

December 2021 Work Plan

for Focused Data Gap Investigation

Future Kiddie Academy Former Texaco #211544

8701 Greenwood Avenue North Seattle, Washington Facility/Site ID# 6416

December 8, 2021

Prepared for:

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Project No. 1581-21001-02

This

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Has been prepared for the sole benefit and use of our client:



Attn: Maninder Singh 12620 NE 85th St, Suite-108 Kirkland, WA 98033

and its assignees

Prepared by:



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Limitations

This Work Plan (Plan) is reflective of site conditions discovered through environmental site assessments primarily conducted by others. Required actions described in this Plan are consistent with State of Washington and Washington State Department of Ecology rules, regulations and guidance enforce and available as of the Plan issue date. The Client is advised to check for any updates that may be applicable to a specific scope of work being conducted under this Plan.

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Acronyms and Abbreviations

bgs Client COCs COIs COPCs cPAH CSM CUL DRO Ecology EDB ENW ESA ENW ESA EPA FSDS GRO HCI Hg ID MtBE mg/Kg mg/L	below ground surface Kiddie Academy constituents of concern constituents of interest constituents of potential concern carcinogenic polynuclear aromatic hydrocarbons conceptual site model cleanup level diesel-range organics Washington Department of Ecology Ethylene dibromide EVREN Northwest, Inc. Environmental Site Assessment US Environmental Protection Agency Field Sampling Data Sheet gasoline-range organics hydrochloric acid mercury inside diameter Methyl-t-Butyl Ether milligrams per kilogram milligrams per liter millivolt
µg/L	micrograms per liter micron
μm μS/cm	microSiemens per centimeter
MNA	monitored natural attenuation
MTCA	Model Toxics Control Act
NFA	No Further Action
ORP	oxygen-reduction potential
PAHs	polynuclear aromatic hydrocarbons
PID	photoionization detector
PQL	practical quantitation limit
PVC	polyvinyl chloride
RI/FS	remedial investigation/feasibility study
RRO	residual-range organics
SOW	scope of work
TPH	total petroleum hydrocarbons
VCP	Voluntary Cleanup Program
VOA VOCs	volatile organic analysis
WAC	volatile organic constituents Washington Administrative Code
WAC	washington Aunimistrative Code

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1.0 INTRODUCTION

At the request of Kiddie Academy (Client), EVREN Northwest, Inc. (ENW) has prepared this Work Plan to address environmental investigation data gaps at the above-referenced property (subject property; see Figures 1 and 2). In a letter dated March 8, 2021, the Washington Department of Ecology (Ecology) identified data gaps and requested additional investigation.

The subject property has applied to enroll in Ecology's Volunteer Cleanup Program (VCP), which is pending assignment of a project manager, and is identified in State's cleanup database as Facility/Site 6416. The proposed investigation in this work plan is designed to support state cleanup requirements of Ecology's Model Toxics Control Act (MTCA), Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 Washington Administrative Code (WAC).

2.0 BACKGROUND

2.1 Site Location and History

The subject property consists of one parcel of land comprising 0.75 acre located on the northwest corner of the Greenwood Avenue North and North 87th Street intersection within a mixed commercial and residential area of Seattle, King County, Washington. The subject property is currently developed with one 14,707-square foot building, which was constructed in 1997 and is currently vacant. In addition to the structure, the subject property is improved with asphalt-paved parking areas and associated landscaping.

The subject property is bound by residential properties to the north, commercial properties to the east across Greenwood Avenue North, residential properties to the south across North 87th Street, and residential properties to the west across the Alley (Figure 2).

2.2 Summary of Previous Investigations

Previous environmental investigations are documented in the following reports:

Texaco Environmental Services, Initial Assessment, dated July 1991.

- Texaco Environmental Services, Quarterly Update Report, dated November 15, 1991.
- EMCON, Quarterly Ground Water Sampling Report, dated May 7, 1992.
- EMCON, *Ground Water Sampling Report*, dated December 4, 1992.
- EMCON, Quarterly Ground Water Sampling Report, dated July 1, 1993.
- EMCON, Quarterly Ground Water Sampling Report, dated September 23, 1993.
- EMCON, Tank Decommissioning Report, dated September 9, 1994.
- Environmental Resolutions, *Remedial Action Report*, dated January 5, 1996.
- EMCON, Groundwater Sampling Report, dated June 13, 1995.
- EMCON, *Groundwater Sampling Report*, dated August 8, 1995.
- EMCON, 1994 Progress Report, dated August 8, 1995.
- EMCON, *Groundwater Sampling Report*, dated August 8, 1995.
- EMCON, Groundwater Sampling Report, dated November 9, 1995.
- EMCON, *Remediation Status Report*, dated November 10, 1995.
- EMCON, *Groundwater Sampling Report*, dated March 8, 1996.
- Environmental Resolutions, *Excavation and Soil Sampling Report*, dated March 15, 1996.
- Environmental Resolutions, Hand Auger Report, dated August 27, 1996.
- Environmental Resolutions, *Groundwater and Sampling Report*, dated October 24, 1996.
- Environmental Resolutions, *Remedial Action Report*, dated January 5, 1996.
- Environmental Resolutions, Soil Sampling Report, dated September 9, 1996.
- Environmental Resolutions, Excavation, Soil Sampling and Construction Coordination, dated February 4, 1997.
- PH7 Environmental, Phase I Environmental Assessment, dated February 22, 1997
- Environmental Associates, *Limited Surface Sampling and Testing*, dated April 3, 1997
- Environmental Resolutions, Excavation and Soil Sampling, dated May 30, 1997.
- Environmental Resolutions, Monitoring Well Installation, Sampling and Laboratory Analysis, dated September 15, 1997.
- Environmental Resolutions, Groundwater Sampling and Laboratory Analysis Report, dated January 29, 1998.
- Environmental Resolutions, *Groundwater and Sampling Report*, dated April 24, 1998.
- Environmental Resolutions, Groundwater and Sampling Report, dated June 21, 1998.
- Environmental Resolutions, Groundwater Sampling and Laboratory Analysis Report, dated November 25, 1998.
- Equiva Services, *request for Review*, dated January 14, 1999
- Partner, Phase I Environmental Site Assessment, dated September 29, 2020
- Left Cost Services, *Limited Stie Characterization Report*, dated November 23, 2020
- ENW, Focused Phase II Environmental Stie Assessment, dated December 30, 2020
- Partner, Soil Management Plan, dated March 9, 2021
- Partner, Phase II Environmental Site Assessment, dated March 9, 2021

The southern portion of the subject property was previously occupied by a gasoline and service station from at least 1940 to 1994. According to information gleaned from the abovelisted reports prepared by others, Texaco purchased the property in 1967 and constructed a new service station at that time. The initial gasoline station included a two-bay service garage, two fuel pump islands, two 10,000-gallon gasoline underground storage tanks (USTs), one 550-gallon waste oil UST, and one 1,000-gallon fuel oil UST. A 4,000-gallon gasoline UST was added in 1971. The entire underground system was updated in 1986 when the steel USTs were removed and replaced with four 10,000-gallon single-walled fiberglass USTs and the product lines, waste oil, and fuel oil USTs were replaced with fiberglass lines and tanks. The new tanks and lines were placed in approximately the same locations as the original tanks and lines.

In 1994, all USTs and associated product lines were removed from the subject property. During UST decommissioning two 1,250-gallon concrete sumps/separators were discovered during the over-excavation of petroleum-impacted soil south of the service station building. Approximately 600 cubic yards of petroleum impacted soils were excavated from the former UST and dispenser island locations. Soil samples collected following over-excavation of soil in the former USTs, pump island, and hoist areas contained analyte concentrations below MTCA Method A Cleanup Levels. However, soil collected from the excavation sidewalls of the former waste oil/sump area contained analyte concentrations above the MTCA Method A Cleanup Levels. Ground water samples collected during soil removal activities also contained concentrations of constituents above the MTCA Method A Cleanup Levels.

A combined air sparge/vapor extraction system was installed on the property in the area of the former gasoline and diesel UST excavation between March and December 1994. The treatment system operated between December 1994 and June 1995. Post-treatment ground water monitoring conducted in 1995 suggested attenuation of dissolved concentrations in ground water to below the MTCA Method A Cleanup Levels.

Based upon the sampling data, Washington Department of Ecology (Ecology) issued a closure letter for the subject property in July 1996, which included the recording of a restrictive covenant with the property deed. The restrictive covenant documents the location of residual petroleum-impacted soil on the property and included the requirements for long-term ground water monitoring and for the management and handling of residual petroleum-impacted soil during subsequent subsurface work at the property.

In September 1996, Seattle/Village Partnership, the owner of the subject property at that time, began construction of an approximately 12,000-square-foot retail building with adjacent paved parking. During redevelopment of the subject property between 1996 and 1997, additional areas of petroleum-impacted soil were encountered and removed as practicable and transported off site for treatment and recycling. Several reports were submitted by others at that time to Ecology, documenting this work. As documented during this work, an area with residual petroleum impacts is present in the southeast corner of the subject site. All other

areas with observed petroleum impacts to soil were removed from the site during redevelopment.

Recently (2020 through 2021) the Client has engaged with several other environmental firms to conduct additional investigation of the subject site in relation to a possible former drycleaning facility being located on the subject site. The results of these investigations did not suggest the presence of dry-cleaning related contaminants in soil, ground water and/or soil gas.

3.0 DATA GAPS AND WORK SCOPE

A SOW to address data gaps identified in Ecology's 2021 letter¹ are summarized below. The actions required by Ecology to re-evaluate the previous closure status of the property are listed in italics below. Please refer to Figures 3 and 4 for locations of previous and proposed temporary boreholes and monitoring wells.

Ecology Comment: Vapor intrusion assessment needs to be completed, including:

- Impacts from the residual petroleum contamination needs to be evaluated, as well as potential impacts from the historical dry cleaner.
- Assessment of potential impacts on adjacent residences.
- A Tier I vapor intrusion assessment of the existing building is recommended at this time, since the interior remodel has not yet been completed and may change the air circulation in the building.
- The vapor intrusion evaluation must be conducted in accordance with Ecology's Guidance and any other relevant regulations.

Soil and ground water conditions were recently assessed by Environmental Specialties (April/May 2021). During the investigation, soils in six (6) borings along the western property were sampled for GRO, DRO, RRO and BTEX. None of the soil samples contained constituents above laboratory MRL. An indoor air sample was collected inside the building, and only benzene was detected above MTCA Method B; however, its presence is likely due to benzene in outdoor/ambient air. Based on these recent sampling results, ENW has recommended additional sub-slab vapor sampling inside the building to further assess the VI pathway. Vapor sampling and evaluation of results will be conducted in accordance with appropriate guidance as suggested. In addition, ground water sampling at existing monitoring wells is proposed along the western property boundary.

¹ Ecology, March 8, 2021, "*Response to Change of Use Request*," Texaco 211544, 8701 Greenwood Avenue N, Seattle, WA. Cleanup Site ID No.: 6416

Ecology Comment: Residual contamination needs to be evaluated in the proposed playground area to ensure protectiveness from direct contact.

Soil and ground water conditions beneath the planned outdoor playground was completed during two separate Phase II investigations in 2021.^{2,3} In February 2021, Partner advanced soil borings B1 and B2 in the central portion of the planned play area and soil samples from two (2) feet bgs were analyzed. ES advanced five soil borings within the planned play area (SB5 through SB8 and Well 5) and collected soil samples from depths ranging from nine (9) to 14.5 feet bgs. Ground water samples were collected from seven borings and two monitoring wells during these investigations.

Results of laboratory testing indicated no significant subsurface impacts present in soil and ground water. Based on laboratory testing, soil conditions appear protective of the direct contact exposure pathway and no further investigation of soil is considered warranted at this time.

Due to shallow occurrence of shallow ground water at the site (less than 0.5 feet bgs), this work plan proposes four quarters of ground water sampling from two wells within the planned play area and one well down gradient of the planned play area to monitor the presence of ground water impacts. It should be noted that this area will be developed on the existing asphalt surface and underlain with outdoor matting; therefore, there is not exposed soil in this area.

Ecology Comment: The historical dry cleaner needs to be thoroughly investigated to determine whether there has been a release to soil, groundwater, or air.

ENW has considered results of historical investigations of the former dry cleaners outlined below. Results suggest that soils have not been adversely impacted by the historical presence of the former dry cleaner facility. However, ground impacts may still be present.

- In 1997, EAI advanced boring B-1 down gradient of the former dry-cleaners facility. Soil sample B-1-4 was collected from the surface of a glacial till unit at 17.5 to 19 feet bgs and a reconnaissance ground water sample was collected from inside the open hollow stem auger flights of the drill stem.
- In October 2020, UAI conducted additional assessment of subsurface conditions during a Phase II ESA. UAI advanced soil borings GSB-1 and GSB-

² Partner, 2021. Phase II Subsurface Investigation Report, prepared for Maninder Singh – Expansion, 8701 Greenwood Avenue North, Seattle, WA, March 9, 2021.

³ Environmental Specialties, 2021. Level II Investigation, prepared for 8701 Greenwood, LLC, July 1, 2021.

2 within the southern footprint of the former facility building and collected soil samples from five to seven feet bgs.

- Partner conducted a Phase II ESA in February 2021 at the subject property, including advancement of a soil boring B-3 within the footprint of the former dry cleaner. Partner collected a soil sample from the 5-foot sampling depth from the boring.
- In May 2021, ES conducted a subsurface investigation, which included advancement of soil borings completed as monitoring wells #10 and #11 within the former dry cleaners building footprint. One soil sample (sample 16-10-14) was collected from the boring for Well #10 from a depth of 14 feet bgs. Ground water samples were subsequently collected from completed wells in June 2021.

Laboratory results of laboratory analysis of soil from these investigations did not reveal the presence of GRO, DRO, RRO, or VOCs in soil at concentrations greater than MTCA method A CULs, including in soils at the top of the hard pan layer at 14 feet bgs where heavier halogenated VOCs, if present, are likely to be present. Based on results of laboratory testing, ENW considers soils to have been adequately assessed.

A reconnaissance ground water sample collected from Partner's boring B-3 contained benzene above the MTCA Method A ground water CUL. Based on the suggested presence of dissolved VOCs in ground water, this work plan proposes additional sampling of existing ground water monitoring wells for COIs related to former drycleaning operations.

Ecology Comment: Contaminated soil and ground water associated with the historical gasoline service station may have migrated off-Property and should be characterized.

As described in this scope of work, ENW proposes to advance three soil borings in the southeast corner of the site to further delineate the lateral and vertical extent of soil impacts associated with the former gas station.

Ecology Comment: You will need to enroll in the Voluntary Cleanup Program (VCP) in order to be assigned an ecology site manager that will review your submittals and evaluate your request. Given that Ecology's July 1996 NFA decision and Environmental Covenant no longer accurately represent the Site conditions, a new agency decision is likely needed, which can be accomplished via he VCPO.

A formal application for entry into the VCP to obtain regulatory oversight and review of the proposed scope of work in this work plan has already been submitted.

Ecology Comment: A monitoring well is reportedly still located on the Property (generally referred to as AGW-6 but referred to as MW-01 in the 2020 Phase II). You inquired whether the well should be decommissioned. However, decommissioning the well appears to be premature at this time.

ENW concurs. It should be noted that a new well was installed in a similar location to AGW-6, identified as monitoring well MW-8, that replaced AGW-6, which was removed during previous soil removal efforts. In addition, ES reportedly installed their well #2 in this area. The scope of work for this work plan includes surveying in existing wells as required by Ecology and EIM. At this time, ENW will confirm the total number and location of all wells on the property and provide an update to Ecology.

Ecology Comment: Please note that if you discover additional contamination on your Property, you are required to report it to Ecology.

ENW understands and will report any newly undiscovered contamination at the site, if encountered.

4.0 CONCEPTUAL SITE MODEL

The following updated CSM has been developed to assist in data gap and risk evaluation. Note that this CSM is based on our understanding of currently available data, which is not considered by Ecology to be complete. For instance, there are parts of the site, which Ecology has determined have not been adequately sampled or characterized; where data is not available or is not representative, a data gap is noted as described in the previous section.

4.1 Historical Land Use

According to information gathered in a previous Phase I ESA report by Partner, the subject property was once divided into multiple distinct tax lots, with multiple historical addresses associated with the property. According to Partner's report, the subject property has been developed with multiple commercial and residential buildings between 1917 and 1994. Commercial tenants have included a drug store (1925-1930), medical offices, an electric repair shop, laundry (1930), Vanity Cleaners (1951-1955), a Texaco service station (1951-1994), restaurants, and furniture manufacturers. The site was most recently occupied by a Walgreen drug store from 1996 to 2006.

The site is currently developed with an approximately 14,000 square-foot vacant commercial building and paved parking areas.

Surrounding properties consist of a single-family residence to the north, a multi-family residential building with retail businesses on the first floor to the south, across 87th street, and a vacant commercial building to the east across Greenwood Avenue. Residences occupy the properties to the west. To the north and hydrologically up gradient of the site is SMI Inc. Trust at 8733 N. Greenwood Avenue. A garage and structure were observed during a recent visit by ENW. According to Environmental Data Resources, Inc. (EDR), the site is listed on several databases which indicate a confirmed release of organics and metals, and suspected presence of halogenated organics and petroleum products. Two documented spills of petroleum product occurred in 1999 and 2011. Well log data indicate several soil borings were advanced at this property in 2017. During ENW's site visit in August 2021, several drums

labeled "Non-Hazardous Waste" were observed in the driveway of this property. This site is reportedly awaiting cleanup.

4.2 Site Lithology and Hydrogeology

Seattle is within the Puget Lowland, an elongate structural and topographic basin between the Cascade Range and Olympic Mountains. The Seattle area has experienced repeated glacial advancements during the past 2 million years causing cyclic glacial scouring and deposition and later modified by landsides and stream erosion. Seattle is located on a complex succession of glacial and nonglacial deposits that overlie an irregular bedrock surface. According to the Geologic Map of Northeastern Seattle (Part of the Seattle North 7.5' x 15' Quadrangle),⁴ the upper most geology beneath the site is mapped as Holocene age Peat deposits, which are accumulations of wood and other plant material forming layers of greater than about 1 meter and of mappable extent. These units are gradational within other non-glacial deposits. The mapped stratigraphy underlying these surficial deposits are mapped as Pleistocene age glacial deposits consisting of glacially transported silt, sand and sub-rounded to well-rounded gravel.

Previous investigations have identified a silt and peat layer present between approximately seven (7) and 15 feet bgs that appears to act as a confining layer separating lower saturated soils from the overlying vadose zone. Between 14 and 17 feet bgs across the site there is a transition to a gray gravel/silt hard pan layer with relatively high density compared to overlying native sediments.

No surface water bodies, lagoons, or manmade drainages are located on the subject property. The nearest surface water body is Green Lake, located approximately 0.95 miles southeast of the site.

Previous investigations reported first ground water in borings occurring at the site between nine (9) and 17 feet bgs. Shallow ground water has been reported to occur within a silty/sandy layer located directly above a sand and gravel hardpan layer at depth. Shallow ground water within glacial deposits in the Seattle area commonly occurs as a seasonal perched ground water table recharged primarily by infiltrating precipitation during the wet season. At the subject site, first ground water was generally encountered within silts and sands below the overlying peat layer. Ground water has been reported to recharge slowly into existing monitoring wells. Stabilized static ground water levels in monitoring wells have been reported ranging from approximately 0.5 feet bgs to 7 feet bgs. Relying on results from historical ground water monitoring data at -the property, the shallow ground water flows generally to the west-northwest, consistent with surface topography.

⁴ Booth, D.B., Goetz, K., Schimel, S.A., 2009, Geologic Map of Northeastern Seattle (Part of the Seattle North 7.5' x 15' Quadrangle), King County, Washington: U.S. Geological Survey Scientific Investigations Map 3065, Map 1:24,000.

4.3 Constituents of Potential Concern

Based on previous investigations, the primary constituents of potential concern (COPCs) identified at the site have included TPH, PAHs, and VOCs, consistent with historical gasoline service station and historical dry-cleaning sources.

4.4 Potential Contaminant Sources

The current understanding of site conditions indicates the following potential source areas may pose a continuing concern at the site:

- On-site Source Areas to include former dry-cleaning operations in the 1950s, and former gasoline service station operations in the 1960s through the 1990s (approximately). Sources related to the gasoline service station operations include former USTs and dispenser island, a *Former Waste Oil UST, Former Fuel Oil UST, and Former Concrete Sump / Separators*. Additional on-site sources include residual soil and ground water impacts beneath the northern parking area, potentially caused by migration from an off-site source to the north.
- Off-site Suspect Source Areas to include a former commercial enterprise on the north-adjacent property with known releases of petroleum products and suspected releases of halogenated VOCs.

Table 4-1 summarizes these areas by year of operation and COPCs.

Potential Source Area	Location	Approximate Years of Operation	COPC
Former Dry Cleaners	East-Central (former building no longer present	1950-1955	GRO, DRO, VOCs
Former Texaco Station	Central and Southern portion of site	1960s to 1990s	GRO, DRO, RRO, VOCs, cPAHs
Former Off-site Commercial	Off-site on North-	unknown	GRO, DRO, RRO,
Operation	Adjoining Property	anatown	VOCs, cPAHs

Table 4-1. Potential Source Areas and COPCs

4.5 Current Understanding of Nature and Magnitude of Release

This section describes the current understanding of historically use-related impacts in the subsurface at the subject site. Note that not all potential sources areas have been assessed and known impacts have not yet been fully delineated (data gaps).

4.5.1 Soils

Environmental Resolutions grab samples EX-BN-5 indicates the presence of residual GRO and RRO in soil at concentrations greater than MTCA method A CULs in the southeast corner of the site at depths between 5 and 6 feet bgs. Residual concentrations of GRO in soil remains above MTCA Method A CUL in samples EX-N-4 and EX-WN-4 at the final limits of excavation 1B, and in sample EXE-5 in the east sidewall of excavation 1A. Benzene in soil in samples EXE-5 and EX-WN-4 also exceed the MTCA Method A CUL. In March 1997, several PAH constituents were detected in soil confirmation samples at excavation 1B and Excavation 4.

Four soil samples collected at the limits of the former waste oil/sump excavation in 1994 contained hydrocarbon concentrations exceeding MTCA method A CULs. Soil in these areas was not removed to avoid disturbing the underlying silt and peat confining layer. During construction in 1996, additional petroleum-impacted soil was removed, removing one of the two areas of residual soil impacts. Soil impacts remain at sample location WOEWM-6 at a depth of six (6) feet bgs.

Concentrations of residual GRO above MTCA Method A CUL are present in shallow soils near Partner's borings B3 beneath the former dry cleaners at a depth of five (5) feet bgs. Deeper soil impacts were absent at the 14–17-foot sample depth bgs during ES' 2021 investigation (Well #10).

Shallow soils (i.e., upper 5 feet) in the north parking area at Partner boring B4 contain GRO at 551 mg/Kg. Soil impacts are concentrated around a relatively small area around Partner B-4. In the same location, (ES boring SB-4), GRO impacts extended to 10 feet bgs (GRO at 1,200 mg/Kg) but diminishes to below detection limits at 16 feet bgs. The current known extent of deeper soil contamination in the northern portion of the site is delineated at ES boring SB-1, SB-2, and SB-3 and vertically by a sample collected from 16 feet at SB-4.

Figure 3 shows the known extent of exaction associated with petroleum impacted soil removal within the areas of the former gas station, former dry cleaners and beneath the north portion of the site.

Since inadequate depth was sampled at EX-BS-5, EX-ES-5, EX-BN-5 and EX-N-4, and vertical delineation was not achieved, the extent of impacts at the southeast corner of the soil plume represents the most significant data gap in regard to this area of contamination.

4.5.2 Ground Water

Shallow reconnaissance ground water samples reported GRO, benzene and vinyl chloride at concentrations above MTCA Method A CUL in Partner's B2 (proposed play area). Benzene, DRO and RRO were also present in temporary wells in Partner borings B4 and B5, located at the central portion of the north property boundary and the west side of the on-site commercial building. However, significant ground water impacts were absence in samples from permanent monitoring wells sampled in June 2021, where only low concentrations of DRO and RRO were detected.

4.5.3 Soil Vapor

The building is located within the 30-foot exclusion zone around the area of known soil contamination. Recent sub-slab vapor sampling suggest benzene, bromodichloromethane, xylenes, 1,2,4-trimethylbenzne and naphthalene are COPC in soil vapor. Potential preferential migration pathways along utility corridors have not been investigated (data gap) and will be address as part of this work scope.

4.6 Potential Human Health and Environmental Risks

The primary concern relative to human health and/or environmental risks associated with subsurface contamination currently identified are: 1) direct contact by site occupants to underlying soil impacts; 2) leaching/migration of contamination from soil to ground water, and 3) inhalation of vapor phase VOCs by future building occupants.

Since investigations of potential sources is ongoing, additional undiscovered human health concerns and environmental risks could potentially be present.

4.7 Summary of Data Gaps

Investigative data gaps exist relative to the following areas:

- CSM need to consider dates of previous potential releases near former commercial operations, equipment used, and building/equipment layout inside the former dry cleaner to better understand and evaluate routes of potential exposure.
- As described in Section 3:
 - Lateral and vertical delineation of soil impacts in the SE corner of the site (as previously described in Section 3).
 - Lateral delineation and confirmation of hydraulic gradient associate with ground water impacts likely sourced from an offsite facility in the northern portion of the site (as previously described in Section 3).

- Evaluation of preferential pathways (i.e., utilities).
- Evaluation of vapor intrusion.
- Assessment of ground water in all 12 monitoring wells:
 - For the presence of GRO, RRO, DRO, benzene, and halogenated VOCs.

5.0 WORKPLAN ELEMENTS

The following work is proposed to address the data gaps described above (Section 4.7) for the purpose of fulfilling regulatory requirements for subject site closure. Work methods and procedures are described in the following sections.

5.1 General Approach

To fill investigative data gaps, this workplan proposes a review of available historical records to attempt to provide better definition of contaminant sources at the former Vanity dry cleaners. To characterize residual contaminated soil and groundwater, ENW will conduct a subsurface investigation in vicinity of the former gasoline service station. The investigation scope will include advancement of three (3) shallow soil borings to facilitate the collection of soil and reconnaissance ground water samples for laboratory analysis. To investigate the vapor intrusion pathway, ENW will install and sample sub-slab vapor from six (6) sub-slab vapor pins inside the on-site structure. Included in the VI assessment will be a survey of underground utilities to identify potential vapor migration pathways, to include obtaining and reviewing county and Seattle city records and evaluation for possible vapor intrusion pathways into existing buildings. Finally, dissolved COPC in ground water will be monitored at existing ground water monitoring wells for a period of one year (four quarterly monitoring and sampling events).

5.2 **Pre-Field Activities**

Prior to implementing this workplan, written approval will be obtained from Washington Department of Ecology. Boring permits will be obtained for proposed locations in the City right-of-way.

At least 48 hours prior to the start of drilling activities, proposed boring locations will be marked with white paint and One-Call Utility Notification Service will be notified. In addition, a private underground utility locator will be contracted to map subsurface utilities and clear proposed boring locations. A Site Health and Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers, prior to the start of drilling.

5.3 Soil Boring Investigation

Initially, three (3) direct-push soil borings are proposed to address data gaps in the southeastern portion of the subject property. These borings will typically be advanced to approximately 20 feet in depth (unless noted otherwise below). The proposed locations of these three borings are shown on Figure 4.

If needed, additional borings will be advanced in stepped out locations to complete delineation subject to securing any necessary access agreements.

5.3.1 Boring Location Rationale

Proposed locations have been selected based on the follow logic:

• Three borings (EB01, EB02 and EB03) are proposed to delineate the lateral and vertical extent of impacts in the southeast corner of the site (former water pipe excavation performed in 1996). The borings will be sited within, south and east of the former excavation boundaries, which was previously sampled at 5 and 6 feet bgs (top of peat layer). This sample depth was not sufficiently deep enough to laterally delineate possible soil impacts identified at EX-ES-5 at 5 feet bgs and EX-BS-6 at 6 feet bgs. Concentrations of various COCs exceeding their respective CULs in soil were not vertically delineated at either EX-ES-5, EX-BS-6, EX-N-4, or EX-BN-5. As such, sampling at EB01 through EB03 will also be conducted to delineate both the vertical and lateral extent of soil impacts. Samples of soil from these borings may be analyzed for Volatile Petroleum Hydrocarbons (VPH) / Extractable Petroleum Hydrocarbons (EPH) analysis so the data could be used to calculate a site-specific cleanup value for Total Petroleum Hydrocarbons (TPH).

5.3.2 Drilling and Soil Sampling

For each boring, continuous soil cores will be collected to total depth in each boring in a clear acetate liner tube, nested inside a stainless-steel core barrel. After each 5-foot-long core barrel is brought to the surface and exposed, the liner will be sliced lengthwise to expose the soil core inside, examined, logged, and field screened for hydrocarbons by a qualified geologist using visual observations, observations related to odor, and a photoionization detector (PID). Refer to Table 5-1 for analytical schedule.

Target sample depths proposed in this work plan are based on field observations by others as reflected on available report Figures. Where target sample depths specify a particular soil layer, sample depths may be revised in the field where the peat native contact is found to deviate from this work plan. Verbal authorization will be requested by the field geologist to the ENW project manager prior to changing sample depths in this work plan, and Ecology will be updated to the modification.

Soil samples for analysis of volatile organic constituents (VOCs) will be preserved in the field using EPA Method 5035 (terra core samplers). This method involves using a specialized soil sampler to collect a known amount of soil (approximately 5 grams) and placing this soil in a volatile organic analysis (VOA) bottle containing pre-measured amount of a liquid solvent for each sample, two VOAs with methanol and one VOA with sodium bisulfate. The VOA is then quickly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain of custody.

5.3.3 Reconnaissance Ground Water Sampling

All three (3) of the borings will be drilled to approximately five feet below the observed depth of the shallow water table (approximately 10 to 20 feet bgs) using direct-push drilling equipment. Once the first-encountered permeable zone is reached, a reconnaissance ground water sample will be collected from a temporary well placed in the open borehole. Prior to sampling, the temporary well will be developed until the ground water is relatively clear. Ground water sample will be collected and analyzed for TPH, VOCs, and CPAHs.

All sampling equipment will be thoroughly cleaned and decontaminated between each sample collected by heated pressure wash equipment. Hand tools will be triple rinsed with tap water, followed by a wash with dilute tri-sodium phosphate solution, and finally rinsed with distilled water. Soil cuttings and rinsate will be stored in properly labeled, sealed, 55-gallon steel drums pending waste profiling and offsite disposal.

Following completion, each boring will be grouted with neat cement and completed at the surface to match existing surface materials.

5.3.4 Analytical Schedule – Soil and Reconnaissance Ground water

A summary of the analytical schedule from each of the areas explored is provided in Table 5-1.

Boring	Sample Notes	Contaminants of Concern
Soil		
EB01 through EB03	1 each soil sample from 6' to 10' where field screening indicates contamination may be present, AND 1 each sample approximately 10' or deeper as field screening indicates vertical delineation or at the soil/water interface.	GRO by NWTPH-Gx DRO and RRO by NWTPH-Dx VOCs by EPA Method 8260 cPAHs by EPA Method 8270SIM EPH/VPH as warranted in sample with greatest impact by petroleum hydrocarbons
Reconnais	sance Ground Water	
EB01 through EB03	Analyze ground water sample based on soil results; gw sample must collected from at least a temporary well; well should be developed until gw is clear or parameters stabilize to ensure a rep sample; any deteced above MTCA Method A may required additional delineation sampling	GRO by NWTPH-Gx DRO and RRO by NWTPH-Dx Petroleum-related VOCs by EPA Method 8260 cPAHs by EPA Method 8270SIM

Table 5-1. Analytical Schedule - Soil and Reconnaissance Ground Water Samples

5.4 Sampling of Ground Water Monitoring Wells

The existing monitoring wells were installed in April 2021. Ground water sampling from Wells #2 through #13 was completed during a single event in June 2021. During the sampling event, laboratory results for NWTPH-Gx, NWTPH-Dx, and select halogenated VOC constituents were either not detected or were below their respective MTCA Method A CULs. ENW proposes at least four (4) additional consecutive quarterly sampling events for GRO, DRO, RRO, and select VOCs will be completed.

Prior to sampling, the elevations of the top of the inner well casing of each well will be surveyed to the North American Vertical Datum of 1988 (NAVD88). Horizontal coordinate accuracy will comply with Washington EIM data entry requirements (+/- 0.1 foot). Once surveyed, approximately three (3) well volumes of ground water will be pumped from each of the wells followed by ground water sampling using either a clean disposable PVC bailer or a clean peristaltic pump with dedicated polyethylene tubing. During well purging, ground water will be monitored periodically for pH, specific conductance, temperature, odor, and visible clarity. After these parameters have stabilized, ground water will be sampled in the following manner: 1) laboratory supplied containers will be completely filled directly from the bailer or effluent hose with minimum agitation; 2) after making sure that no air bubbles are present, each container will be tightly sealed; and 3) each container will be labeled and placed on artificial ice in a cooler pending transport to the project laboratory under formal chain-of-custody protocol. Ground water samples from the wells will be analyzed for total petroleum hydrocarbons, BTEX and PAHs (all wells) and select halogenated VOCs (well #10).

All sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing as described above. All purged ground water generated during well sampling will be stored on site in a sealed container pending ground water analytical results and offsite disposal.

The analytical schedule for ground water samples collected from onsite monitoring wells is presented in Table 5-2.

Well Location	Contaminants of Concern	Sample Notes
	GRO by NWTPH-Gx	At least four additional
	DRO/RRO by NWTPH-Dx	consecutive quarterly
well-2 unough well-15	GRO-related VOCs by EPA 8260C	monitoring events;
	cPAHs by EPA Method 8270SIM	additional quarterly
Well-3, -4, and -10	Chlorinated VOCs by EPA 8260C	events may be required

 Table 5-2. Analytical Schedule - Ground Water Samples

5.5 Soil Vapor Pathway Investigation

An evaluation of preferential pathways (i.e., utility corridors) will be completed to determine if vapor intrusion could pose an unacceptable human health risk at the site. The preferential pathways will be considered for both the on-site commercial building and the adjacent residences to the west. The findings will be included in applicable figures. Where known,

utilities will be discussed in relation to possible influence on vapor intrusion pathways. The discussion will include soil permeability for soil gas/vapor and what impact site soil have on potential transport of soil gas/ vapor. Any potential vapor intrusion risk indicated by this evaluation will be reported along with a work plan for further evaluation of vapor intrusion pathway in accordance with Washington regulations

5.6 Sub-Slab Vapor Sample Collection

ENW will assess the soil vapor concentrations beneath the existing commercial building at the six locations illustrated on Figure 4. The sub-slab vapor samples will be collected by coring a 5/8-inch hole through the concrete floor slab in order to provide access to the sub-slab environment. A VaporPin will then be set and sealed in the floor slab penetration to prevent ambient air intrusion and a 1/4-inch Teflon® tubing connected to the vapor pin.

Attached SUMMA sampling train to tubing. Prior to sampling, open purge vessel with system closed and perform negative pressure leak test for five minutes (record). If no leaks, purge the soil gas sampling probe and manifold for four minutes using the purge summa (sampling summa is closed) to assure samples collected are representative of subsurface conditions. Following purging, shut off purge value and open sampler valve. Sample for ~30-minutes (so final pressure is -5 mmHg, no less). Place a rag saturated with isopropyl alcohol around the sampler stem on the ground surface and on the sampling manifold to test for leakage. Record initial and final pressures on gauge. Detach sampling manifold and attach PID and record PID readings every minute for five minutes on the Field Sampling Data Sheet (FSDS).

5.7 Report Preparation

The following technical reports will be submitted.

- Report will document data gap investigation activities and results.
- Ground water monitoring reports, documenting ground-water monitoring activities.
- Closure report, presenting cumulative monitoring and sampling data in a revised conceptual site model, and presenting a risk assessment using site data over the past year.

Each report will:

- Document investigative methods used, and present findings and conclusions of the field work and analytical data.
- Present any disposal receipts.

5.8 **Project Schedule**

Subject to Ecology and client approval, the proposed investigative activities can be completed in approximately two months, unless there is a need to define the extent of contamination or new sources are identified requiring additional delineation. The subsequent four ground water monitoring and sampling events will occur over consecutive quarters over the period of one year. As previously discussed with Ecology, our client will be remodeling the interior of building, per City of Seattle-approved plans and permits.

6.0 METHODS AND PROCEDURES

6.1 General

All work will be performed by employees and subcontractors trained and licensed to work with hazardous materials. Safety procedures will be strictly enforced through the use of a Health and Safety Plan. A utility clearance will be obtained for the proposed boring location prior to work initiation. Additionally, any permits required by the City of Port Angeles, if any, will be obtained before work begins.

Records shall be kept of all field activities and observations. Records shall include water-level measurements, samples collected, samplers involved with each sample, time, weather, and observations concerning materials textures, colors, odors, and other relevant data. All record-keeping shall be performed in appropriate field books or clipboards with appropriate forms. All field records will be kept secure at all times. **All data is confidential until released by Client.**

6.2 Equipment Calibration

Monitoring equipment used during sampling (e.g., photo ionization detector [PID], specific conductance and pH meters) will be calibrated according to manufacturer's specifications at the beginning of each sample day. Meter calibration will be checked at least twice during a sample day (middle and end of day) or when meter drift is suspected. The meters will be calibrated with gases or buffered solutions closest to known field parameters (usually this is pH = 7, specific conductivity = 240 μ S and VOC concentration = 100 μ g/M³ methane or heptane for PID calibration).

6.3 Decontamination Procedures

Before collecting any sample, collection tools will be decontaminated using a sequential wash of Alconox[®] or trisodium phosphate solution, rinsed in tap water from a known source (e.g., municipal water), and subjected to a final rinse with distilled water. Wash and rinsate fluids will be collected, if possible, and appropriately disposed. Fresh nitrile gloves will be worn during any sample collection and when handling tools which are to be inserted into sampling areas. Solid waste generated during sampling activities (gloves, foil, paper towels, etc.) will be appropriately disposed.

6.4 Soil Logging

Standards for uniformity in sample description are very important for correlating hydrostratigraphic units across the site. Soil samples will be described using appropriate geologic nomenclature and Unified Soil Classification System to the extent practical. Color will be described using the Munsell system. Information such as percentage of gravel, sand, and fines; particle size range, shape, and angularity; and plasticity, strength, and dilatancy will

be recorded, as appropriate. In addition, the presence of odors, moisture, and interpretation of geologic unit will be documented.

The format to be recorded on boring logs is shown below:

Light brown (5YR 6/4) silty SAND (SM) – 80% fine sand, subrounded, micaceous, 15 to 20% silty fines with low plasticity; firm; wet; some organic debris; petroleum-like odor; (FILL).

6.5 Soil Sampling

Soil samples will be collected from the CAB sampling tubes. Soil samples will be screened in the field for the presence of VOCs with a PID, or at the soil/water interface if no impacts are indicated. Any positive readings in headspace over soils above the water table with the PID suggesting the presence of petroleum hydrocarbons or VOCs in soils will require sampling and analysis of those soils as indicated below in Table 6-1.

Samples collected will be transferred using fresh nitrile (or other appropriate composition) sampling gloves and placed in an appropriate sample container provided by the laboratory so that little or no headspace remains (see Tables 6-1 and 6-2).

The samples will be labeled as follows:

- Sample Designation, or Identification
- Location
- Date and time of collection
- Medium
- Project number
- Name of sampler(s)
- Analysis required
- Preservation (if applicable).

Samples will be immediately placed in cooled storage until they are delivered to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington. The samples will be analyzed according to the Analysis Plan shown in Table 6-1, below. Sample containers, preservatives, and holding times for each analytical method are provided on Table 6-2. Chain-of-custody protocols will be followed.

6.6 Ground-Water Sampling

Ground-water sampling tools will consist of:

- Clean polyethylene tubing
- Peristaltic pump with low-flow capability
- Water quality parameter monitoring equipment (temperature, conductivity, pH, oxygen-reducing potential [ORP], dissolved oxygen [DO])
- Water-Level Indicator

Ground water samples will be collected from monitoring wells MW-1 through MW-5. A waterlevel meter will be inserted in the wells to determine static water levels to within 0.01-foot. This information will be recorded on the sample collection form for ground-water sampling.

Prior to sampling ground water, the wells will be purged using the peristaltic pump and disposable polyethylene tubing or disposable Teflon or polyethylene bailer. At least one (1) borehole volume of water will be removed or until the well is purged dry. Purge volume will be calculated based on the following formula:

1 borehole volume (gallons) = $\pi r^2 h \times 7.48$ gal/ ft³, where π = 3.14, r = radius of well casing in feet, and h = height of water column from the bottom of the well in feet.

Water quality parameters (observations/measurements regarding color, turbidity, temperature, specific conductance, pH, or other factors that may be important in evaluation of sample quality) will be recorded on the sample collection form following sample collection.

6.7 Low-Flow Purging

Monitoring wells will be purged at a rate below the rate that was used for development and below its recovery rate to prevent further development of the well using low-flow methods. Generally, the following protocol will be followed:

The volume of water in the monitoring well will be calculated and recorded on a Field Sampling Data Sheet (FSDS). For reference, the following formula is used to calculate the well volume:

> 1 well volume (gallons) = $\pi r^2 h \times 7.48$ gal/ ft³, where π = 3.14, *r* = radius of well casing in feet, and *h* = height of water column from the bottom of the well in feet.

- After the pump and support equipment are placed at the wellhead, the pump and tubing will be slowly lowered into the monitoring well until the pump intake is at the center of the screened portion of the monitoring well.
- The water level will be measured and recorded on the FSDS.
- The discharge line from the pump will be connected to a flow-through cell. The discharge line from the flow-through cell will be directed to a container to contain the purge water during the purging and sampling of the monitoring well.
- The wells will be pumped starting at a low flow rate (0.2 to 0.5 liters per minute [L/min]), and the pumping speed will slowly be increased. The water level will be checked to ensure total drawdown is less than 10 cm (or 0.3 feet); otherwise, the pump speed will be lowered.

- The discharge rate of the pump will be measured using a graduated cylinder and a stopwatch. Both depth to water and flow rate will be recorded on the FSDS every three to five minutes.
- A minimum of one tubing volume (including volume of water in pump and flow cell) will be purged prior to recording water-quality indicator parameters (dissolved oxygen, specific electrical conductance, pH, oxidation-reduction potential [ORP] and temperature). Note that ORP may not always be an appropriate stabilization parameter and will depend on site-specific conditions. However, readings will be recorded as a double check for oxidizing conditions. The stabilization criterion is based on three successive readings of water quality field parameters, as referenced below:
 - o pH +/- 0.1 pH units
 - Spec electrical conductance +/- 3% µS/cm
 - o Temp +/- 0.1 °C
 - o DO +/- 10%
 - o ORP +/- 10mVs

6.8 Low-Flow Ground Water Sampling

Sampling of monitoring wells will begin immediately following purging. Sample data will be recorded on the FSDS, including sample number and time collected, the observed physical characteristics of the sample (e.g., color, visual turbidity, etc.), field parameters (pH, specific conductance, temperature, ORP, and DO), and other data that may be important in the evaluation of sample quality. The pumping rate for sampling will be the same or lower than that used for purging (generally between 0.2 to 0.5 L/min) to minimize disturbance of the water column.

Ground water samples will be collected using a peristaltic pump and dedicated polyethylene tubing. Clean Nitrile gloves will be worn when collecting each sample.

<u>Semi-Volatile Organic Constituents (DRO, RRO, and PAHs)</u>: The water sample will be discharged slowly and carefully into a one (1)-liter amber bottle with a Teflon-lined lid, filled with minimal air space. Sample preservation may be required for specific samples, as indicated in Table 6-1.

The samples will be labeled as follows:

- Sample Designation, or Identification
- Location
- Date and time of collection
- Medium
- Project number
- Name of sampler(s)
- Analysis required

Preservation (if applicable).

Samples will be labeled consistent with the protocol previously provided for soil samples and immediately placed in cooled storage until they are delivered to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington. The samples will be analyzed according to the Analysis Plan shown in Table 4-6, below. Sample containers, preservatives, and holding times for each analytical method are provided on Table 4-6. Chain-of-custody protocols will be followed. All sampling will be conducted in accordance with the appropriate provisions of the project Health and Safety Plan.

6.9 Sub-Slab Vapor Sampling

Sub-slab vapor samples will be collected by advancing a 5/8-inch hole through the concrete building floor slab and installing a clean Vapor Pin[®] sealed with silicon to prevent ambient air intrusion.

The following additional measures will be conducted prior to and during sample collection to ensure sampling integrity:

- In order to allow for subsurface conditions to equilibrate, the systems will remain in the ground for at least 30 minutes prior to leak testing, purging, and soil gas sampling.
- Leak testing will be performed over a minimum of 5 minutes.
- Each system will be purged for a minimum of 4 minutes using a separate dedicated pre-evacuated SUMMA cannister to remove stagnant air from the sample train.
- Rags saturated with isopropyl alcohol (2-propanol or IPA) will be placed over all connections to provide secondary leak detection during sample collection.
- All sampling equipment will be decontaminated before and after sampling by undergoing a wash sequence of Alconox® solution, tap water, and then deionized water final rinse. Clean Nitrile gloves were used during sample collection.

Vapor samples will be collected into laboratory-certified SUMMA canisters regulated with a control valve, pressure gauge and manifold. Soil gas sampling rates will be regulated to below approximately 167 milliliters per minute (mL/min) by a calibrated flow regulator. Soil sampling will be terminated when pressure inside the Summa dropped to below five inches of mercury. Soil vapor samples will be uniquely labelled, packaged, and shipped to the laboratory under chain-of-custody protocols.

6.10 Analysis Plan

Samples collected during this investigation will be analyzed according to the plan and protocol described in the following tables.

Analytical	Constituents	Soil	Ground	Sub-slab vapor
Method	Constituents	301	Water	
NWTPH-Gx	Total Petroleum Hydrocarbons (TPH)– gasoline-range quantification (GRO)	EB01 thru EB03	EB01 through EB03 All ground water monitoring wells	
NWTPH-Dx	Total Petroleum Hydrocarbons (TPH)– Diesel-range quantification (DRO) and Residual oil- range quantification (RRO)	EB01 thru EB03	EB01 thru EB03 All ground water monitoring wells	
EPA 8260B EPA 5035 (soil)	Petroleum-related Volatile Organic Compounds (benzene, ethylbenzene, EDB, MtBE, toluene, total xylenes)	EB01 thru EB03	EB01 thru EB03 All ground water monitoring wells	
EPA 8260B EPA 5035 (soil)	Chlorinated Volatile Organic Compounds		Select ground water monitoring wells (Well-03, -04 and -10)	
EPA 8270D SIM	Carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)	EB01 thru EB03	EB01 thru EB03 (Hold pending results of soil samples) All ground water monitoring wells	
EPA TO-15	Volatile Organic Compounds			All sub-slab vapor samples

Table 6-	1. Pro	posed A	nalysis	Plan
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¹ Additional analytical methods may be required that are not specifically listed herein, based on analytical results and field observations.

Analyte(s)	Analytical Method	Container and preservative	Holding time	Preservation
Soil:				
GRO ⁵	NWTPH-Gx	8-oz Clear wide mouth glass, zero or minimum headspace; soil VOA bottles with Teflon coated septum lined tops.	14-days*	ice
DRO ⁸	NWTPH-Dx/Dx Ext.	8-oz Clear wide mouth glass, zero or minimum headspace	14-days*	ice
VOCs	EPA 8260C	8-oz Clear wide mouth glass, zero or minimum headspace	14-days*	ice
VOCs	EPA Method 5035	Closed system purge and trap; pre- weighed 40mL VOA vile;	14-days*	Methanol (or suitable water- miscible organic solvent)
cPAHs	EPA 8270D SIM	8-oz Clear wide mouth glass, minimum headspace	14-days*	ice
Ground Water:				
GRO ⁸	NWTPH-Gx	3 x 40mL VOA vial	14-days	Ice & HCI
DRO ⁸	NWTPH-Dx/Dx Ext.	1 Liter amber bottle	14-days	Ice & HCI
cPAHs	EPA Method 8270	1 Liter amber bottle	7-days*	Ice
VOCs	EPA Method 8260C	3 x 40-mL VOA vial	14	Ice, HCI
Sub-Slab Vapor:				
GRO ⁸	EPA Method TO-15	1-Liter SUMMA Cannister	30 days	
VOCs	EPA Method TO-15	1-Liter SUMMA Cannister	30 days	
	ORP	per instrument instructions	Field	
Indicators	Dissolved Oxygen	per instrument instructions	Field	
(data collected during temporary	рН	per instrument instructions	Field	
well-point purge)	Temperature	per instrument instructions	Field	
*days for extraction; 40 days after	Conductivity	per instrument instructions	Field	

Table 6-2. Analytical Protocol

⁵ Ecology Toxics Cleanup Program, June 1997. Analytical Methods for Petroleum Hydrocarbons, Publ. No. ECY 97-602.

7.0 CERTIFICATION

This Work Plan has been prepared under the supervision of the following Washingtonregistered Licensed Engineering Geologist.

EVREN Northwest, Inc.

Erik RD Chapman, L.G. Senior Geologist



Lynn D. Green, L.E.G Principal Engineering Geologist



EXP. 12/14/2021

TABLES

					1								
	Sample ID	EX1-E-3	EX1-W-3	EX2-W-1.5	EX3-E-2	EX4-B-1	EX5-S-3	EX5-E-3	EX5-N-3	EX5-W-3	EX5-NE-3	EX5-NW-3	EX5-NW2-3
	Date Sampled	9/11/1996	9/11/1996	9/11/1996	9/11/1996	9/12/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996	9/18/1996	9/18/1996
Depth S	Sampled (feet)	3	3	1.5	2	1	3	3	3	3	3	3	3
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
	Location	East wall of excavation 1	West wall of excavation 1	West wall of excavation 2	East wall of excavation 3	Bottom of excavation 4	South wall of southwest lobe of excavation 5	East wall of southwest lobe of excavation 5	North wall of southwest lobe of excavation 5	West wall of southwest lobe of excavation 5	NE area of southwest lobe of excavation 5	NW wall of excavation 5	NW wall of excavation 5
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)					
Volatile Organic Constituents (VOCs)		0 0 (11)											0 0 (i i i j
Benzene	C, V	<0.05 (ND)	<0.05 (ND)	0.11	<0.05 (ND)	0.98	<0.05 (ND)	<0.05 (ND)					
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V												
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V												
Dichloroethene, 1,1-	nc, v												
Dichloroethene, cis-1,2-	nc, v												
Dichloroethene, trans-1,2-	nc, v												
Dichloroethylether	C, V												
Dichloromethane	C, V												
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V												
Ethylbenzene	nc, v	<0.05 (ND)	<0.05 (ND)	0.36	<0.05 (ND)	7.64	<0.05 (ND)	<0.05 (ND)					
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V												
Toluene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	0.106	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	3.28	<0.05 (ND)	<0.05 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v												
Trichloroethane, 1,1,1-	nc, v												
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V												
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V												
Xylenes	nc, v	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	0.139	<0.1 (ND)	<0.05 (ND)	<0.05 (ND)	1.42	<0.05 (ND)	50	<0.05 (ND)	0.14

	Sample ID	EX1-E-3	EX1-W-3	EX2-W-1.5	EX3-E-2	EX4-B-1	EX5-S-3	EX5-E-3	EX5-N-3	EX5-W-3	EX5-NE-3	EX5-NW-3	EX5-NW2-3
	Date Sampled	9/11/1996	9/11/1996	9/11/1996	9/11/1996	9/12/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996	9/18/1996	9/18/1996
	Depth Sampled (feet)	3	3	1.5	2	1	3	3	3	3	3	3	3
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
Location		East wall of excavation 1	West wall of excavation 1	West wall of excavation 2	East wall of excavation 3	Bottom of excavation 4	South wall of southwest lobe of excavation 5	East wall of southwest lobe of excavation 5	North wall of southwest lobe of excavation 5	West wall of southwest lobe of excavation 5	NE area of southwest lobe of excavation 5	NW wall of excavation 5	NW wall of excavation 5
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)					
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
Total Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	<5 (ND)	<5 (ND)	18.2	6.93	<5 (ND)	12	37	16	35	890	<10 (ND)	<10 (ND)
DRO	nc, nv	<10 (ND)	43.7	53.6	265	27.5	24	15	25 vi	18	<20 (ND)	<20 (ND)	<20 (ND)
RRO	nc, nv	27.7	209	348	1620	183	1120	1610	<40 (ND)	1680	<40 (ND)	<40 (ND)	<40 (ND)

Notes:

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limits

(Y) indicates analyte not detected, but detection limit is above screening concentration.

— = not analyzed or not applicable.

< = not detected at or above the method reporting limit shown.

NE = not established.

mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no

longer represents residual conditions.

 $\mathsf{B}=\mathsf{the}$ analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard used for quantification. A fuel fingerprint is advised

ii = the hydrocarbon concentration result in this sample is partially due to an individual peak(s) eluting in the diesel/motor oil carbon range

** = analyzed with silica gel

*** = analyzed with 2x silica gel

SSR = stoddard solvent range

	Sample ID	EX5-NE1-3	EX5-NE1-3 Dup	EX5-NE2-3	EX5-SE1-3	EX5-SE2-3	EX5-SE2-3 Dup	EX5-E2-3	EX6-2-W	EX6-2-W***	SP1-1	SP1-2	SP1-917
C	ate Sampled	9/18/1996	9/18/1996	9/18/1996 3	3 ental Environmental	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/10/1996	9/10/1996	9/17/1996
Depth S	ampled (feet)	3	3			3	3	3		2	grab sample	grab sample	grab sample
Sampled by:		Environmental Resolutions				Environmental Resolutions							
	Location	NE wall of	excavation 5	NE wall of excavation 5	east wall of southeast lobe of excavation 5	west wall of southeas	st lobe of excavation 5	east wall of excavation 5	west wall of	excavation 6	west side of soil pile 1	east side of soil pile 1	soil pile 1
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V												
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V												
Dichloroethene, 1,1-	nc, v												
Dichloroethene, cis-1,2-	nc, v												
Dichloroethene, trans-1,2-	nc, v												
Dichloroethylether	C, V												
Dichloromethane	C, V												
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V												
Ethylbenzene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V												
Toluene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v												
Trichloroethane, 1,1,1-	nc, v												
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V												
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V												
Xylenes	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	0.20	<0.05 (ND)	<0.05 (ND)	0.07	<0.05 (ND)		<0.1 (ND)	<0.1 (ND)	<0.05 (ND)

	Sample ID	EX5-NE1-3	EX5-NE1-3 Dup	EX5-NE2-3	EX5-SE1-3	EX5-SE2-3	EX5-SE2-3 Dup	EX5-E2-3	EX6-2-W	EX6-2-W***	SP1-1	SP1-2	SP1-917
	Date Sampled	9/18/1996	8/1996 9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/18/1996	9/10/1996	9/10/1996	9/17/1996
	Depth Sampled (feet)	3	3	3	3	3	3	3		2	grab sample	grab sample	grab sample
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
Location				NE wall of excavation 5	east wall of southeast lobe of excavation 5	west wall of southeas	ast lobe of excavation 5 east wall of excavation 5		west wall of excavation 6		west side of soil pile east side of soil pile 1 1		soil pile 1
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
otal Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	<10 (ND)	<10 (ND)	<10 (ND)	<10 (ND)	<10 (ND)	<10 (ND)	27	36		<5 (ND)	<5 (ND)	29
DRO	nc, nv	<20 (ND)	<20 (ND)	<20 (ND)	<20 (ND)	<20 (ND)	<20 (ND)	<20 (ND)	<20 (ND)		36.7**	28.5**	36
RRO	nc, nv	<40 (ND)	<40 (ND)	<40 (ND)	<40 (ND)	<40 (ND)	<40 (ND)	<40 (ND)	1020	1240	159**	102**	1600

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nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

SSR = stoddard solvent range

	Sample ID	SP1-100396	SP2-1	SP2-917	SP2-100496	SP3-1	SP3-100496	SP4-1	T1-1-3	T1-1-3 Dup	T2-1-3	T2-1-3 Dup	T3-1-3
	Date Sampled		9/11/1996	9/17/1996	10/4/1996	9/11/1996	10/4/1996	9/11/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996	9/17/1996
[Depth Sampled (feet)	grab sample	grab sample	grab sample	grab sample	grab sample	grab sample	grab sample	3	3	3	3	3
	Sampled by:		Environmental Resolutions soil pile 2	Environmental Resolutions soil pile 2	Environmental Resolutions soil pile 2	Environmental Resolutions soil pile 3	Environmental Resolutions soil pile 3	Environmental Resolutions soil pile 4	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
Location		soil pile 1							north wall of excavation 5		northwest wall of excavation 5		east side of excavation 5
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.05 (ND)	<0.05 (ND)	0.25	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.2 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	5.16
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V												
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V												
Dichloroethene, 1,1-	nc, v												
Dichloroethene, cis-1,2-	nc, v												
Dichloroethene, trans-1,2-	nc, v												
Dichloroethylether	C, V												
Dichloromethane	C, V												
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V												
Ethylbenzene	nc, v	<0.1 (ND)	<0.05 (ND)	1.34	<0.1 (ND)	<0.05 (ND)	<0.1 (ND)	1.35	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	14.9
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V												
Toluene	nc, v	<0.1 (ND)	<0.05 (ND)	0.27	<0.1 (ND)	<0.05 (ND)	<0.1 (ND)	<0.2 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	7.7
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon	n 113) nc, v												
Trichloroethane, 1,1,1-	nc, v												
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V												
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V												
Xylenes	nc, v	<0.1 (ND)	<0.1 (ND)	5.83	<0.1 (ND)	0.142	<0.1 (ND)	5.15	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	40

	Sample ID	SP1-100396	SP2-1	SP2-917	SP2-100496	SP3-1	SP3-100496	SP4-1	T1-1-3	T1-1-3 Dup	T2-1-3	T2-1-3 Dup	T3-1-3
Date Sampled Depth Sampled (feet) Sampled by:		10/3/1996	9/11/1996 grab sample Environmental Resolutions	9/17/1996 grab sample Environmental Resolutions soil pile 2	10/4/1996 grab sample Environmental Resolutions soil pile 2	9/11/1996 grab sample Environmental Resolutions soil pile 3	10/4/1996 grab sample Environmental Resolutions soil pile 3	9/11/1996 grab sample Environmental Resolutions soil pile 4	9/17/1996 3 Environmental Resolutions	9/17/1996 3 Environmental Resolutions	9/17/1996 3 Environmental Resolutions	9/17/1996 3 Environmental Resolutions	9/17/1996 3 Environmental Resolutions
		grab sample											
		Environmental Resolutions											
	Location		soil pile 2						north wall of excavation 5		northwest wall of excavation 5		east side of excavation 5
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
otal Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	<5 (ND)	37.4	380	<5 (ND)	5.76	<5 (ND)	360	<10 (ND)	<10 (ND)	<10 (ND)	<10 (ND)	3700
DRO	nc, nv	296 d**	506 i	<20 (ND)	26 d**	34.1 ii	71 d**	83.4 iii	<20 (ND)				
RRO	nc, nv	2030 d**	1110	<40 (ND)	<100 (ND)**	58.1	310**	56.3	<40 (ND)				

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NE = not established.

mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

SSR = stoddard solvent range

	Sample ID	T3-2-2	T3-3-3	Backfill	S1-2	S2-2	S3-1	EXNE-4	EXNW-4	SP-021297	SP-0217	EXN1-5	EXN2-5
	Date Sampled	9/17/1996	9/18/1996	9/18/1996	9/25/1996	9/25/1996	9/25/1996	10/4/1996	10/4/1996	2/12/1997	2/19/1997	2/18/1997	2/18/1997
Dept	h Sampled (feet)	2	3	NA	2	2	1	4	4	NA	NA	5	5
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
	Location	east side of excavation 5	east wall of excavation 5	NA	southwest area of piping excavation	central area of piping excavation	central area of piping excavation	east side of north wall of piping excavation	west side of north wall of piping excavation	Excavated stockpiled soil at southeast property boundary	Stockpiled soil in sidewalk right of way just south of site		Central area of north wall of excavation 1A
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	1.94	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	6.62	0.243	<0.05 (ND)	<0.05 (ND)
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V												
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V												
Dichloroethene, 1,1-	nc, v												
Dichloroethene, cis-1,2-	nc, v												
Dichloroethene, trans-1,2-	nc, v												
Dichloroethylether	C, V												
Dichloromethane	C, V												
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V												
Ethylbenzene	nc, v	9.98	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	45.6	3.08	<0.05 (ND)	<0.05 (ND)
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V												
Toluene	nc, v	5.22	<0.05 (ND)		<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	3.25	<0.05 (ND)	<0.05 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) nc, v												
Trichloroethane, 1,1,1-	nc, v												
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V												
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V												
Xylenes	nc, v	25.5	<0.05 (ND)		<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	38.6	21.2	<0.1 (ND)	<0.1 (ND)

	Sample ID	T3-2-2	T3-3-3	Backfill	S1-2	S2-2	S3-1	EXNE-4	EXNW-4	SP-021297	SP-0217	EXN1-5	EXN2-5
	Date Sampled	9/17/1996	9/18/1996	9/18/1996	9/25/1996	9/25/1996	9/25/1996	10/4/1996	10/4/1996	2/12/1997	2/19/1997	2/18/1997	2/18/1997
D	Depth Sampled (feet)	2	3	NA	2	2	1	4	4	NA	NA	5	5
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
	Location	east side of excavation 5	east wall of excavation 5	NA	southwest area of piping excavation	central area of piping excavation	central area of piping excavation	east side of north wall of piping excavation	west side of north wall of piping excavation	Excavated stockpiled soil at southeast property boundary	Stockpiled soil in sidewalk right of way just south of site		Central area of nort wall of excavation 1A
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
Total Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	2200	<10 (ND)	<20 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	4890	351 f	<5 (ND)	<5 (ND)
DRO	nc, nv	<20 (ND)	<20 (ND)	<50 (ND)	293	115	169	<25 (ND)	<25 (ND)	739 e	<110 (ND)		
RRO	nc, nv	<40 (ND)	<40 (ND)	<100 (ND)	1510	716	1040	<100 (ND)	<100 (ND)	705	389		

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Bolded concentrations exceed either MTCA Cleanup Levels.

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i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

	Sample ID	EXN3-5	EXS1-5	EXS2-5	EXS3-5	EXW-5	EXE-5	EX2-E-3	EX-N-4	EX-WN-4	EX-WS-5	EX-EN-4	EX-ES-5
	Date Sampled	2/19/1997	2/18/1997	2/18/1997	2/19/1997	2/18/1997	2/19/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997
Depth	n Sampled (feet)	5	5	5	5	5	5	3	4	4	5	4	5
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
	Location	East side of north wall of excavation 1A	West side of south wall of excavation 1A	Central area of south wall of excavation 1A	East side of south wall of excavation 1A	West wall of excavation 1A	East wall of excavation 1A	East wall of excavation 2	North wall of excavation 1B	Northern area of west wall of excavation 1B	Southern area of west wall of excavation 1B	Northern area of east wall of excavation 1B	Southern area of east wall of excavation 1B
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	0.0752	<0.05 (ND)	<0.2 (ND)	0.218	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V												
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V												
Dichloroethene, 1,1-	nc, v												
Dichloroethene, cis-1,2-	nc, v												
Dichloroethene, trans-1,2-	nc, v												
Dichloroethylether	C, V												
Dichloromethane	C, V												
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V												
Ethylbenzene	nc, v	0.589	<0.05 (ND)	0.0865	0.0767	<0.05 (ND)	0.268	<0.05 (ND)	0.212	0.197	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V												
Toluene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.2 (ND)	0.124	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v												
Trichloroethane, 1,1,1-	nc, v												
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V												
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V												
Xylenes	nc, v	0.359	<0.1 (ND)	0.330	0.291	<0.1 (ND)	0.393	<0.1 (ND)	0.679	0.686	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)

	Sample ID	EXN3-5	EXS1-5	EXS2-5	EXS3-5	EXW-5	EXE-5	EX2-E-3	EX-N-4	EX-WN-4	EX-WS-5	EX-EN-4	EX-ES-5
	Date Sampled	2/19/1997	2/18/1997	2/18/1997	2/19/1997	2/18/1997	2/19/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997	3/10/1997
	Depth Sampled (feet)	5	5	5	5	5	5	3	4	4	5	4	5
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions
	Location	East side of north wall of excavation 1A	West side of south wall of excavation 1A	Central area of south wall of excavation 1A	East side of south wall of excavation 1A	West wall of excavation 1A	East wall of excavation 1A	East wall of excavation 2	North wall of excavation 1B	Northern area of west wall of excavation 1B	Southern area of west wall of excavation 1B	Northern area of east wall of excavation 1B	Southern area of east wall of excavation 1B
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
Total Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	83.8 f	<5 (ND)	7.02	19 f	<5 (ND)	147 f	<5 (ND)	120	130	<5 (ND)	<5 (ND)	<5 (ND)
DRO	nc, nv	14.1			174		459	16 h	38.4 h	28.3 h	520 g	<10 (ND) h	1610 g
RRO	nc, nv	49.3			985		402	75.5	132	136	788	44.2	799

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limits

(Y) indicates analyte not detected, but detection limit is above screening concentration.

- = not analyzed or not applicable.

< = not detected at or above the method reporting limit shown.

NE = not established.

mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

e	ample ID	EX-BN-5	EX-BS-6	EX-S-5	EX3-E-3	EX4-E-3	B-1-4	GSB-1-7	GSB-2-5	GSB-3-5.5	GSB-4-3	B1-2	B2-2
	Sampled	3/10/1997	3/10/1997	3/10/1997	3/14/1997	3/14/1997	3/21/1997	10/29/2020	10/29/2020	10/29/2020	10/29/2020	2/18/2021	2/18/2021
Depth Samp		5	6	5	3	3	17.5-19.0	7	5	5.5	3	2/18/2021	2/18/2021
· · · ·	npled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Associates, Inc.	UAI	UAI	UAI	UAI	Partner	Partner
	Location	Northern area of floor of excavation 1B	Southern area of floor of excavation 1B	South wall of excavation 1B	East wall of excavation 3	East wall of excavation 4	Southwest corner of former dry cleaners	Former Dry Cleaners	Former Dry Cleaners	Central northern site boundary	Northwest corner of property	Central portion of proposed play area 3	Central portion of proposed play area 2
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)					<0.02 (ND)	<0.02 (ND)	<0.000759 (ND)	<0.000736 (ND)
Bromodichloromethane	C, V						<0.056 (ND)					<0.00118 (ND)	<0.00114 (ND)
Bromoform	c, nv						<0.056 (ND)					<0.0019 (ND)	<0.00185 (ND)
Bromomethane	nc, v						<0.056 (ND)					<0.0032 (ND)	<0.0031 (ND)
Carbon tetrachloride	C, V						<0.28 (ND)					<0.00146 (ND)	<0.00142 (ND)
Chlorobenzene	nc, v						<0.056 (ND)					<0.000342 (ND)	<0.000331 (ND)
Chlorodibromomethane	c, nv						<0.056 (ND)					<0.000995 (ND)	<0.000964 (ND)
Chloroethane	C, V						<0.056 (ND)	<0.5 (ND)	<0.5 (ND)			<0.00276 (ND)	<0.00268 (ND)
Chloroform	nc, v						<0.056 (ND)					<0.00168 (ND)	<0.00162 (ND)
Chloromethane	nc, v						<0.056 (ND)					<0.00707 (ND)	<0.00685 (ND)
Dichlorobenzene, 1,2-	nc, v						<0.056 (ND)					<0.00069 (ND)	<0.000669 (ND)
Dichlorobenzene, 1,3-	nc, v						<0.056 (ND)					<0.000975 (ND)	<0.000945 (ND)
Dichlorobenzene, 1,4-	C, V						<0.056 (ND)					<0.00114 (ND)	<0.0011 (ND)
Dichloroethane, 1,1-	C, V						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.000798 (ND)	<0.000773 (ND)
Dichloroethene, 1,1-	nc, v						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.000984 (ND)	<0.000955 (ND)
Dichloroethene, cis-1,2-	nc, v						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.00119 (ND)	<0.00116 (ND)
Dichloroethene, trans-1,2-	nc, v						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.00169 (ND)	<0.00164 (ND)
Dichloroethylether	C, V							<0.05 (ND)					
Dichloromethane	C, V						0.13 B	<0.5 (ND)	<0.5 (ND)			<0.0108 (ND)	<0.0105 (ND)
EDB (1,2-dibromoethane)	C, V						<0.056 (ND)					<0.00105 (ND)	<0.00102 (ND)
EDC (1,2-dichloroethane)	C, V						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.00105 (ND)	<0.00102 (ND)
Ethylbenzene	nc, v	0.456	0.0600	<0.05 (ND)	<0.1 (ND)					0.054	<0.02 (ND)	0.00216 J	0.00213 J
Ethylene glycol	nc, v									18.7	<9.07 (ND)		
MTBE (methyl t-butyl ether)	C, V	<1 (ND)										<0.00057 (ND)	<0.000551 (ND)
Naphthalene (Method 8260)	C, V	<0.2 (ND)										0.0138 J	<0.00769 (ND)
Propylbenzene, iso-	nc, v											<0.0069 (ND)	<0.000669 (ND)
Propylbenzene, n-	nc, v											<0.00155 (ND)	<0.0015 (ND)
Propylene glycol	nc, v									<18 (ND)	<9.07 (ND)		
Tetrachloroethene (PCE)	C, V						<0.056 (ND)	<0.025 (ND)	<0.025 (ND)			<0.00146 (ND)	<0.00142 (ND)
Toluene	nc, v	0.125	0.113	0.130	<0.1 (ND)					<0.02 (ND)	<0.02 (ND)	0.00374 J	0.00603 J
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v						ND*					<0.00123 (ND)	<0.00119 (ND)
Trichloroethane, 1,1,1-	nc, v						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.0015 (ND)	<0.00145 (ND)
Trichloroethane, 1,1,2-	nc, v						<0.056 (ND)					<0.00097 (ND)	<0.00094 (ND)
Trichloroethene	C, V						<0.056 (ND)	<0.02 (ND)	<0.02 (ND)			<0.000949 (ND)	<0.000921 (ND)
Trichlorofluoromethane (Freon 11)	nc, v						<0.056 (ND)					<0.00134 (ND)	<0.0013 (ND)
Trimethylbenzene, 1,2,4-	nc, v											0.00635 J	0.00587 J
Trimethylbenzene, 1,3,5-	nc, v											<0.00325 (ND)	<0.00315 (ND)
Vinyl chloride	C, V						<0.056 (ND)	<0.05 (ND)	<0.05 (ND)			<0.00189 (ND)	<0.00182 (ND)
Xylenes	nc, v	0.863	0.357	0.268	<0.1 (ND)					<0.06 (ND)	<0.06 (ND)	0.0101 J	0.0133

	Sample ID	EX-BN-5	EX-BS-6	EX-S-5	EX3-E-3	EX4-E-3	B-1-4	GSB-1-7	GSB-2-5	GSB-3-5.5	GSB-4-3	B1-2	B2-2
	Date Sampled	3/10/1997	3/10/1997	3/10/1997	3/14/1997	3/14/1997	3/21/1997	10/29/2020	10/29/2020	10/29/2020	10/29/2020	2/18/2021	2/18/2021
	Depth Sampled (feet)	5	6	5	3	3	17.5-19.0	7	5	5.5	3	2	2
	Sampled by:	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Associates, Inc.	UAI	UAI	UAI	UAI	Partner	Partner
	Location	Northern area of floor of excavation 1B	Southern area of floor of excavation 1B	South wall of excavation 1B	East wall of excavation 3	East wall of excavation 4	Southwest corner of former dry cleaners	Former Dry Cleaners	Former Dry Cleaners	Central northern site boundary	Northwest corner of property	Central portion of proposed play area 3	Central portion of proposed play area 2
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v		<0.04 (ND)			<0.02 (ND)							
Anthracene	nc, v		0.0456			0.0363							
Benz[a]anthracene	c, nv		0.208			0.202							
Benzo[a]pyrene	c, nv		<0.04 (ND)			0.264							
Benzo[b]fluoranthene	c, nv		0.324			0.279							
Benzo[k]fluoranthene	c, nv		0.113			0.111							
Chrysene	c, nv		0.273			0.253							
Dibenz[a,h]anthracene	c, nv		0.0487			0.0419							
Fluoranthene	nc, nv		0.514			0.338							
Fluorene	nc, v		<0.04 (ND)			<0.02 (ND)							
Indeno[1,2,3-cd]pyrene	c, nv		0.153			0.218							
Naphthalene (Method 8270)	nc, v		<0.04 (ND)			<0.02 (ND)							
Naphthalene, 2-methyl	nc, v		0.0726			<0.02 (ND)							
Pyrene	nc, nv		0.623			0.616							
Fotal Petroleum Hydrocarbons													
SSR	nc, v						<5.6 (ND)	<5 (ND)	<5 (ND)				
GRO	nc, v	170	10.6	<5 (ND)	7 k	6 k	<5.6 (ND)			42	<5 (ND)	4.33	1.92 J
DRO	nc, nv	51.9 h	374 h	354 g	68 k	85 k				1100	<50 (ND)	5.32	5.72
RRO	nc, nv	165	2270	712	252	348				<500 (ND)	<250 (ND)	6.54	26.2

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nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

	Sample ID	B3-5	B4-5	B5-5	1-2-17	2-2-11	3-3-10	4-4-16	5-4-13	6-4-16	7-5-13	8-5-16	11-6-8
	Date Sampled	2/18/2021	2/18/2021	2/18/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021
Den	th Sampled (feet)	5	5	5	17	11	10	16	13	16	13	16	8
	Sampled by:	Partner	Partner	Partner	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties
	Location	Central portion of former dry cleaning facility	Central portion of north property boundary	Central portion of exterior area of suspected impacted soil		ill #2 Corner of Site	Well #3 West Prop Boundary	ç	Well #4 South of Proposed Play Ar	ea		ll #5 Play Area	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.000916 (ND)	<0.0117 (ND)	0.00143 J	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Bromodichloromethane	C, V	<0.00142 (ND)	<0.0181 (ND)	<0.00122 (ND)									
Bromoform	c, nv	<0.0023 (ND)	<0.0292 (ND)	<0.00197 (ND)									
Bromomethane	nc, v	<0.00386 (ND)	<0.0492 (ND)	<0.00332 (ND)									
Carbon tetrachloride	C, V	<0.00175 (ND)	<0.0224 (ND)	<0.00151 (ND)									
Chlorobenzene	nc, v	<0.000411 (ND)	<0.00524 (ND)	<0.000354 (ND)									
Chlorodibromomethane	c, nv	<0.0012 (ND)	<0.0152 (ND)	<0.00103 (ND)									
Chloroethane	C, V	<0.00333 (ND)	<0.0425 (ND)	<0.00286 (ND)									
Chloroform	nc, v	<0.00202 (ND)	<0.0257 (ND)	<0.00173 (ND)									
Chloromethane	nc, v	<0.00853 (ND)	<0.108 (ND)	<0.00732 (ND)									
Dichlorobenzene, 1,2-	nc, v	<0.000832 (ND)	<0.0106 (ND)	<0.000714 (ND)									
Dichlorobenzene, 1,3-	nc, v	<0.00118 (ND)	<0.0149 (ND)	<0.00101 (ND)									
Dichlorobenzene, 1,4-	C, V	<0.00137 (ND)	<0.0175 (ND)	<0.00118 (ND)									
Dichloroethane, 1,1-	C, V	<0.000962 (ND)	<0.0123 (ND)	<0.000826 (ND)									
Dichloroethene, 1,1-	nc, v	<0.00119 (ND)	<0.0151 (ND)	<0.00102 (ND)									
Dichloroethene, cis-1,2-	nc, v	<0.00144 (ND)	<0.0183 (ND)	<0.00123 (ND)									
Dichloroethene, trans-1,2-	nc, v	<0.00203 (ND)	<0.026 (ND)	<0.00175 (ND)									
Dichloroethylether	C, V												
Dichloromethane	C, V	<0.0131 (ND)	<0.166 (ND)	<0.0112 (ND)									
EDB (1,2-dibromoethane)	C, V	<0.00127 (ND)	<0.0162 (ND)	<0.00109 (ND)									
EDC (1,2-dichloroethane)	C, V	<0.00127 (ND)	<0.0162 (ND)	<0.00109 (ND)									
Ethylbenzene	nc, v	0.00387 J	0.0318 J	0.0024 J	<0.02 (ND)	<0.04 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V	<0.000686 (ND)	<0.00874 (ND)										
Naphthalene (Method 8260)	C, V	<0.00957 (ND)	0.212 J										
Propylbenzene, iso-	nc, v	<0.000832 (ND)	0.0200 J										
Propylbenzene, n-	nc, v	<0.00186 (ND)	0.0262 J										
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V	<0.00175 (ND)	<0.224 (ND)	<0.00151 (ND)									
Toluene	nc, v	0.00798 J	0.104 J	0.00606 J	<0.02 (ND)	<0.04 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 11	3) nc, v	<0.00148 (ND)	<0.0188 (ND)	<0.00127 (ND)									
Trichloroethane, 1,1,1-	nc, v	<0.00181 (ND)	<0.023 (ND)	<0.00156 (ND)									
Trichloroethane, 1,1,2-	nc, v	<0.00117 (ND)	<0.0149 (ND)	<0.001 (ND)									
Trichloroethene	C, V	<0.00114 (ND)	<0.0145 (ND)	<0.000983 (ND)									
Trichlorofluoromethane (Freon 11)	nc, v	<0.00162 (ND)	<0.0207 (ND)	<0.00139 (ND)									
Trimethylbenzene, 1,2,4-	nc, v	0.00657 J	0.112 J	0.00606 J									
Trimethylbenzene, 1,3,5-	nc, v	<0.00392 (ND)	<0.0499 (ND)	<0.00336 (ND)									
Vinyl chloride	C, V	<0.00227 (ND)	<0.029 (ND)	<0.00195 (ND)									
Xylenes	nc, v	0.0135	0.218	0.0118	<0.06 (ND)	<0.12 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)

	Sample ID	B3-5	B4-5	B5-5	1-2-17	2-2-11	3-3-10	4-4-16	5-4-13	6-4-16	7-5-13	8-5-16	11-6-8
	Date Sampled	2/18/2021	2/18/2021	2/18/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021
	Depth Sampled (feet)	5	5	5	17	11	10	16	13	16	13	16	8
	Sampled by:	Partner	Partner	Partner	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties
	Location	Central portion of former dry cleaning facility	Central portion of north property boundary	Central portion of exterior area of suspected impacted soil		ell #2 Corner of Site	Well #3 West Prop Boundary	S	Well #4 South of Proposed Play Ar	rea		ell #5 I Play Area	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
Total Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	1.94 J	551	2.53 J	<5 (ND)	<10 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)
DRO	nc, nv	6.38	1160	17.8	<50 ND	<100 ND	<50 ND	<50 ND	<50 ND	<50 ND	<50 ND	<50 ND	<50 ND
RRO	nc, nv	19.3	579	87.2	<250 ND	<500 ND	<250 ND	<250 ND	<250 ND	<250 ND	<250 ND	<250 ND	<250 ND

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limits

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< = not detected at or above the method reporting limit shown.

NE = not established.

mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

	Sample ID	9-6-14	10-6-16	12-7-14	13-8-19	14-9-17	15-9-17	16-10-14	1	2	3	4	5
	Date Sampled		4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021
Depth	Sampled (feet)		16	14	19	17	17	14	4	14	12	16	16
	Sampled by:	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties
	Location	Well #6	. ·	Well #7 North Parking Lot	Well #8 North Property Boundary		ell #9 Pkg Lot	Well #10 Former Dry Cleaners	SI North Pro	B#1 p Boundary	SI	3#2 p Boundary	SE North Prop
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)
Bromodichloromethane	C, V												
Bromoform	c, nv												
Bromomethane	nc, v												
Carbon tetrachloride	C, V												
Chlorobenzene	nc, v												
Chlorodibromomethane	c, nv												
Chloroethane	C, V						<0.5 (ND)						
Chloroform	nc, v												
Chloromethane	nc, v												
Dichlorobenzene, 1,2-	nc, v												
Dichlorobenzene, 1,3-	nc, v												
Dichlorobenzene, 1,4-	C, V												
Dichloroethane, 1,1-	C, V						<0.05 (ND)						
Dichloroethene, 1,1-	nc, v						<0.05 (ND)						
Dichloroethene, cis-1,2-	nc, v						<0.05 (ND)						
Dichloroethene, trans-1,2-	nc, v						<0.05 (ND)						
Dichloroethylether	C, V												
Dichloromethane	C, V						<0.5 (ND)						
EDB (1,2-dibromoethane)	C, V												
EDC (1,2-dichloroethane)	C, V						<0.05 (ND)						
Ethylbenzene	nc, v	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.05 (ND)	<0.02 (ND)	<0.02 (ND)	0.13	<0.02 (ND)	0.070
Ethylene glycol	nc, v												
MTBE (methyl t-butyl ether)	C, V												
Naphthalene (Method 8260)	C, V												
Propylbenzene, iso-	nc, v												
Propylbenzene, n-	nc, v												
Propylene glycol	nc, v												
Tetrachloroethene (PCE)	C, V						<0.025 (ND)						
Toluene	nc, v	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.05 (ND)	<0.02 (ND)	<0.02 (ND)	<0.04 (ND)	<0.02 (ND)	<0.04 (ND)
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v												
Trichloroethane, 1,1,1-	nc, v						<0.05 (ND)						
Trichloroethane, 1,1,2-	nc, v												
Trichloroethene	C, V						<0.02 (ND)						
Trichlorofluoromethane (Freon 11)	nc, v												
Trimethylbenzene, 1,2,4-	nc, v												
Trimethylbenzene, 1,3,5-	nc, v												
Vinyl chloride	C, V						<0.05 (ND)						
Xylenes	nc, v	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.06 (ND)	<0.12 (ND)	<0.06 (ND)	<0.06 (ND)	1.3	<0.06 (ND)	<0.12 (ND)

	Sample ID	9-6-14	10-6-16	12-7-14	13-8-19	14-9-17	15-9-17	16-10-14	1	2	3	4	5
	Date Sampled	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	4/27/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021
	Depth Sampled (feet)	14	16	14	19	17	17	14	4	14	12	16	16
	Sampled by:	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties
	Location	Well #6 North Prop Boundary		Well #7 North Parking Lot	Well #8 North Property Boundary		ll #9 Pkg Lot	Well #10 Former Dry Cleaners		B#1 p Boundary		B#2 ρ Boundary	North F
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												
Anthracene	nc, v												
Benz[a]anthracene	c, nv												
Benzo[a]pyrene	c, nv												
Benzo[b]fluoranthene	c, nv												
Benzo[k]fluoranthene	c, nv												
Chrysene	c, nv												
Dibenz[a,h]anthracene	c, nv												
Fluoranthene	nc, nv												
Fluorene	nc, v												
Indeno[1,2,3-cd]pyrene	c, nv												
Naphthalene (Method 8270)	nc, v												
Naphthalene, 2-methyl	nc, v												
Pyrene	nc, nv												
Total Petroleum Hydrocarbons													
SSR	nc, v												
GRO	nc, v	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<5 (ND)	<10 (ND)	100	<5 (ND)	130	<5 (ND)	64
DRO	nc, nv	<50 ND	<50 ND	<50 ND	<50 ND	<50 ND	<50 ND	<100 ND	<100 (ND)	<50 (ND)	370	<50 (ND)	<100 (ND)
RRO	nc, nv	<250 ND	<250 ND	<250 ND	<250 ND	<250 ND	<250 ND	<500 ND	870	<250 (ND)	<500 (ND)	<250 (ND)	<500 (ND)

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mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either MTCA Cleanup Levels.

 $\mathsf{J}=\mathsf{the}$ identification of the analyte is acceptable; the reported

value is an estimate Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

	Sample ID	6	7	8	9	10	11	12	13	14	15	16	
	Date Sampled	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	
	Depth Sampled (feet)	17	10	16	14	11	9	16	14.5	16	14.5	14.5	Maximum
	Sampled by:	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Environmental Specialties	Residual Soil Concentration
	Location	3 Boundary	SB#4 / ¹ North Prop	Well #12		3#5 I Play Area		B#6 d Play Area		B#7 d Play Area		Well #13 Play Area	(detected)
		Joundary		boundary	Toposec		1 1000360		1 1000360		1 1000360		
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)													
Benzene	C, V	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.25
Bromodichloromethane	C, V		<0.05 (ND)										<0.056 (ND)
Bromoform	C, NV		<0.05 (ND)										<0.056 (ND)
Bromomethane	nc, v		<0.5 (ND)										<0.5 (ND)
Carbon tetrachloride	C, V		<0.05 (ND)										<0.28 (ND)
Chlorobenzene	nc, v		<0.05 (ND)										<0.056 (ND)
Chlorodibromomethane	C, NV		<0.05 (ND)										<0.056 (ND)
Chloroethane	C, V		<0.5 (ND)										<0.5 (ND)
Chloroform	nc, v		<0.05 (ND)										<0.056 (ND)
Chloromethane	nc, v		<0.5 (ND)										<0.5 (ND)
Dichlorobenzene, 1,2-	nc, v		<0.05 (ND)										<0.056 (ND)
Dichlorobenzene, 1,3-	nc, v		<0.05 (ND)										<0.056 (ND)
Dichlorobenzene, 1,4-	C, V		<0.05 (ND)										<0.056 (ND)
Dichloroethane, 1,1-	C, V		<0.05 (ND)										<0.056 (ND)
Dichloroethene, 1,1-	nc, v		<0.05 (ND)										<0.056 (ND)
Dichloroethene, cis-1,2-	nc, v		<0.05 (ND)										<0.056 (ND)
Dichloroethene, trans-1,2-	nc, v		<0.05 (ND)										<0.056 (ND)
Dichloroethylether	C, V												<0.05 (ND)
Dichloromethane	C, V		0.70 lc										0.70 (lc)
EDB (1,2-dibromoethane)	C, V		<0.05 (ND)										<0.056 (ND)
EDC (1,2-dichloroethane)	C, V		<0.05 (ND)										<0.056 (ND)
Ethylbenzene	nc, v	<0.02 (ND)	<0.05 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	1.35
Ethylene glycol	nc, v												18.7
MTBE (methyl t-butyl ether)	C, V		<0.05 (ND)										<1 (ND)
Naphthalene (Method 8260)	C, V		<0.05 ND										0.212 J
Propylbenzene, iso-	nc, v		<0.05 (ND)										<0.05 (ND)
Propylbenzene, n-	nc, v		<0.05 (ND)										<0.05 (ND)
Propylene glycol	nc, v												<18 (ND)
Tetrachloroethene (PCE)	C, V		<0.025 (ND)										<0.224 (ND)
Toluene	nc, v	<0.02 (ND)	<0.04 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	0.27
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon	113) nc, v												<0.0188 (ND)
Trichloroethane, 1,1,1-	nc, v		<0.05 (ND)										<0.056 (ND)
Trichloroethane, 1,1,2-	nc, v		<0.05 (ND)										<0.056 (ND)
Trichloroethene	C, V		<0.02 (ND)										<0.056 (ND)
Trichlorofluoromethane (Freon 11)	nc, v		<0.5 (ND)										<0.5 (ND)
Trimethylbenzene, 1,2,4-	nc, v		0.05 J										0.112 J
Trimethylbenzene, 1,3,5-	nc, v		<0.05 (ND)										<0.05 (ND)
Vinyl chloride	C, V		<0.05 (ND)										<0.056 (ND)
Xylenes	nc, v	<0.06 (ND)	<0.05 (ND)	<0.06 (ND)	0.29	<0.06 (ND)	5.83						

	Sample ID	6	7	8	9	10	11	12	13	14	15	16	
	Date Sampled	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	
	Depth Sampled (feet)	17	10	16	14	11	9	16	14.5	16	14.5	14.5	Maximum
	Sampled by:	Environmental Specialties	Residual Soil Concentration										
	Location	#3 Boundary		Well #12 p Boundary		8#5 Play Area		3#6 I Play Area		3#7 I Play Area		Well #13 I Play Area	(detected)
Constituent of Interest	Note	mg/Kg (ppm)											
Polyaromatic Hydrocarbons													
Acenaphthene	nc, v												<0.04 (ND)
Anthracene	nc, v												0.0456
Benz[a]anthracene	c, nv												0.208
Benzo[a]pyrene	c, nv												0.264
Benzo[b]fluoranthene	c, nv												0.324
Benzo[k]fluoranthene	c, nv												0.113
Chrysene	c, nv												0.273
Dibenz[a,h]anthracene	c, nv												0.0487
Fluoranthene	nc, nv												0.514
Fluorene	nc, v												<0.04 (ND)
Indeno[1,2,3-cd]pyrene	c, nv												0.218
Naphthalene (Method 8270)	nc, v												<0.04 (ND)
Naphthalene, 2-methyl	nc, v												0.0726
Pyrene	nc, nv												0.623
Total Petroleum Hydrocarbons													
SSR	nc, v												<0 (ND)
GRO	nc, v	<5 (ND)	1200	<5 (ND)	380								
DRO	nc, nv	<50 (ND)	4700	<50 (ND)	1610								
RRO	nc, nv	<250 (ND)	<500 (ND)	<250 (ND)	640	<250 (ND)	2270						

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c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

 $\label{eq:bolded} \textbf{Bolded} \ \textbf{concentrations} \ \textbf{exceed} \ \textbf{either} \ \textbf{MTCA} \ \textbf{Cleanup} \ \textbf{Levels}.$

J = the identification of the analyte is acceptable; the reported

value is an estimate

Sample location was subsequently removed by excavation and no longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard ι

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

Date Depth Samp Sar	npled by: Location	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses ¹	MTCA Method B Soil Cleanup Levels (if Method A not available) 1	Constituent of Potential Concern (COPC, exceeds Method A or B CULs)?	MTCA Method C Soil Cleanup Levels for Industrial Land Uses
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	Y / N	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)					
Benzene	C, V	0.03	18.2	Y	2390
Bromodichloromethane	C, V	NE	16.1	N	NE
Bromoform	c, nv	NE	127	N	NE
Bromomethane	nc, v	NE	112	N	NE
Carbon tetrachloride	C, V	NE	14.3	N	NE
Chlorobenzene	nc, v	NE	1600	N	NE
Chlorodibromomethane	c, nv	NE	16.1	N	NE
Chloroethane	C, V	NE	NE	(Y)	NE
Chloroform	nc, v	NE	32.3	N	NE
Chloromethane	nc, v	NE	NE	(Y)	NE
Dichlorobenzene, 1,2-	nc, v	NE	7200	N	NE
Dichlorobenzene, 1,3-	nc, v	NE	NE	(Y)	NE
Dichlorobenzene, 1,4-	C, V	NE	185	N	NE
Dichloroethane, 1,1-	C, V	NE	175	N	NE
Dichloroethene, 1,1-	nc, v	NE	4000	N	NE
Dichloroethene, cis-1,2-	nc, v	NE	160	N	NE
Dichloroethene, trans-1,2-	nc, v	NE	1600	N	NE
Dichloroethylether	C, V	NE	NE	Y	NE
Dichloromethane	C, V	0.02	480	Y	0.02
EDB (1,2-dibromoethane)	C, V	0.005	0.5	(Y)	0.005
EDC (1,2-dichloroethane)	C, V	NE	11	N	NE
Ethylbenzene	nc, v	6	8000	N	350000
Ethylene glycol	nc, v	NE	160000	N	700000
MTBE (methyl t-butyl ether)	C, V	0.1	556	(Y)	0.1
Naphthalene (Method 8260)	C, V	5	1600	N	70000
Propylbenzene, iso-	nc, v	NE	NE	NE	NE
Propylbenzene, n-	nc, v	NE	8000	N	NE
Propylene glycol	nc, v	NE	NE	NE	NE
Tetrachloroethene (PCE)	C, V	0.05	476	(Y)	0.05
Toluene	nc, v	7	6400	N	7
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	NE	2400000	N	NE
Trichloroethane, 1,1,1-	nc, v	2	160000	N	2
Trichloroethane, 1,1,2-	nc, v	NE	17.5	N	NE
Trichloroethene	C, V	0.03	12	(Y)	0.03
Trichlorofluoromethane (Freon 11)	nc, v	NE	24000	N	NE
Trimethylbenzene, 1,2,4-	nc, v	NE	NE	N	35000
Trimethylbenzene, 1,3,5-	nc, v	NE	800	N	35000
Vinyl chloride	C, V	NE	240	N	NE
Xylenes	nc, v	9	16000	Ν	700000

Dept	Sample ID Date Sampled th Sampled (feet) Sampled by: Location	MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses ¹	MTCA Method B Soil Cleanup Levels (if Method A not available) 1	Constituent of Potential Concern (COPC, exceeds Method A or B CULs)?	MTCA Method C Soil Cleanup Levels for Industrial Land Uses
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	Y/N	mg/Kg (ppm)
Polyaromatic Hydrocarbons					
Acenaphthene	nc, v	NE	4800	N	NE
Anthracene	nc, v	NE	24000	N	NE
Benz[a]anthracene	c, nv	0.01 (**)	1.37	Y	180
Benzo[a]pyrene	c, nv	0.1 (**)	0.137	Y	18
Benzo[b]fluoranthene	c, nv	0.01 (**)	1.37	Y	180
Benzo[k]fluoranthene	c, nv	0.01 (**)	13.7	Y	1800
Chrysene	c, nv	0.001 (**)	137	Y	18000
Dibenz[a,h]anthracene	c, nv	0.01 (**)	0.137	Y	18
Fluoranthene	nc, nv	NE	3200	N	NE
Fluorene	nc, v	NE	3200	N	NE
Indeno[1,2,3-cd]pyrene	c, nv	0.01 (**)	1.37	Y	180
Naphthalene (Method 8270)	nc, v	NE	5	N	70000
Naphthalene, 2-methyl	nc, v	NE	320	N	14000
Pyrene	nc, nv	NE	2400	N	NE
Total Petroleum Hydrocarbons					
SSR	nc, v	30	NE	Ν	CALC
GRO	nc, v	100	NE	Y	CALC
DRO	nc, nv	2000	NE	Ν	CALC
RRO	nc, nv	2000	NE	Y	2000

UAI = Universal Applicators

ND = not detected at or above laboratory method reporting

limits

(Y) indicates analyte not detected, but detection limit is above screening concentration.

--- = not analyzed or not applicable.

< = not detected at or above the method reporting limit shown.

NE = not established.

mg/Kg = milligram per kilogram.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

 $\label{eq:bolded} \textbf{Bolded} \ \textbf{concentrations} \ \textbf{exceed} \ \textbf{either} \ \textbf{MTCA} \ \textbf{Cleanup} \ \textbf{Levels}.$

J = the identification of the analyte is acceptable; the reported value is an estimate

Sample location was subsequently removed by excavation and no

longer represents residual conditions.

B = the analyte indicated was also found in the blank sample

i = the sample chromatographic pattern does not resemble the fuel standard $\boldsymbol{\iota}$

ii = the hydrocarbon concentration result in this sample is partially due to an ir

** = analyzed with silica gel

*** = analyzed with 2x silica gel

Environmenta Environmenta<		Sample ID	AGW6-091296	EXWATER	EXWATER	B-1 GW	MW01	B1-GW	B2-GW	B3-GW	B4-GW	B5-GW	1-2	2-3
Image: Second Part Second Part Part Part Part Part Part Part Part	Da						10/29/2020					2/18/2021	5/4/2021	5/4/2021
Image: Barbon in the image:			Environmental	Environmental	Environmental									Environmental
Bornel Exp N N N N 6-70 6-70 0.10 0.10 0.12 By constraints Syncore traints		Sampler	Resolutions	Resolutions	Resolutions	Associates, Inc.	UAI	Partner	Partner	Partner	Partner	Partner		Specialties
Leade Sys Optic of the second of	Depth Sa	mpled (feet)				NI	NI	0-10	5-10	0-10	0-10	0-10		30
Working Organic Constitutions (WOGA) Image: Model and Mark Stress of Ma	·			water in excavation				proposed play	Central portion of proposed play	Central portion of former dry	Central portion of north property	exterior area of suspected	well #2	well #3
Action ncv	Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	μg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Bencam c.v 1.64 65.0 (M) 37 6.031 6.03 6.035 0.0315 (N) -0.0315 (N) Brandohom c, m	Volatile Organic Constituents (VOCs)													
Berndericonsentante 6, v	Acetone	nc, v						6.95	16.7	9.21	4.54	4.16		
Bronnehme $c_{11}V$ $$	Benzene	C, V	1.64	<0.5 (ND)	37			0.891	8.99	2.03	1.56	0.914	<1 (ND)	<1 (ND)
Bornsmaham n_{cV} \dots \dots d_1 (MD) d_1 (He)	Bromodichloromethane	C, V				<1 (ND)		<0.0315 (ND)	<0.0315 (ND)	<0.0315 (ND)	<0.0315 (ND)	<0.0315 (ND)		
Baybgrarms, n mc, v m. m. dot 153 NO1 <	Bromoform	c, nv				<1 (ND)		<0.239 (ND)	<0.239 (ND)	<0.239 (ND)	<0.239 (ND)	<0.239 (ND)		
Budgemen, sec. nc. n. n. n. d. 51 (ND) d.011 (ND) d.0101 (ND) <thd.0101 (nd)<="" th=""> d.0101 (ND) <t< td=""><td>Bromomethane</td><td>nc, v</td><td></td><td></td><td></td><td><1 (ND)</td><td></td><td><0.148 (ND)</td><td><0.148 (ND)</td><td><0.148 (ND)</td><td><0.148 (ND)</td><td><0.148 (ND)</td><td></td><td></td></t<></thd.0101>	Bromomethane	nc, v				<1 (ND)		<0.148 (ND)	<0.148 (ND)	<0.148 (ND)	<0.148 (ND)	<0.148 (ND)		
Carbon stranding c_{\times} $$ $$ c_{0} (\$ 0,0) $c_{0.022}$ (ND) $c_{0.02}$ (ND) $c_{0.02}$ (ND) $c_{0.02}$ (ND) $c_{0.02}$ (ND) $c_{0.022}$ (ND) $c_{0.022}$ (ND) $c_{0.022}$ (ND) <td>Butylbenzene, n-</td> <td>nc, v</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><0.153 (ND)</td> <td><0.153 (ND)</td> <td><0.153 (ND)</td> <td><0.153 (ND)</td> <td><0.153 (ND)</td> <td></td> <td></td>	Butylbenzene, n-	nc, v						<0.153 (ND)	<0.153 (ND)	<0.153 (ND)	<0.153 (ND)	<0.153 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		nc, v						<0.101 (ND)	<0.101 (ND)	<0.101 (ND)	<0.101 (ND)	<0.101 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Carbon tetrachloride	C, V				<5 (ND)		<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Chlorobenzene	nc, v				<1 (ND)		0.0540 J	<0.0229 (ND)	<0.0229 (ND)	<0.0229 (ND)	<0.0229 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Chlorodibromomethane	c, nv				<1 (ND)		<0.018 (ND)	<0.018 (ND)	<0.018 (ND)	<0.018 (ND)	<0.018 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Chloroethane	C, V				<1 (ND)	<1 (ND)	<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)	<0.0432 (ND)		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Chloroform	nc, v				<1 (ND)		<0.0166 (ND)	<0.0166 (ND)	<0.0166 (ND)	<0.0166 (ND)	<0.0166 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Chloromethane	nc, v				<1 (ND)		<0.0556 (ND)	<0.0556 (ND)	<0.0556 (ND)	<0.0556 (ND)	<0.0556 (ND)		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Dichlorobenzene, 1,2-	nc, v				<1 (ND)		<0.058 (ND)	<0.058 (ND)	<0.058 (ND)	<0.058 (ND)	<0.058 (ND)		
Dicknownednane, 1.1- C. v.	Dichlorobenzene, 1,3-	nc, v				<1 (ND)		<0.068 (ND)	<0.068 (ND)	<0.068 (ND)	<0.068 (ND)	<0.068 (ND)		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Dichlorobenzene, 1,4-	C, V				<1 (ND)		0.101 J	<0.0788 (ND)	<0.0788 (ND)	<0.0788 (ND)	<0.0788 (ND)		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Dichloroethane, 1,1-	C, V				<1 (ND)	<1 (ND)	<0.023 (ND)	<0.023 (ND)	<0.023 (ND)	<0.023 (ND)	<0.023 (ND)		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		nc, v				<1 (ND)	· /		<0.02 (ND)		<0.02 (ND)			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Dichloroethene, cis-1,2-	nc, v				<1 (ND)	<1 (ND)	<0.0276 (ND)	0.250 J	<0.0276 (ND)	<0.0276 (ND)	<0.0276 (ND)		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Dichloroethene, trans-1,2-	nc, v				<1 (ND)	<1 (ND)	<0.0572 (ND)	<0.0572 (ND)	<0.0572 (ND)	<0.0572 (ND)	<0.0572 (ND)		
EDB (1,2-dibromoethane) c, v ···· ····	Dichloroethylether	C, V					<1 (ND)							
EDB (1,2-dibromethane) C, V	•	C, V				2.5 B	· /	<0.265 (ND)	<0.265 (ND)	<0.265 (ND)	<0.265 (ND)	<0.265 (ND)		
Ethylenzene C, V <th<< td=""><td>EDB (1,2-dibromoethane)</td><td>C, V</td><td></td><td></td><td></td><td><1 (ND)</td><td></td><td><0.021 (ND)</td><td><0.021 (ND)</td><td><0.021 (ND)</td><td><0.021 (ND)</td><td><0.021 (ND)</td><td></td><td></td></th<<>	EDB (1,2-dibromoethane)	C, V				<1 (ND)		<0.021 (ND)	<0.021 (ND)	<0.021 (ND)	<0.021 (ND)	<0.021 (ND)		
MTBE (methyl t-butyl ether) C, V -0.0118 (ND) <0.0118 (ND) <0.0111 (ND) <0.0211 (ND) <0.033 (ND) <0.033 (ND) <0.0313 (ND) <0.0313 (ND) <0.0311 (ND) <0.011 (ND) <0.011 (ND) <0.011 (ND) <0.011 (ND) <0.011 (ND) <0.011 (ND) <0.012 (ND) <0.028 (ND) <0.021 (ND	EDC (1,2-dichloroethane)	C, V				<1 (ND)	<1 (ND)	<0.019 (ND)	<0.019 (ND)	<0.019 (ND)	<0.019 (ND)	<0.019 (ND)		
MTBE (methyl t-butyl ether) C, v ····· ····· ····· ····· ····· ····· ····· ····· ····· ····· ····· ····· ····· ····· ······ ····· ·····		C, V	<0.5 (ND)	<1 (ND)	290								<1 (ND)	<1 (ND)
Propybenzene, iso- nc, v 0.203 1.25 0.335 0.343 0.211 Propybenzene, n nc, v 1.31 7.61 2.12 1.98 1.48 Propybenzene, n 1.31 7.61 2.12 1.98 1.48 Propybenzene, n 1.31 7.61 2.12 1.98 1.48 Propybenzene, no. <	MTBE (methyl t-butyl ether)	C, V						<0.0118 (ND)	<0.0118 (ND)	<0.0118 (ND)	<0.0118 (ND)	0.0610		
Propybenzene, iso- nc, v 0.203 1.25 0.335 0.343 0.211 Propybenzene, n Propybenzene, n nc, v 1.31 7.61 2.12 1.98 1.48 Image: Second Seco	Naphthalene	nc, v						0.313 J	2.39	0.839	46.5	3.69		
Propybenzene, n- nc, v 1.31 7.61 2.12 1.98 1.48 Ethylene glycol <td>Propylbenzene, iso-</td> <td>nc, v</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.203</td> <td>1.25</td> <td></td> <td>0.343</td> <td>0.211</td> <td></td> <td></td>	Propylbenzene, iso-	nc, v						0.203	1.25		0.343	0.211		
Ethylene glycol <								1.31	7.61	2.12	1.98	1.48		
Proplene glycol 20.02 66.8 43.6 0.028 (ND) -0.027 (ND) <							<10000 (ND)	1						
Tetrachloroethene (PCE) c, v ··· ··· <1 (ND) <1 (ND) <0.028 (ND) <0.027 (N							. ,							
Toluene nc, v <0.5 (ND) <1 (ND) 340 20.9 66.8 43.6 34.0 22.6 <1 (ND) Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) nc, v ND* <0.027 (ND)		C, V				<1 (ND)	<1 (ND)	<0.028 (ND)	<0.028 (ND)	<0.028 (ND)	<0.028 (ND)	<0.028 (ND)		
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113) nc, v ND* <0.027 (ND) <0.020 (ND) <0.027 (ND) <0.027 (ND) <td>Toluene</td> <td>nc, v</td> <td><0.5 (ND)</td> <td><1 (ND)</td> <td>340</td> <td></td> <td></td> <td>. ,</td> <td>· · · · · ·</td> <td></td> <td>. ,</td> <td></td> <td><1 (ND)</td> <td><1 (ND)</td>	Toluene	nc, v	<0.5 (ND)	<1 (ND)	340			. ,	· · · · · ·		. ,		<1 (ND)	<1 (ND)
Trichloroethane, 1,1,1- nc, v <1 (ND) <1 (ND) <0.011 (ND) <0.0133 (ND) <0.0353 (ND) <0.016 (ND) <0.016 (ND) <0.016 (ND) <0.016 (ND) <0.016 (ND) <0.016 (ND) <0.02 (ND			· · · · ·	· · · ·		ND*							· · · · · ·	
Trichloroethane, 1,1,2- nc, v <1 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.0353 (ND) <0.02 (ND)							<1 (ND)							
Trichloroethene c, v <1 (ND) <1 (ND) <0.016 (ND) <0.02 (ND)														
Trichlorofluoromethane (Freon 11) nc, v <-1 (ND) <-0.02 (ND) <0.02 (ND) <0.02 (ND) <0.02 (ND) <0.02 (ND) <0.02 (ND) < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < < <td></td> <td>· · · /</td> <td></td> <td></td> <td></td>											· · · /			
Trimethylbenzene, 1,2,4- nc, v 9.12 55.5 15.5 14.3 6.57 Trimethylbenzene, 1,3,5- nc, v 2.47 13.8 3.70 3.69 1.33 Vinyl chloride c, v 2.47 13.8 3.70 3.69 1.33 Vinyl chloride c, v <th< td=""><td></td><td>,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		,												
Trimethylbenzene, 1,3,5- nc, v 2.47 13.8 3.70 3.69 1.33 Vinyl chloride c, v <1 (ND)														
Vinyl chloride c, v <1 (ND) <0.2 (ND) <0.0273 (ND) <td></td>														
Xylenes nc, v <1 (ND) <1 (ND) 60.6 194 113 93.7 56.7 <3 (ND) Non-Volatile Organic Constituents (SVOCs) 60.6 194 113 93.7 56.7 <3 (ND)														
Non-Volatile Organic Constituents (SVOCs)	•		<1 (ND)	<1 (ND)		````´							<3 (ND)	<3 (ND)
		, .	\·/	(/									- (/	- ()
Styrene nc, v <-0.109 (ND) <0.109 (ND) 0.253 J <0.109 (ND)		nc v						<0.109 (ND)	<0.109 (ND)	<0.109 (ND)	0.253.1	<0.109 (ND)		

	Sample ID	AGW6-091296	EXWATER	EXWATER	B-1 GW	MW01	B1-GW	B2-GW	B3-GW	B4-GW	B5-GW	1-2	2-3
	Date Sampled	9/12/1996	10/9/1996	3/14/1997	3/21/1997	10/29/2020	2/18/2021	2/18/2021	2/18/2021	2/18/2021	2/18/2021	5/4/2021	5/4/2021
	Sampler	Environmental Resolutions	Environmental Resolutions	Environmental Resolutions	Environmental Associates, Inc.	UAI	Partner	Partner	Partner	Partner	Partner	Environmental Specialties	Environmental Specialties
De	epth Sampled (feet)	NI	NI	NI	NI	NI	0-10	5-10	0-10	0-10	0-10	32	30
	Location	SW corner of property	water in excavation	water in excavation 1B	southwest coner of former dry cleaners		Central portion of proposed play area 3	Central portion of proposed play area 2	Central portion of former dry cleaning facility	Central portion of north property boundary	Central portion of exterior area of suspected impacted soil	well #2	well #3
Metals													
Dissolved Lead	NA, nv	<2 (ND)											
Total Lead	NA, nv	2.39											
Total Petroleum Hydrocarbons													
SSR					<100 (ND)	<100 (ND)							
GRO	nc, v	<50 (ND)	<50 (ND)		<100 (ND)	<100 (ND)	290 B	1630	454	444 B	226 B	<100 (ND)	<100 (ND)
DRO	nc, nv	<250 (ND)	<250 (ND)**			<50 (ND)	334	265	159 J	1650 J	155 J	80 x	300 x
RRO	nc, nv	<750 (ND)	<750 (ND)**			<250 (ND)	380	329	150 J	7180	929	410 x	510 x
Notes:													

UAI = Universal Applicators

--- = not analyzed or not applicable.

ND = not detected at or above the method reporting limit (MRL) or practical quantitation limit (PQL) shown.

NE = not established.

(Y) indicates analyte not detected, but detection limit is above screening concentration.

µg/L = micrograms per Liter

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded/Shaded concentrations exceed MTCA Method A or B Cleanup Levels

(Y) indicates analyte not detected, but detection limit is above screening concentration.

² Background concentrations from ECOLOGY Publication #94-115

³ MTCA Method A used as primary screening. EPA Region VI used only if no MTCA standard available to be conservative

d = quantified as diesel. The sample contained components that eluted in the diesel range, but the chromatogram did not match the typical diesel fingerprint

B = the analyte indicated was also found in the blank sample

J = the identification of the analyte is acceptable; the reported value is an estimate

* = not calibrated

** = sample run with silica gel

NI = not indicated

	Sample ID	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	1-12	2-13
	Date Sampled	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	6/2/2021	6/2/2021
	•	Environmental									
	Sampler	Specialties									
	Depth Sampled (feet)	0	0	12	0	30	16	2	2	NI	NI
	• • • • •										
		well #4	well #5	well #6	well #7	well #8	well #9	well #10	well #11	well #12	well #13
	Location										
Constituent of Interest	Note	µg/L (ppb)									
Volatile Organic Constituents (VOCs)											
Acetone	nc, v										
Benzene	C, V	<1 (ND)									
Bromodichloromethane	C, V										
Bromoform	c, nv										
Bromomethane	nc, v										
Butylbenzene, n-	nc, v										
Butylbenzene, sec-	nc, v										
Carbon tetrachloride	C, V										
Chlorobenzene	nc, v										
Chlorodibromomethane	c, nv										
Chloroethane	C, V							<1 (ND)	<1 (ND)		
Chloroform	nc, v										
Chloromethane	nc, v										
Dichlorobenzene, 1,2-	nc, v										
Dichlorobenzene, 1,3-	nc, v										
Dichlorobenzene, 1,4-	C, V										
Dichloroethane, 1,1-	C, V							<1 (ND)	<1 (ND)		
Dichloroethene, 1,1-	nc, v							<1 (ND)	<1 (ND)		
Dichloroethene, cis-1,2-	nc, v							<1 (ND)	<1 (ND)		
Dichloroethene, trans-1,2-	nc, v							<1 (ND)	<1 (ND)		
Dichloroethylether	C, V										
Dichloromethane	C, V							<5 (ND)	<5 (ND)		
EDB (1,2-dibromoethane)	C, V										
EDC (1,2-dichloroethane)	C, V							<1 (ND)	<1 (ND)		
Ethylbenzene	C, V	<1 (ND)									
MTBE (methyl t-butyl ether)	C, V										
Naphthalene	nc, v										
Propylbenzene, iso-	nc, v										
Propylbenzene, n-	nc, v										
Ethylene glycol											
Propylene glycol											
Tetrachloroethene (PCE)	C, V							<1 (ND)	<1 (ND)		
Toluene	nc, v	<1 (ND)	2.0	9.4							
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon											
Trichloroethane, 1,1,1-	nc, v							<1 (ND)	<1 (ND)		
Trichloroethane, 1,1,2-	nc, v										
Trichloroethene	C, V							<1 (ND)	<1 (ND)		
Trichlorofluoromethane (Freon 11)	nc, v										
Trimethylbenzene, 1,2,4-	nc, v										
Trimethylbenzene, 1,3,5-	nc, v										
Vinyl chloride	C, V							<0.2 (ND)	<0.2 (ND)		
Xylenes	nc, v	<3 (ND)									
Non-Volatile Organic Constituents (SVOCs)		- (- /	- \ /	- ()	- \ /	- (··-/	- \/	- (- /	- (- /	- (· ·- /	- \/
Styrene	nc, v										
	, •		1	1	1	1	1			I	

Samp	e ID 3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	1-12	2-13
Date Sam	pled 5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	6/2/2021	6/2/2021
San	Environmental pler Specialties	Environmental Specialties								
Depth Sampled (eet) 0	0	12	0	30	16	2	2	NI	NI
	well #4	well #5	well #6	well #7	well #8	well #9	well #10	well #11	well #12	well #13
	tion									
Metals										
Dissolved Lead NA	, nv									
Total Lead NA	, nv									
Total Petroleum Hydrocarbons										
SSR										
GRO n	, v <100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)
DRO no	nv <50 (ND)	55 x	<50 (ND)	<50 (ND)	53 x	110 x	55 x	150 x	<50 (ND)	<50 (ND)
RRO no	nv <250 (ND)	<250 (ND)	<250 (ND)	300 x	<250 (ND)					

Notes:

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(Y) indicates analyte not detected, but detection limit is above screening concentration.

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c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded/Shaded concentrations exceed MTCA Method A or B Cleanup Levels

(Y) indicates analyte not detected, but detection limit is above screening concentration.

² Background concentrations from ECOLOGY Publication #94-115

³ MTCA Method A used as primary screening. EPA Region VI used only if no MTCA standard available to be conservative

d = quantified as diesel. The sample contained components that eluted in the diesel range, but the chromatogram did not match the typical diesel fingerprint

B = the analyte indicated was also found in the blank sample

J = the identification of the analyte is acceptable; the reported value is an estimate

* = not calibrated

** = sample run with silica gel

NI = not indicated

	Sampled				
Depth Samp	Sampler led (feet)	Maximum Ground Water Concetnration	MTCA Method A Cleanup Levels for Ground Water (Unrestricted	MTCA Method B Cleanup Levels for Ground Water (lowest)	Constituent of Potential Concern (COPC)? ³
	Location		Land Use)		
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	Y/N
Volatile Organic Constituents (VOCs)					
Acetone	nc, v	<16.7 (ND)	NE	7200	N
Benzene	C, V	37	5	0.795	Y
Bromodichloromethane	C, V	<1 (ND)	NE	0.706	(Y)
Bromoform	c, nv	<1 (ND)	NE	5.54	Ň
Bromomethane	nc, v	<1 (ND)	NE	11.2	N
Butylbenzene, n-	nc, v	<0.153 (ND)	NE	400	N
Butylbenzene, sec-	nc, v	<0.101 (ND)	NE	800	N
Carbon tetrachloride	C, V	<5 (ND)	NE	0.625	(Y)
Chlorobenzene	nc, v	1 J	NE	160	Ň
Chlorodibromomethane	c, nv	<1 (ND)	NE	0.521	(Y)
Chloroethane	C, V	<1 (ND)	NE	NE	(Y)
Chloroform	nc, v	<1 (ND)	NE	1.41	Ň
Chloromethane	nc, v	<1 (ND)	NE	NE	N
Dichlorobenzene, 1,2-	nc, v	<1 (ND)	NE	720	N
Dichlorobenzene, 1,3-	nc, v	<1 (ND)	NE	NE	N
Dichlorobenzene, 1,4-	C, V	1 J	NE	560	N
Dichloroethane, 1,1-	C, V	<1 (ND)	NE	7.68	N
Dichloroethene, 1,1-	nc, v	<1 (ND)	NE	72	N
Dichloroethene, cis-1,2-	nc, v	<1 (ND)	NE	400	N
Dichloroethene, trans-1,2-	nc, v	<1 (ND)	NE	16	N
Dichloroethylether	C, V	<1 (ND)	NE	0.04	(Y)
Dichloromethane	C, V	5 B	5	21.9	Ň
EDB (1,2-dibromoethane)	C, V	<1 (ND)	0.01	0.0219	(Y)
EDC (1,2-dichloroethane)	C, V	<1 (ND)	5	0.48	(Y)
Ethylbenzene	C, V	290.0	700	800	Ň
MTBE (methyl t-butyl ether)	C, V	0.0610	20	24.3	N
Naphthalene	nc, v	46.5	160	160	N
Propylbenzene, iso-	nc, v	1.25	NE	800	N
Propylbenzene, n-	nc, v	7.61	NE	800	N
Ethylene glycol		<10000 (ND)	NE	16000	N
Propylene glycol		<10000 (ND)	NE	16000	N
Tetrachloroethene (PCE)	C, V	<1 (ND)	5	20.8	N
Toluene	nc, v	340	1000	640	N
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	<0.027 (ND)	NE	240000	N
Trichloroethane, 1,1,1-	nc, v	<1 (ND)	200	16000	N
Trichloroethane, 1,1,2-	nc, v	<1 (ND)	32	0.768	(Y)
Trichloroethene	C, V	<1 (ND)	5	0.54	(Y)
Trichlorofluoromethane (Freon 11)	nc, v	<1 (ND)	NE	2400	N
Trimethylbenzene, 1,2,4-	nc, v	55.5	NE	80	N
Trimethylbenzene, 1,3,5-	nc, v	13.8	NE	80	N
Vinyl chloride	C, V	1.000 J	0.2	24	Y
Xylenes	nc, v	194	1000	1600	N
Non-Volatile Organic Constituents (SVOCs)					
Styrene	nc, v	0.253 J	NE	1600	N

[Date] 1581-21001 Tables (v04).xlsxGW

	Sample ID				
	Date Sampled				
	Sampler Depth Sampled (feet)	Maximum Ground Water Concetnration	MTCA Method A Cleanup Levels for Ground Water (Unrestricted Land Use)	MTCA Method B Cleanup Levels for Ground Water (lowest)	Constituent of Potential Concern (COPC)? ³
	Location				
Metals					
Dissolved Lead	NA, nv	<2 ND	15		
Total Lead	NA, nv	2.39	15		N
Total Petroleum Hydrocarbons					
SSR		<100 (ND)	500		N
GRO	nc, v	1630	800		Y
DRO	nc, nv	1650 J	500		Y
RRO	nc, nv	7180	500		Y

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Bolded/Shaded concentrations exceed MTCA Method A or B Cleanup Levels

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² Background concentrations from ECOLOGY Publication #94-115

³ MTCA Method A used as primary screening. EPA Region VI used only if no MTCA standard available to be conservative

d = quantified as diesel. The sample contained components that eluted in the diesel range, but the chromatogram did not match the typical diesel fingerprint

B = the analyte indicated was also found in the blank sample

J = the identification of the analyte is acceptable; the reported value is an estimate

* = not calibrated

** = sample run with silica gel

NI = not indicated

SSR = stoddard solvent range

[Date] 1581-21001 Tables (v04).xlsxGW

	Location ID	Well-2	Well-3	Well-4	Well-5	Well-6	Well-7	Well-8	Well-9	Well-10	Well-11	Well-12
	Sample ID	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Well #9	Well #10	Well #11	Well #12
	Date Sampled	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
	Sampler	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
	Location	Southwest Corner of Site	West of Building, Next to Alley	South of Proposed Play Area	Proposed Play Area	North Parking Area - Northwest Corner	North Parking Area - Center	North Parking Area - Northeast Corner	North Parking Area - East	Former Dry Cleaner	Former Dry Cleaner	North Property Boundary
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	μg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Volatile Organic Constituents (VOCs)												
Benzene	C, V	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
Dichloroethane, 1,1-	C, V									<1 (ND)	<1 (ND)	
Dichloroethene, 1,1-	nc, v									<1 (ND)	<1 (ND)	
Dichloroethene, cis-1,2-	nc, v									<1 (ND)	<1 (ND)	
Dichloroethene, trans-1,2-	nc, v									<1 (ND)	<1 (ND)	
Dichloroethylether	C, V									<1 (ND)	<1 (ND)	
Dichloromethane	C, V									<5 (ND)	<5 (ND)	
EDC (1,2-dichloroethane)	C, V									<1 (ND)	<1 (ND)	
Ethylbenzene	C, V	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<2 (ND)
Toluene	nc, v	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
Vinyl chloride	C, V									<0.2 (ND)	<0.2 (ND)	
Xylenes	nc, v	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)	<3 (ND)
Total Petroleum Hydrocarbons												
GRO	nc, v	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)	<100 (ND)
DRO	nc, nv	80 x	300 x	<50 (ND)	55 x	<50 (ND)	50	53 x	110 x	55 x	150 x	<50 (ND)
RRO	nc, nv	410 x	510 x	<250 (ND)	<250 (ND)	<250 (ND)	300 x	<250 (ND)	<250 (ND)	<250 (ND)	<250 (ND)	<250 (ND)

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v = volatile

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GRO = gasoline-range organics.

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Bolded/Shaded concentrations exceed MTCA Method A or B Cleanup Levels

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X = quantified as DRO and/or RRO. The sample contained components that eluted in the diesel/residual range, but the chromatogram did not match the typical diesel/oil fingerprint and may represent matrix interference.

			-	-		
	Location ID					
	Sample ID	Well #13		MTCA Method A		
	Date Sampled	5/4/2021			MTCA Method B	Constituent of
	Sampler	ES	Maximum Ground Water	for Ground	Cleanup Levels	Potential
		Proposed Play Area		Water (Unrestricted Land Use)	for Ground Water (lowest)	Concern (COPC)? ³
	Location			" ())		2001
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	Y/N
Volatile Organic Constituents (VOCs)						
Benzene	C, V	<0.02 (ND)	<1 (ND)	5	0.795	(Y)
Dichloroethane, 1,1-	C, V		<1 (ND)		7.68	N
Dichloroethene, 1,1-	nc, v		<1 (ND)		72	N
Dichloroethene, cis-1,2-	nc, v		<1 (ND)		400	N
Dichloroethene, trans-1,2-	nc, v		<1 (ND)		16	Ν
Dichloroethylether	C, V		<1 (ND)		0.04	(Y)
Dichloromethane	C, V		<5 (ND)	5	21.9	N
EDC (1,2-dichloroethane)	C, V		<1 (ND)	5	0.48	(Y)
Ethylbenzene	C, V	9.4	9.4	700	800	N
Toluene	nc, v	1	1	1000	640	N
Vinyl chloride	C, V		0.200 J	0.2	24	N
Xylenes	nc, v	<3 (ND)	3	1000	1600	N
Total Petroleum Hydrocarbons						
GRO	nc, v	<100 (ND)	<100 (ND)	800		N
DRO	nc, nv	<50 (ND)	300 x	500		N
RRO	nc, nv	<250 (ND)	510 x	500		Y
		· /		-		

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GRO = gasoline-range organics.

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Bolded/Shaded concentrations exceed MTCA Method A or B Cleanup Levels

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11/9/2021 1581-21001 Tables (v04).xlsx, MW

	ocation ID	B2-SG	B3-SG	B4-SG	B5-SG	SS1	SS2	SS3	3			
	Sample ID	B2-SG	B3-SG	B4-SG	B5-SG	SS1	SS2	 SS3	3	1	1	
	e Sampled	2/18/2021	2/18/2021	2/18/2021	2/18/2021	2/18/2021	2/18/2021	2/18/2021	4/28/2021	1	MTCA Sub-Slab	
Depth Sam		1	2	1	2	0.5	0.5	0.5	NI	Maximum Soil	Soil Gas	Constituent of
	Location	Central portion of proposed outdoor play area 2	Central portion of former dry cleaning facility	Central portion of north property boundary	Central portion of exterior area of suspected impacted soil	South portion of interior area of suspected impacted soil	Central interior area of subject property building	Northeast interior area of subject property building	Well-11	Gas/Sub-Slab Concentration	Screening Level Method B ¹	Potential Concern (COPC)? ³
Constituent of Interest	Note	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m3	Y/N
Volatile Organic Constituents (VOCs)												
Acetone	nc, v	29.0	32.6	18.3	27.1	471 E	190	182		471 E		N
Benzene	C, V	425	770	164	98.1	22.0	12.7	5.69	4.0	770	10.7	Y
Bromodichloromethane	C, V	2.95	<1.34 (ND)	4.70	<1.34 (ND)	<1.34 (ND)	<1.34 (ND)	<1.34 (ND)		4.70	0.253	Y
Bromoform	c, nv	<6.21 (ND)	<6.21 (ND)	<6.21 (ND)	<6.21 (ND)	<6.21 (ND)	<6.21 (ND)	<6.21 (ND)		<6.21 (ND)	75.8	N
Bromomethane	nc, v	<0.776 (ND)	<0.776 (ND)	<0.776 (ND)	<0.776 (ND)	<0.776 (ND)	<0.776 (ND)	<0.776 (ND)		<0.776 (ND)	76.2	N
Carbon tetrachloride	C, V	<1.26 (ND)	<1.26 (ND)	<1.26 (ND)	<1.26 (ND)	<1.26 (ND)	<1.26 (ND)	<1.26 (ND)		<1.26 (ND)	13.9	N
Chlorobenzene	nc, v	<0.924 (ND)	<0.924 (ND)	<0.924 (ND)	<0.924 (ND)	<0.924 (ND)	<0.924 (ND)	<0.924 (ND)		<0.924 (ND)	762	N
Chloroethane	C, V	<0.528 (ND)	<0.528 (ND)	<0.528 (ND)	<0.528 (ND)	<0.528 (ND)	<0.528 (ND)	<0.528 (ND)	<13 (ND)	<13 (ND)	150000	N
Chloroform	nc, v	<0.973 (ND)	<0.973 (ND)	<0.973 (ND)	<0.973 (ND)	<0.973 (ND)	<0.973 (ND)	<0.973 (ND)		<0.973 (ND)	3.62	N
Chloromethane	nc, v	1.90	3.37	98.9	2.11	0.485	<0.413 (ND)	0.448		98.9	1370	N
Dichlorobenzene, 1,2-	nc, v	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)		<1.2 (ND)	3050	N
Dichlorobenzene, 1,3-	nc, v	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)		<1.2 (ND)	3000	N
Dichlorobenzene, 1,4-	C, V	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)	<1.2 (ND)		<1.2 (ND)	7.58	N
Dichloroethane, 1,1-	C, V	<0.802 (ND)	<0.802 (ND)	<0.802 (ND)	<0.802 (ND)	<0.802 (ND)	<0.802 (ND)	<0.802 (ND)	<2 (ND)	<2 (ND)	52.1	N
Dichloroethene, 1,1-	nc, v	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<2 (ND)	<2 (ND)	3050	N
Dichloroethene, cis-1,2-	nc, v	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<2 (ND)	<2 (ND)		N
Dichloroethene, trans-1,2-	nc, v	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<0.793 (ND)	<2 (ND)	<2 (ND)		N
Dichloromethane	C, V	<1.85 (ND)	<0.694 (ND)	<0.694 (ND)	<0.694 (ND)	<0.694 (ND)	<0.694 (ND)	<0.694 (ND)		<1.85 (ND)	8330	N
EDB (1,2-dibromoethane)	C, V	<1.54 (ND)	<1.54 (ND)	<1.54 (ND)	<1.54 (ND)	<1.54 (ND)	<1.54 (ND)	<1.54 (ND)		<1.54 (ND)	0.139	(Y)
EDC (1,2-dichloroethane)	C, V	<0.81 (ND)	<0.81 (ND)	<0.81 (ND)	<0.81 (ND)	<0.81 (ND)	<0.81 (ND)	<0.81 (ND)	<0.2 (ND)	<0.81 (ND)	3.21	N
Ethylbenzene	C, V	902	949	219	114	1.24	4.68	1.41	<2.2 (ND)	949	15200	N
MTBE (methyl t-butyl ether)	C, V	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)		<0.721 (ND)	321	N
Naphthalene	nc, v	<3.3 (ND)	<3.3 (ND)	<3.3 (ND)	<3.3 (ND)	<3.3 (ND)	<3.3 (ND)	<3.3 (ND)	4.2	<3.3 (ND)	2.45	(Y)
Propylbenzene, iso-	nc, v	22.2	38.8	0.983	<0.983 (ND)	<0.983 ND	<0.983 (ND)	<0.983 (ND)		38.8		N
Tetrachloroethene (PCE)	C, V	<1.36 (ND)	<1.36 (ND)	<1.36 (ND)	<1.36 (ND)	<1.36 (ND)	<1.36 (ND)	<1.36 (ND)	<34 (ND)	<34 (ND)	321	N
Toluene	nc, v	4970	8700	1520	742	12.2	11.5	7.91	<94 (ND)	8700	76200	N
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	<1.53 (ND)	<1.53 (ND)	<1.53 (ND)	<1.53 (ND)	<1.53 (ND)	<1.53 (ND)	<1.53 (ND)		<1.53 (ND)		N
Trichloroethane, 1,1,1-	nc, v	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<2.7 (ND)	<2.7 (ND)	76200	N
Trichloroethane, 1,1,2-	nc, v	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<1.09 (ND)	<0.27 (ND)	<1.09 (ND)	3.05	N
Trichloroethene	C, V	<1.07 (ND)	<1.07 (ND)	<1.07 (ND)	<1.07 (ND)	<1.07 (ND)	<1.07 (ND)	<1.07 (ND)	<0.54 (ND)	<1.07 (ND)	12.3	N
Trichlorofluoromethane (Freon 11)	nc, v	1.56	1.55	1.43	1.48	3.37	5.84	2.69		5.84	10700	N
Trimethylbenzene, 1,2,4-	nc, v	239	71.2	39.7	32.1	1.93	5.74	1.63		239	107	Y
Trimethylbenzene, 1,3,5-	nc, v	130	44.5	24.9	15.6	<0.982 (ND)	1.72	<0.982 (ND)		130		N
Vinyl chloride	C, V	<0.511 (ND)	<0.511 (ND)	<0.511 (ND)	<0.511 (ND)	<0.511 (ND)	<0.511 (ND)	<0.511 (ND)	<1.3 (ND)	<1.3 (ND)	9.33	N
Xylenes	nc, v	5191	3980	991	611	7.63	20.62	<8.22 (ND)	<2.2 (ND)	5191	1520	Y
Non-Volatile Organic Constituents (SVOCs)						-						
Dioxane, 1,4-	c, nv	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	<0.721 (ND)	0.843	<0.721 (ND)	1.35		1.35		N
Styrene	nc, v	<0.851 (ND)	<0.851 (ND)	<0.851 (ND)	<0.851 (ND)	<0.851 (ND)	<0.851 (ND)	<0.851 (ND)		<0.851 (ND)	15000	N
Total Petroleum Hydrocarbons												
APH [EC5-8 aliphaltics] fraction	nc, v								460	460		N
APH [EC9-12 aliphaltics] fraction	nc, v								<120 (ND)	<120 (ND)	4700	N
APH [EC9-10 aromatics] fraction	nc, nv								<120 (ND)	<120 (ND)		N
Leak Detection										Maximum Soil Concer	Gas/Sub-Slab atration	Leak Suggested?
2-Propanol		<3.07 (ND)	9.73	<4.35 (ND)	4.03	59.2	38.1	41.3		59	.2	N

2-Propanol	<3.07 (ND)	9.73	<4.35 (ND)	4.03	59.2
Notes:					

--- = not analyzed or not applicable.

ND = not detected at or above the method reporting limit shown.

NE = not established.

 μ g/M³ = micrograms per cubic meter

c = carcinogenic

nc = noncarcinogenic

v = volatile

(Y) indicates analyte not detected, but detection limit is above screening concentration.

Bolded concentrations exceed MTCA Method B Cleanup Levels

	Location ID					
	Sample ID	1 4/28/2021	2 4/28/2021	Maximum Indoor Air Concentration	MTCA Indoor Air Method B ¹	Constituen Potential Col (COPC)?
	Date Sampled					
Dept	h Sampled (feet)	NI	NI			
	Location	inside building	outside building (reference)			
Constituent of Interest	Note	µg/M ³ (ppb)	µg/M ³ (ppb)	µg/M ³ (ppb)	µg/M ³ (ppb)	Y/N
Volatile Organic Constituents (VOCs)						
Benzene	C, V	0.44	0.33	0.44	0.32	Y
Chloroethane	C, V	<2.6 (ND)	<2.6 (ND)	<2.6 (ND)	4570	N
Dichloroethane, 1,1-	C, V	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)	1.56	N
Dichloroethene, 1,1-	nc, v	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)	91.4	N
Dichloroethene, cis-1,2-	nc, v	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)		N
Dichloroethene, trans-1,2-	nc, v	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)		N
EDC (1,2-dichloroethane)	C, V	0.073	0.077	0.077	3.2	N
Ethylbenzene	C, V	<0.43 (ND)	<0.43 (ND)	0.43	457	N
MTBE (methyl t-butyl ether)	C, V				9.62	(Y)
Naphthalene	nc, v	<0.058 (ND) J	<0.058 (ND) J	<0.058 (ND)	1.37	N
Tetrachloroethene (PCE)	C, V	<6.8 (ND)	<6.8 (ND)	<6.8 (ND)	1.83	(Y)
Toluene	nc, v	<19 (ND)	<19 (ND)	19	2290	N
Trichloroethane, 1,1,1-	nc, v	<0.55 (ND)	<0.55 (ND)	<0.55 (ND)	2290	N
Trichloroethane, 1,1,2-	nc, v	<0.055 (ND)	<0.055 (ND)	<0.055 (ND)	0.0914	N
Trichloroethene	C, V	<0.11 (ND)	<0.11 (ND)	<0.11 (ND)	0.914	N
Trimethylbenzene, 1,2,4-	nc, v				27.4	
Trimethylbenzene, 1,3,5-	nc, v					
Vinyl chloride	C, V	<0.26 (ND)	<0.26 (ND)	<0.26 (ND)	0.284	N
Xylenes	nc, v	<0.43 (ND)	<0.43 (ND)	<0.43 (ND)	45.7	N
Total Petroleum Hydrocarbons						
APH [EC5-8 aliphaltics] fraction	nc, v	76	83	83		N
APH [EC9-12 aliphaltics] fraction	nc, v	<25 (ND)	<25 (ND)	<25 (ND)	140	N
APH [EC9-10 aromatics] fraction	nc, nv	<25 (ND)	<25 (ND)	<25 (ND)		N

--- = not analyzed or not applicable.

ND = not detected at or above the method reporting limit shown.

NE = not established.

 $\mu g/M^3$ = micrograms per cubic meter

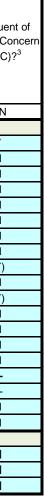
c = carcinogenic

nc = noncarcinogenic

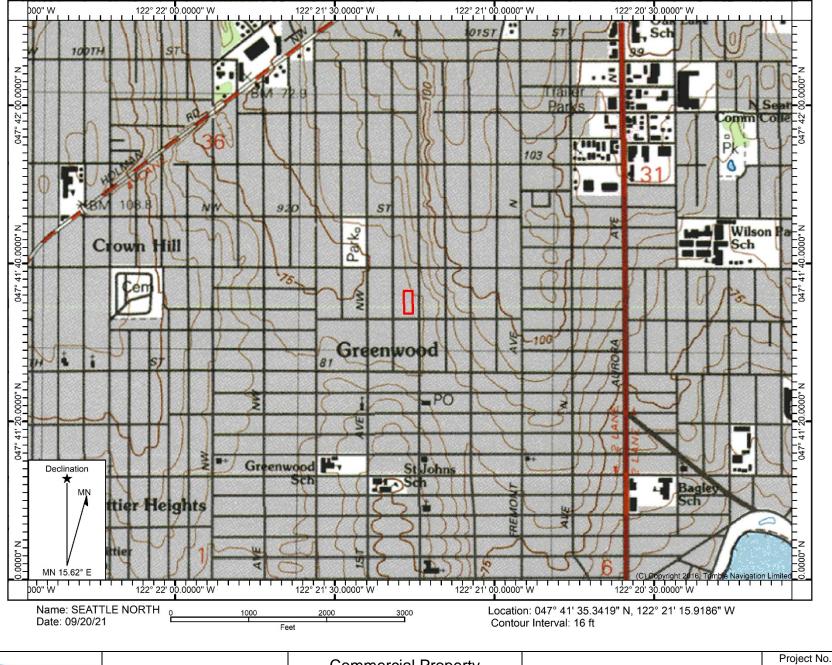
v = volatile

(Y) indicates analyte not detected, but detection limit is above screening concentration.

Bolded concentrations exceed MTCA Method B Cleanup Levels



FIGURES

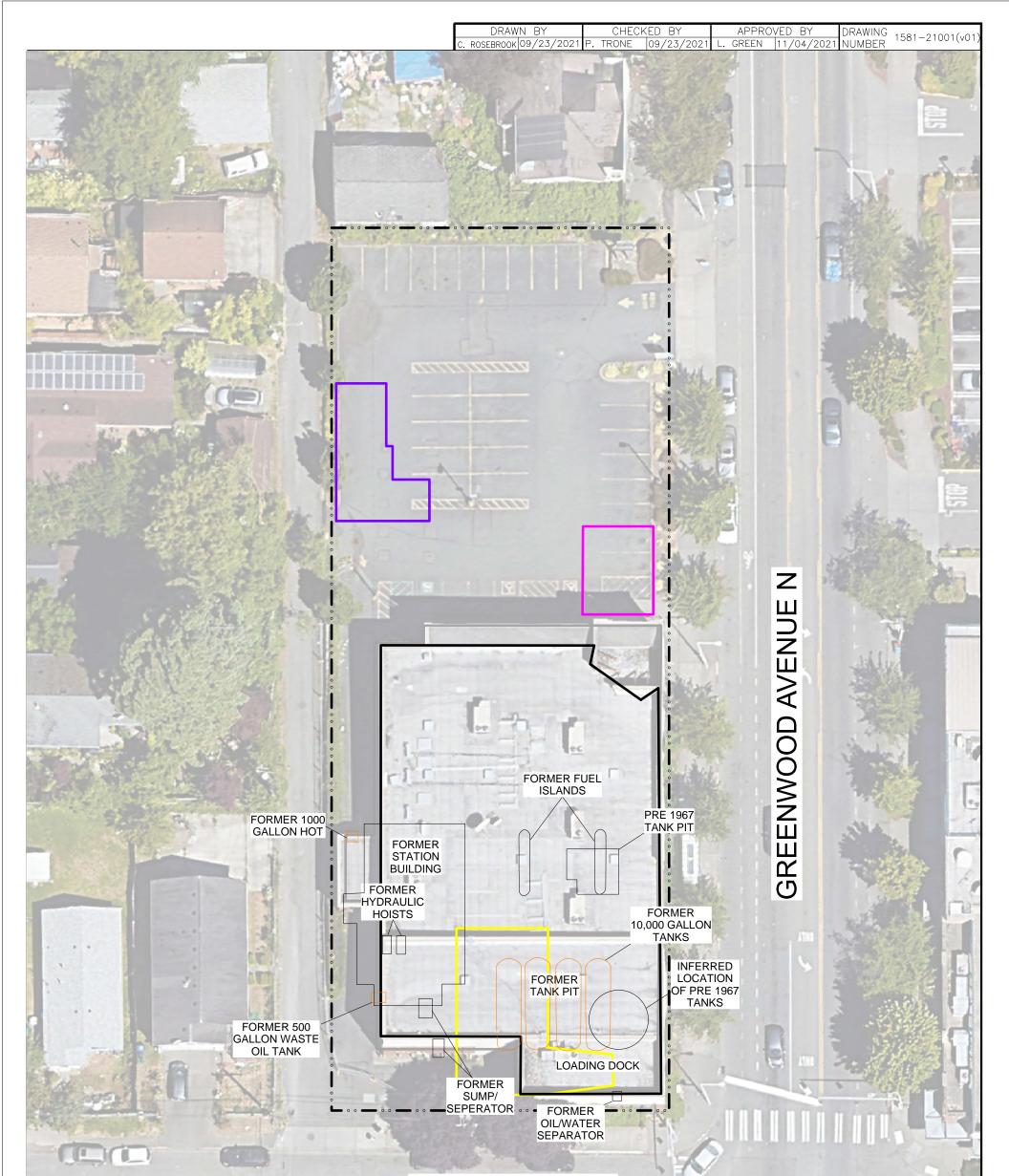




Date Drawn: 9/20/2021 CAD File Name: 1581-21001-01_fig1sv_map Drawn By: CLR Approved By: LDG Commercial Property 8701 Greenwood Avenue N Seattle, Washington

Site Vicinity Map

Figure No. 1581-21001 Figure No.



N 87TH STREET

LEGEND:

SUBJECT PROPERTY BOUNDARIES

FORMER GAS STATION PER 1950 HISTORICAL SANBORN MA	FORMER	GAS	STATION	PER	1950	HISTORICAL	SANBORN	MAF	כ
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FORMER VANITY CLEANERS PER CITY DIRECTORY 1951-1955, LOCATION BASED ON 1950 SANBORN MAP

FORMER LAUNDRY PER 1930 HISTORICAL SANBORN MAP

* FORMER FEATURES PER 1994 EMCON NORTHWEST INC. AND TEXACO 1991 AND ENVIRO. RESOLUTION INC. 1994 AND 1996 NOTES:

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1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.

 (\mathbf{N})

60 FEET

2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.

3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

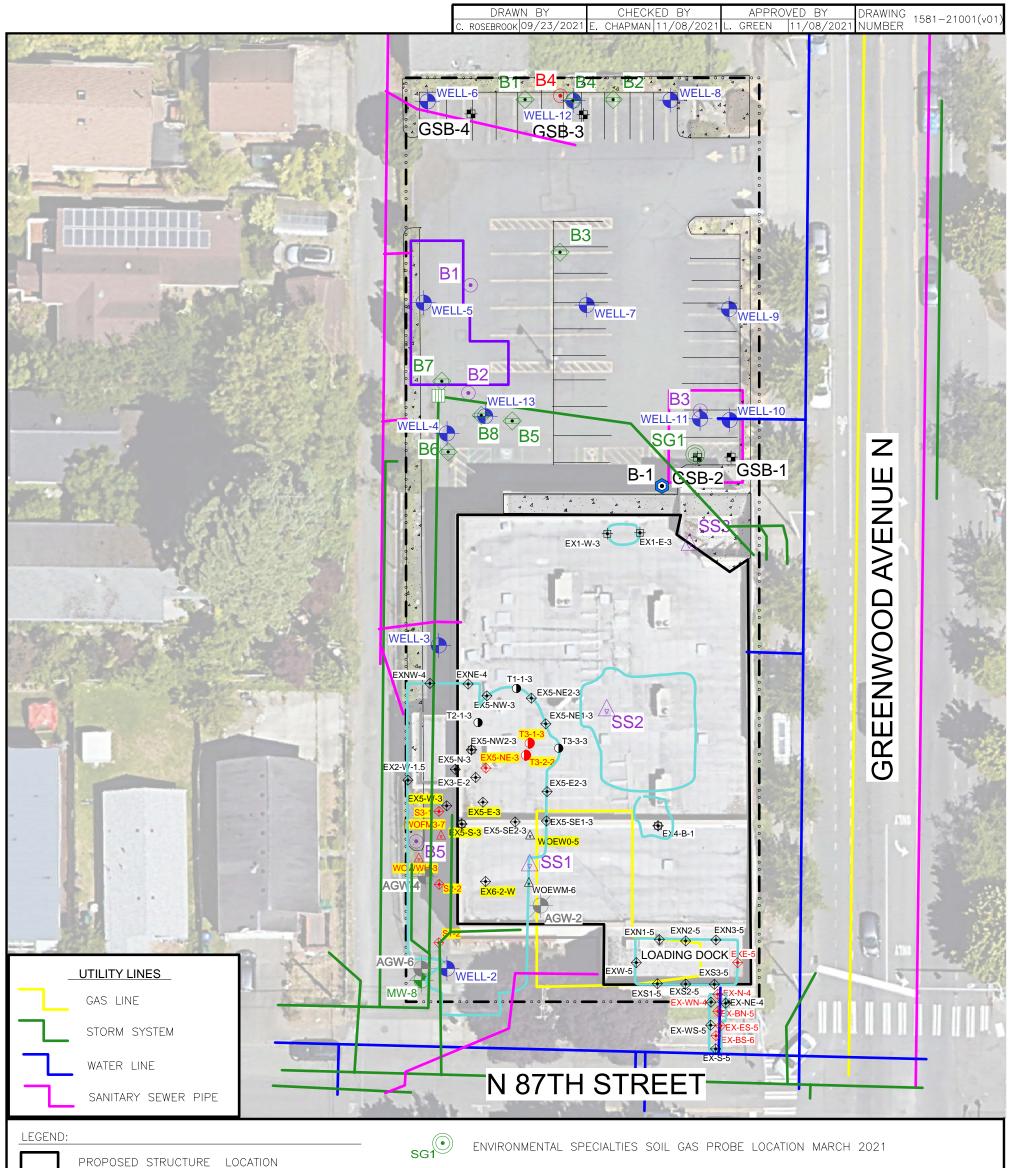
APPROXIMATE SCALE

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FIGURE 2 SITE PLAN WITH HISTORICAL FEATURES OF INTEREST

COMMERCIAL PROPERTY 8701 GREENWOOD AVENUE N SEATTLE, WASHINGTON



PROPOSED STRUCTURE LOCATION

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SUBJECT PROPERTY BOUNDARIES

- ENVIRONMENTAL ASSOCIATES, INC \bigcirc SOIL BORING LOCATION APRIL 1997
- LEFT COAST SERVICES LLC SOIL BORING LOCATION NOVEMBER 2020
- $\mathbf{\bullet}$ PARTNER SOIL BORING LOCATION MARCH 2021
 - PARTNER SUB-SLAB SOIL GAS PROBE LOCATION MARCH 2021
 - ENVIRO. RESOLUTION INC. SOIL SAMPLE LOCATION REMAINING FOLLOWING EXCAVATION 1996
 - MONITORING WELL LOCATION PER ENVIRO RESOULTIONS INC.
 - FORMER VANITY CLEANERS PER CITY DIRECTORY 1951-1955, LOCATION BASED ON 1950 SANBORN MAP
 - FORMER LAUNDRY PER 1930 HISTORICAL SANBORN MAP

PRIOR PCS EXCAVATION MARGINS

В1 ↔ ENVIRONMENTAL SPECIALTIES SOIL BORING LOCATION MAY 2021

- MONITORING WELL LOCATION PER ENVIRONMENTAL SPECIALTIES MAY 2021
- SP-0217 YELLOW INDICATES SOIL WHERE SAMPLE WAS COLLECTED HAS BEEN REMOVED

-(N)

60 FEET

- EXE-5 LABELS IN RED EXCEED MTCA METHOD A CLEANUP LEVELS
 - MONITORING WELL LOCATION PER ENVIRO RESOULTIONS INC.

NOTES:
1. BASE MAP DEVELOPED FROM AN AERIAL
PHOTOGRAPH MAP DATED 2019 AND
ENW FIELD NOTES.

- 2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
- 3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.



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FIGURE 3

SAMPLE LOCATION DIAGRAM (PREVIOUS INVESTIGATIONS)

COMMERCIAL PROPERTY 8701 GREENWOOD AVENUE N SEATTLE, WASHINGTON

