs.

Groundwater

In the four monitoring wells Aspect installed, groundwater was encountered beneath the Subject Property at a depth of 4.5 to 5.7 feet bgs with a westerly flow direction. Four groundwater samples were submitted for analysis. At a concentration of 2.9 micrograms per liter (µg/L), vinyl chloride exceeds MTCA Method CULs (0.2µg/L) in well AMW-1, located west of the north wing of the building. Dissolved arsenic concentrations above the MTCA Method A CUL (5 µg/L) were detected in off-property wells AMW-1 and AMW-3 at concentrations ranging between 11 and 20.3 µg/L, respectively.

Soil Gas

Aspect collected four temporary sub-slab soil gas samples (SV-1 through SV-4), two in each wing of the property building, and submitted them for analysis of VOCs. Based on the chemical analytical soil gas results, the following contaminants were detected at concentrations greater than the MTCA Method B Screening Levels (adjusted to commercial exposure): benzene, trichloroethene (TCE), vinyl chloride, 1,3-butadiene, and acrolein.

The risk of vapor intrusion was evaluated by estimating indoor air concentrations from the highest detected concentration of each of the above contaminants using the Johnson-

Ettinger Model for vapor intrusion (JEM). Based on the model results, indoor air concentrations of vinyl chloride may exceed MTCA Method B CULs in the north wing. The model did not predict exceedances of the other contaminants in the north wing or of any contaminants in the south wing.

It's important to note that TCE in soil gas is under review by the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) due to new toxicological data indicating health effects in pregnant women. Draft Ecology guidance is suggesting that a more rigorous evaluation be conducted for TCE when evaluating vapor intrusion risk. In addition, recent Ecology guidance has indicated that for certain chemicals (including TCE and vinyl chloride), modeling predictions may need additional site data (e.g., confirmatory indoor air data) to support the evaluation of vapor intrusion risk.

Data collected at the Subject Property provide some, but not all, of the evidence that may be necessary to eliminate future considerations of TCE soil gas at this property, based on these guidance documents. While the actions completed during this study to evaluate vapor intrusion risk show no unacceptable risk under current site conditions, additional monitoring may be prudent to provide more certainty and ultimately receive Ecology concurrence that the vapor intrusion pathway is incomplete.

Recommendations

Chlorinated solvents (TCE and vinyl chloride) have been detected in soil gas on the northern portion of the Subject Property. The sump in the southeast corner of the north wing is a suspected source of the elevated TCE and vinyl chloride. Aspect recommends that the sump be cleaned, following which soil gas should be resampled in the north wing of the building. If concentrations remain elevated in soil gas, mitigation measures may be necessary (such as active and/or passive venting systems) for that portion of the building to be occupied.

If the northern portion of the Subject Property is redeveloped, additional soil and groundwater sampling may be warranted to better assess potential impacts in this portion of the property. Impacts to soil and groundwater are currently managed through the existing restrictive covenant.

The Executive Summary should be used only in the context of the full report for which it is intended.

1 Introduction

This report summarizes Aspect Consulting, LLC's (Aspect) Phase II Environmental Site Assessment (ESA) for the Subject Property located at 1700 Airport Way S in Seattle, Washington (King County tax parcel number 7666-20-2855), referred to herein as the Subject Property. The Subject Property is currently developed with one building. The southern wing of the building includes a former warehouse that has been converted into office space and treatment rooms used by Evergreen Treatment Services (ETS). The northern wing of the building is a warehouse most recently used by Emerald Recycling as part of their used oil recycling facility. The building was initially constructed in 1914/1915 as a factory for the Western Blower Company, manufacturer of blowers for saw mills and furnaces. The Subject Property is shown relative to surrounding physical features on Figure 1, Vicinity Map.

During the Phase II ESA study, four sub-slab vapor pins and two groundwater monitoring wells were installed within the Subject Property boundary and an additional two groundwater monitoring wells were installed in the City of Seattle right-of-way (ROW), west of the Subject Property. Soil samples were obtained from monitoring well installations for chemical analysis. Groundwater samples were obtained from the four monitoring wells for chemical analysis. Soil gas samples were obtained from four temporary sub-slab soil gas sampling pins for chemical analysis.

2 Purpose and Scope of Services

The objectives of this Phase II ESA completed at the Subject Property during August 2018 were to:

1) Evaluate the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Subject Property.
2) Evaluate the potential presence of soil contamination associated with current or past sources of contamination on the Subject Property.
3) Evaluate the potential presence of groundwater contamination associated with current or past sources of contamination on the Subject Property.

The specific scope of services for the Phase II ESA is as follows:

- **Soil and Groundwater Evaluation.** Completed four groundwater monitoring wells (AMW-1 through AMW-4) to obtain soil and groundwater samples from the subsurface. Following well development, groundwater samples were collected for chemical analysis of COPs (listed below), based on historical and current sources of contamination identified in the Phase I ESA (Aspect, 2018), including:

  - Gasoline-range total petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Gx
  - Diesel- and oil-range TPH using Northwest Method NTWPH-Dx
  - Volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8260D
  - Polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270D/SIM
  - Select metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, zinc) using EPA Method 6020B
  - Cyanide (groundwater only) by SM 4500-CN

- **Vapor Intrusion Evaluation.** Installed four temporary sub-slab soil gas sampling pins (SV-1 through SV-4) inside the two wings of the Subject Property building. Obtained soil gas samples from the sub-slab pins to evaluate the potential vapor intrusion risk and submitted the samples for VOC analysis using EPA Method TO-15.
- **Data Evaluation.** Evaluated the field and laboratory results relative to Washington State Model Toxics Control Act (MTCA) Method A/B Cleanup Levels (CULs) and Method B Screening Levels. Performed indoor air modeling using the Johnson and Ettinger Model (JEM) for analytes that exceeded the MTCA Method B screening levels for sub-slab soil gas.

3 Background

3.1 Phase I ESA Recognized Environmental Conditions

Based on the results of the Phase I ESA Aspect previously conducted (Aspect, 2018), eight Recognized Environmental Conditions (RECs) were identified in association with the Subject Property:

1) **Restrictive covenant on Subject Property.** A restrictive covenant recorded for the property requires the building and pavement be maintained as a protective cover over subsurface soil contamination including arsenic, lead, benzo(a)pyrene (a PAH compound), and TPH. Soil sampling locations, the basis of the covenant requirements, were north of the former loading dock, illustrated on Figure 2. Notification to the Washington State Department of Ecology (Ecology) is required for redevelopment or other disturbance to the cover. The restrictive covenant includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1 (Figure 2).

2) **Historical manufacturing on property by Western Blower.** Materials and equipment used during manufacturing may have resulted in releases of oil, solvents and metals. Historical building plans for the north warehouse area indicate the basement was the machine shop with a plating area at the northeast corner. In addition to the other contaminants listed above, a cyanide release can be associated with metals plating.

3) **Spills and releases to drains from former property use by Northwest EnviroService (NWES).** NWES used the loading dock located towards the center of the Subject Property building for loading and unloading hazardous and non-hazardous waste from 1987 to 1995. Environmental reports indicate hazardous waste handling and treatment was completed on the northern adjacent property, also owned by NWES. Limited sampling completed in 1995 identified metals, oil and PAH contamination in soil and concrete.

4) **Used oil recycling activities by Emerald Recycling.** Practices may have resulted in releases of oil, solvents, and metals on the northern portion of the Subject Property.

5) **Large engine maintenance/cleaning (north warehouse).** Large engines were potentially cleaned or maintained historically on the main warehouse floor.

6) **Fill material.** Based on borings completed on the north adjacent property, approximately 10 feet of undocumented fill material underlies the Subject Property. Fill material can result in elevated concentrations of metals, oil, and PAHs in soil.

7) **Potential heating oil underground storage tank.** Historical building records indicate the Subject Property was heated by an oil burner. The boiler room was located near the west central entrance to the building.

Phase I findings are summarized on Figure 2.

3.2 Contaminants of Potential Concern

Based on the RECs identified in the Phase I ESA, including historical site use, the presence of unknown fill, and our review of previous environmental reports, COPCs were identified for the Subject Property. The COPCs are defined as contaminants that may be present in soil, groundwater, or soil vapor based on the RECs identified, but have not yet been confirmed to be present. The COPCs for the Subject Property include:

- Gasoline-range total petroleum hydrocarbons (TPH)
- Diesel- and oil-range total petroleum hydrocarbons (TPH)
- VOCs, which include chlorinated solvents
- Metals
- Cyanide

Select soil and groundwater samples obtained from the monitoring wells completed during this study were submitted for chemical analysis of each of the COPCs. Selection of soil samples submitted for laboratory analysis is outlined in Section 6.

4 Current Site Conditions

The Subject Property is located at an elevation of approximately 25 feet above mean sea level. The Subject Property is completely covered by impervious surfaces, including the existing building. The southern wing of the building is a former warehouse converted into office space and treatment rooms used by ETS. The northern wing of the building is a warehouse recently used by Emerald Recycling as part of their used oil recycling facility. The remainder of the Subject Property is covered by paved parking. Current Subject Property features are labeled in Figure 2 and exploration locations are illustrated on Figure 3.

5 Subsurface Conditions

5.1 Soil

Historical Sanborn maps for the predevelopment Subject Property vicinity indicate that the Elliott Bay tide flats were located at the Subject Property and Airport Way was a plank road. The tide flats were filled in the early 1900s. This is reflected in the soils observed during sampling. Fill material was observed up to a depth of 15 to 19 feet below ground surface (bgs). Fill soils consist of silty fine to coarse sand and sandy silt. In all borings except AMW-3 to the south, fragments of brick, glass, ceramics, and shell were observed between 9 and 15 feet bgs. Fill soils are underlain by a clay to sandy clay unit.

This same clay unit was observed in borings completed by others on the north adjacent property and is noted to extend at least 500 feet north of the Subject Property. Boring logs are provided in Appendix A.

5.2 Groundwater

Groundwater monitoring wells AMW-1 through AMW-4 were installed on December 9, 2018. The monitoring wells were developed on December 10, 2018 and sampled on December 17, 2018. At the time of sample collection, depth to water ranged between 4.5 and 5.7 feet bgs. Wells were surveyed by Aspect staff to an arbitrary datum (rather than NAVD 88). Based on the groundwater elevation data, the general groundwater flow direction beneath the Subject Property is westerly (Figure 3).

6 Sampling and Analytical Results

This section provides a summary of the soil, groundwater and soil gas sampling results. Sampling locations are illustrated on Figure 3. The Phase II ESA sampling program included installation of four monitoring wells: two towards the center of the Subject Property near the former loading dock and one just west (or downgradient) of each wing of the property building.

6.1 Soil Sampling and Chemical Analytical Results

Four monitoring wells, AMW-1 through AMW-4, were completed on December 9, 2018. The monitoring wells were advanced using a direct push drill rig operated by Cascade, Inc of Woodinville, Washington. All wells were advanced to a depth of 20 feet bgs. Continuous soil cores were collected for characterization. Boring locations are illustrated on Figure 3. The boring logs are included in Appendix A.

All soil samples were field-screened for evidence of petroleum and/or VOC-related contamination using visual methods, water sheen tests, and a quantitative measurement of headspace vapor using a photoionization detector (PID). While a slight sheen or sheen were observed in some soils up to a depth of 15 feet bgs, no odors or PID detections were noted in the field screening. Samples were selected based on observations of sheen and known historical activities as well as to provide characterization of fill materials.

A total of six soil samples from multiple depths were submitted for chemical analysis of the following COPCs:

- Gasoline-range TPH using Northwest Method NWTPH-Gx
- Diesel- and oil-range TPH using Northwest Method NTWPH-Dx
- Metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, zinc) using EPA Method 6020B

Additionally, two soil samples were submitted for chemical analysis of VOCs using EPA Method 8260D and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA

Method 8270D/SIM. Selected soil samples were submitted to the state-certified laboratory.

Chemical analytical results of the soil samples obtained from this study are presented on Table 1. Figure 4 present a summary of the contaminants detected in soil at concentrations greater than the MTCA Method A CULs for unrestricted land use (or Method B CULs if no Method A CUL is available). Laboratory reports are presented in Appendix B.

Two analytes were detected above the MTCA Method A (unrestricted land use) CULs. These exceedances were at 12.5 feet bgs at location AMW-1 at concentrations of 27.8 and 4,720 milligrams per kilogram (mg/kg) for arsenic and lead, respectively. The arsenic value slightly exceeds the CUL of 20 mg/kg while lead is more than an order of magnitude greater than the CUL of 250 mg/kg.

The only other analytes detected in the samples submitted for analyses were cPAHs at location AMW-4 at a depth of 2.5 feet bgs but at concentrations well below CULs.

6.2 Groundwater Sampling and Chemical Analytical Results

AMW-1 through AMW-4 were completed as groundwater monitoring wells on December 9, 2018 in accordance with Washington Administrative Code (WAC) 173-160. Monitoring well construction details are shown on the boring log for each monitoring well in Appendix A. The monitoring well screens were set between approximately 4 and 15 feet bgs in order to span the water table surface which was measured at a depth of 4.5 to 5.7 feet bgs.

Following installation, monitoring wells were developed to remove fine-grained material from inside the well casing and filter pack, to improve hydraulic communication between the well screen and the surrounding water-bearing formation, and allowed to equilibrate for more than 24-hours prior to sampling.

Groundwater samples were obtained from the four wells installed by Aspect on December 17, 2018 using low-flow purging and sampling methods techniques with a peristaltic pump and dedicated polyethylene tubing. The groundwater samples were submitted for chemical analysis of the following COPCs:

- Gasoline-range TPH using Northwest Method NWTPH-Gx
- Diesel- and oil-range TPH using Northwest Method NTWPH-Dx
- VOCs using EPA Method 8260D
- Dissolved metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) using EPA Method 6020B
- Total cyanide by EPA Method SM 4500-CN.

Chemical analytical results of the groundwater samples obtained from this study are presented on Table 2. Figure 5 present a summary of the contaminants detected in soil at concentrations greater than the MTCA Method A CULs for unrestricted land use (or

Method B CULs if no Method A CUL is available). Laboratory reports are presented in Appendix B.

The following contaminants were detected at concentrations greater than the MTCA Method A CUL (or MTCA Method B if no Method A CUL exists) in the groundwater samples:

- Arsenic was detected at concentrations greater than the MTCA Method A CUL (5 micrograms per liter (µg/L) at AMW-1 and AMW-3 at 11.4 and 20.3 µg/L.
- Vinyl chloride was detected at well AMW-1 at a concentration of 2.9 µg/L. The MTCA Method A CUL is 0.2 µg/L.

The remaining COPCs, including TPH, VOCs, and remaining metals (cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc), were either not detected or were detected at concentrations less than the corresponding MTCA Method A CUL.

6.3 Soil Gas Sampling Chemical Analytical Results

Aspect completed soil vapor sampling in accordance with Ecology's *Draft Guidance for Evaluating Vapor Intrusion (VI) in Washington State: Investigation and Remedial Action* (draft VI guidance; Ecology 2018a). On December 10, 2018, Aspect installed four sub-slab Cox-Colvin® vapor pins (SV-1 through SV-4), two in each wing of the property building (Figure 3). Vapor pins area installed using a rotary hammer and soil gas samples were collected from directly below the concrete slab. Samples were collected using laboratory-supplied and certified-evacuated 1-liter SUMMA canisters fitted with 150-milliliters-per-minute (mL/min) flow controller and dedicated sampling train, per the following procedures:

1) Prior to sampling, a shut-in test was performed by inducing a vacuum to the sampling train (including dedicated disposable Teflon tubing, fittings, and connections to the SUMMA canister). A minimum vacuum of 15 inches of mercury was applied for a period of 5 minutes.

   No change in vacuum was observed during the shut-in test, indicating that the sampling train was free of leaks that could introduce ambient air to the soil vapor sample.

2) The tubing was then enclosed in a leak-testing shroud at the surface, and helium tracer gas was applied until approximately 30 percent helium was measured inside the shroud. A total of 500 mL of air/vapor was purged through the extraction point to ensure that any remaining ambient air inside the sampling train was removed, to identify a poor seal between the vapor extraction point and the slab, and to facilitate field screening of soil vapors prior to sampling.

   Helium tracer gas was not detected in the purged vapor at significant concentrations, indicating an adequate seal.

3) After confirming that no significant leakage was present in the sampling train or around the vapor extraction point seal and that all remaining ambient air had been removed from the sampling apparatus, the SUMMA canisters were opened and

allowed to fill at 150 mL/min over approximately 5 minutes, or when the canister vacuum reached -5 inches of mercury.

4) All vapor pins were removed after collection of the soil gas sample and holes were repaired with concrete.

Soil gas samples were submitted for chemical analysis of volatiles using EPA Method TO-15 and helium using ASTM International (ASTM) Method D-1946. Results are presented in Table 3 and exceedances are illustrated on Figure 6. Results have been screened against MTCA Method B Sub-Slab Soil Gas Screening Levels adjusted for commercial exposure[1]. Only samples collected from the north wing contained contaminants at concentrations greater than screening levels, as summarized below:

- Exceedances at location SV-4, located near the sump, were:
    - Benzene at a concentration of 150 micrograms per cubic meter ($\mu g/m^3$), screening level of 36 $\mu g/m^3$.
    - Trichloroethene (TCE) at a concentration of 43 $\mu g/m^3$, screening level of 41 $\mu g/m^3$.
    - Vinyl chloride at a concentration of 320 $\mu g/m^3$, screening level of 31 $\mu g/m^3$.
- Exceedances at location SV-3 were:
    - 1,3-Butadiene at a concentration 12 $\mu g/m^3$, screening level of 9 $\mu g/m^3$.
    - Acrolein at a concentration of 3.8 $\mu g/m^3$, screening level of 1 $\mu g/m^3$.

Johnson-Ettinger Vapor Intrusion Model Results

For those COPCs which exceeded the MTCA Method B Screening Levels, the highest concentration was used to evaluate the vapor intrusion risk by estimating indoor air concentrations using the JEM. Estimated indoor air concentrations produced using the JEM are provided in Table 6. Model output files are provided in Appendix C. For the five compounds that exceed soil gas screening levels, only vinyl chloride is predicted to potentially exceed indoor air action levels, based on JEM.

[1] The screening level is adjusted from a residential exposure scenario (24 hours per day, 7 days per week) to a commercial exposure scenario (10 hours per day, 5 days per week). This adjustment is performed in accordance with Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State*.

7 Conclusions

7.1 Soil

Based on the chemical analytical results of soil from borings spaced at limited locations, soil impacts were limited to a sample collected from a depth of 12.5 feet, just west of the Subject Property (AMW-1). Fill material was observed to a depth of 15 feet bgs. Fill soils do not necessarily represent a regulatory reporting condition, but special handling and off-property management and disposal may be warranted for any subsurface maintenance activities. Also, any subsurface disturbances are to be completed in accordance with the existing restrictive covenant.

7.2 Groundwater

In the four monitoring wells Aspect installed, groundwater was encountered beneath the Subject Property at a depth of 4.5 to 5.7 feet bgs with a westerly flow direction. Vinyl chloride exceeds MTCA Method CULs (0.2 µg/L) in the off-property well located west the north wing of the building (AMW-1) at a concentration of 2.9 µg/L. Dissolved arsenic concentrations above the MTCA Method A CUL (5 µg/L) were detected in off-property wells AMW-1 and AMW-3 at concentrations ranging between 11 and 20.3 µg/L.

7.3 Soil Gas

Based on the chemical analytical results of the soil vapor testing (see Section 8 and Table 4), the following contaminants were detected at concentrations greater than the MTCA Method B Screening Level (adjusted for commercial exposure) for sub-slab soil vapor samples:

- 1,3-Butadiene
- Acrolein
- Benzene
- Trichloroethene (TCE)
- Vinyl chloride

The risk of vapor intrusion was evaluated by estimating indoor air concentrations from the highest detected concentration of each of the above contaminants using the JEM. Based on the model results, indoor air concentrations of vinyl chloride may exceed MTCA Method B CULs in the north wing of the building. The model did not predict exceedances of the other contaminants in the north wing of the building or of any contaminants in the south wing of the building.

It's important to note that TCE in soil gas is under review by EPA and Ecology due to new toxicological data indicating health effects in pregnant women. Draft Ecology guidance is suggesting that a more rigorous evaluation be conducted for TCE when

evaluating vapor intrusion risk (Ecology 2018c). In addition, recent Ecology guidance (Ecology 2018b) has indicated that for certain chemicals (including TCE and vinyl chloride), modeling predictions may need additional site data (e.g., confirmatory indoor air data) to support the evaluation of vapor intrusion risk.

Data collected at the Subject Property provide some, but not all of the evidence that may be necessary to eliminate future considerations of TCE soil gas at this property, based on these guidance documents. While the actions completed during this study to evaluate vapor intrusion risk show no unacceptable risk under current site conditions, additional monitoring may be prudent to provide more certainty and ultimately receive Ecology concurrence that the vapor intrusion pathway is incomplete.

7.4 Recommendations

Chlorinated solvents (TCE and vinyl chloride) have been detected in soil gas on the northern portion of the Subject Property. The sump in the southeast corner of the north wing is a suspected source of the elevated TCE and vinyl chloride. Aspect recommends that the sump be cleaned, following which soil gas should be resampled in the north wing of the building. If concentrations remain elevated in soil gas, mitigation measures may be necessary (such as active and/or passive venting systems) for that portion of the building to be occupied.

If the northern portion of the Subject Property is redeveloped, additional soil and groundwater sampling may be warranted to better assess potential impacts in this portion of the property. Impacts to soil and groundwater are currently managed through the existing restrictive covenant.

8 References

Aspect Consulting, LLC (Aspect) 2018. Phase I Environmental Site Assessment, 1700 Airport Way South, Seattle, Washington - Draft, dated October 5, 2018.

Washington State Department of Ecology, 2018a. "Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action," dated October 2009 and Revised February 2016 and April 2018.

Washington State Department of Ecology, 2018b. Frequently Asked Questions (FAQs) Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance, Implementation Memorandum No. 21, dated November 15, 2018.

Washington State Department of Ecology, 2018c. DRAFT Vapor Intrusion (VI) Investigations and Short-term Trichloroethene (TCE) Toxicity, Implementation Memorandum No. 22, dated November 21, 2018.

Limitations

Work for this project was performed for Evergreen Treatment Services (Client), and this report 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 report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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

TABLES

Table 1. Soil Sampling Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Chemical Name	MTCA Cleanup Levels [a]	Natural Background for Metals [b]	AMW-1 [c] 12/09/2018 12.5 ft	AMW-2 12/09/2018 2.5 ft	AMW-2 12/09/2018 5.5 ft	AMW-3 12/09/2018 5 ft	AMW-4 12/09/2018 2.5 ft	AMW-4 [c] 12/10/2018 8 ft
			Downgradient of North Warehouse	Downgradient of Former Loading Dock		Downgradient of South Warehouse	Adjacent to Former Loading Dock	
Gasoline and diesel-range petroleum hydrocarbons not detected in any of these samples.								
Metals in mg/kg								
Arsenic	20	7	**27.8**	**6.93**	--	**5.39**	**5.59**	< 1 U
Cadmium	2	1	**2**	< 1 U	--	< 1 U	< 1 U	< 1 U
Chromium		48	**22.2**	**42.6**	--	**34.1**	**18.2**	**23.4**
Copper	3200	36	**404**	**28.7**	--	**29.8**	**22**	**11.4**
Lead	250	24	**4720**	**35.3**	--	**5.21**	**32.1**	**7.35**
Mercury	2	0.07	< 1 UJ	< 1 U	--	< 1 U	< 1 U	< 1 U
Nickel	1600	48	**19.6**	**44**	--	**49.7**	**21.5**	**35.7**
Zinc	24000	85	**911**	**66.8**	--	**48.8**	**71.2**	**25.7**
PAHs in mg/kg								
Benz(a)anthracene	1.4		--	--	--	< 0.01 U	**0.013**	--
Benzo(a)pyrene	0.1		--	--	--	< 0.01 U	**0.02**	--
Benzo(b)fluoranthene	1.4		--	--	--	< 0.01 U	**0.028**	--
Benzo(k)fluoranthene	14		--	--	--	< 0.01 U	< 0.01 U	--
Chrysene	140		--	--	--	< 0.01 U	**0.017**	--
Dibenzo(a,h)anthracene	0.14		--	--	--	< 0.01 U	< 0.01 U	--
Indeno(1,2,3-cd)pyrene	1.4		--	--	--	< 0.01 U	**0.018**	--
Total cPAHs TEQ (ND = 1/2 RDL)	0.1		--	--	--	< 0.00755 U	**0.02707**	--

Notes

a - Cleanup levels based on Model Toxics Control Act Method A for unrestricted land use. For analytes where no Method A cleanup level is available, the Method B cleanup level is provided.

b - Background metals concentrations from Natural Background Soil Metals Concentrations in Washington State, Washington State Department of Ecology, Publication #94-115, October 1994.

c - Samples from AMW-1 at 12.5 feet and AMW-4 at 8 feet were also run for volatile organic compounds. No VOCs detected.

mg/kg - milligrams per kilogram

Bold - detected

Blue - analyte was detected at a concentration greater than the MTCA Method B Cleanup Level for Sub-Slab Soil Gas adjusted for commercial exposure scenario.

U - non-detect

Table 2. Groundwater Sampling Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Chemical Name	MTCA Cleanup Levels [a]	AMW-1 12/17/18	AMW-2 12/17/18	AMW-3 12/17/18	AMW-4 12/17/18
Dissolved Metals in µg/L					
Arsenic	5	**11.4**	**4.33**	**20.3**	< 1 U
Cadmium	5	< 1 U	< 1 U	< 1 U	< 1 U
Chromium	50	< 1 U	< 1 U	< 1 U	< 1 U
Copper	640	< 5 U	< 5 U	< 5 U	< 5 U
Lead	15	< 1 U	< 1 U	< 1 U	< 1 U
Manganese	2240	**575**	**302**	**680**	**485**
Mercury	2	< 1 U	< 1 U	< 1 U	< 1 U
Nickel	320	**1.31**	**3.8**	**2.22**	**2.24**
Zinc	4800	< 5 U	< 5 U	< 5 U	< 5 U
TPHs in µg/L					
Diesel Range Organics	500	< 50 U	**73 X**	< 50 U	< 50 U
VOCs in µg/L					
Vinyl Chloride	0.2	**2.9**	< 0.2 U	< 0.2 U	< 0.2 U

Notes

a - Cleanup levels based on Model Toxics Control Act Method A for unrestricted land use. For analytes where no Method A cleanup level is available, the Method B cleanup level is provided.

µg/L - micrograms per liter

Bold - detected

U - non-detect

X - Chromatographic pattern did not match fuel standard

Blue - analyte was detected at a concentration greater than the MTCA Method B Cleanup Level for Sub-Slab Soil Gas adjusted for commercial exposure scenario.

Table 3. Sub-Slab Soil Gas Sampling Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Analyte	Subslab Soil Gas Results and Applicable Screening Levels						Johnson & Ettinger's Model Predicted Indoor Air Results ($\mu g/m^3$)[b]	MTCA Method B Indoor Air Screening Level (Residential) ($\mu g/m^3$)[a]	MTCA Method B Indoor Air Screening Level (Commercial)[a] [$\mu g/m^3$]
	MTCA Method B Subslab Soil Gas Screening Level (Residential) [$\mu g/m^3$][a]	MTCA Method B Subslab Soil Gas Screening Level (Commercial) [$\mu g/m^3$][a]	SV-1 12/10/18	SV-2 12/10/18	SV-3 12/10/18	SV-4 12/10/18			
Volatile Organic Compounds (by Method TO-15) in $\mu g/m^3$ (detected compounds only)									
1,1,2 - Trichlorotrifluoroethane	457,000	1,523,333	< 1.1 U	< 1.1 U	**2.1**	< 1.1 U	--	13,700	45,700
1,1-Dichloroethane	52.1	174	< 0.57 U	< 0.61 U	**1.7**	**0.91**	--	1.6	5.2
1,1-Dichloroethene	3050	10,167	< 0.56 U	< 0.59 U	**0.62**	**5.1**	--	91.4	305
1,2,4-Trimethylbenzene	107	357	< 3.4 U	< 3.7 U	< 3.7 U	**5.8**	--	3.2	11
1,2-Dichloropropane	8.33	28	**0.9**	**0.85**	**0.58**	**0.57**	--	0.25	0.83
1,3,5-Trimethylbenzene			< 3.4 U	< 3.7 U	< 3.7 U	**5.6**	--		
1,3-Butadiene	2.78	9	< 0.03 U	< 0.03 U	**12**	< 0.03 U	0.04291	0.0833	0.28
1-Propene			< 1 U	< 1 U	**52**	**1700 E**	--		
2,2,4-Trimethylpentane			< 6.5 U	< 7 U	< 7 U	**380 E**	--		
2-Butanone	76200	254,000	**17**	**13**	**30**	**24**	--	2,290	7,633
Acetone			**130**	**160**	**430 E**	**780 E**	--	14,200	47,333
Acrolein	0.305	1	< 1.3 U	< 1.4 U	**3.8**	< 1.4 U	0.01384	0.0091	0.03
Benzene	10.7	36	**3.8**	**4.1**	**19**	**150**	0.7559	0.32	1.1
Butane			**15**	**19**	**44**	**2000 E**	--		
Chloroethane	152000	506,667	< 3.7 U	< 4 U	< 4 U	**7.9**	--	4,570	15,233
Chloroform	3.62	12	**0.46**	**0.61**	**0.7**	< 0.074 U	--	0.109	0.36
cis-1,2-Dichloroethene (DCE)			< 0.56 U	< 0.59 U	**2.9**	**220**	--		
Cyclohexane			< 9.6 U	< 10 U	**12**	**150**	--		
Dichlorodifluoromethane	1520	5,067	**2.9**	**2.9**	**2.9**	< 0.74 U	--	45.7	152
Ethanol			**280 E**	**140**	**450 E**	**250 E**	--		
Ethylbenzene	15200	50,667	**5.6**	**5**	**6.7**	**11**	--	457	1,523
Heptane			**11**	**17**	**32**	**140**	--		
Isopropyl Alcohol			**66**	**64**	**70**	**79**	--		
Isopropylbenzene	6100	20,333	< 3.4 U	< 3.7 U	< 3.7 U	**8.8**	--	183	610
m,p-Xylenes			**20**	**18**	**20**	**24**	--	46	152
Naphthalene	2.45	8.2	< 0.73 U	< 0.79 U	< 0.79 U	**1.2**	--	0.074	0.25
n-Hexane	10700	35,667	**13**	**18**	**29**	**290 E**	--	320	1067
Nonane			< 7.3 U	< 7.9 U	< 7.9 U	**52 J**	--		
o-Xylene	1520	5,067	**7**	**6.2**	**7.1**	**18**	--	46	152
Pentane			**12**	**16**	**32**	**850 E**	--		
Styrene	15200	50,667	< 1.2 U	< 1.3 U	**1.5**	< 1.3 U	--	457	1,523
Tetrahydrofuran			**21 J**	**21 J**	**16 J**	**16 J**	--		
Toluene	76200	254,000	**25**	**25**	**39**	**260**	--	2,290	7,633
trans-1,2-Dichloroethene			< 0.56 U	< 0.59 U	< 0.59 U	**43**	--	27.4	91
Trichloroethene (TCE)	12.3	41	**26**	< 0.4 U	**14**	**43**	0.10	0.37	1.23
Vinyl Chloride	9.33	31	< 0.36 U	< 0.38 U	< 0.38 U	**320 E**	1.3	0.28	0.93

Notes

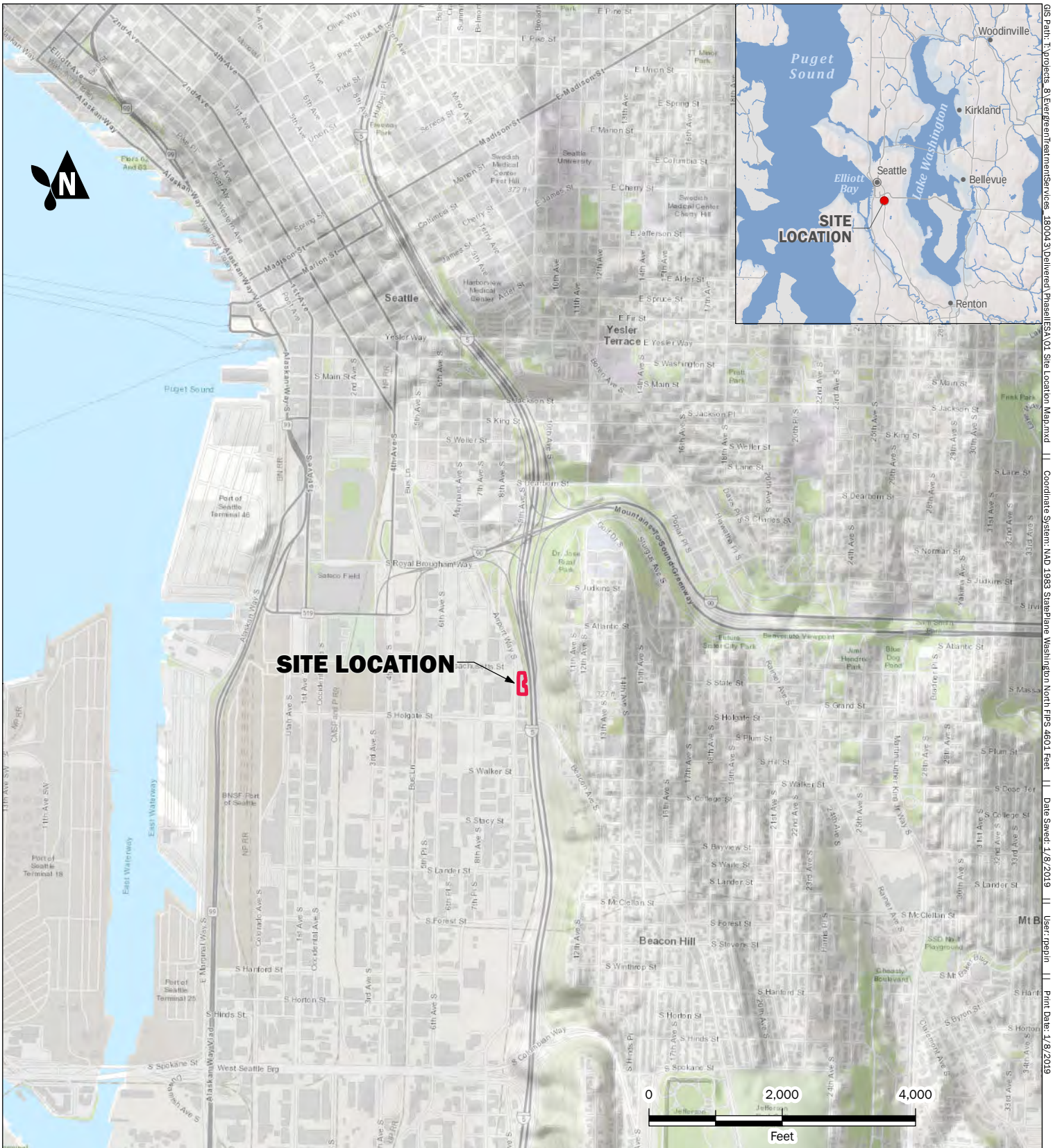
[a] Screening levels are from Table B-1 of Ecology's Guidance for Evaluating Soil Vapor Intrusion in Washington State (Guidance), revised in 2015. Commercial levels based on an exposure scenario of 10 hrs per day, 5 days per week.

[b] Indoor air concentrations modeled using the Johnson and Ettinger Model (JEM) for analytes that exceeded the MTCA Method B screening levels for sub-slab soil gas.

$\mu g/m^3$ - micrograms per cubic meter
Bold - detected
J - estimated
U - non-detect
E - result exceeded calibration range and is therefore considered estimated.

Blue - analyte was detected at a concentration greater than the MTCA Method B Cleanup Level for Sub-Slab Soil Gas adjusted for commercial exposure scenario.

FIGURES



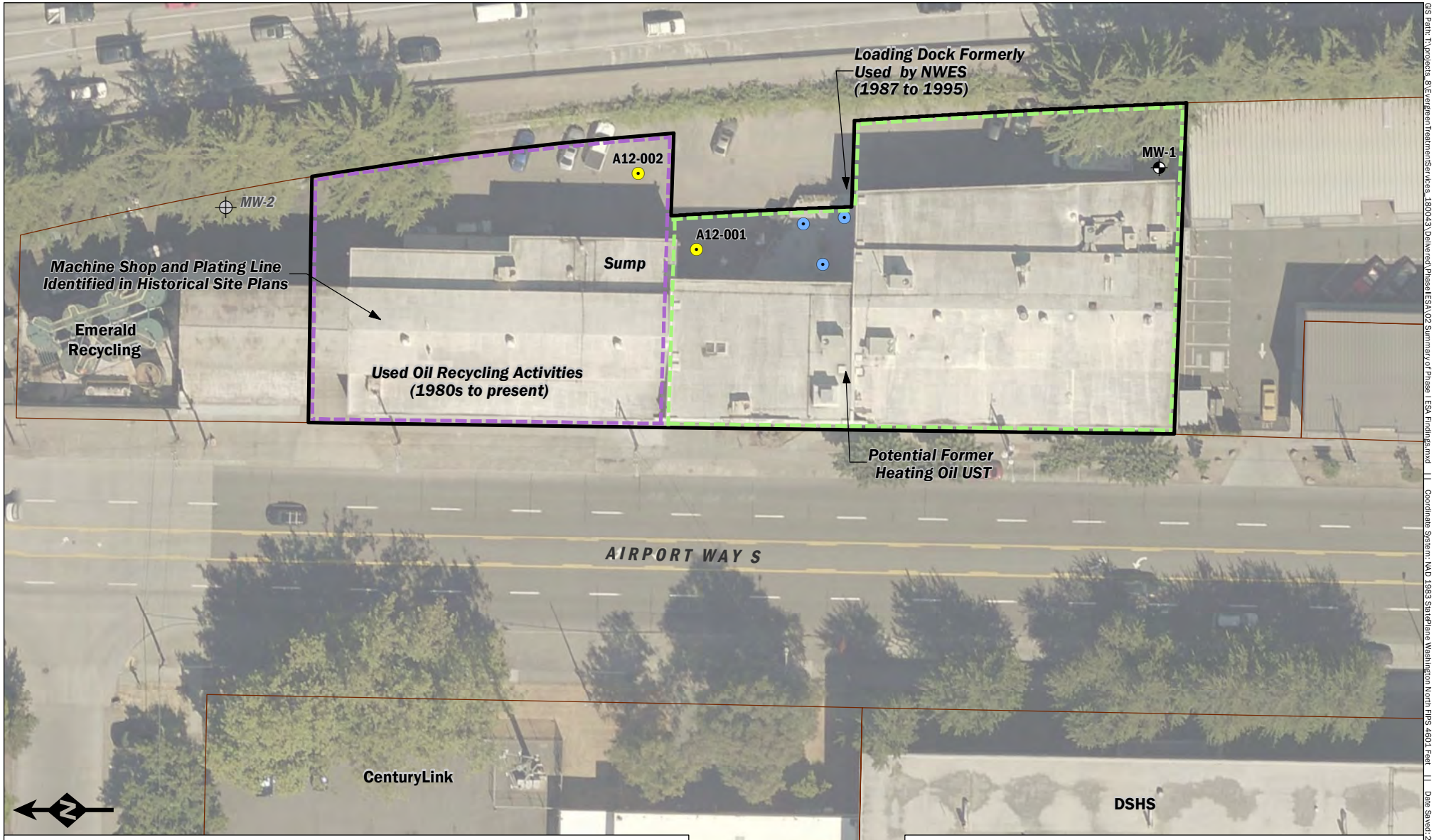
Site Location Map

Phase II ESA
Evergreen Treatment Services
Seattle, Washington

Aspect CONSULTING	JAN-2019	BY: DLC / SCC	FIGURE NO. 1
	PROJECT NO. 180043	REVISED BY: RAP	

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GIS Path: T:\projects_91\EvergreenTreatmentServices_180043\Delivered\Phase II ESA\01 Site Location Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 1/8/2019 || User: rpepin || Print Date: 1/8/2019



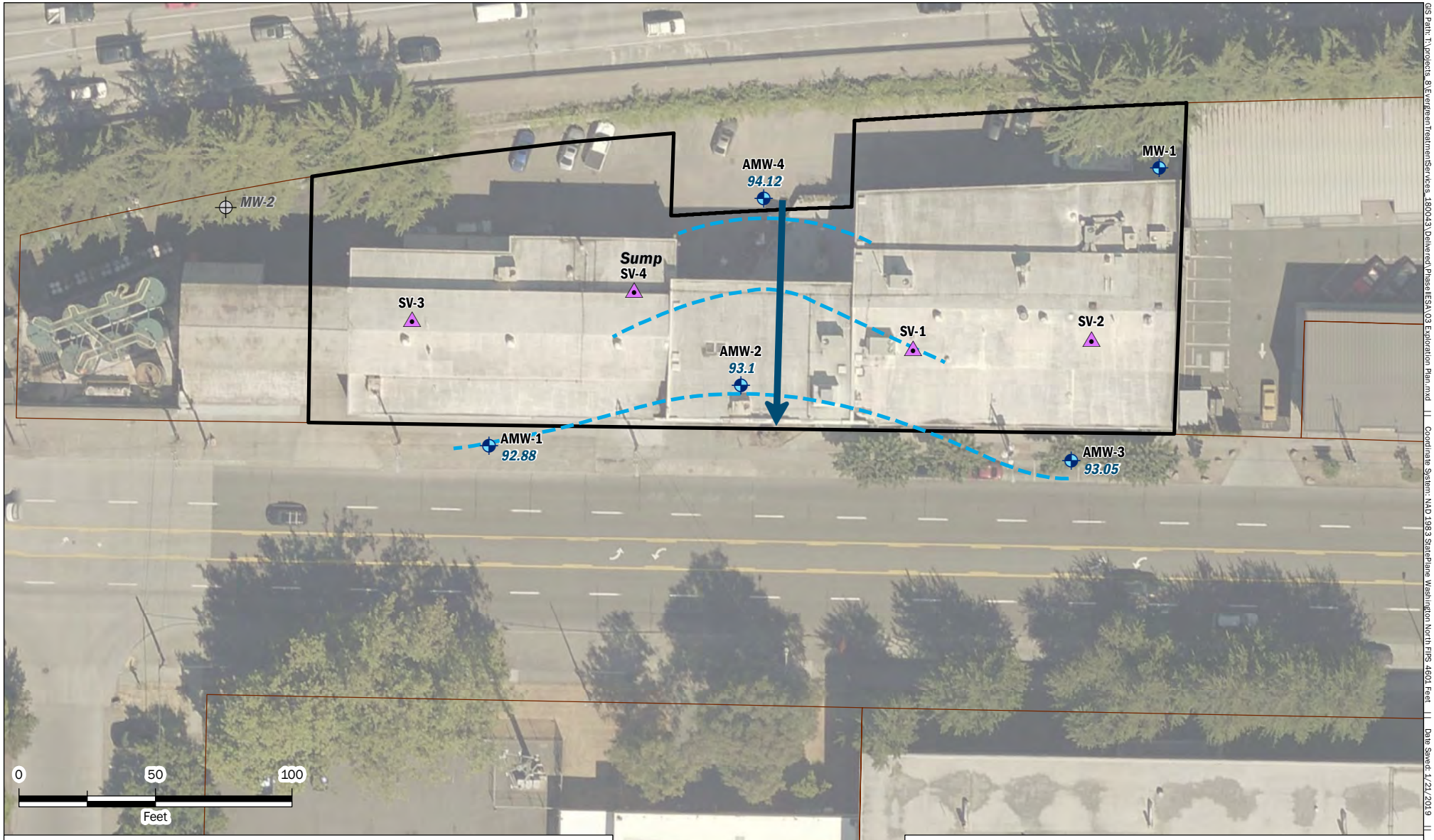
Summary of Phase I ESA Findings

Phase II ESA
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	FEB-2019	BY: DLC / EAC / SCC	FIGURE NO. 2
	PROJECT NO. 180043	REVISED BY: RAP	

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GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Deliverect\Phase IESA\02 Summary of Phase I ESA Findings.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 2/7/2019 || User: tullen || Print Date: 2/7/2019



Soil Gas Sampling Location

Monitoring Well

AMW-2 ← Exploration Number

93.1 ← Groundwater Elevation (ft)

Damaged Monitoring Well

Groundwater Contour Line

Groundwater Flow Direcction

Site Parcel

King County Parcel

Note: MW-2 was reported to be damaged in 2010 groundwater monitoring report (AECOM, 2010).

Exploration Plan

Phase II ESA
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	JAN-2019	BY: DLC / RAP	FIGURE NO. 3
	PROJECT NO. 180043	REVISED BY: TDR	

Basemap Layer Credits || King County

GIS Path: T:\projects_8\EvergreenTreatmentServices_180043\Delivered\Phase IESA\03 Exploration Plan.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 1/21/2019 || User: trullen || Print Date: 1/21/2019



Soil Gas Sampling Location

Monitoring Well

Damaged Monitoring Well

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Site Parcel

King County Parcel

N

0 50 100

Feet

Note: MW-2 was reported to be damaged in 2010 groundwater monitoring report (AECOM, 2010). Only analytical results which exceed the screening level are displayed.

Summary of Soil Chemical Analytical Results

Phase II ESA

Evergreen Treatment Services

Seattle, Washington

Aspect Consulting	JAN-2019	BY: DLC / RAP	FIGURE NO. 4
	PROJECT NO. 180043	REVISED BY: ---	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Deliverect\Phase II ESA\04 Summary of Soil Chemical Analytical Results.mxd || Date Saved: 1/16/2019 || User: rpapin || Print Date: 1/16/2019



Soil Gas Sampling Location

Monitoring Well

Damaged Monitoring Well

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Site Parcel

King County Parcel

N

0 50 100

Feet

Note: MW-2 was reported to be damaged in 2010 groundwater monitoring report (AECOM, 2010). Only analytical results which exceed the screening level are displayed.

Summary of Groundwater Chemical Analytical Results

Phase II ESA

Evergreen Treatment Services

Seattle, Washington

Aspect Consulting	JAN-2019	BY: DLC / RAP	FIGURE NO. 5
	PROJECT NO. 180043	REVISED BY: ---	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Deliverect\Phase II ESA\05 Summary of Groundwater Chemical Analytical Results.mxd || Date Saved: 1/16/2019 || User: rpepin || Print Date: 1/16/2019



Soil Gas Sampling Location

Monitoring Well

Damaged Monitoring Well

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Site Parcel

King County Parcel

N

0 50 100

Feet

Note: MW-2 was reported to be damaged in 2010 groundwater monitoring report (AECOM, 2010). Only analytical results which exceed the screening level are displayed.

Summary of Soil Gas Chemical Analytical Results

Phase II ESA

Evergreen Treatment Services

Seattle, Washington

Aspect Consulting	JAN-2019	BY: DLC / RAP	FIGURE NO. 6
	PROJECT NO. 180043	REVISED BY: ---	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Deliverect\Phase II ESA\06 Summary of Soil Gas Chemical Analytical Results.mxd || Date Saved: 1/16/2019 || User: rpepin || Print Date: 1/16/2019

MEMORANDUM

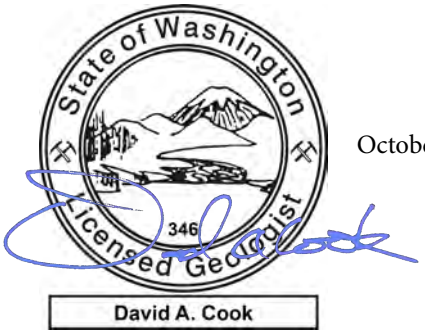
Project No. 180043

October 1, 2020

To: Linda Kruger, Evergreen Treatment Services

cc: Ray Liaw, Van Ness Feldman, LLP

From:



October 1, 2020

Dave Cook, LG, CPG
Principal Geologist
dcook@aspectconsulting.com

Andrew Yonkofski, LHG
Project Hydrogeologist
ayonkofski@aspectconsulting.com

Re: **Sump Cleanout and Soil Gas Sampling Memorandum**
1700 Airport Way South, Seattle, Washington

This memorandum presents the results of a soil gas and vapor intrusion investigation completed by Aspect Consulting, LLC (Aspect) for Evergreen Treatment Services (ETS) at the Subject Property located at 1700 Airport Way South, in Seattle, Washington (Subject Property). This characterization was conducted to re-evaluate the results of a vapor intrusion assessment performed for the Subject Property in December 2018. Aspect's Phase II Environmental Site Assessment (ESA; Aspect, 2019) for the Subject Property identified elevated chlorinated solvent and benzene concentrations in soil gas beneath the north warehouse portion of the Subject Property (Aspect, 2019). Sediment contained in a sump in the north warehouse portion of the building, which historically was used as a discharge point for wastewater from a washing machine, was suspected as a potential source of these elevated concentrations of the chlorinated solvents. Therefore, Aspect recommended cleanout of the sump and then re-evaluation of soil gas in the north warehouse portion of the building. The following provides the results of the sump cleanout and re-evaluation of subslab soil gas at the Subject Property.

Sump and Drain Cleanout

On August 18, 2020, Aspect oversaw a subcontractor clean the onsite stormwater system and basement sump. Approximately 17 inches of oily sediment, which contained a heavy petroleum-like odor and iridescent sheen, were present in the sump prior to cleaning. The subcontractor used a vacuum truck to drain all free liquid from the sump, and the sump was then triple rinsed with high pressure water to clean out the remaining sludge and oily residues. Additionally, four of the five

stormwater catch basins (A1 through A4) and the two stormwater vaults (A6 and A7) along the east side of the Subject Property were rinsed and water and sediment removed using the vacuum removal process (Figure 1). In total, approximately 350 gallons of rinsate was generated and removed during the cleaning process from the sump and five catch basins. Of this amount, the sump held approximately 175 gallons of oily wastewater and sediments prior to cleaning. Pictures of the cleaning operation are included in Appendix A.

Subslab Soil Gas Sampling

Previous soil gas sampling, as summarized in the Phase II ESA (Aspect, 2019), indicated that benzene, trichloroethene (TCE), vinyl chloride (VC), 1,3-butadiene, and acrolein were detected in soil gas above the MTCA Method B screening level for both unrestricted use and commercial use scenarios. Those results are summarized in Table 1. Given the detections of benzene, TCE, and VC, further assessment for the vapor intrusion pathway was warranted under the Washington State Department of Ecology's (Ecology's) *Guidance for Evaluating Soil Vapor Intrusion in Washington State* (Ecology, 2018a). The sump was the suspected source of these contaminants in soil gas and, after the sump was cleaned out, soil gas was allowed to equilibrate for two weeks prior to sampling.

Subslab soil gas sampling was performed on September 10 and 17, 2020 – after the cleanout of the sump and catch basins at the Subject Property. The subslab soil gas sampling locations were based on historical sampling locations as outlined in Aspect's 2019 Phase II ESA (Figure 2). Temporary vapor sampling locations (aka "vapor pins") were installed by drilling a 5/8-inch-diameter hole through the concrete slab, cleaning the hole using a brush and vacuum, and utilizing a silicon seal between the vapor pin and the clean hole. On September 10, 2020, multiple attempts were made to install a temporary subslab soil vapor pin at location SV-4; however, the soil underneath the basement slab was saturated and a sample could not be obtained from this location. Aspect returned on September 17, 2020, and collected a sample from SV-5, which is located approximately 12 feet south of SV-4, as shown on Figure 1. Following sample collection, the vapor pin was removed, and the hole patched with rapid set concrete.

The subslab soil gas samples were collected using a laboratory-supplied, evacuated, 1-liter (L) SUMMA canister with 150 milliliter per minute (mL/min) flow controller, according to the following procedure:

- A shut-in test was performed by inducing a vacuum to the sampling train (including Teflon tubing up to the vapor pin, fittings, and connections to the SUMMA canister). A vacuum of 15 inches of mercury was applied for a period of 5 minutes. No change in vacuum was observed during the shut-in tests.
- The vapor pin was then enclosed in a leak-testing shroud and helium tracer gas was applied until a minimum 60 percent helium was measured inside the shroud. The sampling point and tubing were purged to ensure any remaining ambient indoor air inside the sampling train was removed and facilitate field screening of subslab soil gas for helium to verify integrity of the silicon seal between the vapor pin and concrete slab.
- After confirming that no significant leakage was present in the sampling train or around the vapor pin seal, the SUMMA canister was opened and allowed to fill at 150 mL/min over approximately 6 to 7 minutes until the canister vacuum reached -5 inches of mercury.

Samples were transferred under appropriate chain-of-custody documentation to the analytical laboratory, Friedman and Bruya, Inc., in Seattle, Washington. Samples were analyzed using MDEP Method for APHs, EPA Method TO-15 for volatile organic compounds (VOCs), and ASTM Method D1946 for helium.

Analytical Results and Vapor Intrusion Assessment

The laboratory reports for the subslab soil gas samples is provided for reference as Appendix B. Subslab soil gas results are summarized in Table 1. The MTCA Method B subslab soil gas screening levels for unrestricted use were adjusted for a commercial exposure scenario[1] and included in Table 1 for comparison purposes. The following summarizes results relative to the commercial exposure scenario:

- At SV-3, benzene and TCE were detected but at concentrations less than the commercial exposure scenario. These results are consistent with the December 2018 sampling event. Additionally, 1,3-butadiene and acrolein, which had historically exceeded the commercial screening levels at this location, were not detected.
- At SV-5, concentrations of benzene, total petroleum hydrocarbons (TPH), TCE, and VC exceeded the MTCA Method B screening levels for the commercial exposure scenario. These results are consistent with the December 2018 sampling event (SV-4 location, within about 10 feet of SV-5).
- No other VOCs were detected above their respective MTCA Method B screening levels for commercial use.
- Subslab soil gas impacts exceeding the MTCA Method B screening levels for a commercial exposure scenario appear to be limited to the southeast area of the north wing of the building where a zone of contamination may be present in soil and groundwater underneath the building. These results are consistent with the December 2018 soil gas investigation documented in the Phase II ESA (Aspect, 2019).

The MTCA Method B subslab soil gas screening levels are used as indicators for the potential of vapor intrusion. The screening levels are designed to provide a conservative evaluation of whether vapor intrusion is a possibility (in this case, in a commercial setting). Based on the exceedances of the MTCA Method B screening levels at SV-4 and SV-5 (near the sump), the next step in the vapor intrusion assessment would typically be to sample indoor air to determine if vapor intrusion into the southern part of the north warehouse is actually occurring. However, the northern warehouse space is filled with possible sources of cross-contamination left by previous tenants, including such items as used oil processing equipment; gloves, coveralls, and floor mats used by workers in used oil recycling operations; and obvious indications of staining along the floors and walls of the basement space.

[1] Commercial screening levels calculated by adjusting exposure frequency for both noncarcinogens and carcinogens from 1.0 for a residential scenario to 0.30, and average body weight and breathing rate for noncarcinogens to 70 kg and 20 m^3/day, respectively, versus 16 kg and 10 m^3/day (equivalent of an adult versus a child). These adjustments are in accordance with MTCA Equations 750-1 and 750-2 and Ecology's Implementation Memorandum No. 21 (Ecology, 2018b).

Due to the materials left behind by the previous tenants it is not prudent to sample indoor air under current building conditions. Therefore, the potential for vapor intrusion was evaluated by modeling predicted indoor air concentrations based on the subslab soil gas concentrations. Aspect used the results from the September 2020 subslab soil gas sampling event to perform a site-specific evaluation for the risk of vapor intrusion by estimating indoor air concentrations for each of the above contaminants using the Johnson and Ettinger Model (JEM) for the highest detected concentration of each. This site-specific modeling effort considered the effects of the building design. Specifically, the building slab in the north warehouse has been observed to be between 12 and 15 inches thick, which is up to three to four times thicker than what was used to develop the MTCA Method B subslab soil gas screening levels. Additionally, the slab was observed to be in excellent condition with limited cracking throughout the basement floor. The JEM predicts the indoor air concentration of each contaminant and provides a range of indoor air concentrations. The results of the JEM are presented in Table 2, and model outputs are attached in Appendix C.

Based on the results of JEM indoor air modeling for this building on this site, concentrations of benzene, TCE, and VC were predicted to be below MTCA Method B cleanup levels for indoor air under current Subject Property conditions (Table 2).

Conclusions and Recommendations

The 2020 soil gas and vapor intrusion study indicate that benzene, TPH, TCE and VC are present in soil gas at concentrations exceeding commercial screening levels in the south portion of the north warehouse building of the Subject Property (based on 2018 and 2020 soil gas testing results – SV-4 and SV-5). The concentrations of soil gas in the north portion of the north warehouse did not exceed the commercial use screening levels (SV-3 in 2020). Therefore, it appears even after the sump and drain cleanout completed in 2020, that sources of benzene, TPH, TCE and VC remain in what may be a localized area capped beneath the concrete slab of the south portion of the north warehouse part of the building.

We understand that the north warehouse is unoccupied and will remain so until remodeling/renovation occurs in the future. Therefore, no immediate action is warranted. However, because subslab soil gas exceeded the MTCA Method B screening levels, further evaluation of the vapor intrusion pathway is necessary. While the JEM indoor air predictive modeling results indicate that there may not be exceedances of the MTCA Method B cleanup levels for indoor air from vapor intrusion of subslab soil gas, indoor air sampling is recommended to demonstrate the vapor intrusion pathway is incomplete (and vapor mitigation would not be warranted). Therefore, it is prudent to complete the following prior to renovation and occupancy.

- Prior to any use of the north wing warehouse space, Aspect recommends a complete cleaning of the basement area to remove any potential background sources of indoor air contamination (we observed equipment, staining, and other materials that appeared to have been used by historic used oil recyclers in this part of the building). The basement cleaning should include removal of all equipment and materials related to the historical use of the building for used oil recycling and thoroughly decontaminating the walls and floor of the basement space using a combination of washing (such as with a steam-enhanced pressure washer) and the use of a volatile-free soap. Once the basement has been properly cleaned,

the vapor intrusion pathway should be further evaluated by completing indoor air sampling in accordance with Ecology's guidance (2018a).

- If indoor air sampling indicates that concentrations of potential contaminants of concern exceed the MTCA Method B cleanup levels for indoor air, adjusted for a commercial exposure, vapor mitigation will be necessary. The type of vapor mitigation will require further evaluation based on the indoor air results. There are a variety of methods for mitigating vapor such as installation of an active subslab depressurization system, application of chemically resistant floor and wall coatings to act as a vapor barrier, and/or engineering modifications to the airflow in the north wing of the warehouse.

  However, the need for such mitigation will depend on a variety of factors. For example, the use of the space will determine the exposure duration during a vapor intrusion assessment: ETS may elect to use the basement portion of the north wing as a parking garage, which in and of itself would require active ventilation. ETS may also elect to not occupy the basement of the northern portion of the warehouse. Likewise, the results of indoor air sampling will determine the magnitude of potential indoor air contamination, and the selection of one or more the technologies listed above will depend on those results.

References

Aspect Consulting, LLC (Aspect), 2019, Phase II Environmental Site Assessment (ESA), 1700 Airport Way South, Seattle, Washington, dated February 21, 2019.

Washington State Department of Ecology (Ecology), 2018a, Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Publication No. 09-09-047, dated April 2018.

Washington State Department of Ecology (Ecology), 2018b, Frequently Asked Questions (FAQs) Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance, Implementation Memorandum No. 21, Publication No. 18-09-046, dated November 15, 2018.

Limitations

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

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

Attachments: Table 1 –Soil Gas Analytical Results
Table 2 – Predicted Indoor Air Concentrations
Figure 1 – Stormwater System Layout
Figure 2 – Summary of Soil Gas Chemical Analytical Results
Appendix A – Photograph Log
Appendix B – Laboratory Analytical Reports
Appendix C – Johnson-Ettinger Model Outputs
Appendix D – Report Limitations and Guidelines for Use

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TABLES

Table 1. Soil Gas Analytical Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

				Location	SV-1	SV-2	SV-3		SV-4	SV-5
				Date	12/10/2018	12/10/2018	12/10/2018	09/10/2020	12/10/2018	09/17/2020
				Sample	SV-1-181210	SV-2-181210	SV-3-181210	SV-3-091020	SV-4-181210	SV-5-091720
Analyte	Unit	MTCA Method B Subslab Soil Gas Screening Levels - Unrestricted Use	MTCA Method B Subslab Soil Gas Screening Levels - Commercial Use							
Air Phase Hydrocarbons										
C5 - C8 Aliphatic Hydrocarbons	ug/m3				--	--	--	**3100**	--	**29000 E**
C9 - C12 Aliphatic Hydrocarbons	ug/m3				--	--	--	**860**	--	**22000**
C9 - C10 Aromatic Hydrocarbons	ug/m3				--	--	--	< 420 U	--	< 1000 U
Total Petroleum Hydrocarbons (ND = 1/2 RL)	ug/m3	4700	35000		--	--	--	**4,389**	--	**52,135 E**
Benzene, Toluene, Ethylbenzene, and Total Xylenes										
Benzene	ug/m3	11	37		**3.8**	**4.1**	**19**	**29**	**150**	**170**
Toluene	ug/m3	76000	560000		**25**	**25**	**39**	< 320 U	**260**	< 790 U
Ethylbenzene	ug/m3	15000	110000		**5.6**	**5**	**6.7**	< 7.4 U	**11**	< 18 U
Total Xylenes	ug/m3	1500	11000		**27**	**24.2**	**27.1**	**20**	**42**	**37**
Polycyclic Aromatic Hydrocarbons										
Naphthalene	ug/m3	2.5	8.4		< 0.73 U	< 0.79 U	< 0.79 U	< 4.5 U	**1.2**	< 11 U
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/m3	76000	560000		< 0.76 U	< 0.82 U	< 0.82 U	< 9.3 U	< 0.82 U	< 23 U
1,1,2,2-Tetrachloroethane	ug/m3	1.4	4.7		< 0.19 U	< 0.21 U	< 0.21 U	< 2.3 U	< 0.21 U	< 5.8 U
1,1,2-Trichloroethane	ug/m3	3	22		< 0.15 U	< 0.16 U	< 0.16 U	< 1.9 U	< 0.16 U	< 2.3 U
1,1,2-Trichlorotrifluoroethane	ug/m3	76000	560000		< 1.1 U	< 1.1 U	**2.1**	< 13 U	< 1.1 U	< 32 U
1,1-Dichloroethane	ug/m3	52	170		< 0.57 U	< 0.61 U	**1.7**	< 6.9 U	**0.91**	< 17 U
1,1-Dichloroethene	ug/m3	3000	22000		< 0.56 U	< 0.59 U	**0.62**	< 6.7 U	**5.1**	< 17 U
1,2,4-Trichlorobenzene	ug/m3	30	220		< 1 U	< 1.1 U	< 1.1 U	< 13 U	< 1.1 U	< 31 U
1,2,4-Trimethylbenzene	ug/m3	910	6700		< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.8**	< 100 U
1,2-Dibromoethane (EDB)	ug/m3	0.14	0.47		< 0.11 U	< 0.12 U	< 0.12 U	< 1.3 U	< 0.12 U	< 3.2 U
1,2-Dichlorobenzene	ug/m3	3000	22000		< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,2-Dichloroethane (EDC)	ug/m3	3.2	11		< 0.057 U	< 0.061 U	< 0.061 U	< 0.69 U	< 0.061 U	< 1.7 U
1,2-Dichloropropane	ug/m3	23	77		**0.9**	**0.85**	**0.58**	< 3.9 U	**0.57**	< 9.7 U
1,3,5-Trimethylbenzene	ug/m3				< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.6**	< 100 U
1,3-Dichlorobenzene	ug/m3				< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,4-Dichlorobenzene	ug/m3	7.6	26		< 0.34 U	< 0.36 U	< 0.36 U	< 3.9 U	< 0.36 U	< 9.7 U
1-Propene	ug/m3				< 1 U	< 1 U	**52**	**180**	**1700 E**	**2100 E**
2-Butanone	ug/m3	76000	560000		**17**	**13**	**30**	< 50 U	**24**	< 120 U
2-Chlorotoluene	ug/m3				< 7.2 U	< 7.8 U	< 7.8 U	< 88 U	< 7.8 U	< 220 U
2-Hexanone	ug/m3				< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
4-Methyl-2-pentanone	ug/m3	46000	340000		< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Acetone	ug/m3				**130**	**160**	**430 E**	**640**	**780 E**	< 600 U
Acrolein	ug/m3	0.3	2.2		< 1.3 U	< 1.4 U	**3.8**	< 35 U	< 1.4 U	< 87 U
Allyl Chloride	ug/m3				< 1.8 U	< 1.9 U	< 1.9 U	< 27 U	< 1.9 U	< 66 U
Bromodichloromethane	ug/m3	2.3	7.7		< 0.094 U	< 0.1 U	< 0.1 U	< 1.1 U	< 0.1 U	< 2.8 U
Bromoform	ug/m3	76	260		< 2.9 U	< 3.1 U	< 3.1 U	< 35 U	< 3.1 U	< 87 U
Bromomethane	ug/m3	76	560		< 2.2 U	< 2.3 U	< 2.3 U	< 40 U	< 2.3 U	< 98 U
Butane	ug/m3				**15**	**19**	**44**	**400**	**2000 E**	**2000**
Carbon Disulfide	ug/m3	11000	81000		< 8.7 U	< 9.3 U	< 9.3 U	< 110 U	< 9.3 U	< 260 U
Carbon Tetrachloride	ug/m3	14	47		< 0.88 U	< 0.94 U	< 0.94 U	< 5.3 U	< 0.94 U	< 13 U
Chlorobenzene	ug/m3	760	5600		< 0.64 U	< 0.69 U	< 0.69 U	< 7.8 U	< 0.69 U	< 19 U
Chloroethane	ug/m3	150000	1100000		< 3.7 U	< 4 U	< 4 U	< 45 U	**7.9**	< 110 U
Chloroform	ug/m3	3.6	12		**0.46**	**0.61**	**0.7**	**1.7**	< 0.074 U	< 2.1 U
Chloromethane	ug/m3	1400	10000		< 2.9 U	< 3.1 U	< 3.1 U	< 63 U	< 3.1 U	< 160 U
cis-1,2-Dichloroethene (cDCE)	ug/m3				< 0.56 U	< 0.59 U	**2.9**	**35**	**220**	**70**
cis-1,3-Dichloropropene	ug/m3				< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Cyclohexane	ug/m3				< 9.6 U	< 10 U	**12**	< 120 U	**150**	< 290 U
Dibromochloromethane	ug/m3				< 0.12 U	< 0.13 U	< 0.13 U	< 1.4 U	< 0.13 U	< 3.6 U
Dichlorodifluoromethane	ug/m3	1500	11000		**2.9**	**2.9**	**2.9**	< 8.4 U	< 0.74 U	< 21 U
Ethanol	ug/m3				**280 E**	**140**	**450 E**	**570**	**250 E**	< 320 U
Ethyl acetate	ug/m3				< 10 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Isopropyl Alcohol	ug/m3				**66**	**64**	**70**	< 150 U	**79**	< 360 U
Isopropylbenzene	ug/m3	6100	45000		< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**8.8**	< 100 U
m,p-Xylenes	ug/m3	1500	11000		**20**	**18**	**20**	**20**	**24**	< 36 U
Methyl Methacrylate	ug/m3	11000	81000		< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Methyl tert-butyl ether (MTBE)	ug/m3	320	1100		< 2.5 U	< 2.7 U	< 2.7 U	< 31 U	< 2.7 U	< 76 U
Methylene Chloride	ug/m3	8300	28000		< 120 U	< 130 U	< 130 U	< 590 UJ	< 130 U	< 1500 UJ
n-Hexane	ug/m3	11000	81000		**13**	**18**	**29**	**79**	**290 E**	**360**
Nonane	ug/m3				< 7.3 U	< 7.9 U	< 7.9 U	< 89 U	**52 J**	< 220 U
n-Propylbenzene	ug/m3				< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
o-Xylene	ug/m3	1500	11000		**7**	**6.2**	**7.1**	< 7.4 U	**18**	**37**
Pentane	ug/m3				**12**	**16**	**32**	**190**	**850 E**	**870**
Styrene	ug/m3	15000	110000		< 1.2 U	< 1.3 U	**1.5**	< 14 U	< 1.3 U	< 36 U
t-Butyl alcohol (TBA)	ug/m3				< 17 U	< 18 U	< 18 U	< 210 U	< 18 U	< 510 U
Tetrachloroethene (PCE)	ug/m3	320	1100		< 9.5 U	< 10 U	< 10 U	< 120 U	< 10 U	< 280 U
Tetrahydrofuran	ug/m3				**21 J**	**21 J**	**16 J**	**28**	**16 J**	**18**
trans-1,2-Dichloroethene	ug/m3				< 0.56 U	< 0.59 U	< 0.59 U	< 6.7 U	**43**	**110**
trans-1,3-Dichloropropene	ug/m3				< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Trichloroethene (TCE)	ug/m3	12	40		**26**	< 0.4 U	**14**	**40**	**43**	**61**
Trichlorofluoromethane	ug/m3	11000	81000		< 3.1 U	< 3.4 U	< 3.4 U	< 38 U	< 3.4 U	< 94 U
Vinyl Acetate	ug/m3	3000	22000		< 9.9 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Vinyl Bromide	ug/m3				< 0.61 U	< 0.66 U	< 0.66 U	< 7.4 U	< 0.66 U	< 18 U
Vinyl Chloride	ug/m3	9.4	32		< 0.36 U	< 0.38 U	< 0.38 U	< 4.3 U	**320 E**	**280**
1,3-Butadiene	ug/m3	2.8	9.4		< 0.03 U	< 0.03 U	**12**	< 0.75 U	< 0.03 U	< 1.9 U
2,2,4-Trimethylpentane	ug/m3				< 6.5 U	< 7 U	< 7 U	< 79 U	**380 E**	**460**
4-Ethyltoluene	ug/m3				< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
alpha-Chlorotoluene	ug/m3	1.7	5.7		< 0.072 U	< 0.078 U	< 0.078 U	< 0.88 U	< 0.078 U	< 2.2 U
Freon 114	ug/m3				< 0.98 U	< 1 U	< 1 U	< 12 U	< 1 U	< 29 U
Heptane	ug/m3				**11**	**17**	**32**	< 70 U	**140**	< 170 U
Leak Testing Results										
Helium	%				< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U

Notes:

Bold - detected

Blue Shaded - Detected result exceeded residential screening level

Red Shaded - Detected result exceeded commercial screening level

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

J - Result value estimated

UJ - Analyte not detected and the Reporting Limit (RL) is an estimate

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

Table 2. Predicted Indoor Air Concentrations

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

	Predicted Indoor Air Concentrations (ug/m^3)			MTCA Method B Indoor Air Cleanup Levels (ug/m^3)	
Analyte	Low	Best Estimate	High	Unrestricted Use	Commercial Use
Benzene	6.74E-02	7.77E-02	7.97E-02	3.20E-01	1.07E+00
Trichloroethylene	2.37E-02	2.78E-02	2.86E-02	3.30E-01	1.11E+00
Vinyl Chloride	1.14E-01	1.29E-01	1.32E-01	2.80E-01	9.40E-01

Notes:

Bold - detected

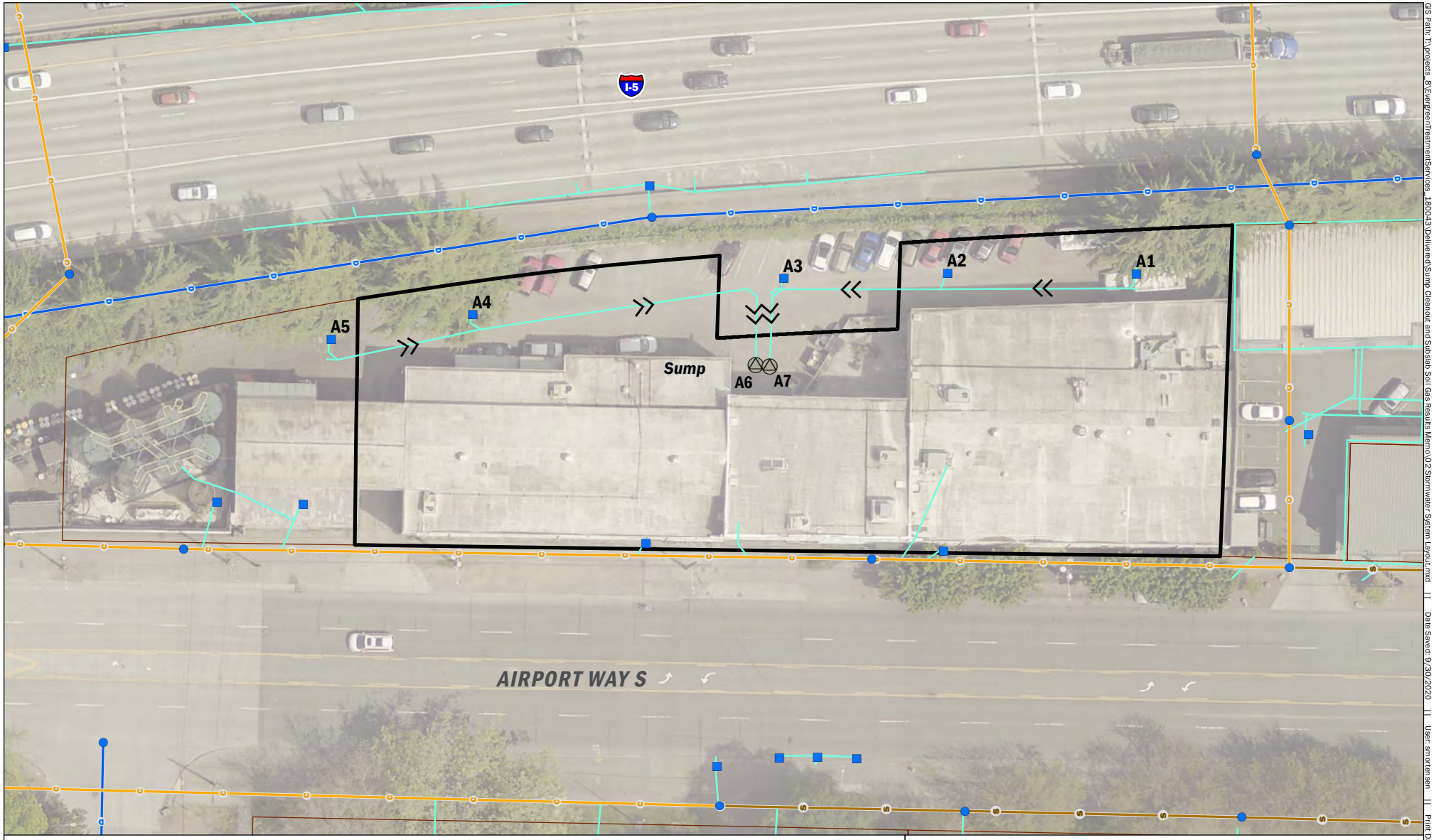
Blue Shaded - Detected result exceeded residential screening level

Red Shaded - Detected result exceeded comercial screening level

Predicted indoor air concentrations from building-specific Johnson & Ettinger Model, see Appendix B.

MTCA = Model Toxics Control Act

FIGURES



Site Parcel
King County Parcel
Catch Basin
Maintenance Holes and Other Structures
Stormwater Vault
Flow Direction Indicator
DWW Side Sewers and Laterals
Combined Mainline
Drainage Mainline
Sanitry Mainline

Note: Site features are approximate.

0 50 100
Feet

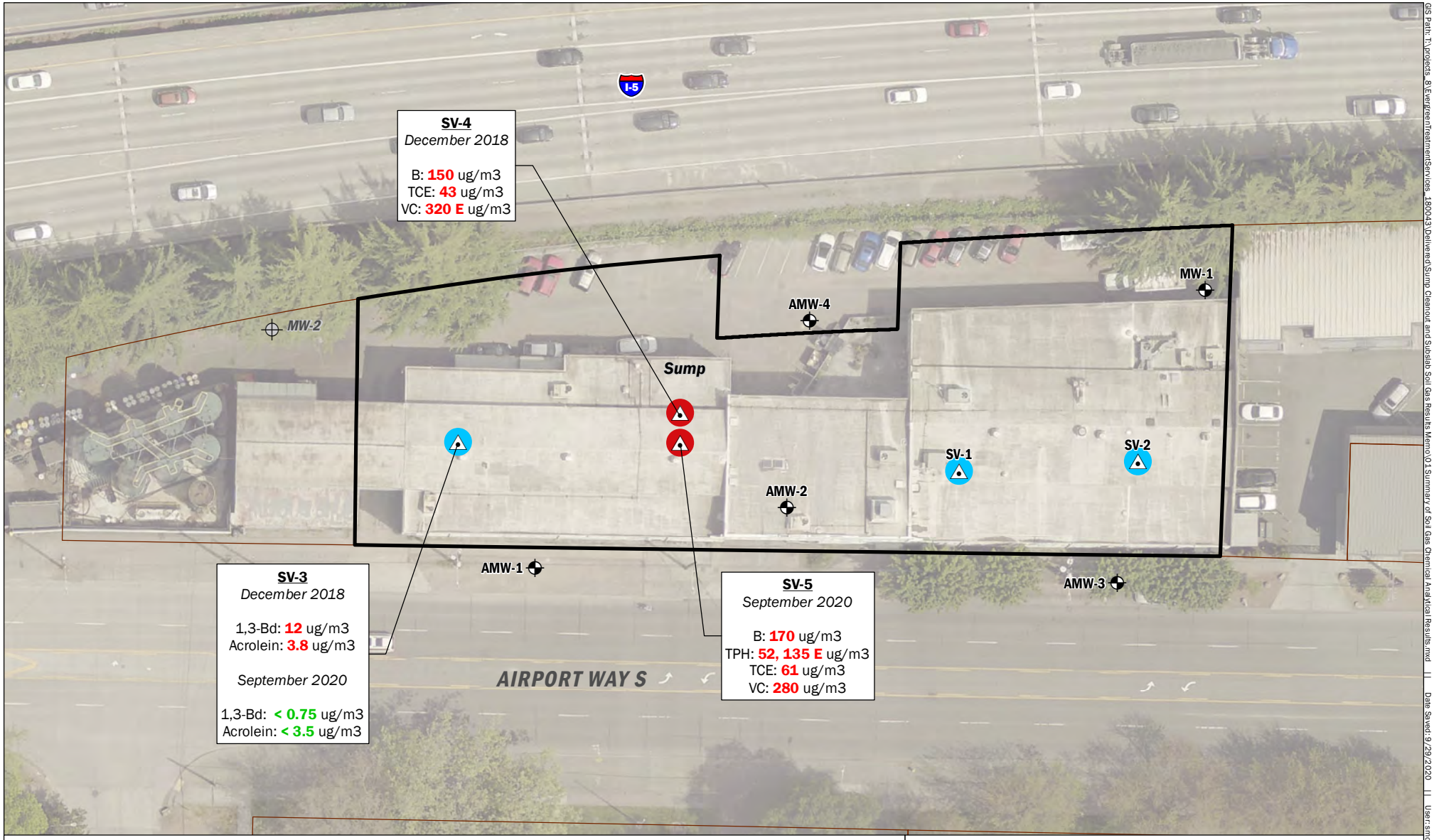
Stormwater System Layout

Stormwater System Layout
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	SEP-2020	BY: DLC / RAP	FIGURE NO. 1
	PROJECT NO. 180043	REVISED BY: SBM	

Basemap Layer Credits || EagleView Technologies

GIS Path: T:\projects_8\EvergreenTreatmentServices_180043\Delivered\Sump Cleanout and Subslab Soil Gas Results Memo\02 Stormwater System Layout.mxd || Date Saved: 9/30/2020 || User: smortensen || Print Date: 9/30/2020



- Soil Gas Sampling Location
- Monitoring Well
- Damaged Monitoring Well
- Site Parcel
- King County Parcel

- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance
- No Analytes Detected

Notes:
- *B: Benzene*
- *TPH: Total Petroleum Hydrocarbons*
- *TCE: Trichloroethene*
- *VC: Vinyl Chloride*
- *1,3-Bd: 1,3-Butadiene*

0 50 100
Feet

Summary of Soil Gas Chemical Analytical Results

Sump Cleanout and Soil Gas Sampling Memorandum
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	SEP-2020	BY: DLC / RAP	FIGURE NO. 2
	PROJECT NO. 180043	REVISED BY: SBM	

Basemap Layer Credits || EagleView Technologies

GIS Path: T:\projects_8\EvergreenTreatmentServices_180043\Delivered\Sump Cleanout and Subslab Soil Gas Results Memo\01 Summary of Soil Gas Chemical Analytical Results.mxd || Date Saved: 9/29/2020 || User: smortensen || Print Date: 9/29/2020

PHASE I ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way S
Seattle, Washington

Prepared for: Evergreen Treatment Services

Project No. 180043 • April 6, 2021 • FINAL

Aspect CONSULTING

earth + water

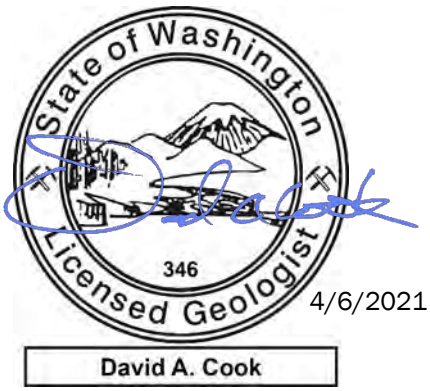
PHASE I ENVIRONMENTAL SITE ASSESSMENT

1700 Airport Way S
Seattle, Washington

Prepared for: Evergreen Treatment Services

Project No. 180043 • April 6, 2021• FINAL

Aspect Consulting, LLC



Amelia Oates
Project Geologist
aoates@aspectconsulting.com

Dave Cook, LG, CPG
Principal Geologist
dcook@aspectconsulting.com

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Acronyms and Abbreviations

AAI	All Appropriate Inquiries
ACM	asbestos containing material
ALLSITES	Washington State Department of Ecology Facility/Site Identification System Listing
Aspect	Aspect Consulting, LLC
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
AULs	activity and use limitations
BaP	benzo(a)pyrene
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COPC	contaminant of potential concern
cPAH	carcinogenic PAH
CREC	controlled REC
CUL	cleanup level
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources, Inc.
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ETS	Evergreen Treatment Services
FINDS	Federal Records Facility Index System/Facility Registry System
HBM	hazardous building materials
HREC	historical REC
JEM	Johnson-Ettinger Model
mg/kg	milligrams per kilogram
msl	mean sea level
MTCA	Washington State Model Toxics Control Act
NPDES	National Pollutant Discharge Elimination System
NWES	NW EnviroService
PAH	polycyclic aromatic hydrocarbon
PCBs	polychlorinated biphenyls
pCi/L	picoCuries per liter
PLIA	Pollution Liability Insurance Association
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition

SDCI	Seattle Department of Construction and Inspection
TCE	tetrachloroethene
TPH	total petroleum hydrocarbons
USGS	United States Geological Survey
UST	underground storage tank
µg/L	micrograms per liter
VOC	volatile organic compound

Executive Summary

Aspect Consulting, LLC (Aspect) has prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property located at 1700 Airport Way South in Seattle, Washington (King County tax parcel number 7666-20-2855), referred to herein as the Subject Property. ETS is completing due diligence to purchase this property. The Subject Property is currently developed with one building, leased by ETS. The southern wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS. The northern wing is an unoccupied warehouse that was last used by Emerald Recycling[1] for loading and storage to support their used-oil recycling facility (located north of the Subject Property). The building was constructed in 1914–1915 as a factory for the Western Blower Company, manufacturer of industrial blowers for sawmills and furnaces. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, Site Location Map and Site Plan, respectively.

Aspect completed a Phase I ESA in 2019, when ETS was first considering purchase of the Subject Property. That Phase I ESA identified seven specific recognized environmental conditions (RECs), which we have consolidated into four key conditions in this report:

1. **Historical manufacturing, machine, and plating shops on the property by Western Blower (1915–1960s).** Research also documented large engine maintenance and cleaning in the north warehouse. Activities and materials used during manufacturing may have resulted in releases of oil, solvents, and metals into the subsurface, most likely through drains or sumps.
2. **Used-oil recycling activities by Emerald Recycling and their predecessor, NW EnviroService (NWES; 1987–2021).** Although Emerald's primary oil recycling facility is located north of the Subject Property, the existing building at the property was used for off-loading, handling, and storage of materials resulting in releases of oil, solvents, and metals on the Subject Property. NWES used the loading dock located towards the center of the Subject Property building for loading and unloading hazardous and nonhazardous waste from 1987 to 1995. Limited soil and groundwater sampling completed in 1995 identified metals, oil, and polycyclic aromatic hydrocarbon (PAH) contamination in soil and concrete, along with manganese in groundwater. The results of the 1990s testing resulted in a request for property closure from Washington State Department of Ecology (Ecology), in which a restrictive covenant was established for the property as follows:

[1] Emerald Recycling (an oil recycling facility—aka Emerald Services and previously Northwest EnviroService) was sold to Clean Harbors in 2016.

- **Restrictive covenant on Subject Property in 1997.** As a result of soil and groundwater testing in the 1990s, and in order for Ecology to offer a No Further Action (NFA) determination for the Subject Property, Ecology requested that a restrictive covenant be recorded for the property. The covenant requires the building and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, benzo(a)pyrene (a PAH compound), and oil-related total petroleum hydrocarbons (TPH). Notification to Ecology is required for redevelopment or other disturbance to the cover. The restrictive covenant includes a prohibition of groundwater use, due to elevated concentrations of manganese in groundwater at well MW-1.

3. **Fill material**. Fill material can result in elevated concentrations of metals, oil, and PAHs in soil.

4. **Potential heating oil underground storage tank.** Historical building records indicate the Subject Property was heated by an oil burner. The boiler room was located near the west central entrance to the building.

Based on these conditions, the 2019 Phase I ESA concluded: "The results of this study indicate a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on-property potential sources, and a risk for vapor encroachment or intrusion to Subject Property structures." Soil gas and chemical vapor intrusion was not a medium of concern that was readily addressed or regulated by Ecology until the last decade; therefore, this was a data gap that necessitated further study in 2019.

Between 2019 and the completion of this 2021 Phase I ESA, the identified RECs were evaluated through study and cleaning of the drain and sump system and additional soil, groundwater, and soil gas sampling and testing. The table below indicates how issues were evaluated and/or mitigated:

Previously identified REC (Aspect, 2019a)		Addressed by 2019-2020 Phase II ESA Investigation, Other Actions or Existing Covenant	REC Status as of 2021 (Aspect, 2021)
1	**Historical manufacturing, machining, plating, engine maintenance, on property by Western Blower**	Yes, See REC Status Description and below.	The impacts from historical manufacturing have been evaluated via the Phase II ESA and is mitigated through the restrictive covenant and sump and drain cleaning. This is no longer considered a REC to the Subject Property and is considered a Controlled Recognized Environmental Condition (CREC).
2	**Former used-oil recycling activities and known spills and releases to drains by Emerald Recycling and NW EnviroService.**	Partially addressed, See REC Status Description and below.	The former used-oil recycling activities by Emerald Recycling have been evaluated via the Phase II ESA and risk reduced through sump and drain cleaning. This condition is no longer considered a REC to the Subject Property with the exception that additional vapor intrusion risk is being evaluated through floor cleaning and future indoor air testing prior to occupancy of the north warehouse – after which mitigation measures may be implemented.
3	**Fill material**	Yes, See REC Status Description and below.	Fill material evaluation has been supplemented by the Phase II ESA and soil is covered under the restrictive covenant. This is not considered a REC to the Subject Property.
4	**Potential heating oil underground storage tank**	Yes, See REC Status Description and below.	The potential heating oil underground storage tank (UST) was not identified, and no evidence of impacts were observed in the vicinity of the boiler room. This is no longer considered a REC to the Subject Property.

Aspect's 2019 and 2020 Phase II ESA, Soil Gas Sampling, Drain Cleanout

Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing to evaluate the 2019 RECs. The investigation included installation of four groundwater monitoring wells on the Subject Property and off-property and sampling and testing of six representative soil samples and four groundwater samples from the monitoring wells. In addition, soil gas was sampled for the first time at four locations beneath the building. In soil and groundwater, the results of the Phase II ESA investigation indicated that contaminants of concern (volatile organic compounds [VOCs]; gasoline-, diesel-, and oil-range TPH; carcinogenic PAHs [cPAHs]; and metals) either were not detected or were detected at concentrations less than Model Toxics Control Act (MTCA) Method A or B cleanup levels, except for one soil sample from AMW-1 and the groundwater samples from AMW-1 and AMW-3, both of which are located off the property in the right of way. The contaminants detected were arsenic and lead in the soil sample, and vinyl chloride and arsenic in groundwater. Because these contaminants were not detected in soil or groundwater on the property, a direct relationship to a source could not be drawn by this study. However, if those contaminants

are present in fill beneath the subject property, it would be covered by the Restrictive Covenant that already exists.

The more significant issue resulting from the Phase II ESA was the presence of chlorinated solvents (trichloroethene [TCE] and vinyl chloride) that were detected in soil gas at concentrations higher than the MTCA Method B screening levels; that, when modeled, had the potential to intrude into the north warehouse. Aspect recommended cleaning the storm drains at the Subject Property and sump in the north warehouse (the unoccupied portion of the project), which occurred in 2020. After this action, follow-up soil gas samples were again obtained and TCE and vinyl chloride in soil gas were found to continue to pose a vapor intrusion risk for the unoccupied north warehouse area.

Aspect recommended cleaning the warehouse floor to remove potential background sources of indoor air contamination and subsequent indoor air sampling in accordance with Ecology's guidance (Ecology, 2018), prior to occupancy of the north warehouse. Aspect stated that if indoor air sampling indicates that concentrations of potential contaminants of concern exceed the MTCA Method B cleanup levels for indoor air, adjusted for a commercial exposure, vapor mitigation will be necessary. This is the remaining issue that relates to this Phase I ESA and evaluation of RECs.

This executive summary should be used only in the context of the full report.

1 Introduction

Aspect Consulting, LLC (Aspect) prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property located at 1700 Airport Way South in Seattle, Washington (King County tax parcel number 7666-20-2855), referred to herein as the Subject Property. The Subject Property is currently developed with one building. The south wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS. The north wing is a warehouse most recently used by Emerald Recycling, a subsidiary of Clean Harbors,[2] as part of their used-oil recycling facility. The building was constructed in 1914–1915 as a factory for the Western Blower Company, manufacturer of industrial blowers for sawmills and furnaces. The north warehouse is currently vacant. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, Site Location Map and Site Plan, respectively.

Aspect completed a Phase I ESA dated February 19, 2019, as part of ETS' initial property due diligence, prior to negotiating a possible purchase of the Subject Property (Aspect 2019a). The same seven Recognized Environmental Conditions (RECs) outlined in this reports' executive summary were identified in the 2019 study. However, as a result of the 2019 results, additional environmental actions were completed to evaluate environmental risk. Those additional actions included completing a Phase II ESA (soil, groundwater, and soil gas sampling and testing; Aspect, 2019b) and "Sump Cleanout and Soil Gas Sampling Memorandum" dated October 1, 2021 (Aspect, 2021). The 2019 investigation, sump clean out, and follow-up soil gas sampling results are summarized in this Phase I ESA. These actions have helped to understand and/or mitigate the RECs identified in the 2019 Phase I ESA.

The purpose of the Phase I ESA is to identify RECs associated with the Subject Property, to the extent practicable using standard methods. In addition, this Phase I ESA will render an opinion on those RECs since 2019 – now that additional study and actions have been taken. As defined by Section 1.1.1 of ASTM International (ASTM) E1527-13, the term REC means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the properties or into the ground, groundwater, or surface water of the properties. RECs can be further evaluated and categorized as:

- Controlled RECs (CRECs), defined as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent,

[2] Emerald Recycling (an oil recycling facility—aka Emerald Services and previously Northwest EnviroService) was sold to Clean Harbors in 2016.

or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls…"

CRECs are considered a REC; however, the risk to the property can be low if the engineering controls and subsurface conditions remain unchanged.

- Historical RECs (HRECs), defined as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls."

  HRECs are not considered RECs because the represented conditions have been previously addressed to the satisfaction of the applicable regulatory authority with no use restrictions, and do not pose a threat of environmental impact to the property.

A summary of the RECs, CRECs, and HRECs to the Subject Property, if identified, is presented in Section 7 of this report. The Phase I ESA was performed in general accordance with the ASTM E1527-13 guidelines and the U.S. Environmental Protection Agency's (EPA) Title 40 Code of Federal Regulation (40 CFR) Part 312 *Standards and Practices for All Appropriate Inquiries (AAI)*. Deviations from these guidelines are described in Section 1.3 of this report.

1.1 Scope of Work

The scope of services for this ESA consisted of the following tasks:

Site Reconnaissance

1. Conduct a visual inspection of the Subject Property and surrounding properties to identify potential sources of contamination and to document the status of the Subject Property at the time of this assessment. Photographs obtained during the site reconnaissance are included in Appendix A.

Interviews

2. Interview the ESA User for property information and the purpose of the ESA. The User Questionnaire and property information provided by the User are included in Appendix B.
3. Interview a "key site manager" with knowledge of the current and historical uses of the Subject Property as identified by the User or Subject Property owner, and request that the "key site manager" interview be conducted during the site reconnaissance, or by telephone if they are unavailable at the time of the reconnaissance. The "key site manager" is defined in ASTM E1527-13 as "the person identified by the owner or operator of a property as having good knowledge of the uses and physical characteristics of the property."
4. Attempt to interview current occupants whose operations are the most likely to use, store, treat, handle, or dispose of hazardous substances now or in the past, or who are most

likely to have information regarding other potential RECs. And, attempt interviews with past occupants to fill historical use data gaps, except where duplicative of information obtained from other sources. For abandoned properties, attempt to interview one or more owners or occupants of neighboring or nearby properties.

5. Interview a representative of the State and/or local agencies, such as the local fire department, health department, and/or State environmental or human health regulatory agencies as necessary to gather information or fill data gaps regarding the history of the Subject Property and surrounding properties that may pose a potential REC.

Records Acquisition and Review

6. Review property information to identify ownership, confirm the legal description/location, and identify property use restrictions, where present. This information is included in Appendix B.

7. Request and review all previous environmental reports for the Subject Property, including reports regarding hazardous building materials (HBM), summarize pertinent information in the reports, and evaluate the environmental risk associated with report findings and data gaps, if warranted. Pertinent sections of previous environmental reports are included in Appendix C.

8. Review historical records to identify past land use activities at the Subject Property (to the first developed use,[3] or 1940, whichever is earlier) and surrounding properties, and evaluate the environmental risk associated with the identified activities. Historical records obtained are included in Appendix D.

9. Review physical setting information to identify the topographic, hydrologic, geologic, and hydrogeologic conditions in the area of the Subject Property, including the current 7.5-minute topographic map (provided by the U.S. Geological Survey [USGS] or equivalent). Sources reviewed are listed in Section 5 and/or are included in Appendix D.

10. Contact potential sources of environmental records, including Federal and State regulatory databases, and review records provided to identify facilities with past or current regulatory enforcement activities of environmental concern. The search includes facilities on, or formerly on, the Subject Property, and at distances designated in ASTM E1527-13. The regulatory database search report is included in Appendix E.

Evaluation and Report

11. Preparation of this Phase I ESA report to document the findings, significant data gaps, and conclusions of the assessment, and to present recommendations for further investigation, if needed. Declaration of the environmental professional who completed this assessment is included in Section 9.

[3] The term "developed use" as defined in ASTM E1527-13 "includes agricultural uses and placement of fill dirt."

1.2 Significant Assumptions

The conclusions of this Phase I ESA are based on research of readily available and reasonably ascertainable[4] current and historical information sources, interviews, and a site reconnaissance visit as described in Section 1.1. When possible, Aspect researched multiple sources to corroborate information. Aspect has assumed that the information sources reviewed are correct unless another source indicated otherwise.

The scope of services did not include an environmental compliance audit or an HBM (e.g., asbestos, lead-based paint, radon, lead in drinking water, toxic mold, urea-formaldehyde insulation, and other materials) survey of on-site structures or debris as part of this Phase I ESA. If existing HBM reports were provided for Aspect review, they are included in Appendix C.

The scope of services did not include soil, groundwater, soil gas, indoor or outdoor air, or surface water sampling. If existing environmental reports describing sampling activities were provided for Aspect review, they are summarized in Section 3.4 and selected portions of these reports may be included in Appendix C.

1.3 Deviations to Scope of Work

Aspect did not enter and observe all office and clinical spaces within the existing Subject Property building during our site reconnaissance, because the spaces were in active use; however, representative spaces were observed to gather knowledge on typical use of all spaces. The unobserved spaces are unlikely to contain more than *de minimis* quantities of hazardous materials and this deviation is unlikely to alter the findings of this study and is not considered a significant data gap.

[4] The term "reasonably ascertainable" is defined in ASTM E1527-13 as "information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.

2 Subject Property Description

This section presents a description of the Subject Property and adjoining properties and a summary of the physical setting. Characteristics of the Subject Property and adjoining properties are shown on the Site Plan, Figure 2.

2.1 Current Use and Development

The Subject Property is developed with an elongated building consisting of a north and south wing with timber-frame construction and concrete basement foundations. The two wings are connected with second- and third-story offices above a breezeway at street level, used as the central access driveway for the Subject Property. The south wing was converted into office space in the 1980s. ETS occupies the central office space and south wing. The north wing was most recently used by Emerald Recycling as part of their used-oil recycling facility, and is currently vacant. The Subject Property vicinity is commercially and industrially developed with transit bus garage/maintenance, distribution warehouses, office buildings, and retail (see Section 4.2).

2.2 Physical Setting

According to the *Geologic Map of Seattle*, produced by the USGS and the Pacific Northwest Center for Geological Mapping Studies, the Subject Property and properties westward are underlain by tide flat deposits. The steep hillslope to the immediate east is underlain mainly by Quaternary continental glacial drift deposits from the Pleistocene, including pre-Fraser-age glaciation, about 70,000 to 20,000 years ago (Troost et al., 2005). Historical Sanborn maps for the predevelopment Subject Property vicinity indicate that the Elliott Bay tide flats were located at the Subject Property, and Airport Way South was a plank road. The tide flats were filled in the early 1900s. Today, the immediate Subject Property vicinity is generally flat and situated at approximate elevation 25 feet above mean sea level (msl), as shown on the current USGS 7.5-minute topographic map for Seattle South, WA, included in Appendix D.

Based on our review of boring logs from adjacent properties, properties in the vicinity are often underlain by approximately 10 feet of imported fill containing wood, brick, slag, concrete, and metal debris. Previous explorations on the north-adjacent property encountered alternating strata of clay, silt, and silty sand beneath imported fill soil. Subsurface investigations completed to the north identified two water-bearing zones separated by a clay unit. The shallower aquifer is at 10 to 15 feet below ground surface (bgs) and the lower aquifer below 20 feet bgs. Monitoring wells completed in the shallow aquifer indicate groundwater flow is to the west.

3 User-Provided Information and Interviews

This section presents a summary of the information provided to Aspect by the User, the Subject Property representative identified as the "key site manager" for this study, previous environmental reports for the Subject Property, and information available in Aspect's files for the neighborhood.

3.1 User Questionnaire and Interview

A copy of the User Questionnaire, completed by Linda Kruger, ETS Chief Operating Officer (COO), is included in Appendix B. The questionnaire is used to obtain user-provided information (e.g., title records, environmental liens, etc.) that may identify conditions that pose a possible environmental concern or REC to the Subject Property. Title records were not provided, and a title records search was not conducted as part of this Phase I ESA.

3.2 Property Representative Interviews

Amelia Oates of Aspect interviewed one property representative with knowledge of the Subject Property's historical and current conditions. Details from our interview with a representative of ETS is as follows:

- **Linda Kruger of ETS**
  Chief Operating Officer of ETS
  Ms. Kruger was interviewed during the site reconnaissance conducted on March 18, 2021. Ms. Kruger indicated that the northern warehouse of the Subject Property was most recently used as a NWES warehouse for materials used in the oil recycling facility, located on the north-adjacent property, who is currently vacating the building. Additional information provided by Ms. Kruger is included in Section 4.1 (Subject Property Observations).

Based on the information obtained from other resources, information obtained from the unresponsive property representatives is unlikely to alter the findings of this study, and the data gap is considered to be of low significance.

3.3 Information Regarding Environmental Liens and Activity Use Limitations (AULs)

Ms. Kruger provided information regarding AULs for the Subject Property. An environmental restrictive covenant for the Subject Property parcel was recorded with King County in 2018. AULs and supporting environmental data are discussed in the following section. Aspect was not provided any environmental liens on the property. Ms. Kruger was not aware of any environmental liens associated with the Subject Property.

3.4 Previous Environmental Reports

A total of five previous environmental reports were identified for the Subject Property:

1) "Northwest EnviroService Inc. Interim Status Closure Plan, Western Blower Property" (Closure Plan; NWES, 1995)
2) "Northwest EnviroService Inc, Western Blower Property RCRA Closure Sampling Results" (Results Report; NWES, 1996)
3) "Phase I Environmental Site Assessment" (Phase I; Aspect, 2019a)
4) "Phase II Environmental Site Assessment" (Phase II; Aspect 2019b)
5) "Sump Cleanout and Soil Gas Sampling Memorandum" (Sump and Soil Gas Memo; Aspect, 2021).

Copies of these reports are provided in Appendix C.

3.4.1 Environmental Studies in 1995 and 1996

From 1987 to 1995, NWES operated a hazardous waste treatment and storage facility that occupied 1.3 acres between Airport Way South and Interstate 5, spanning from South Atlantic Street to the north and South Holgate Street to the south. The main treatment part of this facility occupied the property immediately north of the Subject Property, but it also extended onto, and included the Subject Property. Site operations were regulated by the Washington State Department of Ecology (Ecology) under the Resource Conservation and Recovery Act (RCRA).

In 1995, NWES discontinued its hazardous-waste operations and started RCRA closure of the hazardous-waste handling aspect of the facility. Since their use of the Western Blower Property (Subject Property) was limited, closure of this portion of the property was conducted separately from the remainder of the property to the north where more hazardous-waste handling (aka oil recycling) activities were focused. The following provides a summary of NWES's use of the Subject Property, as provided in the 1995 and 1996 NWES reports, and closure activities completed in 1995. The Closure Plan includes the shed-like structure just north of the Subject Property; however, our summary focuses on the Subject Property.

Little information is available in the 1995 and 1996 NWES reports providing specifics on site use, or chemical handling or storage. NWES states in the reports that Subject Property use included "administrative and warehouse activities," and "Sealed and containerized wastes were unloaded from trucks at the load/unload dock and transported to the north-adjacent NWES property for processing." The loading dock near the center of the Subject Property building was used for loading and unloading hazardous waste (Figure 2). Containerized waste was then transferred to the north-adjacent parcel, also owned by NWES, for processing. NWES used the Subject Property warehouse space to store pumps, hoses, and other equipment. The north warehouse included an area for repairing pumps and a parts washer.

A figure in the report refers to the north warehouse as the "Stores Building." King County tax assessor records indicate that the southern portion of the south wing included laboratory space for organic and inorganic sample preparation, most likely for waste disposal characterization.

The 1995 Closure Plan stated the following activities were to be completed for site closure:

- Remove waste inventory
- Decontamination of site concrete, sumps, tanks, and equipment
- Disposal of contaminated materials
- Collection of samples to certify completion of closure

The language in the 1995 report does not provide details about specific storage tanks or sumps to be decontaminated on the Subject Property. The 1996 report provides results from the post-closure sample collection that included three concrete samples, two shallow soil samples, and two groundwater samples from wells MW-1 and MW-2. Sample locations are depicted on Figure 2. Concrete samples had elevated metals concentrations with cadmium at 200 milligrams/kilogram (mg/kg). The Washington State Model Toxics Control Act (MTCA) cleanup level for cadmium for unrestricted site use is 2 mg/kg. Arsenic, total petroleum hydrocarbons (TPH), and benzo(a)pyrene (BaP) were detected in soil samples with only BaP exceeding MTCA Method A cleanup level at that time of 0.1 mg/kg (the current MTCA Method A cleanup level for BaP is 0.19 mg/kg). Manganese was detected in groundwater at a concentration of 3,400 micrograms/liter (µg/L), which has a drinking water standard of 2,200 µg/L.

In 1997, Ecology provided an opinion that no further action or investigation would be required for site closure (at the Subject Property; Ecology, 2017); however, a restrictive covenant would need to be placed on the property. The restrictive covenant has the following stipulations:

- The property shall be used in compliance with General Industrial 2 zoning classification per City of Seattle ordinances.
- Property groundwater shall not be used for domestic, agricultural, industrial, or any other use.
- Existing structures cannot be altered or modified in any manner that may result in the release or exposure to the environment of contaminated soils or concrete, without prior Ecology approval.
- Existing paved surface must be maintained to prevent the release or exposure to the environment of contaminated soils or concrete. Any activity that would pierce or damage the surface is prohibited, without prior Ecology approval.

These environmental (aka restrictive) covenant requirements will need to be upheld and honored during a transfer of ownership from NWES to ETS.

3.4.2 Environmental Studies in 2019 and 2020

Based on the findings of a Phase I ESA completed by Aspect for the Subject Property in 2019, several potential sources of contamination were identified (Aspect, 2019a). The RECs identified in the Phase I ESA include historical manufacturing operations by Western Blower Company and hazardous and nonhazardous waste handling by NWES,

as well as former used-oil waste handling in the northern warehouse of the Subject Property. These property-use activities indicated a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on-property potential sources, and a risk for vapor encroachment or intrusion to the Subject Property structures.

Based on the RECs identified in the Phase I ESA, Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing in order to address the following:

- Evaluate the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Subject Property.
- Evaluate the potential presence of soil contamination associated with current or past sources of contamination on the Subject Property or nearby adjacent properties.
- Evaluate the potential presence of groundwater contamination associated with current or past sources of contamination on the Subject Property or nearby upgradient properties.

The Phase II ESA included installation of four permanent groundwater monitoring wells (AMW-1 through AMW-4; Figure 2) and completion of four temporary soil gas sampling points. Soil, groundwater, and soil gas samples were collected and submitted for laboratory analysis. Soil observed in the borings included fill material up to a depth of 15 to 19 feet bgs. Fill soils were underlain by a clay to sandy clay unit, representative of historical tide-flat deposits. Groundwater was encountered in the four monitoring wells installed on and off the Subject Property (AMW-1 through AMW-4) at a depth of 4.5 to 5.7 feet bgs, with a westerly flow direction.

Six soil samples were submitted for analysis based on field observations and relative to identified RECs, including gasoline-, diesel-, and oil-range TPH (using methods NWTPH-Gx, and NWTPH-Dx), and metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) using EPA Method 6020B. In addition, two samples were submitted for analysis of volatile organic compounds (VOCs) using EPA Method 8260D and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA Method 8270D/SIM. Contaminants of concern either were not detected or were detected at concentrations less than cleanup levels in soil and/or groundwater, except for the following:

- Two analytes were detected in one soil sample above the MTCA Method A cleanup levels. These exceedances were at 12.5 feet bgs at location AMW-1 at concentrations of 27.8 and 4,720 milligrams per kilogram (mg/kg) for arsenic and lead, respectively. The arsenic value slightly exceeds the cleanup level (CUL) of 20 mg/kg, while lead was greater than the CUL of 250 mg/kg.
- Vinyl chloride was detected in groundwater at a concentration of 2.9 µg/L in off-property well AMW-1, exceeding the MTCA Method A CUL. Dissolved arsenic concentrations above the MTCA Method A CUL (5 µg/L) were detected in off-

property wells AMW-1 and AMW-3 at concentrations ranging between 11 and 20.3 µg/L, respectively.

Four temporary subslab soil gas samples (SV-1 through SV-4) were collected and submitted for analysis of VOCs. Based on the chemical analytical soil gas results, and vapor intrusion modeling using the Johnson-Ettinger Model for vapor intrusion (JEM), vinyl chloride was predicated to possibly exceed the MTCA Method B CUL in indoor air of the north warehouse. Draft Ecology guidance related to trichloroethene (TCE) vapor intrusion screening was also referenced in the Phase II ESA report, and TCE was also considered a potential chemical that could intrude into the north warehouse building at levels exceeding screening levels. The model did not predict exceedances of contaminants in the south warehouse. Aspect recommended that the sump in the north warehouse (the suspected source of solvents) be cleaned, following which soil gas be resampled in the north wing of the building. The Phase II ESA recommendations also indicated that if "concentrations remain elevated in soil gas, mitigation measures may be necessary (such as active and/or passive venting systems) for that portion of the building to be occupied."

In 2020, the basement sump in the north warehouse, and on-site stormwater system (5 catch basins around the Subject Property), were cleaned (Aspect, 2021). After the sump and stormwater systems were cleaned, two subslab soil gas samples were collected and analyzed for VOCs and air-phase petroleum hydrocarbons. Based on the chemical analytical soil gas results, the following contaminants were detected at concentrations greater than the MTCA Method B screening levels (adjusted to commercial exposure): benzene, TPH, TCE, and vinyl chloride.

Based on the findings, additional evaluation of the vapor intrusion pathway is necessary, including indoor air sampling and, based on the results, potential implementation of additional mitigation measures.

We understand that ETS will be conducting additional investigations to evaluate the indoor air quality, and implement appropriate mitigation measures, as needed, prior to the occupancy of the north warehouse building. For these reasons, the potential vapor intrusion risk in the north warehouse building will be mitigated, and is not considered a REC by this study.

4 Subject Property Reconnaissance

4.1 Subject Property Observations

On March 18, 2021, Amelia Oates of Aspect conducted a site reconnaissance to document the current status of the Subject Property. Aspect was accompanied by Linda Kruger, ETS COO (the key site manager for this study). The site reconnaissance focused on areas or uses with potential environmental implications (if present), including potential chemical storage, chemical usage, and waste disposal practices, and signs of activities other than those documented in the historical records.

At the time of our site reconnaissance, the Subject Property was occupied by one tenant, ETS in the south portion of the building. The north portion of the building formerly occupied by Emerald Recycling as a used-oil recycling facility was actively being vacated. The Subject Property was accessed via Airport Way South.

Aspect did not enter and observe all office spaces or treatment rooms within the existing Subject Property building during our site reconnaissance; however representative spaces were observed. Because the unobserved spaces are unlikely to contain more than *de minimis* quantities of hazardous materials, this deviation is unlikely to alter the findings of this study and is not considered a significant data gap.

A summary of our observations from the site visit is provided in Table 1, below. Approximate locations of the features described below are shown on Figure 2, Site Plan. Photographs of the Subject Property are provided in Appendix A.

Table 1. Subject Property Observations

Feature	Observed?		Comments
	Yes	No	
Evidence of underground storage tanks (USTs)		X	Not observed.
Aboveground storage tanks (ASTs)	X		One observed on the east side of the north building, water was formerly pumped from the sump in the southeast corner of the warehouse basement into the tank. Ms. Kruger indicated that the tank is no longer in use.
Chemical, hazardous substances, and petroleum products use or storage		X	Not observed.
Hydraulic hoists		X	Not observed.
Drums or other containers	X		Two drums were observed near the sump, which were used to store cleaning solutions for cleaning the floors in the sump area.
Evidence of leaks and spills of hazardous materials or corrosion		X	Not observed.
Evidence of past uses of the Subject Property	X		The north portion of the building was historically used as a used-oil recycling facility, and is a historical warehouse building, with heavy lifting equipment mounted on the ceiling, and slated for removal.
Hazardous waste		X	Not observed.
Solid waste	X		Refuse dumpsters are located in the parking area on the east side of the property, and additional dumpsters are located inside the garage of the north portion of the building.
Universal Waste		X	Not observed.
Unmanaged waste or debris piles		X	Not observed.
Potable water supply	X		Municipal system.
Sewage disposal system (including septic systems and drain fields)	X		Municipal system.
Heating/Cooling System	X		A natural gas heater was observed in the basement of the southern portion of the building. The northern heating unit was not observed. Current heating systems are not considered a REC.
Electrical transformers or other PCB containing equipment		X	Not observed.
Interior floor drains, sumps, or drywells	X		Floor drains observed in the floor of the north portion of the building. Sump located at the southeast corner of the north warehouse. The sump was empty, had been recently cleaned, and is no longer in use. The sump formerly pumped to the exterior AST discussed above.
Stormwater drainage	X		Four catch basins observed along paved parking area on the east side of the building. A review of the City of Seattle side sewer card indicted catch basins discharge to city combined main sewer in Airport Way South, near the driveway at the center of the property.
Oil/water separators		X	Not observed.
Standing water or pools of liquid (e.g., pits, ponds, lagoons, etc.)		X	Not observed.

Feature	Observed?		Comments
	Yes	No	
Wells (including dry wells, irrigation wells, injection wells, abandoned wells, water supply, monitoring wells, or other wells)	X		Monitoring wells installed during previous investigations (see Section 3.5) were observed in the locations shown on Figure 2.
Discolored or stressed vegetation		X	Not observed.
Discolored or stained pavement		X	Not observed.
Unusual odors		X	Not observed.
Other Environmental Condition(s) of Concern		X	Not observed.

4.2 Adjoining Property Use Observations

Adjoining properties were observed from adjacent rights-of-way on March 18, 2021. Adjoining properties or buildings were not entered. The Subject Property is situated in an area that is generally heavily developed with commercial and light industrial uses. A description of the conditions observed on the adjoining properties during the site reconnaissance visit is presented below.

North – The north adjacent property is occupied by Emerald Recycling/Clean Harbors as a used-oil recycling facility. Site use and environmental investigations related to this facility are discussed in more detail in Section 6.2.2.

East – Interstate 5 is located east of the Subject Property.

South – The south-adjacent property is a multitenant light industrial property. Tenants include a clothing print shop, electric bike sales, computer consultant, and paint store.

West – The property to the west across Airport Way South includes Holgate Center office building and CenturyLink garage and storage facility. Tenants of the Holgate Center include Department of Social and Health Services and Quest Diagnostics.

Adjoining-property uses and locations relative to the Subject Property are shown on Figure 2, Site Plan.

Adjoining-property uses do not represent RECs to the Subject Property.

5 Historical Use Information

The history of the Subject Property and adjoining properties was compiled through review of historical sources and reasonably ascertainable information pertaining to the Subject Property. Historical sources reviewed by Aspect included:

- Aerial photographs obtained from Environmental Data Resources, Inc. (EDR) and King County dated 1936, 1943, 1953, 1956, 1965, 1969, 1977, 1980, 1985, 1990, 1998, 2000, 2002, 2005, 2006, 2007, 2009, 2012, 2013, 2015, and 2017.
- Sanborn® Fire Insurance maps obtained from EDR dated 1893, 1904, 1916, 1950, and 1969.
- Topographic maps obtained from EDR for the years 1894, 1895, 1897, 1908, 1909, 1968, 1973, 1983, and 2014.
- Excerpts from historical city directories obtained from EDR for approximate 5-year intervals from 1920 through 2017. Note that Airport Way South address numbering changed such that the Subject Property was listed at 1800 Airport Way South prior to 1980.
- Current and historical tax assessor documents provided by King County and Puget Sound Archives.
- Historical site plans ETS acquired from Seattle Department of Construction and Inspection (SDCI).
- Pertinent information provided during interviews with the User, key site manager for the Subject Property, and others, as appropriate (see Section 3).

The historical resources acquired during this study are in general accordance with the requirements of ASTM 1527-13 Section 8.3; when reviewed collectively, no historical record acquisition "data failures"[5] were identified. Copies of the historical records obtained from the sources above are provided in Appendix C. The following subsections provide a synopsis of the findings of the historical review.

5.1 Subject Property

The earliest record of the Subject Property is an 1893 Sanborn map, which shows the lot as residential properties possibly built on wharf-like structures at the eastern edge of the Elliott Bay tide flats. At that time, present-day Airport Way South was a wood plank road.

Tax assessor records indicate the Subject Property was developed in 1914 by Western Blower Company. The 1916 Sanborn map only illustrates the south warehouse suggesting the factory was built incrementally. A 1937 historical tax assessor record indicates a 350-gallon fuel tank was on the property and the building was heated with an oil burner, and depicts the boiler room in the central portion of the building. SDCI's

[5] Data failure is defined in ASTM as a failure to achieve the historical research objectives, even after reviewing the standard historical sources that are reasonable ascertainable and likely to be useful. "

historical building plans from 1942 indicate the basement of the north wing included a paint spray booth, and shop and plating areas. City directory listings indicate Western Blower occupied the property until the 1960s, and the Subject Property is listed as vacant in the 1970s.

NWES started operating a tank cleaning service north of the Subject Property in the late 1970s. As detailed in Section 3.4, NWES expanded operations to the Subject Property in 1987. NWES operated a commercial hazardous waste management facility, providing storage and treatment to businesses that generate hazardous waste up until 1995. NWES moved out of the south wing of the Subject Property building in 1995 and is currently in process of vacating the north wing of the Subject Property building. Refer to Section 3.4 for details on NWES Subject Property use.

Tax assessor records indicate the South Subject Property building was renovated in 1997 for use by ETS.

SUMMARY – The historical use of the Subject Property for manufacturing and use of heating oil may have resulted in releases of petroleum, solvents, and/or metals to subsurface soil and/or groundwater, which is a REC to the Subject Property. Based on the previous investigations conducted at the Subject Property (as detailed in Section 3.4), evidence of impacts of solvents and metals in soil and groundwater above MTCA Method A CULs have been identified.

5.2 Adjoining and Surrounding Properties

As early as the 1890s, adjacent and nearby properties were generally residentially developed to the north, south, and east of the Subject Property. The Elliott Bay tide flats bordered the Subject Property to the west, which by the mid-1910s were mostly filled. Following this time, the neighborhood gradually developed with light industrial and commercial uses, as described below.

North—A service station operated on the property north of the Subject Property from the 1920s into the 1950s after which the property is listed vacant in city directories. A battery supply store operated on the property in the 1960s and 1970s. In the 1980 aerial photo, the north-adjacent property is vacant and used for parking. Tax assessor records indicate the large tanks currently present on the property were installed in the early 1980s by NWES, which remains on the property today.

West—Properties on the west side of Airport Way South were undeveloped until the early 1950s. The present-day office building west of the south Subject Property building was built in 1951. Tenants have included Western Electric Company, Eddie Bauer mail order offices, Quest Diagnostics, and Washington State Department of Social and Health Services.

South—The south-adjacent property was developed with a flour mill in the early 1900s. The property was redeveloped with a radiator manufacturing facility by 1916; however, the building is no longer present in the 1936 aerial photo. From the 1940s through the 1970s, the property was occupied by Bay Construction, excavation contractors. During this period, the area immediately south was used as a storage yard, and a building was located at the northeast corner of South Holgate Street and Airport Way South. As

discussed in Section 6, the property to the south underwent a cleanup during redevelopment.

East—Railroad tracks were located on the east side of the property from the early 1900s until they were removed in the 1980s. A steep hillslope is located east of the Subject Property. It has been mostly undeveloped with some residences in the early 1900s to 1940s. Interstate 5 is shown under construction in the 1965 aerial photo and completed by 1969.

6 Regulatory Environmental Records Review

Aspect requested and reviewed records and database listings pertaining to the Subject Property obtained from regulatory and government agencies to identify conditions that may pose a REC to the Subject Property. At the time of this report, one or more regulatory agencies have not responded to our request for information (indicated below). Based on our review of the information provided by the other responsive agencies, the information that would be provided by the unresponsive agencies is unlikely to alter the findings of this report, and the data gap is considered of low significance. If additional information indicating potential RECs associated with the Subject Property is provided by these agencies, Aspect will provide a scope and fee to ETS for preparation of an addendum to this report.

A summary of the requested records and unresponsive agencies is presented in Section 6.1, and findings of the records review are presented in Section 6.2.

6.1 Requested Records

Regulatory Environmental Database Search—Aspect contracted EDR to conduct a regulatory agency databases search for listings pertaining to the Subject Property and surrounding properties within the standard ASTM-prescribed search radii. The database search was completed on March 8, 2021. Aspect reviewed all database listings for the Subject Property and adjoining properties. For the remaining database search results, Aspect used the following screening criteria to focus the review based on the high density of listed sites in the area and our understanding of the hydrogeologic conditions in the vicinity:

- Sites listed only on databases that are not indicative of a past release were considered low risk and were not reviewed. For this study, these databases include: RCRA, AST, UST, HMIRS, FINDS, ALLSITES, and NPDES.
- Any nonadjacent sites in the EDR report that were located greater than 0.5 miles in any direction from the Subject Property were eliminated as low risk for contaminant migration to the Subject Property.
- Sites located downgradient and greater than 0.25 miles from the Subject Property were eliminated as low risk for contaminant migration to the Subject Property.

Aspect also reviewed a list of "orphan" sites, or sites identified in the databases with incomplete address information. Aspect's review found that the orphan site listings are either not located within a 1-mile radius of the Subject Property, and/or do not include listings that indicate a possible risk of past of future contaminant release: therefore, the orphan site listings were excluded from further evaluation. The results of the database search by EDR are included in Appendix E.

Washington Pollution Liability Insurance Agency (PLIA)—Aspect requested a file review for the Subject Property, adjoining properties that were identified in the regulatory databases, and for nearby listed sites that were identified as listed sites of concern during

Aspect's review of the database listings. PLIA replied with no responsive records for the Subject Property.

Washington State Department of Ecology—Aspect requested a file review for the Subject Property, adjoining properties that were identified in the regulatory databases, and for nearby listed sites that were identified as listed sites of concern during Aspect's review of the database listings. Aspect received a response to our request identifying multiple files for review for the north-adjacent property, Northwest EnviroServices. Details are discussed below.

King County Public Records Program—Aspect submitted a public records request to King County on February 23, 2021, for any Subject Property records maintained by King County's health and environmental departments. Aspect has not received a response to our request at the time of this report. Based on the information obtained from other sources, it is unlikely that review of King County's records will alter the findings of this study, and the data gap is considered of low significance.

Seattle Fire Department—Aspect contacted the Seattle Fire Marshal's Office on February 23, 2021, to request any records pertaining to hazardous materials storage or incidents at the Subject Property. Aspect received a response to our request identifying multiple files for the Subject Property and north adjacent properties, which indicated required maintenance of sprinkler systems which were in violation of fire code. Aspect also reviewed Seattle Fire Department records for permitted residential UST decommissioning, which has been required since 1996, and is published online. No records were found for the Subject Property.

6.2 Records Review Findings

6.2.1 Subject Property

The Subject Property was identified by EDR on the following regulatory databases: FINDS, FTTS, HIST FTTS, and EDR Hist Auto. These listings are related to waste reporting issues by NWES from the early 1990s when they occupied the Subject Property. NWES failed to report storage of polychlorinated biphenyl (PCB) waste on the property. NWES's historical use of the Subject Property has been previously identified as a REC.

6.2.2 Adjoining and Surrounding Properties

The following adjacent and surrounding properties were identified (Figure 2):

1. **Northwest EnviroServices (NWES) aka Emerald Recycling – 1500 Airport Way South**

   Waste treatment services, north adjacent, crossgradient
   As discussed in Section 3.4, NWES operated a commercial hazardous waste management facility from 1979 through 1995, providing storage and treatment to businesses that generate hazardous waste. NWES received and treated various waste streams, including wastewater, used oil, metals, solvents, paint, and corrosive materials. Since 1995, Emerald Recycling has been recycling nonhazardous waste and used oil, and treating industrial wastewater at the NWES Facility. As a hazardous waste management facility, NWES was identified by EDR on multiple regulatory

databases including: CSCSL, SPILLS, ICR, RCRA-TSDF, UST, and 2020 COR ACTION.

Aspect reviewed Ecology files for the NWES facility. In 2002, NWES completed a RCRA Facility Investigation, which included soil sampling and groundwater monitoring (NWES, 2004). Soil and groundwater were contaminated from releases related to NWES's site use. The more heavily impacted area was approximately 400 feet north of the Subject Property. Groundwater flow, thus contaminant transport, is to the west towards Airport Way South.

The nearest groundwater monitoring well to the Subject Property, MW-7 is located approximately 125 north of the northwest Subject Property corner. Benzene and vinyl chloride, which pose a potential risk for vapor intrusion impacting indoor air, were detected in groundwater at 7 µg/L and 1 µg/L, respectively. These values exceed MTCA Method B screening levels for assessing potential impacts to indoor air, which are 2.4 µg/L and 0.3 µg/L, respectively for benzene and vinyl chloride.

File records also include data related to a 100–200-gallon diesel release that occurred in May 2012 at the south end of the NWES property, west of the south tank farm (CH2MHill, 2012). Approximately 22 cubic yards of soil were removed from the sidewalk area between the NWES property and Airport Way South. Further excavation was not possible due to subsurface utilities.

2. **Veca Electric Site—1762 Airport Way South**
   Former construction storage with garage and repair facility, 170 feet south, crossgradient

   The Veca Electric Site was operated as a general contractor storage and repair garage from the 1940s to 1970s. Veca was identified by EDR on multiple regulatory databases including: CSCSL, LUST, and UST. During the redevelopment of the site in 2009, cleanup activities occurred at the site, to address releases from former leaking USTs located on the site. According to the Ecology's website, documents, the LUST was reported in 1992, and benzene, diesel, and gasoline were confirmed in soil above the applicable cleanup levels, and the initial investigation occurred in 2011. Based on Ecology's files, a 2013 status update letter indicated that an area of contamination exists at this property, in the proximity of the former underground storage tanks. The Site status is listed as "cleanup started."

   The former UST area is likely located slightly greater than 200 feet from the Subject Property (the exact location is unknown and not shown on Figure 2), and is crossgradient of the Subject Property; therefore, it is not considered a REC.

3. **US West Services – 1709 Airport Way South**
   Former contaminated site, 120 feet southwest, downgradient

   The US West Services Site was identified by EDR on multiple regulatory databases including: CSCSL, LUST, UST and VCP. According to the database listings and Ecology's website, benzene, diesel, gasoline, and unspecified petroleum were confirmed in soil and groundwater above applicable cleanup levels at this site. The

Site is listed as "cleanup started." The Site is located downgradient of the Subject Property; therefore, it is not considered a REC.

6.2.3 Area-Wide Contamination

Aspect also conducted a search of state and federal websites for readily available information that may concern area-wide soil and groundwater contamination in the Subject Property vicinity.

6.2.3.1 Asarco Smelter Plume

According to Ecology's website, widespread lead and arsenic contamination in near-surface soil has been identified throughout a large zone in the south Puget Sound region, that originated from an Asarco copper smelter that historically operated in Tacoma, Washington for over 100 years. The Subject Property is located inside the zone, in the area of least impact with typical range of arsenic detections between non-detect and 20 parts per million (ppm; the MTCA cleanup level for arsenic). Based on our experience in the neighborhood, there is low likelihood of significant impact to the Subject Property from the Asarco smelter, and it is not considered a REC.

6.2.3.2 Radon Zones

According to EPA's Map of Radon Zones, the Subject Property vicinity and King County are mapped within Radon Zone 3, defined as areas with low potential for radon gas and a predicted average indoor screening levels of less than 2.0 picoCuries per liter (pCi/L). This is well below the EPA recommended Action Level for radon of 4.0 pCi/L; therefore, radon is not considered a REC.

7 Evaluation

7.1 Significant Data Gaps

No significant data gaps, as defined in Section 3 of the ASTM, were identified by this study.

7.2 Findings and Conclusions

Aspect has performed this Phase I ESA in conformance with the scope and limitations of ASTM E1527-13 for the Former Western Blower property located at 1700 Airport Way South in Seattle, Washington. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This assessment identified RECs that are either Controlled or were mitigated, with the exception of TPH, TCE, and vinyl chloride in soil gas that could represent a vapor intrusion risk in the unoccupied north warehouse (see Recommended Further Actions section for more detail). Additional background of how Aspect arrived at this conclusion is represented below.

Aspect completed a Phase I ESA in 2019, when ETS was first considering purchase of the Subject Property. That Phase I ESA identified seven specific RECs, which we have consolidated into four key conditions:

1. **Historical manufacturing, machine, and plating shops on property by Western Blower (1915–1960s).** Research also documented large engine maintenance and cleaning in the north warehouse. **Activities** and materials used during manufacturing may have resulted in releases of oil, solvents, and metals into the subsurface, most likely through drains or sumps.
2. **Used-oil recycling activities by Emerald Recycling and their predecessor, NW EnviroService (1987–2021).** Although Emerald Recycling's primary oil recycling facility is located north of the Subject Property, the existing building at the property was used for off-loading, handling, and storage of materials resulting in releases of oil, solvents, and metals on the Subject Property. NWES used the loading dock located towards the center of the **Subject** Property building for loading and unloading hazardous and nonhazardous waste from 1987 to 1995. Limited soil and groundwater sampling completed in 1995 identified metals, oil, and PAH contamination in soil and concrete along with manganese in groundwater. The results of the 1990s testing resulted in a request property closure from Ecology, in which a restrictive covenant was established for the property as follows:
    - **Restrictive covenant on Subject Property in 1997.** As a result of soil and groundwater testing in the 1990s, and in order for Ecology to offer an NFA determination for the Subject Property, Ecology requested that a restrictive covenant be recorded for the property. The covenant requires the building and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, BaP (a PAH compound), and oil-related TPH. Notification to Ecology is required for redevelopment or other

disturbance to the cover. The restrictive covenant includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1.

3. **Fill material.** Fill material can result in **elevated** concentrations of metals, oil, and PAHs in soil.

4. **Potential heating oil underground storage tank. Historical** building records indicate the Subject Property was heated by an oil burner. The boiler room was located near the west central entrance to the building.

5. Based on these conditions, the 2019 Phase I ESA concluded: "The results of this study indicate a potential for petroleum, solvents, and **metals** contamination to soil and/or groundwater at the Subject Property from on-property potential sources, and a risk for vapor encroachment or intrusion to Subject Property structures." Soil gas and chemical vapor intrusion was not a medium of concern that was readily addressed or regulated by Ecology until the last decade; therefore, this was a data gap that necessitated further study in 2019.

Between 2019 and the completion of this 2021 Phase I ESA, the identified RECs were evaluated through study and cleaning of the drain and sump system, and additional soil, groundwater, and soil gas sampling and testing. The table below indicates how issues were evaluated and/or mitigated:

Previously identified REC (Aspect, 2019a)		Addressed by 2019-2020 Phase II ESA Investigation, Other Actions or Existing Covenant	REC Status as of 2021 (Aspect, 2021)
1	**Historical manufacturing, machining, plating, engine maintenance, on property by Western Blower**	Yes, See REC Status Description and below.	The impacts from historical manufacturing have been evaluated via the Phase II ESA and is mitigated through the restrictive covenant and sump and drain cleaning. This is no longer considered a REC to the Subject Property and is considered a Controlled Recognized Environmental Condition (CREC).
2	**Former used-oil recycling activities and known spills and releases to drains by Emerald Recycling and NW EnviroService.**	Partially addressed, See REC Status Description and below.	The former used-oil recycling activities by Emerald Recycling have been evaluated via the Phase II ESA and risk reduced through sump and drain cleaning. This condition is no longer considered a REC to the Subject Property with the exception that additional vapor intrusion risk is being evaluated through floor cleaning and future indoor air testing prior to occupancy of the north warehouse – after which mitigation measures may be implemented.
3	**Fill material**	Yes, See REC Status Description and below.	Fill material evaluation has been supplemented by the Phase II ESA and soil is covered under the restrictive covenant. This is not considered a REC to the Subject Property.
4	**Potential heating oil underground storage tank**	Yes, See REC Status Description and below.	The potential heating oil UST was not identified, and no evidence of impacts were observed in the vicinity

			of the boiler room. This is no longer considered a REC to the Subject Property.

Aspect's 2019 and 2020 Phase II ESA, Soil Gas Sampling, Drain Cleanout

Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing to evaluate the 2019 RECs.

The investigation included installation of four groundwater monitoring wells on the Subject Property and off-property and sampling and testing of six representative soil samples and four groundwater samples from the monitoring wells. In addition, soil gas was sampled for the first time at four locations beneath the building. The results of the Phase II ESA investigation indicated that contaminants of concern (VOCs; gasoline-, diesel-, oil-range-TPH; cPAHs; and metals) either were not detected or were detected at concentrations less than MTCA Method A or B CULs, except for one soil sample from AMW-1 and the groundwater samples from AMW-1 and AMW-3, both of which are located off the property in the right-of-way. The contaminants detected were arsenic and lead in the soil sample, and vinyl chloride and arsenic in groundwater. Because these contaminants were not detected in soil or groundwater on the property, a direct relationship to a source could not be drawn by this study. However, if those contaminants are present in fill beneath the subject property, it would be covered by the Restrictive Covenant that already exists.

The more significant issue resulting from the Phase II ESA was the presence of chlorinated solvents (TCE and vinyl chloride) that were detected in soil gas at concentrations higher than screening levels; that, when modeled, had the potential to intrude into the north warehouse. Aspect recommended cleaning the storm drains at the site and sump in the north warehouse (the unoccupied portion of the project), which occurred in 2020. After this action, follow-up soil gas samples were again obtained and TCE and vinyl chloride in soil gas were found to continue to pose a vapor intrusion risk for the unoccupied north warehouse area.

7.3 Recommended Further Action

In other technical documents, Aspect recommended cleaning the north warehouse floor to remove potential background sources of indoor air contamination and subsequent indoor air sampling in accordance with Ecology's guidance (Ecology, 2018), prior to occupancy of the north warehouse. We understand that ETS will undertake these actions at the time that renovation of the north warehouse occurs. ETS understands that if indoor air sampling indicates that concentrations of potential contaminants of concern exceed the MTCA Method B CULs for indoor air, adjusted for a commercial exposure, vapor mitigation will be necessary.

8 References

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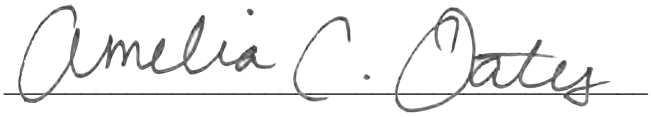
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Washington State Department of Ecology (Ecology), 2017, Environmental Restrictive Covenant, Western Blower Associates, LLC (grantor), Ecology (grantee), recorded on December 27, 2017.

9 Declaration of Environmental Professional

"I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Sec. 312.10 of 40 CFR Part 312.

"I have the specific qualifications based on education, training, and experience to assess a property to the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."[6]



Amelia Oates, LG
Project Geologist

9.1 Qualifications of Environmental Professional

Amelia Oates is a registered licensed geologist (LG) in Washington State (#201200228) with at least 4 years of full-time experience completing Phase I ESAs. Amelia Oates meets the definition of an Environmental Professional per 40 CFR Part 312.

[6] A person who does not qualify as an Environmental Professional may assist in the conduct of all appropriate inquiries in accordance with ASTM E 1527-13, if such a person is under the supervision or responsible charge of a person meeting the definition of an environmental professional when conducting such activities.

10 Limitations and Exceptions

This Phase I Environmental Site Assessment was prepared for use by Evergreen Treatment Systems (Client) and may not be relied upon by any other person or entity without the express written consent of Aspect Consulting, LLC (Aspect). The Phase I Site Assessment was prepared in accordance with the agreement between Aspect and Client, dated July 31, 2020 (Agreement) as well as ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* and 40 CFR Part 312, EPA's *Innocent Landowners, Standards for Conducting all Appropriate Inquiries*.

This report was prepared in accordance with recognized standards of professionals in the same locality and involving similar conditions. No other warranty, express or implied, is made by Aspect.

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

We appreciate the opportunity to perform these Services. If you have any questions, please call Dave Cook, 206-838-5837.

FIGURES



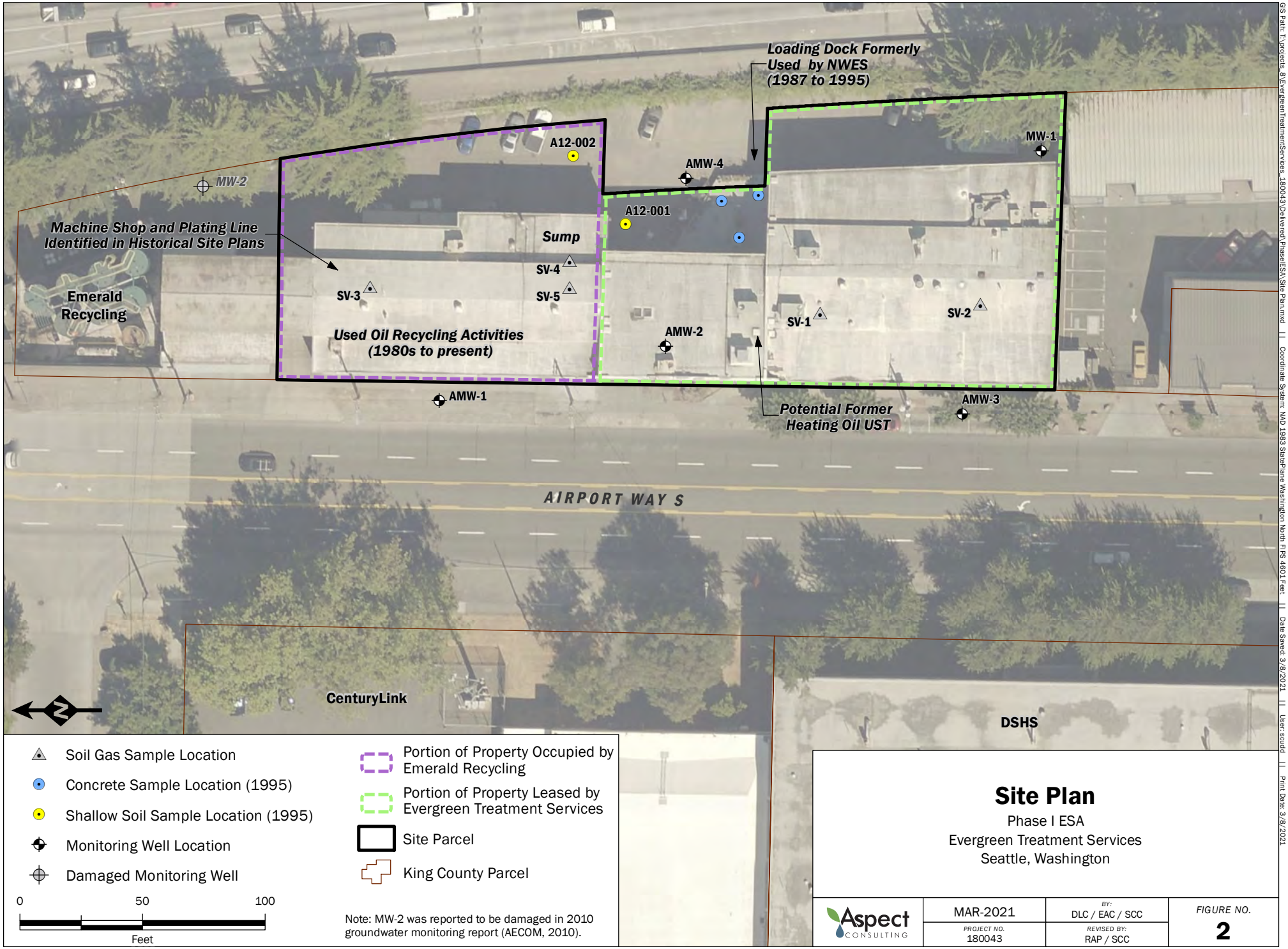
Site Location Map

Phase I ESA
Evergreen Treatment Services
Seattle, Washington

Aspect CONSULTING	MAR-2021	BY: DLC / SCC	FIGURE NO. 1
	PROJECT NO. 180043	REVISED BY: SCC	

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: T:\projects_91\Evergreen Treatment Services_180043\Deliverea\Phase I ESA\Site Location Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 3/8/2021 || User: scudd || Print Date: 3/8/2021



Site Plan

Phase I ESA
Evergreen Treatment Services
Seattle, Washington

Aspect Consulting	MAR-2021	BY: DLC / EAC / SCC	FIGURE NO. 2
	PROJECT NO. 180043	REVISED BY: RAP / SCC	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\Evergreen Treatment Services_180043\Delivered\Phase I ESA\Site Plan.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 3/8/2021 || User: scudd || Print Date: 3/8/2021

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

1700 Airport Way South, Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. AS180043 • November 25, 2024 DRAFT

Aspect
A Geosyntec Company

earth + water

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

1700 Airport Way South, Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. AS180043 • November 25, 2024 DRAFT

Aspect Consulting

Nathan Dickey, LG
Geologist
Nathan.Dickey@aspectconsulting.com

Dave Cook, LG, CPG
Senior Principal Geologist
Dave.Cook@aspectconsulting.com

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Executive Summary

Aspect Consulting, a Geosyntec Company (Aspect), prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property located at 1700 Airport Way South in Seattle, Washington (tax parcel no. 766620-2855), referred to herein as the Subject Property. ETS currently owns the Subject Property, so the purpose of this Phase I ESA is to satisfy lender, grant, and permitting purposes prior to redevelopment. The Subject Property is currently developed with one building with two wings connected via an open breezeway. The southern wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS until a water line break in early 2024 rendered the building largely unusable. The northern wing is a predominantly unoccupied warehouse partially used for temporary storage of support materials for ETS' operations. The building was constructed in 1914–1915 as a factory for the Western Blower Company, manufacturer of industrial blowers for sawmills and furnaces. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, Subject Property Location Map and Subject Property Plan, respectively.

Aspect completed a Phase I ESA in 2019, when ETS was first considering purchase of the Subject Property, and a Phase I ESA update in 2021, prior to ETS' purchase of the property that year. The property use prior to ETS' purchase spanned two time periods, each representing recognized environmental conditions (RECs): industrial fan/blower manufacturing and large engine repair by Western Blower from 1915 to the 1960s and then oil recycling support facilities by NW EnviroService (NWES, later Emerald Services) from 1987 to 2021. The property was generally unoccupied from the late 1960s to late 1980s. Concerns related to these historical activities included the potential release of hazardous chemicals (primarily petroleum hydrocarbons, metals, and solvents) into drains and sump at the Subject Property. Other RECs included the potential for impacted fill soil imported from an unknown source (common contaminants of concern in fill soil is petroleum hydrocarbons, metals, and polycyclic aromatic hydrocarbons [PAHs]), and the possibility for a heating oil underground storage tank on the property near the building's boiler room.

Of key importance to the NWES period is that they completed an environmental investigation across the main NWES oil-recycling facility that was located on a property north of the Subject Property and on the Subject Property where NWES handled and stored materials in the north warehouse portion of the Subject Property. There has been no evidence of processing or recycling of oil on the Subject Property because those more industrial activities occurred on property to the north. As a result of soil and groundwater testing in the 1990s across this site, and for Washington State Department of Ecology (Ecology) to offer a No Further Action (NFA) determination for the Subject Property, Ecology requested that a restrictive covenant be recorded for the property. The covenant requires the ETS building and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, benzo(a)pyrene (BaP; a PAH compound), and oil-related total petroleum hydrocarbons (TPH). Notification to Ecology

is required for redevelopment or other disturbance to the cover. The restrictive covenant also includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1.

Because of these RECs a Phase II ESA was completed to evaluate soil, groundwater, and soil gas at the Subject Property. In addition, an interim action that included clean out and follow-up assessment of the drains and sump was completed. These actions were summarized in the 2021 Phase I ESA and are included and amended here.

Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing to evaluate the RECs identified in the 2019 and 2021 ESAs. The investigation included installation of four groundwater monitoring wells on the Subject Property and off the property, and sampling and testing of six representative soil samples and four groundwater samples from the monitoring wells. In addition, soil gas was sampled for the first time at four locations beneath the building. In soil and groundwater, the results of the Phase II ESA investigation indicated that contaminants of concern (volatile organic compounds [VOCs]; gasoline-, diesel-, and oil-range TPH; carcinogenic PAHs [cPAHs]; and metals) either were not detected or were detected at concentrations less than Model Toxics Control Act (MTCA) Method A or B cleanup levels, except for one soil sample from AMW-1 and the groundwater samples from AMW-1 and AMW-3, both of which are located off the property in the right of way. The contaminants detected were arsenic and lead in the soil sample, and vinyl chloride and arsenic in groundwater. Because these contaminants were not detected in soil or groundwater on the property, a direct relationship to a source could not be drawn by the study. However, if those contaminants are present in fill beneath the subject property, it would be covered by the Restrictive Covenant that already exists.

The more significant issue resulting from the Phase II ESA was the presence of chlorinated solvents (trichloroethene [TCE] and vinyl chloride) that were detected in soil gas at concentrations higher than the MTCA Method B screening levels; that, when modeled, had the potential to intrude into the north warehouse. Aspect recommended cleaning the storm drains at the Subject Property and sump in the north warehouse (the unoccupied portion of the project), which occurred in 2020. After this action, follow-up soil gas samples were again obtained and TCE and vinyl chloride in soil gas were found to continue to pose a vapor intrusion risk for the unoccupied north warehouse area. ETS elected not to occupy the north warehouse portion of the building until redevelopment occurred. Additional soil and groundwater sampling is occurring within the north warehouse in preparation for redevelopment.

Based on these actions and investigations, the previously identified RECs have been variously addressed and revised in accordance with the following summary table:

Previously identified REC (Aspect, 2019a)		Addressed by 2019-2021 actions or Existing Covenant	REC Status
	Historical manufacturing on property by Western Blower; large engine maintenance/cleaning (north warehouse).	Yes, now considered a controlled recognized environmental condition (CREC).	The impacts from historical manufacturing have been evaluated via the Phase II ESA and is mitigated through the restrictive covenant and sump and drain cleaning. This is no longer considered a REC to the Subject Property and is considered a CREC.
	Spills and releases to drains and sump from former property use by NWES/Emerald.	Partially addressed, further investigation in progress at sump area.	The former activities by NWES/Emerald Recycling have been evaluated via the Phase II ESA and risk reduced through sump and drain cleaning, though not fully remedied at the sump area. Release around the sump is being evaluated through ongoing subsurface investigation.
	Fill soil	Yes, now considered a CREC	Fill soil evaluation has been supplemented by the Phase II ESA and soil is covered under the restrictive covenant. This is now considered a CREC to the Subject Property.
	Potential heating oil underground storage tank	Yes	The potential heating oil UST was not identified, and no evidence of impacts were observed in the vicinity of the boiler room. This is no longer considered a REC to the Subject Property.

Additional investigation of environmental conditions is in progress in accordance with a Subsurface Investigation Work Plan prepared by Aspect on September 27, 2024. Once these data are obtained, an Environmental Construction Management Plan (ECMP) will be prepared to guide cleanup of contaminated soil and/or groundwater that may become available during redevelopment, after the north building demolition occurs. At that time, an evaluation regarding a chemical vapor barrier and/or vapor intrusion mitigation measures for the new building will be considered (if needed).

This Executive Summary should only be used in the context of the full report.

1 Introduction

Aspect Consulting, a Geosyntec Company (Aspect), has prepared this Phase I Environmental Site Assessment (ESA) report on behalf of Evergreen Treatment Services (ETS) for the property, referred to herein as the Subject Property. The Subject Property is shown relative to surrounding physical features on Figures 1 and 2, Subject Property Location Map and Subject Property Plan, respectively.

The Subject Property is located at 1700 Airport Way South in Township 24 North, Range 4 East, and Section 8 in Seattle, King County, Washington (Figure 1). It comprises tax parcel no. 766620-2855, totaling approximately 0.75 acres, as indicated in tax assessor records. The Subject Property is currently developed with one building. The south wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS. The north wing is a warehouse most recently used by Emerald Recycling, a subsidiary of Clean Harbors,[1] as part of their used-oil recycling facility. The building was constructed in 1914–1915 as a factory for the Western Blower Company, manufacturer of industrial blowers for sawmills and furnaces. The north warehouse is currently vacant.

At the time of this study, the Subject Property was owned and occupied by ETS. The Subject Property is zoned MML U/85, "Marine, Manufacturing and Logistics," which is an area with a concentration of core and legacy industrial and maritime uses, including manufacturing, warehousing, shipping, and logistics activities well served with vehicle and freight transportation infrastructure.

1.1 Purpose

The purpose of the Phase I ESA is to identify recognized environmental conditions (RECs) associated with the Subject Property, to the extent practicable using standard methods. As defined by Section 1.1.1 of ASTM International (ASTM) E1527-21, the term REC means the presence or likely presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that indicate a release, or a that pose a material threat of a future release to the environment, including into structures on the properties or into the ground, groundwater, or surface water of the properties. RECs can be further evaluated and categorized as:

- Controlled RECs (CRECs), defined as "a recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority, or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations, or other property use

[1] Emerald Recycling (an oil recycling facility—aka Emerald Services and previously Northwest EnviroService) was sold to Clean Harbors in 2016.

limitations)."

CRECs are considered a REC; however, the risk to the property can be low if the engineering controls and subsurface conditions remain unchanged.

- Historical RECs (HRECs), defined as "a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations)."

  HRECs are not considered RECs because the represented conditions have been previously addressed to the satisfaction of the applicable regulatory authority with no use restrictions, and do not pose a threat of environmental impact to the property.

A summary of the RECs, CRECs, and HRECs to the Subject Property, if identified, is presented in Section 5.2 of this report. The Phase I ESA was performed in general accordance with the ASTM E1527-21 guidelines and the U.S. Environmental Protection Agency's (EPA) Title 40 Code of Federal Regulation (40 CFR) Part 312 *Standards and Practices for All Appropriate Inquiries (AAI)*. Deviations from these guidelines are described in Section 1.3 of this report.

1.2 Scope of Work

The scope of services for this ESA consisted of the following tasks:

Site Reconnaissance

1. Conduct a visual inspection of the Subject Property and surrounding properties to identify potential sources of contamination and to document the status of the Subject Property at the time of this assessment. Photographs obtained during the site reconnaissance are included in Appendix A.

Interviews

2. Interview the ESA User, the Key Site Manager (as defined by ASTM) with knowledge of the current and historical uses of the Subject Property, current occupants (as applicable), and a representative of the state and/or local agencies, such as the local fire department, health department, and/or state environmental or human health regulatory agencies as necessary. The User Questionnaire is included in Appendix B.

Records Acquisition and Review

3. Review all previous environmental reports for the Subject Property located by the study and evaluate the environmental risk associated with report findings. Pertinent sections of previous environmental reports are included in Appendix B.

4. Review historical records and physical setting information to identify past land-use activities and hydrogeologic conditions at the Subject Property (to the first developed

use,[2] or 1940, whichever is earlier) and surrounding properties, and evaluate the environmental risk associated with the identified activities. Historical records obtained are included in Appendix C.

5. Contact potential sources of environmental records, including federal, state, and tribal regulatory databases, and review records provided to identify facilities with past or current regulatory enforcement activities of environmental concern. The search includes facilities on, or formerly on, the Subject Property, adjoining properties, and surrounding area, at distances designated in ASTM E1527-21. The regulatory database search report is included in Appendix D.

Evaluation and Report

6. Preparation of this Phase I ESA report to document the findings, significant data gaps, and conclusions of the assessment, and to present recommendations for further investigation, if needed. A "significant data gap" is defined as a lack of or inability to obtain information required by this practice despite *good faith* efforts to gather information that affects the ability of the environmental professional to identify a REC. Declaration of the environmental professional who completed this assessment is included in Section 7.

The scope of services did not include an environmental compliance audit or a hazardous building material (HBM; e.g., asbestos, lead-based paint, radon, lead in drinking water, toxic mold, urea-formaldehyde insulation, and other materials) survey of onsite structures or debris as part of this Phase I ESA. If existing HBM reports were provided for Aspect review, they are summarized in Section 4.3.

The scope of services does not specifically include evaluation of business environmental risks (BERs), defined as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of commercial real estate, and is not necessarily an issue required to be investigated in this practice." However, if evidence of BERs was revealed during the scoped Phase I ESA research, they are summarized in Section 5.

The scope of services did not include soil, groundwater, soil gas, indoor or outdoor air, or surface water sampling. If existing environmental reports describing sampling activities were provided for Aspect review, they are summarized in Section 4.3.

1.3 Significant Assumptions

The conclusions of this Phase I ESA are based on research of readily available and reasonably ascertainable[3] current and historical information sources, interviews, and a site reconnaissance visit as described in Section 1.1. When possible, Aspect researched

[2] The term "developed use" as defined in ASTM E1527-21 "includes agricultural uses and placement of fill dirt, and other uses that may not involve structures."
[3] The term "reasonably ascertainable" is defined in ASTM E1527-21 as "information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.

multiple sources to corroborate information. Aspect has assumed that the information sources reviewed are correct unless another source indicated otherwise.

1.4 Deviations

Aspect did not enter and observe all office and clinical spaces within the existing Subject Property building during our site reconnaissance, because the spaces were either closed or in active use; however, representative spaces were observed to gather knowledge on typical use of all spaces. The unobserved spaces are unlikely to contain more than de minimis quantities of hazardous materials and this deviation is unlikely to alter the findings of this study and is not considered a significant data gap.

2 User-Provided Information and Interviews

This section presents a summary of the information provided to Aspect by the User, the Subject Property representative identified as the Key Site Manager for this study, and information available in Aspect's files for the neighborhood.

2.1 User Questionnaire and Interview

Aspect provided a copy of the User Questionnaire included in Appendix B. The User provided information regarding the current, past, and future planned use(s) of the Subject Property, incorporated by reference throughout this report.

2.1.1 Information Regarding Environmental Liens

An environmental restrictive covenant for the Subject Property parcel was recorded with King County in 2018. This activity and use limitation (AUL) and supporting environmental data are discussed in Section 4.3. Environmental liens pertaining to the Subject Property were not identified by the User or over the course of the research for this study.

2.2 Property Representative Interview

Nathan Dickey from Aspect interviewed Mr. John Chandler, Real Estate Manager at ETS and the Key Site Manager identified for this study. Information provided by interview included information on property uses prior to redevelopment, details on the redevelopment construction and concurrent cleanup action, and information on the current uses of the building. Mr. Chandler is unaware of any releases, spills, or other conditions of potential environmental concern other than those discussed in the prior environmental reports (see Section 4.4). Information provided by the key site manager is incorporated by reference throughout this report.

3 Subject Property Reconnaissance

This section presents the site reconnaissance activities, observations, and findings pertaining to the Subject Property and adjoining properties. Approximate locations of the features described below are shown on Figure 2, Site Plan. Photographs are provided in Appendix A.

3.1 Subject Property Observations

The site reconnaissance was performed on September 4, 2024, by Nathan Dickey from Aspect to document the current features, activities, uses, and conditions of the Subject Property. The site reconnaissance focused on areas or uses with potential environmental implications (if present), including potential chemical storage, chemical usage, and waste disposal practices, and signs of activities other than those documented in the historical records. Aspect was accompanied by John Chandler, Real Estate Manager with ETS. The Subject Property was accessed via Airport Way South. Aspect did not enter and observe all office spaces or treatment rooms within the existing Subject Property building during our site reconnaissance; however representative spaces were observed. Because the unobserved spaces are unlikely to contain more than de minimis quantities of hazardous materials, this deviation is unlikely to alter the findings of this study and is not considered a significant data gap. A summary of our observations is provided in Table 1, below.

Table 1. Subject Property Observations

Feature	Observed?		Comments	Finding
	Yes	No		
Evidence of underground storage tanks (USTs)		X	Not Observed.	None
Aboveground storage tanks (ASTs)		X	Not Observed.	None
Chemical, hazardous substances, and petroleum products use or storage		X	Not Observed.	None
Hydraulic hoists		X	Not Observed.	None
Drums or other containers		X	Not Observed.	None
Evidence of leaks and spills of hazardous materials or corrosion		X	Not Observed.	None
Evidence of past uses of the Subject Property	X		The north portion of the building was historically used as a used-oil recycling facility, and is a historical warehouse building.	None
Hazardous waste		X	Not Observed.	None
Solid waste	X		Refuse dumpsters are located in the parking area on the east side of the property, and additional dumpsters are located inside the garage of the north portion of the building.	None
Universal Waste		X	Not Observed.	None

Feature	Observed? Yes	Observed? No	Comments	Finding
Potable water supply	X		Municipal System.	None
Sewage disposal system (including septic systems and drainfields)	X		Municipal System.	None
Heating/Cooling System	X		A natural gas heater was observed in the basement of the southern portion of the building. The northern heating unit was not observed.	None
Electrical transformers or other polychlorinated biphenyl-containing (PCB) equipment		X	Not Observed.	None
Interior floor drains, sumps, or dry wells	X		Floor drains observed in the floor of the north portion of the building. Sump located at the southeast corner of the north warehouse. The sump was empty, had been recently cleaned, and is no longer in use. The sump formerly pumped to the exterior AST removed in 2021.	None
Stormwater drainage	X		Four catch basins observed along paved parking area on the east side of the building. A review of the City of Seattle side sewer card indicted catch basins discharge to city combined main sewer in Airport Way South, near the driveway at the center of the property.	None
Oil/water separators		X	Not Observed.	None
Standing water or pools of liquid (e.g., pits, ponds, lagoons, etc.)		X	Not Observed.	None
Wells (including dry wells, irrigation wells, injection wells, abandoned wells, water supply, monitoring wells, or other wells)	X		Monitoring wells installed during previous investigations (see Section 4.3) were observed in the locations shown on Figure 2.	None
Discolored or stressed vegetation		X	Not Observed.	None
Discolored or stained pavement		X	Not Observed.	None
Unusual odors		X	Not Observed.	None
Other Environmental Condition(s) of Concern		X	Not Observed.	None

3.2 Adjoining Property Use Observations

Adjoining properties were observed from adjacent rights-of-way on September 4, 2024. Adjoining properties or buildings were not entered. A description of the conditions observed on the adjoining properties during the site reconnaissance is presented below.

North – The north-adjacent property is occupied by Emerald Recycling/Clean Harbors as a used-oil recycling facility. Site use and environmental investigations related to this facility are discussed in more detail in Section 6.2.2.

East – Interstate 5 is located east of the Subject Property.

South – The south-adjacent property is a multitenant light industrial property. Tenants include a clothing print shop, cabinet maker, recording studio, window tinting service, product design studio, and martial arts school.

West – The property to the west across Airport Way South includes Holgate Center office building and CenturyLink garage and storage facility. Tenants of the Holgate Center include Department of Social and Health Services and Quest Diagnostics.

Adjoining-property uses and locations relative to the Subject Property are shown on Figure 2, Site Plan. Adjoining property uses do not represent RECs to the Subject Property.

4 Records Review

This section summarizes the records review findings for the Subject Property and for adjoining and surrounding properties, including current use and development, physical setting, historical uses, and regulatory agency and database records.

4.1 Physical Setting

According to the Geologic Map of Seattle, produced by the U.S. Geological Survey (USGS) and the Pacific Northwest Center for Geological Mapping Studies, the Subject Property and properties westward are underlain by tide flat deposits. The steep hillslope to the immediate east is underlain mainly by Quaternary continental glacial drift deposits from the Pleistocene, including pre-Fraser-age glaciation, about 70,000 to 20,000 years ago (Troost et al., 2005). Historical Sanborn maps for the predevelopment Subject Property vicinity indicate that the Elliott Bay tide flats were located at the Subject Property, and Airport Way South was a plank road. The tide flats were filled in the early 1900s. Today, the immediate Subject Property vicinity is generally flat and situated at approximate elevation 25 feet above mean sea level (msl), as shown on the current USGS 7.5-minute topographic map for Seattle South, Washington, included in Appendix D.

Based on our review of boring logs from adjacent properties, properties in the vicinity are often underlain by approximately 10 feet of imported fill containing wood, brick, slag, concrete, and metal debris. Previous explorations on the north-adjacent property encountered alternating strata of clay, silt, and silty sand beneath imported fill soil. Subsurface investigations completed to the north identified two water-bearing zones separated by a clay unit. The shallower aquifer is at 10 to 15 feet below ground surface (bgs) and the lower aquifer below 20 feet bgs. Monitoring wells completed in the shallow aquifer indicate groundwater flow is to the west.

No surface water was noted on the Subject Property during the site reconnaissance visit and the nearest surface water body is the Duwamish Waterway, approximately 1 mile west of the Subject Property.

4.2 Historical Use Information

- The history of the Subject Property and adjoining properties was compiled through review of historical sources and reasonably ascertainable information pertaining to the Subject Property. Historical sources reviewed by Aspect included:
- Aerial photographs obtained from Environmental Data Resources, Inc. (EDR) and King County dated 1936, 1943, 1953, 1956, 1965, 1969, 1977, 1980, 1985, 1990, 2006, 2011, 2015, and 2019.
- Sanborn® Fire Insurance maps obtained from EDR dated 1893, 1904, 1916, 1950, and 1969.
- Topographic maps obtained from EDR for the years 1894, 1895, 1897, 1908, 1909, 1968, 1973, 1983, 2014, 2017, and 2020.

- Excerpts from historical city directories obtained from EDR for approximate 5-year intervals from 1920 to 2020. Note that Airport Way South address numbering changed such that the Subject Property was listed at 1800 Airport Way South prior to 1980.
- Current and historical tax assessor documents provided by King County and Puget Sound Archives.
- Historical site plans ETS acquired from Seattle Department of Construction and Inspection (SDCI).
- Pertinent information provided during interviews with the User, Key Site Manager for the Subject Property, and others.

The historical resources acquired during this study are in general accordance with the requirements of ASTM 1527-21. Copies of the historical records obtained from the sources above are provided in Appendix C. The following subsections provide the findings of the historical review.

4.2.1 Subject Property

The earliest identified development of the Subject Property is recorded in the 1893 Sanborn Map, which shows the lot as residential properties possibly built on wharf-like structures at the eastern edge of the Elliott Bay tide flats. At that time, present-day Airport Way South was a wood plank road.

Tax assessor records indicate the Subject Property was developed in 1914 by Western Blower Company. The 1916 Sanborn map only illustrates the south warehouse suggesting the factory was built incrementally. A 1937 historical tax assessor record indicates a 350-gallon fuel tank was on the property and the building was heated with an oil burner and depicts the boiler room in the central portion of the building. SDCI's historical building plans from 1942 indicate the basement of the north wing included a paint spray booth, and shop and plating areas. City directory listings indicate Western Blower occupied the property until the 1960s, and the Subject Property is listed as vacant in the 1970s.

NWES started operating a tank cleaning service north of the Subject Property in the late 1970s. As detailed in Section 4.3, NWES expanded operations to the Subject Property in 1987. NWES operated a commercial hazardous waste management facility, providing storage and treatment to businesses that generate hazardous waste up until 1995. NWES moved out of the south wing of the Subject Property building in 1995 and vacated the north wing of the Subject Property building in 2020.

Tax assessor records indicate the southern Subject Property building was renovated in 1997 for use by ETS. ETS acquired the Subject Property from NWES in 2021.

SUMMARY – The historical use of the Subject Property for manufacturing and oil-related warehousing of materials and use of heating oil may have resulted in releases of petroleum, solvents, and/or metals to subsurface soil and/or groundwater, which is a REC to the Subject Property. Based on the previous investigations conducted at the Subject Property (as detailed in Section 4.3), evidence of impacts of solvents and metals in soil and groundwater above MTCA Method A cleanup levels (CULs) have been identified,

and contamination in soil gas has been detected at concentrations exceeding MTCA Method B screening levels protective of indoor air quality.

4.2.2 Adjoining and Surrounding Properties

Adjoining and surrounding properties have been generally developed since as early as the 1890s with residential developments north, south, and east of the Subject Property. The Elliott Bay tide flats bordered the Subject Property to the west, which by the mid-1910s were mostly filled. Subsequent uses are as follows:

North – A service station operated on the property north of the Subject Property from the 1920s into the 1950s, after which the property is listed vacant in city directories. A battery supply store operated on the property in the 1960s and 1970s. In the 1980 aerial photo, the north-adjacent property is vacant and used for parking. Tax assessor records indicate the large tanks currently present on the property were installed in the early 1980s by NWES, for its oil recycling business which remains on the property today.

West – Properties on the west side of Airport Way South were undeveloped until the early 1950s. The present-day office building west of the south Subject Property building was built in 1951. Tenants have included Western Electric Company, Eddie Bauer mail order offices, Quest Diagnostics, and Washington State Department of Social and Health Services.

South – The south-adjacent property was developed with a flour mill in the early 1900s. The property was redeveloped with a radiator manufacturing facility by 1916; however, the building is no longer present in the 1936 aerial photo. From the 1940s through the 1970s, the property was occupied by Bay Construction, excavation contractors. During this period, the area immediately south was used as a storage yard, and a building was located at the northeast corner of South Holgate Street and Airport Way South. As discussed in Section 4.4, the property to the south underwent a cleanup during redevelopment.

East – Railroad tracks were located on the east side of the property from the early 1900s until they were removed in the 1980s. A steep hillslope is located east of the Subject Property. It has been mostly undeveloped with some residences in the early 1900s to 1940s. Interstate 5 is shown under construction in the 1965 aerial photo and completed by 1969.

Historical uses of adjoining and surrounding properties do not represent environmental concerns to the Subject Property, except for those discussed in Section 4.4.

4.3 Previous Environmental Reports

A total of five previous environmental reports were identified for the Subject Property:

1) "Northwest EnviroService Inc. Interim Status Closure Plan, Western Blower Property" (Closure Plan; NWES, 1995)
2) "Northwest EnviroService Inc, Western Blower Property RCRA Closure Sampling Results" (Results Report; NWES, 1996)
3) "Phase I Environmental Site Assessment" (2019 Phase I; Aspect, 2019a)

4) "Phase II Environmental Site Assessment" (Phase II; Aspect 2019b)

5) "Sump Cleanout and Soil Gas Sampling Memorandum" (Sump and Soil Gas Memo; Aspect, 2021a).

6) "Phase I Environmental Site Assessment" (2021 Phase I; Aspect, 2021b)

7) "Preconstruction Environmental Actions and Next Steps" (Preconstruction Memo; Aspect, 2024a)

8) "Subsurface Investigation Work Plan" (Aspect, 2024b)

Copies of these reports are provided in Appendix B.

4.3.1 Environmental Studies in 1995 and 1996

From 1987 to 1995, NWES operated a hazardous waste treatment and storage facility that occupied 1.3 acres between Airport Way South and Interstate 5, spanning from South Atlantic Street to the north and South Holgate Street to the south. The main treatment part of this facility occupied the property immediately north of the Subject Property, but it also extended onto, and included the Subject Property. Site operations were regulated by the Washington State Department of Ecology (Ecology) under the Resource Conservation and Recovery Act (RCRA).

In 1995, NWES discontinued its hazardous-waste operations and started RCRA closure of the hazardous-waste handling aspect of the facility. Since their use of the Western Blower Property (Subject Property) was limited, closure of this portion of the property was conducted separately from the remainder of the property to the north where more hazardous-waste handling (aka oil recycling) activities were focused. The following provides a summary of NWES's use of the Subject Property, as provided in the 1995 and 1996 NWES reports, and closure activities completed in 1995. The Closure Plan includes the shed-like structure just north of the Subject Property; however, our summary focuses on the Subject Property.

Little information is available in the 1995 and 1996 NWES reports providing specifics on site use, or chemical handling or storage. NWES states in the reports that Subject Property use included "administrative and warehouse activities," and "Sealed and containerized wastes were unloaded from trucks at the load/unload dock and transported to the north-adjacent NWES property for processing." The loading dock near the center of the Subject Property building was used for loading and unloading hazardous waste. Containerized waste was then transferred to the north-adjacent parcel, also owned by NWES, for processing. NWES used the Subject Property warehouse space to store pumps, hoses, and other equipment. The north warehouse included an area for repairing pumps and a parts washer.

A figure in the report refers to the north warehouse as the "Stores Building." King County tax assessor records indicate that the southern portion of the south wing included laboratory space for organic and inorganic sample preparation, most likely for waste disposal characterization.

The 1995 Closure Plan stated the following activities were to be completed for site closure:

- Remove waste inventory
- Decontamination of site concrete, sumps, tanks, and equipment
- Disposal of contaminated materials
- Collection of samples to certify completion of closure

The language in the 1995 report does not provide details about specific storage tanks or sumps to be decontaminated on the Subject Property. The 1996 report provides results from the post-closure sample collection that included three concrete samples, two shallow soil samples, and two groundwater samples from wells MW-1 and MW-2. Sample locations are depicted on Figure 2. Samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCS), pesticides, polychlorinated biphenyls (PCBs), sulfide, total petroleum hydrocarbons (TPH), dioxins, metals, and cyanide.

Concrete samples had elevated metals concentrations with cadmium at 200 milligrams/kilogram (mg/kg), exceeding the Washington State Model Toxics Control Act (MTCA) cleanup level for cadmium for unrestricted land use. Arsenic, TPH, and benzo(a)pyrene (BaP) were detected in soil samples with only BaP exceeding the MTCA Method A CUL at that time of 0.1 mg/kg (the current MTCA Method A CUL for BaP is 0.19 mg/kg). Manganese was detected in groundwater at a concentration of 3,400 micrograms/liter (µg/L), which has a drinking water standard of 2,200 µg/L.

In 1997, Ecology provided an opinion that No Further Action (NFA) or investigation would be required for site closure (at the Subject Property; Ecology, 2017); however, a restrictive covenant would need to be placed on the property. The restrictive covenant has the following stipulations:

- The property shall be used in compliance with General Industrial 2 zoning classification per City of Seattle ordinances.
- Property groundwater shall not be used for domestic, agricultural, industrial, or any other use.
- Existing structures cannot be altered or modified in any manner that may result in the release or exposure to the environment of contaminated soils or concrete, without prior Ecology approval.
- Existing paved surface must be maintained to prevent the release or exposure to the environment of contaminated soils or concrete. Any activity that would pierce or damage the surface is prohibited, without prior Ecology approval.

These environmental (aka restrictive) covenant requirements will need to be upheld and honored during redevelopment of the Subject Property.

4.3.2 Environmental Studies in 2019, 2020, and 2024

The RECs identified in Aspect's Phase I ESA (Aspect, 2019a) include historical manufacturing operations by Western Blower Company and hazardous and nonhazardous waste handling by NWES, as well as former used-oil waste handling in the northern warehouse of the Subject Property. These property-use activities indicated a potential for

petroleum, solvents, and metals contamination to soil and/or groundwater at the Subject Property from on-property potential sources, and a risk for vapor encroachment or intrusion to the Subject Property structures.

Based on the RECs identified in the Phase I ESA, Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing to:

- Evaluate the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Subject Property.
- Evaluate the potential presence of soil contamination associated with current or past sources of contamination on the Subject Property or nearby adjacent properties.
- Evaluate the potential presence of groundwater contamination associated with current or past sources of contamination on the Subject Property or nearby upgradient properties.

The Phase II ESA included installation of four permanent groundwater monitoring wells (AMW-1 through AMW-4; Figure 2) on and off the Subject Property and completion of four temporary soil gas sampling points. Soil, groundwater, and soil gas samples were collected and submitted for laboratory analysis. Soil observed in the borings included fill material up to a depth of 15 to 19 feet bgs. Fill soils were underlain by a clay to sandy clay unit, representative of historical tideflat deposits. Groundwater was encountered in all four monitoring wells at a depth of 4.5 to 5.7 feet bgs, with a westerly flow direction (Figure 5).

Six soil samples were submitted for analysis based on field observations and relative to identified RECs, including gasoline-, diesel-, and oil-range TPH (using methods NWTPH-Gx, and NWTPH-Dx), and metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) using EPA Method 6020B. In addition, two samples were submitted for analysis of VOCs using EPA Method 8260D and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA Method 8270D/SIM. Contaminants of concern either were not detected or were detected at concentrations less than cleanup levels in soil and/or groundwater, except for the following:

- Two analytes were detected in one soil sample above the MTCA Method A cleanup levels. These exceedances were at 12.5 feet bgs at location AMW-1 at concentrations of 27.8 and 4,720 mg/kg for arsenic and lead, respectively. The arsenic value slightly exceeds the CUL of 20 mg/kg, while lead was greater than the CUL of 250 mg/kg (Figure 3).
- Vinyl chloride was detected in groundwater at a concentration of 2.9 µg/L in off-property well AMW-1, exceeding the MTCA Method A CUL. Dissolved arsenic concentrations above the MTCA Method A CUL (5 µg/L) were detected in off-property wells AMW-1 and AMW-3 at concentrations ranging between 11 and 20.3 µg/L, respectively (Figure 4).

Four temporary subslab soil gas samples (SV-1 through SV-4; Figure 6) were collected and submitted for analysis of VOCs. Based on the chemical analytical soil gas results, and vapor intrusion modeling using the Johnson-Ettinger Model for vapor intrusion

(JEM), vinyl chloride was predicated to possibly exceed the MTCA Method B CUL in indoor air of the north warehouse. Draft Ecology guidance related to trichloroethene (TCE) vapor intrusion screening was also referenced in the Phase II ESA report (Aspect, 2019b), and TCE was also considered a potential chemical that could intrude into the north warehouse building at levels exceeding screening levels. The model did not predict exceedances of contaminants in the south warehouse. Aspect recommended that the sump in the north warehouse (the suspected source of solvents) be cleaned, following which soil gas be resampled in the north wing of the building. The Phase II ESA recommendations also indicated that if "concentrations remain elevated in soil gas, mitigation measures may be necessary (such as active and/or passive venting systems) for that portion of the building to be occupied."

In 2020, the basement sump in the north warehouse, and on-site stormwater system (five catch basins around the Subject Property), were cleaned (Aspect, 2021). After the sump and stormwater systems were cleaned, two subslab soil gas samples were collected and analyzed for VOCs and air-phase petroleum hydrocarbons. Based on the chemical analytical soil gas results, the following contaminants were detected at concentrations greater than the MTCA Method B screening levels (adjusted to commercial exposure): benzene, TPH, TCE, and vinyl chloride.

In 2024, ETS began the process of designing and planning for building demolition and then a multiphased redevelopment. The initial phase of redevelopment will include construction of a Dispensary building on the north portion of the Subject Property followed by future support structures to facilitate ETS' mission. In the Preconstruction memo (Aspect, 2024a), Aspect provided a summary of the environmental conditions of the Subject Property and next steps including development of a Subsurface Investigation Work Plan (Aspect, 2024b). The Subsurface Investigation was implemented in October 2024 and is ongoing as of November 25, 2024.

Locations of samples collected during historical and recent environmental investigations are included on Figure 2.

4.4 Regulatory Environmental Records Review

This section presents information from regulatory agency records and database listings. A summary of the requested records, and including response status of the agencies contacted, is presented below and review findings are presented in Table 2.

Regulatory Environmental Database Search – Aspect contracted EDR to conduct a regulatory agency databases search for listings pertaining to the Subject Property and surrounding properties within the ASTM approximate minimum search distances. The database search was completed on August 16, 2024. For the remaining database search results, Aspect used the following screening criteria to focus the review based on the high density of listed sites in the area and our understanding of the hydrogeologic conditions in the vicinity:

- Aspect reviewed all database listings information for the Subject Property and adjacent properties.

- Nonadjacent sites considered low risk for contaminant migration to the Subject Property were not reviewed. For this study, low-risk criteria are:
  - Sites listed only on databases that are not indicative of a past release were considered low risk and were not reviewed.
  - Sites located greater than 0.5 miles in any direction from the Subject Property.
  - Sites located downgradient and greater than 0.25 miles from the Subject Property.

The results of the database search by EDR are included in Appendix D.

Washington Pollution Liability Insurance Agency (PLIA)—Aspect requested a file review for the Subject Property, adjoining properties that were identified in the regulatory databases, and for nearby listed sites that were identified as listed sites of concern during Aspect's review of the database listings. PLIA replied with no responsive records for the Subject Property.

Washington State Department of Ecology—Aspect requested a file review for the Subject Property, adjoining properties that were identified in the regulatory databases, and for nearby listed sites that were identified as listed sites of concern during Aspect's review of the database listings. Aspect received a response to our request identifying multiple files for review for the north-adjacent property, Northwest EnviroServices. Details are discussed below.

King County Public Records Program—Aspect submitted a public records request to King County on September 10, 2024, for any Subject Property records maintained by King County's health and environmental departments. King County replied with no responsive records for the Subject Property.

Seattle Fire Department—Aspect contacted the Seattle Fire Marshal's Office on September 10, 2024, to request any records pertaining to hazardous materials storage or incidents at the Subject Property. Aspect received a response to our request identifying multiple files for the Subject Property and north adjacent properties, which indicated required maintenance of sprinkler systems which were in violation of fire code. Aspect also reviewed Seattle Fire Department records for permitted residential UST decommissioning, which has been required since 1996, and is published online. No records were found for the Subject Property.

The following table presents a summary of the pertinent information from the regulatory database listings and regulatory agency records review for the Subject Property and adjacent or surrounding properties.

Table 2. Regulatory Agency and Database Review

Listed Site	Regulatory Databases	Finding
Subject Property		
Northwest EnviroServ 1700 Airport Way S	FINDS, FTTS, HIST FTTS, EDR HIST AUTO	REC
The Subject Property was identified by EDR on the following regulatory databases: FINDS, FTTS, HIST FTTS, and EDR Hist Auto. These listings are related to waste reporting issues by NWES from the early 1990s when they occupied the Subject Property. NWES failed to report storage of polychlorinated biphenyl (PCB) waste on the property, but subsequent soil and groundwater sampling did not detect PCBs at concentrations exceeding applicable cleanup levels (NWES, 1996). NWES's historical use of the Subject Property and contamination identified in subsequent investigation associated with NWES' historical use (discussed in Section 4.3.1) constitutes a REC.		
Adjacent Properties		
Northwest EnviroServ 1500 to 1700 Airport Way S North adjacent Crossgradient	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-LQG, WA CSCSL, WA UST, WA ALLSITES, 2020 COR ACTION, RAATS, PADS, WA MANIFEST	NOT A REC
NWES operated a commercial hazardous waste management facility from 1979 through 1995, providing storage and treatment to businesses that generate hazardous waste. NWES received and treated various waste streams, including wastewater, used oil, metals, solvents, paint, and corrosive materials. Since 1995, Emerald Recycling has been recycling nonhazardous waste and used oil, and treating industrial wastewater at the NWES Facility. As a hazardous waste management facility, NWES was identified by EDR on multiple regulatory databases including the Federal Superfund Enterprise Management System Archive (SEMS-ARCHIVE), Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS), RCRA Treatment Storage and Disposal list (TSDF), RCRA Large Quantity Generator (LQG), RCRA Administrative Action Tracking System (RAATS), and PCB Activity Database System (PADS) lists; and Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL), SPILLS, and Underground Storage Tank (UST) lists. Aspect reviewed Ecology files for the NWES facility. In 2002, NWES completed a RCRA Facility Investigation, which included soil sampling and groundwater monitoring (NWES, 2004). Soil and groundwater were contaminated from releases related to NWES's site use. The more heavily impacted area was approximately 400 feet north of the Subject Property. Groundwater flow, thus contaminant transport, is to the west towards Airport Way South. The nearest groundwater monitoring well to the Subject Property on this property, MW-7, is located approximately 125 feet north of the northwest Subject Property corner. Benzene and vinyl chloride, which pose a potential risk for vapor intrusion impacting indoor air, were detected in groundwater at 7 µg/L and 1 µg/L, respectively. These values exceed MTCA Method B screening levels for assessing potential impacts to indoor air, which are 2.4 µg/L and 0.3 µg/L, respectively for benzene and vinyl chloride. File records also include data related to a 100–200-gallon diesel release that occurred in May 2012 at the south end of the NWES property, west of the south tank farm (CH2MHill, 2012). Approximately 22 cubic yards of soil were removed from the sidewalk area between the NWES property and Airport Way South. Further excavation was reportedly not feasible due to the presence of major subsurface utilities. The contaminated area is crossgradient of the Subject Property: therefore, not considered a REC.		

Listed Site	Regulatory Databases	Finding
US WEST SERVICES 1709 AIRPORT WAY S West adjacent Downgradient	CSCSL, LUST, UST and VCP	NOT A REC
According to the database listings and Ecology's website, benzene, diesel, gasoline, and unspecified petroleum were confirmed in soil and groundwater above applicable cleanup levels at this site. The Site is listed as "cleanup started." The Site is located downgradient of the Subject Property; therefore, it is not considered a REC.		
VECA ELECTRIC 1762 AIRPORT WAY S South adjacent Crossgradient	CSCSL, LUST, and UST	NOT A REC
The Veca Electric Site was operated as a general contractor storage and repair garage from the 1940s to 1970s. During the redevelopment of the site in 2009, cleanup activities occurred at the site, to address releases from former leaking USTs located on the site. According to the Ecology's website, documents, the LUST was reported in 1992, and benzene, diesel, and gasoline were confirmed in soil above the applicable cleanup levels, and the initial investigation occurred in 2011. Based on Ecology's files, a 2013 status update letter indicated that an area of contamination exists at this property, in the proximity of the former underground storage tanks. The Site status is listed as "cleanup started." The former UST area is likely located slightly greater than 200 feet from the Subject Property (the exact location is unknown and not shown on Figure 2), and is cross-gradient of the Subject Property; therefore, it is not considered a REC.		
Surrounding Properties		
ATLANTIC OPERATING BASE 1555 AIRPORT WAY S 250 feet northwest Downgradient	CSCSL, LUST, UST, ALLSITES, CSCSL NFA, MANIFEST	NOT A REC
According to the database listing and Ecology records, a site assessment conducted at this property in 1991 revealed concentrations of diesel-range TPH exceeding the applicable MTCA Method A cleanup level in soil near the "Fuel/Wash" building featuring 13 USTs for various petroleum products. Subsequent investigation revealed TPH-related VOCs including benzene at concentrations exceeding applicable MTCA Method A cleanup levels in groundwater. Following a UST replacement program involving the replacement of 18 USTs across the property, groundwater investigation found no detectable concentrations of TPH or related VOCs in groundwater on the property. Ecology issued an NFA determination on January 16, 2001. Based on the lack of detected contamination following the UST replacement program, NFA determination, and downgradient location of this property, it is not considered a REC.		

4.4.1 Area-wide Contamination

Aspect also conducted a search of state and federal websites for readily available information that may concern area-wide soil and groundwater contamination in the Subject Property vicinity.

Asarco Smelter Plume – According to Ecology's website, widespread lead and arsenic contamination in near-surface soil has been identified throughout a large zone in the south Puget Sound region that originated from an Asarco copper smelter that historically

operated in Tacoma, Washington for over 100 years. The Subject Property is located inside the zone, in the area of least impact with typical range of arsenic detections between nondetect and 20 parts per million (ppm; the MTCA cleanup level for arsenic). Based on our experience in the neighborhood, there is low likelihood of significant impact to the Subject Property from the Asarco smelter, and it is not considered a REC.

Radon Zones – According to EPA's Map of Radon Zones, the Subject Property vicinity and King County are mapped within Radon Zone 3, defined as areas with low potential for radon gas and a predicted average indoor screening levels of less than 2.0 picoCuries per liter (pCi/L). This is well below the EPA recommended Action Level for radon of 4.0 pCi/L; therefore, radon is not considered a REC.

5 Evaluation

5.1 ASTM Significant Data Gaps

No significant data gaps were identified during this assessment.

5.2 Findings and Conclusions

Aspect has performed a Phase I ESA in conformance with the scope and limitations of ASTM E1527-21 for the Subject Property located at 1700 Airport Way South in Seattle, Washington. Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This Phase I ESA is an update to two prior Phase I ESAs completed for this property.

Aspect completed a Phase I ESA in 2019, when ETS was first considering purchase of the Subject Property, and a Phase I ESA update in 2021, prior to ETS' purchase of the property that year. The property use prior to ETS' purchase spanned two time periods each representing RECs: industrial fan/blower manufacturing and large engine repair by Western Blower from 1915 to the 1960s, and then oil recycling support facilities by NW EnviroService (NWES, later Emerald Services) from 1987 to 2021. Concerns related to these historical activities included the potential release of hazardous chemicals (primarily petroleum hydrocarbons, metals, and solvents) into drains and sump at the Subject Property. Other RECs included the potential for impacted fill soil imported from an unknown source (common contaminants of concern in fill soil is petroleum hydrocarbons, metals, and PAHs) and the possibility for a heating oil underground storage tank on the property near the building's boiler room.

Based on this 2024 Phase I ESA, the RECs are managed and/or are being mitigated as follows:

Restrictive Covenant for Fill Soil Capping and Prohibition on Use of Groundwater. As a result of soil and groundwater testing in the 1990s across the subject property (and NWES facility to the north), and for Ecology to offer an NFA determination for the Subject Property, Ecology requested that a restrictive covenant be recorded for the property. The covenant requires the ETS building, and pavement be maintained as a protective cover over subsurface contamination, including arsenic, lead, BaP, and oil-related TPH. Notification to Ecology is required for redevelopment or other disturbance to the cover. The restrictive covenant also includes a prohibition of groundwater use due to elevated concentrations of manganese in groundwater at well MW-1.

Phase II ESA, Interim Action, and Planned Redevelopment. Aspect completed a Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling and testing to evaluate the RECs identified in the 2019 and 2021 ESAs. The investigation included installation of four groundwater monitoring wells on the Subject Property and off-property and sampling and testing of six representative soil samples and four groundwater samples from the monitoring wells. In addition, soil gas was sampled for the first time at four locations beneath the building. In soil and groundwater, the results of the

Phase II ESA investigation indicated that contaminants of concern (VOCs; gasoline-, diesel-, and oil-range TPH; cPAHs; and metals) either were not detected or were detected at concentrations less than MTCA Method A or B CULs, except for one soil sample from AMW-1 and the groundwater samples from AMW-1 and AMW-3, both of which are located off the property in the right of way. The contaminants detected were arsenic and lead in the soil sample, and vinyl chloride and arsenic in groundwater. Because these contaminants were not detected in soil or groundwater on the property, a direct relationship to a source could not be drawn by the study. However, if those contaminants are present in fill beneath the subject property, it would be covered by the Restrictive Covenant that already exists.

The more significant issue resulting from the Phase II ESA was the presence of chlorinated solvents (TCE and vinyl chloride) that were detected in soil gas at concentrations higher than the MTCA Method B screening levels; that, when modeled, had the potential to intrude into the north warehouse. Aspect recommended cleaning the storm drains at the Subject Property and sump in the north warehouse (the unoccupied portion of the project), which occurred in 2020. After this action, follow-up soil gas samples were again obtained and TCE and vinyl chloride in soil gas were found to continue to pose a vapor intrusion risk for the unoccupied north warehouse area. ETS elected not to occupy the north warehouse portion of the building until redevelopment occurred.

Based on these actions and investigations, the previously identified RECs have been variously addressed and revised in accordance with the following summary table:

Previously identified REC (Aspect, 2019a)		Addressed by 2019-2021 actions or Existing Covenant	REC Status
	Historical manufacturing on property by Western Blower; large engine maintenance/cleaning (north warehouse).	Yes, now considered a controlled recognized environmental condition (CREC).	The impacts from historical manufacturing have been evaluated via the Phase II ESA and is mitigated through the restrictive covenant and sump and drain cleaning. This is no longer considered a REC to the Subject Property and is considered a CREC.
	Spills and releases to drains and sump from former property use by NWES/Emerald.	Partially addressed, further investigation in progress.	The former activities by NWES/Emerald Recycling have been evaluated via the Phase II ESA and risk reduced through sump and drain cleaning, though not fully remedied at the sump area. Release around the sump is being evaluated through ongoing subsurface investigation.
	Fill soil	Yes, considered a CREC	Fill soil evaluation has been supplemented by the Phase II ESA and soil is covered under the restrictive covenant. This is now considered a CREC to the Subject Property.

Previously identified REC (Aspect, 2019a)		Addressed by 2019-2021 actions or Existing Covenant	REC Status
	Potential heating oil underground storage tank	Yes	The potential heating oil UST was not identified, and no evidence of impacts were observed in the vicinity of the boiler room. This is no longer considered a REC to the Subject Property.

In 2024, ETS began the process of designing and planning for building demolition and then a multiphased redevelopment. The initial phase of redevelopment will include construction of a Dispensary building on the north portion of the Subject Property followed by future support structures to facilitate ETS' mission. In the Preconstruction memo (Aspect, 2024a), Aspect provided a summary of the environmental conditions of the Subject Property and next steps including development of a Subsurface Investigation Work Plan (Aspect, 2024b). The Subsurface Investigation was implemented in October 2024 and is ongoing as of November 25, 2024.

5.3 Recommendation

Based on the results of this Phase I ESA and ongoing environmental investigation work in October/November 2024, a cleanup action, including excavation of contaminated soil and treatment of contaminated groundwater, should be considered as part of redevelopment plans. At that time, an evaluation regarding a chemical vapor barrier and/or vapor intrusion mitigation measures for the new building will be considered (if needed).

Prior to redevelopment activities, Aspect recommends development of an Environmental Construction Management Plan (ECMP for contractors use during demolition and construction. The ECMP would outline management of soil and groundwater and plan for unanticipated conditions. In addition, Aspect recommends enrolling the Expedited Voluntary Cleanup Program in pursuit of a timely NFA determination and/or revision of the environmental covenant limiting use of the Subject Property following any cleanup action undertaken during redevelopment.

6 References

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7 Declaration of Environmental Professional

"I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Sec. 312.10 of 40 CFR Part 312.

"I have the specific qualifications based on education, training, and experience to assess a property to the nature, history, and setting of the Subject Property. I have developed and performed AAI in conformance with the standards and practices set forth in 40 CFR Part 312."

_____

Nathan Dickey, LG
Geologist

7.1 Qualifications of Environmental Professional

Nathan Dickey is a registered licensed geologist (LG) in Washington State (#20120138) with at least 7 years of full-time experience completing Phase I ESAs and meets the definition of an Environmental Professional per 40 CFR Part 312.

8 Limitations and Exceptions

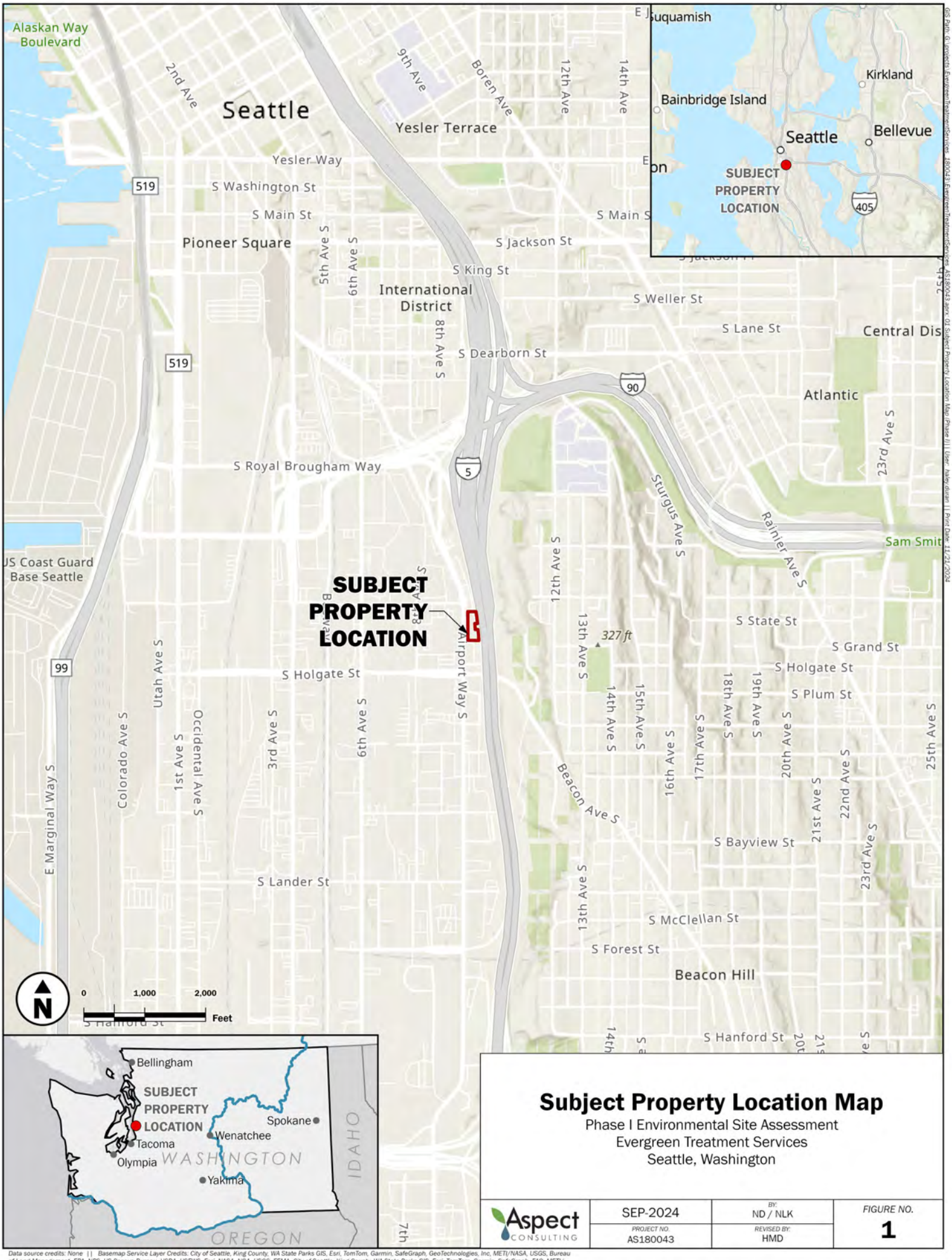
This Phase I Environmental Site Assessment was prepared for use by Evergreen Treatment Services (Client) and may not be relied upon by any other person or entity without the express written consent of Aspect Consulting (Aspect). The Phase I Site Assessment was prepared in accordance with the agreement between Aspect and Client, dated August 13, 2024 (Agreement) as well as ASTM E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* and 40 CFR Part 312, EPA's *Innocent Landowners, Standards for Conducting all Appropriate Inquiries.*

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

FIGURES

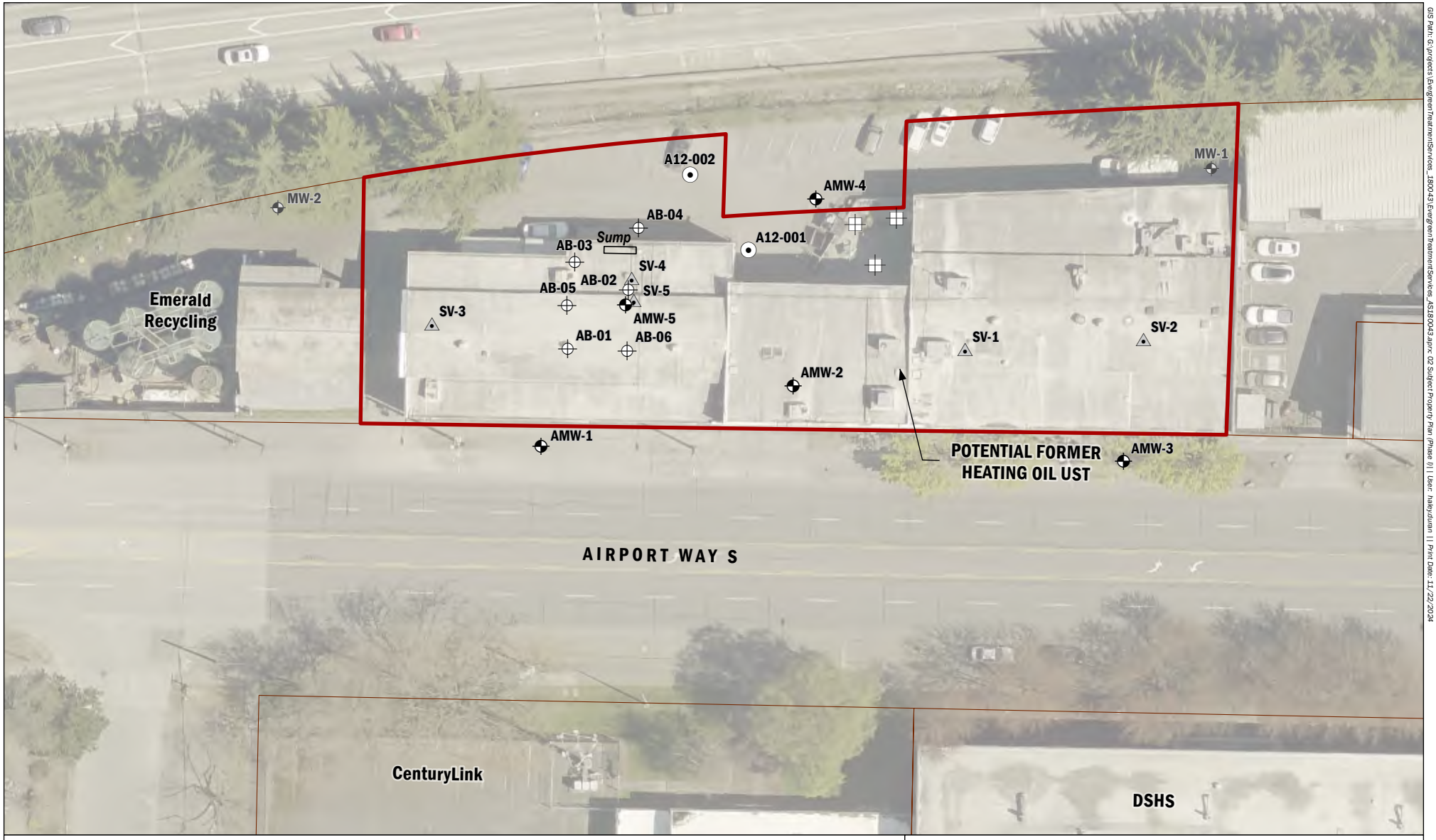


Subject Property Location Map

Phase I Environmental Site Assessment
Evergreen Treatment Services
Seattle, Washington

Aspect CONSULTING	SEP-2024	BY: ND / NLK	FIGURE NO. 1
	PROJECT NO. AS180043	REVISED BY: HMD	

Data source credits: None || Basemap Service Layer Credits: City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS, Esri, USGS, Esri, HERE, Garmin, USGS, EPA, NPS



- Soil Gas Sample Location (Aspect, 2018-2020)
- Concrete Sample Location (NWES, 1995)
- Shallow Soil Sample Location (NWES, 1995)
- Groundwater Monitoring Well Location (Aspect, 2018)
- Boring (Aspect, 2024)
- Decommissioned Well
- Sump
- Subject Property
- King County Tax Parcel

N

0 25 50 Feet

Subject Property Plan

Phase I Environmental Site Assessment
Evergreen Treatment Services
Seattle, Washington

Aspect CONSULTING	NOV-2024	BY: ND / HMD	FIGURE NO. 2
	PROJECT NO. AS180043	REVISED BY: ---/---	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 02 Subject Property Plan (Phase I) || User: haleyduran || Print Date: 11/22/2024

SUBSURFACE INVESTIGATION REPORT

1700 Airport Way South, Seattle, WA

Prepared for: Evergreen Treatment Services

Project No. AS180043 • April 18, 2025 FINAL

Aspect
A Geosyntec Company

earth + water

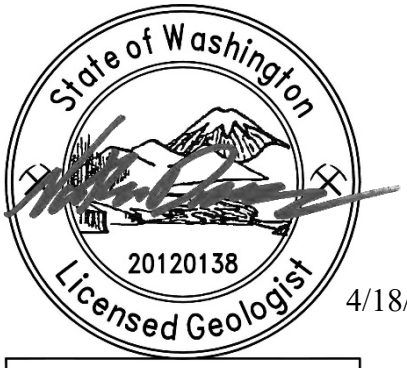
SUBSURFACE INVESTIGATION REPORT

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Prepared for: Evergreen Treatment Services

Project No. AS180043 • April 18, 2025 FINAL

Aspect Consulting, a Geosyntec Company



4/18/2025

Nathan W. Dickey

Nathan Dickey, LG
Geologist
Nathan.Dickey@aspectconsulting.com

Dave Cook, LG, CPG
Senior Principal Geologist
Dave.Cook@aspectconsulting.com

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Acronyms

Aspect	Aspect Consulting
bgs	below ground surface
CUL	Cleanup level
Ecology	Washington State Department of Ecology
ETS	Environmental Treatment Services
µg/L	micrograms per liter
MTCA	Model Toxics Control Act
NFA	No Further Action
REC	Recognized Environmental Condition
TCE	trichloroethylene
TPH	total petroleum hydrocarbons
VOC	volatile organic compound

1 Introduction

Aspect Consulting, a Geosyntec Company (Aspect), presents this Subsurface Investigation Report for the property located at 1700 Airport Way South in Seattle, Washington (King County tax parcel number 766620-2855) herein referred to as the Site.

The Site is currently owned by Evergreen Treatment Services (ETS) and developed with one building with two wings connected via an open breezeway. The southern wing includes a former warehouse that has been converted into office space and treatment rooms used by ETS until a water line break in early 2024 rendered the building largely unusable. The northern wing is a predominantly an unoccupied warehouse partially used for temporary storage of support materials for ETS' operations. The building was constructed in 1914–1915 as a factory for the Western Blower Company, manufacturer of industrial blowers for sawmills and furnaces. The Site is shown relative to surrounding physical features on Figure 1.

ETS is expecting to receive grant funding from the U.S. Department of Housing and Urban Development (HUD) to support redevelopment of the Site, including demolition of the current facility. In preparation for environmental reviews required under the National Environmental Protection Act (NEPA), Washington State Environmental Protection Act (SEPA), and other applicable regulations, the City of Seattle has requested characterization of the nature and extent of contaminants in soil and groundwater that may be encountered on the Site during redevelopment activities. The City of Seattle has also requested assessment of radon risk via testing of indoor air.

Since 2018, Aspect has provided environmental support for ETS' acquisition of the property, evaluations of soil, groundwater, and soil gas, and advice regarding regulatory closure and potential redevelopment of the property. This Subsurface Investigation Report presents the results of sampling completed between October 2024 and December 2024 in combination with the results of previous investigations completed by previous occupants of the Site and by Aspect on behalf of ETS.

2 Background

2.1 Site Description

The Site is located at 1700 Airport Way South in Township 24 North, Range 4 East, and Section 8 in Seattle, King County, Washington (Figure 1). It comprises tax parcel no. 766620-2855, covering approximately 32,516 square feet (0.75 acres), as indicated in tax assessor records. The Site is currently developed with an approximately 15,500-square-foot 2-story wood-framed building with two wings separated by a breezeway. Both wings feature a basement.

The south wing is a former warehouse which was converted for use by ETS in 1998. The wing has been largely unused since the building was severely damaged by a water line break in early 2024.

The north wing is a former warehouse that prior to ETS' use was used by Emerald Recycling, a subsidiary of Clean Harbors, as part of their used-oil recycling facility. The north wing is currently in partial use by ETS for storage of equipment and supplies. The central courtyard of the Site is used to provide addiction treatment services out of mobile medical units operated by ETS.

2.1.1 Site History

The earliest available historical records reviewed by previous environmental reports indicate the Site was first developed with residential property as early as 1893 (Aspect, 2024d). At that time, present-day Airport Way South was a wood plank road at the eastern edge of the Elliott Bay tide flats, and the dwellings were possibly built on wharf-like structures supported by timber piles.

Records indicate Western Blower constructed the facility during 1914 and1915. Historical documents indicate that in 1937, a 350-gallon fuel tank was installed to supply an oil-burning boiler in the central portion of the building. In 1942, the basement of the north wing featured a paint spray booth, metal shop, metal plating areas, and a sump. Western Blower occupied the property until the 1960s, and the Site was reportedly vacant in the 1970s.

Northwest EnviroService, Inc. (NWES) began operating a tank cleaning service north of the Site in the late 1970s and expanded operations to the Site in 1987. NWES' operations included storage and treatment of commercial hazardous waste until 1995. In 1995, NWES vacated the south wing of the Site building and began operating as Emerald Recycling in 1996. ETS began operating as a tenant of the south wing of the facility in 1997. Emerald Recycling (also known as Emerald Services[1]) vacated the north wing of the warehouse in 2020, and ETS acquired the Site from Emerald Services in 2021.

2.1.2 Physical Setting

According to the Geologic Map of Seattle, produced by the U.S. Geological Survey (USGS) and the Pacific Northwest Center for Geological Mapping Studies, the Site and

[1] Emerald Services was acquired by Clean Harbors, Inc., in 2016, but still operates on the north-adjoining property to the Site (1500 Airport Way South) as Emerald Recycling.

properties westward are underlain by tide flat deposits (Troost et al., 2005). The steep hillslope to the immediate east is underlain mainly by Quaternary continental glacial drift deposits from the Pleistocene, including pre-Fraser-age glaciation, about 70,000 to 20,000 years ago. Historical Sanborn maps reviewed for the 2021 Phase I ESA (Aspect, 2021) for the predevelopment Site vicinity indicate that the Elliott Bay tide flats were located at the Site, and Airport Way South was a plank road. The tide flats were artificially filled in the early 1900s. Today, the area west of the Site is generally flat and situated at approximate Elevation[2] 25 feet. The eastern boundary of the Site abuts a steep slope beneath current Interstate 5, separating the Site from northern Beacon Hill.

GeoEngineers, Inc. (GeoEngineers) completed a geotechnical investigation on the Site in 2023, based on multiple sources of soil data including Aspect soil boring logs from 2018 (GeoEngineers, 2023). Based on the geotechnical investigation, the Site is underlain by approximately 11 to 16 feet of undocumented imported fill. The fill overlies soft estuarine deposits ranging in thickness from 5 to 19 feet thick, thickening to the west with distance from the steep slopes east of the Site. The estuarine deposits consist of soft interbedded silt and clay, which are underlain by glacially consolidated soils consisting of very stiff to hard silt and clay. The top of these soils appears to slope to the west, increasing in depth from approximately 16 feet below ground surface (bgs; approximate Elevation 15 feet) on the eastern property boundary to approximately 30 feet bgs (approximate Elevation -5 feet) on the western property boundary. The glacially consolidated soils reportedly continue deeper than the maximum depth explored on the Site (approximately 35 feet bgs; approximate Elevation -10 feet).

2.1.3 Radon Risk

The United States Environmental Protection Agency (EPA) Radon Zone for King County is Zone 3 (EPA, 2024). The average indoor radon activity level in Zone 3 is less than 2 picoCuries per liter (pCi/L).

The Washington State Department of Health (DOH) maintains a map of radon risk based on surface geology (DOH, 2025).[3] The map ranks radon risk as “high,” “medium,” or “guarded” depending on the geology. The categories correlate with EPA’s radon risk categories of Zone 1 (high), Zone 2 (medium), and Zone 3 (guarded). EPA’s radon risk categories are estimated based on measured radon activity reported to the agency, while DOH’s radon risk mapping is based on measured radon activity reported to the Washington Tracking Network and potential sources of radon in known geologic units.

The surficial geologic unit underlying the Site is categorized as posing “guarded” radon risk, but an area of high radon risk is mapped within 50 feet of the eastern Site boundary.

2.2 Previous Environmental Reports

A total of ten previous environmental assessments and investigations have been completed on the Site:

[2] Elevations in are reported in reference to the National Vertical Datum of 1988 (NAVD88).
[3] https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/radon

1) "Northwest EnviroService Inc. Interim Status Closure Plan, Western Blower Property" (1995 Closure Plan; NWES, 1995)
2) "Northwest EnviroService Inc, Western Blower Property RCRA Closure Sampling Results" (1996 Results Report; NWES, 1996)
3) "Phase I Environmental Site Assessment" (2019 Phase I ESA; Aspect, 2019a)
4) "Phase II Environmental Site Assessment" (Phase II ESA; Aspect 2019b)
5) "Sump Cleanout and Soil Gas Sampling Memorandum" (Sump and Soil Gas Memo; Aspect, 2020).
6) "Phase I Environmental Site Assessment" (2021 Phase I ESA; Aspect, 2021)
7) "Preconstruction Environmental Actions and Next Steps" (Preconstruction Memo; Aspect, 2024a)
8) "Subsurface Investigation Work Plan" (Aspect, 2024b)
9) "Analysis of Brownfields Cleanup Alternatives – Preliminary Evaluation" (ABCA; Aspect, 2024c)
10) "Phase I Environmental Site Assessment" (2024 Phase I ESA; Aspect, 2024d)

Copies of select reports are included in Appendix A.

2.2.1 Environmental Reports by Northwest EnviroService

From 1987 to 1995, NWES operated a hazardous waste treatment and storage facility that occupied 1.3 acres between Airport Way South and Interstate 5, spanning from South Atlantic Street to the north and South Holgate Street to the south. The main treatment part of this facility occupied the property immediately north of the Site, but a part of the facility also extended onto and included the Site. Site operations were regulated by the Washington State Department of Ecology (Ecology) under the Resource Conservation and Recovery Act (RCRA).

In 1995, NWES discontinued its hazardous-waste operations and started RCRA closure of the hazardous-waste handling aspect of the facility. Since their use of the Site (known as the Western Blower Property) was limited, closure of this portion of the property was conducted separately from the remainder of the property to the north where more hazardous-waste handling (aka oil recycling) activities were focused. The following provides a summary of NWES's use of the Site, as provided in the 1995 and 1996 NWES reports, and closure activities completed in 1995. The Closure Plan included assessment of the shed-like structure on the property north-adjoining the Site, but data on the north-adjoining property is not included in this report.

Little information is available in the 1995 and 1996 NWES reports providing specifics on site use, or chemical handling or storage. NWES states in the reports that Site use included "administrative and warehouse activities," and "Sealed and containerized wastes were unloaded from trucks at the load/unload dock and transported to the north-adjacent NWES property for processing." The loading dock near the center of the Site building was used for loading and unloading hazardous waste. Containerized waste was then transferred to the north-adjacent parcel, also owned by NWES, for processing. NWES

used the Site warehouse space to store pumps, hoses, and other equipment. The north warehouse included an area for repairing pumps and a parts washer.

A figure in the report refers to the north warehouse as the "Stores Building." King County tax assessor records indicate that the southern portion of the south wing included laboratory space for organic and inorganic sample preparation, most likely for waste disposal characterization.

The 1995 Closure Plan stated the following activities were to be completed for facility closure:

- Remove waste inventory
- Decontamination of site concrete, sumps, tanks, and equipment
- Disposal of contaminated materials
- Collection of samples to certify completion of closure

The language in the 1995 Closure Plan does not provide details about specific storage tanks or sumps to be decontaminated on the Site. The 1996 Results Report provides results from the post-closure sample collection on the Site including three concrete samples, two shallow soil samples, and two groundwater samples from wells[4] MW-1 and MW-2. Sample locations are depicted on Figure 2. Samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCS), pesticides, polychlorinated biphenyls (PCBs), sulfide, total petroleum hydrocarbons (TPH), dioxins, metals, and cyanide.

In concrete samples, cadmium was detected at a concentration of 200 milligrams/kilogram (mg/kg), exceeding the Washington State Model Toxics Control Act (MTCA) cleanup level (CUL) for unrestricted land use (NWES, 1996). In soil samples, arsenic, TPH, and benzo(a)pyrene (BaP) were detected at concentrations less than the current MTCA Method A CULs (Figures 3a and 3b). In groundwater samples, manganese was detected at a concentration of 3,400 micrograms/liter (µg/L) in the sample from MW-2, which exceeded the drinking water standard at the time (2,200 µg/L), and exceeds the current drinking water standard (50 µg/L; DOH, 2023). Analytical results are included in a copy of the 1996 Results Report included in Appendix A (NWES, 1996).

In 1997, Ecology provided an opinion that No Further Action (NFA) or investigation would be required for site closure (at the Site; Ecology, 2017); however, a restrictive covenant would need to be placed on the property. The restrictive covenant has the following stipulations:

- *"The property shall be used in compliance with General Industrial 2 zoning classification per City of Seattle ordinances.*

[4] Monitoring wells were decommissioned or destroyed sometime between 1995 and 2010 (Aspect, 2024d)

- *Property groundwater shall not be used for domestic, agricultural, industrial, or any other use.*
- *Existing structures cannot be altered or modified in any manner that may result in the release or exposure to the environment of contaminated soils or concrete, without prior Ecology approval.*
- *Existing paved surface must be maintained to prevent the release or exposure to the environment of contaminated soils or concrete. Any activity that would pierce or damage the surface is prohibited, without prior Ecology approval."*

These environmental (aka restrictive) covenant requirements will need to be upheld and honored during redevelopment of the Site.

2.2.2 Previous Investigations by Aspect Consulting

The Recognized Environmental Conditions (RECs) identified in the 2019 Phase I ESA (Aspect, 2019a) for the Site include historical manufacturing operations by Western Blower Company and hazardous and nonhazardous waste handling by NWES, as well as former used-oil waste handling in the northern warehouse of the Site. These property-use activities indicated a potential for petroleum, solvents, and metals contamination to soil and/or groundwater at the Site from on-property potential sources, and a risk for vapor encroachment or intrusion to the Site structures.

2.2.2.1 Phase II ESA – Aspect, 2019

Based on the RECs identified in the 2019 Phase I ESA, Aspect completed the Phase II ESA (Aspect, 2019b) consisting of soil, groundwater, and soil gas sampling to evaluate

- the presence and nature of volatile contaminants of potential concern (COPCs) in soil gas beneath the Site,
- the potential presence of soil contamination associated with current or past sources of contamination on the Site or nearby adjacent properties, and
- the potential presence of groundwater contamination associated with current or past sources of contamination on the Site or nearby upgradient properties.

The Phase II ESA included installation of four permanent groundwater monitoring wells (AMW-1 through AMW-4; Figure 2) on and off the Site and completion of four temporary soil gas sampling points. Soil, groundwater, and soil gas samples were collected and submitted for laboratory analysis. Soil observed in the borings included fill material to maximum depths ranging from 15 to 19 feet bgs. Fill soils were underlain by a clay to sandy clay unit to the maximum depth explored, which were identified as historical tideflat deposits. Groundwater was encountered in all four monitoring wells at depths ranging from 4.5 to 5.7 feet bgs, indicating a westerly flow direction (Table 3a, Figure 5a).

A total of six soil samples were submitted for analysis based on field observations and analyzed for gasoline-, diesel-, and oil-range TPH (using methods NWTPH-Gx, and NWTPH-Dx), and metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) using EPA Method 6020B. Additionally, two samples were submitted for analysis of VOCs using EPA Method 8260D and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA Method 8270D/SIM. Soil results are

summarized in Tables 1a and 1b. Copies of laboratory reports are included in Appendix B. Contaminants of concern were either not detected at concentrations greater than laboratory reporting limits or were detected at concentrations less than the applicable MTCA Method A cleanup levels in soil except for the following:

- Arsenic and lead were detected in the soil sample collected from 12.5 feet bgs at location AMW-1 at concentrations exceeding the applicable MTCA Method A CULs (Figure 3a; Table 1a).

Four temporary subslab soil gas samples (SV-1 through SV-4; Figure 4) were collected and submitted for analysis of VOCs by EPA Method TO-15. These results are presented on Table 2 in comparison to current MTCA Method B subslab soil gas screening levels for unrestricted land use. Contaminants of concern were either not detected at concentrations greater than laboratory reporting limits or were detected at concentrations less than the MTCA Method B screening level except for the following:

- Benzene was detected in the samples from SV-3 and SV-4 at concentrations exceeding the MTCA Method B screening level.

- Trichloroethene (TCE) was detected in the samples from SV-1, SV-3, and SV-4 at concentrations exceeding the MTCA Method B screening level.

- Vinyl chloride was detected in the sample from SV-4 at a concentration exceeding the MTCA Method B screening level.

- Acrolein and 1,3-butadiene were detected in the sample from SV-3 at concentrations exceeding the applicable MTCA Method B screening levels. However, these analytes are commonly detected in samples of soil gas without a known source and are not representative of subslab soil gas conditions.[5]

Based on the concentrations of analytes detected in soil gas, Ecology guidance available at the time of the Phase II ESA report, and vapor intrusion modeling[6] using the Johnson-Ettinger Model for vapor intrusion (JEM), vinyl chloride and TCE were predicted to be potentially intruding into indoor air in the North Warehouse at concentrations exceeding the MTCA Method B CUL for indoor air. The model did not predict exceedances of contaminants in the south warehouse. Aspect recommended that the sump in the north warehouse (the suspected source of solvents) be cleaned, following which soil gas be resampled in the north wing of the building. The Phase II ESA recommendations also indicated that if "concentrations remain elevated in soil gas, mitigation measures may be necessary (such as active and/or passive venting systems) for that portion of the building

[5] Eklund (2020) explains that post-sampling reactions can occur between ketone solvents and the summa canister lining material which produce acrolein. Eklund also explains that 1,3-butadiene is commonly associated with use of heavy tools during installation of subslab soil gas sampling points and is typically not found in follow-up testing.

[6] Completed in accordance with Ecology guidance documents available at the time of the Phase II ESA report (Ecology, 2018a; 2018b; and 2018c). These documents are incorporated into Ecology's current guidance regarding vapor intrusion (Ecology, 2022).

to be occupied." These results are presented on Table 2 in comparison to current MTCA Method B subslab soil gas screening levels for unrestricted land use.

Four groundwater samples were collected from the four wells installed during the Phase II ESA and submitted for analysis of gasoline-range TPH by Northwest Method NWTPH-Gx, diesel- and oil-range TPH by Northwest Method NTWPH-Dx, VOCs by EPA Method 8260D, dissolved metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc) by EPA Method 6020B, and total cyanide by EPA Method SM 4500-CN. Groundwater analytical results are summarized in Table 3b. Copies of laboratory reports are included in Appendix B. Contaminants of concern were either not detected at concentrations greater than laboratory reporting limits or were detected at concentrations less than cleanup levels in groundwater except for the following:

- Vinyl chloride was detected in groundwater at a concentration of 2.9 µg/L in off-property well AMW-1, exceeding the MTCA Method A CUL. Dissolved arsenic concentrations greater than the MTCA Method A CUL (5 µg/L) were detected in off-property wells AMW-1 and AMW-3 at concentrations of 11 and 20.3 µg/L, respectively (Figure 6a; Table 3b).

2.2.2.2 Sump Cleanout and Soil Vapor Sampling – Aspect, 2021

In 2020, the basement sump in the north warehouse, and on-site stormwater system (five catch basins around the Site), were cleaned (Aspect, 2021). After the sump and stormwater systems were cleaned, two subslab soil gas samples were collected and analyzed for VOCs and air-phase petroleum hydrocarbons. Based on the chemical analytical soil gas results, the following contaminants were detected at concentrations greater than the MTCA Method B screening levels: benzene, TPH, TCE, and vinyl chloride. Analytical results are summarized on Table 2 and Figure 4.

2.2.2.3 Redevelopment Support – Aspect, 2024

In 2024, ETS began the process of designing and planning for building demolition and then a multi-phased redevelopment. The initial phase of redevelopment will include construction of a clinical services building on the north portion of the Site followed by future support structures to facilitate ETS' mission. In the Preconstruction Memo (Aspect, 2024a), Aspect provided a summary of the environmental conditions of the Site and next steps including development of a Subsurface Investigation Work Plan (Aspect, 2024b). In the ABCA (Aspect, 2024c), Aspect evaluated potential cleanup alternatives which could be implemented during redevelopment of the Site, ultimately recommending excavation of contaminated soil from the Site and construction of a protective cap to prevent potential contact between remnant contaminated media and Site occupants.

In the 2024 Phase I ESA (Aspect, 2024d), Aspect reviewed the RECs identified in previous Phase I ESAs and determined that most of the RECs had been addressed by actions completed in 2019 and 2020 or the existing covenant. Aspect determined the remaining REC ("Spills and releases to drains and sump from former property use by NWES/Emerald") was "partially addressed" and noted that further investigation was in progress at the time of the report. The results of that investigation are described in Section 3.

3 Subsurface Investigation (Aspect, 2024)

As reviewed in Section 2, previous investigations identified the sump in the north warehouse as a potential source of contamination identified in soil gas and groundwater on the Site. From October 2024 to December 2024, Aspect completed or oversaw the completion of a supplemental subsurface investigation to assess the potential nature and extent of contamination shallow soil and groundwater in the vicinity of the sump in the basement of the north warehouse, to assess the current status of contamination in groundwater identified by previous investigations, and to assess potential radon activity in indoor air in the basements of both wings of the Site building.

This investigation included the following tasks::

- Advancement of seven soil borings via limited-access direct-push drilling
- Completion of one of the soil borings in the basement as a permanent monitoring well
- Collection and laboratory analysis of soil samples from the soil borings
- Measurement of depth to water in groundwater monitoring wells
- Collection and laboratory analysis of groundwater samples from five monitoring wells
- Sampling of radon activity in the north warehouse basement, south offices basement and ambient radon activity.

The work is described in detail in the subsections below.

3.1 Subsurface Utility Clearance

Prior to drilling activities, Aspect submitted a public utility locate ticket and subcontracted C-N-I Locates, Ltd. (CNI) to complete a geophysical survey and private utility locate to identify unmarked buried utilities and reinforcing steel in the concrete slab foundation. Subsurface investigation locates were shifted as needed to avoid overhead and subsurface obstacles.

3.2 Soil Investigation

The seven soil borings were completed to a maximum depth of 15 feet bgs to evaluate the condition of the surficial fill layer. Borings were terminated at refusal or when the top of the native estuarine deposits was encountered. Soil boring locations were selected as follows:

- Boring AB-01 was located approximately 30 feet south and approximately 10 feet west of the sump in the basement of the North Warehouse to assess the potential extent of impacts in soil between the sump and AMW-1. The soil boring was completed to a depth of 10 feet bgs.

- Boring AB-02 was located approximately 10 feet south of the sump to assess soil conditions immediately downgradient of the sump. The soil boring was completed to a depth of 12 feet bgs.
- Boring AB-03 was located approximately 8 feet west of the sump to assess soil conditions immediately cross-gradient of the sump. The soil boring met refusal at a depth of 8 feet bgs.
- Boring AB-04 was located outside of the North Warehouse, approximately 8 feet north of the sump. This boring was completed to assess soil conditions immediately upgradient of the sump. The soil boring was completed to a depth of 15 feet bgs.
- Boring AB-05 was located approximately 15 feet south and approximately 10 feet west of the sump to assess soil conditions between AB-01 and AB-05. The soil boring was completed to a depth of 14 feet bgs.
- Boring AB-06 was located approximately 30 feet south of the sump to assess soil conditions downgradient of the sump beyond AMW-5. The soil boring met refusal at a depth of 8.5 feet bgs.
- Boring AMW-5 was located approximately 15 feet south of the sump and was completed to a depth of 12 feet bgs. The soil boring was completed as a monitoring well featuring a 10-foot slotted screen. The boring and monitoring well were completed to assess soil and groundwater impacts downgradient of the sump.

The soil borings were advanced on October 31 to November 1, 2024, using a track-mounted GeoProbe® 6610DT direct-push drilling device operated by a licensed driller from Holocene Drilling of Puyallup, Washington. Soil samples were collected in continuous 2-foot cores from each location except AB-04, where soil samples were collected in continuous 5-foot cores. An Aspect field geologist observed and logged each soil core in general accordance with the Unified Soil Classification System (USCS). Soil samples were field screened for potential evidence of contamination via visual observations, sheen tests, and headspace vapor measurements using a photoionization detector (PID) to check for the presence of volatile compounds[7]. The soil classifications, visual observations, and PID readings observed during this subsurface investigation and previous Aspect investigations are recorded on the exploration boring logs in Appendix C.

Borings were advanced to depths ranging from approximately 8 to 15 feet bgs to characterize soil in the vicinity of the sump in the basement of the North Warehouse. Discrete soil samples were collected where field screening indicated the presence of contamination, or at select intervals if no field-screening indications of contamination were observed. Soil samples were collected from the sampler using clean, stainless-steel hand tools or new disposable sampling equipment. Reusable hand tools were decontaminated with a solution of potable water and detergent (Alconox® powdered cleaner) followed by a double rinse with clean water. Disposable sampling equipment was discarded and replaced after each sample was collected.

Each discrete soil sample was collected in laboratory-prepared glassware and labeled with unique sample identification numbers, date, and time of sample collection. Sample

[7] The PID was calibrated to 100 parts per million (ppm) isobutylene standard.

containers were placed in a chilled cooler immediately following sampling and were subsequently transported to an Ecology-accredited laboratory, Friedman & Bruya, Inc., of Seattle, Washington (the laboratory), under standard chain-of-custody protocols.

During this subsurface investigation, a total of 14 soil samples were analyzed for one or more of the following analytes by the indicated method:

- TPH as gasoline-range organics (TPH-GRO) by Northwest Method NWTPH-Gx
- TPH as diesel-range organics (TPH-DRO) and motor oil-range organics (TPH-ORO) by Northwest Method NWTPH-Dx
- VOCs by (EPA) Method 8260D
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270E
- Total arsenic, cadmium, chromium, lead, and mercury by EPA Method 6020B

After drilling was completed, AB-01 through AB-06 were backfilled with bentonite in accordance with the requirements for decommissioning environmental investigation wells described in Washington Administrative Code (WAC) Chapter 173-160. The surface of each decommissioned borehole was patched with high-strength fast-setting concrete to match its surroundings.

3.3 Groundwater Investigation

Soil boring AMW-5 was completed as a groundwater monitoring well in accordance with WAC section 173-160. The well was constructed of 2-inch-diameter schedule 40 PVC with threaded connections and screened from approximately 2 to 12 feet bgs with a pre-packed 0.010-inch (10-slot) well screen. The well was completed with a traffic-grade steel monument set flush with the ground surface. Following installation, the well was developed to remove fine-grained material from inside the well casing and filter pack, and to improve hydraulic communication between the well screen and the surrounding water-bearing formation.

The construction of AMW-5 expanded the network of monitoring wells associated with the Site to a total of five wells. On November 5, 2024, groundwater samples were collected from the five wells on the Site. Prior to collecting groundwater samples, the depth to water in each well was measured from the northside of the top of the well casing to the nearest 0.01 feet. Each well was purged following standard low-flow sampling methods using a peristaltic pump and dedicated tubing. Upon stabilization of field parameters, groundwater samples were collected from each well for analysis by the laboratory.

A total of five groundwater samples and one field duplicate were analyzed for one or more of the following analytes by the indicated method:

- TPH as gasoline-range organics (TPH-GRO) by Northwest Method NWTPH-Gx
- TPH as diesel-range organics (TPH-DRO) and motor oil-range organics (TPH-ORO) by Northwest Method NWTPH-Dx
- VOCs by EPA Method 8260D

- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270E
- Total and dissolved arsenic, cadmium, chromium, lead, and mercury by EPA Method 200.8

All soil cuttings, decontamination water, and purged groundwater generated by the investigation were placed into labeled and sealed U.S. Department of Transportation (USDOT)-approved 55-gallon steel drums and temporarily stored at the Site as investigation-derived waste (IDW) pending chemical analysis and disposal at an appropriately designated waste facility.

Previously, the monitoring well network had been surveyed relative to an arbitrary elevation datum. On December 5, 2024, the expanded well network was surveyed by a licensed land surveyor from True North Land Surveying, Inc. to allow for evaluation of groundwater elevation and flow direction in relation to elevations based on NAV88. The horizontal and vertical locations of each well were surveyed in relation to a Washington State Department of Transportation survey monument. Well construction details are included on the logs included in Appendix C. Surveyed elevation data relative to the North American Vertical Datum of 1988 (NAVD88) are summarized on Table 3a. Copies of survey reports are included in Appendix B.

3.4 Radon Investigation

A radon investigation was completed during November 2024 and consisted of the placement of radon test devices in the basement of each wing of the Site building, and an ambient background sample was collected from the courtyard area of the Site. Radon testing was conducted by Nathan Dickey of Geosyntec, a Radon Measurement Professional licensed by the National Radon Proficiency Program (NRPP), license #114975-RMP.

3.4.1 Radon Test Devices

The radon test devices used during this testing were liquid scintillation (LS) radon in air test canisters provided by Spruce Environmental Technologies, Inc., an operator of two laboratories (AccuStar and Air Chek) certified by the NRPP and the National Radon Safety Board (NRSB) and accredited by the National Environmental Laboratory Accreditation Program (the laboratory). Radon test devices were provided by the laboratory on November 25, 2024.

3.4.2 Radon Test Locations and Conditions

Radon test locations are indicated on Figure 4. The radon test devices used during this testing were liquid scintillation (LS) radon in air test canisters provided by Spruce Environmental Technologies, Inc., an operator of two laboratories (AccuStar and Air Chek) certified by the NRPP and the National Radon Safety Board (NRSB) and accredited by the National Environmental Laboratory Accreditation Program (the laboratory).

Radon testing began at 8:00 AM on November 19, 2024, and concluded at 10:00 AM on November 21, 2024. Testing conditions were observed before and during the test in accordance with the American National Standards Institute (ANSI) and Indoor Environments Association (formerly the American Association of Radon Scientists and

Technologists; AARST) Protocol MA-MFLB-2023, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily, School, Commercial and Mixed-Use Buildings*, effective December 1, 2023 (AARST, 2023). The radon test devices were shipped to the laboratory under chain-of-custody protocols and analyzed for radon activity. The chain of custody for test devices is included in the laboratory reports included in Appendix B.

3.5 Results

This section summarizes the results of the subsurface investigation completed in 2024.

3.5.1 Geology and Hydrogeology

Soils observed during the 2024 investigation were consistent with past studies. Soil consisted primarily of fill soil overlying native estuarine sediments. The fill material was observed to generally be composed of reworked silty sand with gravel, with artificial debris including shards of glass, bricks, and wood. The observed estuarine sediments were composed of interbedded silty sand, sand with silt, sandy clay, and sand with gravel. Estuarine sediments included some seashell fragments and trace rootlets.

Groundwater was measured at depths ranging from 0.80 feet bgs[8] in AMW-5 to 6.55 feet bgs in AMW-4. Based on surveyed elevations of the wells, groundwater elevations ranged from Elevation 18.13 feet in AMW-1 to Elevation 19.75 feet at AMW-4. Based on calculated groundwater elevations, the hydrologic flow direction is southward, with a calculated hydraulic gradient of approximately 0.055 feet per foot.

3.5.2 Soil

The analytical results for soil samples are evaluated against the applicable MTCA Method A or Method B cleanup levels for unrestricted land use. Metals concentrations are also evaluated against naturally occurring metals background concentrations for the region (Ecology, 1994). The analytical results for soil are summarized in Tables 1a and 1b. Laboratory reports are provided in Appendix B.

Concentrations of cadmium, lead, or PAHs exceeding applicable cleanup levels were detected in soil representative of the surficial fill layer underlying the Site and were either not detected or detected at concentrations less than the applicable cleanup levels in samples presentative of estuarine deposits underlying the fill material. Other metals, including arsenic, chromium[9], and mercury, either not detected or detected at concentrations less than the applicable cleanup level. Analytical results for metals and PAHs are summarized in Table 1a.

TPH-DRO was detected in several samples but at concentrations less than the MTCA Method A cleanup level. Additionally, the laboratory indicated the detected concentration

[8] AMW-5 is located in the basement of the north warehouse, the floor of which is approximately 5 feet below Site grade.

[9] Detected concentrations of total chromium were less than the natural background concentration of chromium identified in the Puget Sound region, indicating a lack of artificial sources of chromium on the Site. Based on the lack of evidence of use of hexavalent chromium during historical use of the Site, the detected concentration of total chromium is compared to the MTCA Method A cleanup level for naturally occurring Chromium III (2,000 mg/kg).

of TPH-DRO did not match the fuel standard used for quantification, indicating the detected pattern of TPH is not representative of a recent release of diesel product. TPH results are summarized in Table 1b.

Chlorinated solvents including tetrachloroethylene (PCE) and its common degradation products[10] were detected in soil at various depths beneath the north warehouse. Specifically, PCE was detected in the soil sample from 10 feet bgs at AB-04 at a concentration less than the MTCA Method A cleanup level and was not detected in other samples. TCE was detected in multiple samples and detected at concentration exceeding the MTCA Method A cleanup level in samples from AB-01, AB-03, and AB-06. cDCE and tDCE were detected at concentrations less than the applicable MTCA Method A cleanup levels in samples from each boring location. Vinyl chloride was detected at a concentration exceeding the applicable MTCA Method A cleanup level in the sample from 12 feet bgs at AMW-5. Vinyl chloride was also detected at a concentration less than the MTCA Method A cleanup level in the sample from 9.5 feet bgs at AB-02, 7 feet bgs at AB-03, and 8.5 feet bgs at AB-06. Analytical results for VOCs including PCE, its degradation products, and other VOCs associated with TPH are summarized in Table 1b.

3.5.3 Groundwater

The analytical results for groundwater samples are evaluated against the applicable MTCA Method A or Method B cleanup levels for unrestricted land use. The analytical results for groundwater are summarized in Table 3b. Laboratory reports are provided in Appendix B.

Groundwater samples were analyzed for total metals in unfiltered samples and in laboratory-filtered samples[11]. Analysis of metals in the filtered samples represents the concentration of dissolved metals in the groundwater sample. The detected concentration of metals in the unfiltered samples are included in Table 3b for comparison purposes but are not considered representative of metals concentrations in water. Dissolved arsenic was detected at concentrations exceeding the applicable MTCA Method A cleanup level groundwater samples from AMW-1 and AMW-3.

TPH-DRO was detected in groundwater samples from AMW-2 and AMW-5 at concentrations less than the applicable MTCA Method A cleanup level. Similar to the soil results, the laboratory indicated the chromatographic pattern of the detected hydrocarbons did not match the fuel standard used for quantitation, indicating the detected pattern is not representative of a recent release of diesel product.

Vinyl chloride and cDCE were detected at concentrations exceeding the MTCA Method A cleanup level in the groundwater sample from AMW-5, which is located in the basement of the north warehouse immediately downgradient of the sump. Vinyl chloride was also detected at a concentration exceeding the cleanup level in the groundwater sample from AMW-1, which is located off-Site in the sidewalk of Airport Way South, which is owned by the City of Seattle. No other VOCs were detected at concentrations

[10] The most common degradation products of PCE are TCE, cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride

[11] The laboratory filtered an aliquot of each groundwater sample through a 500-micron filter to enable analysis of dissolved metals.

greater than the laboratory reporting limits in groundwater samples collected during the subsurface investigation.

3.5.4 Radon

Radon activity is reported in pCi/L, which is a measurement of radioactivity in air due to the decay of radon and radon decay products (EPA, 2023). EPA has set an action level of 4.0 pCi/L.

No radon activity was detected in radon tests at levels greater than the laboratory reporting limit of 0.4 pCi/L. Based on conditions observed during the test, the measurements are considered to be reliable.

4 Conclusions

Previous investigation by NWES (1996) identified metals in concrete, metals and PAHs in soil, and manganese in groundwater at concentrations which motivated the implementation of an environmental covenant on the Site. The environmental covenant restricts the modification of surface features or structures in a manner that "may result in the release or exposure to the environment of contaminated soils or concrete without prior Ecology approval." The environmental covenant also forbids the use of groundwater on the Site for any purpose.

Investigations by Aspect from 2019 through 2024 have confirmed the presence of metals and PAHs in fill soil at concentrations exceeding applicable MTCA Method A cleanup levels. Fill soils are present from ground surface to between 11 and 16 feet bgs across the Site.

Aspect's investigations have identified additional contaminants of potential concern in soil and groundwater; specifically, certain chlorinated solvents including TCE, cDCE, and vinyl chloride. Benzene has been detected in subslab soil gas at concentrations exceeding screening levels set by Ecology for unrestricted land use, but benzene has not been detected in soil or groundwater at concentrations exceeding applicable MTCA Method A cleanup levels.

Previous work overseen by Aspect included cleanout of a sump and floor drains present in the basement of the North Warehouse, but the subsurface investigation completed in 2024 indicates concentrations of chlorinated solvents are still present in soil and groundwater at concentration exceeding applicable MTCA Method A cleanup levels. Additionally, the detected concentration of vinyl chloride in AMW-1, located off-Site in the northern sidewalk of Airport Way South (along the southern boundary of the ETS' property) indicates that chlorinated solvents have migrated off-property; however, the detected concentration of vinyl chloride in 2024 (2.4 µg/L) is approximately 83% of the concentration detected in 2018 (2.9 µg/L), whereas the detected concentration of dissolved arsenic in AMW-1 in 2024 (12 µg/L) is similar to the concentration detected in AMW-1 in 2018 (11.4 µg/L). This indicates the concentration of chlorinated solvents on the Site may be naturally attenuating.

5 Recommendations

Aspect understands ETS is working towards redevelopment of the Site with a design intended to prevent exposure of Site occupants to environmental contaminants described in the current environmental covenant on the property; however, the environmental covenant does not address the presence of chlorinated solvents in soil, groundwater, and soil gas on the Site.

Based on the detected nature and extent of chlorinated solvents in soil and groundwater on the Site, Aspect recommends ETS implement cleanup of impacted soil and groundwater to the maximum extent practicable during redevelopment. Enrollment in Ecology's Expedited Voluntary Cleanup Program is recommended to facilitate effective engagement of Ecology on the accelerated timelines often required for redevelopment projects. If removal of all identified contaminated soil and groundwater is not feasible during development, engineering controls such as chemical treatment, soil gas mitigation, and/or natural attenuation or institutional controls such as an expanded environmental covenant may be viable cleanup options after redevelopment is complete.

Prior to redevelopment, Aspect recommends the development of an Environmental Construction Management Plan (ECMP) or a similar document to prepare for handling and disposal of contaminated soils during construction. The ECMP should also address construction contingencies such as managing removal of one or more potential undocumented heating oil underground storage tanks (USTs); identified in historical documents regarding the Site), removal of the sump in the basement of the North Warehouse, and handling of potential impacted or contaminated soils not found during this investigation.

Finally, if full remediation of the source of chemical vapors is not possible, then Aspect recommends inclusion of a chemical vapor barrier along the base and sidewalls in the design of the proposed subsurface parking garage to protect occupants of a future development from the intrusion of contaminated soil gas into the structure.

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Limitations

Work for this project was performed for the Evergreen Treatment Services (Client), and this report 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 report does not represent a legal opinion. No other warranty, expressed or implied, is made.

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

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

TABLES

Table 1a. Metals and PAHs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

Analyte	MTCA Method A CUL	MTCA Method B CUL	Puget Sound Background Soil Level[1]	Location Name	AB-01	AB-01	AB-02	AB-02	AB-03	AB-03	AB-04	AB-04	AB-05	AB-05	AB-06	AB-06
				Sample Date	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	11/01/2024	11/01/2024	11/01/2024	11/01/2024
				Sample Name	AB-01-01.5	AB-01-09	AB-02-03	AB-02-09.5	AB-03-01	AB-03-07	AB-04-02.5	AB-04-10	AB-05-02.5	AB-05-13	AB-06-01	AB-06-08.5
				Depth (ft bgs)	1.5 ft	9 ft	3 ft	9.5 ft	1 ft	7 ft	2.5 ft	10 ft	2.5 ft	13 ft	1 ft	8.5 ft
Metals																
Arsenic	20	0.67	7		**4.5**	**4.6**	**3**	**18**	**9.2**	**3.6**	**4.8**	**3.4**	**7.6**	**3.3**	**6.5**	**4**
Cadmium	2	80	1		**1.9**	< 1 U	**40**	**2.2**	**220**	**70**	< 1 U	< 1 U	**1.2**	< 1 U	**18**	< 1 U
Chromium	2000	0.38	48		**32**	**23**	**16**	**37**	**13**	**32**	**19**	**16**	**39**	**19**	**24**	**31**
Copper	*ne*	3200	36		--	--	--	--	--	--	--	--	--	--	--	--
Lead	250	*ne*	24		**45**	**46**	**15**	**2900**	**19**	**75**	**29**	**60**	**73**	**46**	**68**	**32**
Mercury	2	*ne*	0.07		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Nickel	*ne*	1600	48		--	--	--	--	--	--	--	--	--	--	--	--
Zinc	*ne*	24000	85		--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)																
1-Methylnaphthalene	*ne*	20	*na*		**0.11**	**0.019**	< 0.005 U	**0.085**	< 0.005 U	< 0.005 U	**0.012**	**0.011**	< 0.005 U	< 0.005 U	**0.036**	**0.17**
2-Methylnaphthalene	*ne*	320	*na*		**0.18**	**0.0088**	**0.0054**	**0.13**	**0.0058**	< 0.005 U	**0.0098**	**0.02**	< 0.005 U	**0.0083**	**0.078**	**0.21**
Acenaphthene	*ne*	4800	*na*		**0.3**	**0.18**	< 0.005 U	**0.063**	**0.011**	< 0.005 U	**0.016**	< 0.005 U	**0.025**	< 0.005 U	**0.15**	**0.014**
Acenaphthylene	*ne*	*ne*	*na*		**0.0085**	< 0.005 U	**0.0056**	**0.05**	< 0.005 U	< 0.005 U	**0.016**	< 0.005 U	**0.0051**	< 0.005 U	**0.0079**	**0.0053**
Anthracene	*ne*	24000	*na*		**0.33**	< 0.005 U	< 0.005 U	**0.086**	**0.012**	< 0.005 U	**0.03**	< 0.005 U	**0.017**	< 0.005 U	**0.14**	< 0.005 U
Benzo(g,h,i)perylene	*ne*	*ne*	*na*		**0.35**	**0.022**	**0.079**	**0.28**	**0.057**	**0.012**	**0.28**	**0.026**	**0.17**	**0.0054 J**	**0.26**	**0.015 J**
Fluoranthene	*ne*	3200	*na*		**4.3**	**0.09**	**0.058**	**0.8**	**0.11**	**0.033**	**0.63**	**0.031**	**0.33**	**0.019**	**0.97**	**0.1**
Fluorene	*ne*	3200	*na*		**0.34 J**	**0.012**	< 0.005 U	**0.11**	**0.01**	< 0.005 U	**0.012**	< 0.005 U	**0.017**	< 0.005 U	**0.17**	**0.037**
Naphthalene	5	1600	*na*		**0.78**	**0.025**	**0.0082**	**0.15**	**0.0065**	**0.0058**	**0.014**	**0.024**	**0.0051**	**0.0058**	**0.42**	**0.33**
Phenanthrene	*ne*	*ne*	*na*		**1.9 J**	**0.061**	**0.022**	**0.6**	**0.079**	**0.018**	**0.32**	**0.022**	**0.06**	**0.014**	**0.53**	**0.18**
Pyrene	*ne*	2400	*na*		**2.2**	**0.07**	**0.053**	**0.79**	**0.078**	**0.034**	**0.54**	**0.046**	**0.24**	**0.015**	**0.61**	**0.067**
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)																
Benz(a)anthracene	*ne*	*ne*	*na*		**0.88**	**0.036**	**0.05**	**0.29**	**0.053**	**0.017**	**0.22**	**0.036**	**0.13**	**0.0084**	**0.33**	**0.029**
Benzo(a)pyrene	0.1	0.19	*na*		**0.46**	**0.026**	**0.078**	**0.3**	**0.06**	**0.012**	**0.29**	**0.022**	**0.16**	**0.0074 J**	**0.33**	**0.024 J**
Benzo(b)fluoranthene	*ne*	*ne*	*na*		**0.91**	**0.03**	**0.09**	**0.44**	**0.09**	**0.022**	**0.33**	**0.031**	**0.24**	**0.01 J**	**0.49**	**0.033 J**
Benzo(k)fluoranthene	*ne*	*ne*	*na*		**0.25**	**0.01**	**0.028**	**0.12**	**0.021 J**	**0.0065**	**0.11**	**0.0089**	**0.061**	< 0.005 UJ	**0.12**	**0.011 J**
Chrysene	*ne*	*ne*	*na*		**1**	**0.059**	**0.055**	**0.36**	**0.058**	**0.021**	**0.3**	**0.036**	**0.14**	**0.012**	**0.51**	**0.057**
Dibenzo(a,h)anthracene	*ne*	*ne*	*na*		**0.091**	< 0.005 U	**0.019**	**0.062**	**0.012 J**	< 0.005 U	**0.049**	**0.006**	**0.023 J**	< 0.005 UJ	**0.062**	< 0.005 UJ
Indeno(1,2,3-cd)pyrene	*ne*	*ne*	*na*		**0.34**	**0.017**	**0.064**	**0.21**	**0.051**	**0.01**	**0.27**	**0.027**	**0.14**	< 0.005 UJ	**0.24**	**0.01 J**
Total cPAHs TEQ[2]	0.1	0.19	*na*		**0.717**	**0.0361**	**0.104**	**0.416**	**0.0833 J**	**0.018**	**0.391**	**0.0333**	**0.221 J**	**0.0101 J**	**0.459**	**0.0331 J**

Notes and Definitions:

[1] Natural background concentrations for the Puget Sound region, from Ecology (1994). See Report for details.

[2] Total carcinogenic PAHs (cPAHs) calculated using toxicity equivalency factors (TEQs) in accordance with Ecology's Implementation Memorandum #10 (2015).

ft bgs	feet below ground surface
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Red Bold	Detected concentration exceeds the Puget Sound Natural Background concentration.
Blue Shaded	Detected concentration exceeds the MTCA Method A Cleanup Level or the MTCA Method B Cleanup Level if Method A is not established.

Table 1a. Metals and PAHs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

Analyte	MTCA Method A CUL	MTCA Method B CUL	Puget Sound Background Soil Level[1]	AMW-1 12/09/2018 AMW-1-12.5 12.5 ft	AMW-2 12/09/2018 AMW-2-2.5 2.5 ft	AMW-2 12/09/2018 AMW-2-5.5 5.5 ft	AMW-3 12/09/2018 AMW-3-5.0 5 ft	AMW-4 12/09/2018 AMW-4-2.5 2.5 ft	AMW-4 12/10/2018 AMW-4-8.0 8 ft	AMW-5 10/31/2024 AMW-5-01 1 ft	AMW-5 11/01/2024 AMW-5-12 12 ft
Metals											
Arsenic	20	0.67	7	**27.8**	**6.93**	--	**5.39**	**5.59**	< 1 U	**5.9**	**16**
Cadmium	2	80	1	**2**	< 1 U	--	< 1 U	< 1 U	< 1 U	**53**	**1.2**
Chromium	2000	0.38	48	**22.2**	**42.6**	--	**34.1**	**18.2**	**23.4**	**39**	**12**
Copper	*ne*	3200	36	**404**	**28.7**	--	**29.8**	**22**	**11.4**	--	--
Lead	250	*ne*	24	**4720**	**35.3**	--	**5.21**	**32.1**	**7.35**	**160**	**1700**
Mercury	2	*ne*	0.07	< 1 UJ	< 1 U	--	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Nickel	*ne*	1600	48	**19.6**	**44**	--	**49.7**	**21.5**	**35.7**	--	--
Zinc	*ne*	24000	85	**911**	**66.8**	--	**48.8**	**71.2**	**25.7**	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)											
1-Methylnaphthalene	*ne*	20	*na*	--	--	--	--	--	--	**0.013**	**0.0072**
2-Methylnaphthalene	*ne*	320	*na*	--	--	--	--	--	--	**0.022**	**0.0077**
Acenaphthene	*ne*	4800	*na*	--	--	--	--	--	--	**0.085**	< 0.005 U
Acenaphthylene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.02**	< 0.005 U
Anthracene	*ne*	24000	*na*	--	--	--	--	--	--	**0.11**	< 0.005 U
Benzo(g,h,i)perylene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.58**	**0.0074**
Fluoranthene	*ne*	3200	*na*	--	--	--	--	--	--	**1**	**0.022**
Fluorene	*ne*	3200	*na*	--	--	--	--	--	--	**0.11**	< 0.005 U
Naphthalene	5	1600	*na*	< 0.05 U	--	--	--	--	< 0.05 U	**0.034**	**0.017**
Phenanthrene	*ne*	*ne*	*na*	--	--	--	--	--	--	**0.56**	**0.02**
Pyrene	*ne*	2400	*na*	--	--	--	--	--	--	**0.79**	**0.019**
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)											
Benz(a)anthracene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.013**	--	**0.36**	**0.011**
Benzo(a)pyrene	0.1	0.19	*na*	--	--	--	< 0.01 U	**0.02**	--	**0.59**	**0.01**
Benzo(b)fluoranthene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.028**	--	**0.78**	**0.012**
Benzo(k)fluoranthene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	< 0.01 U	--	**0.28**	< 0.005 U
Chrysene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.017**	--	**0.47**	**0.011**
Dibenzo(a,h)anthracene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	< 0.01 U	--	**0.1**	< 0.005 U
Indeno(1,2,3-cd)pyrene	*ne*	*ne*	*na*	--	--	--	< 0.01 U	**0.018**	--	**0.49**	**0.0051**
Total cPAHs TEQ[2]	0.1	0.19	*na*	--	--	--	< 0.00755 U	**0.02707**	--	**0.796**	**0.0134**

Notes and Definitions:

[1] Natural background concentrations for the Puget Sound region, from Ecology (199

[2] Total carcinogenic PAHs (cPAHs) calculated using toxicity equivalency factors (TE

ft bgs	feet below ground surface
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than th
J	The reported conceentration is an estimate. See laboratory
UJ	Analyte was not detected at a concentration greater than th
Bold	Analyte detected at a concetration greater than the laborat
Red Bold	Detected concentration exceeds the Puget Sound Natural E
Blue Shaded	Detected concentration exceeds the MTCA Method A Clear

Table 1b. TPH and VOCs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

Analyte	MTCA Method A CUL	MTCA Method B CUL	Location Name	AB-01	AB-01	AB-02	AB-02	AB-03	AB-03	AB-04	AB-04	AB-05	AB-05	AB-06	AB-06
			Sample Date	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	11/01/2024	11/01/2024	11/01/2024	11/01/2024
			Sample Name	AB-01-01.5	AB-01-09	AB-02-03	AB-02-09.5	AB-03-01	AB-03-07	AB-04-02.5	AB-04-10	AB-05-02.5	AB-05-13	AB-06-01	AB-06-08.5
			Depth (ft bgs)	1.5 ft	9 ft	3 ft	9.5 ft	1 ft	7 ft	2.5 ft	10 ft	2.5 ft	13 ft	1 ft	8.5 ft
Petroleum Hydrocarbons (TPH)															
Gasoline Range Organics (GRO)	30	*ne*		< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	**8.3**	< 5 U
Diesel Range Organics (DRO)	2000	*ne*		**170 X**	**83 X**	< 50 U	**100 X**	< 50 U	< 50 U	< 50 U	**210 X**	**75 X**	< 50 U	**71 X**	**310 X**
Motor Oil Range Organics (ORO)				< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	**360**	< 250 U	< 250 U	< 250 U	**530**
DRO and ORO				**170 X**	**83 X**	< 250 U	**100 X**	< 250 U	< 250 U	< 250 U	**570 X**	**75 X**	< 250 U	**71 X**	**840 X**
Benzene, Toluene, Ethylbenzene, and Xylenes															
Benzene	0.03	18		< 0.002 U	< 0.002 U	**0.0025**	**0.018**	< 0.002 U	**0.0079**	< 0.002 U	< 0.002 U	**0.0032**	**0.0036**	**0.0024**	< 0.002 U
Toluene	7	6400		**0.0054**	**0.0043**	**0.0055**	**0.018**	**0.041**	**0.061**	< 0.002 U	**0.012**	**0.0029**	**0.0075**	**0.0085**	**0.009**
Ethylbenzene	6	8000		**0.0034**	< 0.002 U	< 0.002 U	**0.0057**	< 0.002 U	**0.015**	< 0.002 U	**0.0026**	< 0.002 U	**0.0029**	**0.0036**	**0.012**
o-Xylene	*ne*	16000		**0.0029**	< 0.002 U	< 0.002 U	**0.0065**	< 0.002 U	**0.0038**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0028**	**0.0024**
m,p-Xylenes	*ne*	16000		**0.0064**	**0.006**	< 0.004 U	**0.009**	< 0.004 U	**0.016**	< 0.004 U	**0.007**	< 0.004 U	< 0.004 U	**0.009**	< 0.004 U
Total Xylenes	9	16000		**0.0093**	**0.006**	< 0.004 U	**0.0155**	< 0.004 U	**0.0198**	< 0.004 U	**0.007**	< 0.004 U	< 0.004 U	**0.0118**	**0.0024**
PCE and Degredation Products															
Tetrachloroethene (PCE)	0.05	480		< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0036**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Trichloroethene (TCE)	0.03	12		**0.013**	**0.064**	**0.012**	< 0.002 U	**0.058**	**0.16**	< 0.002 U	**0.019**	**0.0037**	< 0.002 U	**0.11**	**0.003**
cis-1,2-Dichloroethene (cDCE)	*ne*	160		**0.0051**	**0.016**	**0.0051**	**0.31**	**0.035**	**0.14**	< 0.002 U	**0.01**	**0.011**	< 0.002 U	**0.018**	**0.038**
trans-1,2-Dichloroethene (tDCE)	*ne*	1600		< 0.002 U	**0.0023**	< 0.002 U	< 0.002 U	< 0.002 U	**0.13**	< 0.002 U	**0.0028**	**0.0036**	< 0.002 U	**0.0068**	< 0.002 U
Vinyl Chloride (VC)	*ne*	0.67		< 0.002 U	< 0.002 U	< 0.002 U	**0.51**	< 0.002 U	**0.017**	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	**0.0026**
Other Volatile Organic Compounds (VOCs)															
1,1,1,2-Tetrachloroethane	*ne*	38		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	2	160000		< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1,2,2-Tetrachloroethane	*ne*	5		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	*ne*	18		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	*ne*	180		< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1-Dichloroethene	*ne*	4000		< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
1,1-Dichloropropene	*ne*	*ne*		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	*ne*	64		< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	*ne*	0.0063		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	*ne*	34		< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	*ne*	800		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	*ne*	0.23		< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	0.005	0.5		< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U
1,2-Dichlorobenzene	*ne*	7200		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	*ne*	11		< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
1,2-Dichloropropane	*ne*	27		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	*ne*	800		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	*ne*	*ne*		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	*ne*	1600		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	*ne*	190		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	*ne*	*ne*		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	*ne*	48000		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Chlorotoluene	*ne*	1600		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
2-Hexanone	*ne*	400		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-Chlorotoluene	*ne*	1600		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	*ne*	6400		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

Table 1b. TPH and VOCs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

		Location Name	AB-01		AB-02		AB-03		AB-04		AB-05		AB-06	
		Sample Date	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	10/31/2024	11/01/2024	11/01/2024	11/01/2024	11/01/2024
		Sample Name	AB-01-01.5	AB-01-09	AB-02-03	AB-02-09.5	AB-03-01	AB-03-07	AB-04-02.5	AB-04-10	AB-05-02.5	AB-05-13	AB-06-01	AB-06-08.5
		Depth (ft bgs)	1.5 ft	9 ft	3 ft	9.5 ft	1 ft	7 ft	2.5 ft	10 ft	2.5 ft	13 ft	1 ft	8.5 ft
Analyte	MTCA Method A CUL	MTCA Method B CUL												
Other VOCs														
Acetone	*ne*	72000	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ
Bromobenzene	*ne*	640	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromodichloromethane	*ne*	16	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	*ne*	130	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	*ne*	110	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	*ne*	14	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	*ne*	1600	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	*ne*	*ne*	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Chloroform	*ne*	32	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	*ne*	*ne*	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	*ne*	12	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	*ne*	800	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	*ne*	16000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U
Isopropylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Methyl tert-butyl ether (MTBE)	0.1	560	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U
Methylene Chloride	0.02	94	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ	< 0.4 UJ
n-Hexane	*ne*	4800	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	*ne*		< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	*ne*	16000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	*ne*	8000	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U	< 0.05 U
Trichlorofluoromethane	*ne*	24000	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U	< 0.5 U

Table 1b. TPH and VOCs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

		Location Name	AMW-1	AMW-2		AMW-3	AMW-4		AMW-5	
		Sample Date	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/10/2018	10/31/2024	11/01/2024
		Sample Name	AMW-1-12.5	AMW-2-2.5	AMW-2-5.5	AMW-3-5.0	AMW-4-2.5	AMW-4-8.0	AMW-5-01	AMW-5-12
		Depth (ft bgs)	12.5 ft	2.5 ft	5.5 ft	5 ft	2.5 ft	8 ft	1 ft	12 ft
Analyte	MTCA Method A CUL	MTCA Method B CUL								
Petroleum Hydrocarbons (TPH)										
Gasoline Range Organics (GRO)	30	*ne*	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Diesel Range Organics (DRO)	2000	*ne*	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	**110 X**	< 50 U
Motor Oil Range Organics (ORO)			< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
DRO and ORO			--	--	--	--	--	--	**110 X**	< 250 U
Benzene, Toluene, Ethylbenzene, and Xylenes										
Benzene	0.03	18	< 0.03 U	--	--	--	--	< 0.03 U	**0.0047**	**0.03**
Toluene	7	6400	< 0.05 U	--	--	--	--	< 0.05 U	**0.008**	**0.026**
Ethylbenzene	6	8000	< 0.05 U	--	--	--	--	< 0.05 U	**0.0066**	**0.0072**
o-Xylene	*ne*	16000	< 0.05 U	--	--	--	--	< 0.05 U	**0.005**	**0.0052**
m,p-Xylenes	*ne*	16000	< 0.1 U	--	--	--	--	< 0.1 U	**0.0097**	**0.0064**
Total Xylenes	9	16000	< 0.1 U	--	--	--	--	< 0.1 U	**0.0147**	**0.0116**
PCE and Degredation Products										
Tetrachloroethene (PCE)	0.05	480	< 0.025 U	--	--	--	--	< 0.025 U	< 0.002 U	< 0.002 U
Trichloroethene (TCE)	0.03	12	< 0.02 U	--	--	--	--	< 0.02 U	**0.03**	< 0.002 U
cis-1,2-Dichloroethene (cDCE)	*ne*	160	< 0.05 U	--	--	--	--	< 0.05 U	**0.0024**	**0.95**
trans-1,2-Dichloroethene (tDCE)	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	**0.002**
Vinyl Chloride (VC)	*ne*	0.67	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	**1.7**
Other Volatile Organic Compounds (VOCs)										
1,1,1,2-Tetrachloroethane	*ne*	38	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1,1-Trichloroethane	2	160000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1,2,2-Tetrachloroethane	*ne*	5	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1,2-Trichloroethane	*ne*	18	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,1-Dichloroethane	*ne*	180	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1-Dichloroethene	*ne*	4000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
1,1-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2,3-Trichlorobenzene	*ne*	64	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichloropropane	*ne*	0.0063	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2,4-Trichlorobenzene	*ne*	34	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
1,2,4-Trimethylbenzene	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dibromo-3-chloropropane	*ne*	0.23	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
1,2-Dibromoethane (EDB)	0.005	0.5	< 0.05 U	--	--	--	--	< 0.05 U	< 0.005 U	< 0.005 U
1,2-Dichlorobenzene	*ne*	7200	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,2-Dichloroethane (EDC)	*ne*	11	< 0.05 U	--	--	--	--	< 0.05 U	< 0.003 U	< 0.003 U
1,2-Dichloropropane	*ne*	27	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3,5-Trimethylbenzene	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichlorobenzene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,3-Dichloropropane	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
1,4-Dichlorobenzene	*ne*	190	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
2,2-Dichloropropane	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
2-Butanone	*ne*	48000	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U
2-Chlorotoluene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
2-Hexanone	*ne*	400	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U
4-Chlorotoluene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
4-Methyl-2-pentanone	*ne*	6400	< 0.5 U	--	--	--	--	< 0.5 U	< 1 U	< 1 U

Table 1b. TPH and VOCs in Soil

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

		Location Name	AMW-1	AMW-2		AMW-3	AMW-4		AMW-5	
		Sample Date	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/09/2018	12/10/2018	10/31/2024	11/01/2024
		Sample Name	AMW-1-12.5	AMW-2-2.5	AMW-2-5.5	AMW-3-5.0	AMW-4-2.5	AMW-4-8.0	AMW-5-01	AMW-5-12
		Depth (ft bgs)	12.5 ft	2.5 ft	5.5 ft	5 ft	2.5 ft	8 ft	1 ft	12 ft
Analyte	MTCA Method A CUL	MTCA Method B CUL								
Other VOCs										
Acetone	*ne*	72000	< 0.5 U	--	--	--	--	< 0.5 U	< 5 UJ	< 5 UJ
Bromobenzene	*ne*	640	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromodichloromethane	*ne*	16	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromoform	*ne*	130	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Bromomethane	*ne*	110	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
Carbon Tetrachloride	*ne*	14	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chlorobenzene	*ne*	1600	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chloroethane	*ne*	*ne*	< 0.5 U	--	--	--	--	< 0.5 U	< 0.1 U	< 0.1 U
Chloroform	*ne*	32	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Chloromethane	*ne*	*ne*	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
cis-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dibromochloromethane	*ne*	12	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dibromomethane	*ne*	800	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Dichlorodifluoromethane	*ne*	16000	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U
Isopropylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Methyl tert-butyl ether (MTBE)	0.1	560	< 0.05 U	--	--	--	--	< 0.05 U	< 0.002 U	< 0.002 U
Methylene Chloride	0.02	94	< 0.5 U	--	--	--	--	< 0.5 U	< 0.4 UJ	< 0.4 UJ
n-Hexane	*ne*	4800	< 0.25 U	--	--	--	--	< 0.25 U	< 0.25 U	< 0.25 U
n-Propylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
p-Isopropyltoluene	*ne*		< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
sec-Butylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Styrene	*ne*	16000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
tert-Butylbenzene	*ne*	8000	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
trans-1,3-Dichloropropene	*ne*	*ne*	< 0.05 U	--	--	--	--	< 0.05 U	< 0.05 U	< 0.05 U
Trichlorofluoromethane	*ne*	24000	< 0.5 U	--	--	--	--	< 0.5 U	< 0.5 U	< 0.5 U

Notes and Definitions:

ft bgs	feet below ground surface
MTCA	Model Toxics Control Act
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
X	The laboratory indicated the chromatographic pattern of detected TPH does not match the fuel standard used for quantitation.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Red Bold	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method B Cleanup Level but not the MTCA Method B Cleanup Level.
Blue Shaded	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method A Cleanup Level, or the MTCA Method B Cleanup Level if Method A is n

Table 2. Soil Gas Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

	Location Name	SV-1	SV-2	SV-3		SV-4	SV-5
	Sample Date	12/10/2018	12/10/2018	12/10/2018	09/10/2020	12/10/2018	09/17/2020
	Sample Name	SV-1-181210	SV-2-181210	SV-3-181210	SV-3-091020	SV-4-181210	SV-5-091720
Leak Testing Results (% Helium):		< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U
Analyte	MTCA Method B Subslab Soil Gas Screening Levels - Unrestricted Use*	Results in micrograms per cubic meter (ug/m^3)					
Air-Phase Hydrocarbons (APH)							
C5 - C8 Aliphatic Hydrocarbons	*ne*	--	--	--	**3100**	--	**29000 E**
C9 - C12 Aliphatic Hydrocarbons		--	--	--	**860**	--	**22000**
C9 - C10 Aromatic Hydrocarbons		--	--	--	< 420 U	--	< 1000 U
Total APH**	1500	--	--	--	**4,389**	--	**52,135 E**
Polcyclic Aromatic Hydrocarbons							
Naphthalene	2.5	< 0.73 U	< 0.79 U	< 0.79 U	< 4.5 U	**1.2**	< 11 U
Benzene, Toluene, Ethylbenzene, and Xylenes							
Benzene	11	**3.8**	**4.1**	**19**	**29**	**150**	**170**
Toluene	76000	**25**	**25**	**39**	< 320 U	**260**	< 790 U
Ethylbenzene	15000	**5.6**	**5**	**6.7**	< 7.4 U	**11**	< 18 U
m,p-Xylenes	1500	**20**	**18**	**20**	**20**	**24**	< 36 U
o-Xylene		**7**	**6.2**	**7.1**	< 7.4 U	**18**	**37**
Total Xylenes		**27**	**24.2**	**27.1**	**20**	**42**	**37**
PCE and Degredation Products							
Tetrachloroethene (PCE)	320	< 9.5 U	< 10 U	< 10 U	< 120 U	< 10 U	< 280 U
Trichloroethene (TCE)	11	**26**	< 0.4 U	**14**	**40**	**43**	**61**
cis-1,2-Dichloroethene (cDCE)	610	< 0.56 U	< 0.59 U	**2.9**	**35**	**220**	**70**
trans-1,2-Dichloroethene (tDCE)	610	< 0.56 U	< 0.59 U	< 0.59 U	< 6.7 U	**43**	**110**
Vinyl Chloride (VC)	9.5	< 0.36 U	< 0.38 U	< 0.38 U	< 4.3 U	**320 E**	**280**
Volatile Organic Compounds							
1,1,1-Trichloroethane	76000	< 0.76 U	< 0.82 U	< 0.82 U	< 9.3 U	< 0.82 U	< 23 U
1,1,2,2-Tetrachloroethane	1.4	< 0.19 U	< 0.21 U	< 0.21 U	< 2.3 U	< 0.21 U	< 5.8 U
1,1,2-Trichloroethane	3	< 0.15 U	< 0.16 U	< 0.16 U	< 1.9 U	< 0.16 U	< 2.3 U
1,1,2-Trichlorotrifluoroethane	76000	< 1.1 U	< 1.1 U	**2.1**	< 13 U	< 1.1 U	< 32 U
1,1-Dichloroethane	52	< 0.57 U	< 0.61 U	**1.7**	< 6.9 U	**0.91**	< 17 U
1,1-Dichloroethene	3000	< 0.56 U	< 0.59 U	**0.62**	< 6.7 U	**5.1**	< 17 U
1,2,4-Trichlorobenzene	30	< 1 U	< 1.1 U	< 1.1 U	< 13 U	< 1.1 U	< 31 U
1,2,4-Trimethylbenzene	910	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.8**	< 100 U
1,2-Dibromoethane (EDB)	0.14	< 0.11 U	< 0.12 U	< 0.12 U	< 1.3 U	< 0.12 U	< 3.2 U
1,2-Dichlorobenzene	3000	< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,2-Dichloroethane (EDC)	3.2	< 0.057 U	< 0.061 U	< 0.061 U	< 0.69 U	< 0.061 U	< 1.7 U
1,2-Dichloropropane	23	**0.9**	**0.85**	**0.58**	< 3.9 U	**0.57**	< 9.7 U
1,3,5-Trimethylbenzene	910	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**5.6**	< 100 U
1,3-Dichlorobenzene	*ne*	< 0.84 U	< 0.9 U	< 0.9 U	< 10 U	< 0.9 U	< 25 U
1,4-Dichlorobenzene	7.6	< 0.34 U	< 0.36 U	< 0.36 U	< 3.9 U	< 0.36 U	< 9.7 U
1-Propene	*ne*	< 1 U	< 1 U	**52**	**180**	**1700 E**	**2100 E**
2-Butanone	76000	**17**	**13**	**30**	< 50 U	**24**	< 120 U
2-Chlorotoluene	*ne*	< 7.2 U	< 7.8 U	< 7.8 U	< 88 U	< 7.8 U	< 220 U
2-Hexanone	460	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
4-Methyl-2-pentanone	46000	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Acetone	*ne*	**130**	**160**	**430 E**	**640**	**780 E**	< 600 U
Acrolein	0.3	< 1.3 U	< 1.4 U	**3.8**	< 35 U	< 1.4 U	< 87 U
Allyl Chloride	14	< 1.8 U	< 1.9 U	< 1.9 U	< 27 U	< 1.9 U	< 66 U
Bromodichloromethane	2.3	< 0.094 U	< 0.1 U	< 0.1 U	< 1.1 U	< 0.1 U	< 2.8 U
Bromoform	76	< 2.9 U	< 3.1 U	< 3.1 U	< 35 U	< 3.1 U	< 87 U
Bromomethane	76	< 2.2 U	< 2.3 U	< 2.3 U	< 40 U	< 2.3 U	< 98 U
Butane	*ne*	**15**	**19**	**44**	**400**	**2000 E**	**2000**
Carbon Disulfide	11000	< 8.7 U	< 9.3 U	< 9.3 U	< 110 U	< 9.3 U	< 260 U
Carbon Tetrachloride	14	< 0.88 U	< 0.94 U	< 0.94 U	< 5.3 U	< 0.94 U	< 13 U
Chlorobenzene	760	< 0.64 U	< 0.69 U	< 0.69 U	< 7.8 U	< 0.69 U	< 19 U
Chloroethane	150000	< 3.7 U	< 4 U	< 4 U	< 45 U	**7.9**	< 110 U
Chloroform	3.6	**0.46**	**0.61**	**0.7**	**1.7**	< 0.074 U	< 2.1 U
Chloromethane	1400	< 2.9 U	< 3.1 U	< 3.1 U	< 63 U	< 3.1 U	< 160 U
cis-1,3-Dichloropropene	*ne*	< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Cyclohexane	91000	< 9.6 U	< 10 U	**12**	< 120 U	**150**	< 290 U
Dibromochloromethane	*ne*	< 0.12 U	< 0.13 U	< 0.13 U	< 1.4 U	< 0.13 U	< 3.6 U
Dichlorodifluoromethane	1500	**2.9**	**2.9**	**2.9**	< 8.4 U	< 0.74 U	< 21 U
Ethanol	*ne*	**280 E**	**140**	**450 E**	**570**	**250 E**	< 320 U
Ethyl acetate	1100	< 10 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Isopropyl Alcohol	*ne*	**66**	**64**	**70**	< 150 U	**79**	< 360 U
Isopropylbenzene	6100	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	**8.8**	< 100 U
Methyl Methacrylate	11000	< 5.7 U	< 6.1 U	< 6.1 U	< 70 U	< 6.1 U	< 170 U
Methyl tert-butyl ether (MTBE)	320	< 2.5 U	< 2.7 U	< 2.7 U	< 31 U	< 2.7 U	< 76 U
Methylene Chloride	2200	< 120 U	< 130 U	< 130 U	< 590 UJ	< 130 U	< 1500 UJ
n-Hexane	11000	**13**	**18**	**29**	**79**	**290 E**	**360**
Nonane	*ne*	< 7.3 U	< 7.9 U	< 7.9 U	< 89 U	**52 J**	< 220 U
n-Propylbenzene	15000	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
Pentane	*ne*	**12**	**16**	**32**	**190**	**850 E**	**870**
Styrene	15000	< 1.2 U	< 1.3 U	**1.5**	< 14 U	< 1.3 U	< 36 U
t-Butyl alcohol (TBA)	*ne*	< 17 U	< 18 U	< 18 U	< 210 U	< 18 U	< 510 U
Tetrahydrofuran	30000	**21 J**	**21 J**	**16 J**	**28**	**16 J**	**18**
trans-1,3-Dichloropropene	*ne*	< 0.64 U	< 0.68 U	< 0.68 U	< 7.7 U	< 0.68 U	< 19 U
Trichlorofluoromethane	11000	< 3.1 U	< 3.4 U	< 3.4 U	< 38 U	< 3.4 U	< 94 U
Vinyl Acetate	3000	< 9.9 U	< 11 U	< 11 U	< 120 U	< 11 U	< 300 U
Vinyl Bromide	5.6	< 0.61 U	< 0.66 U	< 0.66 U	< 7.4 U	< 0.66 U	< 18 U
1,3-Butadiene	2.8	< 0.03 U	< 0.03 U	**12**	< 0.75 U	< 0.03 U	< 1.9 U

Table 2. Soil Gas Results

Project No. 180043, Evergreen Treatment Services, Seattle, Washington

Location Name		**SV-1**	**SV-2**	**SV-3**		**SV-4**	**SV-5**
Sample Date		**12/10/2018**	**12/10/2018**	**12/10/2018**	**09/10/2020**	**12/10/2018**	**09/17/2020**
Sample Name		**SV-1-181210**	**SV-2-181210**	**SV-3-181210**	**SV-3-091020**	**SV-4-181210**	**SV-5-091720**
Leak Testing Results (% Helium):		< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U	< 0.6 U
Analyte	MTCA Method B Subslab Soil Gas Screening Levels - Unrestricted Use*	Results in micrograms per cubic meter (ug/m^3)					
Volatile Organic Compounds (Continued)							
2,2,4-Trimethylpentane	*ne*	< 6.5 U	< 7 U	< 7 U	< 79 U	**380 E**	**460**
4-Ethyltoluene	*ne*	< 3.4 U	< 3.7 U	< 3.7 U	< 42 U	< 3.7 U	< 100 U
alpha-Chlorotoluene	1.7	< 0.072 U	< 0.078 U	< 0.078 U	< 0.88 U	< 0.078 U	< 2.2 U
Freon 114	*ne*	< 0.98 U	< 1 U	< 1 U	< 12 U	< 1 U	< 29 U
Heptane	6100	**11**	**17**	**32**	< 70 U	**140**	< 170 U

Notes and Definitions:

* Minimum of carcinogenic and noncarcinogenic soil gas Model Toxics Control Act (MTCA) Method B Screening Levels for subslab soil gas.

** Total APH calculated with nondetect concentrations as 1/2 of indicated reporting limit.

MTCA	Model Toxics Control Act
ne	Screening level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
E	Detected concentration exceeded the laboratory instrument calibration range. Reported value is an estimate.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Blue Shaded	Detected concentration exceeds the MTCA Method B screening level.

Table 3a. Groundwater Measurements

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

		AMW-1	AMW-2	AMW-3	AMW-4	AMW-5
Well Construction Data						
Date Constructed		12/10/2018	12/10/2018	12/10/2018	12/10/2018	11/1/2025
Ecology Tag ID		BKF 905	BKF 906	BKF 907	BKF 908	BPK 160
Constructed Well Depth (ft bgs)		15	14	15	14	12
Constructed Top of Screen Depth (ft bgs		5	4	5	4	2
Top of Monument Elevation (ft NAVD88)		24.137	23.813	23.226	25.642	19.890
TOC Elevation (ft NAVD88)		23.800	23.398	22.836	25.267	19.593
Top of Screen Elevation (ft NAVD88)		19.137	19.813	18.226	21.642	17.89
Bottom of Well Elevation (ft NAVD88)		9.137	9.813	8.226	11.642	7.89
Measured Groundwater Elevations						
12/17/2018	Depth to Water (ft bTOC)	5.56	4.88	4.50	5.73	*Not Present*
	Elevation (ft NAVD88)	18.24	18.52	18.34	19.54	
11/5/2025	Depth to Water (ft bTOC)	5.67	4.90	4.55	5.55	0.80
	Elevation (ft NAVD88)	18.13	18.50	18.29	19.72	18.79

Notes:

ft = feet

NAVD88 = North American Vertical Datum of 1988

bgs = below ground surface

bTOC = below top of well casing, measured from the north edge.

Elevations provided by True North Land Surveying, Inc., dated December 11, 2024, collected using a Leica LS10.

Survey based on Washington State Department of Transportation Monument # GP17005-231

Table 3b. Groundwater Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

				Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
				Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL		Results in micrograms per liter (ug/L)								
Metals													
Arsenic	D	5	0.058		**11.4**	**12**	**4.33**	**2.4**	**20.3**	**14**	< 1 U	< 1 U	**4.3**
	T				--	**12**	--	**9.5**	--	**18**	--	**1.1**	**4.8**
Cadmium	D	5	8		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	< 1 U
Chromium	D	50	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	**1.6**
Copper	D	*ne*	640		< 5 U	--	< 5 U	--	< 5 U	--	< 5 U	--	--
Lead	D	15	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	**1.9**	--	**7.4**	--	< 1 U	--	< 1 U	**26**
Manganese	D	*ne*	750		**575**	--	**302**	--	**680**	--	**485**	--	--
Mercury	D	2	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
	T				--	< 1 U	--	< 1 U	--	< 1 U	--	< 1 U	< 1 U
Nickel	D	*ne*	320		**1.31**	--	**3.8**	--	**2.22**	--	**2.24**	--	--
Zinc	D	*ne*	4800		< 5 U	--	< 5 U	--	< 5 U	--	< 5 U	--	--
Conventionals													
Cyanide (total)	T	*ne*	0.005		< 0.05 U	--	< 0.05 U	--	< 0.05 U	--	< 0.05 U	--	--
Petroleum Hydrocarbons (TPH)													
Gasoline Range Organics (GRO)	T	1000	*ne*		< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U	< 100 U
Diesel Range Organics (DRO)	T	500	*ne*		< 50 U	< 50 U	**73 X**	**57 X**	< 50 U	< 50 U	< 50 U	< 50 U	**95 X**
Motor Oil Range Organics (ORO)	T				< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U
DRO and ORO	T				< 250 U	< 250 U	**73 X**	**57 X**	< 250 U	< 250 U	< 250 U	< 250 U	**95 X**
Benzene, Toluene, Ethylbenzene, and Xylenes													
Benzene	T	5	0.8		< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
Toluene	T	1000	640		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	T	700	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Xylenes	T	1000	1600		< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 2 U	< 2 U
PCE and Degredation Products													
Tetrachloroethene (PCE)	T	5	21		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene (TCE)	T	5	0.54		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
cis-1,2-Dichloroethene (cDCE)	T	*ne*	16		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	**22**
trans-1,2-Dichloroethene (tDCE)	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl Chloride (VC)	T	0.2	0.029		**2.9**	**2.4**	< 0.2 U	< 0.02 U	< 0.2 U	< 0.02 U	< 0.2 U	< 0.02 U	**23**
Other Volatile Organic Compounds (VOCs)													
1,1,1,2-Tetrachloroethane	T	*ne*	1.7		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	T	200	16000		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2,2-Tetrachloroethane	T	*ne*	0.22		< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U
1,1,2-Trichloroethane	T	*ne*	0.77		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
1,1-Dichloroethane	T	*ne*	7.7		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	T	*ne*	400		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloropropene	T	*ne*			< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichlorobenzene	T	*ne*	6.4		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichloropropane	T	*ne*	0.00038		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-Trichlorobenzene	T	*ne*	1.5		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,4-Trimethylbenzene	T	*ne*	80		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

Table 3b. Groundwater Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

				Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
				Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL		Results in micrograms per liter (ug/L)								
Other VOCs (continued)													
1,2-Dibromo-3-chloropropane	T	*ne*	0.014		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
1,2-Dibromoethane (EDB)	T	0.01	0.022		< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 1 U	< 0.01 U	< 0.01 U
1,2-Dichlorobenzene	T	*ne*	720		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane (EDC)	T	5	0.48		< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 1 U	< 0.2 U	< 0.2 U
1,2-Dichloropropane	T	*ne*	1.2		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3,5-Trimethylbenzene	T	*ne*	80		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichlorobenzene	T	*ne*	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,3-Dichloropropane	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,4-Dichlorobenzene	T	*ne*	8.1		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2,2-Dichloropropane	T	*ne*	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Butanone	T	*ne*	4800		< 10 U	< 20 U	< 10 U	< 20 U	< 10 U	< 20 U	< 10 U	< 20 U	< 20 U
2-Chlorotoluene	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Hexanone	T	*ne*	40		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
4-Chlorotoluene	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
4-Methyl-2-pentanone	T	*ne*	640		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	T	*ne*	7200		< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 U	< 50 UJ	< 50 UJ
Bromobenzene	T	*ne*	64		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromodichloromethane	T	*ne*	0.71		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Bromoform	T	*ne*	5.5		< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
Bromomethane	T	*ne*	11		< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
Carbon Tetrachloride	T	*ne*	0.63		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Chlorobenzene	T	*ne*	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroethane	T	*ne*	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroform	T	*ne*	1.4		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloromethane	T	*ne*	*ne*		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
cis-1,3-Dichloropropene	T	*ne*	*ne*		< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 0.4 U
Dibromochloromethane	T	*ne*	0.52		< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 1 U	< 0.5 U	< 0.5 U
Dibromomethane	T	*ne*	80		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dichlorodifluoromethane	T	*ne*	1600		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Isopropylbenzene	T	*ne*	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
m,p-Xylenes	T	*ne*	1600		< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methyl tert-butyl ether (MTBE)	T	20	24		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Methylene Chloride	T	5	5.8		< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 U	< 5 UJ	< 5 UJ
n-Hexane	T	*ne*	480		< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 5 U	< 5 U
n-Propylbenzene	T	*ne*	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
o-Xylene	T	*ne*	1600		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
p-Isopropyltoluene	T	*ne*	*ne*		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
sec-Butylbenzene	T	*ne*	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Styrene	T	*ne*	1600		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
tert-Butylbenzene	T	*ne*	800		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,3-Dichloropropene	T	*ne*	*ne*		< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 1 U	< 0.4 U	< 0.4 U
Trichlorofluoromethane	T	*ne*	2400		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
PAHs													
Naphthalene	T	160	160		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

Table 3b. Groundwater Analytical Results

Project No. AS180043, Evergreen Treatment Services, Seattle, WA

			Location Name	AMW-1		AMW-2		AMW-3		AMW-4		AMW-5
			Sample Date	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	12/17/2018	11/05/2024	11/05/2024
Analyte	Fraction	MTCA Method A CUL	MTCA Method B CUL	Results in micrograms per liter (ug/L)								

Notes and Definitions:

MTCA	Model Toxics Control Act
CUL	Cleanup Level
ne	Indicated cleanup level is not yet established.
--	Not analyzed.
U	Analyte was not detected at a concentration greater than the indicated laboratory reporting limit.
J	The reported conceentration is an estimate. See laboratory report for details.
UJ	Analyte was not detected at a concentration greater than the indicated reporting limit and the reporting limit is estimated.
Bold	Analyte detected at a concetration greater than the laboratory reporting limit.
Red Bold	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method B Cleanup Level but not the MTCA Method B Cleanup Level.
Blue Shaded	Detected concentration exceeds the Model Toxics Control Act (MTCA) Method A Cleanup Level, or the MTCA Method B Cleanup Level if Method A is not established.

Table 4. Summary of Radon Test Results

Project No. AS180043, Evergreen Treatment Services, Seattle, Washington

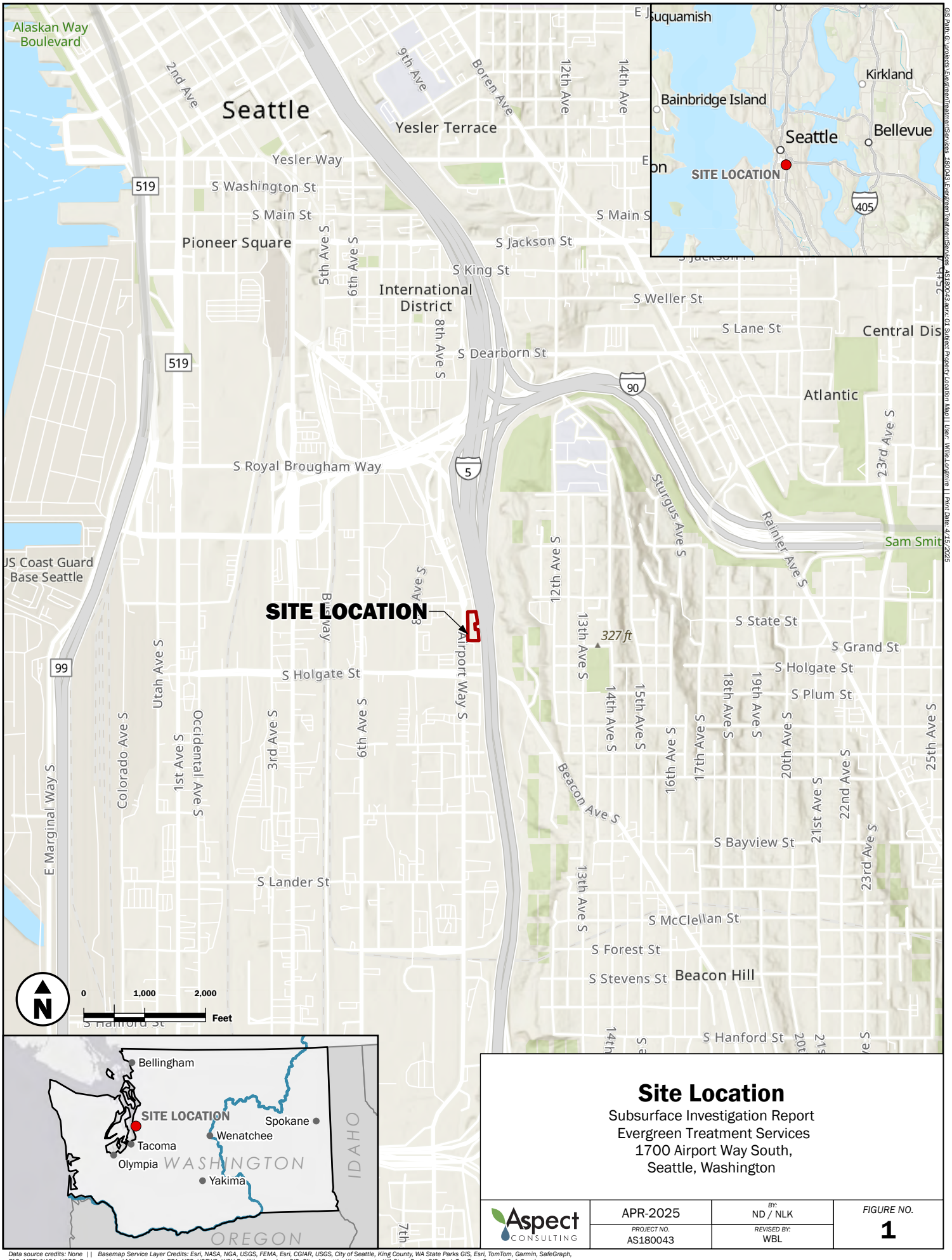
Location	Test Area	Radon Test Device Number	Test Start	Test End	Total Time (Hours)	Result (pCi/L)
Preliminary Radon Test						
1700 Airport Way S	North Warehouse Basement	5071311	11/19/24 8:00 AM	11/21/2024 10:00AM	50.0	< 0.4
	South Warehouse Basement	5110881	11/19/24 8:00 AM	11/21/2024 10:00AM	50.0	< 0.4
	Courtyard (Outdoors)	5110880	11/19/24 8:00 AM	11/21/2024 10:00AM	50.0	< 0.4
United States Environmental Protection Agency (EPA) Action Level: 4.0						

Notes and Definitions:

pCi/L picocuries per liter

< Detected radon activity was less than the indicated laboratory reporting limit.

FIGURES



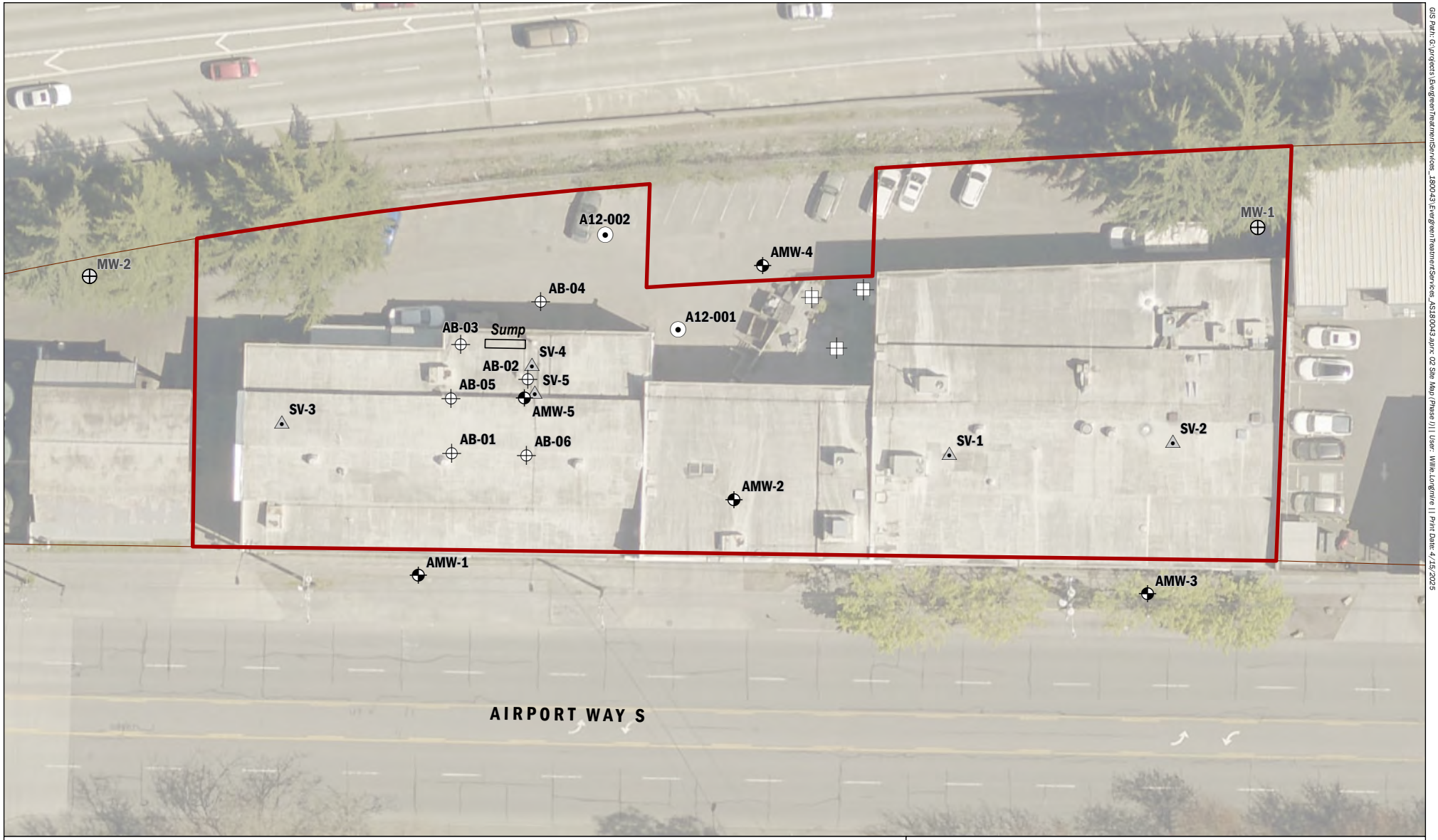
GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 01 Subject Property Location Map | User: Willie.Longmire | Print Date: 4/15/2025

Site Location

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South,
Seattle, Washington

Aspect Consulting	APR-2025	BY: ND / NLK	FIGURE NO. 1
	PROJECT NO. AS180043	REVISED BY: WBL	

Data source credits: None || Basemap Service Layer Credits: Esri, NASA, NGA, USGS, FEMA, Esri, CGIAR, USGS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS, WSU Facilities Services GIS, City of Seattle, King County, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, HERE, Garmin, USGS, EPA, NPS



- Soil Gas Sample Location (Aspect, 2018-2020)
- Concrete Sample Location (NWES, 1995)
- Shallow Soil Sample Location (NWES, 1995)
- Groundwater Monitoring Well Location (Aspect, 2018-2024
- Soil Boring (Aspect, 2024)
- Decommissioned Well (NWES, 1995)
- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

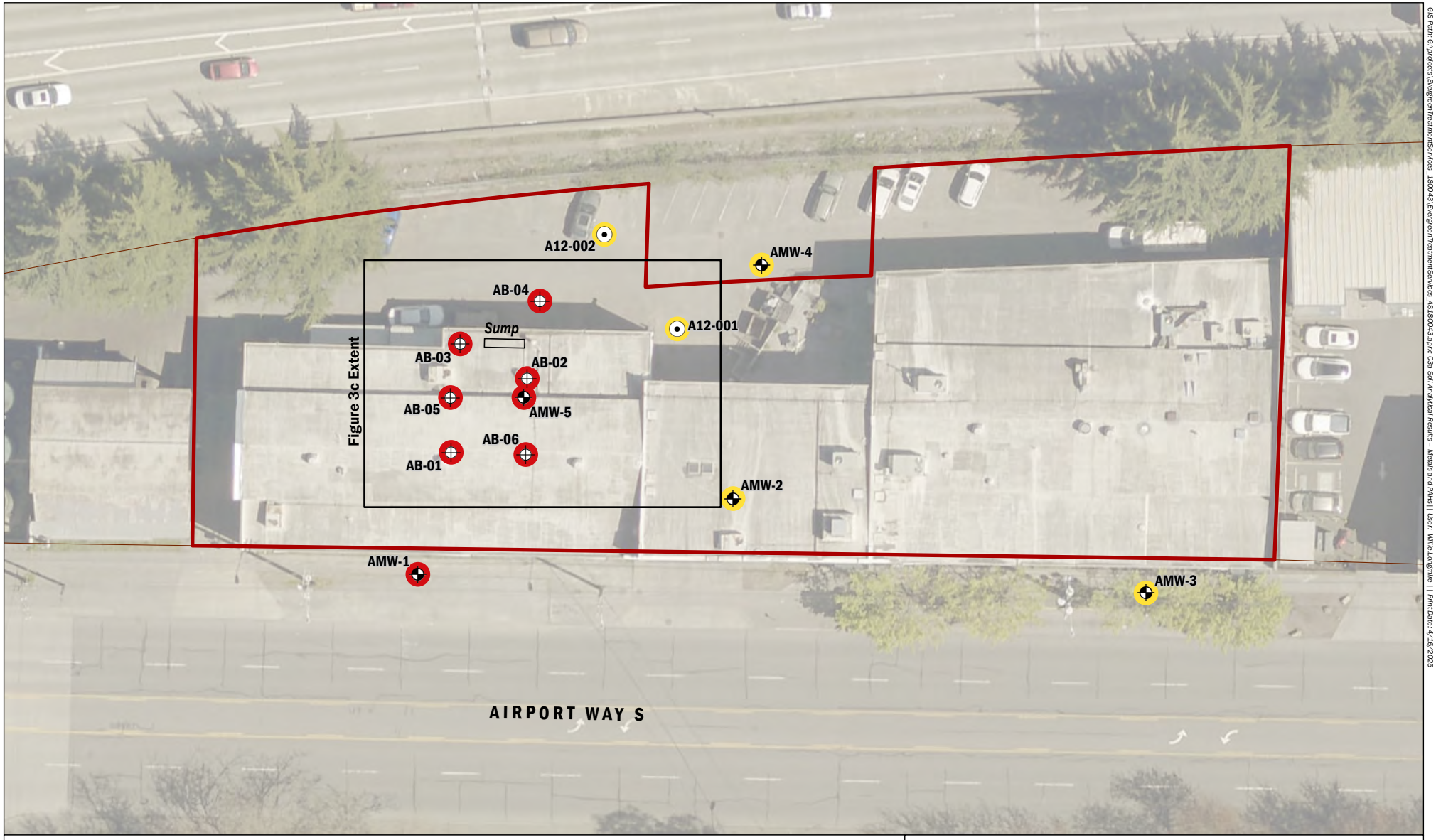
Site Map

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seatle, Washington

Aspect CONSULTING	APR-2025	BY: ND / HMD	FIGURE NO. 2
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 02 Site Map (Phase I)|| User: Willie.Longmire || Print Date: 4/15/2025



Shallow Soil Sample Location (NWES, 1995)

Groundwater Monitoring Well Location (Aspect, 2018)

Boring (Aspect, 2024)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

Sump

Subject Property

King County Tax Parcel

N

0 20 40 Feet

Note:
- Metals = arsenic, cadmium, chromium, lead, and mercury
- PAHs = Polycyclic Aromatic Hydrocarbons
- See Report for details regarding analytes and chosen screening levels.

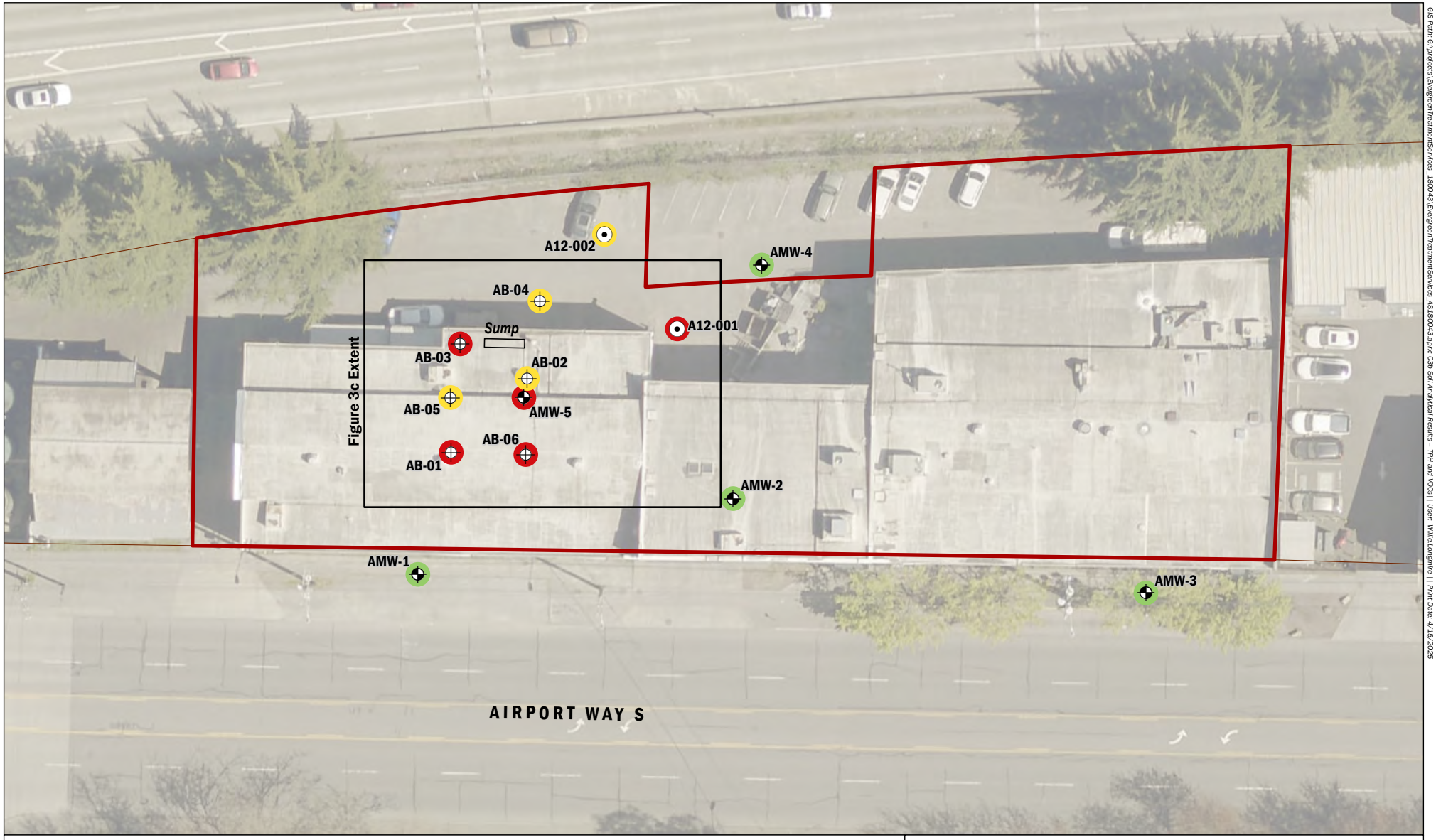
Soil Analytical Results Metals and PAHs

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 3a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 03a Soil Analytical Results - Metals and PAHs || User: WillieLongmire || Print Date: 4/16/2025



- Shallow Soil Sample Location (1995)
- Groundwater Monitoring Well Location
- Monitoring Well,Complete; Boring,Current
- One or More Analytes Exceed Screening Level
- One or More Analytes Detected, No Screening Level Exceedance
- No Analytes Detected
- Sump
- Subject Property
- King County Tax Parcel

N

0 20 40 Feet

Note:
- TPH = Total Petroleum Hydrocarbons
- VOCs = Volatile Organic Compounds
- See Report for details regarding analytes and chosen screening levels.

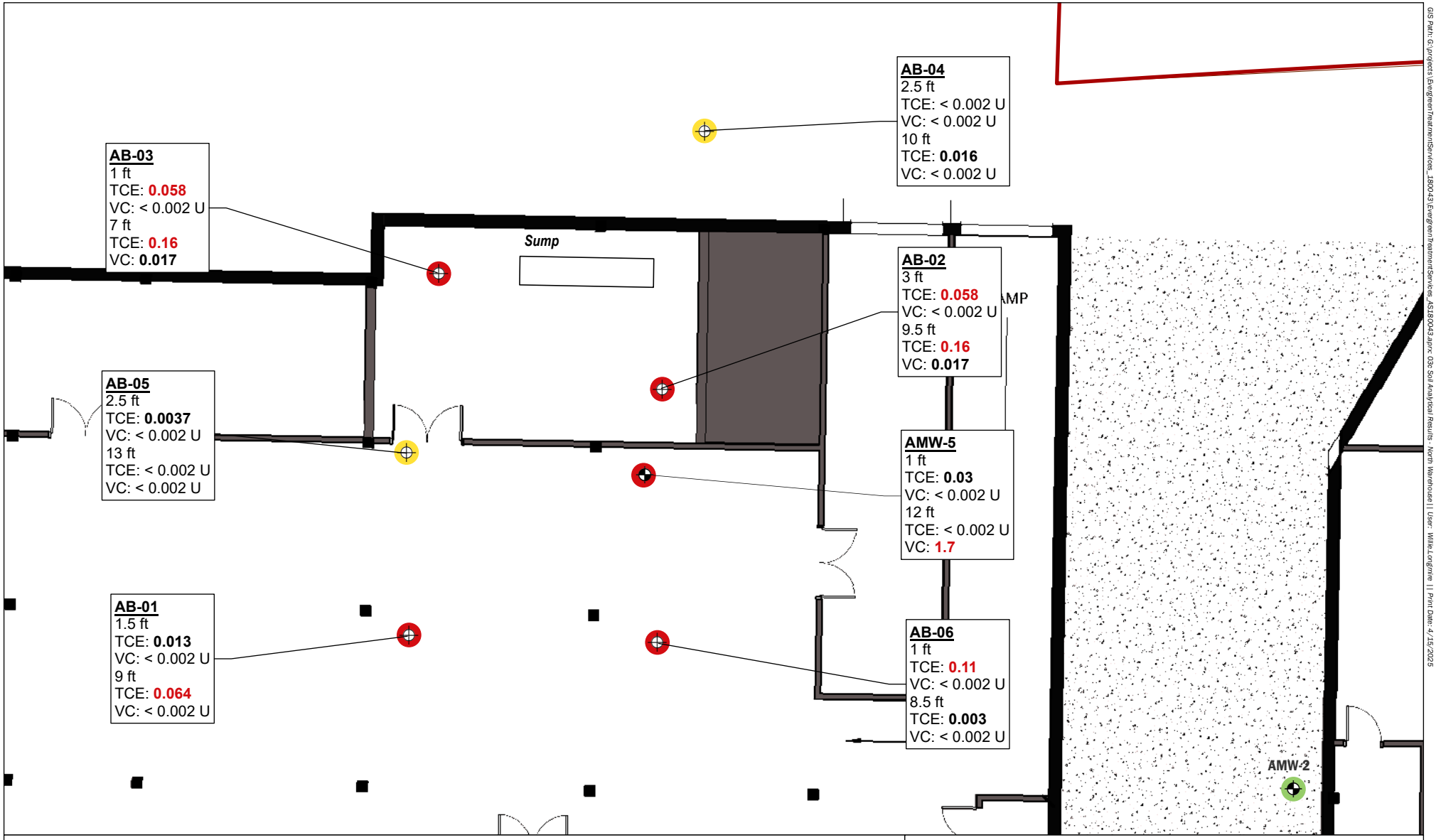
Soil Analytical Results TPH and VOCs

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	APR-2025	BY: ND / NLK	FIGURE NO. 3b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 03b Soil Analytical Results - TPH and VOCs|| User: WillieLongmire || Print Date: 4/15/2025



Groundwater Monitoring Well (Aspect, 2018; 2024)

Soil Boring (Aspect, 2024)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Sump

Subject Property

King County Tax Parcel

N

0 6 12 Feet

Note:
- TCE = Trichloroethylene
- VC = Vinyl Chloride
- See Report for details regarding detected analytes and applicable screening levels.
- Basement plan provided by Evergreen Treatment Services, dated January 13, 2023.

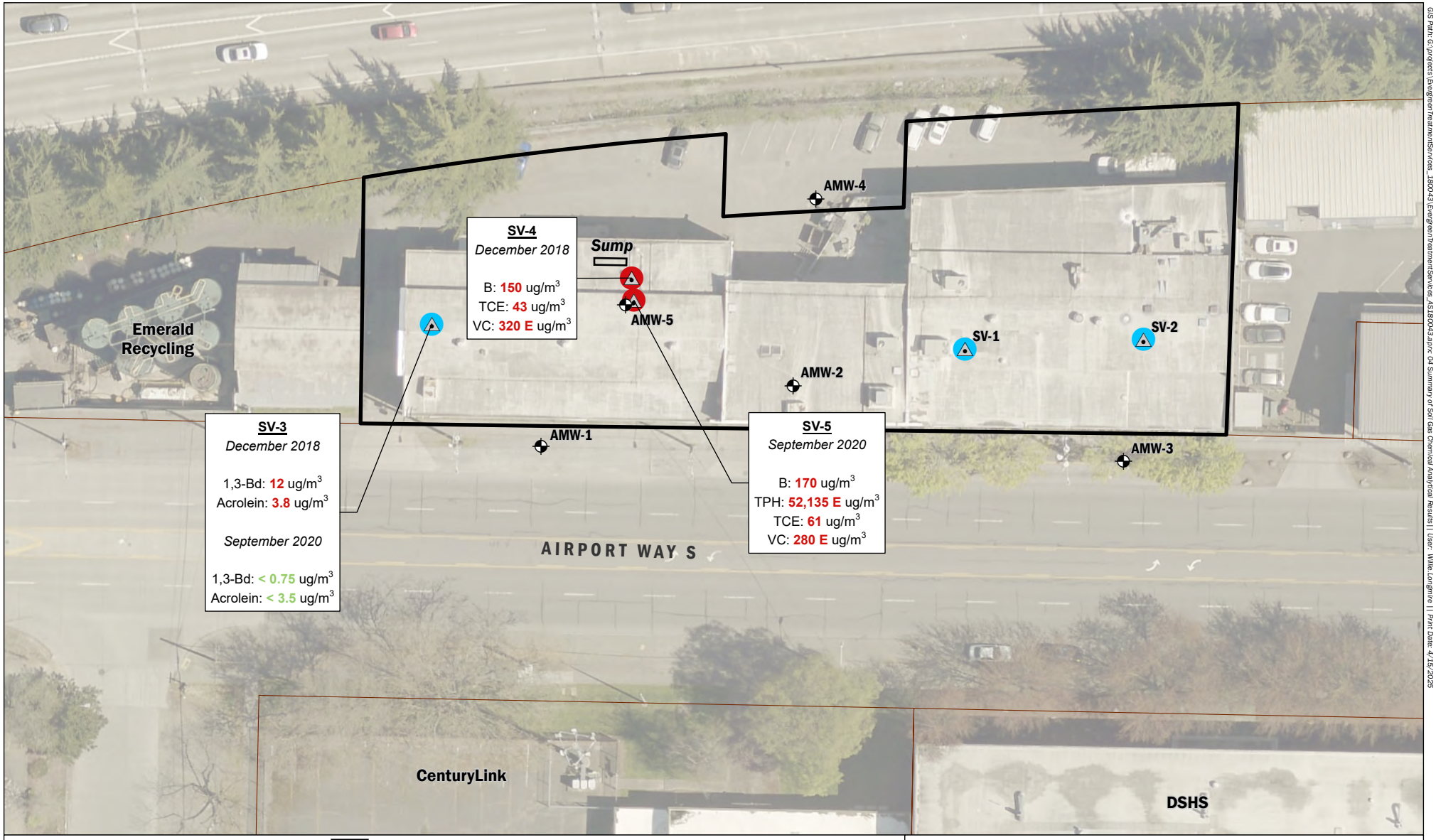
Soil Analytical Results
North Warehouse – VOCs

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 3c
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 03b Soil Analytical Results - North Warehouse || User: WillieLongmire || Print Date: 4/15/2025



Soil Gas Sample Location (Aspect, 2018-2020)

Groundwater Monitoring Well Location (Aspect, 2018-2024)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Sump

Subject Property

King County Tax Parcel

Notes:

- *B: Benzene*
- *TPH: Total Air-Phase Petroleum Hydrocarbons*
- *TCE: Trichloroethene*
- *VC: Vinyl Chloride*
- *1,3-Bd: 1,3-Butadiene*

0 25 50 Feet

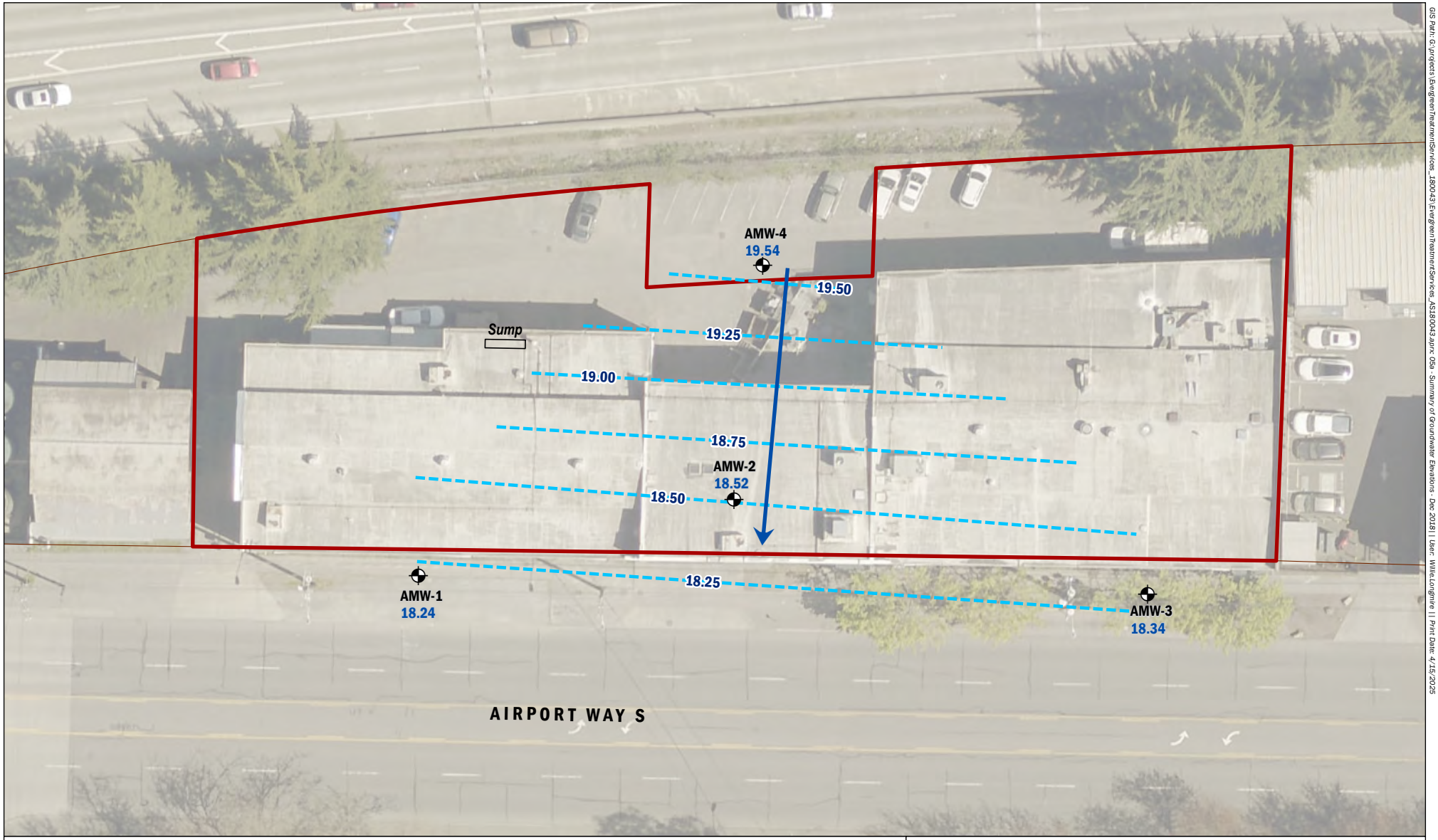
Summary of Soil Gas Chemical Analytical Results

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	APR-2025	BY: ND / NLK	FIGURE NO. 4
	PROJECT NO. AS180043	REVISED BY: WBL	

Data source credits: DLC / EAC / SCC || Basemap Service Layer Credits: EagleView Technologies, Inc.

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 04 Summary of Soil Gas Chemical Analytical Results || User: Willie.Longmire || Print Date: 4/15/2025



Groundwater Monitoring Well Location (Aspect, 2018)

GW Contour

GW Flow Direction

Sump

Subject Property

King County Tax Parcel

AMW-2 — Exploration Number
18.52 — Groundwater Elevation (ft)

N

0 20 40 Feet

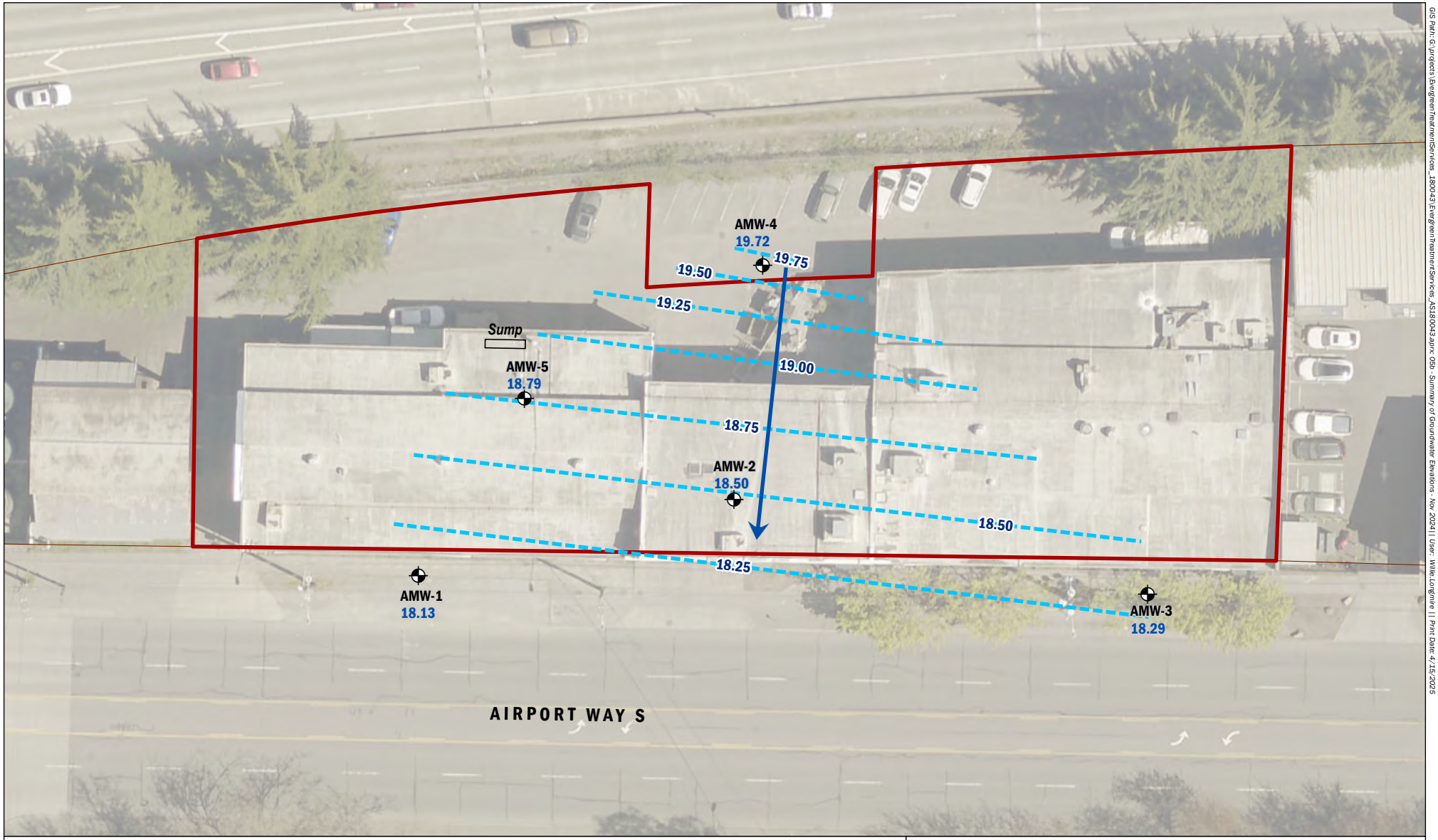
Groundwater Elevations December 2018

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 5a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 05a - Summary of Groundwater Elevations - Dec 2018 | User: WillieLongmire | | Print Date: 4/15/2025



Groundwater Monitoring Well Location (Aspect, 2018)

GW Contour

GW Flow Direction

Sump

Subject Property

King County Tax Parcel

AMW-2
18.50
Exploration Number
Groundwater Elevation (ft)

N

0 20 40
Feet

Note: AMW-5 installed in November 2024

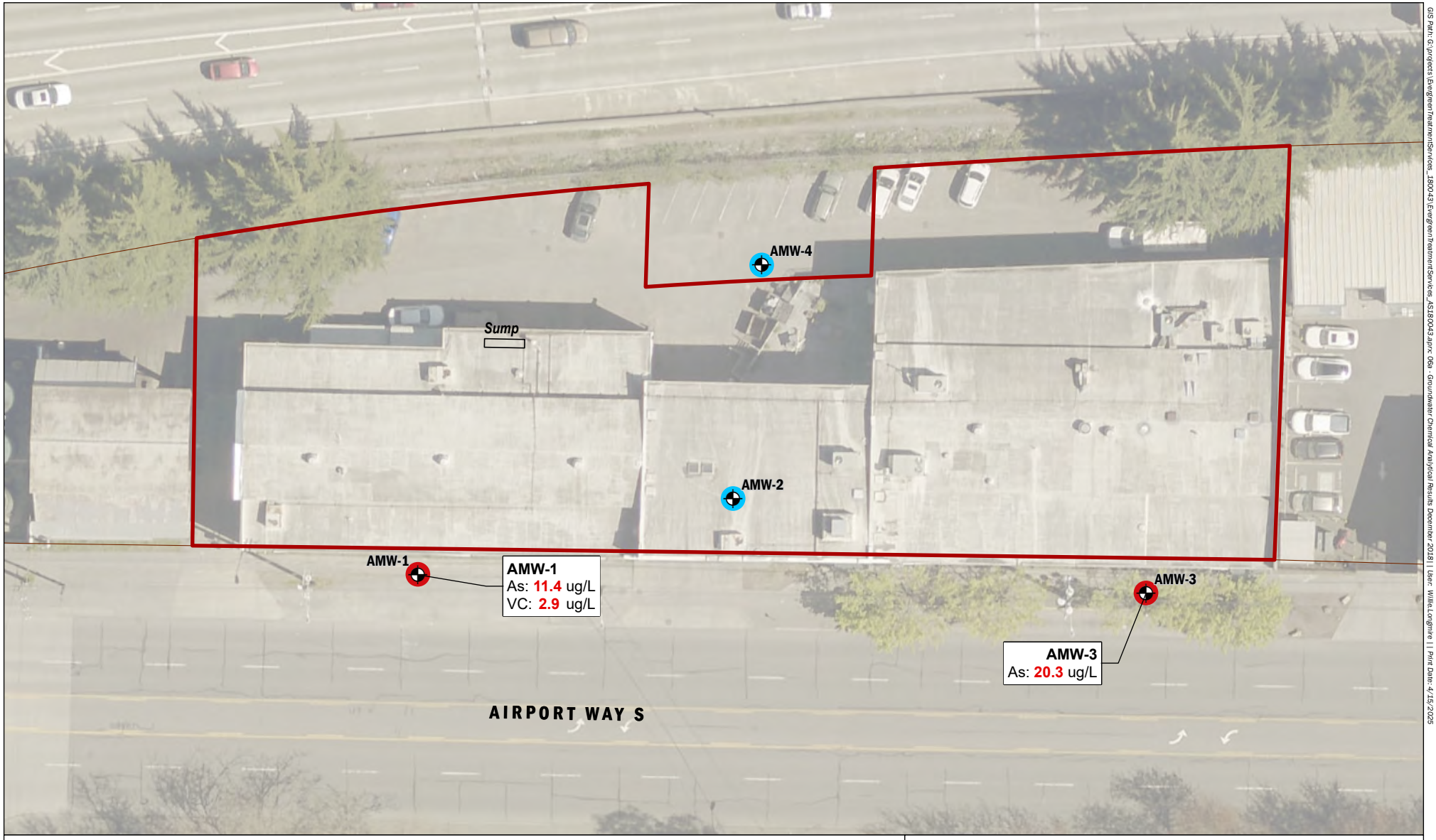
Groundwater Elevations November 2024

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 5b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 05b - Summary of Groundwater Elevations - Nov 2024] | User: Willie.Longmire | | Print Date: 4/15/2025



Groundwater Monitoring Well Location (Aspect, 2018)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Sump

Subject Property

King County Tax Parcel

N

0 20 40 Feet

Notes:
Only analytical results which exceed the screening level are displayed.
- As = Dissolved Arsenic
- VC = Vinyl Chloride

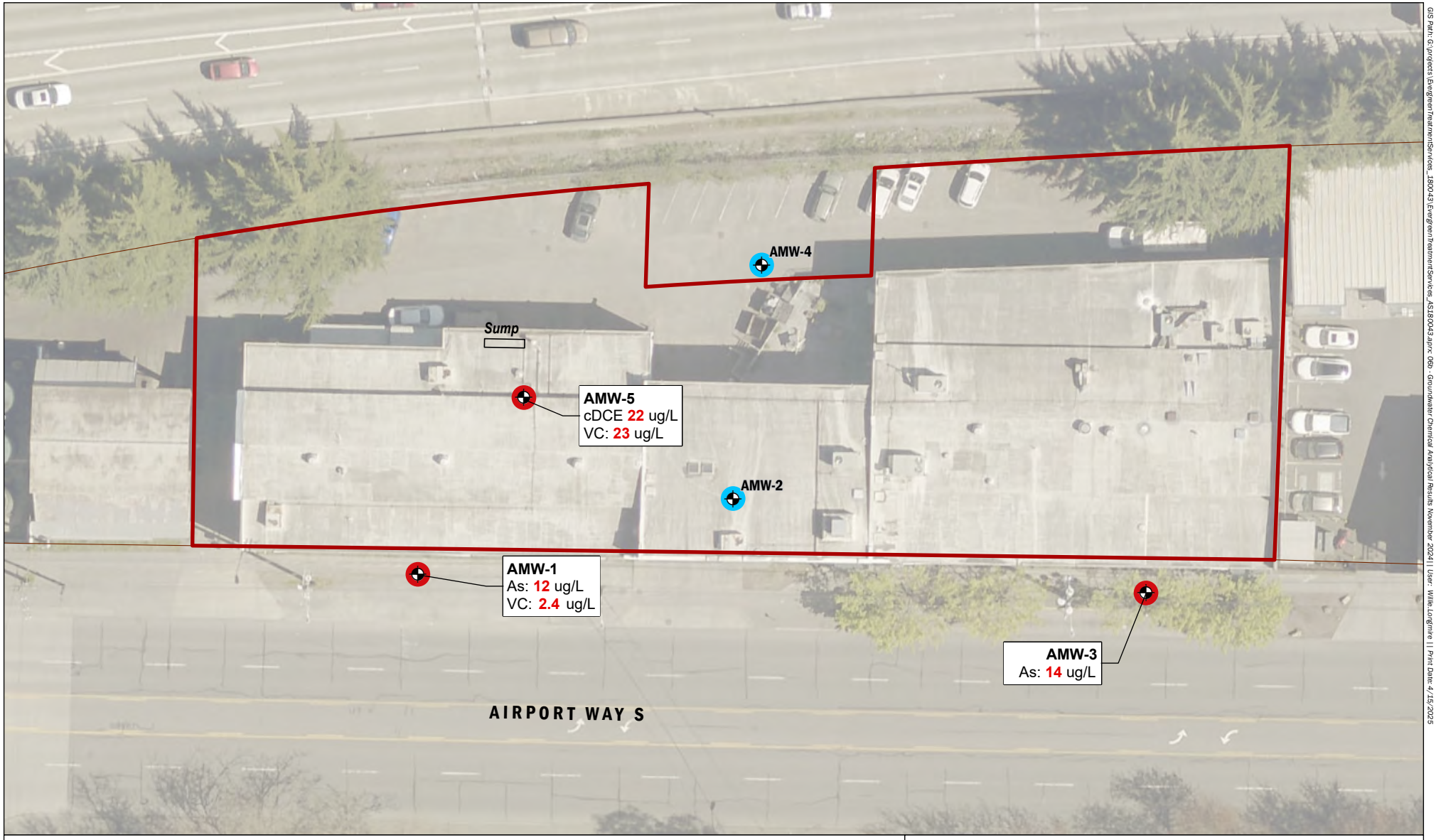
Groundwater Chemical Analytical Results December 2018

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 6a
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx: 06a - Groundwater Chemical Analytical Results December 2018 | User: WillieLongmire | | Print Date: 4/15/2025



Groundwater Monitoring Well Location (Aspect, 2018)

One or More Analytes Exceed Screening Level

One or More Analytes Detected, No Screening Level Exceedance

No Analytes Detected

Sump

Subject Property

King County Tax Parcel

N

0 20 40 Feet

Notes:
Only analytical results which exceed the screening level are displayed.
- As = Dissolved Arsenic
- cDCE = cis-1,2-Dichloroethene
- VC = Vinyl Chloride

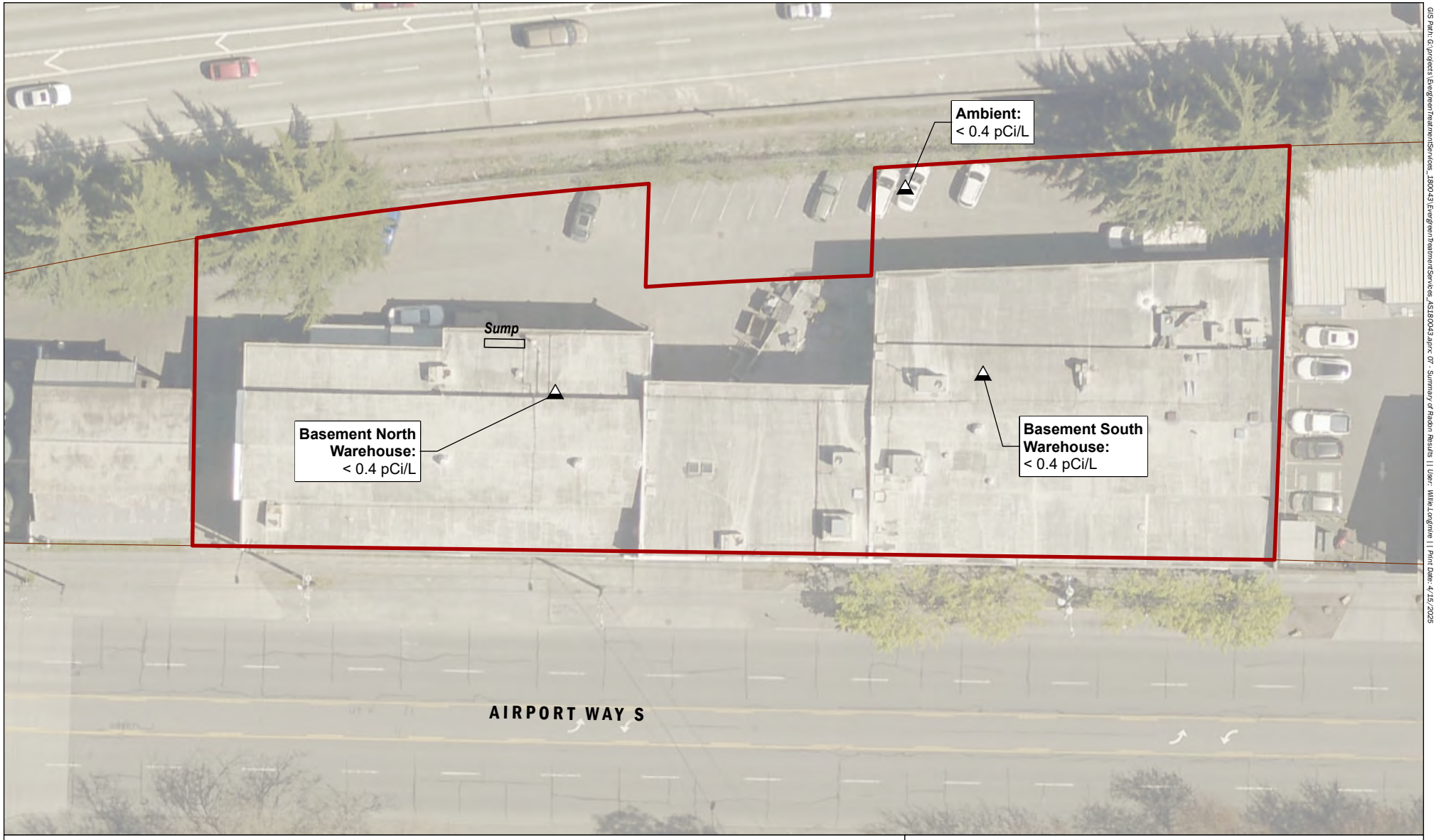
Groundwater Chemical Analytical Results November 2024

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect CONSULTING	APR-2025	BY: ND / NLK	FIGURE NO. 6b
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx; 06b - Groundwater Chemical Analytical Results November 2024 || User: Willie.Longmire || Print Date: 4/15/2025



Radon Sample
Sump
Subject Property
King County Tax Parcel

N

0 20 40
Feet

Notes:
- pCi/L = picocuries per liter

Summary of Radon Results

Subsurface Investigation Report
Evergreen Treatment Services
1700 Airport Way South
Seattle, Washington

Aspect Consulting	APR-2025	BY: ND / HMD	FIGURE NO. 7
	PROJECT NO. AS180043	REVISED BY: WBL	

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

GIS Path: G:\projects\EvergreenTreatmentServices_180043\EvergreenTreatmentServices_AS180043.aprx 07 - Summary of Radon Results || User: WillieLongmire || Print Date: 4/15/2025

APPENDIX C

Boring and Well Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines	GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines	SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%		ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
			CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
			OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More		MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils			PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
GS	=	Grain Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Aspect CONSULTING

Exploration Log Key

AI Path: Q:_ACAD Standards\FIELD REFERENCE\MASTERS\Exploration Log Key-2018.ai // user: jinman // last saved: 09/26/2018

Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-01**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	20'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	10/31/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
							CONCRETE; 8 inches.	
					PID=0.9		SAND WITH GRAVEL (SP); moist, grey; trace silt; medium sand; fine and coarse gravel; trace shards of glass, brick, and slag; no odor	
				AB-01-1.5 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=1.2			
5	15				PID=0.8			5
					PID=0.5		SAND (SW); wet, grey; fine to coarse sand; trace silt, trace seashell fragments; no odor.	
				TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5				
10	10						Bottom of exploration at 10 ft. bgs.	10
15	5							15
20	0							20

Legend

Sample Type
- No Soil Sample Recovery
- Continuous core 4" ID
- Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: NWD
Approved by: ND, 4/17/2025

Exploration Log AB-01
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-02**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	20'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	10/31/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
					PID=0.3		CONCRETE; 6 inches.	
							GRAVEL (GP); loose, dry, gray, concrete subbase	
				AB-02-03 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.1		SAND WITH SILT (SW-SM); loose, wet, black-brown and grey; interbedded silty sand and sandy silt with gravel; fine to medium sand; fine to coarse subrounded gravel; trace artificial debris, bricks, glass; no odor	
					PID=0.2			
5	15						SILT (ML); soft, wet, gray; low plasticity; trace fine sand; no odor.	5
					PID=0.1		SAND WITH SILT (SP-SM); loose, wet, gray; fine to medium sand; nonplastic silt; no odor.	
					PID=0.2			
				AB-02-09.5 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5				
10	10				PID=0.2		SAND (SP); soft, wet, black; coarse sand; abundant organics; no odor	10
							SILT (ML); soft, wet, dark gray; medium plasticity; trace fine sand; trace organics; no odor	
							Bottom of exploration at 12 ft. bgs.	
15	5							15
20	0							20

Legend

Sample Type
- No Soil Sample Recovery
- Continuous core 4" ID
- Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

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Approved by: ND, 4/17/2025

Exploration Log AB-02

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-03**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	20'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	10/31/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	20						CONCRETE; 6 inches	0
							GRAVEL (GW); Concrete base gravel	
				AB-03-01 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=2.6		SAND WITH SILT (SW-SM); loose, wet, gray; nonplastic silt, fine to coarse sand, fine to coarse subrounded to subangular gravel; no odor.	
					PID=9.6			
					PID=1.0			
5	15							5
				AB-03-07 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=1.1		SAND WITH SILT (SW-SM); loose, wet, gray; low plasticity silt, fine to mediums and, fine to coarse subrounded gravel; trace seashells, no odor	
							Bottom of exploration at 8 ft. bgs.	
							Note: Refusal met at 8'.	
10	10							10
15	5							15
20	0							20

Legend

Sample Type
- No Soil Sample Recovery
- Continuous core 4" ID
- Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: NWD
Approved by: ND, 4/17/2025

Exploration Log AB-03

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-04**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	25.5'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	10/31/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	25				PID=0.1		CONCRETE; 6 inches	0
							GRAVEL (GW); Concrete base gravel	
				AB-04-02.5 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.2		SAND (SW); loose, moist, brown; non-plastic silt, fine to coarse sand, fine to coarse subangular gravel; no odor.	
					PID=0.2		SAND WITH SILT (SP-SM); loose, moist, dark gray; non-plastic silt, fine to coarse sand, fine to coarse subrounded gravel with some cobbles less than 2" in diameter; no odor.	
5	20				PID=0.2			5
					PID=0.4		SILT (ML); soft, wet, gray-brown; low plasticity silt, no sand, no gravel; no odor.	
					PID=0.4			
10	15			AB-04-10 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=4.6		SAND (SP); loose, wet, very dark gray; trace fines, fine sand, trace fine gravel; strong petroleum-like odor.	10
					PID=1.1			
15	10						Bottom of exploration at 15 ft. bgs.	15
20	5							20

Legend

Sample Type
- No Soil Sample Recovery
- Continuous core 4" ID
- Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

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Exploration Log AB-04

Sheet 1 of 1

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Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-05**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	20'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	11/1/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	20				PID=0.2		CONCRETE; 6 inches	0
							GRAVEL WITH SAND (GP); loose, dry, light gray; concrete base gravel; no odor	
				AB-05-02.5 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.9		SAND WITH SILT AND GRAVEL (SP-SM); loose, wet, black; nonplastic silt, fine to coarse sand, fine to coarse subangular gravel; no odor	
							SAND WITH GRAVEL (SW); loose, wet, dark gray; fine to coarse sand, fine to coarse subrounded gravel; moderate petroleum-like odor	
					PID=0.2		SAND (SW); loose, wet, gray; fine to coarse sand, no fines, no gravel; no odor	
5	15							5
					PID=0.2		SILTY SAND (SM); loose, wet, dark gray; medium plasticity silt, fine to medium sand; no odor	
					PID=0.3		SILT (ML); soft, wet, gray; nonplastic silt, trace fine sand; no odor	
							SILTY SAND (SM); loose, wet, gray; nonplastic silt, fine to coarse sand, no gravel; no odor	
10	10				PID=0.2			10
							GRAVEL (GP); loose, wet, gray; no fines, trace sand, fine to coarse subrounded to rounded gravel; no odor; woody debris as broken sticks.	
				AB-05-13 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.3		SAND (SW); loose, wet, gray; no fines, fine to medium sand, no gravel; no odor.	
							GRAVEL (GP); loose, wet, gray; no fines, trace sand, fine to coarse subrounded to rounded gravel; no odor.	
							SAND (SW); loose, wet, gray; no fines, fine to coarse sand, trace fine gravel; no odor.	
							Bottom of exploration at 14 ft. bgs.	
15	5							15
20	0							20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 4" ID
- ☒ Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

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Exploration Log AB-05

Sheet 1 of 1

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Subsurface Investigation - AS180043

Environmental Exploration Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates	Exploration Number
1700 Airport Way S, Seattle, WA, Basement	NA	**AB-06**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	
Holocene Drilling	Geoprobe 6011 DT	Percussion hammer	20'	
Operator	**Exploration Method(s)**	**Work Start/Completion Dates**	**Top of Casing Elev. (NAVD88)**	**Depth to Water (Below GS)**
Trevor	Direct push	11/1/2024	NA	No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	20			AB-06-01 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.9		CONCRETE; 6 inches	0
							SAND WITH GRAVEL (SW); loose, wet, gray; fine to coarse sand, fine to coarse subangular gravel; no odor.	
							WOODY DEBRIS; 24 inches vertical grain wood	
					PID=1.0		SAND WITH SILT AND GRAVEL (SW-SM); loose, wet, dark gray; nonplastic silt, fine to coarse sand, fine to coarse subrounded gravel; no odor.	
5	15				PID=1.1		SAND (SW); loose, wet, gray; some nonplastic silt, fine to coarse sand, trace organics; no odor.	5
							SILT (ML); soft, wet, gray; low plasticity, no sand; no odor.	
				AB-06-08.5 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5	PID=0.3		SILTY SAND (SM); loose, wet, gray; low plasticity silt, fine to medium sand, no gravel, trace organics; no odor.	
							SILT (ML); soft, wet, dark gray; medium plasticity silt, fine sand, no gravel, trace organics; no odor.	
10	10						Bottom of exploration at 8.5 ft. bgs.	10
							Note: Refusal met at 8.5'	
15	5							15
20	0							20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ▯ Continuous core 4" ID
- ☑ Grab sample

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

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Exploration Log AB-06

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Monitoring Well Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
1700 Airport Way S, Seattle, WA, Parking strip	E:1273268.43 N:217961.62	**AMW-1**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	Ecology Well Tag No.
Cascade Drilling	Geoprobe 7822 DT	Percussion hammer	24.137'	BKF905

Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Tim	Direct push	12/9/2018	NA	5.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	25	Flush monument					GRAVEL (GP); loose, gray	0
		Expansion plug					SAND WITH GRAVEL (SP); moist, brown; trace silt; medium sand; fine and coarse gravel; no odor	
		Concrete						
		Bentonite chips			PID=0 Sheen=None			
		2-inch diam Sch 40 PVC casing						
	20	10x20 silica sand						
5		▽ 12/9/2018			PID=0 Sheen=None		Vacuum excavated to 5.5 feet bgs	5
							Becomes wet, gray	
		Pre-packed 2-inch diam Sch 40 PVC screen, 0.010-inch slot			PID=0		SANDY CLAY (CL); moist, gray; medium plasticity; fine sand; no odor	
					Sheen=Slight		SAND WITH SILT (SP-SM); wet, gray-brown; medium to coarse sand; trace fine gravel; no odor	
	15							
10				AMW-1-12.5 NWTPH-Dx, NWTPH-Gx, VOCs, Metals	PID=0 Sheen=Slight		Becomes black-brown, with 50% debris (fragments of brick, glass, ceramics, seashells); no odor	10
	10							
15		Threaded bottom cap			PID=0 Sheen=None		SANDY CLAY (CL); wet, gray; no odor	15
		Slough						
	5							
20							Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- Grab sample
- Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: KB
Approved by: DC, 1/15/2019

Exploration Log AMW-1

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Monitoring Well Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
1700 Airport Way S, Seattle, WA, Between buildings	E:1273287.49 N:217877.76	**AMW-2**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	Ecology Well Tag No.
Cascade Drilling	Geoprobe 7822 DT	Percussion hammer	23.813'	BKF906

Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Tim	Direct push	12/9/2018	NA	5.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Flush monument Expansion plug					CONCRETE; 6 inches	
		Concrete					SILTY SAND (SM); moist, gray-brown,; fine to medium sand; trace gravel; no petroleum like odor	
		Bentonite chips		AMW-2-2.5 NWTPH-Dx, NWTPH-Gx, Metals	PID=0 Sheen=SS			
	20	2-inch diam Sch 40 PVC casing					Wood and charcoal debris at 4 ft bgs	
		10x20 silica sand						
5		▽ 12/9/2018		AMW-2-5.5 NWTPH-Dx, NWTPH-Gx	PID=0 Sheen=None		Vacuum excavated to 5 ft	5
							Gray. No odor	
		Pre-packed 2-inch diam Sch 40 PVC screen, 0.010-inch slot					Becomes wet, black-brown; no odor Brick, glass, and ceramic debris; no odor	
	15				PID=0 Sheen=Slight			
10					PID=0 Sheen=None		Trace seashell fragments at 11 ft bgs	10
	10	Threaded bottom cap			PID=0 Sheen=None		Becomes black; with coal fragments	
15							Becomes gray; with seashell fragments	15
					PID=0 Sheen=None		Becomes black; with seashell and ceramic fragments	
		Slough						
	5						SANDY CLAY (CL); moist, gray;; medium plasticity; fine to medium sand; <4" thick saturated sandy interbed; no odor	
20					PID=0 Sheen=None		Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- Grab sample
- Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: KB
Approved by: DC, 1/15/2019

Exploration Log AMW-2

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Monitoring Well Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
1700 Airport Way S, Seattle, WA, Parking lane	E:1273253.78 N:217757.70	**AMW-3**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	Ecology Well Tag No.
Cascade Drilling	Geoprobe 7822 DT	Percussion hammer	23.226'	BKF907

Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Tim	Direct push	12/9/2018	NA	8.5' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	20	Flush monument Expansion plug Concrete Bentonite chips 2-inch diam Sch 40 PVC casing 10x20 silica sand			PID=0 Sheen=None		CONCRETE; 8 inches SAND WITH SILT AND GRAVEL (SP-SM); moist, gray; medium sand; fine to coarse gravel; no odor Vacuum-excavated to 5 ft	0
5	15	▽ 12/9/2018		AMW-3-5.0 NWTPH-Dx, NWTPH-Gx, Metals, cPAHs	PID=0 Sheen=None PID=0 Sheen=None		SILTY SAND (SM); moist, gray; no odor SANDY CLAY (CL); moist, gray; medium to high plasticity; fine sand; interbedded with 1' beds SAND WITH GRAVEL (SW); wet, gray; no odor	5
10	10	Pre-packed 2-inch diam Sch 40 PVC screen, 0.010-inch slot			PID=0 Sheen=None PID=0 Sheen=None		SILTY SAND (SM); wet, gray; medium to coarse sand; trace fine gravel; no odor Becomes fine sand	10
15	5	Threaded bottom cap Slough			PID=0 Sheen=None PID=0 Sheen=None		CLAY (CL); wet, gray; medium to high plasticity; no odor	15
20							Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- Grab sample
- Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: KB
Approved by: DC, 1/15/2019

Exploration Log AMW-3

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Monitoring Well Log

Aspect CONSULTING

Project Address & Site Specific Location	Coordinates (SPN NAD83 ft)	Exploration Number
1700 Airport Way S, Seattle, WA, Back parking lot	E:1273354.03 N:217868.29	**AMW-4**

Contractor	Equipment	Sampling Method	Ground Surface Elev. (NAVD88)	Ecology Well Tag No.
Cascade Drilling	Geoprobe 7822 DT	Percussion hammer	25.642'	BKF908

Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Tim	Direct push	12/9/2018 to 12/10/2018	NA	6' (ATD)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	25	Flush monument Expansion plug					CONCRETE; 6 inches	0
		Concrete					SAND WITH SILT AND GRAVEL (SP-SM); moist, brown; medium to coarse sand; fine to coarse gravel; no odor	
		Bentonite chips		AMW-4-2.5 NWTPH-Dx, NWTPH-Gx, Metals, cPAHs	PID=0 Sheen=None			
		2-inch diam Sch 40 PVC casing					SILTY SAND (SM); moist, brown; medium to coarse sand; no odor	
		10x20 silica sand						
5	20	▽ 12/9/2018			PID=0 Sheen=None		Vacuum excavated to 5 ft.	5
							SAND WITH SILT (SP-SM); wet, brown; fine to medium sand, trace coarse sand; no odor	
		Pre-packed 2-inch diam Sch 40 PVC screen, 0.010-inch slot		AMW-4-8.0 NWTPH-Dx, NWTPH-Gx, Metals	PID=0 Sheen=Slight			
10	15							10
							SILTY SAND (SM); wet, black; coarse sand; 50% coal fragments, brick fragments, seashell fragments; no odor	
		Threaded bottom cap			PID=0 Sheen=Slight			
15	10				PID=0 Sheen=Slight		Becomes gray, fine to coarse sand; trace fine gravel; no odor	15
		Slough						
					PID=0.0 Sheen=None			
20	5						Bottom of exploration at 20 ft. bgs.	20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- Grab sample
- Continuous core 1.85" ID

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: KB
Approved by: DC, 1/15/2019

Exploration Log AMW-4

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

Subsurface Investigation - AS180043

Monitoring Well Log

Aspect CONSULTING	*Project Address & Site Specific Location*: 1700 Airport Way S, Seattle, WA, Basement, outside sump room		*Coordinates (SPN NAD83 ft)*: E:1273313.41 N:217932.75	*Exploration Number*: **AMW-5**
Contractor: Holocene Drilling	*Equipment*: Geoprobe 6011 DT	*Sampling Method*: Percussion hammer	*Ground Surface Elev. (NAVD88)*: 19.89'	Ecology Well Tag No. BPK160
Operator: Trevor	*Exploration Method(s)*: Direct push	*Work Start/Completion Dates*: 10/31/2024 to 11/1/2024	*Top of Casing Elev. (NAVD88)*: NA	*Depth to Water (Below GS)*: 0.8' (Static)

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
		Flush monument		AMW-5-01 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5			CONCRETE; 6 inches	
		11/1/2024					SAND WITH SILT AND GRAVEL (SP-SM); loose, moist, gray; fine to coarse sand, fine to coarse subrounded cobbles, nonplastic silt; no odor.	
		1-inch diam Sch 40 PVC casing			PID=0.1		CONCRETE; 3 inches	
		Concrete			PID=0.2		SAND WITH SILT AND GRAVEL (SP-SM); loose, wet, gray; fine to coarse sand, fine to coarse subrounded cobbles, nonplastic silt; no odor.	
5	15	10x20 silica sand						5
					PID=0.2			
		Pre-packed 1-inch diam Sch 40 PVC screen, 0.010-inch slot			PID=0.1			
10	10				PID=0.2		WOODY DEBRIS; 2 inches; cedar odor	10
							GRAVEL (GW); loose, wet, gray; fine to coarse sand, fine to coarse subrounded to subangular gravel; no odor.	
				AMW-5-12 TPH-G, TPH-Dx, VOCs, SVOCs, MTCA 5			SAND WITH GRAVEL (SP); loose, wet, black; fine to medium sand, fine subrounded gravel; no odor.	
		Threaded bottom cap					SILT (ML); soft, wet, gray; low plasticity silt; no odor.	
							Bottom of exploration at 12 ft. bgs.	
15	5							15
20	0							20

Legend

Sample Type
- ◯ No Soil Sample Recovery
- Grab sample
- Continuous core 4" ID

Water Level
- Static Water Level

See Exploration Log Key for explanation of symbols

Logged by: NWD
Approved by: ND, 4/17/2025

Exploration Log AMW-5

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE C:\PROJECTS\EVERGREEN CLINIC 180043.GPJ May 23, 2025

APPENDIX D

Laboratory Reports

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

December 19, 2018

Dana Cannon, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Ms Cannon:

Included are the results from the testing of material submitted on December 11, 2018 from the Evergreen Treatment Services 180043, F&BI 812130 project. There are 11 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: Data Aspect, Kristin Beck
ASP1219R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 11, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Evergreen Treatment Services 180043, F&BI 812130 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
812130 -01	SV-1
812130 -02	SV-2
812130 -03	SV-3
812130 -04	SV-4

The TO-15 ethanol concentration for sample SV-1, ethanol and acetone for sample SV-3, and several other compounds for sample SV-4 exceeded the calibration range. In addition, calibration standard for tetrahydrofuran did not pass the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-1	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services 180043
Date Collected:	12/10/18	Lab ID:	812130-01 1/1.4
Date Analyzed:	12/12/18	Data File:	121120.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	BAT/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	114	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	ug/m3	ppbv
Propene	<1	<0.56	1,2-Dichloropropane	0.90	0.19
Dichlorodifluoromethane	2.9	0.60	1,4-Dioxane	<0.5	<0.14
Chloromethane	<2.9	<1.4	2,2,4-Trimethylpentane	<6.5	<1.4
F-114	<0.98	<0.14	Methyl methacrylate	<5.7	<1.4
Vinyl chloride	<0.36	<0.14	Heptane	11	2.6
1,3-Butadiene	<0.03	<0.04	Bromodichloromethane	<0.094	<0.014
Butane	15	6.5	Trichloroethene	26	4.9
Bromomethane	<2.2	<0.56	cis-1,3-Dichloropropene	<0.64	<0.14
Chloroethane	<3.7	<1.4	4-Methyl-2-pentanone	<5.7	<1.4
Vinyl bromide	<0.61	<0.14	trans-1,3-Dichloropropene	<0.64	<0.14
Ethanol	280 ve	150 ve	Toluene	25	6.7
Acrolein	<1.3	<0.56	1,1,2-Trichloroethane	<0.15	<0.028
Pentane	12	4.2	2-Hexanone	<5.7	<1.4
Trichlorofluoromethane	<3.1	<0.56	Tetrachloroethene	<9.5	<1.4
Acetone	130	54	Dibromochloromethane	<0.12	<0.014
2-Propanol	66	27	1,2-Dibromoethane (EDB)	<0.11	<0.014
1,1-Dichloroethene	<0.56	<0.14	Chlorobenzene	<0.64	<0.14
trans-1,2-Dichloroethene	<0.56	<0.14	Ethylbenzene	5.6	1.3
Methylene chloride	<120	<35	1,1,2,2-Tetrachloroethane	<0.19	<0.028
t-Butyl alcohol (TBA)	<17	<5.6	Nonane	<7.3	<1.4
3-Chloropropene	<1.8	<0.56	Isopropylbenzene	<3.4	<0.7
CFC-113	<1.1	<0.14	2-Chlorotoluene	<7.2	<1.4
Carbon disulfide	<8.7	<2.8	Propylbenzene	<3.4	<0.7
Methyl t-butyl ether (...	<2.5	<0.7	4-Ethyltoluene	<3.4	<0.7
Vinyl acetate	<9.9	<2.8	m,p-Xylene	20	4.6
1,1-Dichloroethane	<0.57	<0.14	o-Xylene	7.0	1.6
cis-1,2-Dichloroethene	<0.56	<0.14	Styrene	<1.2	<0.28
Hexane	13	3.8	Bromoform	<2.9	<0.28
Chloroform	0.46	0.095	Benzyl chloride	<0.072	<0.014
Ethyl acetate	<10	<2.8	1,3,5-Trimethylbenzene	<3.4	<0.7
Tetrahydrofuran	21 ca	7.0 ca	1,2,4-Trimethylbenzene	<3.4	<0.7
2-Butanone (MEK)	17	5.6	1,3-Dichlorobenzene	<0.84	<0.14
1,2-Dichloroethane (EDC)	<0.057	<0.014	1,4-Dichlorobenzene	<0.34	<0.056
1,1,1-Trichloroethane	<0.76	<0.14	1,2-Dichlorobenzene	<0.84	<0.14
Carbon tetrachloride	<0.88	<0.14	1,2,4-Trichlorobenzene	<1	<0.14
Benzene	3.8	1.2	Naphthalene	<0.73	<0.14
Cyclohexane	<9.6	<2.8	Hexachlorobutadiene	<0.3	<0.028

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-2	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services 180043
Date Collected:	12/10/18	Lab ID:	812130-02 1/1.5
Date Analyzed:	12/12/18	Data File:	121121.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	BAT/MS

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	ug/m3	ppbv
Propene	<1	<0.6	1,2-Dichloropropane	0.85	0.18
Dichlorodifluoromethane	2.9	0.59	1,4-Dioxane	<0.54	<0.15
Chloromethane	<3.1	<1.5	2,2,4-Trimethylpentane	<7	<1.5
F-114	<1	<0.15	Methyl methacrylate	<6.1	<1.5
Vinyl chloride	<0.38	<0.15	Heptane	17	4.1
1,3-Butadiene	<0.03	<0.015	Bromodichloromethane	<0.1	<0.015
Butane	19	7.8	Trichloroethene	<0.4	<0.075
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.68	<0.15
Chloroethane	<4	<1.5	4-Methyl-2-pentanone	<6.1	<1.5
Vinyl bromide	<0.66	<0.15	trans-1,3-Dichloropropene	<0.68	<0.15
Ethanol	140	75	Toluene	25	6.7
Acrolein	<1.4	<0.6	1,1,2-Trichloroethane	<0.16	<0.03
Pentane	16	5.4	2-Hexanone	<6.1	<1.5
Trichlorofluoromethane	<3.4	<0.6	Tetrachloroethene	<10	<1.5
Acetone	160	66	Dibromochloromethane	<0.13	<0.015
2-Propanol	64	26	1,2-Dibromoethane (EDB)	<0.12	<0.015
1,1-Dichloroethene	<0.59	<0.15	Chlorobenzene	<0.69	<0.15
trans-1,2-Dichloroethene	<0.59	<0.15	Ethylbenzene	5.0	1.2
Methylene chloride	<130	<37	1,1,2,2-Tetrachloroethane	<0.21	<0.03
t-Butyl alcohol (TBA)	<18	<6	Nonane	<7.9	<1.5
3-Chloropropene	<1.9	<0.6	Isopropylbenzene	<3.7	<0.75
CFC-113	<1.1	<0.15	2-Chlorotoluene	<7.8	<1.5
Carbon disulfide	<9.3	<3	Propylbenzene	<3.7	<0.75
Methyl t-butyl ether (...	<2.7	<0.75	4-Ethyltoluene	<3.7	<0.75
Vinyl acetate	<11	<3	m,p-Xylene	18	4.2
1,1-Dichloroethane	<0.61	<0.15	o-Xylene	6.2	1.4
cis-1,2-Dichloroethene	<0.59	<0.15	Styrene	<1.3	<0.3
Hexane	18	5.2	Bromoform	<3.1	<0.3
Chloroform	0.61	0.12	Benzyl chloride	<0.078	<0.015
Ethyl acetate	<11	<3	1,3,5-Trimethylbenzene	<3.7	<0.75
Tetrahydrofuran	21 ca	7.0 ca	1,2,4-Trimethylbenzene	<3.7	<0.75
2-Butanone (MEK)	13	4.4	1,3-Dichlorobenzene	<0.9	<0.15
1,2-Dichloroethane (EDC)	<0.061	<0.015	1,4-Dichlorobenzene	<0.36	<0.06
1,1,1-Trichloroethane	<0.82	<0.15	1,2-Dichlorobenzene	<0.9	<0.15
Carbon tetrachloride	<0.94	<0.15	1,2,4-Trichlorobenzene	<1.1	<0.15
Benzene	4.1	1.3	Naphthalene	<0.79	<0.15
Cyclohexane	<10	<3	Hexachlorobutadiene	<0.32	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-3	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services 180043
Date Collected:	12/10/18	Lab ID:	812130-03 1/1.5
Date Analyzed:	12/12/18	Data File:	121122.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	BAT/MS

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	ug/m3	ppbv
Propene	52	30	1,2-Dichloropropane	0.58	0.13
Dichlorodifluoromethane	2.9	0.58	1,4-Dioxane	<0.54	<0.15
Chloromethane	<3.1	<1.5	2,2,4-Trimethylpentane	<7	<1.5
F-114	<1	<0.15	Methyl methacrylate	<6.1	<1.5
Vinyl chloride	<0.38	<0.15	Heptane	32	7.8
1,3-Butadiene	12	5.6	Bromodichloromethane	<0.1	<0.015
Butane	44	19	Trichloroethene	14	2.6
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.68	<0.15
Chloroethane	<4	<1.5	4-Methyl-2-pentanone	<6.1	<1.5
Vinyl bromide	<0.66	<0.15	trans-1,3-Dichloropropene	<0.68	<0.15
Ethanol	450 ve	240 ve	Toluene	39	10
Acrolein	3.8	1.7	1,1,2-Trichloroethane	<0.16	<0.03
Pentane	32	11	2-Hexanone	<6.1	<1.5
Trichlorofluoromethane	<3.4	<0.6	Tetrachloroethene	<10	<1.5
Acetone	430 ve	180 ve	Dibromochloromethane	<0.13	<0.015
2-Propanol	70	28	1,2-Dibromoethane (EDB)	<0.12	<0.015
1,1-Dichloroethene	0.62	0.16	Chlorobenzene	<0.69	<0.15
trans-1,2-Dichloroethene	<0.59	<0.15	Ethylbenzene	6.7	1.5
Methylene chloride	<130	<37	1,1,2,2-Tetrachloroethane	<0.21	<0.03
t-Butyl alcohol (TBA)	<18	<6	Nonane	<7.9	<1.5
3-Chloropropene	<1.9	<0.6	Isopropylbenzene	<3.7	<0.75
CFC-113	2.1	0.28	2-Chlorotoluene	<7.8	<1.5
Carbon disulfide	<9.3	<3	Propylbenzene	<3.7	<0.75
Methyl t-butyl ether (...	<2.7	<0.75	4-Ethyltoluene	<3.7	<0.75
Vinyl acetate	<11	<3	m,p-Xylene	20	4.7
1,1-Dichloroethane	1.7	0.43	o-Xylene	7.1	1.6
cis-1,2-Dichloroethene	2.9	0.73	Styrene	1.5	0.36
Hexane	29	8.1	Bromoform	<3.1	<0.3
Chloroform	0.70	0.14	Benzyl chloride	<0.078	<0.015
Ethyl acetate	<11	<3	1,3,5-Trimethylbenzene	<3.7	<0.75
Tetrahydrofuran	16 ca	5.3 ca	1,2,4-Trimethylbenzene	<3.7	<0.75
2-Butanone (MEK)	30	10	1,3-Dichlorobenzene	<0.9	<0.15
1,2-Dichloroethane (EDC)	<0.061	<0.015	1,4-Dichlorobenzene	<0.36	<0.06
1,1,1-Trichloroethane	<0.82	<0.15	1,2-Dichlorobenzene	<0.9	<0.15
Carbon tetrachloride	<0.94	<0.15	1,2,4-Trichlorobenzene	<1.1	<0.15
Benzene	19	5.8	Naphthalene	<0.79	<0.15
Cyclohexane	12	3.5	Hexachlorobutadiene	<0.32	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-4	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services 180043
Date Collected:	12/10/18	Lab ID:	812130-04 1/1.5
Date Analyzed:	12/12/18	Data File:	121123.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	BAT/MS

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	ug/m3	ppbv
Propene	1,700 ve	990 ve	1,2-Dichloropropane	0.57	0.12
Dichlorodifluoromethane	<0.74	<0.15	1,4-Dioxane	<0.54	<0.15
Chloromethane	<3.1	<1.5	2,2,4-Trimethylpentane	380 ve	80 ve
F-114	<1	<0.15	Methyl methacrylate	<6.1	<1.5
Vinyl chloride	320 ve	120 ve	Heptane	140	35
1,3-Butadiene	<0.03	<0.015	Bromodichloromethane	<0.1	<0.015
Butane	2,000 ve	850 ve	Trichloroethene	43	8.1
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.68	<0.15
Chloroethane	7.9	3.0	4-Methyl-2-pentanone	<6.1	<1.5
Vinyl bromide	<0.66	<0.15	trans-1,3-Dichloropropene	<0.68	<0.15
Ethanol	250 ve	140 ve	Toluene	260	69
Acrolein	<1.4	<0.6	1,1,2-Trichloroethane	<0.16	<0.03
Pentane	850 ve	290 ve	2-Hexanone	<6.1	<1.5
Trichlorofluoromethane	<3.4	<0.6	Tetrachloroethene	<10	<1.5
Acetone	780 ve	330 ve	Dibromochloromethane	<0.13	<0.015
2-Propanol	79	32	1,2-Dibromoethane (EDB)	<0.12	<0.015
1,1-Dichloroethene	5.1	1.3	Chlorobenzene	<0.69	<0.15
trans-1,2-Dichloroethene	43	11	Ethylbenzene	11	2.5
Methylene chloride	<130	<37	1,1,2,2-Tetrachloroethane	<0.21	<0.03
t-Butyl alcohol (TBA)	<18	<6	Nonane	52	9.9
3-Chloropropene	<1.9	<0.6	Isopropylbenzene	8.8	1.8
CFC-113	<1.1	<0.15	2-Chlorotoluene	<7.8	<1.5
Carbon disulfide	<9.3	<3	Propylbenzene	<3.7	<0.75
Methyl t-butyl ether (...	<2.7	<0.75	4-Ethyltoluene	<3.7	<0.75
Vinyl acetate	<11	<3	m,p-Xylene	24	5.5
1,1-Dichloroethane	0.91	0.22	o-Xylene	18	4.2
cis-1,2-Dichloroethene	220	55	Styrene	<1.3	<0.3
Hexane	290 ve	83 ve	Bromoform	<3.1	<0.3
Chloroform	<0.074	<0.015	Benzyl chloride	<0.078	<0.015
Ethyl acetate	<11	<3	1,3,5-Trimethylbenzene	5.6	1.1
Tetrahydrofuran	16 ca	5.5 ca	1,2,4-Trimethylbenzene	5.8	1.2
2-Butanone (MEK)	24	8.0	1,3-Dichlorobenzene	<0.9	<0.15
1,2-Dichloroethane (EDC)	<0.061	<0.015	1,4-Dichlorobenzene	<0.36	<0.06
1,1,1-Trichloroethane	<0.82	<0.15	1,2-Dichlorobenzene	<0.9	<0.15
Carbon tetrachloride	<0.94	<0.15	1,2,4-Trichlorobenzene	<1.1	<0.15
Benzene	150	48	Naphthalene	1.2	0.23
Cyclohexane	150	45	Hexachlorobutadiene	<0.32	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen Treatment Services 180043
Date Collected:	Not Applicable	Lab ID:	08-2755 mb
Date Analyzed:	12/12/18	Data File:	121111.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	BAT/MS

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<0.69	<0.4	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.49	<0.1	1,4-Dioxane	<0.36	<0.1
Chloromethane	<2.1	<1	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.022	<0.01	Bromodichloromethane	<0.067	<0.01
Butane	<2.4	<1	Trichloroethene	<0.27	<0.05
Bromomethane	<1.6	<0.4	cis-1,3-Dichloropropene	<0.45	<0.1
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	<4	Toluene	<0.38	<0.1
Acrolein	<0.92	<0.4	1,1,2-Trichloroethane	<0.11	<0.02
Pentane	<3	<1	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	<3.5	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	<87	<25	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.3	<0.4	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	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	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01	1,4-Dichlorobenzene	<0.24	<0.04
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	<0.63	<0.1	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.52	<0.1
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.21	<0.02

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812130
Date Extracted: 12/17/18
Date Analyzed: 12/17/18

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SV-1 812130-01	<0.6
SV-2 812130-02	<0.6
SV-3 812130-03	<0.6
SV-4 812130-04	<0.6
Method Blank	<0.6

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812130

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	ppbv	5	121	70-130
Dichlorodifluoromethane	ppbv	5	102	70-130
Chloromethane	ppbv	5	119	70-130
F-114	ppbv	5	99	70-130
Vinyl chloride	ppbv	5	99	70-130
1,3-Butadiene	ppbv	5	109	70-130
Butane	ppbv	5	123	70-130
Bromomethane	ppbv	5	119	70-130
Chloroethane	ppbv	5	101	70-130
Vinyl Bromide	ppbv	5	90	70-130
Ethanol	ppbv	5	113	70-130
Acrolein	ppbv	5	110	70-130
Pentane	ppbv	5	114	70-130
Trichlorofluoromethane	ppbv	5	103	70-130
Acetone	ppbv	5	107	70-130
2-Propanol	ppbv	5	117	70-130
1,1-Dichloroethene	ppbv	5	101	70-130
trans-1,2-Dichloroethene	ppbv	5	104	70-130
Methylene chloride	ppbv	5	105	70-130
t-Butyl alcohol (TBA)	ppbv	5	112	70-130
3-Chloropropene	ppbv	5	130	70-130
CFC-113	ppbv	5	100	70-130
Carbon disulfide	ppbv	5	108	70-130
Methyl t-butyl ether (MTBE)	ppbv	5	109	70-130
Vinyl acetate	ppbv	5	149 vo	70-130
1,1-Dichloroethane	ppbv	5	120	70-130
cis-1,2-Dichloroethene	ppbv	5	105	70-130
Hexane	ppbv	5	113	70-130
Chloroform	ppbv	5	117	70-130
Ethyl acetate	ppbv	5	134 vo	70-130
Tetrahydrofuran	ppbv	5	134 vo	70-130
2-Butanone (MEK)	ppbv	5	114	70-130
1,2-Dichloroethane (EDC)	ppbv	5	127	70-130
1,1,1-Trichloroethane	ppbv	5	115	70-130
Carbon tetrachloride	ppbv	5	110	70-130
Benzene	ppbv	5	112	70-130
Cyclohexane	ppbv	5	103	70-130
1,2-Dichloropropane	ppbv	5	110	70-130
1,4-Dioxane	ppbv	5	109	70-130
2,2,4-Trimethylpentane	ppbv	5	119	70-130
Methyl methacrylate	ppbv	5	137 vo	70-130

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812130

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
Heptane	ppbv	5	127	70-130
Bromodichloromethane	ppbv	5	116	70-130
Trichloroethene	ppbv	5	106	70-130
cis-1,3-Dichloropropene	ppbv	5	106	70-130
4-Methyl-2-pentanone	ppbv	5	94	70-130
trans-1,3-Dichloropropene	ppbv	5	108	70-130
Toluene	ppbv	5	95	70-130
1,1,2-Trichloroethane	ppbv	5	103	70-130
2-Hexanone	ppbv	5	133 vo	70-130
Tetrachloroethene	ppbv	5	92	70-130
Dibromochloromethane	ppbv	5	104	70-130
1,2-Dibromoethane (EDB)	ppbv	5	103	70-130
Chlorobenzene	ppbv	5	97	70-130
Ethylbenzene	ppbv	5	106	70-130
1,1,2,2-Tetrachloroethane	ppbv	5	106	70-130
Nonane	ppbv	5	142 vo	70-130
Isopropylbenzene	ppbv	5	110	70-130
2-Chlorotoluene	ppbv	5	101	70-130
Propylbenzene	ppbv	5	109	70-130
4-Ethyltoluene	ppbv	5	106	70-130
m,p-Xylene	ppbv	10	99	70-130
o-Xylene	ppbv	5	102	70-130
Styrene	ppbv	5	104	70-130
Bromoform	ppbv	5	96	70-130
Benzyl chloride	ppbv	5	102	70-130
1,3,5-Trimethylbenzene	ppbv	5	101	70-130
1,2,4-Trimethylbenzene	ppbv	5	94	70-130
1,3-Dichlorobenzene	ppbv	5	90	70-130
1,4-Dichlorobenzene	ppbv	5	88	70-130
1,2-Dichlorobenzene	ppbv	5	88	70-130
1,2,4-Trichlorobenzene	ppbv	5	79	70-130
Naphthalene	ppbv	5	92	70-130
Hexachlorobutadiene	ppbv	5	80	70-130

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812130

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

Laboratory Code: 812130-04 (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 compound is a common laboratory and field contaminant.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

812130

SAMPLE CHAIN OF CUSTODY

ME 12/11/18

Page # 1 of 1

Report To Dana Cannon & Kristin Beck
Company Aspect Consulting
Address 710 Second Ave, Suite 550
City, State, ZIP Seattle, WA 98104
Phone _____ Email _____

SAMPLERS (*signature*) Kristin Beck

PROJECT NAME: Evergreen Treatment Services
PO #: 180043

REPORTING LEVEL
☐ Indoor Air ☐ Deep Soil Gas
☒ Sub Slab/Soil Gas ☐ SVE/Grab

INVOICE TO: Accts Payable

TURNAROUND TIME
☒ Standard
☐ RUSH _____
Rush charges authorized by: _____

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Archive Samples
☐ Other _____

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	Helium	Notes
SV-1	01	2433	102	12/10/18	30	0748	4	0752	X			X	PID = 1.1 ppm
SV-2	02	3668	106	"	30	0835	5	0839	X			X	PID = 1.4 ppm
SV-3	03	3412	257	"	29	0957	4	1002	X			X	PID = 2.1 ppm
SV-4	04	2299	255	↓	30	1145	5	1149	X			X	PID = 0.1 ppm

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Kristin Beck	Kristin Beck	Aspect	12/11/18	0830
Received by:	Matt Langston	FBInc	12/11/18	0830
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

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

December 19, 2018

Dana Cannon, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Ms Cannon:

Included are the results from the testing of material submitted on December 11, 2018 from the Evergreen Treatment Services 180043, F&BI 812129 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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: Data Aspect, Kristin Beck
ASP1219R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 11, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Evergreen Treatment Services 180043, F&BI 812129 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
812129 -01	AMW-1-2.5
812129 -02	AMW-1-12.5
812129 -03	AMW-2-2.5
812129 -04	AMW-2-5.5
812129 -05	AMW-2-19.5
812129 -06	AMW-3-5.0
812129 -07	AMW-3-10.0
812129 -08	AMW-3-15.0
812129 -09	AMW-4-2.5
812129 -10	AMW-4-8.0
812129 -11	AMW-4-14.0
812129 -12	AMW-4-19.0

A 6020A internal standard failed the acceptance criteria for sample AMW-1-12.5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

All other quality control requirements were acceptable.

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129
Date Extracted: 12/12/18
Date Analyzed: 12/12/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AMW-1-12.5 812129-02	<5	87
AMW-2-2.5 812129-03	<5	83
AMW-2-5.5 812129-04	<5	83
AMW-3-5.0 812129-06	<5	85
AMW-4-2.5 812129-09	<5	82
AMW-4-8.0 812129-10	<5	83
Method Blank 08-2777 MB	<5	87

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129
Date Extracted: 12/12/18
Date Analyzed: 12/12/18

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
AMW-1-12.5 812129-02	<50	<250	83
AMW-2-2.5 812129-03	<50	<250	91
AMW-2-5.5 812129-04	<50	<250	90
AMW-3-5.0 812129-06	<50	<250	84
AMW-4-2.5 812129-09	<50	<250	83
AMW-4-8.0 812129-10	<50	<250	91
Method Blank 08-2786 MB	<50	<250	95

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-1-12.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-02
Date Analyzed:	12/14/18	Data File:	812129-02.093
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	27.8
Cadmium	2.00
Chromium	22.2
Copper	404
Lead	3,740 ve J
Mercury	<1 J
Nickel	19.6
Zinc	911

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-1-12.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-02 x25
Date Analyzed:	12/17/18	Data File:	812129-02 x25.033
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	4,720

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-2-2.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-03
Date Analyzed:	12/14/18	Data File:	812129-03.094
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.93
Cadmium	<1
Chromium	42.6
Copper	28.7
Lead	35.3
Mercury	<1
Nickel	44.0
Zinc	66.8

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-3-5.0	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-06
Date Analyzed:	12/14/18	Data File:	812129-06.095
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.39
Cadmium	<1
Chromium	34.1
Copper	29.8
Lead	5.21
Mercury	<1
Nickel	49.7
Zinc	48.8

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-4-2.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-09
Date Analyzed:	12/14/18	Data File:	812129-09.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.59
Cadmium	<1
Chromium	18.2
Copper	22.0
Lead	32.1
Mercury	<1
Nickel	21.5
Zinc	71.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-4-8.0	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-10
Date Analyzed:	12/14/18	Data File:	812129-10.109
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	23.4
Copper	11.4
Lead	7.35
Mercury	<1
Nickel	35.7
Zinc	25.7

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	I8-860 mb
Date Analyzed:	12/14/18	Data File:	I8-860 mb.057
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Mercury	<1
Nickel	<1
Zinc	<5

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AMW-3-5.0	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-06 1/5
Date Analyzed:	12/14/18	Data File:	121407.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	76	31	163
Benzo(a)anthracene-d12	73	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	AMW-4-2.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	812129-09 1/5
Date Analyzed:	12/14/18	Data File:	121408.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	31	163
Benzo(a)anthracene-d12	89	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	0.013
Chrysene	0.017
Benzo(a)pyrene	0.020
Benzo(b)fluoranthene	0.028
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.018
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen Treatment Services
Date Extracted:	12/14/18	Lab ID:	08-2796 mb 1/5
Date Analyzed:	12/14/18	Data File:	121406.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	81	31	163
Benzo(a)anthracene-d12	83	24	168

Compounds:	Concentration mg/kg (ppm)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-1-12.5	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/12/18	Lab ID:	812129-02
Date Analyzed:	12/12/18	Data File:	121208.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-4-8.0	Client:	Aspect Consulting, LLC
Date Received:	12/11/18	Project:	Evergreen Treatment Services
Date Extracted:	12/12/18	Lab ID:	812129-10
Date Analyzed:	12/12/18	Data File:	121209.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	106	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen Treatment Services
Date Extracted:	12/12/18	Lab ID:	08-2753 mb2
Date Analyzed:	12/12/18	Data File:	121207.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	97	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 812139-28 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	71-131

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 812129-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	100	64-133	13

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	94	58-147

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 812190-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	4.23	110	107	75-125	3
Cadmium	mg/kg (ppm)	10	<1	109	104	75-125	5
Chromium	mg/kg (ppm)	50	6.42	102	101	75-125	1
Copper	mg/kg (ppm)	50	<5	97	96	75-125	1
Lead	mg/kg (ppm)	50	3.91	107	104	75-125	3
Mercury	mg/kg (ppm	5	<1	108	108	75-125	0
Nickel	mg/kg (ppm)	25	5.06	101	96	75-125	5
Zinc	mg/kg (ppm)	50	10.8	96	91	75-125	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	104	80-120
Cadmium	mg/kg (ppm)	10	107	80-120
Chromium	mg/kg (ppm)	50	110	80-120
Copper	mg/kg (ppm)	50	109	80-120
Lead	mg/kg (ppm)	50	109	80-120
Mercury	mg/kg (ppm)	5	108	80-120
Nickel	mg/kg (ppm)	25	113	80-120
Zinc	mg/kg (ppm)	50	101	80-120

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 812129-09 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Benz(a)anthracene	mg/kg (ppm)	0.17	0.012	93	23-144
Chrysene	mg/kg (ppm)	0.17	0.016	88	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.026	107	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	98	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.019	100	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.018	89	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	87	31-146

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	mg/kg (ppm)	0.17	89	89	51-115	0
Chrysene	mg/kg (ppm)	0.17	92	92	55-129	0
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	101	101	56-123	0
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	99	97	54-131	2
Benzo(a)pyrene	mg/kg (ppm)	0.17	88	86	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	98	95	49-148	3
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	97	97	50-141	0

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 812128-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	26	27	10-142	4
Chloromethane	mg/kg (ppm)	2.5	<0.5	53	53	10-126	0
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	58	61	10-138	5
Bromomethane	mg/kg (ppm)	2.5	<0.5	61	67	10-163	9
Chloroethane	mg/kg (ppm)	2.5	<0.5	69	71	10-176	3
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	67	68	10-176	1
Acetone	mg/kg (ppm)	12.5	<0.5	85	84	10-163	1
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	76	76	10-160	0
Hexane	mg/kg (ppm)	2.5	<0.25	63	65	10-137	3
Methylene chloride	mg/kg (ppm)	2.5	<0.5	103	106	10-156	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	89	90	21-145	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	84	84	14-137	0
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	87	88	19-140	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	86	87	10-158	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	89	90	25-135	1
Chloroform	mg/kg (ppm)	2.5	<0.05	92	93	21-145	1
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	88	87	19-147	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	92	92	12-160	0
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	91	92	10-156	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	88	89	17-140	1
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	98	99	9-164	1
Benzene	mg/kg (ppm)	2.5	<0.03	86	87	29-129	1
Trichloroethene	mg/kg (ppm)	2.5	<0.02	85	86	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	93	95	30-135	2
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	97	98	23-155	1
Dibromomethane	mg/kg (ppm)	2.5	<0.05	89	89	23-145	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	96	97	24-155	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	94	94	28-144	0
Toluene	mg/kg (ppm)	2.5	<0.05	88	88	35-130	0
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	93	93	26-149	0
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	91	92	10-205	1
2-Hexanone	mg/kg (ppm)	12.5	<0.5	93	93	15-166	0
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	94	95	31-137	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	86	87	20-133	1
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	103	104	28-150	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	91	91	28-142	0
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	90	91	32-129	1
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	90	91	32-137	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	99	99	31-143	0
m,p-Xylene	mg/kg (ppm)	5	<0.1	88	89	34-136	1
o-Xylene	mg/kg (ppm)	2.5	<0.05	91	91	33-134	0
Styrene	mg/kg (ppm)	2.5	<0.05	91	92	35-137	1
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	92	92	31-142	0
Bromoform	mg/kg (ppm)	2.5	<0.05	107	107	21-156	0
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	94	95	23-146	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	93	94	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	94	95	18-149	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	95	97	28-140	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	95	96	25-144	1
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	92	93	31-134	1
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	93	95	31-136	2
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	93	30-137	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	92	94	10-182	2
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	93	23-145	1
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	93	94	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	92	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	92	29-129	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	90	91	31-132	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	95	97	11-161	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	89	22-142	3
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	89	90	10-142	1
Naphthalene	mg/kg (ppm)	2.5	<0.05	86	87	14-157	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	85	87	20-144	2

Date of Report: 12/19/18
Date Received: 12/11/18
Project: Evergreen Treatment Services 180043, F&BI 812129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	52	10-146
Chloromethane	mg/kg (ppm)	2.5	70	27-133
Vinyl chloride	mg/kg (ppm)	2.5	80	22-139
Bromomethane	mg/kg (ppm)	2.5	77	38-114
Chloroethane	mg/kg (ppm)	2.5	88	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	90	10-196
Acetone	mg/kg (ppm)	12.5	94	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	92	47-128
Hexane	mg/kg (ppm)	2.5	87	43-142
Methylene chloride	mg/kg (ppm)	2.5	99	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	97	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	100	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	100	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	102	72-113
Chloroform	mg/kg (ppm)	2.5	104	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	96	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	104	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	106	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	102	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	115	60-139
Benzene	mg/kg (ppm)	2.5	98	68-114
Trichloroethene	mg/kg (ppm)	2.5	97	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	104	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	108	72-130
Dibromomethane	mg/kg (ppm)	2.5	100	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	106	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	75-136
Toluene	mg/kg (ppm)	2.5	98	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	102	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	101	75-113
2-Hexanone	mg/kg (ppm)	12.5	101	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	105	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	96	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	114	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	102	74-132
Chlorobenzene	mg/kg (ppm)	2.5	101	76-111
Ethylbenzene	mg/kg (ppm)	2.5	100	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	110	69-135
m,p-Xylene	mg/kg (ppm)	5	97	78-122
o-Xylene	mg/kg (ppm)	2.5	100	77-124
Styrene	mg/kg (ppm)	2.5	102	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	101	76-127
Bromoform	mg/kg (ppm)	2.5	119	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	103	74-124
Bromobenzene	mg/kg (ppm)	2.5	102	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	103	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	106	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	105	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	101	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	103	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	102	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	101	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	103	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	100	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	99	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	100	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	108	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	96	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	98	50-153
Naphthalene	mg/kg (ppm)	2.5	96	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	95	63-138

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B12129

SAMPLE CHAIN OF CUSTODY

ME 12/11/18

VSS/DCG

Page # 1 of 2

Report To Dana Cannon & Kristin Beck
Company Aspect Consulting
Address 710 2nd Ave, Suite 550
City, State, ZIP Seattle, WA 98104
Phone _____ Email _____

SAMPLERS (signature) Kat Beck

PROJECT NAME: Evergreen Treatment Services
PO #: 180043

REMARKS: ~~Please hold~~

INVOICE TO: Accts Payable

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

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	cPAHs	Metals			Notes
						ANALYSES REQUESTED											(As, Cd, Cr, Cu, Hg, Pb, Ni, Zn)
AMW-1-2.5	01 A-E	12/9/18	1025	Soil	5												
~~AMW-1-8.5~~			1145												5	*	(NB) 12-11-18 DID not receive
AMW-1-12.5	02 A-E		1208				X	X		X				X			
AMW-2-2.5	03		1450				X	X						X			X - per DC
AMW-2-5.5	04		1505				X	X									12/11/18
AMW-2-19.5	05		1520														ME
AMW-3-5.0	06		0930				X	X					X	X			
AMW-3-10.0	07		0956														
AMW-3-15.0	08		1009														
AMW-4-2.5	09		1550				X	X					X	X			

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Kat Beck	Kristin Beck	Aspect	12/11/18	0825
Received by: Matt Langston	Matt Langston	FBFM	12/11/18	0825
Relinquished by:				
Received by:				

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

812129

SAMPLE CHAIN OF CUSTODY

ME 12/11/18

US5/003

Page # 2 of 2

Report To Dana Cannon & Kristin Beck

Company Aspect Consulting

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Kat Beck

PROJECT NAME: Evergreen Treatment Services

PO #: 180043

REMARKS: Please hold

INVOICE TO

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

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	cPAHs	Metals	Notes
AMW-4-8.0 10	11 A-E	12/10/18	1506	Soil	5		X	X		X				X	
AMW-4-14.0 11	12	↓	1523	↓	↓										
AMW-4-19.0 12	13	↓	1525	↓	↓										

Metals (As, Cd, Cr, Cu, Hg, Pb, Ni, Zn)

Samples received at 3 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Kat Beck	Kristin Beck	Aspect	12/11/18	0825
Received by:	Matt Langston	FBInc	12/11/18	0825
Relinquished by:				
Received by:				

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

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

December 27, 2018

Dana Cannon, Project Manager
Aspect Consulting, LLC
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Ms Cannon:

Included are the results from the testing of material submitted on December 18, 2018 from the Evergreen 180043, F&BI 812250 project. There are 19 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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: Data Aspect
ASP1227R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 18, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Evergreen 180043, F&BI 812250 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
812250 -01	AMW-1-121718
812250 -02	AMW-2-121718
812250 -03	AMW-3-121718
812250 -04	AMW-4-121718

The samples were sent to Fremont Analytical for cyanide analysis. The report will be forwarded upon receipt.

All quality control requirements were acceptable.

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250
Date Extracted: 12/18/18
Date Analyzed: 12/18/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
AMW-1-121718 812250-01	<100	84
AMW-2-121718 812250-02	<100	82
AMW-3-121718 812250-03	<100	84
AMW-4-121718 812250-04	<100	83
Method Blank 08-2807 MB	<100	88

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250
Date Extracted: 12/19/18
Date Analyzed: 12/19/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
AMW-1-121718 812250-01	<50	<250	111
AMW-2-121718 812250-02	73 x	<250	121
AMW-3-121718 812250-03	<50	<250	116
AMW-4-121718 812250-04	<50	<250	119
Method Blank 08-2871 MB	<50	<250	104

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-1-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/21/18	Lab ID:	812250-01
Date Analyzed:	12/21/18	Data File:	812250-01.063
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	11.4
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	575
Mercury	<1
Nickel	1.31
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-2-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/21/18	Lab ID:	812250-02
Date Analyzed:	12/21/18	Data File:	812250-02.086
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.33
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	302
Mercury	<1
Nickel	3.80
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-3-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/21/18	Lab ID:	812250-03
Date Analyzed:	12/21/18	Data File:	812250-03.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	20.3
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	680
Mercury	<1
Nickel	2.22
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-4-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/21/18	Lab ID:	812250-04
Date Analyzed:	12/21/18	Data File:	812250-04.088
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	485
Mercury	<1
Nickel	2.24
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	NA	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/21/18	Lab ID:	I8-879 mb
Date Analyzed:	12/21/18	Data File:	I8-879 mb.051
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-1-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/18/18	Lab ID:	812250-01
Date Analyzed:	12/20/18	Data File:	122012.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	2.9	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-2-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/18/18	Lab ID:	812250-02
Date Analyzed:	12/18/18	Data File:	121822.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-3-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/18/18	Lab ID:	812250-03
Date Analyzed:	12/18/18	Data File:	121823.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	AMW-4-121718	Client:	Aspect Consulting, LLC
Date Received:	12/18/18	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/18/18	Lab ID:	812250-04
Date Analyzed:	12/18/18	Data File:	121824.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen 180043, F&BI 812250
Date Extracted:	12/18/18	Lab ID:	08-2769 mb
Date Analyzed:	12/18/18	Data File:	121808.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 812240-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	94	69-134

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	88	61-133	9

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 812294-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	1.83	113	110	75-125	3
Cadmium	ug/L (ppb)	5	<1	103	102	75-125	1
Chromium	ug/L (ppb)	20	<1	104	103	75-125	1
Copper	ug/L (ppb)	20	<5	94	94	75-125	0
Lead	ug/L (ppb)	10	<1	92	92	75-125	0
Manganese	ug/L (ppb)	20	219	173 b	101 b	75-125	53 b
Mercury	ug/L (ppb)	5	<1	94	95	75-125	1
Nickel	ug/L (ppb)	20	<1	96	97	75-125	1
Zinc	ug/L (ppb)	50	<5	94	95	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	108	80-120
Cadmium	ug/L (ppb)	5	105	80-120
Chromium	ug/L (ppb)	20	105	80-120
Copper	ug/L (ppb)	20	105	80-120
Lead	ug/L (ppb)	10	111	80-120
Manganese	ug/L (ppb)	20	105	80-120
Mercury	ug/L (ppb)	5	104	80-120
Nickel	ug/L (ppb)	20	105	80-120
Zinc	ug/L (ppb)	50	103	80-120

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 812231-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	113	55-137
Chloromethane	ug/L (ppb)	50	<10	93	61-120
Vinyl chloride	ug/L (ppb)	50	0.57	95	61-139
Bromomethane	ug/L (ppb)	50	<1	96	20-265
Chloroethane	ug/L (ppb)	50	<1	100	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	95	71-128
Acetone	ug/L (ppb)	250	<50	86	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	71-123
Hexane	ug/L (ppb)	50	<1	88	44-139
Methylene chloride	ug/L (ppb)	50	<5	86	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	96	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	95	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	91	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	85	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	39	88 b	63-126
Chloroform	ug/L (ppb)	50	<1	90	77-117
2-Butanone (MEK)	ug/L (ppb)	250	20	89	70-135
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	93	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	89	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	95	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	89	70-132
Benzene	ug/L (ppb)	50	<0.35	90	75-114
Trichloroethene	ug/L (ppb)	50	<1	92	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	97	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	93	78-117
Dibromomethane	ug/L (ppb)	50	<1	90	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250	15	110	79-140
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	94	76-120
Toluene	ug/L (ppb)	50	<1	89	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	91	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	89	81-116
2-Hexanone	ug/L (ppb)	250	<10	94	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	94	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	92	72-113
Dibromochloromethane	ug/L (ppb)	50	<1	94	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	95	79-120
Chlorobenzene	ug/L (ppb)	50	<1	90	75-115
Ethylbenzene	ug/L (ppb)	50	<1	93	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	90	76-130
m,p-Xylene	ug/L (ppb)	100	<2	95	63-128
o-Xylene	ug/L (ppb)	50	<1	100	64-129
Styrene	ug/L (ppb)	50	<1	99	56-142
Isopropylbenzene	ug/L (ppb)	50	<1	98	74-122
Bromoform	ug/L (ppb)	50	<1	94	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	93	65-129
Bromobenzene	ug/L (ppb)	50	<1	93	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	98	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	92	79-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	88	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	92	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	91	76-122
tert-Butylbenzene	ug/L (ppb)	50	<1	99	74-125
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	96	59-136
sec-Butylbenzene	ug/L (ppb)	50	<1	95	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	97	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	92	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	86	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	90	70-120
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	96	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	98	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	91	53-136
Naphthalene	ug/L (ppb)	50	<1	99	60-145
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	93	59-130

Date of Report: 12/27/18
Date Received: 12/18/18
Project: Evergreen 180043, F&BI 812250

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	123	123	50-157	0
Chloromethane	ug/L (ppb)	50	99	96	62-130	3
Vinyl chloride	ug/L (ppb)	50	98	97	70-128	1
Bromomethane	ug/L (ppb)	50	97	98	62-188	1
Chloroethane	ug/L (ppb)	50	100	102	66-149	2
Trichlorofluoromethane	ug/L (ppb)	50	98	98	70-132	0
Acetone	ug/L (ppb)	250	88	87	44-145	1
1,1-Dichloroethene	ug/L (ppb)	50	100	98	75-119	2
Hexane	ug/L (ppb)	50	95	93	51-153	2
Methylene chloride	ug/L (ppb)	50	87	85	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	96	96	70-122	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	95	95	76-118	0
1,1-Dichloroethane	ug/L (ppb)	50	92	90	77-119	2
2,2-Dichloropropane	ug/L (ppb)	50	93	93	62-141	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	91	90	76-119	1
Chloroform	ug/L (ppb)	50	90	90	78-117	0
2-Butanone (MEK)	ug/L (ppb)	250	92	89	49-147	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	93	78-114	1
1,1,1-Trichloroethane	ug/L (ppb)	50	91	90	80-116	1
1,1-Dichloropropene	ug/L (ppb)	50	97	95	78-119	2
Carbon tetrachloride	ug/L (ppb)	50	92	91	72-128	1
Benzene	ug/L (ppb)	50	91	90	75-116	1
Trichloroethene	ug/L (ppb)	50	94	93	72-119	1
1,2-Dichloropropane	ug/L (ppb)	50	99	97	79-121	2
Bromodichloromethane	ug/L (ppb)	50	94	93	76-120	1
Dibromomethane	ug/L (ppb)	50	91	89	79-121	2
4-Methyl-2-pentanone	ug/L (ppb)	250	110	108	54-153	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	98	96	76-128	2
Toluene	ug/L (ppb)	50	90	89	79-115	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	95	92	76-128	3
1,1,2-Trichloroethane	ug/L (ppb)	50	91	88	78-120	3
2-Hexanone	ug/L (ppb)	250	95	92	49-147	3
1,3-Dichloropropane	ug/L (ppb)	50	95	94	81-115	1
Tetrachloroethene	ug/L (ppb)	50	95	92	78-109	3
Dibromochloromethane	ug/L (ppb)	50	96	95	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	97	94	82-118	3
Chlorobenzene	ug/L (ppb)	50	91	90	80-113	1
Ethylbenzene	ug/L (ppb)	50	94	93	83-111	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	91	89	76-125	2
m,p-Xylene	ug/L (ppb)	100	96	93	84-112	3
o-Xylene	ug/L (ppb)	50	102	100	81-117	2
Styrene	ug/L (ppb)	50	101	98	83-121	3
Isopropylbenzene	ug/L (ppb)	50	99	97	81-122	2
Bromoform	ug/L (ppb)	50	97	95	40-161	2
n-Propylbenzene	ug/L (ppb)	50	95	93	81-115	2
Bromobenzene	ug/L (ppb)	50	95	94	80-113	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	99	98	83-117	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	92	91	79-118	1
1,2,3-Trichloropropane	ug/L (ppb)	50	90	88	74-116	2
2-Chlorotoluene	ug/L (ppb)	50	94	93	79-112	1
4-Chlorotoluene	ug/L (ppb)	50	92	91	80-116	1
tert-Butylbenzene	ug/L (ppb)	50	100	101	81-119	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	97	96	81-121	1
sec-Butylbenzene	ug/L (ppb)	50	96	96	83-123	0
p-Isopropyltoluene	ug/L (ppb)	50	99	99	81-122	0
1,3-Dichlorobenzene	ug/L (ppb)	50	94	93	80-115	1
1,4-Dichlorobenzene	ug/L (ppb)	50	87	86	77-112	1
1,2-Dichlorobenzene	ug/L (ppb)	50	91	89	79-115	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	94	93	62-133	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	99	99	75-119	0
Hexachlorobutadiene	ug/L (ppb)	50	95	95	70-116	0
Naphthalene	ug/L (ppb)	50	100	99	72-131	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	93	93	74-122	0

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 812250
Work Order Number: 1812267

December 26, 2018

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 12/18/2018 for the analyses presented in the following report.

Cyanide by SM 4500-CN C, E

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

Date: *12/26/2018*

CLIENT: Friedman & Bruya
Project: 812250
Work Order: 1812267

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1812267-001	AMW-1-121718	12/17/2018 2:15 PM	12/18/2018 12:20 PM
1812267-002	AMW-2-121718	12/17/2018 4:35 PM	12/18/2018 12:20 PM
1812267-003	AMW-3-121718	12/17/2018 3:25 PM	12/18/2018 12:20 PM
1812267-004	AMW-4-121718	12/17/2018 1:15 PM	12/18/2018 12:20 PM

Case Narrative

WO#: **1812267**
Date: **12/26/2018**

CLIENT: Friedman & Bruya
Project: 812250

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

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

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

Qualifiers:

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

Acronyms:

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

Analytical Report

Work Order: **1812267**
Date Reported: **12/26/2018**

CLIENT: Friedman & Bruya
Project: 812250

Lab ID: 1812267-001 **Collection Date:** 12/17/2018 2:15:00 PM
Client Sample ID: **AMW-1-121718** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Cyanide by SM 4500-CN C, E				Batch ID: 23064		Analyst: WF
Cyanide, Total	ND	0.0500		mg/L	1	12/26/2018 12:22:00 PM

Lab ID: 1812267-002 **Collection Date:** 12/17/2018 4:35:00 PM
Client Sample ID: **AMW-2-121718** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Cyanide by SM 4500-CN C, E				Batch ID: 23064		Analyst: WF
Cyanide, Total	ND	0.0500		mg/L	1	12/26/2018 12:36:00 PM

Lab ID: 1812267-003 **Collection Date:** 12/17/2018 3:25:00 PM
Client Sample ID: **AMW-3-121718** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Cyanide by SM 4500-CN C, E				Batch ID: 23064		Analyst: WF
Cyanide, Total	ND	0.0500		mg/L	1	12/26/2018 12:40:00 PM

Analytical Report

Work Order: **1812267**
Date Reported: **12/26/2018**

CLIENT: Friedman & Bruya
Project: 812250

Lab ID: 1812267-004 **Collection Date:** 12/17/2018 1:15:00 PM
Client Sample ID: **AMW-4-121718** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Cyanide by SM 4500-CN C, E				Batch ID: 23064		Analyst: WF
Cyanide, Total	ND	0.0500		mg/L	1	12/26/2018 12:43:00 PM

Work Order: 1812267
CLIENT: Friedman & Bruya
Project: 812250

QC SUMMARY REPORT

Cyanide by SM 4500-CN C, E

Sample ID	**MB-23064**	SampType:	**MBLK**	Units:	**mg/L**	Prep Date:	**12/26/2018**	RunNo:	**48552**
Client ID:	**MBLKW**	Batch ID:	**23064**			Analysis Date:	**12/26/2018**	SeqNo:	**951593**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	ND	0.0500									

Sample ID	**LCS-23064**	SampType:	**LCS**	Units:	**mg/L**	Prep Date:	**12/26/2018**	RunNo:	**48552**
Client ID:	**LCSW**	Batch ID:	**23064**			Analysis Date:	**12/26/2018**	SeqNo:	**951594**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.262	0.0500	0.2500	0	105	80	120				

Sample ID	**1812267-001ADUP**	SampType:	**DUP**	Units:	**mg/L**	Prep Date:	**12/26/2018**	RunNo:	**48552**
Client ID:	**AMW-1-121718**	Batch ID:	**23064**			Analysis Date:	**12/26/2018**	SeqNo:	**951596**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	ND	0.0500						0		20	

Sample ID	**1812267-001AMS**	SampType:	**MS**	Units:	**mg/L**	Prep Date:	**12/26/2018**	RunNo:	**48552**
Client ID:	**AMW-1-121718**	Batch ID:	**23064**			Analysis Date:	**12/26/2018**	SeqNo:	**951597**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.294	0.0500	0.2500	0	118	80	120				

Sample ID	**1812267-001AMSD**	SampType:	**MSD**	Units:	**mg/L**	Prep Date:	**12/26/2018**	RunNo:	**48552**
Client ID:	**AMW-1-121718**	Batch ID:	**23064**			Analysis Date:	**12/26/2018**	SeqNo:	**951598**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.281	0.0500	0.2500	0	112	80	120	0.2941	4.63	30	

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**1812267**
Logged by:	**Clare Griggs**	Date Received:	**12/18/2018 12:20:00 PM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	10.7

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

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 1812267 1812267

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Fremont

PROJECT NAME/NO.	PO #
812250	A-663

REMARKS

Please Email Results Aspect EDD

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Total Organic Carbon	COD	BOD	Chloride	Sulfate	Sulfide	Cyanide				Notes
AMW-1-121718		12/17/18	1415	water	1							X				
AMW-2-121718			1635		1							X				
AMW-3-121718			1525		1							X				
AMW-4-121718			1315		1							X				

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	12/18/18	11:00 AM
Received by:			FAF	12/18/18	1220
Relinquished by:					
Received by:					

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

812250

SAMPLE CHAIN OF CUSTODY

ME 12/18/18

VW3/AI2/DO4

Page # 1 of 1

Report To Dana Cannon

Company Aspect

Address

City, State, ZIP Seattle

Phone 206-838-5887 Email dcannon@aspectconsulting.com

SAMPLERS (*signature*) Na Hyung Choi

PROJECT NAME: Evergreen

PO # 180043

REMARKS: COOLER 1/2 *

INVOICE TO: Accts Payable

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

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	dissolved metals	Cyanide			Notes
AMW-1-121718	01 A-I	12/17/18	1415	water	9		X	X		X			X	X			metals: As, Cd, Cr, Cu, Hg, Mn, Pb, Ni, Zn (field filtered)
AMW-2-121718	02		1635				X	X		X			X	X			
AMW-3-121718	03		1525				X	X		X			X	X			
AMW-4-121718	04		1315				X	X		X			X	X			
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Na Hyung Choi	Na Hyung Choi	Aspect	12/17/18	1815
Received by:	DAVID NEGARD	FED EX	12/18/18	9:39
Relinquished by:				
Received by:	Nham Pham	FEBI	12/18/18	1020

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

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

September 17, 2020

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

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on September 10, 2020 from the Evergreen Treatment Services 1700 Airport Way South, Seattle, WA PO 180043, F&BI 009183 project. There are 13 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
ASP0917R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 10, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC Evergreen Treatment Services 1700 Airport Way South, Seattle, WA PO 180043, F&BI 009183 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
009183 -01	SV-3-091020

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

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	SV-3-091020	Client:	Aspect Consulting, LLC
Date Received:	09/10/20	Project:	Evergreen Treatment Services, Seattle, WA
Date Collected:	09/10/20	Lab ID:	009183-01 1/17
Date Analyzed:	09/15/20	Data File:	091430.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	108	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	3,100
APH EC9-12 aliphatics	860
APH EC9-10 aromatics	<420

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen Treatment Services, Seattle, WA
Date Collected:	Not Applicable	Lab ID:	00-2043 MB
Date Analyzed:	09/14/20	Data File:	091421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	110	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-3-091020	Client:	Aspect Consulting, LLC
Date Received:	09/10/20	Project:	Evergreen Treatment Services, Seattle, WA
Date Collected:	09/10/20	Lab ID:	009183-01 1/17
Date Analyzed:	09/15/20	Data File:	091430.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	105	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	180	110	1,2-Dichloropropane	<3.9	<0.85
Dichlorodifluoromethane	<8.4	<1.7	1,4-Dioxane	<6.1	<1.7
Chloromethane	<63	<31	2,2,4-Trimethylpentane	<79	<17
F-114	<12	<1.7	Methyl methacrylate	<70	<17
Vinyl chloride	<4.3	<1.7	Heptane	<70	<17
1,3-Butadiene	<0.75	<0.34	Bromodichloromethane	<1.1	<0.17
Butane	400	170	Trichloroethene	40	7.4
Bromomethane	<40	<10	cis-1,3-Dichloropropene	<7.7	<1.7
Chloroethane	<45	<17	4-Methyl-2-pentanone	<70	<17
Vinyl bromide	<7.4	<1.7	trans-1,3-Dichloropropene	<7.7	<1.7
Ethanol	570	300	Toluene	<320	<85
Acrolein	<35	<15	1,1,2-Trichloroethane	<1.9	<0.34
Pentane	190	64	2-Hexanone	<70	<17
Trichlorofluoromethane	<38	<6.8	Tetrachloroethene	<120	<17
Acetone	640	270	Dibromochloromethane	<1.4	<0.17
2-Propanol	<150	<59	1,2-Dibromoethane (EDB)	<1.3	<0.17
1,1-Dichloroethene	<6.7	<1.7	Chlorobenzene	<7.8	<1.7
trans-1,2-Dichloroethene	<6.7	<1.7	Ethylbenzene	<7.4	<1.7
Methylene chloride	<590 ca	<170 ca	1,1,2,2-Tetrachloroethane	<2.3	<0.34
t-Butyl alcohol (TBA)	<210	<68	Nonane	<89	<17
3-Chloropropene	<27	<8.5	Isopropylbenzene	<42	<8.5
CFC-113	<13	<1.7	2-Chlorotoluene	<88	<17
Carbon disulfide	<110	<34	Propylbenzene	<42	<8.5
Methyl t-butyl ether (MTBE)	<31	<8.5	4-Ethyltoluene	<42	<8.5
Vinyl acetate	<120	<34	m,p-Xylene	20	4.6
1,1-Dichloroethane	<6.9	<1.7	o-Xylene	<7.4	<1.7
cis-1,2-Dichloroethene	35	8.8	Styrene	<14	<3.4
Hexane	79	22	Bromoform	<35	<3.4
Chloroform	1.7	0.36	Benzyl chloride	<0.88	<0.17
Ethyl acetate	<120	<34	1,3,5-Trimethylbenzene	<42	<8.5
Tetrahydrofuran	28	9.3	1,2,4-Trimethylbenzene	<42	<8.5
2-Butanone (MEK)	<50	<17	1,3-Dichlorobenzene	<10	<1.7
1,2-Dichloroethane (EDC)	<0.69	<0.17	1,4-Dichlorobenzene	<3.9	<0.65
1,1,1-Trichloroethane	<9.3	<1.7	1,2-Dichlorobenzene	<10	<1.7
Carbon tetrachloride	<5.3	<0.85	1,2,4-Trichlorobenzene	<13	<1.7
Benzene	29	9.2	Naphthalene	<4.5	<0.85
Cyclohexane	<120	<34	Hexachlorobutadiene	<3.6	<0.34

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	Evergreen Treatment Services, Seattle, WA
Date Collected:	Not Applicable	Lab ID:	00-2043 MB
Date Analyzed:	09/14/20	Data File:	091421.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.49	<0.1	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	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	<2.4	<1	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
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	<4	Toluene	<19	<5
Acrolein	<2.1	<0.9	1,1,2-Trichloroethane	<0.11	<0.02
Pentane	<3	<1	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	<3.5	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 ca	<10 ca	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	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	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	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	<0.26	<0.05
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.21	<0.02

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183
Date Extracted: 09/16/20
Date Analyzed: 09/16/20

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SV-3-091020 009183-01	<0.6
Method Blank	<0.6

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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

Laboratory Code: 009222-03 1/8.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	370	260	35 vo
APH EC9-12 aliphatics	ug/m3	1,600	1,500	6
APH EC9-10 aromatics	ug/m3	<210	<210	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	80	70-130
APH EC9-12 aliphatics	ug/m3	67	102	70-130
APH EC9-10 aromatics	ug/m3	67	88	70-130

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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

Laboratory Code: 009222-03 1/8.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	<10	<10	nm
Dichlorodifluoromethane	ug/m3	<4.1	<4.1	nm
Chloromethane	ug/m3	<31	<31	nm
F-114	ug/m3	<5.8	<5.8	nm
Vinyl chloride	ug/m3	3.7	3.7	0
1,3-Butadiene	ug/m3	<0.37	<0.37	nm
Butane	ug/m3	<20	<20	nm
Bromomethane	ug/m3	<19	<19	nm
Chloroethane	ug/m3	<22	<22	nm
Vinyl bromide	ug/m3	<3.6	<3.6	nm
Ethanol	ug/m3	<63	<63	nm
Acrolein	ug/m3	<17	<17	nm
Pentane	ug/m3	<24	<24	nm
Trichlorofluoromethane	ug/m3	<19	<19	nm
Acetone	ug/m3	110	91	19
2-Propanol	ug/m3	<71	<71	nm
1,1-Dichloroethene	ug/m3	<3.3	<3.3	nm
trans-1,2-Dichloroethene	ug/m3	<3.3	<3.3	nm
Methylene chloride	ug/m3	<290	<290	nm
t-Butyl alcohol (TBA)	ug/m3	<100	<100	nm
3-Chloropropene	ug/m3	<13	<13	nm
CFC-113	ug/m3	<6.4	<6.4	nm
Carbon disulfide	ug/m3	<52	<52	nm
Methyl t-butyl ether (MTBE)	ug/m3	<15	<15	nm
Vinyl acetate	ug/m3	<58	<58	nm
1,1-Dichloroethane	ug/m3	<3.4	<3.4	nm
cis-1,2-Dichloroethene	ug/m3	<3.3	<3.3	nm
Hexane	ug/m3	<29	<29	nm
Chloroform	ug/m3	<0.41	<0.41	nm
Ethyl acetate	ug/m3	<60	<60	nm
Tetrahydrofuran	ug/m3	<2.4	<2.4	nm
2-Butanone (MEK)	ug/m3	45	42	7
1,2-Dichloroethane (EDC)	ug/m3	<0.34	<0.34	nm
1,1,1-Trichloroethane	ug/m3	<4.5	<4.5	nm
Carbon tetrachloride	ug/m3	<2.6	<2.6	nm
Benzene	ug/m3	<2.7	<2.7	nm
Cyclohexane	ug/m3	<57	<57	nm
1,2-Dichloropropane	ug/m3	<1.9	<1.9	nm
1,4-Dioxane	ug/m3	<3	<3	nm
2,2,4-Trimethylpentane	ug/m3	<39	<39	nm

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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

Laboratory Code: 009222-03 1/8.3 (Duplicate, continued)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Methyl methacrylate	ug/m3	<34	<34	nm
Heptane	ug/m3	<34	<34	nm
Bromodichloromethane	ug/m3	<0.56	<0.56	nm
Trichloroethene	ug/m3	<0.89	<0.89	nm
cis-1,3-Dichloropropene	ug/m3	<3.8	<3.8	nm
4-Methyl-2-pentanone	ug/m3	<34	<34	nm
trans-1,3-Dichloropropene	ug/m3	<3.8	<3.8	nm
Toluene	ug/m3	<160	<160	nm
1,1,2-Trichloroethane	ug/m3	<0.91	<0.91	nm
2-Hexanone	ug/m3	<34	<34	nm
Tetrachloroethene	ug/m3	<56	<56	nm
Dibromochloromethane	ug/m3	<0.71	<0.71	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.64	<0.64	nm
Chlorobenzene	ug/m3	<3.8	<3.8	nm
Ethylbenzene	ug/m3	<3.6	<3.6	nm
1,1,2,2-Tetrachloroethane	ug/m3	1.6	1.5	6
Nonane	ug/m3	<44	<44	nm
Isopropylbenzene	ug/m3	<20	<20	nm
2-Chlorotoluene	ug/m3	<43	<43	nm
Propylbenzene	ug/m3	<20	<20	nm
4-Ethyltoluene	ug/m3	<20	<20	nm
m,p-Xylene	ug/m3	<7.2	<7.2	nm
o-Xylene	ug/m3	<3.6	<3.6	nm
Styrene	ug/m3	<7.1	<7.1	nm
Bromoform	ug/m3	<17	<17	nm
Benzyl chloride	ug/m3	<0.43	<0.43	nm
1,3,5-Trimethylbenzene	ug/m3	<20	<20	nm
1,2,4-Trimethylbenzene	ug/m3	<20	<20	nm
1,3-Dichlorobenzene	ug/m3	<5	<5	nm
1,4-Dichlorobenzene	ug/m3	<1.9	<1.9	nm
1,2-Dichlorobenzene	ug/m3	<5	<5	nm
1,2,4-Trichlorobenzene	ug/m3	<6.2	<6.2	nm
Naphthalene	ug/m3	<2.2	<2.2	nm
Hexachlorobutadiene	ug/m3	<1.8	<1.8	nm

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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	102	70-130
Dichlorodifluoromethane	ug/m3	67	104	70-130
Chloromethane	ug/m3	28	103	70-130
F-114	ug/m3	94	105	70-130
Vinyl chloride	ug/m3	35	103	70-130
1,3-Butadiene	ug/m3	30	101	70-130
Butane	ug/m3	32	103	70-130
Bromomethane	ug/m3	52	110	70-130
Chloroethane	ug/m3	36	103	70-130
Vinyl bromide	ug/m3	59	108	70-130
Ethanol	ug/m3	25	95	70-130
Acrolein	ug/m3	31	99	70-130
Pentane	ug/m3	40	105	70-130
Trichlorofluoromethane	ug/m3	76	107	70-130
Acetone	ug/m3	32	106	70-130
2-Propanol	ug/m3	33	102	70-130
1,1-Dichloroethene	ug/m3	54	103	70-130
trans-1,2-Dichloroethene	ug/m3	54	102	70-130
Methylene chloride	ug/m3	94	92	70-130
t-Butyl alcohol (TBA)	ug/m3	41	101	70-130
3-Chloropropene	ug/m3	42	96	70-130
CFC-113	ug/m3	100	104	70-130
Carbon disulfide	ug/m3	42	95	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	103	70-130
Vinyl acetate	ug/m3	48	94	70-130
1,1-Dichloroethane	ug/m3	55	105	70-130
cis-1,2-Dichloroethene	ug/m3	54	104	70-130
Hexane	ug/m3	48	105	70-130
Chloroform	ug/m3	66	105	70-130
Ethyl acetate	ug/m3	49	108	70-130
Tetrahydrofuran	ug/m3	40	100	70-130
2-Butanone (MEK)	ug/m3	40	112	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	104	70-130
1,1,1-Trichloroethane	ug/m3	74	103	70-130
Carbon tetrachloride	ug/m3	85	104	70-130
Benzene	ug/m3	43	101	70-130
Cyclohexane	ug/m3	46	102	70-130
1,2-Dichloropropane	ug/m3	62	96	70-130
1,4-Dioxane	ug/m3	49	92	70-130
2,2,4-Trimethylpentane	ug/m3	63	98	70-130

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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	98	70-130
Heptane	ug/m3	55	99	70-130
Bromodichloromethane	ug/m3	90	101	70-130
Trichloroethene	ug/m3	73	100	70-130
cis-1,3-Dichloropropene	ug/m3	61	105	70-130
4-Methyl-2-pentanone	ug/m3	55	106	70-130
trans-1,3-Dichloropropene	ug/m3	61	100	70-130
Toluene	ug/m3	51	98	70-130
1,1,2-Trichloroethane	ug/m3	74	102	70-130
2-Hexanone	ug/m3	55	100	70-130
Tetrachloroethene	ug/m3	92	92	70-130
Dibromochloromethane	ug/m3	120	102	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	102	70-130
Chlorobenzene	ug/m3	62	100	70-130
Ethylbenzene	ug/m3	59	101	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	105	70-130
Nonane	ug/m3	71	105	70-130
Isopropylbenzene	ug/m3	66	105	70-130
2-Chlorotoluene	ug/m3	70	107	70-130
Propylbenzene	ug/m3	66	110	70-130
4-Ethyltoluene	ug/m3	66	116	70-130
m,p-Xylene	ug/m3	120	103	70-130
o-Xylene	ug/m3	59	102	70-130
Styrene	ug/m3	58	101	70-130
Bromoform	ug/m3	140	104	70-130
Benzyl chloride	ug/m3	70	105	70-130
1,3,5-Trimethylbenzene	ug/m3	66	106	70-130
1,2,4-Trimethylbenzene	ug/m3	66	108	70-130
1,3-Dichlorobenzene	ug/m3	81	104	70-130
1,4-Dichlorobenzene	ug/m3	81	98	70-130
1,2-Dichlorobenzene	ug/m3	81	98	70-130
1,2,4-Trichlorobenzene	ug/m3	100	91	70-130
Naphthalene	ug/m3	71	92	70-130
Hexachlorobutadiene	ug/m3	140	106	70-130

Date of Report: 09/17/20
Date Received: 09/10/20
Project: Evergreen Treatment Services 1700 Airport Way South, Seattle, F&BI 009183

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

Laboratory Code: 009138-01 (Duplicate)

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

Laboratory Code: 009233-01 (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.

009183

SAMPLE CHAIN OF CUSTODY mw ME 09-10-20

Page # 1 of 1

Report To Andrew Yonkofski
Company Aspect Consulting
Address 710 2nd Ave, Ste 550
City, State, ZIP Seattle, WA 98104
Phone (206) 413-5411 Email ayonkofski@aspectconsulting.com

SAMPLERS (*signature*) Rachel C

PROJECT NAME & ADDRESS: Evergreen Treatment Services, 1700 Airport Way South, Seattle, WA
PO # 180043

NOTES:

INVOICE TO: AP

TURNAROUND TIME
X Standard
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Default: Clean after 3 days
☐ Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
SV-3-091020	01	2294	280	IA / (SG)	09/10/20	28.5"	1532	5	1537	/			/	/		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Rachel C	Rachel Cornwell	Aspect	9/10/2020	1700
Received by:	Eric Glover	F&B	9/10/20	1700
Relinquished by:				
Received by:				

Samples received at 22 °C

KP *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

September 18, 2020

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

Dear Mr Yonkofski:

Included are the results from the testing of material submitted on September 17, 2020 from the 180043, F&BI 009308 project. There are 13 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
ASP0918R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 17, 2020 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC 180043, F&BI 009308 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting, LLC
009308 -01	SV-5-091720

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

The APH EC5-8 aliphatics and propene concentration in sample SV-5-091720 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 MA-APH

Client Sample ID:	SV-5-091720	Client:	Aspect Consulting, LLC
Date Received:	09/17/20	Project:	180043, F&BI 009308
Date Collected:	09/17/20	Lab ID:	009308-01 1/42
Date Analyzed:	09/18/20	Data File:	091723.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	29,000 ve
APH EC9-12 aliphatics	22,000
APH EC9-10 aromatics	<1,000

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	180043, F&BI 009308
Date Collected:	Not Applicable	Lab ID:	00-2080 MB
Date Analyzed:	09/17/20	Data File:	091718.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<40
APH EC9-12 aliphatics	<50
APH EC9-10 aromatics	<25

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SV-5-091720	Client:	Aspect Consulting, LLC
Date Received:	09/17/20	Project:	180043, F&BI 009308
Date Collected:	09/17/20	Lab ID:	009308-01 1/42
Date Analyzed:	09/18/20	Data File:	091723.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	2,100 ve	1,200 ve	1,2-Dichloropropane	<9.7	<2.1
Dichlorodifluoromethane	<21	<4.2	1,4-Dioxane	<15	<4.2
Chloromethane	<160	<76	2,2,4-Trimethylpentane	460	99
F-114	<29	<4.2	Methyl methacrylate	<170	<42
Vinyl chloride	280	110	Heptane	<170	<42
1,3-Butadiene	<1.9	<0.84	Bromodichloromethane	<2.8	<0.42
Butane	2,000	850	Trichloroethene	61	11
Bromomethane	<98	<25	cis-1,3-Dichloropropene	<19	<4.2
Chloroethane	<110	<42	4-Methyl-2-pentanone	<170	<42
Vinyl bromide	<18	<4.2	trans-1,3-Dichloropropene	<19	<4.2
Ethanol	<320	<170	Toluene	<790	<210
Acrolein	<87	<38	1,1,2-Trichloroethane	<2.3	<0.42
Pentane	870	290	2-Hexanone	<170	<42
Trichlorofluoromethane	<94	<17	Tetrachloroethene	<280	<42
Acetone	<600	<250	Dibromochloromethane	<3.6	<0.42
2-Propanol	<360	<150	1,2-Dibromoethane (EDB)	<3.2	<0.42
1,1-Dichloroethene	<17	<4.2	Chlorobenzene	<19	<4.2
trans-1,2-Dichloroethene	110	28	Ethylbenzene	<18	<4.2
Methylene chloride	<1,500 ca	<420 ca	1,1,2,2-Tetrachloroethane	<5.8	<0.84
t-Butyl alcohol (TBA)	<510	<170	Nonane	<220	<42
3-Chloropropene	<66	<21	Isopropylbenzene	<100	<21
CFC-113	<32	<4.2	2-Chlorotoluene	<220	<42
Carbon disulfide	<260	<84	Propylbenzene	<100	<21
Methyl t-butyl ether (MTBE)	<76	<21	4-Ethyltoluene	<100	<21
Vinyl acetate	<300	<84	m,p-Xylene	<36	<8.4
1,1-Dichloroethane	<17	<4.2	o-Xylene	37	8.5
cis-1,2-Dichloroethene	70	18	Styrene	<36	<8.4
Hexane	360	100	Bromoform	<87	<8.4
Chloroform	<2.1	<0.42	Benzyl chloride	<2.2	<0.42
Ethyl acetate	<300	<84	1,3,5-Trimethylbenzene	<100	<21
Tetrahydrofuran	18	6.2	1,2,4-Trimethylbenzene	<100	<21
2-Butanone (MEK)	<120	<42	1,3-Dichlorobenzene	<25	<4.2
1,2-Dichloroethane (EDC)	<1.7	<0.42	1,4-Dichlorobenzene	<9.7	<1.6
1,1,1-Trichloroethane	<23	<4.2	1,2-Dichlorobenzene	<25	<4.2
Carbon tetrachloride	<13	<2.1	1,2,4-Trichlorobenzene	<31	<4.2
Benzene	170	54	Naphthalene	<11	<2.1
Cyclohexane	<290	<84	Hexachlorobutadiene	<9	<0.84

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	180043, F&BI 009308
Date Collected:	Not Applicable	Lab ID:	00-2080 MB
Date Analyzed:	09/17/20	Data File:	091718.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.49	<0.1	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<0.7	<0.1	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	<2.4	<1	Trichloroethene	<0.11	<0.02
Bromomethane	<2.3	<0.6	cis-1,3-Dichloropropene	<0.45	<0.1
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	<4	Toluene	<19	<5
Acrolein	<2.1	<0.9	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<3	<1	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	<3.5	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 ca	<10 ca	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<1.6	<0.5	Isopropylbenzene	<2.5	<0.5
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<2.5	<0.5
Methyl t-butyl ether (MTBE)	<1.8	<0.5	4-Ethyltoluene	<2.5	<0.5
Vinyl acetate	<7	<2	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	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<2.5	<0.5
Tetrahydrofuran	<0.29	<0.1	1,2,4-Trimethylbenzene	<2.5	<0.5
2-Butanone (MEK)	<2.9	<1	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	<0.26	<0.05
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.21	<0.02

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308
Date Extracted: 09/18/20
Date Analyzed: 09/18/20

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SV-5-091720 009308-01	<0.6
Method Blank	<0.6

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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

Laboratory Code: 009252-01 1/3.8 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	350	350	0
APH EC9-12 aliphatics	ug/m3	790	630	23
APH EC9-10 aromatics	ug/m3	<95	<95	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	87	70-130
APH EC9-12 aliphatics	ug/m3	67	116	70-130
APH EC9-10 aromatics	ug/m3	67	96	70-130

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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

Laboratory Code: 009252-01 1/3.8 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	<4.6	<4.6	nm
Dichlorodifluoromethane	ug/m3	2.7	2.9	7
Chloromethane	ug/m3	<14	<14	nm
F-114	ug/m3	<2.7	<2.7	nm
Vinyl chloride	ug/m3	<0.97	<0.97	nm
1,3-Butadiene	ug/m3	<0.17	<0.17	nm
Butane	ug/m3	<9	<9	nm
Bromomethane	ug/m3	<8.9	<8.9	nm
Chloroethane	ug/m3	<10	<10	nm
Vinyl bromide	ug/m3	<1.7	<1.7	nm
Ethanol	ug/m3	280	290	4
Acrolein	ug/m3	<7.8	<7.8	nm
Pentane	ug/m3	<11	<11	nm
Trichlorofluoromethane	ug/m3	<8.5	<8.5	nm
Acetone	ug/m3	230	240	4
2-Propanol	ug/m3	51	51	0
1,1-Dichloroethene	ug/m3	<1.5	<1.5	nm
trans-1,2-Dichloroethene	ug/m3	<1.5	<1.5	nm
Methylene chloride	ug/m3	140	140	0
t-Butyl alcohol (TBA)	ug/m3	94	94	0
3-Chloropropene	ug/m3	<5.9	<5.9	nm
CFC-113	ug/m3	<2.9	<2.9	nm
Carbon disulfide	ug/m3	<24	<24	nm
Methyl t-butyl ether (MTBE)	ug/m3	<6.9	<6.9	nm
Vinyl acetate	ug/m3	<27	<27	nm
1,1-Dichloroethane	ug/m3	<1.5	<1.5	nm
cis-1,2-Dichloroethene	ug/m3	<1.5	<1.5	nm
Hexane	ug/m3	<13	<13	nm
Chloroform	ug/m3	0.37	0.35	6
Ethyl acetate	ug/m3	<27	<27	nm
Tetrahydrofuran	ug/m3	<1.1	<1.1	nm
2-Butanone (MEK)	ug/m3	15	14	7
1,2-Dichloroethane (EDC)	ug/m3	<0.15	<0.15	nm
1,1,1-Trichloroethane	ug/m3	2.7	2.7	0
Carbon tetrachloride	ug/m3	<1.2	<1.2	nm
Benzene	ug/m3	3.4	3.4	0
Cyclohexane	ug/m3	<26	<26	nm
1,2-Dichloropropane	ug/m3	<0.88	<0.88	nm
1,4-Dioxane	ug/m3	<1.4	<1.4	nm
2,2,4-Trimethylpentane	ug/m3	<18	<18	nm

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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

Laboratory Code: 009252-01 1/3.8 (Duplicate, continued)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Methyl methacrylate	ug/m3	<16	<16	nm
Heptane	ug/m3	<16	<16	nm
Bromodichloromethane	ug/m3	<0.25	<0.25	nm
Trichloroethene	ug/m3	<0.41	<0.41	nm
cis-1,3-Dichloropropene	ug/m3	<1.7	<1.7	nm
4-Methyl-2-pentanone	ug/m3	<16	<16	nm
trans-1,3-Dichloropropene	ug/m3	<1.7	<1.7	nm
Toluene	ug/m3	<72	<72	nm
1,1,2-Trichloroethane	ug/m3	<0.21	<0.21	nm
2-Hexanone	ug/m3	<16	<16	nm
Tetrachloroethene	ug/m3	<26	<26	nm
Dibromochloromethane	ug/m3	<0.32	<0.32	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.29	<0.29	nm
Chlorobenzene	ug/m3	<1.7	<1.7	nm
Ethylbenzene	ug/m3	2.9	2.6	11
1,1,2,2-Tetrachloroethane	ug/m3	<0.52	<0.52	nm
Nonane	ug/m3	<20	<20	nm
Isopropylbenzene	ug/m3	<9.3	<9.3	nm
2-Chlorotoluene	ug/m3	<20	<20	nm
Propylbenzene	ug/m3	<9.3	<9.3	nm
4-Ethyltoluene	ug/m3	<9.3	<9.3	nm
m,p-Xylene	ug/m3	14	13	7
o-Xylene	ug/m3	5.0	4.5	11
Styrene	ug/m3	<3.2	<3.2	nm
Bromoform	ug/m3	<7.9	<7.9	nm
Benzyl chloride	ug/m3	<0.2	<0.2	nm
1,3,5-Trimethylbenzene	ug/m3	<9.3	<9.3	nm
1,2,4-Trimethylbenzene	ug/m3	<9.3	<9.3	nm
1,3-Dichlorobenzene	ug/m3	<2.3	<2.3	nm
1,4-Dichlorobenzene	ug/m3	<0.87	<0.87	nm
1,2-Dichlorobenzene	ug/m3	<2.3	<2.3	nm
1,2,4-Trichlorobenzene	ug/m3	<2.8	<2.8	nm
Naphthalene	ug/m3	<1	<1	nm
Hexachlorobutadiene	ug/m3	<0.81	<0.81	nm

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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	113	70-130
Dichlorodifluoromethane	ug/m3	67	106	70-130
Chloromethane	ug/m3	28	111	70-130
F-114	ug/m3	94	108	70-130
Vinyl chloride	ug/m3	35	109	70-130
1,3-Butadiene	ug/m3	30	106	70-130
Butane	ug/m3	32	112	70-130
Bromomethane	ug/m3	52	109	70-130
Chloroethane	ug/m3	36	108	70-130
Vinyl bromide	ug/m3	59	108	70-130
Ethanol	ug/m3	25	102	70-130
Acrolein	ug/m3	31	101	70-130
Pentane	ug/m3	40	109	70-130
Trichlorofluoromethane	ug/m3	76	108	70-130
Acetone	ug/m3	32	107	70-130
2-Propanol	ug/m3	33	105	70-130
1,1-Dichloroethene	ug/m3	54	103	70-130
trans-1,2-Dichloroethene	ug/m3	54	104	70-130
Methylene chloride	ug/m3	94	95	70-130
t-Butyl alcohol (TBA)	ug/m3	41	103	70-130
3-Chloropropene	ug/m3	42	110	70-130
CFC-113	ug/m3	100	106	70-130
Carbon disulfide	ug/m3	42	97	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	105	70-130
Vinyl acetate	ug/m3	48	102	70-130
1,1-Dichloroethane	ug/m3	55	110	70-130
cis-1,2-Dichloroethene	ug/m3	54	105	70-130
Hexane	ug/m3	48	108	70-130
Chloroform	ug/m3	66	108	70-130
Ethyl acetate	ug/m3	49	115	70-130
Tetrahydrofuran	ug/m3	40	108	70-130
2-Butanone (MEK)	ug/m3	40	113	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	108	70-130
1,1,1-Trichloroethane	ug/m3	74	105	70-130
Carbon tetrachloride	ug/m3	85	106	70-130
Benzene	ug/m3	43	102	70-130
Cyclohexane	ug/m3	46	102	70-130
1,2-Dichloropropane	ug/m3	62	103	70-130
1,4-Dioxane	ug/m3	49	93	70-130
2,2,4-Trimethylpentane	ug/m3	63	105	70-130

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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	109	70-130
Heptane	ug/m3	55	111	70-130
Bromodichloromethane	ug/m3	90	107	70-130
Trichloroethene	ug/m3	73	103	70-130
cis-1,3-Dichloropropene	ug/m3	61	110	70-130
4-Methyl-2-pentanone	ug/m3	55	104	70-130
trans-1,3-Dichloropropene	ug/m3	61	100	70-130
Toluene	ug/m3	51	105	70-130
1,1,2-Trichloroethane	ug/m3	74	108	70-130
2-Hexanone	ug/m3	55	110	70-130
Tetrachloroethene	ug/m3	92	94	70-130
Dibromochloromethane	ug/m3	120	107	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	106	70-130
Chlorobenzene	ug/m3	62	102	70-130
Ethylbenzene	ug/m3	59	104	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	104	70-130
Nonane	ug/m3	71	109	70-130
Isopropylbenzene	ug/m3	66	101	70-130
2-Chlorotoluene	ug/m3	70	103	70-130
Propylbenzene	ug/m3	66	106	70-130
4-Ethyltoluene	ug/m3	66	113	70-130
m,p-Xylene	ug/m3	120	99	70-130
o-Xylene	ug/m3	59	98	70-130
Styrene	ug/m3	58	97	70-130
Bromoform	ug/m3	140	101	70-130
Benzyl chloride	ug/m3	70	105	70-130
1,3,5-Trimethylbenzene	ug/m3	66	100	70-130
1,2,4-Trimethylbenzene	ug/m3	66	103	70-130
1,3-Dichlorobenzene	ug/m3	81	102	70-130
1,4-Dichlorobenzene	ug/m3	81	95	70-130
1,2-Dichlorobenzene	ug/m3	81	94	70-130
1,2,4-Trichlorobenzene	ug/m3	100	89	70-130
Naphthalene	ug/m3	71	91	70-130
Hexachlorobutadiene	ug/m3	140	102	70-130

Date of Report: 09/18/20
Date Received: 09/17/20
Project: 180043, F&BI 009308

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

Laboratory Code: 009308-01 (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.

009308

SAMPLE CHAIN OF CUSTODY

ME 09-17-20

Report To Andrew Yonkofski
Company Aspect Consulting
Address 710 2nd Ave, Ste 550
City, State, ZIP Seattle, WA 98104
Phone (206) 413-5411 Email ayonkofski@aspectconsulting.com

SAMPLERS (signature) Rachel C

Page # 1 of 1

PROJECT NAME & ADDRESS: Evergreen Treatment Services 1700 Airport Way South, Seattle, WA
PO # 180043

NOTES:

INVOICE TO: AP

TURNAROUND TIME
☐ Standard
☒ RUSH 24-hr
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Default: Clean after 3 days
☐ Archive (Fee may apply)

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium		Notes
SV-5-091720	01	18579	18	IA / (SG)	9/17/20	30	1031	5	1103	✓			✓	✓		
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												
				IA / SG												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Rachel C	Rachel Cornwell	Aspect Consulting	9/17/20	1154
Received by:	James Bruya	F&B	9/17	1154
Relinquished by:				
Received by:				

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

FORMS\COC\COCTO-15.DOC

Samples received at 2 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

November 12, 2024

Nathan Dickey, Project Manager
Aspect Consulting
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Mr Dickey:

Included are the results from the testing of material submitted on November 5, 2024 from the Evergreen Treatment Services AS180043, F&BI 411071 project. There are 29 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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
ASP1112R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 5, 2024 by Friedman & Bruya, Inc. from the Aspect Consulting Evergreen Treatment Services AS180043, F&BI 411071 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting
411071 -01	AMW-1-20241105
411071 -02	AMW-2-20241105
411071 -03	AMW-3-20241105
411071 -04	AMW-4-20241105
411071 -05	AMW-5-20241105

The dissolved metals samples were filtered at Friedman and Bruya. The data were flagged accordingly.

The 8260D methylene chloride calibration standard did not meet the acceptance criteria. The data were flagged accordingly.

The 8260D laboratory control sample and laboratory control sample duplicate failed the relative percent difference for several compounds. The analytes were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071
Date Extracted: 11/07/24
Date Analyzed: 11/07/24

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AMW-1-20241105 411071-01	<100	106
AMW-2-20241105 411071-02	<100	104
AMW-3-20241105 411071-03	<100	108
AMW-4-20241105 411071-04	<100	108
AMW-5-20241105 411071-05	<100	108
Method Blank 04-2699 MB	<100	100

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071
Date Extracted: 11/06/24
Date Analyzed: 11/06/24

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
AMW-1-20241105 411071-01	<50	<250	90
AMW-2-20241105 411071-02	57 x	<250	104
AMW-3-20241105 411071-03	<50	<250	94
AMW-4-20241105 411071-04	<50	<250	88
AMW-5-20241105 411071-05	95 x	<250	107
Method Blank 04-2755 MB	<50	<250	77

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-1-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	411071-01
Date Analyzed:	11/11/24	Data File:	111128.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	2.4	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-2-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	411071-02
Date Analyzed:	11/11/24	Data File:	111129.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-3-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	411071-03
Date Analyzed:	11/11/24	Data File:	111130.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-4-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	411071-04
Date Analyzed:	11/11/24	Data File:	111131.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	AMW-5-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	411071-05
Date Analyzed:	11/11/24	Data File:	111132.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	23	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	22	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	Evergreen Treatment Services
Date Extracted:	11/11/24	Lab ID:	04-2762 mb
Date Analyzed:	11/11/24	Data File:	111109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	94	84	115
4-Bromofluorobenzene	96	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1 ca
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-1-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-01
Date Analyzed:	11/06/24	Data File:	411071-01.178
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	12
Cadmium	<1
Chromium	<1
Lead	1.9
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-2-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-02
Date Analyzed:	11/06/24	Data File:	411071-02.179
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.5
Cadmium	<1
Chromium	<1
Lead	7.4
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-3-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-03
Date Analyzed:	11/06/24	Data File:	411071-03.180
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	18
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-4-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-04
Date Analyzed:	11/06/24	Data File:	411071-04.181
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-05
Date Analyzed:	11/06/24	Data File:	411071-05.182
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.8
Cadmium	<1
Chromium	1.6
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-20241105	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-05 x10
Date Analyzed:	11/07/24	Data File:	411071-05 x10.123
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	26

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	I4-951 mb
Date Analyzed:	11/06/24	Data File:	I4-951 mb.163
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-1-20241105 f	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-01
Date Analyzed:	11/06/24	Data File:	411071-01.126
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	12
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-2-20241105 f	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-02
Date Analyzed:	11/06/24	Data File:	411071-02.129
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.4
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-3-20241105 f	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-03
Date Analyzed:	11/06/24	Data File:	411071-03.130
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	14
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-4-20241105 f	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-04
Date Analyzed:	11/06/24	Data File:	411071-04.131
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	AMW-5-20241105 f	Client:	Aspect Consulting
Date Received:	11/05/24	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	411071-05
Date Analyzed:	11/06/24	Data File:	411071-05.132
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.3
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank f	Client:	Aspect Consulting
Date Received:	NA	Project:	Evergreen Treatment Services
Date Extracted:	11/06/24	Lab ID:	I4-950 mb
Date Analyzed:	11/06/24	Data File:	I4-950 mb.114
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 411062-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,300	1,300	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	70-130

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	96	65-151	0

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 411145-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	91	30-221
Chloromethane	ug/L (ppb)	10	<10	89	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	100	50-150
Bromomethane	ug/L (ppb)	10	<5	101	50-150
Chloroethane	ug/L (ppb)	10	<1	97	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	104	50-150
Acetone	ug/L (ppb)	50	<50	35	18-161
1,1-Dichloroethene	ug/L (ppb)	10	<1	90	50-150
Hexane	ug/L (ppb)	10	<5	106	50-150
Methylene chloride	ug/L (ppb)	10	<5	61	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	91	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	92	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	94	43-171
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	91	10-211
Chloroform	ug/L (ppb)	10	<1	97	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	60	10-192
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	1.6	95	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	92	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	95	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	93	50-150
Benzene	ug/L (ppb)	10	3.8	99 b	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	95	35-149
1,2-Dichloropropane	ug/L (ppb)	10	<1	90	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	96	50-150
Dibromomethane	ug/L (ppb)	10	<1	92	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	95	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	99	50-150
Toluene	ug/L (ppb)	10	<1	98	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	88	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	94	50-150
2-Hexanone	ug/L (ppb)	50	<10	66	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	101	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	92	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<0.01	98	50-150
Chlorobenzene	ug/L (ppb)	10	<1	98	50-150
Ethylbenzene	ug/L (ppb)	10	<1	98	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	92	50-150
m,p-Xylene	ug/L (ppb)	20	<2	96	50-150
o-Xylene	ug/L (ppb)	10	<1	94	50-150
Styrene	ug/L (ppb)	10	<1	93	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	93	50-150
Bromoform	ug/L (ppb)	10	<5	90	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	86	50-150
Bromobenzene	ug/L (ppb)	10	<1	85	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	85	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	89	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	84	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	84	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	85	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	85	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	86	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	83	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	84	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	86	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	85	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	83	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	79	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	83	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	79	50-150
Naphthalene	ug/L (ppb)	10	<1	81	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	82	50-150

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	98	96	46-206	2
Chloromethane	ug/L (ppb)	10	94	94	59-132	0
Vinyl chloride	ug/L (ppb)	10	104	106	64-142	2
Bromomethane	ug/L (ppb)	10	101	102	50-197	1
Chloroethane	ug/L (ppb)	10	99	101	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	98	104	51-159	6
Acetone	ug/L (ppb)	50	22	31	10-140	34 vo
1,1-Dichloroethene	ug/L (ppb)	10	93	95	64-140	2
Hexane	ug/L (ppb)	10	105	91	54-136	14
Methylene chloride	ug/L (ppb)	10	91	73	43-134	22 vo
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	94	95	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	97	97	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	105	108	64-148	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	96	98	70-130	2
Chloroform	ug/L (ppb)	10	98	101	70-130	3
2-Butanone (MEK)	ug/L (ppb)	50	58	60	47-112	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	99	99	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	98	99	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	96	95	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	98	99	70-130	1
Benzene	ug/L (ppb)	10	103	104	70-130	1
Trichloroethene	ug/L (ppb)	10	98	98	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	95	95	70-130	0
Bromodichloromethane	ug/L (ppb)	10	98	95	70-130	3
Dibromomethane	ug/L (ppb)	10	91	95	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	95	89	68-130	7
cis-1,3-Dichloropropene	ug/L (ppb)	10	96	98	69-131	2
Toluene	ug/L (ppb)	10	99	99	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	92	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	95	94	70-130	1
2-Hexanone	ug/L (ppb)	50	68	68	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	92	92	70-130	0
Tetrachloroethene	ug/L (ppb)	10	102	101	70-130	1
Dibromochloromethane	ug/L (ppb)	10	93	94	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	100	99	70-130	1
Chlorobenzene	ug/L (ppb)	10	95	96	70-130	1
Ethylbenzene	ug/L (ppb)	10	99	99	70-130	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	99	100	70-130	1
m,p-Xylene	ug/L (ppb)	20	97	97	70-130	0
o-Xylene	ug/L (ppb)	10	96	96	70-130	0
Styrene	ug/L (ppb)	10	97	96	70-130	1
Isopropylbenzene	ug/L (ppb)	10	97	96	70-130	1
Bromoform	ug/L (ppb)	10	97	94	69-138	3
n-Propylbenzene	ug/L (ppb)	10	93	87	70-130	7
Bromobenzene	ug/L (ppb)	10	92	87	70-130	6
1,3,5-Trimethylbenzene	ug/L (ppb)	10	93	90	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	94	94	70-130	0
1,2,3-Trichloropropane	ug/L (ppb)	10	90	87	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	88	88	70-130	0
4-Chlorotoluene	ug/L (ppb)	10	91	87	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	94	91	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	91	91	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	93	91	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	94	93	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	93	88	70-130	6
1,4-Dichlorobenzene	ug/L (ppb)	10	93	91	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	93	89	70-130	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	88	87	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	90	91	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	94	93	70-130	1
Naphthalene	ug/L (ppb)	10	83	87	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	95	70-130	2

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 411062-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	98	96	75-125	2
Cadmium	ug/L (ppb)	10	<10	97	96	75-125	1
Chromium	ug/L (ppb)	10	<10	95	94	75-125	1
Lead	ug/L (ppb)	10	<10	101	100	75-125	1
Mercury	ug/L (ppb)	5	<10	95	97	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	102	80-120
Cadmium	ug/L (ppb)	10	99	80-120
Chromium	ug/L (ppb)	10	104	80-120
Lead	ug/L (ppb)	10	103	80-120
Mercury	ug/L (ppb)	5	98	80-120

Date of Report: 11/12/24
Date Received: 11/05/24
Project: Evergreen Treatment Services AS180043, F&BI 411071

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 411071-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	12.1	104 b	102 b	75-125	2 b
Cadmium	ug/L (ppb)	10	<1	92	90	75-125	2
Chromium	ug/L (ppb)	10	<1	93	94	75-125	1
Lead	ug/L (ppb)	10	<1	102	102	75-125	0
Mercury	ug/L (ppb)	5	<1	104	103	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Cadmium	ug/L (ppb)	10	94	80-120
Chromium	ug/L (ppb)	10	98	80-120
Lead	ug/L (ppb)	10	98	80-120
Mercury	ug/L (ppb)	5	99	80-120

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

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

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

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

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

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

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

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

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

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

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

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

411071

SAMPLE CHAIN OF CUSTODY

11/05/24 F2|K3|VW4

Page # 1 of 1

Report To Nathan Dickey

Company Aspect

Address SEATTLE

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: Evergreen Treatment Services

PO #: AS180043

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

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

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TOTAL MTCA 5	DISS. MTCA 5	SLAB Filt.		Notes
AMW-1-20241105	01A-I	11/5	1600	GW	9	X	X			X			X	X			
AMW-2-20241105	02	"	1502	"	9	X	X			X			X	X			
AMW-3-20241105	03	"	1020	"	9	X	X			X			X	X			
AMW-4-20241105	04A-G	"	1230	"	7 (10 #1)	X	X			X			X	X			
AMW-5-20241105	05A-I	"	1315	"	9	X	X			X			X	X			

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Nathan Dickey	Aspect	11/5	1639
Received by:	Eric Power	TRB	11/5/24	1639
Relinquished by:		Samples received at 4 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 411071 CLIENT Aspect INITIALS/ DATE: [illegible] 11/5/24

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

Cooler/Sample temperature 4 °C
Thermometer ID: Fluke 96312917

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

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: AP 11/06/24
*or other representative documents, letters, and/or shipping memos

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

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

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

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

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

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

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

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☐ Yes	☑ No	Received 7 containers for AMW-4-20241105(04)
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

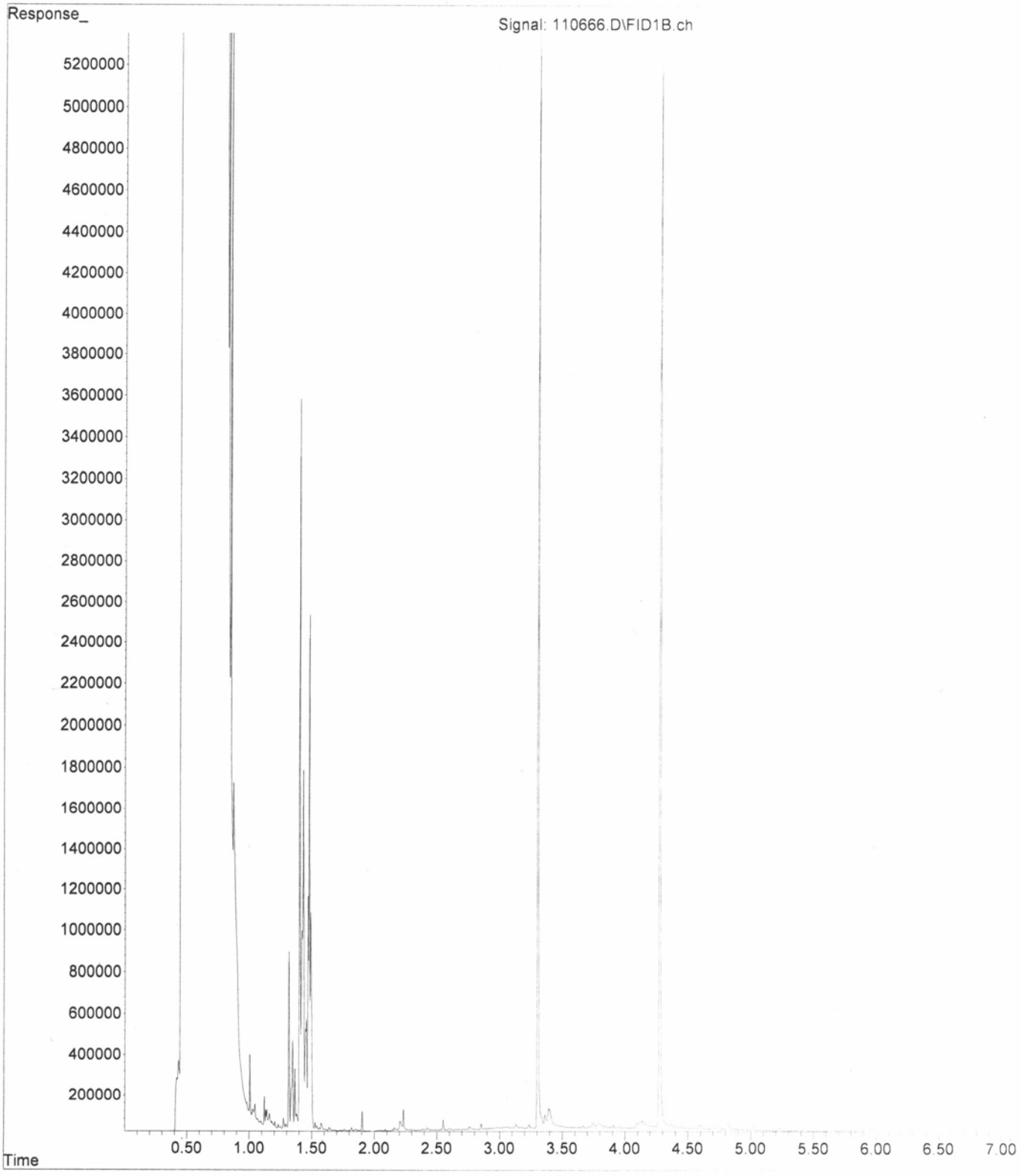
Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

File :D:\GC14\GC14_Data\11-06-24\110665.D
Operator : TL
Acquired : 06 Nov 2024 10:26 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 411071-01
Misc Info : ERR
Vial Number: 49



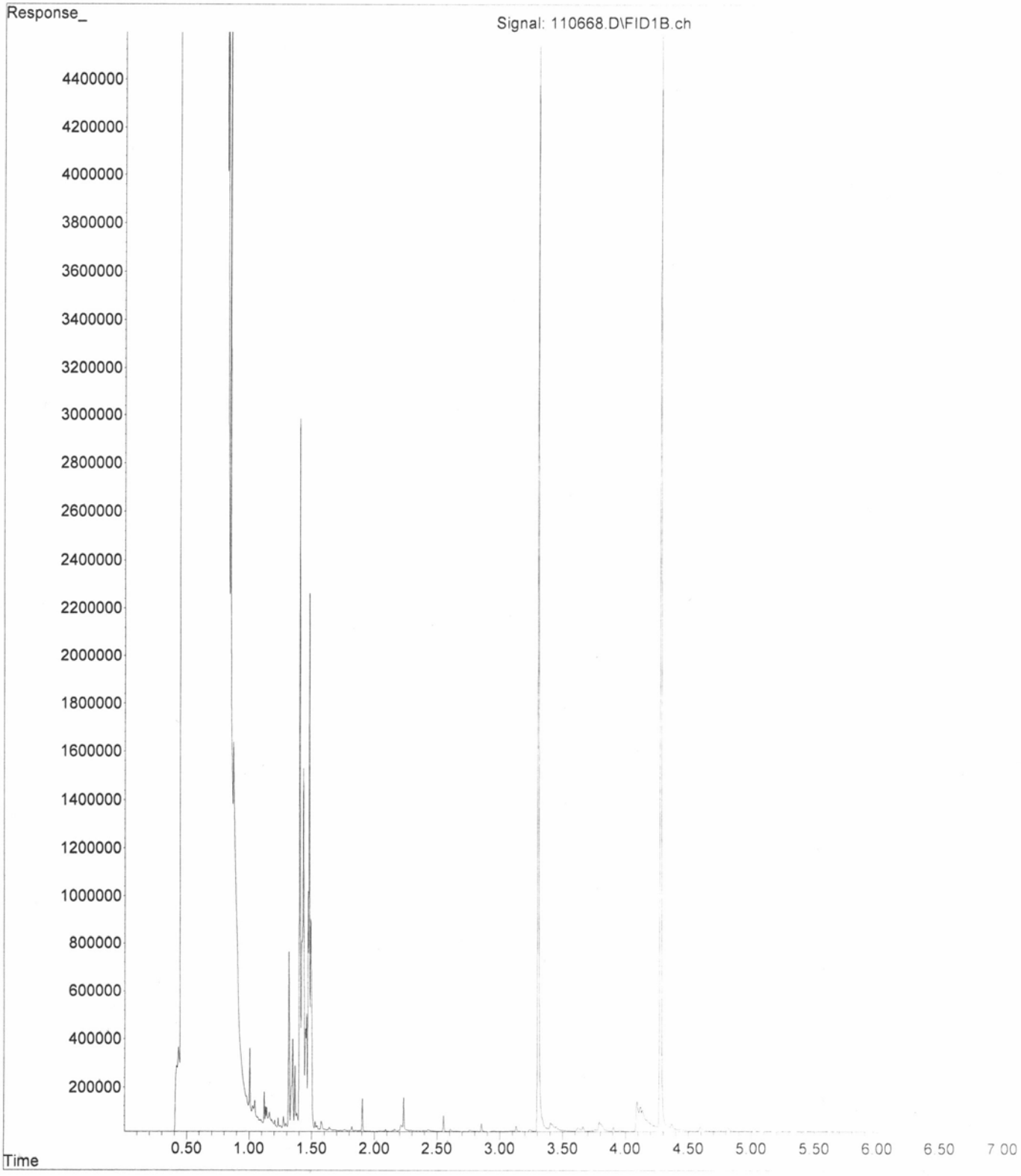
File :D:\GC14\GC14_Data\11-06-24\110666.D
Operator : TL
Acquired : 06 Nov 2024 10:38 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 411071-02
Misc Info : ERR
Vial Number: 50



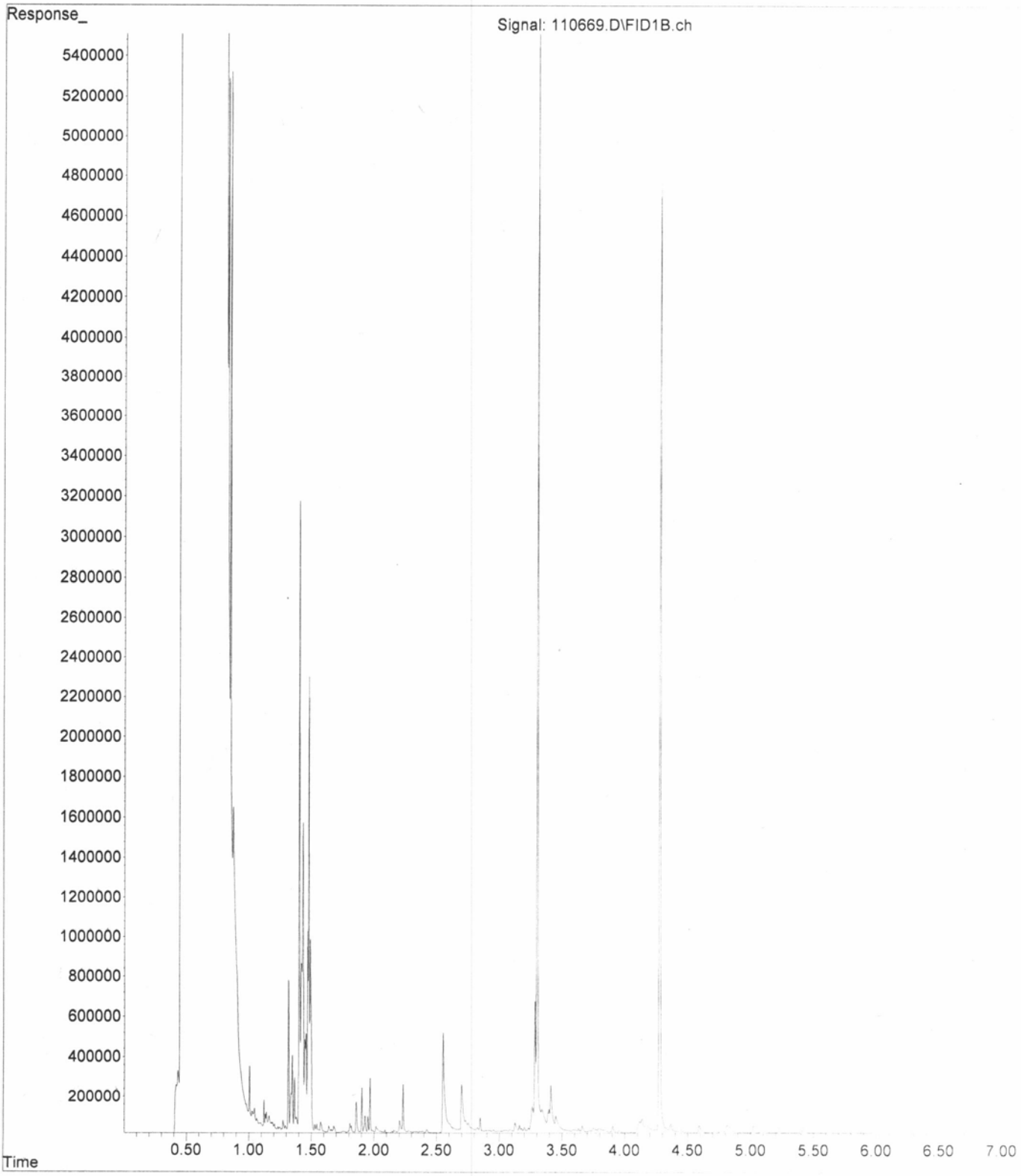
File :D:\GC14\GC14_Data\11-06-24\110667.D
Operator : TL
Acquired : 06 Nov 2024 10:50 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 411071-03
Misc Info : ERR
Vial Number: 51



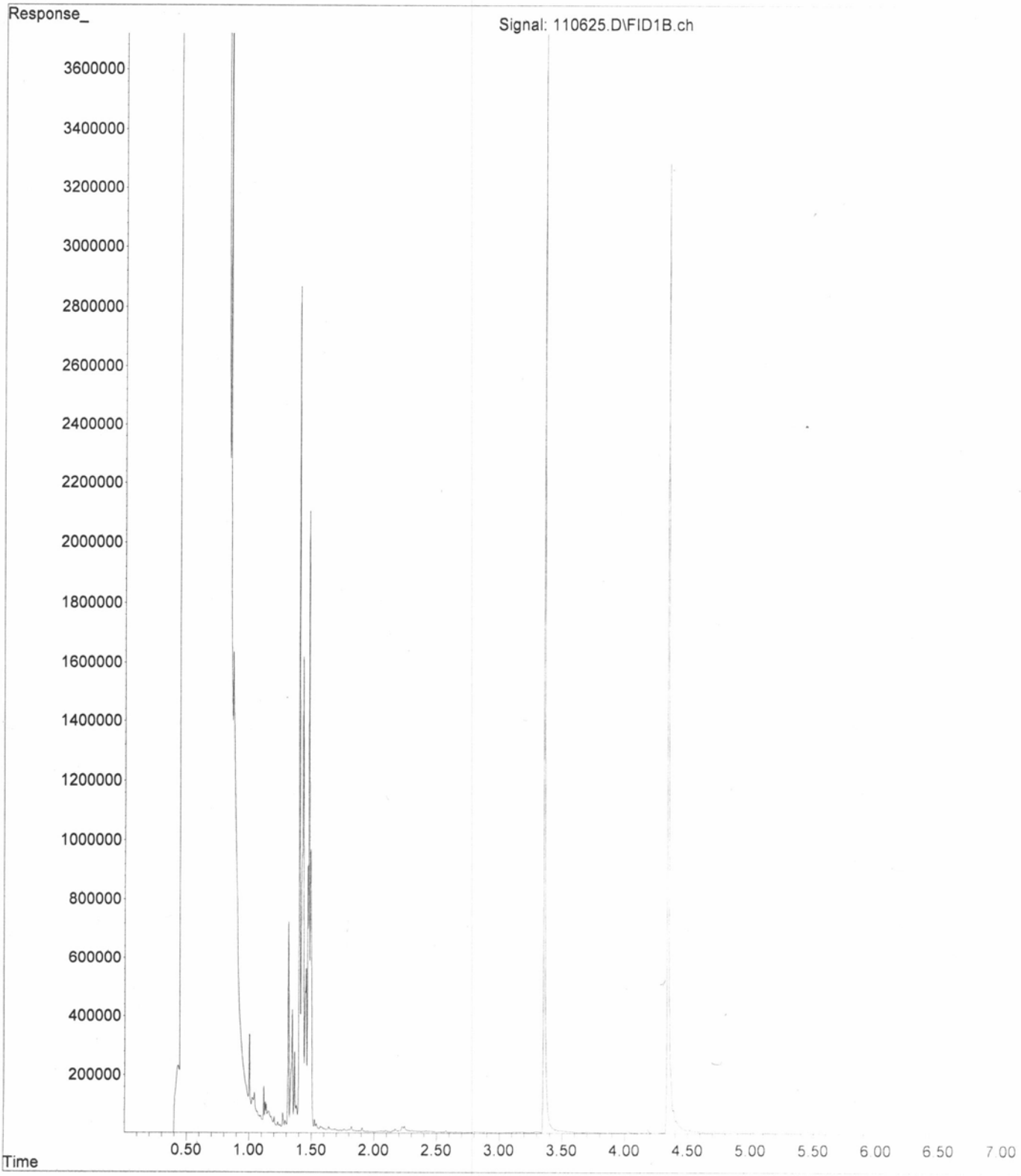
File :D:\GC14\GC14_Data\11-06-24\110668.D
Operator : TL
Acquired : 06 Nov 2024 11:02 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 411071-04
Misc Info : ERR
Vial Number: 52



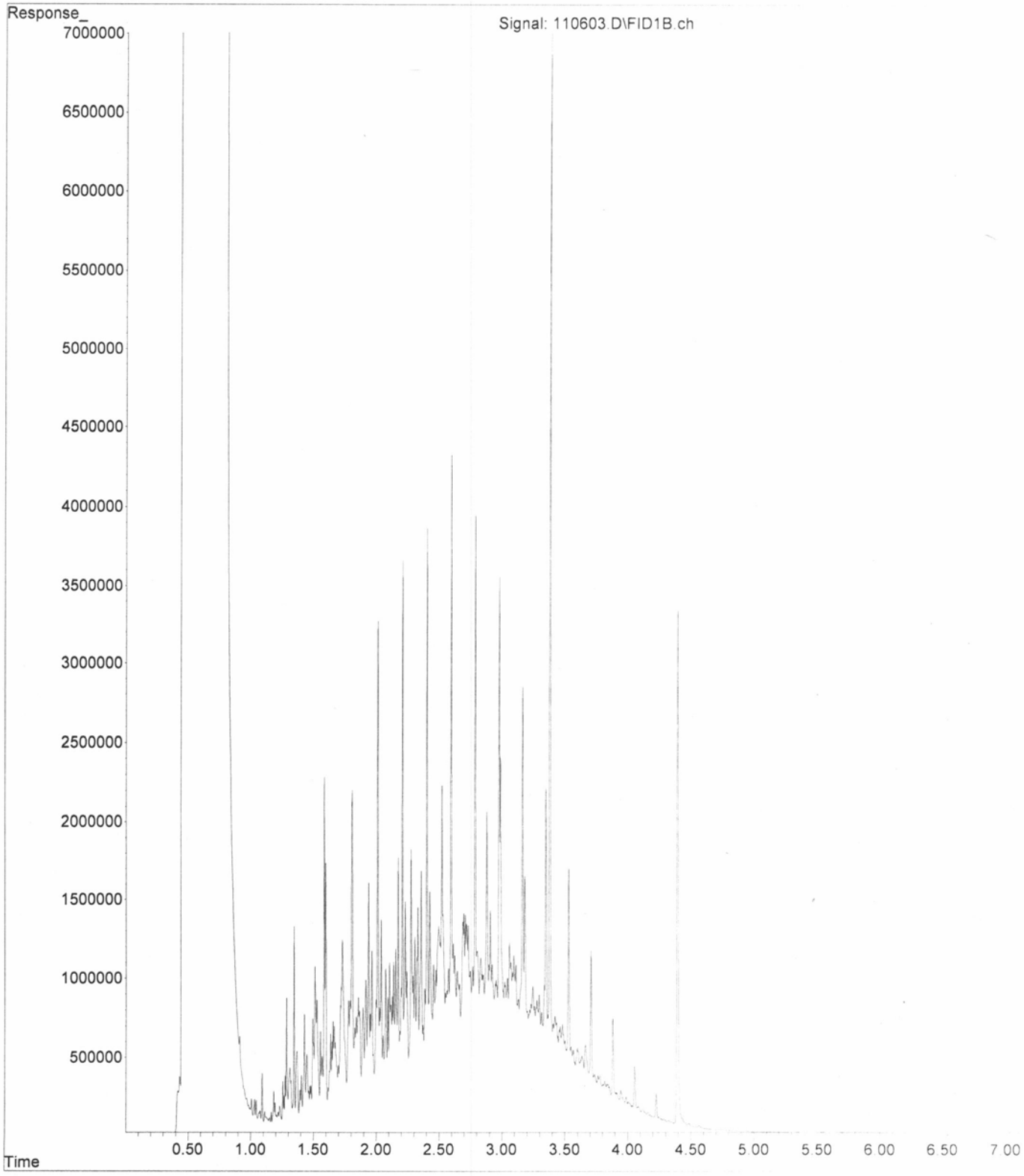
File :D:\GC14\GC14_Data\11-06-24\110669.D
Operator : TL
Acquired : 06 Nov 2024 11:14 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 411071-05
Misc Info : ERR
Vial Number: 53



File :D:\GC14\GC14_Data\11-06-24\110625.D
Operator : TL
Acquired : 06 Nov 2024 02:25 pm using AcqMethod DX.M
Instrument : GC14
Sample Name: 04-2755 mb
Misc Info : ERR
Vial Number: 17



File :D:\GC14\GC14_Data\11-06-24\110603.D
Operator : TL
Acquired : 06 Nov 2024 08:54 am using AcqMethod DX.M
Instrument : GC14
Sample Name: 500 Dx 73-88G
Misc Info : ERR
Vial Number: 3



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

November 15, 2024

Nathan Dickey, Project Manager
Aspect Consulting
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Mr Dickey:

Included are the results from the testing of material submitted on November 4, 2024 from the ETS Subsurface Investigation PO 180043-02, F&BI 411043 project. There are 80 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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
ASP1115R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 4, 2024 by Friedman & Bruya, Inc. from the Aspect Consulting ETS Subsurface Investigation PO 180043-02, F&BI 411043 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting
411043 -01	AB-01-01.5
411043 -02	AB-01-02.5
411043 -03	AB-01-06.5
411043 -04	AB-01-09
411043 -05	AB-02-01
411043 -06	AB-02-03
411043 -07	AB-02-05
411043 -08	AB-02-06.5
411043 -09	AB-02-09.5
411043 -10	AB-02-10.5
411043 -11	AB-03-01
411043 -12	AB-03-02.5
411043 -13	AB-03-05.5
411043 -14	AB-03-07
411043 -15	AB-04-02.5
411043 -16	AB-04-05.5
411043 -17	AB-04-10
411043 -18	AB-04-12.5
411043 -19	AB-05-02
411043 -20	AB-05-02.5
411043 -21	AB-05-05
411043 -22	AB-05-07
411043 -23	AB-05-09.7
411043 -24	AB-05-11
411043 -25	AB-05-13
411043 -26	AMW-5-01
411043 -27	AMW-5-02
411043 -28	AMW-5-02.5
411043 -29	AMW-5-06.5
411043 -30	AMW-5-08.5

CASE NARRATIVE (continued)

Laboratory ID	Aspect Consulting
411043 -31	AMW-5-12
411043 -32	AB-06-01
411043 -33	AB-06-04.5
411043 -34	AB-06-06.5
411043 -35	AB-06-08.5

The 8260D calibration standard did not meet the acceptance criteria for methylene chloride. The data were flagged accordingly.

An 8270E internal standard did not meet the acceptance criteria for samples AB-03-01, AB-05-02.5, AB-05-13, and AB-06-08.5. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

All other quality control requirements were acceptable.

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043
Date Extracted: 11/08/24
Date Analyzed: 11/11/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AB-01-01.5 411043-01	<5	88
AB-01-09 411043-04	<5	97
AB-02-03 411043-06	<5	91
AB-02-09.5 411043-09	<5	85
AB-03-01 411043-11	<5	96
AB-03-07 411043-14	<5	97
AB-04-02.5 411043-15	<5	93
AB-04-10 411043-17	<5	87
AB-05-02.5 411043-20	<5	89
AB-05-13 411043-25	<5	95
AMW-5-01 411043-26	<5	89

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043
Date Extracted: 11/08/24
Date Analyzed: 11/11/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AMW-5-12 411043-31	<5	92
AB-06-01 411043-32	8.3	100
AB-06-08.5 411043-35	<5	91
Method Blank 04-2703 MB	<5	92

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043
Date Extracted: 11/08/24
Date Analyzed: 11/08/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
AB-01-01.5 411043-01	170 x	<250	104
AB-01-09 411043-04	83 x	<250	102
AB-02-03 411043-06	<50	<250	101
AB-02-09.5 411043-09	100 x	<250	101
AB-03-01 411043-11	<50	<250	101
AB-03-07 411043-14	<50	<250	101
AB-04-02.5 411043-15	<50	<250	99
AB-04-10 411043-17	210 x	360	104
AB-05-02.5 411043-20	75 x	<250	105
AB-05-13 411043-25	<50	<250	101
AMW-5-01 411043-26	110 x	<250	104

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043
Date Extracted: 11/08/24
Date Analyzed: 11/08/24

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
AMW-5-12 411043-31	<50	<250	103
AB-06-01 411043-32	71 x	<250	101
AB-06-08.5 411043-35	310 x	530	102
Method Blank 04-2797 MB	<50	<250	101

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-01-01.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-01 1/0.5
Date Analyzed:	11/11/24	Data File:	111108.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	96	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0034
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0064
Hexane	<0.25	o-Xylene	0.0029
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.0051	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	0.013	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0054	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.78
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-01-09	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-04 1/0.5
Date Analyzed:	11/11/24	Data File:	111109.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0060
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.0023	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.016	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	0.064	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0043	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.024
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-02-03	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-06 1/0.5
Date Analyzed:	11/11/24	Data File:	111110.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	84	120
Toluene-d8	99	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.0051	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0025	sec-Butylbenzene	<0.05
Trichloroethene	0.012	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0055	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-02-09.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-09 1/0.5
Date Analyzed:	11/11/24	Data File:	111111.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	0.51	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0057
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0090
Hexane	<0.25	o-Xylene	0.0065
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.31	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.018	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.018	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-03-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-11 1/0.5
Date Analyzed:	11/11/24	Data File:	111112.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.035	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	0.058	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.041	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-03-07	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-14 1/0.5
Date Analyzed:	11/11/24	Data File:	111113.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	0.017	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.015
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.016
Hexane	<0.25	o-Xylene	0.0038
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.13	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.14	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0079	sec-Butylbenzene	<0.05
Trichloroethene	0.16	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.061	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-04-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-15 1/0.5
Date Analyzed:	11/11/24	Data File:	111114.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	100	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.002	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-04-10	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-17 1/0.5
Date Analyzed:	11/11/24	Data File:	111115.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	0.0036
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0026
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0070
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.0028	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.010	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	0.019	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.012	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-05-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-20 1/0.5
Date Analyzed:	11/11/24	Data File:	111116.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	84	120
Toluene-d8	99	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.0036	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.011	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0032	sec-Butylbenzene	<0.05
Trichloroethene	0.0037	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0029	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-05-13	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-25 1/0.5
Date Analyzed:	11/11/24	Data File:	111117.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	100	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0029
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0036	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0075	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AMW-5-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-26 1/0.5
Date Analyzed:	11/11/24	Data File:	111118.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	84	120
Toluene-d8	97	73	128
4-Bromofluorobenzene	99	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0066
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0097
Hexane	<0.25	o-Xylene	0.0050
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.0024	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0047	sec-Butylbenzene	<0.05
Trichloroethene	0.030	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0080	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.034
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AMW-5-12	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-31 1/0.5
Date Analyzed:	11/11/24	Data File:	111119.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	84	120
Toluene-d8	99	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	1.7	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0072
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0064
Hexane	<0.25	o-Xylene	0.0052
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.0020	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.95	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.030	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.026	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-06-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-32 1/0.5
Date Analyzed:	11/11/24	Data File:	111120.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.0036
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	0.0090
Hexane	<0.25	o-Xylene	0.0028
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	0.0068	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.018	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	0.0024	sec-Butylbenzene	<0.05
Trichloroethene	0.11	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0085	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.42
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	AB-06-08.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	411043-35 1/0.5
Date Analyzed:	11/11/24	Data File:	111121.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	84	120
Toluene-d8	97	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	0.0026	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.012
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	0.0024
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	0.038	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	0.0030	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.0090	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	0.10
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition LL

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	ETS Subsurface Investigation
Date Extracted:	11/11/24	Lab ID:	04-2761 mb 1/0.5
Date Analyzed:	11/11/24	Data File:	111107.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	97	57	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.002
Vinyl chloride	<0.002	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.005
Chloroethane	<0.1	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.002
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.002	m,p-Xylene	<0.004
Hexane	<0.25	o-Xylene	<0.002
Methylene chloride	<0.4 ca	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.002	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.002	Bromoform	<0.05
1,1-Dichloroethane	<0.002	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.002	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.003	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.002	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.002	sec-Butylbenzene	<0.05
Trichloroethene	<0.002	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.002	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.01
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<1		

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-01-01.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-01
Date Analyzed:	11/08/24	Data File:	110824.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	50	150
Benz(a)anthracene-d12	106	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.44
2-Methylnaphthalene	0.18
1-Methylnaphthalene	0.11
Acenaphthylene	0.0085
Acenaphthene	0.30
Fluorene	0.34
Phenanthrene	1.9
Anthracene	0.33
Fluoranthene	4.3
Pyrene	2.2
Benz(a)anthracene	0.88
Chrysene	1.0

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-01-01.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-01 1/10
Date Analyzed:	11/10/24	Data File:	111014.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	127 d	50	150
Benz(a)anthracene-d12	92 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	0.91
Benzo(k)fluoranthene	0.25
Benzo(a)pyrene	0.46
Indeno(1,2,3-cd)pyrene	0.34
Dibenz(a,h)anthracene	0.091
Benzo(g,h,i)perylene	0.35

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-01-09	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-04
Date Analyzed:	11/08/24	Data File:	110825.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benz(a)anthracene-d12	103	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.025
2-Methylnaphthalene	0.0088
1-Methylnaphthalene	0.019
Acenaphthylene	<0.005
Acenaphthene	0.18
Fluorene	0.012
Phenanthrene	0.061
Anthracene	<0.005
Fluoranthene	0.090
Pyrene	0.070
Benz(a)anthracene	0.036
Chrysene	0.059
Benzo(b)fluoranthene	0.030
Benzo(k)fluoranthene	0.010
Benzo(a)pyrene	0.026
Indeno(1,2,3-cd)pyrene	0.017
Dibenz(a,h)anthracene	<0.005
Benzo(g,h,i)perylene	0.022

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-02-03	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-06
Date Analyzed:	11/08/24	Data File:	110826.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	50	150
Benz(a)anthracene-d12	104	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0082
2-Methylnaphthalene	0.0054
1-Methylnaphthalene	<0.005
Acenaphthylene	0.0056
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	0.022
Anthracene	<0.005
Fluoranthene	0.058
Pyrene	0.053
Benz(a)anthracene	0.050
Chrysene	0.055
Benzo(b)fluoranthene	0.090
Benzo(k)fluoranthene	0.028
Benzo(a)pyrene	0.078
Indeno(1,2,3-cd)pyrene	0.064
Dibenz(a,h)anthracene	0.019
Benzo(g,h,i)perylene	0.079

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-02-09.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-09 1/10
Date Analyzed:	11/10/24	Data File:	111006.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93 d	50	150
Benz(a)anthracene-d12	68 d	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.15
2-Methylnaphthalene	0.13
1-Methylnaphthalene	0.085
Acenaphthylene	0.050
Acenaphthene	0.063
Fluorene	0.11
Phenanthrene	0.60
Anthracene	0.086
Fluoranthene	0.80
Pyrene	0.79
Benz(a)anthracene	0.29
Chrysene	0.36
Benzo(b)fluoranthene	0.44
Benzo(k)fluoranthene	0.12
Benzo(a)pyrene	0.30
Indeno(1,2,3-cd)pyrene	0.21
Dibenz(a,h)anthracene	0.062
Benzo(g,h,i)perylene	0.28

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-03-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-11
Date Analyzed:	11/08/24	Data File:	110828.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	50	150
Benz(a)anthracene-d12	103	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0065
2-Methylnaphthalene	0.0058
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	0.011
Fluorene	0.010
Phenanthrene	0.079
Anthracene	0.012
Fluoranthene	0.11
Pyrene	0.078
Benz(a)anthracene	0.053
Chrysene	0.058
Benzo(k)fluoranthene	0.021 J
Dibenz(a,h)anthracene	0.012 J

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-03-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-11 1/10
Date Analyzed:	11/10/24	Data File:	111007.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	121 d	50	150
Benz(a)anthracene-d12	86 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	0.090
Benzo(k)fluoranthene	<0.05
Benzo(a)pyrene	0.060
Indeno(1,2,3-cd)pyrene	0.051
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	0.057

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-03-07	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-14
Date Analyzed:	11/08/24	Data File:	110829.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	50	150
Benz(a)anthracene-d12	99	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0058
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	0.018
Anthracene	<0.005
Fluoranthene	0.033
Pyrene	0.034
Benz(a)anthracene	0.017
Chrysene	0.021
Benzo(b)fluoranthene	0.022
Benzo(k)fluoranthene	0.0065
Benzo(a)pyrene	0.012
Indeno(1,2,3-cd)pyrene	0.010
Dibenz(a,h)anthracene	<0.005
Benzo(g,h,i)perylene	0.012

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-04-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-15
Date Analyzed:	11/08/24	Data File:	110830.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	50	150
Benz(a)anthracene-d12	99	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.014
2-Methylnaphthalene	0.0098
1-Methylnaphthalene	0.012
Acenaphthylene	0.016
Acenaphthene	0.016
Fluorene	0.012
Phenanthrene	0.32
Anthracene	0.030
Fluoranthene	0.63
Pyrene	0.54
Benz(a)anthracene	0.22
Chrysene	0.30
Benzo(b)fluoranthene	0.33
Benzo(k)fluoranthene	0.11
Benzo(a)pyrene	0.29
Indeno(1,2,3-cd)pyrene	0.27
Dibenz(a,h)anthracene	0.049
Benzo(g,h,i)perylene	0.28

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-04-10	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-17
Date Analyzed:	11/08/24	Data File:	110831.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	50	150
Benz(a)anthracene-d12	107	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.024
2-Methylnaphthalene	0.020
1-Methylnaphthalene	0.011
Acenaphthylene	<0.005
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	0.022
Anthracene	<0.005
Fluoranthene	0.031
Pyrene	0.046
Benz(a)anthracene	0.036
Chrysene	0.036
Benzo(b)fluoranthene	0.031
Benzo(k)fluoranthene	0.0089
Benzo(a)pyrene	0.022
Indeno(1,2,3-cd)pyrene	0.027
Dibenz(a,h)anthracene	0.0060
Benzo(g,h,i)perylene	0.026

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-05-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-20
Date Analyzed:	11/08/24	Data File:	110832.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	50	150
Benz(a)anthracene-d12	103	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0051
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	0.0051
Acenaphthene	0.025
Fluorene	0.017
Phenanthrene	0.060
Anthracene	0.017
Fluoranthene	0.33
Pyrene	0.24
Benz(a)anthracene	0.13
Chrysene	0.14
Dibenz(a,h)anthracene	0.023 J

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-05-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-20 1/10
Date Analyzed:	11/10/24	Data File:	111008.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	128 d	50	150
Benz(a)anthracene-d12	94 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	0.24
Benzo(k)fluoranthene	0.061
Benzo(a)pyrene	0.16
Indeno(1,2,3-cd)pyrene	0.14
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	0.17

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-05-13	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-25
Date Analyzed:	11/08/24	Data File:	110833.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83	50	150
Benz(a)anthracene-d12	102	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.0058
2-Methylnaphthalene	0.0083
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	0.014
Anthracene	<0.005
Fluoranthene	0.019
Pyrene	0.015
Benz(a)anthracene	0.0084
Chrysene	0.012
Benzo(b)fluoranthene	0.010 J
Benzo(k)fluoranthene	<0.005 J
Benzo(a)pyrene	0.0074 J
Indeno(1,2,3-cd)pyrene	<0.005 J
Dibenz(a,h)anthracene	<0.005 J
Benzo(g,h,i)perylene	0.0054 J

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-05-13	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-25 1/10
Date Analyzed:	11/10/24	Data File:	111009.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	111 d	50	150
Benz(a)anthracene-d12	87 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	<0.05
Benzo(k)fluoranthene	<0.05
Benzo(a)pyrene	<0.05
Indeno(1,2,3-cd)pyrene	<0.05
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	<0.05

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AMW-5-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-26
Date Analyzed:	11/08/24	Data File:	110834.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	70	50	150
Benz(a)anthracene-d12	89	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.033
2-Methylnaphthalene	0.022
1-Methylnaphthalene	0.013
Acenaphthylene	0.020
Acenaphthene	0.085
Fluorene	0.11
Phenanthrene	0.56
Anthracene	0.11
Fluoranthene	1.0
Pyrene	0.79
Benz(a)anthracene	0.36
Chrysene	0.47

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AMW-5-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-26 1/10
Date Analyzed:	11/10/24	Data File:	111010.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	117 d	50	150
Benz(a)anthracene-d12	101 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	0.78
Benzo(k)fluoranthene	0.28
Benzo(a)pyrene	0.59
Indeno(1,2,3-cd)pyrene	0.49
Dibenz(a,h)anthracene	0.10
Benzo(g,h,i)perylene	0.58

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AMW-5-12	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-31
Date Analyzed:	11/08/24	Data File:	110835.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	50	150
Benz(a)anthracene-d12	94	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.017
2-Methylnaphthalene	0.0077
1-Methylnaphthalene	0.0072
Acenaphthylene	<0.005
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	0.020
Anthracene	<0.005
Fluoranthene	0.022
Pyrene	0.019
Benz(a)anthracene	0.011
Chrysene	0.011
Benzo(b)fluoranthene	0.012
Benzo(k)fluoranthene	<0.005
Benzo(a)pyrene	0.010
Indeno(1,2,3-cd)pyrene	0.0051
Dibenz(a,h)anthracene	<0.005
Benzo(g,h,i)perylene	0.0074

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-06-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-32
Date Analyzed:	11/08/24	Data File:	110836.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	50	150
Benz(a)anthracene-d12	108	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.25
2-Methylnaphthalene	0.078
1-Methylnaphthalene	0.036
Acenaphthylene	0.0079
Acenaphthene	0.15
Fluorene	0.17
Phenanthrene	0.53
Anthracene	0.14
Fluoranthene	0.97
Pyrene	0.61
Benz(a)anthracene	0.33
Chrysene	0.51

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-06-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-32 1/10
Date Analyzed:	11/10/24	Data File:	111011.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	113 d	50	150
Benz(a)anthracene-d12	93 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	0.49
Benzo(k)fluoranthene	0.12
Benzo(a)pyrene	0.33
Indeno(1,2,3-cd)pyrene	0.24
Dibenz(a,h)anthracene	0.062
Benzo(g,h,i)perylene	0.26

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-06-08.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-35
Date Analyzed:	11/09/24	Data File:	110837.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	50	150
Benz(a)anthracene-d12	102	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.33
2-Methylnaphthalene	0.21
1-Methylnaphthalene	0.17
Acenaphthylene	0.0053
Acenaphthene	0.014
Fluorene	0.037
Phenanthrene	0.18
Anthracene	<0.005
Fluoranthene	0.10
Pyrene	0.067
Benz(a)anthracene	0.029
Chrysene	0.057
Benzo(b)fluoranthene	0.033 J
Benzo(k)fluoranthene	0.011 J
Benzo(a)pyrene	0.024 J
Indeno(1,2,3-cd)pyrene	0.010 J
Dibenz(a,h)anthracene	<0.005 J
Benzo(g,h,i)perylene	0.015 J

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	AB-06-08.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	411043-35 1/10
Date Analyzed:	11/10/24	Data File:	111012.D
Matrix:	Soil	Instrument:	GCMS14
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	108 d	50	150
Benz(a)anthracene-d12	95 d	50	150

Compounds:	Concentration mg/kg (ppm)
Benzo(b)fluoranthene	<0.05
Benzo(k)fluoranthene	<0.05
Benzo(a)pyrene	<0.05
Indeno(1,2,3-cd)pyrene	<0.05
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	<0.05

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	ETS Subsurface Investigation
Date Extracted:	10/08/24	Lab ID:	04-2793 mb
Date Analyzed:	11/08/24	Data File:	110823.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	85	50	150
Benz(a)anthracene-d12	93	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.005
2-Methylnaphthalene	<0.005
1-Methylnaphthalene	<0.005
Acenaphthylene	<0.005
Acenaphthene	<0.005
Fluorene	<0.005
Phenanthrene	<0.005
Anthracene	<0.005
Fluoranthene	<0.005
Pyrene	<0.005
Benz(a)anthracene	<0.005
Chrysene	<0.005
Benzo(b)fluoranthene	<0.005
Benzo(k)fluoranthene	<0.005
Benzo(a)pyrene	<0.005
Indeno(1,2,3-cd)pyrene	<0.005
Dibenz(a,h)anthracene	<0.005
Benzo(g,h,i)perylene	<0.005

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-01-01.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-01
Date Analyzed:	11/12/24	Data File:	411043-01.116
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.5
Cadmium	1.9
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-01-01.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-01 x5
Date Analyzed:	11/13/24	Data File:	411043-01 x5.061
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	32
Lead	45

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-01-09	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-04
Date Analyzed:	11/12/24	Data File:	411043-04.117
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.6
Cadmium	<1
Chromium	23
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-01-09	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-04
Date Analyzed:	11/13/24	Data File:	411043-04.067
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	46

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-02-03	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-06
Date Analyzed:	11/12/24	Data File:	411043-06.118
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.0
Cadmium	40
Chromium	16
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-02-03	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-06
Date Analyzed:	11/13/24	Data File:	411043-06.068
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	15

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-02-09.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-09
Date Analyzed:	11/12/24	Data File:	411043-09.119
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	18
Cadmium	2.2
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-02-09.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-09 x25
Date Analyzed:	11/13/24	Data File:	411043-09 x25.069
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	37
Lead	2,900

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-03-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-11
Date Analyzed:	11/12/24	Data File:	411043-11.120
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	9.2
Cadmium	220
Chromium	13
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-03-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-11
Date Analyzed:	11/13/24	Data File:	411043-11.080
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	19

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-03-07	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-14
Date Analyzed:	11/12/24	Data File:	411043-14.121
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.6
Cadmium	70
Chromium	32
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-03-07	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-14
Date Analyzed:	11/13/24	Data File:	411043-14.081
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	75

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-04-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-15
Date Analyzed:	11/12/24	Data File:	411043-15.124
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.8
Cadmium	<1
Chromium	19
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-04-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-15
Date Analyzed:	11/13/24	Data File:	411043-15.098
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	29

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-04-10	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-17
Date Analyzed:	11/12/24	Data File:	411043-17.125
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.4
Cadmium	<1
Chromium	16
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-04-10	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-17
Date Analyzed:	11/13/24	Data File:	411043-17.099
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	60

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-05-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-20
Date Analyzed:	11/12/24	Data File:	411043-20.126
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	7.6
Cadmium	1.2
Chromium	39
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-05-02.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-20
Date Analyzed:	11/13/24	Data File:	411043-20.100
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	73

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-05-13	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-25
Date Analyzed:	11/12/24	Data File:	411043-25.127
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.3
Cadmium	<1
Chromium	19
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-05-13	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-25
Date Analyzed:	11/13/24	Data File:	411043-25.101
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	46

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-26
Date Analyzed:	11/12/24	Data File:	411043-26.128
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.9
Cadmium	53
Chromium	39
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-26 x20
Date Analyzed:	11/13/24	Data File:	411043-26 x20.102
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	160

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-12	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-31
Date Analyzed:	11/12/24	Data File:	411043-31.129
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	16
Cadmium	1.2
Chromium	12
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AMW-5-12	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-31 x20
Date Analyzed:	11/13/24	Data File:	411043-31 x20.141
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1,700

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-06-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-32
Date Analyzed:	11/12/24	Data File:	411043-32.130
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.5
Cadmium	18
Chromium	24
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-06-01	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-32
Date Analyzed:	11/13/24	Data File:	411043-32.142
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	68

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-06-08.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-35
Date Analyzed:	11/12/24	Data File:	411043-35.131
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.0
Cadmium	<1
Chromium	31
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	AB-06-08.5	Client:	Aspect Consulting
Date Received:	11/04/24	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	411043-35
Date Analyzed:	11/13/24	Data File:	411043-35.143
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	32

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	ETS Subsurface Investigation
Date Extracted:	11/12/24	Lab ID:	I4-970 mb
Date Analyzed:	11/12/24	Data File:	I4-970 mb.074
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 410568-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	82	70-130

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 411043-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	230	105	103	64-136	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	78-121

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 411043-26 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2	<0.5	50	49	10-142	2
Chloromethane	mg/kg (ppm)	2	<0.5	72	74	10-126	3
Vinyl chloride	mg/kg (ppm)	2	<0.05	79	78	10-138	1
Bromomethane	mg/kg (ppm)	2	<0.5	67	67	10-163	0
Chloroethane	mg/kg (ppm)	2	<0.5	79	78	10-176	1
Trichlorofluoromethane	mg/kg (ppm)	2	<0.5	84	81	10-176	4
Acetone	mg/kg (ppm)	10	<5	66	58	10-163	13
1,1-Dichloroethene	mg/kg (ppm)	2	<0.05	86	83	10-160	4
Hexane	mg/kg (ppm)	2	<0.25	85	84	10-137	1
Methylene chloride	mg/kg (ppm)	2	<0.5	65	63	10-156	3
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	<0.05	85	85	21-145	0
trans-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	81	83	14-137	2
1,1-Dichloroethane	mg/kg (ppm)	2	<0.05	84	82	19-140	2
2,2-Dichloropropane	mg/kg (ppm)	2	<0.05	85	81	10-158	5
cis-1,2-Dichloroethene	mg/kg (ppm)	2	<0.05	85	87	25-135	2
Chloroform	mg/kg (ppm)	2	<0.05	85	83	21-145	2
2-Butanone (MEK)	mg/kg (ppm)	10	<1	76	72	19-147	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	<0.05	91	90	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2	<0.05	87	87	10-156	0
1,1-Dichloropropene	mg/kg (ppm)	2	<0.05	86	87	17-140	1
Carbon tetrachloride	mg/kg (ppm)	2	<0.05	95	96	9-164	1
Benzene	mg/kg (ppm)	2	<0.03	86	86	29-129	0
Trichloroethene	mg/kg (ppm)	2	<0.02	84	83	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2	<0.05	91	89	30-135	2
Bromodichloromethane	mg/kg (ppm)	2	<0.05	88	88	23-155	0
Dibromomethane	mg/kg (ppm)	2	<0.05	84	84	23-145	0
4-Methyl-2-pentanone	mg/kg (ppm)	10	<1	89	95	24-155	7
cis-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	89	89	28-144	0
Toluene	mg/kg (ppm)	2	<0.05	81	80	35-130	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2	<0.05	85	85	26-149	0
1,1,2-Trichloroethane	mg/kg (ppm)	2	<0.05	85	81	10-205	5
2-Hexanone	mg/kg (ppm)	10	<1	81	77	15-166	5
1,3-Dichloropropane	mg/kg (ppm)	2	<0.05	86	85	31-137	1
Tetrachloroethene	mg/kg (ppm)	2	<0.025	83	82	20-133	1
Dibromochloromethane	mg/kg (ppm)	2	<0.05	83	79	28-150	5
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	<0.05	83	80	28-142	4
Chlorobenzene	mg/kg (ppm)	2	<0.05	83	81	32-129	2
Ethylbenzene	mg/kg (ppm)	2	<0.05	85	82	32-137	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	83	81	31-143	2
m,p-Xylene	mg/kg (ppm)	4	<0.1	83	83	34-136	0
o-Xylene	mg/kg (ppm)	2	<0.05	80	80	33-134	0
Styrene	mg/kg (ppm)	2	<0.05	82	80	35-137	2
Isopropylbenzene	mg/kg (ppm)	2	<0.05	84	82	31-142	2
Bromoform	mg/kg (ppm)	2	<0.05	85	83	21-156	2
n-Propylbenzene	mg/kg (ppm)	2	<0.05	85	87	23-146	2
Bromobenzene	mg/kg (ppm)	2	<0.05	82	83	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	<0.05	85	86	18-149	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	<0.05	89	89	28-140	0
1,2,3-Trichloropropane	mg/kg (ppm)	2	<0.05	87	86	25-144	1
2-Chlorotoluene	mg/kg (ppm)	2	<0.05	81	84	31-134	4
4-Chlorotoluene	mg/kg (ppm)	2	<0.05	85	86	31-136	1
tert-Butylbenzene	mg/kg (ppm)	2	<0.05	84	88	30-137	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	<0.05	83	85	10-182	2
sec-Butylbenzene	mg/kg (ppm)	2	<0.05	86	86	23-145	0
p-Isopropyltoluene	mg/kg (ppm)	2	<0.05	84	87	21-149	4
1,3-Dichlorobenzene	mg/kg (ppm)	2	<0.05	84	84	30-131	0
1,4-Dichlorobenzene	mg/kg (ppm)	2	<0.05	81	83	29-129	2
1,2-Dichlorobenzene	mg/kg (ppm)	2	<0.05	79	82	31-132	4
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	<0.5	81	88	11-161	8
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	<0.25	79	81	22-142	2
Hexachlorobutadiene	mg/kg (ppm)	2	<0.25	81	80	10-142	1
Naphthalene	mg/kg (ppm)	2	<0.05	84	84	14-157	0
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	<0.25	83	85	20-144	2

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2	61	10-146
Chloromethane	mg/kg (ppm)	2	79	27-133
Vinyl chloride	mg/kg (ppm)	2	87	22-139
Bromomethane	mg/kg (ppm)	2	69	10-201
Chloroethane	mg/kg (ppm)	2	72	10-163
Trichlorofluoromethane	mg/kg (ppm)	2	99	10-196
Acetone	mg/kg (ppm)	10	90	52-141
1,1-Dichloroethene	mg/kg (ppm)	2	91	47-128
Hexane	mg/kg (ppm)	2	96	43-142
Methylene chloride	mg/kg (ppm)	2	73	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2	91	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2	93	64-132
1,1-Dichloroethane	mg/kg (ppm)	2	92	64-135
2,2-Dichloropropane	mg/kg (ppm)	2	90	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2	94	64-135
Chloroform	mg/kg (ppm)	2	91	61-139
2-Butanone (MEK)	mg/kg (ppm)	10	99	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2	100	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2	94	62-131
1,1-Dichloropropene	mg/kg (ppm)	2	93	64-136
Carbon tetrachloride	mg/kg (ppm)	2	105	60-139
Benzene	mg/kg (ppm)	2	94	65-136
Trichloroethene	mg/kg (ppm)	2	92	63-139
1,2-Dichloropropane	mg/kg (ppm)	2	99	61-145
Bromodichloromethane	mg/kg (ppm)	2	100	57-126
Dibromomethane	mg/kg (ppm)	2	95	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	10	96	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2	96	65-143
Toluene	mg/kg (ppm)	2	88	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2	96	65-131
1,1,2-Trichloroethane	mg/kg (ppm)	2	91	62-131
2-Hexanone	mg/kg (ppm)	10	92	33-152
1,3-Dichloropropane	mg/kg (ppm)	2	95	67-128
Tetrachloroethene	mg/kg (ppm)	2	88	68-128
Dibromochloromethane	mg/kg (ppm)	2	92	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2	91	66-129
Chlorobenzene	mg/kg (ppm)	2	89	67-128
Ethylbenzene	mg/kg (ppm)	2	90	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2	93	64-121
m,p-Xylene	mg/kg (ppm)	4	89	68-128
o-Xylene	mg/kg (ppm)	2	88	67-129
Styrene	mg/kg (ppm)	2	88	67-129
Isopropylbenzene	mg/kg (ppm)	2	89	68-128
Bromoform	mg/kg (ppm)	2	96	56-132
n-Propylbenzene	mg/kg (ppm)	2	96	68-129
Bromobenzene	mg/kg (ppm)	2	91	69-128
1,3,5-Trimethylbenzene	mg/kg (ppm)	2	95	69-129
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2	96	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2	97	61-137
2-Chlorotoluene	mg/kg (ppm)	2	95	69-128
4-Chlorotoluene	mg/kg (ppm)	2	95	67-127
tert-Butylbenzene	mg/kg (ppm)	2	96	69-129
1,2,4-Trimethylbenzene	mg/kg (ppm)	2	93	69-128
sec-Butylbenzene	mg/kg (ppm)	2	96	69-130
p-Isopropyltoluene	mg/kg (ppm)	2	94	69-130
1,3-Dichlorobenzene	mg/kg (ppm)	2	92	69-127
1,4-Dichlorobenzene	mg/kg (ppm)	2	91	68-126
1,2-Dichlorobenzene	mg/kg (ppm)	2	93	69-127
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2	94	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2	90	64-135
Hexachlorobutadiene	mg/kg (ppm)	2	91	50-153
Naphthalene	mg/kg (ppm)	2	95	62-128
1,2,3-Trichlorobenzene	mg/kg (ppm)	2	96	61-126

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270E SIM

Laboratory Code: 411043-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.5	0.38	113 b	111 b	50-150	2 b
2-Methylnaphthalene	mg/kg (ppm)	0.5	0.16	104 b	115 b	50-150	10 b
1-Methylnaphthalene	mg/kg (ppm)	0.5	0.098	97	106	50-150	9
Acenaphthylene	mg/kg (ppm)	0.5	0.0075	95	98	50-150	3
Acenaphthene	mg/kg (ppm)	0.5	0.26	100 b	114 b	50-150	13 b
Fluorene	mg/kg (ppm)	0.5	0.30	101 b	125 b	50-150	21 b
Phenanthrene	mg/kg (ppm)	0.5	1.6	164 b	241 b	50-150	38 b
Anthracene	mg/kg (ppm)	0.5	0.29	98 b	118 b	50-150	19 b
Fluoranthene	mg/kg (ppm)	0.5	3.8	109 b	292 b	50-150	91 b
Pyrene	mg/kg (ppm)	0.5	2.0	77 b	110 b	50-150	35 b
Benz(a)anthracene	mg/kg (ppm)	0.5	0.77	92 b	101 b	50-150	9 b
Chrysene	mg/kg (ppm)	0.5	0.91	82 b	83 b	50-150	1 b
Benzo(b)fluoranthene	mg/kg (ppm)	0.5	0.65	90 b	85 b J	50-150	6 b
Benzo(k)fluoranthene	mg/kg (ppm)	0.5	0.22	98 b	95 b J	50-150	3 b
Benzo(a)pyrene	mg/kg (ppm)	0.5	0.33	100 b	97 b J	50-150	3 b
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.5	0.28	92 b	89 b J	50-150	3 b
Dibenz(a,h)anthracene	mg/kg (ppm)	0.5	0.067	102	100 J	50-150	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.5	0.28	99 b	96 b J	50-150	3 b

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270E SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.5	79	70-130
2-Methylnaphthalene	mg/kg (ppm)	0.5	82	70-130
1-Methylnaphthalene	mg/kg (ppm)	0.5	81	70-130
Acenaphthylene	mg/kg (ppm)	0.5	94	70-130
Acenaphthene	mg/kg (ppm)	0.5	90	70-130
Fluorene	mg/kg (ppm)	0.5	94	70-130
Phenanthrene	mg/kg (ppm)	0.5	93	70-130
Anthracene	mg/kg (ppm)	0.5	86	70-130
Fluoranthene	mg/kg (ppm)	0.5	102	70-130
Pyrene	mg/kg (ppm)	0.5	89	70-130
Benz(a)anthracene	mg/kg (ppm)	0.5	84	70-130
Chrysene	mg/kg (ppm)	0.5	92	70-130
Benzo(b)fluoranthene	mg/kg (ppm)	0.5	85	70-130
Benzo(k)fluoranthene	mg/kg (ppm)	0.5	94	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.5	87	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.5	87	70-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.5	85	70-130
Benzo(g,h,i)perylene	mg/kg (ppm)	0.5	91	70-130

Date of Report: 11/15/24
Date Received: 11/04/24
Project: ETS Subsurface Investigation PO 180043-02, F&BI 411043

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 411171-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.31	100 b	93 b	75-125	7 b
Cadmium	mg/kg (ppm)	10	<1	90	98	75-125	9
Chromium	mg/kg (ppm)	10	17.3	113 b	79 b	75-125	35 b
Lead	mg/kg (ppm)	10	6.17	152 b	105 b	75-125	37 b
Mercury	mg/kg (ppm	10	<1	90	95	75-125	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120
Cadmium	mg/kg (ppm)	10	94	80-120
Chromium	mg/kg (ppm)	10	103	80-120
Lead	mg/kg (ppm)	10	98	80-120
Mercury	mg/kg (ppm)	10	91	80-120

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

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

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

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

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

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

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

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

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

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

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

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

411043

SAMPLE CHAIN OF CUSTODY

11-04-24 N3/D2

Page # 1 of _____

Report To NATHAN DICKEY

Company ASPECT

Address SEATTLE

City, State, ZIP _____

Phone _____ Email nathan.dickey@aspectcons...ting.com

SAMPLERS (*signature*)

PROJECT NAME: ETS Subsurface Investigation

PO #: 180043-02

REMARKS: cc: Aspect EDD

Project specific RLs? - Yes / No

INVOICE TO

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

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other _____
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA 5				Notes
																	X per ND
AB-01-01.5	01 A-E	10/31	1001	S	5	X	X			X	X		X				11/7/24 ME
AB-01-02.5	02	"	1006	"	1												
AB-01-06.5	03 A-E	"	1020	"	5												
AB-01-09	04	"	1025	"	5	X	X			X	X		X				
AB-02-01	05	"	1115	"	5												
AB-02-03	06	"	1120	"	5	X	X			X	X		X				
AB-02-05	07	"	1123	"	5												
AB-02-06.5	08	"	1125	"	5												
AB-02-09.5	09	"	1140	"	5	X	X			X	X		X				
AB-02-10.5	10	"	1145	"	5												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	NWD	Aspect	11/4	800
Received by:	VINH	FBI	11-4-24	1310
Relinquished by:		Samples received at 2 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

411043

SAMPLE CHAIN OF CUSTODY

11-04-24 N3/D2

Page # 2 of 4

Report To _____

Company _____

Address _____

City, State, ZIP _____

Phone _____ Email _____

SAMPLERS (*signature*)	
PROJECT NAME	PO #
REMARKS Project specific RLs? - Yes / No	INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☐ RUSH _____
- Rush charges authorized by: _____

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other _____
- Default: Dispose after 30 days

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA 5				Notes
AB-03-01	11 A-E	10/31	1220	S	5	X	X			X	X		X				
AB-03-02.5	12		1230		5												
AB-03-05.5	13		1236		5												
AB-03-07	14		1240		5	X	X			X	X		X				
AB-04-02.5	15		1340		5	X	X			X	X		X				
AB-04-05.5	16		1350		5												
AB-04-10	17		1400		5	X	X			X	X		X				Label (dup) AB-04-10.5 11/04
AB-04-12.5	18		1401		5												
AB-05-02	19	11/1	1112		5												
AB-05-02.5	20	11/1	1120		5	X	X			X	X		X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[illegible]	Aspect	11/4	800
Received by:	[illegible]	FBI	11-4-24	1310
Relinquished by:		Samples received at 2 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

411043

SAMPLE CHAIN OF CUSTODY

11-04-24 N3/D23

Page # 4 of 4

Report To

Company

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME | PO #

REMARKS | INVOICE TO

Project specific RLs? - Yes / No

TURNAROUND TIME
☐ Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA 5				Notes
AB-05-05	21 A.E	11/1	1115	S	5												
AB-05-07	22		1124		5												
AB-05-09.7	23		1130		5												
AB-05-11	24		1135		5												
AB-05-13	25	11/1	1140		5	X	X			X	X		X				
AMW-5-01	26	10/31	1435		5	X	X			X	X		X				
AMW-5-02	27	11/1	0910		1												
AMW-5-02.5	28 A.E		0920		5												
AMW-5-06.5	29 V		0930		5												
AMW-5-08.5	30		0940		1												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Wood	Aspect	11/4	0800
Received by:	Wyatt	FBI	11-4-24	1310
Relinquished by:		Samples received at 2 °C		
Received by:				

Friedman & Bruya, Inc.
Ph. (206) 285-8282

411043

SAMPLE CHAIN OF CUSTODY

~~10/~~ 11-04-24

Page # 4 of 4

N3
D2

Report To _____

Company _____

Address _____

City, State, ZIP _____

Phone _____ Email _____

SAMPLERS (*signature*)	
PROJECT NAME	PO #
REMARKS Project specific RLs? - Yes / No	INVOICE TO

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH _____
Rush charges authorized by:
_____

SAMPLE DISPOSAL
☐ Archive samples
☐ Other _____
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCAS				Notes
AMW-5-12	31 AE	11/1	1010	S	5	X	X			X	X		X				
AB06-01	32	"	1234	"	5	X	X			X	X		X				
AB-06-04.5	33	"	1244	"	5												
AB-06-06.5	34	"	1256	"	5												
AB-06-08.5	35	11/1	1305	S	5	X	X			X	X		X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	NWD	Aspect	11/4	0800
Received by:	JINH	FBI	11-4-24	1310
Relinquished by:		Samples received at 2 °C		
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 411043 CLIENT Aspect INITIALS/ DATE: AP 11/04/24

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

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

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

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

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ Date: NP 11/04/24
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 3≥4 days

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

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

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

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

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

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

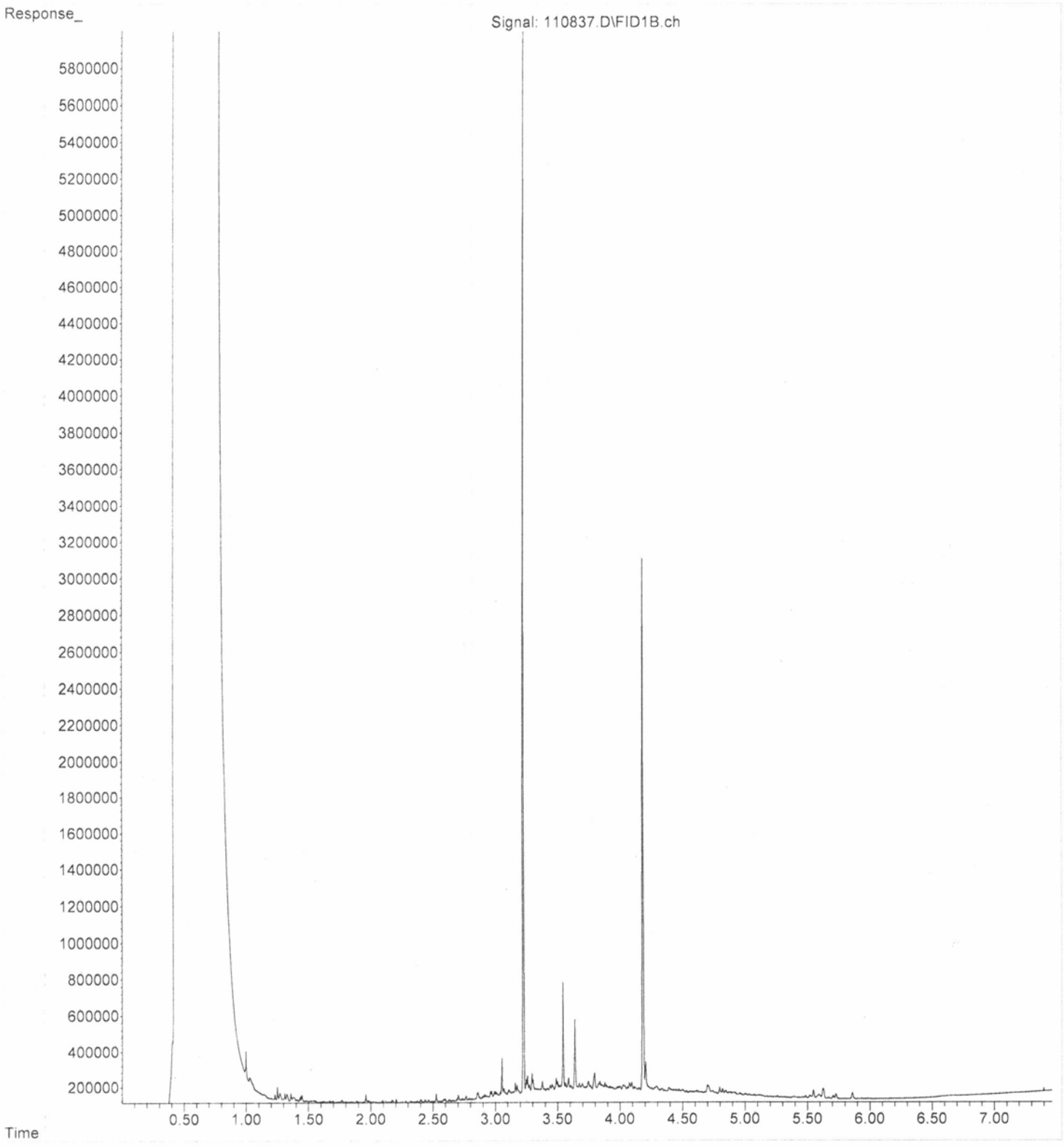
Sample ID's	☐ Yes ☑ No	☐ Not on COC/label
Date Sampled	☐ Yes ☑ No	☐ Not on COC/label
Time Sampled	☐ Yes ☑ No	☐ Not on COC/label
# of Containers	☑ Yes ☐ No	
Relinquished	☑ Yes ☐ No	
Requested analysis	☐ Yes ☑ On Hold	

Other comments (use a separate page if needed)
5035 Soil sample kit label on the Ziploc.

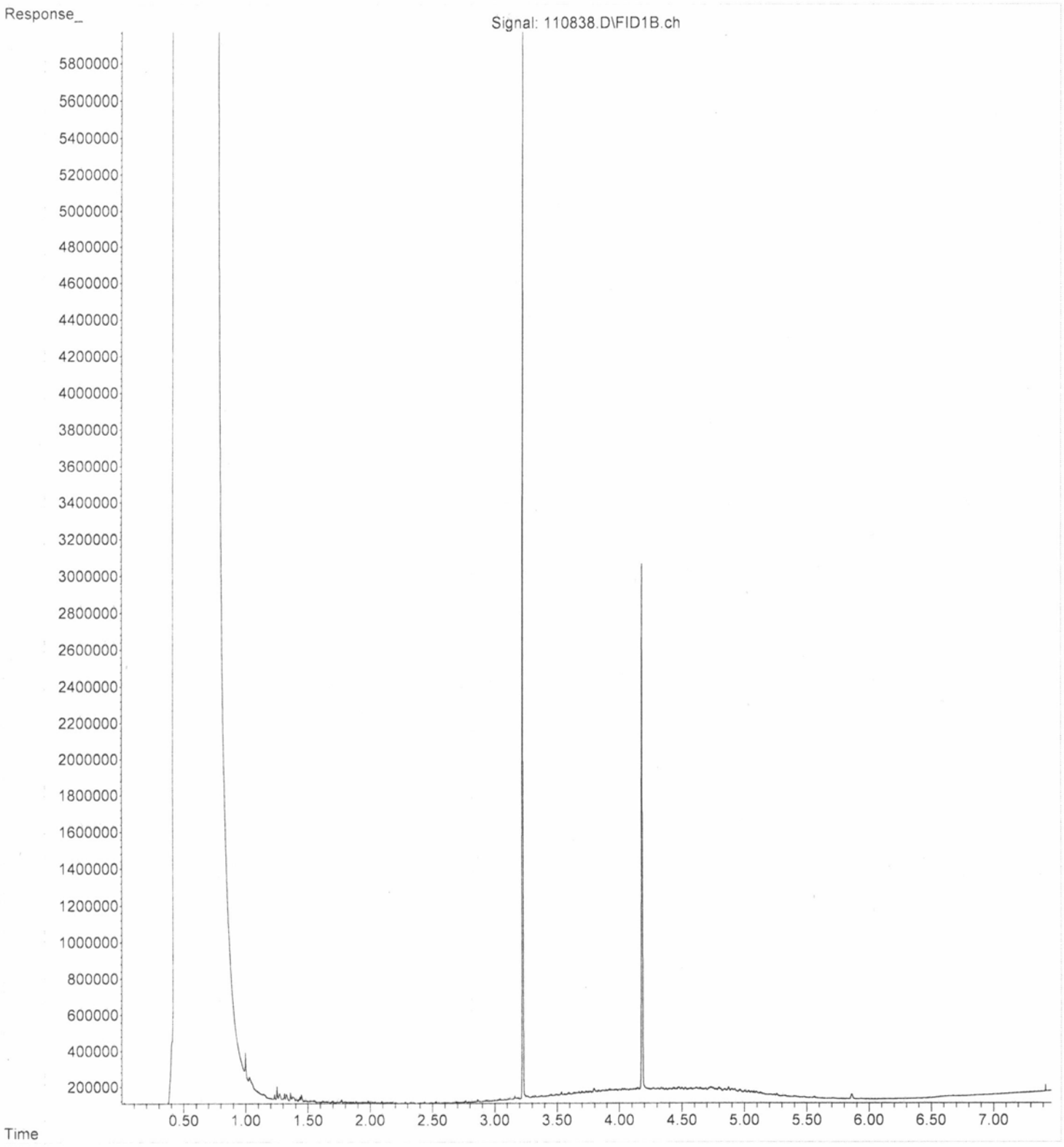
Air Samples: Were any additional canisters/tubes received? ☐ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

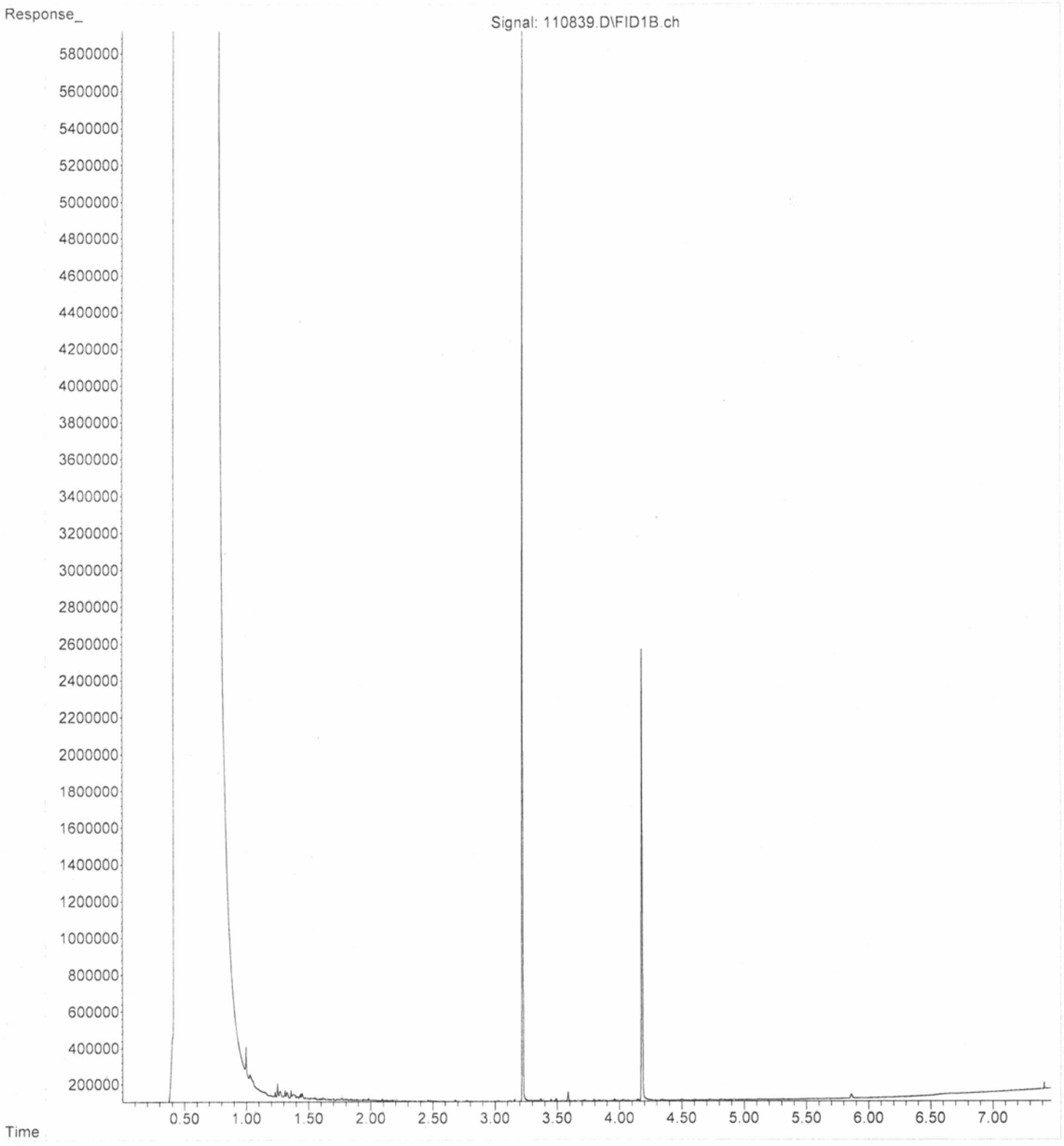
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Operator : TL
Acquired : 08 Nov 2024 02:44 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 411043-01
Misc Info : ERR
Vial Number: 32



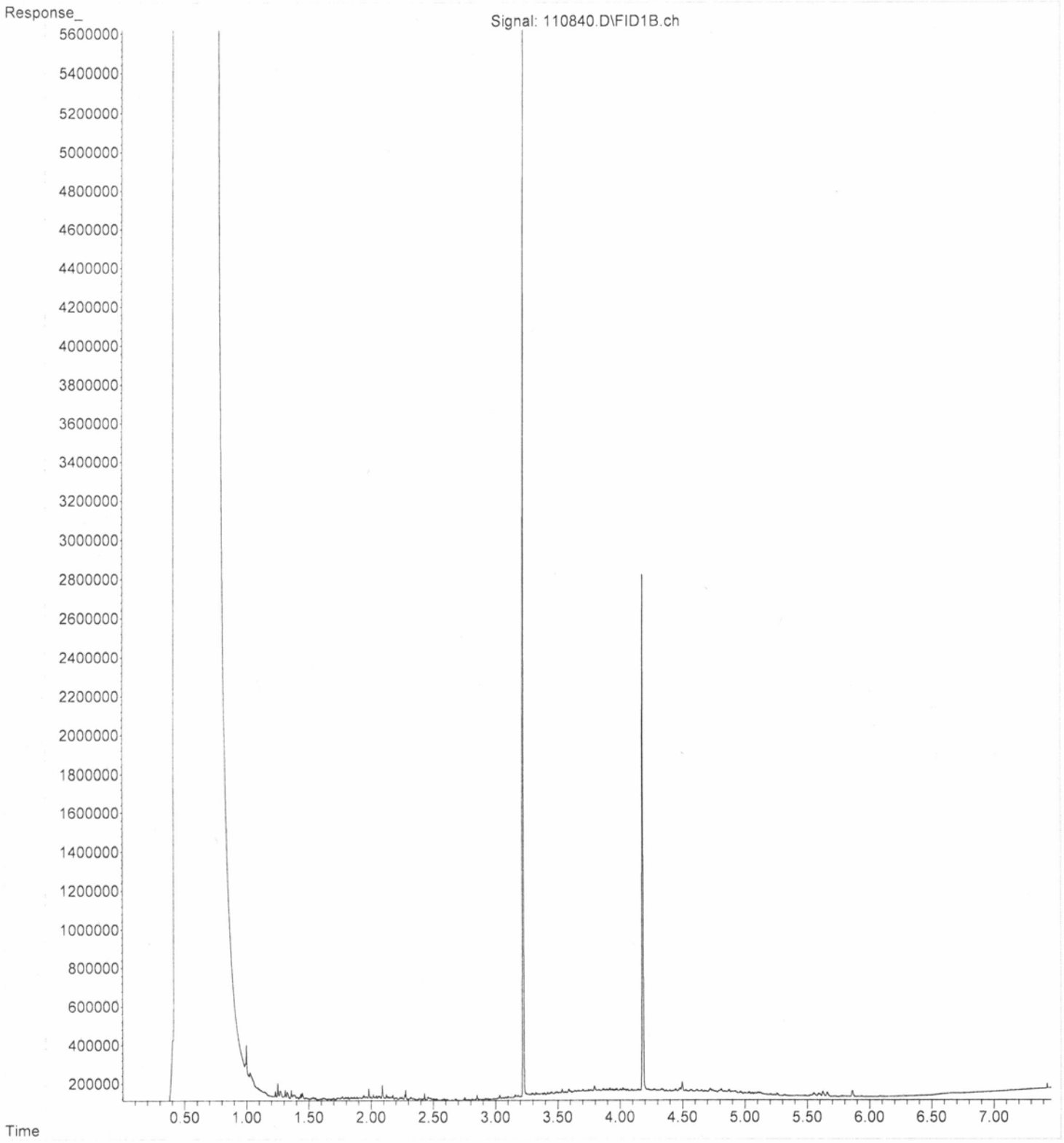
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Instrument : GC13
Sample Name: 411043-04
Misc Info : ERR
Vial Number: 33



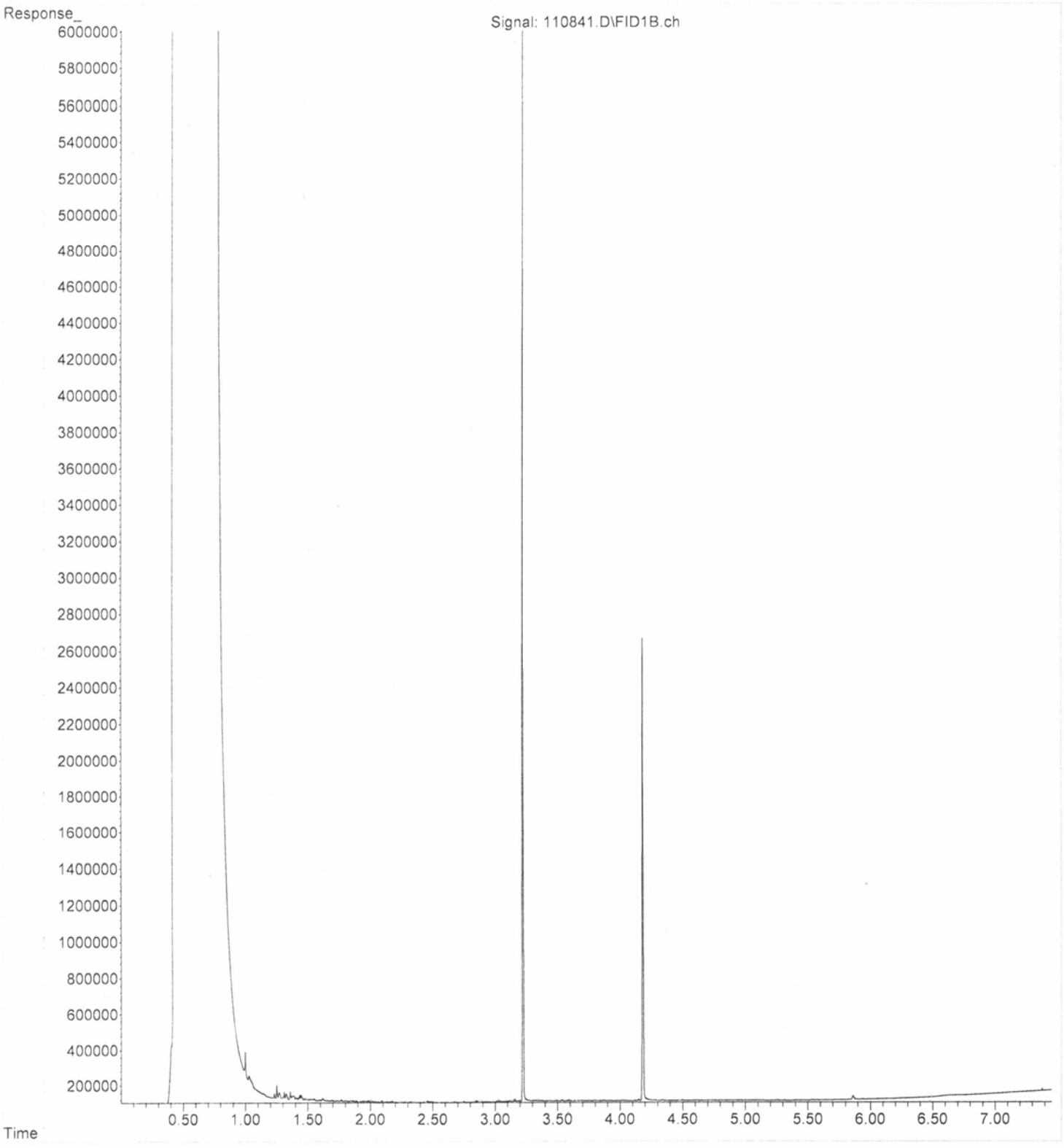
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Instrument : GC13
Sample Name: 411043-06
Misc Info : ERR
Vial Number: 34



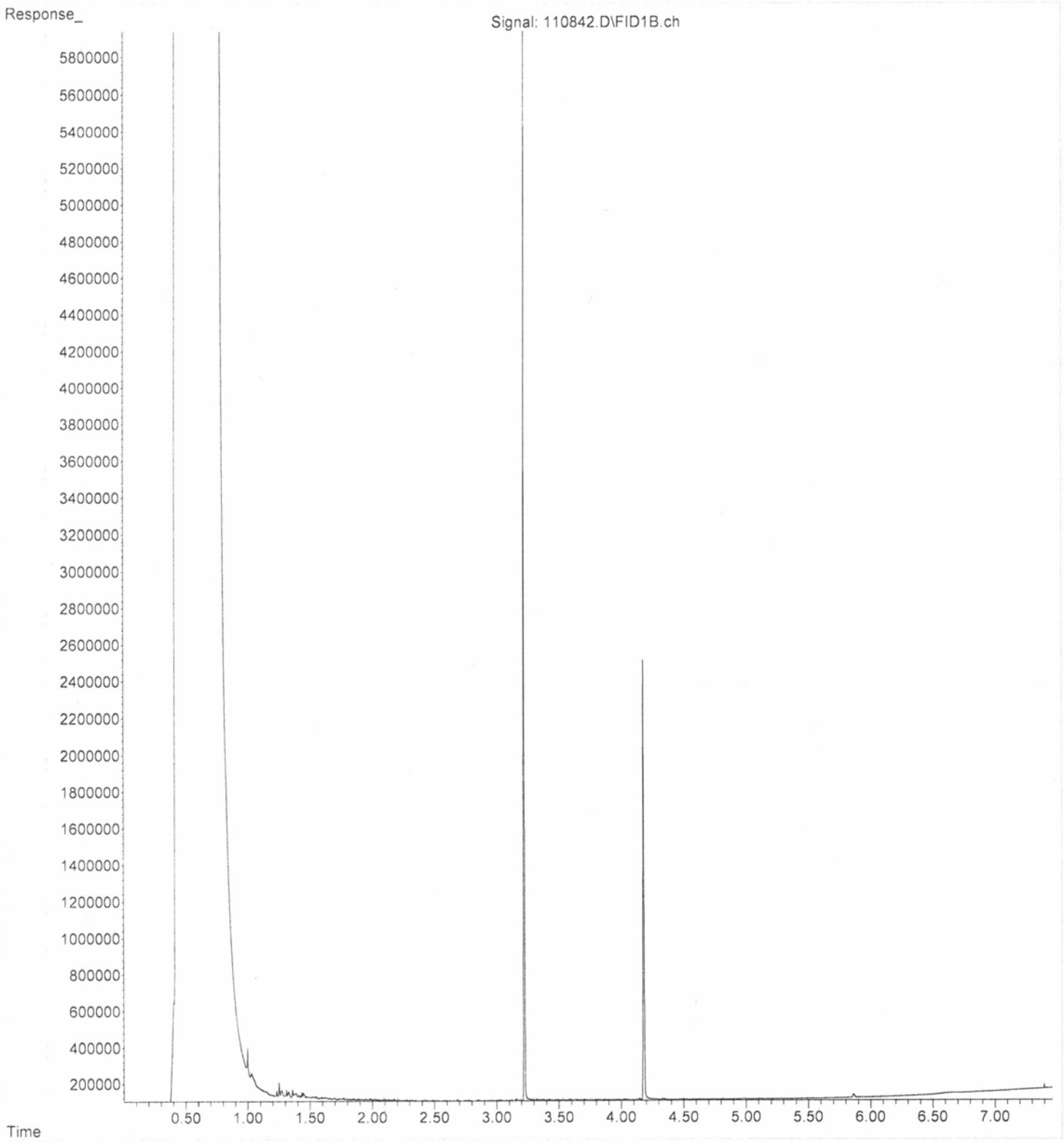
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Instrument : GC13
Sample Name: 411043-09
Misc Info : ERR
Vial Number: 35



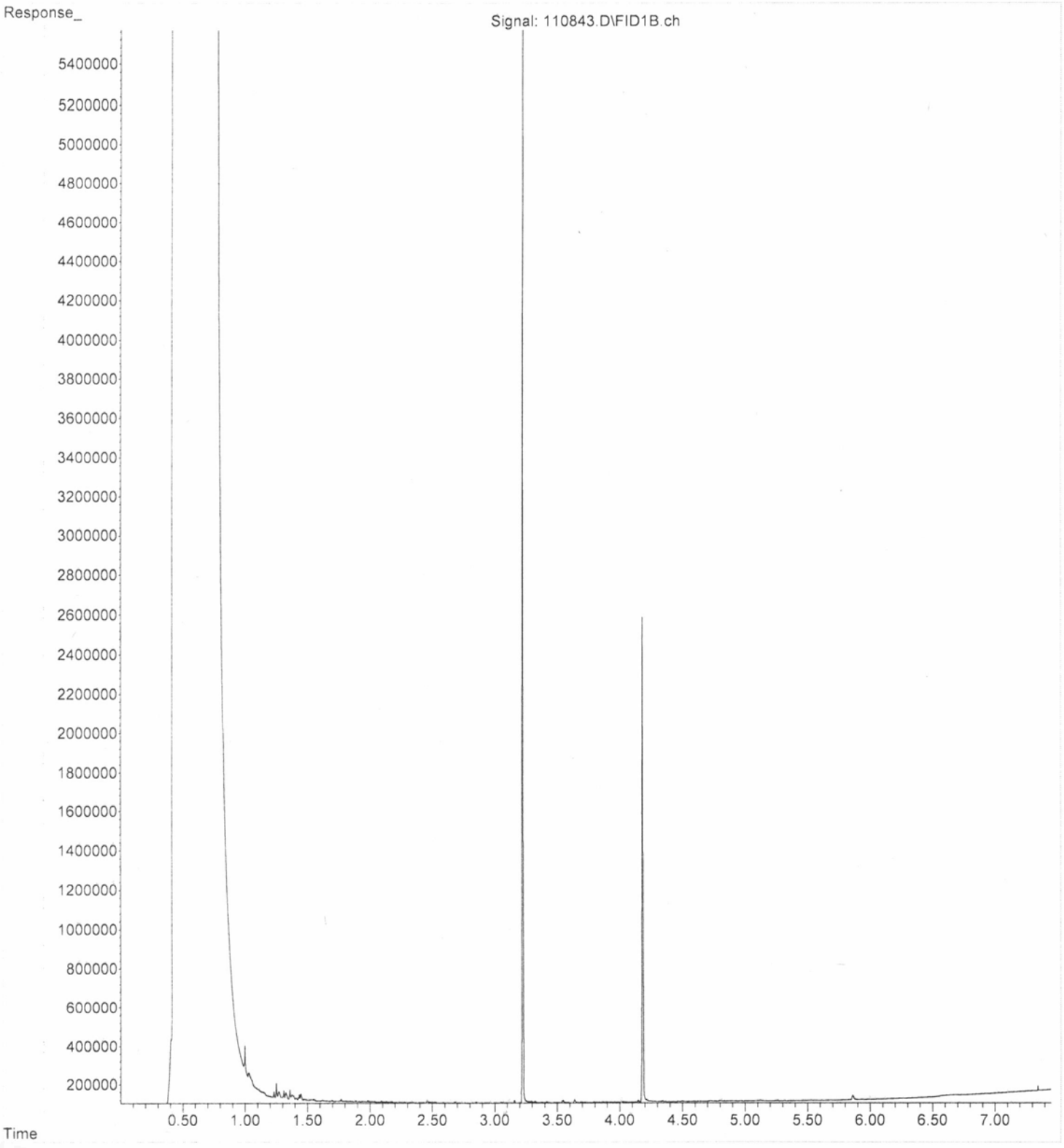
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Acquired : 08 Nov 2024 03:30 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 411043-11
Misc Info : ERR
Vial Number: 36



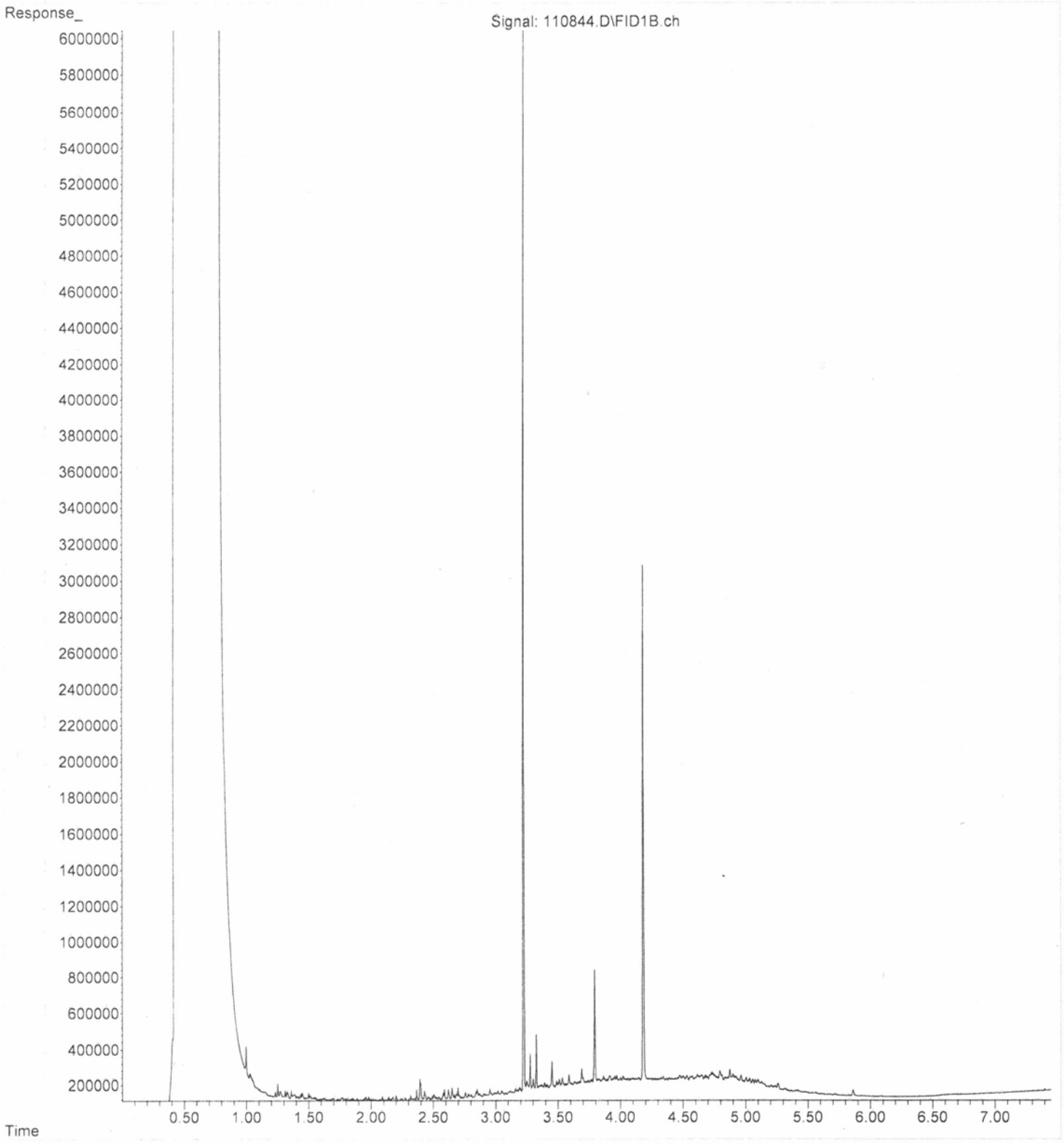
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Acquired : 08 Nov 2024 03:41 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 411043-14
Misc Info : ERR
Vial Number: 37



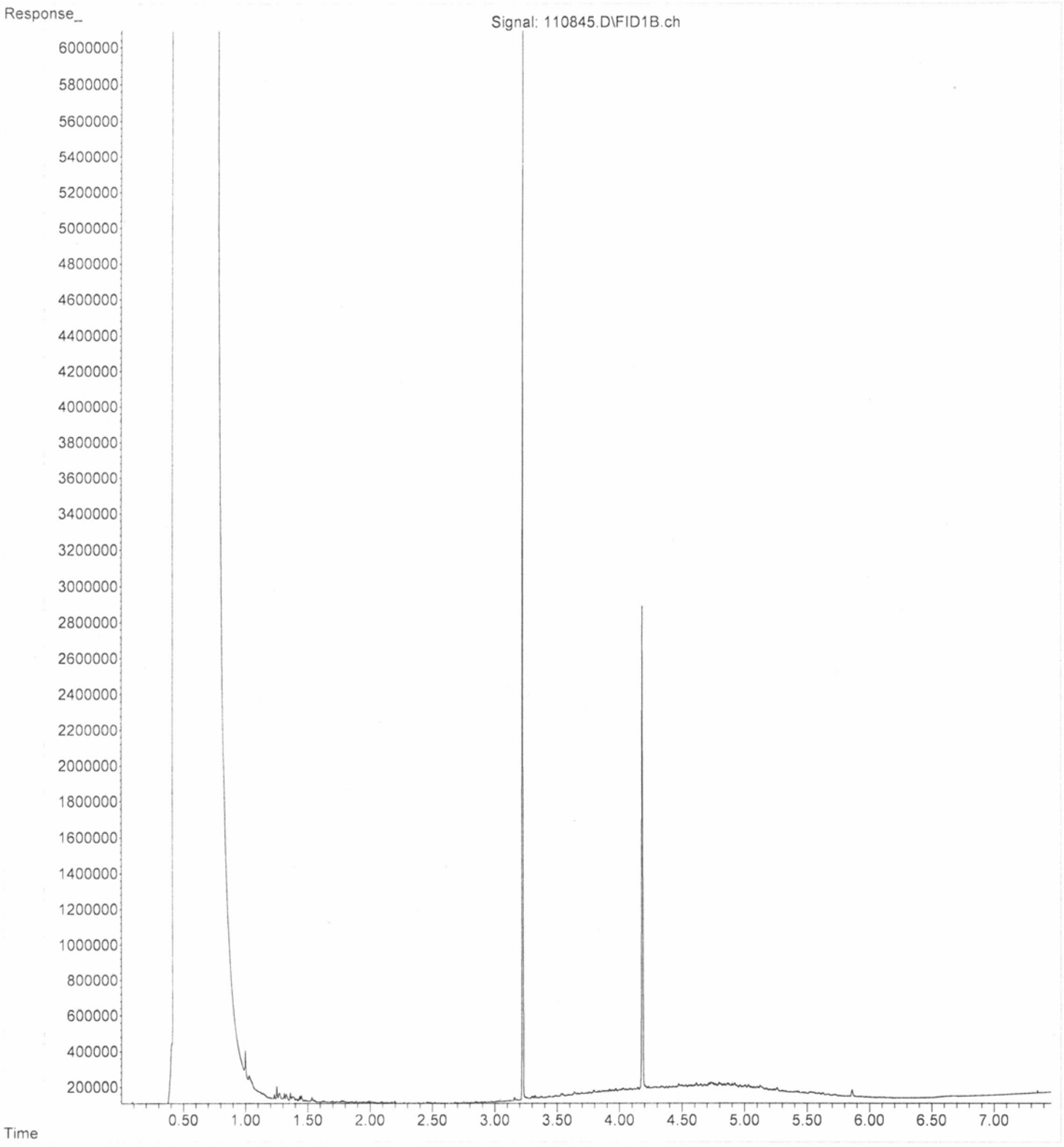
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Operator : TL
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Instrument : GC13
Sample Name: 411043-15
Misc Info : ERR
Vial Number: 38



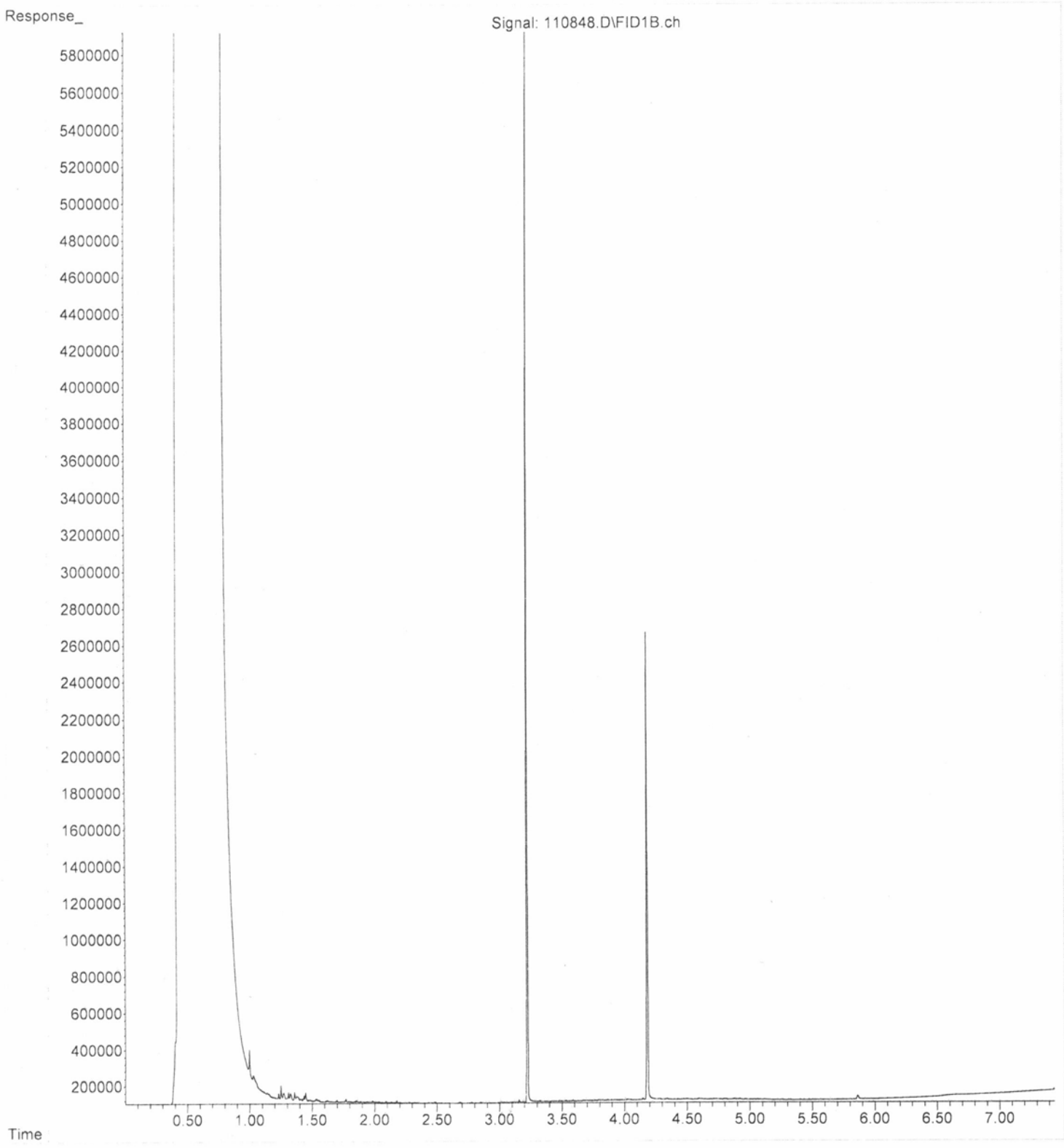
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Operator : TL
Acquired : 08 Nov 2024 04:04 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 411043-17
Misc Info : ERR
Vial Number: 39



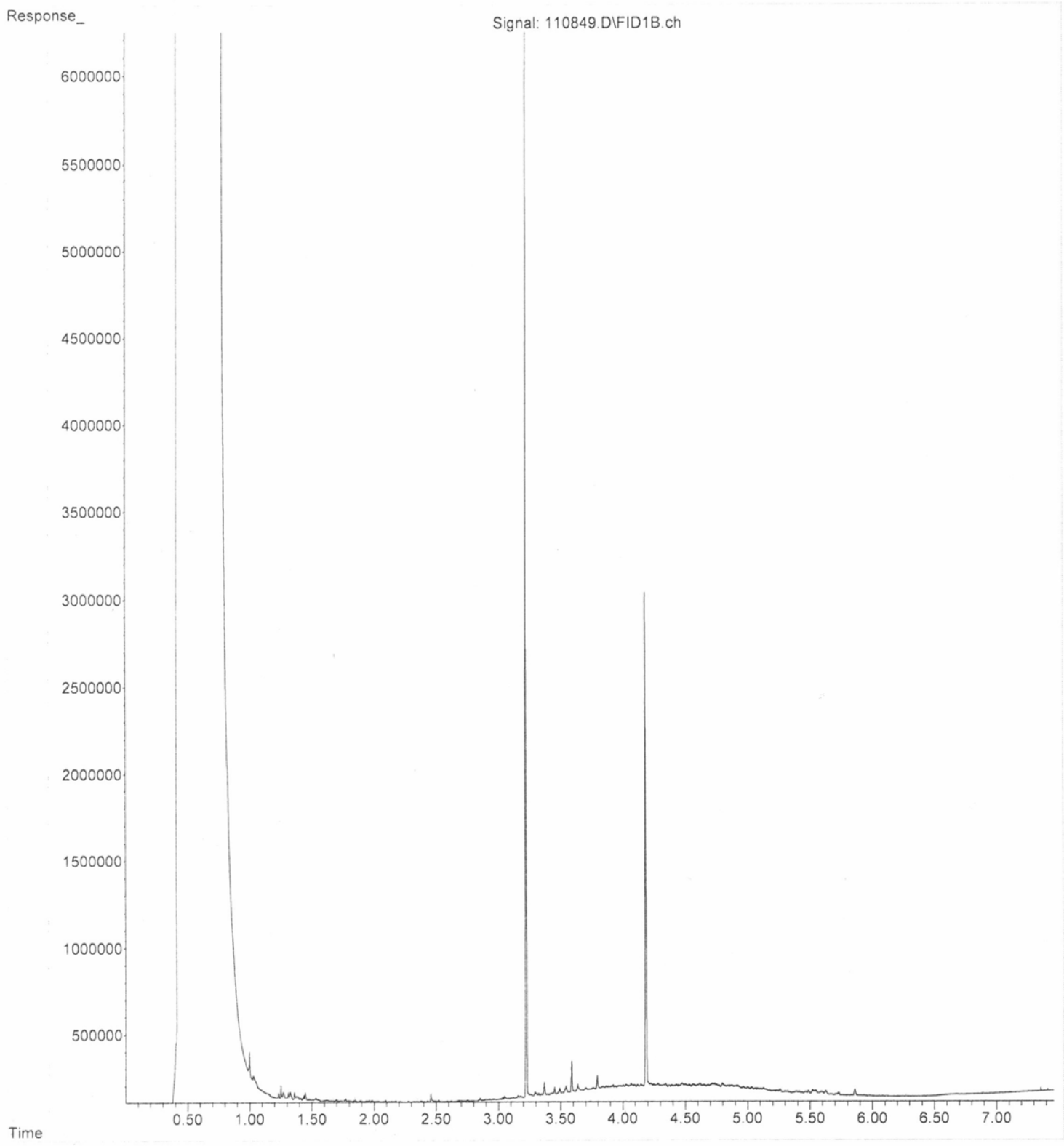
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Operator : TL
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Instrument : GC13
Sample Name: 411043-20
Misc Info : ERR
Vial Number: 40



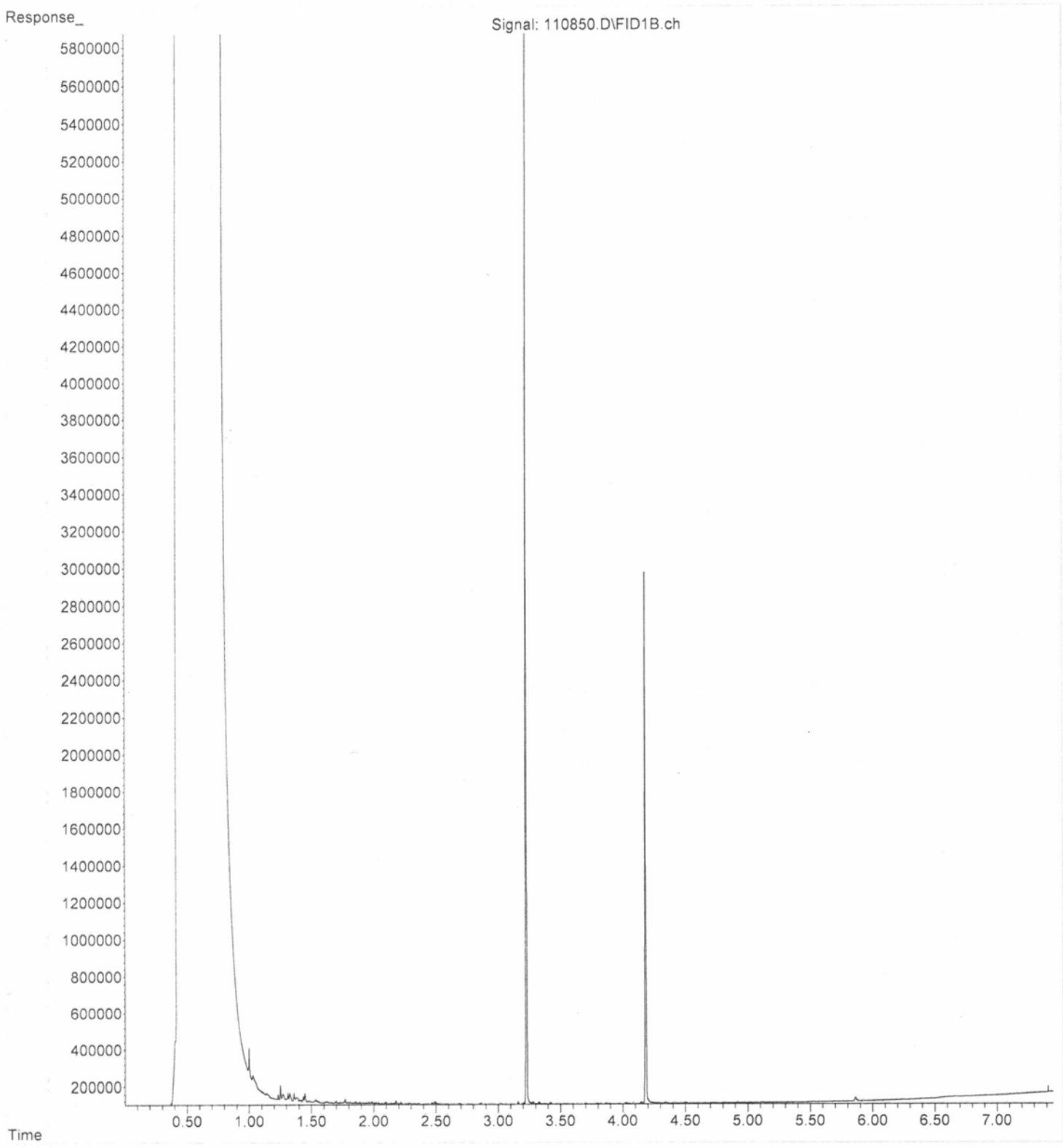
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Instrument : GC13
Sample Name: 411043-25
Misc Info : ERR
Vial Number: 41



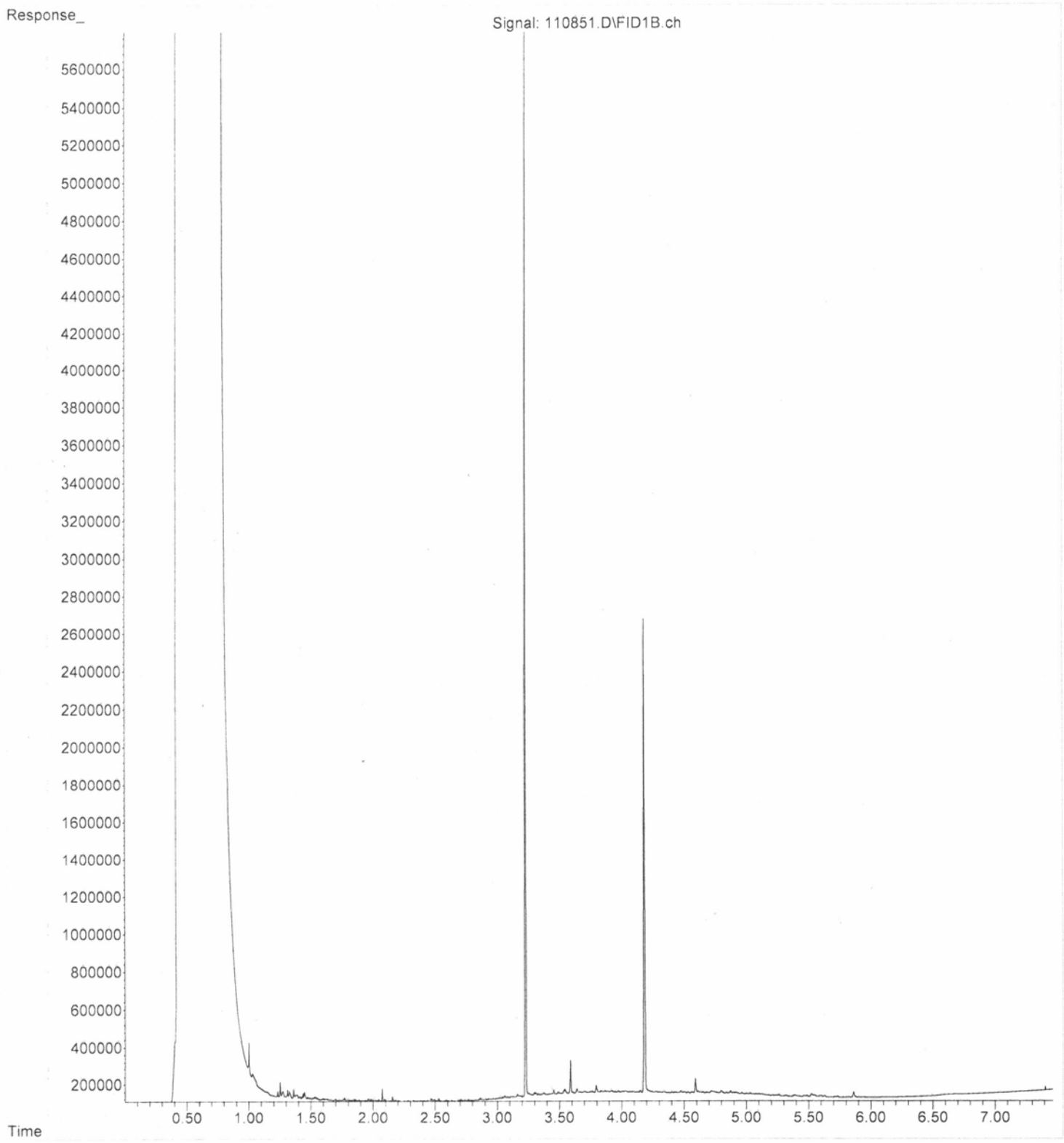
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Instrument : GC13
Sample Name: 411043-26
Misc Info : ERR
Vial Number: 42



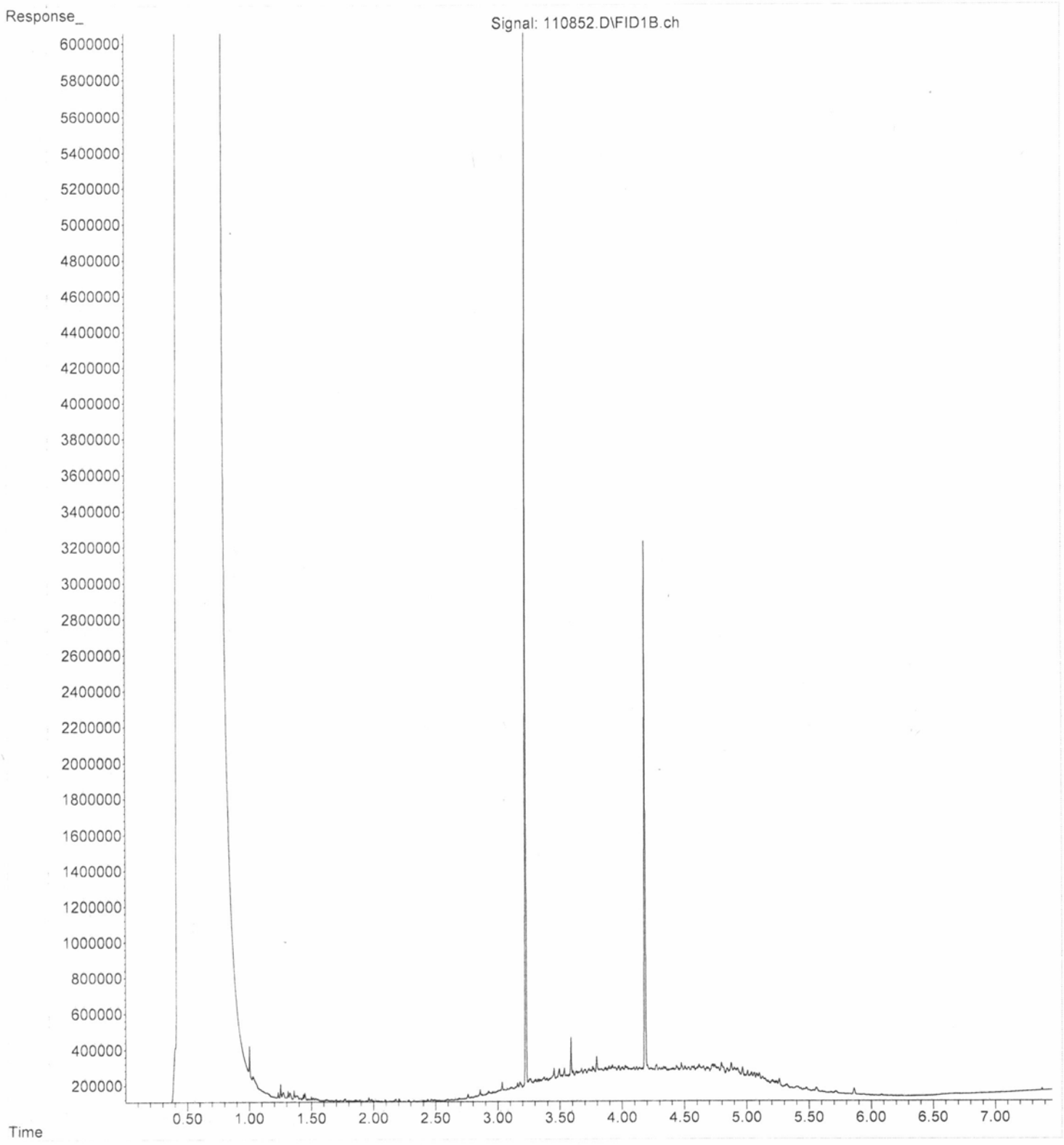
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Instrument : GC13
Sample Name: 411043-31
Misc Info : ERR
Vial Number: 43



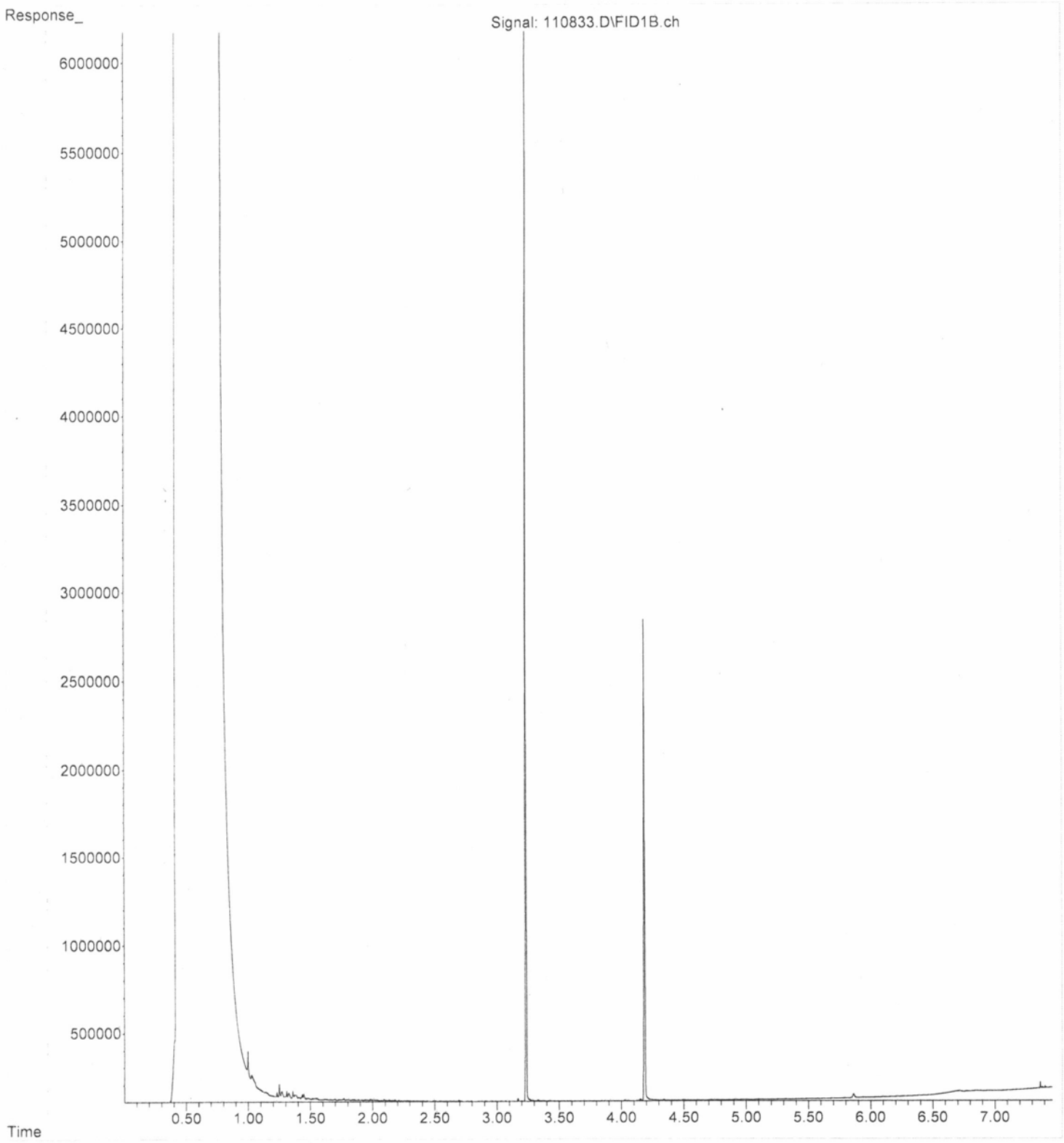
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Operator : TL
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Instrument : GC13
Sample Name: 411043-32
Misc Info : ERR
Vial Number: 44



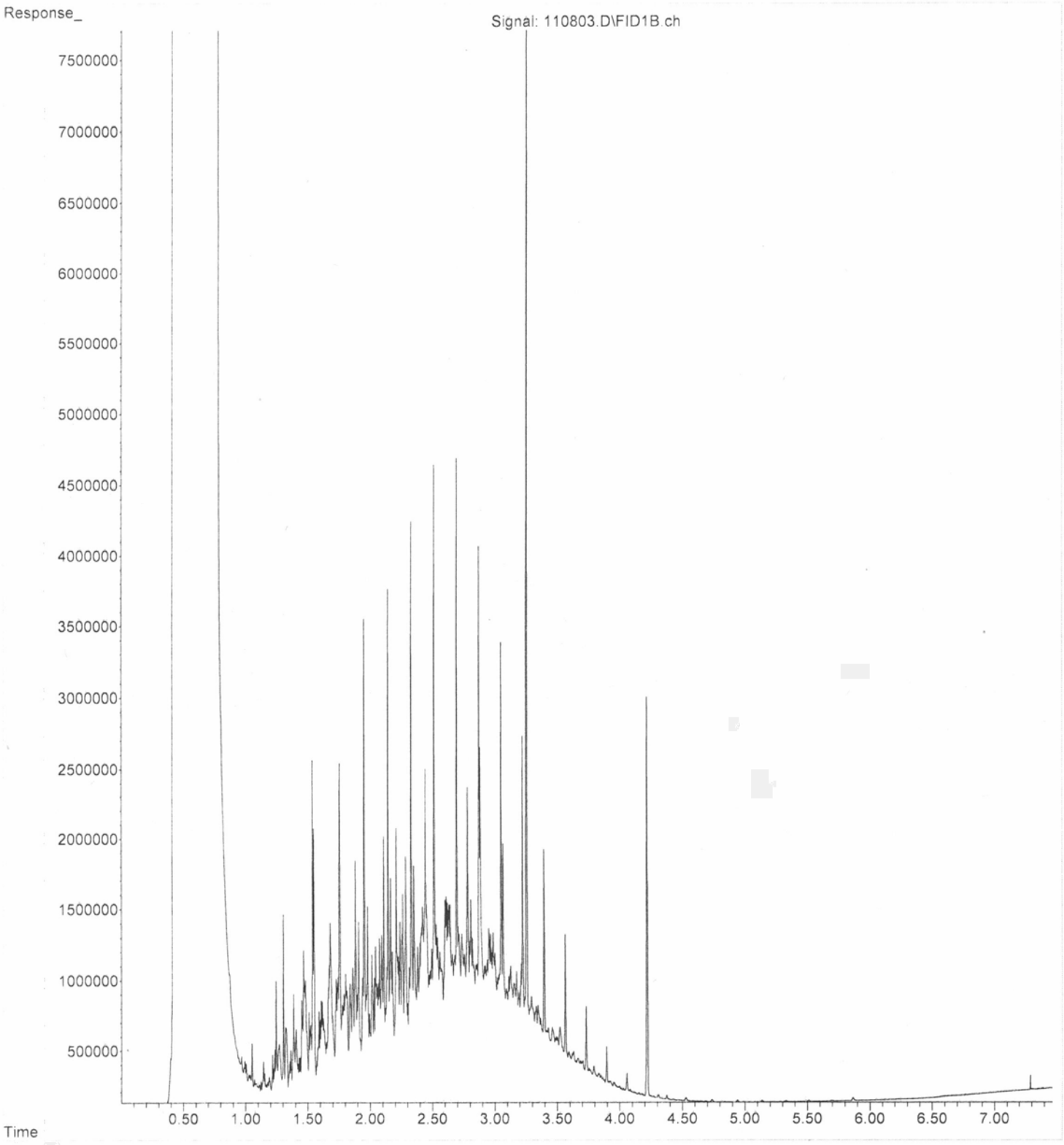
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Operator : TL
Acquired : 08 Nov 2024 05:35 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 411043-35
Misc Info : ERR
Vial Number: 45



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Operator : TL
Acquired : 08 Nov 2024 01:58 pm using AcqMethod Dx.M
Instrument : GC13
Sample Name: 04-2797 mb
Misc Info : ERR
Vial Number: 28



File :P:\Proc_GC13\11-08-24\110803.D
Operator : TL
Acquired : 08 Nov 2024 08:14 am using AcqMethod Dx.M
Instrument : GC13
Sample Name: 500 Dx 73-88C
Misc Info : ERR
Vial Number: 3



APPENDIX E

Report Limitations and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

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

Services for Specific Purposes, Persons and Projects

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

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

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

This Report Is Project-Specific

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

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

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

Geoscience Interpretations

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

Discipline-Specific Reports Are Not Interchangeable

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

Environmental Regulations Are Not Static

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

Property Conditions Change Over Time

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

Phase I ESAs – Uncertainty Remains After Completion

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

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

Historical Information Provided by Others

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

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

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