EVREN NORTHWEST INC.
environmental & natural resource consultants

FOCUSED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Commercial Property

8701 Greenwood Avenue North
Seattle, Washington 97103

Prepared for:

Left Coast Services, LLC
(DBA Universal Applicators)
Attn: Alexander Moss
515 S. Southern Street
Seattle, Washington 98108-4356

Issued on:

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This

Focused Phase II Environmental Site Assessment

Report for:

Commercial Property

at:

8701 Greenwood Avenue North
Seattle, Washington 98103

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

Left Coast Services, LLC
(DBA Universal Applicators)
Attn: Alexander Moss
515 S. Southern Street
Seattle, Washington 98108-4356

and its assignees

Issued December 30, 2020 *by:*

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List of Acronyms and Abbreviations

amsl	above mean sea level
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylenes
CDF	control density fill
Client	Left Coast Services, LLC (LCS, dba Universal Applicators, Inc.)
CMMP	contaminated media management plan
COC	chain of custody
CREC	controlled recognized environmental condition
CUL	cleanup level
cPAHs	carcinogenic PAHs
DPT	direct-push technology
DRO	diesel-range organics
Ecology	Washington State Department of Ecology
ENW	EVREN Northwest, Inc.
EPA	US Environmental Protection Agency
ESA	Environmental Site Assessment
F&BI	Friedman & Bruya, Inc. of Seattle, Washington
FSI	Focused Site Investigation
GRO	gasoline-range organics
HCID	hydrocarbon identification
HVOCs	halogenated volatile organic constituents
µg/L	micrograms per liter
mg/Kg	milligrams per Kilogram
MRL	method reporting limit
MTCA	Model Toxics Control Act
PAHs	polynuclear aromatic hydrocarbons
Partner	Partner Engineering North Carolina, PLLC
PID	photoionization detector
PQL	practical quantitation limit
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RRO	residual-range organics
SOW	scope of work
SSRO	Stoddard-solvent range organics
SVOC	semi-volatile organic compound
TPH	Total Petroleum Hydrocarbon
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic constituent

1.0 Introduction

At the request of Left Coast Services, LLC (Client), EVREN Northwest, Inc. (ENW) completed a Focused Phase II Environmental Site Assessment (ESA) for the subject property located at 8701 Greenwood Avenue North in Seattle, Washington (see Figures 1 and 2). This ESA is intended to evaluate site characterization for potential environmental concerns identified in completion of a recent Phase I ESA by others at the subject property.

2.0 Background

Left Coast Services, LLC (LCS) recently completed a limited Site Characterization Report documenting a subsurface investigation of the subject property. The stated purpose of the investigation was to "collect samples in response to a Phase I Environmental Site Assessment (PIESA), dated 09/29/2020, by Partner Engineering North Carolina, PLLC (Partner)." The stated environmental concerns from the PIESA at the subject property include:

- Vanity Cleaners reportedly operated as a cleaners and dryers at the subject property between 1951 and 1955. Since dry cleaning operations typically utilized chlorinated solvents that could impact the subsurface environmental through leaks and spills over time, the former Vanity Cleaners was identified as a recognized environmental condition (REC).
- The adjacent property to the north, in the presumed cross- to upgradient position from the site is listed on multiple environmental databases under SMI Inc. Trust at 8733 North Greenwood Avenue. Confirmed releases of "conventional contaminants," organics and metals, and two documented surface spills of petroleum hydrocarbons have been reported on this adjoining property. Additionally, suspected releases of halogenated volatile constituents (HVOCs). The regulatory status of the site is reportedly listed as awaiting cleanup. Due to its cross- to upgradient position, the offsite adjoining property was identified as a REC.
- Reportedly, a gasoline service station occupied the southern portion of the subject property from at least 1940 to 1994. Total petroleum hydrocarbons and petroleum fuel related constituents [benzene, toluene, ethylbenzene, and xylenes (BTEX)] were detected in soil and ground water beneath the station in investigations beginning in 1991. Five monitoring wells were installed and sampled of which three contained "elevated concentrations" of BTEX. All fuel storage and dispensing equipment, including underground storage tanks (USTs), pump islands and underground piping were removed from the property in 1994. A reported 600 cubic yards of petroleum impacted soils was excavated during the decommissioning and eventually disposed offsite. Residual soil and ground water impacts were reportedly treated through operation of an air sparge/vapor extraction system over a period of approximately 1 year. Ensuing ground water monitoring showed a decrease in dissolved contaminants that eventually dropped below state

cleanup levels. The site received a conditional closure from the Washington Department of Ecology (Ecology) in July 1996, with a restrictive covenant recorded on the subject site for provisions to conduct future ground water monitoring and ensure residual soil impacts were handled and disposed appropriately. Based on site remedial actions and regulatory closure with institutional restrictions, the former gas station was identified as a controlled recognized environmental condition (CREC).

The LCS investigation report states that on October 29, 2020, LCS completed two (2) soil borings on the south-southwestern side (reportedly down gradient side) of the former Vanity Cleaners, and two (2) soil borings along the northern property line beneath the presumed upgradient portion of the subject property. LCS also reportedly collected a ground water sample from an existing monitoring well on the subject property.

ENW utilized data obtained by LCS' investigation, along with other available reference material, as the basis for the findings of this report.

3.0 Scope of Work

LCS reportedly completed the following scope of work (SOW) for this project:

- Advanced four (4) exploratory borings (GSB01 through GSB04) using direct-push technology (DPT) and collected soil samples from borings for laboratory analysis.
- Purged and sampled ground water from an existing ground water monitoring well.
- Submitted four soil samples and one ground water sample to an independent laboratory for selected analytical procedures.

4.0 Site Description

The subject property is located on the northwest corner of the intersection of Greenwood Avenue N and N 87th Street in the Greenwood neighborhood of North Seattle, Washington. The site is located approximately six (6) miles north-northwest of downtown Seattle, Washington and approximately four (4) miles west of Lake Washington. The King County Assessor's Office identifies the site as Parcel number 2920700030 and describes the property as rectangular in shape and 32,728 square feet in area.

The subject property is in a mixed residential and commercial area of King County. The site is bordered to the north by single-family residence, west by an alley beyond which are single-family residences, to the east by Greenwood Avenue North, beyond which is a vacant commercial building and parking lot, and to the south by N 87th Avenue, beyond which is a multi-family residential building and street-level retail businesses.

The subject property was developed in 1997 with the current commercial building in the southern portion of the site. Other site improvements include an asphalt-paved parking lot in the northern portion of the site, drainage features and landscaped areas.

Topography. According to the U.S. Geological Survey (USGS) Seattle North, Washington 7.5-minute quadrangle (Figure 1), the subject property lies at an approximate elevation of 260 feet above mean sea level (amsl). Topography in the area of the subject property is indicated as sloping gently to the west-southwest.

Geologic Setting. 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),[1] 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.

Borings completed at the site encountered up to 9 feet of silt with clay, sand, and gravel overlying sand with trace silt in all borings. An organic layer described as "being organic rich with abundant woody debris was present at the 5- to 15-foot depth interval in all borings.

Surface Water. 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.

Ground Water. Well log data in the area indicates ground water occurs as shallow as 4 feet bgs. Borings during this investigation confirmed the presence of shallow ground water at between 3.5 to 5 feet bgs. Based on surface topography, ground water flow beneath the site is anticipated to be generally west-southwest.

[1] 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.

5.0 Methods

This section describes the methods used by LCS field personnel to conduct the SOW of this assessment. Field activities for this project were performed on October 29, 2020. Work is documented in the photographic log included as Appendix A.

5.1 Project Approach

This Focused Phase II ESA was conducted in two separate phases. The first phase included assessment of areas of concern according to the initial proposed SOW. The field work for the first phase was completed by LCS and the field boring logs, site photographs, laboratory analytical report of sampled media, and a project narrative and summary report were provided to ENW for review. The second phase included review of the initial SOW and other available resources including the recent Phase I ESA that recommended the field work for completeness.

5.2 Work Objectives

LCS developed and conducted a SOW to quantitatively determine whether historical use of the subject property and an adjacent property has resulted in the presence of petroleum hydrocarbons or hazardous substances beneath the site. ENW reviewed available resources to determine if LCS' investigation had sufficiently investigated the concerns identified in the PIESA.

5.3 Direct-Push Soil Borings

On October 29, 2020 LCS directed the completion of four (4) exploratory soil borings (GSB-1 through GSB-4) at the subject site. Two (2) borings were placed in the vicinity of the former Vanity Cleaners that operated on the site in the 1950s. An additional two (2) borings were placed along the northern property boundary to investigate impacts on the adjacent site that may have migrated onto the subject site.

Soil borings were advanced using a GeoProbe 5410 truck-mounted DPT drill rig owned and operated by Standard Environmental Probe of Tumwater, Washington. Soil borings were advanced to approximately sixteen (16) feet bgs. Shallow ground water was encountered in each boring between three and five feet bgs. During advancement of each boring, soils were retrieved inside a 4-foot-long core barrel with polyvinyl chloride (PVC) liners. The full length of each 4-foot soil core was inspected by LCS personnel to identify soil type and field screen soil for possible impacts. Soil descriptions were recorded onto soil boring logs included in Appendix B.

Soils were retained for laboratory analysis based on observations by LCS personnel. Soil samples were placed into laboratory-prepared glass jars, sealed with a Teflon-lined lid, documented onto a chain of custody (COC), and preserved in a cooler pending transport to the project laboratory.

On October 29, 2020 (same day), each of the soil borings was backfilled with bentonite chips, hydrated, and completed at the surface to match surrounding grade.

5.4 Monitor Well Sampling

On October 29, 2020 LCS collected a ground water sample from the existing monitoring well present in the southwest corner of the subject site. LCS referred to this monitoring well as MW-01 but, based on available records, the well had previously been designated AGW-6. The well was purged using a peristaltic pump and new polyethylene tubing for approximately one hour prior to sampling. Following purging, laboratory-supplied containers were filled using the peristaltic pump.

5.5 Laboratory Analytical Methods

Soil and ground water samples were submitted to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington on October 29, 2020 for analysis. Select soil samples were subcontracted to Fremont Analytical for analysis of glycols. Copies of the laboratory analytical reports are provided in Appendix C. Table 5-1 describes the analytical plan.

Table 5-1. Analytical Methods Used

Boring Locations	Constituents	Soil	Ground Water
NWTPH-Gx	Total petroleum hydrocarbons as gasoline-range organics (GRO) and Stoddard-solvent range organics (SSRO)	GSB-3 and GSB-4	Existing MW
NWTPH-Dx	Total petroleum hydrocarbons as diesel- and residual-range organics (DRO and RRO, respectively)	GSB-3 and GSB-4	--
NWTPH-Gx	Total petroleum hydrocarbons as SSRO	GSB-1 and GSB-2	Existing MW
EPA Method 8021B	benzene, toluene, ethylbenzene, and xylene (BTEX)	GSB-3 and GSB-4	--
EPA Method 8260D	Chlorinated volatile organic constituents (VOCs)	GSB-1 and GSB-2	Existing MW
SW8015	Glycols	GSB-3 and GSB-4	Existing MW

5.6 Cleanup Standards – Model Toxics Control Act Regulations

The State of Washington Model Toxics Control Act (MTCA) Regulations (WAC Chapter 173-340) sets numeric cleanup levels for "routine cleanup actions". "Routine cleanup actions" are defined as those sites where: 1) cleanup standards for each hazardous substance are obvious and undisputed, allowing for an adequate margin of safety for protection of human health and the environment; 2) does not require preparation of an environmental impact statement, and 3) qualifies for an exclusion from conducting a terrestrial ecological evaluation. Cleanup levels are defined as the concentration of a hazardous substance in soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

MTCA's three (3) methods for establishing cleanup levels are briefly described below.

Method A: Method A provides tables of cleanup levels that are protective of human health for the most common hazardous substances found in soil and ground water at sites. Note that these levels were developed by procedures of Method B. The Method A cleanup must meet the concentrations listed in the Method A table and, if not listed in the table, the

concentration standards established under applicable state or federal laws. If neither the Method A table nor applicable state and federal laws provide an appropriate cleanup level, then natural background concentration or the practical quantification limit (PQL) may be used as the cleanup level. Method A is the simplest, most streamlined approach to cleanup, but is meant to be applied to sites that have releases of only a few common hazardous substances.

Method B: Method B provides cleanup levels using risk assessment equations developed for various exposure pathways, as well as by using standards specified by applicable state and federal laws. Standard Method B uses generic default assumptions; Modified Method B uses chemical-specific and/or site-specific parameters in calculating the cleanup levels. Natural background concentrations and PQLs are also considered in this method. Method B is considered the universal approach to site closure and is the method most commonly used**.**

Both Methods A and B do not permit cleanup levels that would allow impacts to ecological receptors unless it can be demonstrated that ecological impacts are not a concern at the site.

Method C: Method C is used at industrial sites with the most complex impacts and employs less stringent exposure assumptions and less stringent lifetime cancer risks. Although ecological impacts are evaluated, only impacts to wildlife are considered during terrestrial ecological evaluation.

6.0 Results

Site work was completed October 29, 2020. This section discusses the findings of the investigation. Please reference:

- Figure 3 for sampling locations.
- Table 1 for a summary of soil analytical data.
- Table 2 for a summary of ground water analytical data.
- Appendix A for a photolog of site work.
- Appendix B for soil boring logs.
- Appendix C for laboratory analytical reports.

6.1 Laboratory Results - Soil

Results of laboratory analysis of soil samples referenced in this report are summarized on Table 1 (behind the text) and pertinent results are provided below. Results in Table 1 are evaluated by screening them against Ecology's MTCA Method A soil cleanup standards. Where a MTCA Method A value is not provided by Ecology, the more conservative (i.e., lower) of MTCA Method B cancer and non-cancer soil cleanup levels are provided. Copies of the laboratory reports are included in Appendix C.

Please note: Ecology guidance states that a "non-detect" is considered adequate confirmation that a constituent is not present as long as standard analytical method detection limits are met. Therefore, constituents not detected above the indicated method detection limits are considered to meet screening levels for the purposes of this investigation.

6.1.1 Petroleum Hydrocarbons

Soil samples collected by LCS from borings GSB-3 and GSB-4 were analyzed for the presence of gasoline- and diesel-range organics (GRO and DRO) using methods NWTPH-Gx and NWTPH-Dx, respectively. The sample collected from GSB-3 suggested the presence of GRO at a concentration of 42mg/Kg which is below the MTCA Level A concentration of 100 mg/Kg (for samples with no detectable benzene). DRO was detected a concentration of 1100 mg/Kg, which is below the MTCA Level A cleanup level.

Soil samples collected by LCS from borings GSB-1 and GSB-2 were analyzed for the presence of Stoddard-solvent range organics (SSRO) using method NWTPH-Gx. Neither sample suggested the presence of Stoddard solvents above laboratory method reporting limits (MRLs).

6.1.2 Volatile Organic Compounds

Soil samples collected by LCS from borings GSB-1 and GSB-2 were analyzed for chlorinated volatile organic constituents (VOCs) by EPA method 8260D. No VOCs were detected above laboratory MRLs.

Soil samples collected by LCS from borings GSB-3 and GSB-4 were analyzed for select VOCs and glycols. Ethylbenzene and ethylene glycol were detected in the sample from boring GSB-3 but at concentrations below their respective MTCA cleanup levels. No other VOCs were detected above MRLs.

6.2 Laboratory Results –Ground Water

Results of laboratory analysis of ground water samples are summarized on Table 2 (behind the text) and pertinent results are provided below. Results in Table 2 are compared to Ecology's MTCA Method A ground water or Method B ground water cleanup standards.

6.2.1 Petroleum Hydrocarbons

The ground water sample collected by LCS from the existing onsite monitoring well was analyzed for DRO, GRO and SSRO. Laboratory analysis of the sample did not suggest the presence of any petroleum hydrocarbons above laboratory MRLs.

6.2.2 Volatile Organic Compounds

The ground water sample collected by LCS from the existing onsite monitoring well was additionally analyzed for select chlorinated VOCs typically associated with dry cleaning operations. Laboratory analysis did not suggest the presence of any chlorinated VOCs above laboratory MRLs.

6.3 Previous Investigation

A 1997 report by Environmental Associates, Inc. (EAI) entitled *Limited Subsurface Sampling and Testing* documents the installation of a boring (B-1) sited immediately downgradient of the former Vanity Cleaners location (Figure 3). Soil samples were collected from five (5) depth intervals between 2.5 and 24 feet bgs. A reconnaissance ground water sample was also collected. The soil samples were analyzed for SSRO, GRO and chlorinated VOCS. The reconnaissance ground water sample was analyzed for GRO and

chlorinated VOCs. Laboratory results for these samples are summarized in Tables 1 and 2 following this report.

Low concentrations of methylene chloride (dichloromethane) were detected in both the soil and reconnaissance ground water samples. However, it was noted that this constituent was also detected in the method blanks at identical concentrations and was flagged accordingly by the laboratory as a likely laboratory contaminant. Thus, it is the opinion of ENW that it is unlikely that methylene chloride was genuinely present in either media.

7.0 Discussion

This Focused PIIESA included the review of the recent LCS investigation as well as other available resources to assess areas of concern identified in the PIESA recently completed by Partner.

The findings of this investigation are as follows:

- Petroleum hydrocarbons, ethylbenzene and ethylene glycol were detected at low concentrations in the soil sample collected from boring GSB-3 sited along the northern property boundary. All detections were below their applicable MTCA Cleanup Levels. However, it should be noted that a sheen was observed in ground water in the boring, suggesting possible impacts to ground water at this location.
- No detections of chlorinated VOCs were suggested in the borings placed immediately downgradient from the former Vanity Cleaners location during the recent LCS investigation.
- A previous 1997 subsurface investigation immediately downgradient of the former Vanity Cleaners locations did not suggest the occurrence of dry-cleaning solvents (chlorinated VOCs) in soil or reconnaissance ground water in a boring sited in the inferred down-gradient location from the former dry cleaner location.
- A ground water sample collected from an existing monitoring well in the most downgradient corner of the property did not suggest the occurrence of petroleum hydrocarbons or chlorinated VOCs.

Based on the above findings, ENW makes the following conclusions:

- The historical presence of the Vanity Cleaners, a possible dry cleaner facility, at the subject property does not appear to have resulted in the occurrence of residual dry-cleaning solvents in soil or ground water in the vicinity of the former Vanity Cleaners location.
- Historical use of adjoining property to the north had been identified as a likely source of migration of petroleum-related constituents beneath the subject site. Detections of petroleum and petroleum-related constituents in samples collected along the northern property boundary during the recent investigation did not suggest concentrations in excess of MTCA cleanup levels in soil; however, a sheen was observed in ground water during drilling in this area, suggesting

possible impacts to ground water in this portion of the property. As this area is currently developed only as a paved parking area and since the source of the apparent impacts to soil and likely ground water appears to be offsite, ENW does not believe additional investigation of these impacts is necessary at this time. However, prior to any redevelopment in this portion of the property, further investigation is recommended.

- The southern portion of the site formerly developed as a service station appears to have been adequately investigated and remediated prior to receiving a conditional closure from Ecology in 1996. Based on correspondence in the State's files for this project, the condition of additional monitoring for one year of the existing monitoring well may have been completed and a letter requesting removal of this condition was submitted to Ecology for consideration.

8.0 Recommendations

Based on the above conclusions, ENW recommends the following:

1. A CMMP should be developed for the site and include impacts from offsite migration in the northern portion of the site. This document would provide guidance for handling impacted media that may be encountered during any future site redevelopment or subsurface work that may occur.
2. Ecology should be contacted regarding the monitoring well that exists on the property. If monitoring is no longer required, the well should be appropriately abandoned.

Based on the findings of this report derived from reviewing the recent LCS investigation and other available resources, no additional investigation is warranted at this time.

We recommend this report is kept as part of the permanent property records.

9.0 Limitations

The scope of this report is limited to interpretations of UAI's on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water,

Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,

Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,

Unpredictable events that may occur after site work, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. This investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. ENW have endeavored to document representative analytical samples for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

ENW performed this study under a limited scope of services per our agreement. It is possible, ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

Tables

Table 1 - Summary of Analytical Data, Soil

Sample ID		B-1-4	GSB-1-7	GSB-2-5	GSB-3-5.5	GSB-4-3	Maximum Residual Soil Concentration (detected)	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
Date Sampled		3/24/1997	10/29/2020	10/29/2020	10/29/2020	10/29/2020					
Depth Sampled (feet)		17.5-19	7	5	5.5	3					
Sampled by:		Environemntal Associates, Inc.	UAI	UAI	UAI	UAI					
Location		Southwest corner of former dry cleaners	Central east site boundary	West of GSB-1 by 10 feet	Central northern site boundary	Northwest corner of property					
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)	Y / N	mg/Kg (ppm)
Volatile Organic Constituents (VOCs)											
Benzene	c, v	---	---	---	<0.02 ND	<0.02 ND	<0.02 (ND)	0.03	18.2	N	2390
Bromodichloromethane	c, v	<1 ND	---	---	---	---	<1 (ND)	NE	16.1	N	NE
Bromoform	c, nv	<1 ND	---	---	---	---	<1 (ND)	NE	127	N	NE
Bromomethane	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	112	N	NE
Carbon tetrachloride	c, v	<1 ND	---	---	---	---	<1 (ND)	NE	14.3	N	NE
Chlorobenzene	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	1600	N	NE
Chlorodibromomethane	c, nv	<1 ND	---	---	---	---	<1 (ND)	NE	16.1	N	NE
Chloroethane	c, v	<1 ND	<0.5 ND	<0.5 ND	---	---	<1 (ND)	NE	NE	(Y)	NE
Chloroform	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	32.3	N	NE
Chloromethane	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	NE	(Y)	NE
Dichlorobenzene, 1,2-	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	7200	N	NE
Dichlorobenzene, 1,3-	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	NE	(Y)	NE
Dichlorobenzene, 1,4-	c, v	<1 ND	---	---	---	---	<1 (ND)	NE	185	N	NE
Dichloroethane, 1,1-	c, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	NE	175	N	NE
Dichloroethene, 1,1-	nc, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	NE	4000	N	NE
Dichloroethene, cis-1,2-	nc, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	NE	160	N	NE
Dichloroethene, trans-1,2-	nc, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	NE	1600	N	NE
Dichloromethane	c, v	0.13 B	<0.5 ND	<0.5 ND	---	---	<0.5 (ND)	0.02	480	(Y)	0.02
EDB (1,2-dibromoethane)	c, v	<1 ND	---	---	---	---	<1 (ND)	0.005	0.5	(Y)	0.005
EDC (1,2-dichloroethane)	c, v	---	<0.05 ND	<0.05 ND	---	---	<0.05 (ND)	NE	11	N	NE
Ethylbenzene	nc, v	---	---	---	0.054	<0.02 ND	<0.054 (ND)	6	8000	N	350000
Ethylene glycol	nc, v	---	---	---	18.7	<9.07 ND	<18.7 (ND)	NE	160000	N	700000
Propylene glycol	nc, v	---	---	---	<18 ND	<9.07 ND	<18 (ND)	NE	NE	NE	NE
Tetrachloroethene (PCE)	c, v	<1 ND	<0.025 ND	<0.025 ND	---	---	<1 (ND)	0.05	476	(Y)	0.05
Toluene	nc, v	---	---	---	<0.02 ND	<0.02 ND	<0.02 (ND)	7	6400	N	7
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	2400000	N	NE
Trichloroethane, 1,1,1-	nc, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	2	160000	N	2
Trichloroethane, 1,1,2-	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	17.5	N	NE
Trichloroethene	c, v	<1 ND	<0.02 ND	<0.02 ND	---	---	<1 (ND)	0.03	12	(Y)	0.03
Trichlorofluoromethane (Freon 11)	nc, v	<1 ND	---	---	---	---	<1 (ND)	NE	24000	N	NE
Vinyl chloride	c, v	<1 ND	<0.05 ND	<0.05 ND	---	---	<1 (ND)	NE	240	N	NE
Xylenes	nc, v	---	---	---	<0.06 ND	<0.06 ND	<0.06 (ND)	9	16000	N	700000

Table 1 - Summary of Analytical Data, Soil

Sample ID		B-1-4	GSB-1-7	GSB-2-5	GSB-3-5.5	GSB-4-3	Maximum Residual Soil Concentration (detected)	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
Date Sampled		3/24/1997	10/29/2020	10/29/2020	10/29/2020	10/29/2020					
Depth Sampled (feet)		17.5-19	7	5	5.5	3					
Sampled by:		Environemntal Associates, Inc.	UAI	UAI	UAI	UAI					
Location		Southwest corner of former dry cleaners	Central east site boundary	West of GSB-1 by 10 feet	Central northern site boundary	Northwest corner of property					
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)	Y / N	mg/Kg (ppm)
Total Petroleum Hydrocarbons											
SSR	nc, v	<5 ND	<5 ND	<5 ND	---	---	<5 (ND)	30	NE	N	CALC
GRO	nc, v	<5 ND	---	---	42	<5 ND	42	100	NE	N	CALC
DRO	nc, nv	---	---	---	1100	<50 (ND)	1100	2000	NE	N	CALC
RRO	nc, nv	---	---	---	<500 (ND)	<250 (ND)	<500 (ND)	2000	NE	N	2000

Notes:
NP = not present based on NWTPH-HCID (hydrocarbon identification) analysis
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.

Table 2 - Summary of Analytical Data, Ground Water

				Maximum Ground Water Concetnration	MTCA Method A Cleanup Levels for Ground Water (Unrestricted Land Use)	MTCA Method B Cleanup Levels for Ground Water (lowest)	Background Concentrations (metals)[2]	Constituent of Potential Concern (COPC)?[3]
Location ID		B-1 GW	MW-01					
Sample ID		B-1 GW	MW01					
Date Sampled		3/24/1997	10/29/2020					
Sampler		Environemntal Associates, Inc.	UAI					
Depth Sampled (feet)		NI	NI					
Location		southwest coner of former dry cleaners	Southwest corner of lot					
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	Y/N
Volatile Organic Constituents (VOCs)								
Bromodichloromethane	c, v	<1 ND	---	<1 (ND)	NE	0.706	NE	(Y)
Bromoform	c, nv	<1 ND	---	<1 (ND)	NE	5.54	NE	N
Bromomethane	nc, v	<1 ND	---	<1 (ND)	NE	11.2	NE	N
Carbon tetrachloride	c, v	<1 ND	---	<1 (ND)	NE	0.625	NE	(Y)
Chlorobenzene	nc, v	<1 ND	---	<1 (ND)	NE	160	NE	N
Chlorodibromomethane	c, nv	<1 ND	---	<1 (ND)	NE	0.521	NE	(Y)
Chloroethane	c, v	<1 ND	<1 ND	<1 (ND)	NE	NE	NE	(Y)
Chloroform	nc, v	<1 ND	---	<1 (ND)	NE	1.41	NE	N
Chloromethane	nc, v	<1 ND	---	<1 (ND)	NE	NE	NE	(Y)
Dichlorobenzene, 1,2-	nc, v	<1 ND	---	<1 (ND)	NE	720	NE	N
Dichlorobenzene, 1,3-	nc, v	<1 ND	---	<1 (ND)	NE	NE	NE	(Y)
Dichlorobenzene, 1,4-	c, v	<1 ND	---	<1 (ND)	NE	560	NE	N
Dichloroethane, 1,1-	c, v	<1 ND	<1 ND	<1 (ND)	NE	7.68	NE	N
Dichloroethene, 1,1-	nc, v	<1 ND	<1 ND	<1 (ND)	NE	72	NE	N
Dichloroethene, cis-1,2-	nc, v	<1 ND	<1 ND	<1 (ND)	NE	400	NE	N
Dichloroethene, trans-1,2-	nc, v	<1 ND	<1 ND	<1 (ND)	NE	16	NE	N
Dichloromethane	c, v	2.5 B	---	2.5	5	21.9	NE	N
EDB (1,2-dibromoethane)	c, v	<1 ND	---	<1 (ND)	0.01	0.0219	NE	(Y)
EDC (1,2-dichloroethane)	c, v	---	<1 ND	<1 (ND)	5	0.48	NE	(Y)
Tetrachloroethene (PCE)	c, v	<1 ND	<1 ND	<1 (ND)	5	20.8	NE	N
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	<1 ND	---	<1 (ND)	NE	240000	NE	N
Trichloroethane, 1,1,1-	nc, v	<1 ND	<1 ND	<1 (ND)	200	16000	NE	N
Trichloroethane, 1,1,2-	nc, v	<1 ND	---	<1 (ND)	32	0.768	NE	(Y)
Trichloroethene	c, v	<1 ND	<1 ND	<1 (ND)	5	0.54	NE	(Y)
Trichlorofluoromethane (Freon 11)	nc, v	<1 ND	---	<1 (ND)	NE	2400	NE	N
Vinyl chloride	c, v	<1 ND	<0.2 ND	<1 (ND)	0.2	24	NE	Y
Total Petroleum Hydrocarbons								
SSR		---	<100 (ND)	<100 (ND)	500	NE	NE	N
GRO	nc, v	<100 ND	<100 (ND)	<100 (ND)	800	NE	NE	N
DRO	nc, nv	---	<50 (ND)	<50 (ND)	500	NE	NE	N
RRO	nc, nv	---	<250 (ND)	<250 (ND)	500	NE	NE	N

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.

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

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

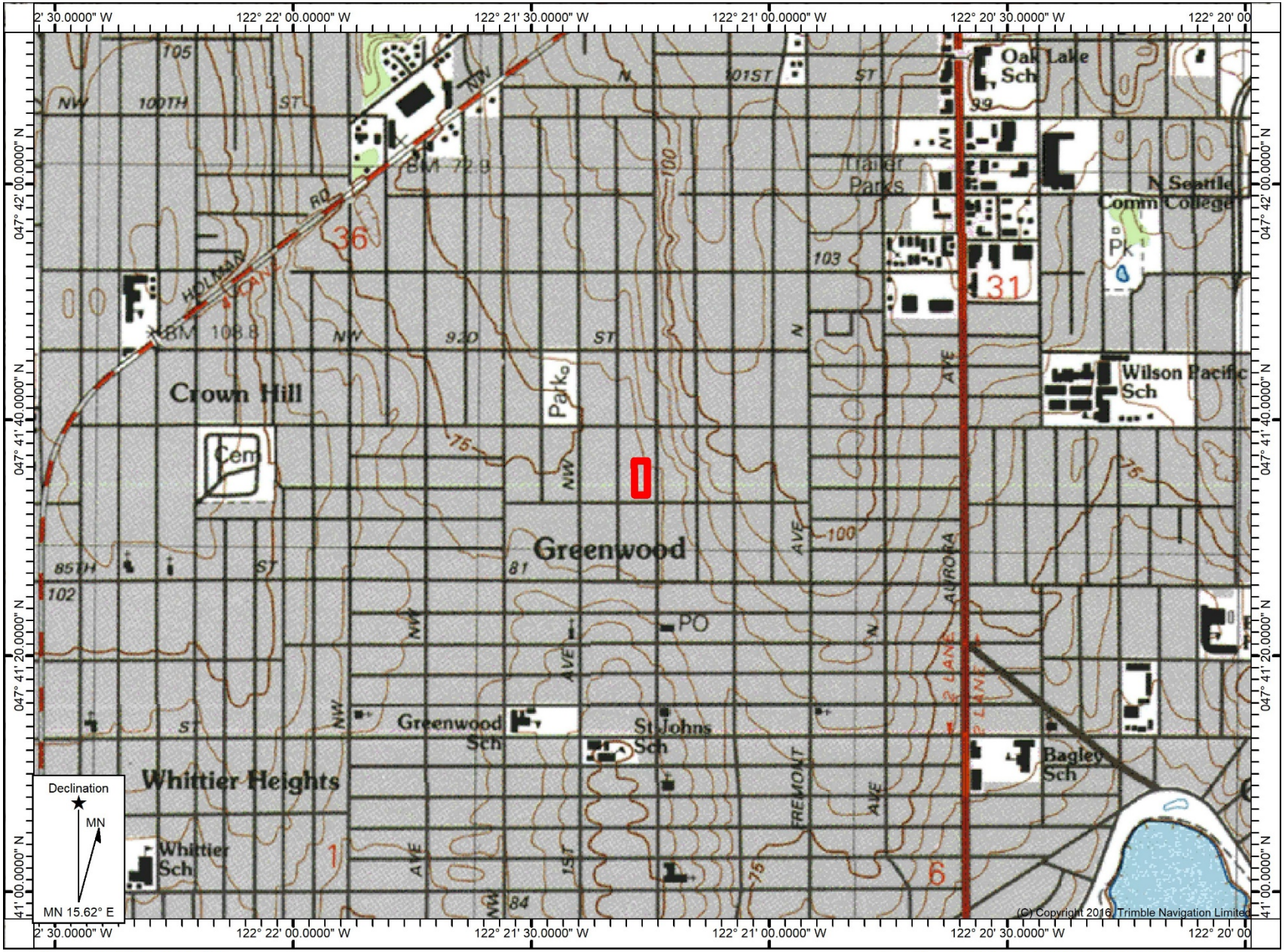
(Y) indicates analyte not detected, but detection limit is above screening concentration.

*** Cleanup standard for all naphthalene compounds

NI = not indicated

SSR = stoddard solvent range

Figures



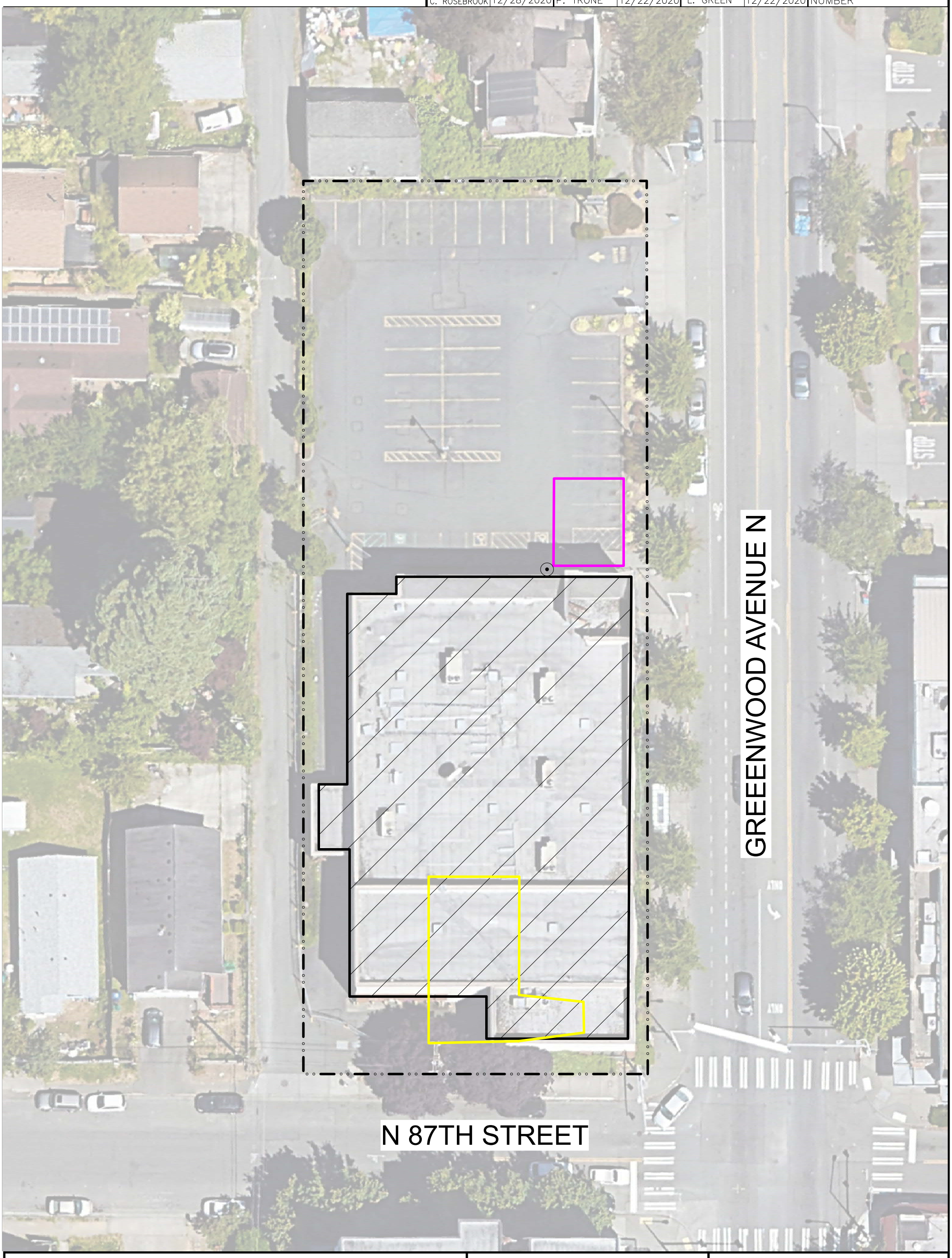
Name: SEATTLE NORTH
Date: Jan 1, 1983

0 1000 2000
Feet

Location: 047° 41' 35.3049" N, 122° 21' 16.0177" W
Contour Interval: 16 ft

EVREN NORTHWEST INC environmental natural resource consultants	Date Drawn: 12/22/2020 CAD File Name: 114-20001_fig1sv_map Drawn By: CLR Approved By: LDG	Commercial Property 8701 Greenwood Avenue Seattle, Washington	**Site Vicinity Map**	Project No. 114-20001 Figure No. **1**

DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
C. ROSEBROOK	12/28/2020	P. TRONE	12/22/2020	L. GREEN	12/22/2020	114-20001(v01)



LEGEND:

- SUBJECT BUILDINGS
- SUBJECT PROPERTY BOUNDARIES
- FORMER GAS STATION PER 1950 HISTORICAL SANBORN MAP
- FORMER VANITY CLEANERS PER CITY DIRECTORY 1951–1955, LOCATION BASED ON 1950 SANBORN MAP

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.

APPROXIMATE SCALE

0 30 60 FEET

N

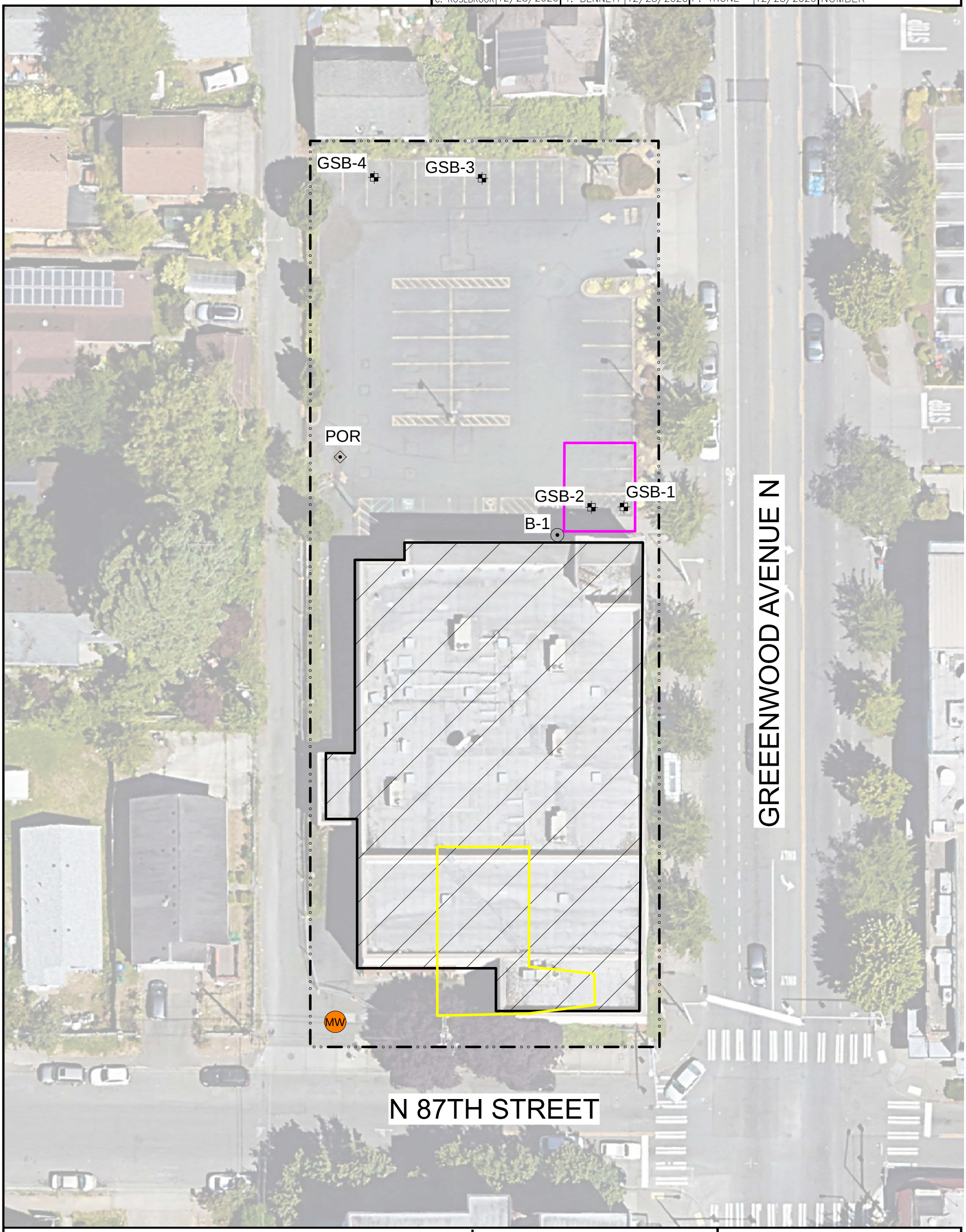
EVREN NORTHWEST INC.
environmental natural resource consultants
PO BOX 14488, PORTLAND, OREGON 97293
P: (503)452-5561, E: ENW@EVREN-NW.COM

FIGURE 2

SITE PLAN

COMMERCIAL PROPERTY
8701 GREEENWOOD AVENUE N
SEATTLE, WASHINGTON

DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
C. ROSEBROOK	12/28/2020	T. BENNETT	12/28/2020	P. TRONE	12/28/2020	114-20001(v01)



LEGEND:

- SUBJECT BUILDINGS
- SUBJECT PROPERTY BOUNDARIES
- FORMER GAS STATION PER 1950 HISTORICAL SANBORN MAP
- FORMER VANITY CLEANERS PER CITY DIRECTORY 1951–1955, LOCATION BASED ON 1950 SANBORN MAP
- B-1 — ENVIRONMENTAL ASSOCIATES, INC SOIL BORING LOCATION APRIL 1997
- GSB-1 — UNIVERSAL APPLICATORS SOIL BORING LOCATION OCTOBER 2020
- MW — MONITORING WELL
- POINT OF REFERENCE (POR)

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.

APPROXIMATE SCALE

0 30 60 FEET

N

EVREN NORTHWEST INC.
environmental / natural resource consultants
PO BOX 14488, PORTLAND, OREGON 97293
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FIGURE 3

SAMPLE LOCATION DIAGRAM

COMMERCIAL PROPERTY
8701 GREEENWOOD AVENUE N
SEATTLE, WASHINGTON

Appendix A

Site Photographs

View looking north of reference point used to record the location of soil borings. Borings GSB-3 and GSB-4 were sited along the northern property boundary visible in the background.

View looking east of the reference point. Borings GSB-1 and GSB-2 were sited north of the existing building near the eastern property boundary.

Prior to drilling, a private locator cleared all boring locations. Pictured is the locator using GPR to clear boring locations for GSB-1 and GSB-2.

EVREN NORTHWEST INC environmental natural resource consultants	Commercial Property 8701 Greenwood Avenue N Seattle, Washington 97103	**Site Photographs**	Project No. 114-20001-01 Appendix **A**

Appendix B

Boring Logs

EVREN Northwest, Inc.

DRILL LOG

PROJECT		PROJECT NO.	BORING NO.
		114-20001-01	**GSB-1**

SITE	BEGUN	COMPLETED	HOLE SIZE	ANGLE FROM HORIZ.
8701 Greenwood Avenue N, Seattle, WA	10/29/2020	10/29/2020		

COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION

DRILLER	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Standard Environmental Probe				

DRILL MAKE AND MODEL	LOGGED BY:	DEPTH BOTTOM OF HOLE
Geoprobe 5410	UAI	16

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE DATA: SAMPLE TYPE	SAMPLE DATA: CORE RECOVERY	SAMPLE DATA: MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Asphalt with base gravel.						
			SILT with caly, sand, and gravel.						
2.5									
5			Wet.						
7.5				GSB-1-7	Soil				
			Organic rich, abundant wood debris.						
10									
12.5									
15			SAND with trace silt.						
			End of boring.						
17.5									

EVREN Northwest, Inc.

DRILL LOG

PROJECT	PROJECT NO.	BORING NO.
	114-20001-01	**GSB-2**

SITE	BEGUN	COMPLETED	HOLE SIZE	ANGLE FROM HORIZ.
8701 Greenwood Avenue N, Seattle, WA	10/29/2020	10/29/2020		

COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION

DRILLER	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Standard Environmental Probe				

DRILL MAKE AND MODEL	LOGGED BY:	DEPTH BOTTOM OF HOLE
Geoprobe 5410	UAI	16

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE DATA: SAMPLE TYPE	SAMPLE DATA: CORE RECOVERY	SAMPLE DATA: MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Asphalt with base gravel.						
			SILT with caly, sand, and gravel.						
2.5									
5			Organic rich, abundant wood debris. Wet.	GSB-2-5	Soil				
7.5									
10									
12.5									
15			SAND with trace silt.						
			End of boring.						
17.5									

EVREN Northwest, Inc.

DRILL LOG

PROJECT		PROJECT NO.	BORING NO.
		114-20001-01	**GSB-3**

SITE	BEGUN	COMPLETED	HOLE SIZE	ANGLE FROM HORIZ.
8701 Greenwood Avenue N, Seattle, WA	10/29/2020	10/29/2020		

COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION

DRILLER	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Standard Environmental Probe				

DRILL MAKE AND MODEL	LOGGED BY:	DEPTH BOTTOM OF HOLE
Geoprobe 5410	UAI	16

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE DATA: SAMPLE TYPE	SAMPLE DATA: CORE RECOVERY	SAMPLE DATA: MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Asphalt with base gravel.						
			GRAVEL with silt and sand.						
2.5			SILT with gravel and trace sand.						
			Wet.						
5			Sheen observed.	GSB-3-5.5	Soil				
			Organic rich, abundant wood debris.						
7.5									
10									
12.5									
			SAND with trace silt.						
15									
			End of boring.						
17.5									

EVREN Northwest, Inc.

DRILL LOG

PROJECT		PROJECT NO.	BORING NO.
		114-20001-01	**GSB-4**

SITE	BEGUN	COMPLETED	HOLE SIZE	ANGLE FROM HORIZ.
8701 Greenwood Avenue N, Seattle, WA	10/29/2020	10/29/2020		

COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION

DRILLER	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Standard Environmental Probe				

DRILL MAKE AND MODEL	LOGGED BY:	DEPTH BOTTOM OF HOLE
Geoprobe 5410	UAI	16

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE DATA: SAMPLE TYPE	SAMPLE DATA: CORE RECOVERY	SAMPLE DATA: MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Asphalt with base gravel.						
			GRAVEL with silt and sand.						
2.5			SILT with sand and trace gravel. Wet.	GSB-3-5.5	Soil				
5			Organic rich, abundant wood debris.						
7.5									
10									
			SAND with trace silt.						
12.5									
15									
			End of boring.						
17.5									

Appendix C

Laboratory Analytical Reports

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

March 27, 1997

Jim Ruef
Environmental Associates, Inc.
2122 112th Avenue NE, Suite B-100
Bellevue, WA 98004

Re: Analytical Data for Project JN 4234-2
Laboratory Reference No. 9703-083

Dear Jim:

Enclosed are the results of the analyses, and associated quality control data, of samples submitted on March 24, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (206) 883-3881 • Fax (206) 885-4603

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G

Date Extracted:	3-24-97
Date Analyzed:	3-24-97
Matrix: Water	
Units: ug/L (ppb)	
Lab ID:	03-083-1
Client ID:	**B-1 GW**
Dilution Factor	1

	Result	Flags	PQL
TPH-Gas	**ND**		100
Fluorobenzene Surrogate Recovery	87%		

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-24-97
Date Analyzed:	3-24-97
Matrix: Water	
Units: ug/L (ppb)	
Lab ID:	MB0324W1
Dilution Factor	1

	Result	Flags	PQL
TPH-Gas	**ND**		100
Fluorobenzene Surrogate Recovery	86%		

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G
DUPLICATE QUALITY CONTROL

Date Extracted: 3-24-97
Date Analyzed: 3-24-97

Matrix: Water
Units: ug/L (ppb)

Lab ID:	03-083-1 **Original**	03-083-1 **Duplicate**	**RPD**
Dilution Factor	1	1	
TPH-Gas	**ND**	**ND**	NA
Fluorobenzene Surrogate Recovery	87%	82%	

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G

Date Extracted:	3-24-97
Date Analyzed:	3-24-97
Matrix: Soil	
Units: mg/Kg (ppm)	
Lab ID:	03-083-5
Client ID:	**B-1-4**
Dilution Factor	50

	Result	Flags	PQL
TPH-Gas	**ND**		5.6
Fluorobenzene Surrogate Recovery	85%		

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G
METHOD BLANK QUALITY CONTROL

Date Extracted:	3-24-97
Date Analyzed:	3-24-97
Matrix: Soil	
Units: mg/Kg (ppm)	
Lab ID:	MB0324S1
Dilution Factor	50

	Result	Flags	PQL
TPH-Gas	**ND**		5.0
Fluorobenzene Surrogate Recovery	103%		

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

WTPH-G
DUPLICATE QUALITY CONTROL

Date Extracted: 3-24-97
Date Analyzed: 3-24-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	03-077-4 **Original**	03-077-4 **Duplicate**	**RPD**	**Flags**
Dilution Factor	50	50		
TPH-Gas	**ND**	**ND**	NA	
Fluorobenzene Surrogate Recovery	84%	86%		

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260

Date Extracted:	3-25-97
Date Analyzed:	3-25-97
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	03-083-1
Client ID:	**B-1 GW**
Dilution Factor:	1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		1
Chloromethane	ND		1
Vinyl Chloride	ND		1
Bromomethane	ND		1
Chloroethane	ND		1
Trichlorofluoromethane	ND		1
1,1-Dichloroethene	ND		1
Methylene Chloride	2.5	B	1
(trans) 1,2-Dichloroethene	ND		1
1,1-Dichloroethane	ND		1
2,2-Dichloropropane	ND		1
(cis) 1,2-Dichloroethene	ND		1
Chloroform	ND		1
1,1,1-Trichloroethane	ND		1
Carbon Tetrachloride	ND		5
1,1-Dichloropropene	ND		1
1,2-Dichloroethane	ND		1
Trichloroethene	ND		1
1,2-Dichloropropane	ND		1
Dibromomethane	ND		1
Bromodichloromethane	ND		1
(cis) 1,3-Dichloropropene	ND		1
(trans) 1,3-Dichloropropene	ND		1
1,1,2-Trichloroethane	ND		1
Tetrachloroethene	ND		1
1,3-Dichloropropane	ND		1
Dibromochloromethane	ND		1
1,2-Dibromoethane	ND		1

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limited due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation Limit

Chain Of Custody

Page 1 of 1

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ Tues PM? (other)

Project Chemist: DAB

Laboratory No. 03-083

Company: Environmental Assoc's, Inc.
Project No: JN 4234-2
Project Name: Greenwood Ave.
Project Manager: JW RUEF

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	No. Cons.	WTPH-HCID	WTPH-G/BTEX (Standard)	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624 *	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	Hold for possible analysis						% Moisture
-1	B-1 GW	3-21-97	1615	W	6		X					X												
-2	B-1-1	1	1525	S	1													X						
-3	B-1-2	|	1535	S	1													X						
-4	B-1-3	|	1540	S	1													X						
-5	B-1-4	↓	1545	S	1		X					X												X
-6	B-1-5	3-21-97	1555	S	1													X						

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Susan Ruef	3/24/97	Bob Wolfe	3-24-97
FIRM EAI	TIME 1015	FIRM OSI	TIME 10:25
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
* need freon included

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Summary: DATA VALID? ☒YES

Analytical Laboratory Data Validation Check Sheet

Project Name: Universal Applicators Project Number: 114-20001-01

Date of Review: 12/28/2020 Lab. Name: **Onsite ENV** Lab Batch ID #: 9703-083

Chain of Custody

1.) Are all requested analyses reported?	☒yes	☐no	
2.) Were the requested methods used?	☒yes	☐no	
3.) Trip blank submitted?	☐yes	☒no	
4.) Field blank submitted?	☐yes	☒no	
Timing			
5.) Samples extracted within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
6.) Analysis performed within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Quality Assurance/Quality Control			
7.) Are the required reporting limits reported? (MRLs vs MDLs/PQLs)	☒yes	☐no	
8.) Are all reported values above either MRL or MDL?	☒yes	☐no	
9.) Are all values between the MDL & PQL tagged as trace?	☐yes	☐no	☒NA
10a.) Are reporting limits raised for other reason besides high analyte conc.?	☐yes	☒no	
10b.) If so, are they footnoted?	☐yes	☐no	☒NA
11.) Lab method blank completed?	☒yes	☐no	
12.) Lab, Field, or Trip Blank(s) report detections?	☒yes	☐no	

If yes, indicate blank type, chemical(s) and concentration(s): See comments

13.) For inorganics and metals, is there one method blank for each analyte?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
14.) For VOCs, is there one method blank for each day of analysis?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
15.) For SVOC's, is there one method blank for each extraction batch?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
Accuracy			
16.) Is there a surrogate spike recovery for all VOC & SVOC samples?	☒yes	☐no	☐NA
Do all surrogate spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
17.) Is there a spike recovery for all Laboratory Control Samples?	☒yes	☐no	☐NA
Do all LCS/LCSD spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
18.) Are all LCS/LCSD RPDs within acceptable limits?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Precision			
19.) Are all matrix spike/matrix spike duplicate recoveries within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
20.) Are all matrix spike/matrix spike duplicate RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
21.) Do all RPD calculations for Field Duplicates meet accepted criteria?	☐yes	☐no	☒NA

Comments:
Methylene chloride detected in soil and water – attributed to lab contamination. Flagged 'B'

Initial Review By: CR **Final** Review By: EB

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

November 18, 2020

Greg Mackay, Project Manager
Left Coast Services
126 SW 148th St
Suite C100-Box 4
Burien, WA 98166-1984

Dear Mr Mackay:

Included are the results from the testing of material submitted on October 29, 2020 from the Singh, F&BI 010545 project. There are 20 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Kelly Mackay, Alexander Moss
LCS1118R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 29, 2020 by Friedman & Bruya, Inc. from the Left Coast Services Singh, F&BI 010545 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Left Coast Services
010545 -01	MW-01
010545 -02	GSB-1-7
010545 -03	GSB-2-5
010545 -04	GSB-3-5.5
010545 -05	GSB-4-3

Samples MW-01, GSB-3-5.5, and GSB-4-3 were sent to Fremont Analytical for glycol analysis. The report is enclosed.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 10/30/20
Date Analyzed: 11/02/20

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-01 010545-01	<100	75
Method Blank 00-2397 MB	<100	73

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 10/30/20
Date Analyzed: 11/03/20

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
GSB-3-5.5 010545-04	<0.02	<0.02	0.054	<0.06	42	83
GSB-4-3 010545-05	<0.02	<0.02	<0.02	<0.06	<5	73
Method Blank 00-2393 MB2	<0.02	<0.02	<0.02	<0.06	<5	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 10/30/20
Date Analyzed: 10/30/20

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-01 010545-01	<50	<250	58
Method Blank 00-2453 MB	<50	<250	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 11/02/20
Date Analyzed: 11/02/20

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
GSB-3-5.5 010545-04	1,100	<500	91
GSB-4-3 010545-05	<50	<250	96
Method Blank 00-2455 MB	<50	<250	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	GSB-1-7	Client:	Left Coast Services
Date Received:	10/29/20	Project:	Singh, F&BI 010545
Date Extracted:	10/30/20	Lab ID:	010545-02
Date Analyzed:	11/02/20	Data File:	110216.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	GSB-2-5	Client:	Left Coast Services
Date Received:	10/29/20	Project:	Singh, F&BI 010545
Date Extracted:	10/30/20	Lab ID:	010545-03
Date Analyzed:	11/02/20	Data File:	110217.D
Matrix:	Soil	Instrument:	GCMS11
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Left Coast Services
Date Received:	Not Applicable	Project:	Singh, F&BI 010545
Date Extracted:	10/30/20	Lab ID:	00-2644 mb
Date Analyzed:	10/30/20	Data File:	103009.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	98	65	139

Compounds:	Concentration mg/kg (ppm)
Vinyl chloride	<0.05
Chloroethane	<0.5
1,1-Dichloroethene	<0.05
Methylene chloride	<0.5
trans-1,2-Dichloroethene	<0.05
1,1-Dichloroethane	<0.05
cis-1,2-Dichloroethene	<0.05
1,2-Dichloroethane (EDC)	<0.05
1,1,1-Trichloroethane	<0.05
Trichloroethene	<0.02
Tetrachloroethene	<0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-01	Client:	Left Coast Services
Date Received:	10/29/20	Project:	Singh, F&BI 010545
Date Extracted:	11/03/20	Lab ID:	010545-01
Date Analyzed:	11/04/20	Data File:	110442.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Left Coast Services
Date Received:	Not Applicable	Project:	Singh, F&BI 010545
Date Extracted:	11/03/20	Lab ID:	00-2651 mb
Date Analyzed:	11/03/20	Data File:	110308.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 10/30/20
Date Analyzed: 11/02/20

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS STODDARD SOLVENT USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Stoddard Solvent Range (C_8-C_{11})	Surrogate (% Recovery) (Limit 50-150)
GSB-1-7 010545-02	<5	71
GSB-2-5 010545-03	<5	62
Method Blank 00-2396 MB	<5	73

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545
Date Extracted: 10/30/20
Date Analyzed: 11/02/20

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS STODDARD SOLVENT USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Stoddard Solvent Range (C_8-C_{11})	Surrogate (% Recovery) (Limit 50-150)
MW-01 010545-01	<100	75
Method Blank 00-2397 MB	<100	73

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE AND STODDARD SOLVENT USING METHOD NWTPH-Gx

Laboratory Code: 010545-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm
Stoddard Solvent	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	94	70-119
Stoddard Solvent	ug/L (ppb)	500	83	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 010572-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	81	69-120
Toluene	mg/kg (ppm)	0.5	81	70-117
Ethylbenzene	mg/kg (ppm)	0.5	78	65-123
Xylenes	mg/kg (ppm)	1.5	80	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR STODDARD SOLVENT USING METHOD NWTPH-Gx

Laboratory Code: 010545-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Stoddard Solvent	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Stoddard Solvent	mg/kg (ppm)	10	73	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 010554-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	117	124	50-150	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	116	63-142	11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 010594-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	94	98	73-135	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 010579-11 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	mg/kg (ppm)	1	<0.05	85	80	10-138	6
Chloroethane	mg/kg (ppm)	1	<0.5	92	87	10-176	6
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	104	104	10-160	0
Methylene chloride	mg/kg (ppm)	1	<0.5	117	112	10-156	4
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	106	105	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	105	105	19-140	0
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	109	109	25-135	0
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	102	102	12-160	0
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	100	106	10-156	6
Trichloroethene	mg/kg (ppm)	1	<0.02	108	107	21-139	1
Tetrachloroethene	mg/kg (ppm)	1	<0.025	109	109	20-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	mg/kg (ppm)	1	83	22-139
Chloroethane	mg/kg (ppm)	1	86	9-163
1,1-Dichloroethene	mg/kg (ppm)	1	103	47-128
Methylene chloride	mg/kg (ppm)	1	111	42-132
trans-1,2-Dichloroethene	mg/kg (ppm)	1	97	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	98	68-115
cis-1,2-Dichloroethene	mg/kg (ppm)	1	100	72-127
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	95	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	94	62-131
Trichloroethene	mg/kg (ppm)	1	99	64-117
Tetrachloroethene	mg/kg (ppm)	1	92	72-114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/18/20
Date Received: 10/29/20
Project: Singh, F&BI 010545

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 011007-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	10	<0.2	94	36-166
Chloroethane	ug/L (ppb)	10	<1	94	46-160
1,1-Dichloroethene	ug/L (ppb)	10	<1	100	60-136
Methylene chloride	ug/L (ppb)	10	<5	107	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	90	72-129
1,1-Dichloroethane	ug/L (ppb)	10	<1	94	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	93	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<1	88	48-149
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	91	60-146
Trichloroethene	ug/L (ppb)	10	<1	89	66-135
Tetrachloroethene	ug/L (ppb)	10	<1	84	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	10	105	102	50-154	3
Chloroethane	ug/L (ppb)	10	107	106	58-146	1
1,1-Dichloroethene	ug/L (ppb)	10	108	106	67-136	2
Methylene chloride	ug/L (ppb)	10	101	95	39-148	6
trans-1,2-Dichloroethene	ug/L (ppb)	10	103	100	68-128	3
1,1-Dichloroethane	ug/L (ppb)	10	100	97	74-135	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	99	74-136	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	93	92	66-129	1
1,1,1-Trichloroethane	ug/L (ppb)	10	97	95	74-142	2
Trichloroethene	ug/L (ppb)	10	99	95	67-133	4
Tetrachloroethene	ug/L (ppb)	10	94	96	76-121	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 010545
Work Order Number: 2010509

November 17, 2020

Attention Michael Erdahl:

Fremont Analytical, Inc. received 3 sample(s) on 10/30/2020 for the analyses presented in the following report.

Glycols by SW8015
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Fremont Analytical

Date: *11/17/2020*

CLIENT: Friedman & Bruya
Project: 010545
Work Order: 2010509

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2010509-001	MW-01	10/29/2020 11:50 AM	10/30/2020 8:34 AM
2010509-002	GSB-3-5.5	10/29/2020 1:10 PM	10/30/2020 8:34 AM
2010509-003	GSB-4-3	10/29/2020 1:34 PM	10/30/2020 8:34 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Fremont Analytical

Case Narrative

WO#: **2010509**
Date: **11/17/2020**

CLIENT: Friedman & Bruya
Project: 010545

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Fremont Analytical

Qualifiers & Acronyms

WO#: 2010509
Date Reported: 11/17/2020

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Fremont Analytical

Analytical Report

Work Order: 2010509
Date Reported: 11/17/2020

CLIENT: Friedman & Bruya
Project: 010545

Lab ID: 2010509-001 **Collection Date:** 10/29/2020 11:50:00 AM
Client Sample ID: MW-01 **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Glycols by SW8015				Batch ID: 30373		Analyst: DW
Ethylene glycol	ND	10.0		mg/L	1	11/11/2020 1:01:51 PM
Propylene glycol	ND	10.0		mg/L	1	11/11/2020 1:01:51 PM
Surr: 2,4,6-Tribromophenol	81.3	22.2 - 154		%Rec	1	11/11/2020 1:01:51 PM

Lab ID: 2010509-002 **Collection Date:** 10/29/2020 1:10:00 PM
Client Sample ID: GSB-3-5.5 **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Glycols by SW8015				Batch ID: 30375		Analyst: DW
Ethylene glycol	18.7	18.0		mg/Kg-dry	1	11/16/2020 10:25:31 PM
Propylene glycol	ND	18.0		mg/Kg-dry	1	11/16/2020 10:25:31 PM
Surr: 2,4,6-Tribromophenol	87.5	21.7 - 145		%Rec	1	11/16/2020 10:25:31 PM
Sample Moisture (Percent Moisture)				Batch ID: R63267		Analyst: LB
Percent Moisture	45.3	0.500		wt%	1	11/10/2020 10:35:02 AM

Lab ID: 2010509-003 **Collection Date:** 10/29/2020 1:34:00 PM
Client Sample ID: GSB-4-3 **Matrix:** Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Glycols by SW8015				Batch ID: 30375		Analyst: DW
Ethylene glycol	ND	9.07		mg/Kg-dry	1	11/16/2020 10:39:19 PM
Propylene glycol	ND	9.07		mg/Kg-dry	1	11/16/2020 10:39:19 PM
Surr: 2,4,6-Tribromophenol	92.3	21.7 - 145		%Rec	1	11/16/2020 10:39:19 PM
Sample Moisture (Percent Moisture)				Batch ID: R63267		Analyst: LB
Percent Moisture	2.99	0.500		wt%	1	11/10/2020 10:35:02 AM

Original

Fremont Analytical

Analytical Report

Work Order: 2010509
Date Reported: 11/17/2020

CLIENT: Friedman & Bruya
Project: 010545

Original

Fremont Analytical

Date: *11/17/2020*

Work Order: 2010509
CLIENT: Friedman & Bruya
Project: 010545

QC SUMMARY REPORT
Glycols by SW8015

Sample ID: MB-30375	SampType: MBLK			Units: mg/Kg		Prep Date: 11/12/2020			RunNo: 63456		
Client ID: MBLKS	Batch ID: 30375					Analysis Date: 11/16/2020			SeqNo: 1273977		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	ND	10.0									
Propylene glycol	ND	10.0									
Surr: 2,4,6-Tribromophenol	41.8		50.00		83.5	21.7	145				

Sample ID: LCS-30375	SampType: LCS			Units: mg/Kg		Prep Date: 11/12/2020			RunNo: 63456		
Client ID: LCSS	Batch ID: 30375					Analysis Date: 11/16/2020			SeqNo: 1273976		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	103	10.0	100.0	0	103	38	134				
Propylene glycol	93.6	10.0	100.0	0	93.6	42	126				
Surr: 2,4,6-Tribromophenol	45.7		50.00		91.4	21.7	145				

Sample ID: 2010509-002AMS	SampType: MS			Units: mg/Kg-dry		Prep Date: 11/12/2020			RunNo: 63456		
Client ID: GSB-3-5.5	Batch ID: 30375					Analysis Date: 11/16/2020			SeqNo: 1273969		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	178	18.7	186.9	18.74	85.2	5	129				
Propylene glycol	169	18.7	186.9	15.60	81.8	5	119				
Surr: 2,4,6-Tribromophenol	91.7		93.45		98.1	21.7	145				

Sample ID: 2010509-002AMSD	SampType: MSD			Units: mg/Kg-dry		Prep Date: 11/12/2020			RunNo: 63456		
Client ID: GSB-3-5.5	Batch ID: 30375					Analysis Date: 11/17/2020			SeqNo: 1273970		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	168	18.2	182.4	18.74	81.8	5	129	177.9	5.80	30	
Propylene glycol	161	18.2	182.4	15.60	79.5	5	119	168.5	4.76	30	
Surr: 2,4,6-Tribromophenol	82.9		91.21		90.9	21.7	145		0		

Original

Fremont Analytical

Date: *11/17/2020*

Work Order: 2010509
CLIENT: Friedman & Bruya
Project: 010545

QC SUMMARY REPORT
Glycols by SW8015

Sample ID: MB-30373	SampType: MBLK			Units: mg/L		Prep Date: 11/11/2020			RunNo: 63331		
Client ID: MBLKW	Batch ID: 30373					Analysis Date: 11/11/2020			SeqNo: 1270993		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	ND	10.0									
Propylene glycol	ND	10.0									
Surr: 2,4,6-Tribromophenol	53.6		64.00		83.7	22.2	154				

Sample ID: LCS-30373	SampType: LCS			Units: mg/L		Prep Date: 11/11/2020			RunNo: 63331		
Client ID: LCSW	Batch ID: 30373					Analysis Date: 11/11/2020			SeqNo: 1270991		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	316	10.0	400.0	0	79.0	47	143				
Propylene glycol	272	10.0	400.0	0	68.0	48.3	136				
Surr: 2,4,6-Tribromophenol	51.2		64.00		79.9	22.2	154				

Sample ID: LCSD-30373	SampType: LCSD			Units: mg/L		Prep Date: 11/11/2020			RunNo: 63331		
Client ID: LCSW02	Batch ID: 30373					Analysis Date: 11/11/2020			SeqNo: 1270992		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	324	10.0	400.0	0	81.1	47	143	315.8	2.66	30	
Propylene glycol	309	10.0	400.0	0	77.3	48.3	136	272.2	12.8	30	
Surr: 2,4,6-Tribromophenol	54.0		64.00		84.3	22.2	154		0		

Sample ID: 2010509-001AMS	SampType: MS			Units: mg/L		Prep Date: 11/11/2020			RunNo: 63331		
Client ID: MW-01	Batch ID: 30373					Analysis Date: 11/11/2020			SeqNo: 1270988		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylene glycol	283	10.0	400.0	3.890	69.8	14.9	163				
Propylene glycol	288	10.0	400.0	5.668	70.6	27.4	139				
Surr: 2,4,6-Tribromophenol	54.4		64.00		85.0	22.2	154				

Fremont Analytical

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2010509
Logged by:	Gabrielle Coeuille	Date Received:	10/30/2020 8:34:00 AM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp °C
Sample 1	0.1

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Original

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2010509

Page # 1 of 1

Page 10 of 10

Send Report To: Michael Erdahl
Company: Friedman and Bruya, Inc.
Address: 3012 16th Ave W
City, State, ZIP: Seattle, WA 98119
Phone #: (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER: Fremont

PROJECT NAME/NO.: 010545

PO #: A-442

REMARKS: Please Email Results

TURNAROUND TIME
- ☒ Standard TAT
- ☐ RUSH
- Rush charges authorized by:

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Dioxins/Furans	EPH	VPH	Glycols							Notes
MW-01		10/29/20	1150	H_2O	1				X							
GSB-3-5.5		1	1310	Soil	1				X							
GSB-4-3			1334	✓	1				X							

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	10/30/20	0735
Received by:		Carter Johnson	FAI	10/30/20	0834
Relinquished by:					
Received by:					

010545

SAMPLE CHAIN OF CUSTODY

10-24-20

Page # ____ of ____

Send Report To Greg Mackay

Company Left Coast Services LLC

Address 515 S Southern St

City, State, ZIP Seattle, WA 98108

Phone # (206)762-7500 Fax # (206)762-7757

Email Address uai_zander@yahoo.com

SAMPLERS (*signature*)

PROJECT NAME/NO. Singh

PO #

PROJECT ADDRESS 8701 Greenwood Ave N Seattle, WA 98103

· ELECTRONIC DATA REQUESTED

TURNAROUND TIME
· Standard Turnaround
⊙ RUSH 5-Day
Rush charges authorized by:

SAMPLE DISPOSAL
⊙ Dispose after 30 days
· Return samples
· Will call with instructions
Samples Received at ____ °C

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	cVOCs by 8260	SVOCs by 8270	HFS	Stoddard Ext-Frac. Glycols	Notes
MW-01	01 A-H	10-24-20	11:50	Liquid	8	X	X		X		X	X	(X) per AM 10/26/20 mc
GSB-1-7	02 A-E		12:22	Soil	5				X		X	X	
GSB-2-5	03		12:50		5				X			X	
GSB-3-5.5	04		13:10		5	X	X	(X)				X	
GSB-4-3	05	↓	13:34	↓	5	X	X	(X)				X	

Samples received at 11 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Alexandra Moyer	LCS	10-24-2020	15:05
Received by:	Michael Eckel	FEBrm	10/29/20	1505
Relinquished by:				
Received by:				

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

FORMS\COC\COC.DOC

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
page 2 of 2

Lab ID: 03-083-1
Client ID: B-1 GW

Dilution Factor: 1

Compound	Results	Flags	PQL
Chlorobenzene	ND		1
1,1,1,2-Tetrachloroethane	ND		1
Bromoform	ND		1
Bromobenzene	ND		1
1,1,2,2-Tetrachloroethane	ND		1
1,2,3-Trichloropropane	ND		1
2-Chlorotoluene	ND		1
4-Chlorotoluene	ND		1
1,3-Dichlorobenzene	ND		1
1,4-Dichlorobenzene	ND		1
1,2-Dichlorobenzene	ND		1
1,2-Dibromo-3-chloropropane	ND		1
1,2,4-Trichlorobenzene	ND		1
Hexachlorobutadiene	ND		1
1,2,3-Trichlorobenzene	ND		1
Freon 113	ND	*	

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	114	86-118
Toluene-d8	106	88-110
4-Bromofluorobenzene	99	86-115

* Not calibrated.

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	3-25-97
Date Analyzed:	3-25-97
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0325W1
Dilution Factor:	1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		1
Chloromethane	ND		1
Vinyl Chloride	ND		1
Bromomethane	ND		1
Chloroethane	ND		1
Trichlorofluoromethane	ND		1
1,1-Dichloroethene	ND		1
Methylene Chloride	2.5		1
(trans) 1,2-Dichloroethene	ND		1
1,1-Dichloroethane	ND		1
2,2-Dichloropropane	ND		1
(cis) 1,2-Dichloroethene	ND		1
Chloroform	ND		1
1,1,1-Trichloroethane	ND		1
Carbon Tetrachloride	ND		5
1,1-Dichloropropene	ND		1
1,2-Dichloroethane	ND		1
Trichloroethene	ND		1
1,2-Dichloropropane	ND		1
Dibromomethane	ND		1
Bromodichloromethane	ND		1
(cis) 1,3-Dichloropropene	ND		1
(trans) 1,3-Dichloropropene	ND		1
1,1,2-Trichloroethane	ND		1
Tetrachloroethene	ND		1
1,3-Dichloropropane	ND		1
Dibromochloromethane	ND		1
1,2-Dibromoethane	ND		1

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0325W1

Dilution Factor: 1

Compound	Results	Flags	PQL
Chlorobenzene	ND		1
1,1,1,2-Tetrachloroethane	ND		1
Bromoform	ND		1
Bromobenzene	ND		1
1,1,2,2-Tetrachloroethane	ND		1
1,2,3-Trichloropropane	ND		1
2-Chlorotoluene	ND		1
4-Chlorotoluene	ND		1
1,3-Dichlorobenzene	ND		1
1,4-Dichlorobenzene	ND		1
1,2-Dichlorobenzene	ND		1
1,2-Dibromo-3-chloropropane	ND		1
1,2,4-Trichlorobenzene	ND		1
Hexachlorobutadiene	ND		1
1,2,3-Trichlorobenzene	ND		1

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	112	86-118
Toluene-d8	102	88-110
4-Bromofluorobenzene	96	86-115

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

VOLATILES by EPA 8260
MS/MSD QUALITY CONTROL

Date Extracted: 3-12-97
Date Analyzed: 3-12-97

Matrix: Water
Units: ug/L (ppb)

Dilution Factor: 1

Lab ID: 04402V

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD
1,1-Dichloroethene	50.0	53.3	107	60.7	121	13
Benzene	50.0	54.6	109	55.8	111	2.2
Trichloroethene	50.0	88.3	106	87.2	104	1.9
Toluene	50.0	50.5	101	51.1	102	1.2
Chlorobenzene	50.0	49.6	99	50.8	102	2.5

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
page 1 of 2

Date Extracted:	3-25-97
Date Analyzed:	3-25-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	03-083-5
Client ID:	**B-1-4**
Dilution Factor:	50

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.056
Chloromethane	ND		0.056
Vinyl Chloride	ND		0.056
Bromomethane	ND		0.056
Chloroethane	ND		0.056
Trichlorofluoromethane	ND		0.056
1,1-Dichloroethene	ND		0.056
Methylene Chloride	0.13	B	0.056
(trans) 1,2-Dichloroethene	ND		0.056
1,1-Dichloroethane	ND		0.056
2,2-Dichloropropane	ND		0.056
(cis) 1,2-Dichloroethene	ND		0.056
Chloroform	ND		0.056
1,1,1-Trichloroethane	ND		0.056
Carbon Tetrachloride	ND		0.28
1,1-Dichloropropene	ND		0.056
1,2-Dichloroethane	ND		0.056
Trichloroethene	ND		0.056
1,2-Dichloropropane	ND		0.056
Dibromomethane	ND		0.056
Bromodichloromethane	ND		0.056
(cis) 1,3-Dichloropropene	ND		0.056
(trans) 1,3-Dichloropropene	ND		0.056
1,1,2-Trichloroethane	ND		0.056
Tetrachloroethene	ND		0.056
1,3-Dichloropropane	ND		0.056
Dibromochloromethane	ND		0.056

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260

Lab ID: 03-083-5
Client ID: B-1-4

Dilution Factor: 50

Compound	Results	Flags	PQL
1,2-Dibromoethane	ND		0.056
Chlorobenzene	ND		0.056
1,1,1,2-Tetrachloroethane	ND		0.056
Bromoform	ND		0.056
Bromobenzene	ND		0.056
1,1,2,2-Tetrachloroethane	ND		0.056
1,2,3-Trichloropropane	ND		0.056
2-Chlorotoluene	ND		0.056
4-Chlorotoluene	ND		0.056
1,3-Dichlorobenzene	ND		0.056
1,4-Dichlorobenzene	ND		0.056
1,2-Dichlorobenzene	ND		0.056
1,2-Dibromo-3-chloropropane	ND		0.28
1,2,4-Trichlorobenzene	ND		0.056
Hexachlorobutadiene	ND		0.056
1,2,3-Trichlorobenzene	ND		0.056
Freon 113	ND	*	

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	109	80-120
Toluene-d8	117	81-117
4-Bromofluorobenzene	104	74-121

* Not calibrated.

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	3-25-97
Date Analyzed:	3-25-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0325S1
Dilution Factor:	50

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.05
Chloromethane	ND		0.05
Vinyl Chloride	ND		0.05
Bromomethane	ND		0.05
Chloroethane	ND		0.05
Trichlorofluoromethane	ND		0.05
1,1-Dichloroethene	ND		0.05
Methylene Chloride	0.12		0.05
(trans) 1,2-Dichloroethene	ND		0.05
1,1-Dichloroethane	ND		0.05
2,2-Dichloropropane	ND		0.05
(cis) 1,2-Dichloroethene	ND		0.05
Chloroform	ND		0.05
1,1,1-Trichloroethane	ND		0.05
Carbon Tetrachloride	ND		0.25
1,1-Dichloropropene	ND		0.05
1,2-Dichloroethane	ND		0.05
Trichloroethene	ND		0.05
1,2-Dichloropropane	ND		0.05
Dibromomethane	ND		0.05
Bromodichloromethane	ND		0.05
(cis) 1,3-Dichloropropene	ND		0.05
(trans) 1,3-Dichloropropene	ND		0.05
1,1,2-Trichloroethane	ND		0.05
Tetrachloroethene	ND		0.05
1,3-Dichloropropane	ND		0.05
Dibromochloromethane	ND		0.05

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0325S1

Dilution Factor: 50

Compound	Results	Flags	PQL
1,2-Dibromoethane	ND		0.05
Chlorobenzene	ND		0.05
1,1,1,2-Tetrachloroethane	ND		0.05
Bromoform	ND		0.05
Bromobenzene	ND		0.05
1,1,2,2-Tetrachloroethane	ND		0.05
1,2,3-Trichloropropane	ND		0.05
2-Chlorotoluene	ND		0.05
4-Chlorotoluene	ND		0.05
1,3-Dichlorobenzene	ND		0.05
1,4-Dichlorobenzene	ND		0.05
1,2-Dichlorobenzene	ND		0.05
1,2-Dibromo-3-chloropropane	ND		0.25
1,2,4-Trichlorobenzene	ND		0.05
Hexachlorobutadiene	ND		0.05
1,2,3-Trichlorobenzene	ND		0.05

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	102	80-120
Toluene-d8	113	81-117
4-Bromofluorobenzene	99	74-121

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

HALOGENATED VOLATILES by EPA 8260
MS/MSD QUALITY CONTROL

Date Extracted: 3-14-97
Date Analyzed: 3-17-97

Matrix: Soil
Units: mg/Kg (ppm)

Dilution Factor: 50

Lab ID: 05411V

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD
1,1-Dichloroethene	2.50	1.72	68	1.81	72	5.2
Benzene	2.50	2.12	82	2.25	87	6.4
Trichloroethene	2.50	2.26	89	2.39	94	5.6
Toluene	2.50	2.27	90	2.35	93	3.6
Chlorobenzene	2.50	2.40	96	2.49	99	3.7

Date of Report: March 27, 1997
Samples Submitted: March 24, 1997
Lab Traveler: 03-083
Project: JN 4234-2

Date Analyzed: 3-24-97

% MOISTURE

Client ID	Lab ID	% Moisture
B-1-4	03-083-5	10

Summary: DATA VALID? ☒YES

Analytical Laboratory Data Validation Check Sheet

Project Name: Universal Applicators Project Number: 114-20001-01

Date of Review: 12/22/2020 Lab. Name: **E&BI** Lab Batch ID #: 010545

Chain of Custody

1.) Are all requested analyses reported?	☒yes	☐no	
2.) Were the requested methods used?	☒yes	☐no	
3.) Trip blank submitted?	☐yes	☒no	
4.) Field blank submitted?	☐yes	☒no	
Timing			
5.) Samples extracted within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
6.) Analysis performed within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Quality Assurance/Quality Control			
7.) Are the required reporting limits reported? (MRLs vs MDLs/PQLs)	☒yes	☐no	
8.) Are all reported values above either MRL or MDL?	☒yes	☐no	
9.) Are all values between the MDL & PQL tagged as trace?	☐yes	☐no	☒NA
10a.) Are reporting limits raised for other reason besides high analyte conc.?	☐yes	☒no	
10b.) If so, are they footnoted?	☐yes	☐no	☒NA
11.) Lab method blank completed?	☒yes	☐no	
12.) Lab, Field, or Trip Blank(s) report detections?	☐yes	☒no	

If yes, indicate blank type, chemical(s) and concentration(s): _____

13.) For inorganics and metals, is there one method blank for each analyte?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
14.) For VOCs, is there one method blank for each day of analysis?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
15.) For SVOC's, is there one method blank for each extraction batch?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
Accuracy			
16.) Is there a surrogate spike recovery for all VOC & SVOC samples?	☒yes	☐no	☐NA
Do all surrogate spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
17.) Is there a spike recovery for all Laboratory Control Samples?	☒yes	☐no	☐NA
Do all LCS/LCSD spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
18.) Are all LCS/LCSD RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Precision			
19.) Are all matrix spike/matrix spike duplicate recoveries within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
20.) Are all matrix spike/matrix spike duplicate RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
21.) Do all RPD calculations for Field Duplicates meet accepted criteria?	☐yes	☐no	☒NA

Comments:

Initial Review By: CR **Final** Review By: EB

Summary: DATA VALID? ☒YES

Analytical Laboratory Data Validation Check Sheet

Project Name: Universal Applicators Project Number: 114-20001-01

Date of Review: 12/22/2020 Lab. Name: **Fremont** Lab Batch ID #: 2010509

Chain of Custody

1.) Are all requested analyses reported?	☒yes	☐no	
2.) Were the requested methods used?	☒yes	☐no	
3.) Trip blank submitted?	☐yes	☒no	
4.) Field blank submitted?	☐yes	☒no	
Timing			
5.) Samples extracted within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
6.) Analysis performed within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Quality Assurance/Quality Control			
7.) Are the required reporting limits reported? (MRLs vs MDLs/PQLs)	☒yes	☐no	
8.) Are all reported values above either MRL or MDL?	☒yes	☐no	
9.) Are all values between the MDL & PQL tagged as trace?	☐yes	☐no	☒NA
10a.) Are reporting limits raised for other reason besides high analyte conc.?	☐yes	☒no	
10b.) If so, are they footnoted?	☐yes	☐no	☒NA
11.) Lab method blank completed?	☒yes	☐no	
12.) Lab, Field, or Trip Blank(s) report detections?	☐yes	☒no	

If yes, indicate blank type, chemical(s) and concentration(s): _____

13.) For inorganics and metals, is there one method blank for each analyte?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
14.) For VOCs, is there one method blank for each day of analysis?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
15.) For SVOC's, is there one method blank for each extraction batch?	☐yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
Accuracy			
16.) Is there a surrogate spike recovery for all VOC & SVOC samples?	☒yes	☐no	☐NA
Do all surrogate spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
17.) Is there a spike recovery for all Laboratory Control Samples?	☒yes	☐no	☐NA
Do all LCS/LCSD spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
18.) Are all LCS/LCSD RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Precision			
19.) Are all matrix spike/matrix spike duplicate recoveries within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
20.) Are all matrix spike/matrix spike duplicate RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
21.) Do all RPD calculations for Field Duplicates meet accepted criteria?	☐yes	☐no	☒NA

Comments:

Initial Review By: CR **Final** Review By: EB