REPORT

REMEDIAL INVESTIGATION REPORT

Silver Cloud Hotel Seattle – University District
Formerly Cornwall Fuel Company, Inc.
5036 25th Avenue NE
Seattle, Washington 98105
VCP No. NW3072

Submitted to:

University Silver Cloud Inn LP
103 118th Avenue SE, Suite 300
Bellevue, Washington 98005

Submitted by:

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May 2020

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1.0 INTRODUCTION

At the request of Silver Cloud Inns & Hotels (Silver Cloud), Golder Associates Inc. (Golder) has prepared this updated Remedial Investigation (RI) report for the Site that is located within the bounds of the Property at 5036 25th Avenue NE in Seattle, Washington. The Property comprises one tax lot parcel; King County parcel number 092504-9117; encompassing a total land area of 2.13 acres. This RI report is an update of Golder's previous RI report (Golder 2017) that includes an additional investigation conducted in accordance with Golder's Site Characterization Work Plan (Golder 2019) as described in Section 3.0 of this RI report.

The Site is the area that was the subject of remedial actions and investigations addressing the release of petroleum hydrocarbons, which is entirely within the bounds of the Property. From 1988 through 1993, environmental investigations, removal of four underground storage tanks (USTs), and remediation activities were conducted by Earth Consultants, Inc. (ECI), Burlington Environmental Inc. (Burlington) (formerly Chemical Processors, Inc. [Chempro]), and Geotech Consultants, Inc. (Geotech). ATC Associates Inc. (ATC) performed a Phase I ESA in 2006.

A request for a No Further Action (NFA) opinion letter from the Washington State Department of Ecology (Ecology) was prepared and submitted on April 26, 2016 by Golder. Attached with Golder's request letter were copies of the prior investigation and remedial action reports. After receiving and reviewing Golder's request for NFA, Ecology issued a Request for Additional Information to Provide an Opinion dated April 4, 2017. Ecology's letter outlined in a checklist the additional information required to provide an opinion under Ecology's Voluntary Cleanup Program (VCP).

Based on Ecology's request for additional information, Golder prepared a RI report for the Site summarizing the previous investigations completed at the Site and also included the additional requested information. The information was presented in a report in accordance with Ecology's checklist (https://fortress.wa.gov/ecy/publications/SummaryPages/1609006.html). The report similarly concluded that remedial actions and soil and groundwater sampling at the Site have demonstrated that MTCA Method A CULs had been achieved for the contaminants of concern (COCs), namely diesel- and oil-range organics (DRO and ORO) in soil and groundwater, and that conditions at the Site were not a threat to human health and the environment (Golder 2017).

Ecology provided a Further Action Opinion Letter dated May 9, 2018, concluding that further remedial action was required. Ecology concluded that while approximately 1,500 cubic yards of contaminated soil was identified and removed from the UST excavations, confirmation soil sampling was not adequately documented. Additional Site characterization was necessary to:

- Better verify that contaminated soils had been adequately removed.
- Confirm releases did not occur at the 550-gallon gasoline UST.
- Confirm gasoline releases did not occur at the 10,000-gallon UST that historically stored diesel and gasoline.
- Establish groundwater flow and gradient.
- Confirm that exposure through the vapor pathway was unlikely.

Based on Ecology's Further Action Opinion Letter (May 9, 2018), Golder prepared a Site Characterization Work Plan (Golder 2019). Ecology provided an Opinion Letter dated February 20, 2019 agreeing with the Work Plan with additional recommendations and comments summarized as follows:

- At proposed soil borings B-2018-1, B-2018-2, and B-2018-3, collect soil samples for analysis from beneath the interface of the excavation backfill and native material (if discernible), at the soil/water interface, and at the bottom of the boring.
- Evaluate the analytical results to consider the soil vapor pathway in accordance with the referenced Ecology guidance documents.

Based on Ecology's opinion, additional investigation was conducted in accordance with Golder's Site Characterization Work Plan (January 30, 2019) and Ecology's Opinion Letter (February 20, 2019). Golder's site characterization field investigation was conducted in February 2020. The site characterization and its findings are included in this Updated RI Report.

1.1 General Site Information

The Site and VCP information includes the following:

Current Site Business Name: Silver Cloud Hotel Seattle – University District
Legal Name: University Silver Cloud Inn LP
Ecology Site Name: Cornwall Lumber & Fuel (alternate name: Cornwall Fuel Company, Inc.)
Address: 5036 25th Avenue NE, Seattle, Washington 98105
Facility/Site No.: 88124865
VCP No.: NW3072
Cleanup Site ID No.: 10915

1.1.1 Site Contacts

The following is the contact information for the Site:

Ecology Site Manager:
Diane Escobedo – Voluntary Cleanup Program Site Manager
Toxics Cleanup Program
Department of Ecology – Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008
425-649-7097

Consultant:
Neil Gilham, LG – Senior Environmental Scientist
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VCP Customer:
Emmett Boyle – Director of Asset Management
Silver Cloud Inns & Hotels
103 118th Avenue SE, Suite 300
Bellevue, WA 98005
425-637-9800

1.1.2 Property Location and Description

The Property consists of one tax lot parcel located at 5036 25th Avenue NE, Seattle, Washington 98105 (Property). The Property parcel has a total land area of approximately 2.13 acres and has the King County parcel number 092504-9117. Vehicle access to the Property is from 25th Avenue NE on its western side.

The Public Land Survey System (PLSS) location is the northwestern ¼ of the southeastern ¼ of Section 9 of Township 25 North, Range 4 East, Willamette Meridian. The Site latitude/longitude coordinates are 47° 39' 57.00" North and 122° 17' 59.75" West.

Figure 1 shows the location of the Subject Property. Figure 2 is a site plan of the Subject Property.

1.1.3 Property Buildings and Improvements

The Property is developed with one hotel building described as follows:

Silver Cloud Hotel Seattle – University District
5036 25th Avenue NE
Gross Square Footage: 81,871
Four stories
Year built: 1994

Approximately 80% of the Property inclusive of the Site is covered by the building and asphalt pavement.

1.1.4 Property Use

The Property is used as a hotel with dining (restaurant and bar) and a meeting room collectively under the name of Silver Cloud Hotel Seattle – University District. The Property is zoned as C1-55 (Commercial 1 - an auto-oriented, primarily retail/service commercial area that serves surrounding neighborhoods as well as a citywide or regional clientele) according to Seattle Department of Construction & Inspections – Zoning Map Book – Page 62 (November 1, 2016).

1.1.5 Property History

The earliest recorded land use was as residential and as a truck garden during the 1930s. Portions of the Property were used as a truck garden into the 1950s. Around the late 1930s or early 1940s, the Property was used as a distributor of coal, lumber, and fuel oil under various business names including Presto Log Sales (1940); Holmes Coal Co. (1944); Goodfellow Lumber Co. (1950s to early 1960s); and Cornwall Fuel Co. and Cornwall Lumber Co. (1960s to 1992) (ATC 2006).

Cornwall Fuel and Lumber Company operated a home fuel distribution facility, hardware store, and lumber yard from 1966 until 1992. The fuel distribution facility consisted of four USTs including one 550-gasoline UST, one 10,000-gallon diesel UST, and two 12,000-gallon heating oil USTs. The fuel distribution facility was listed in state databases including the leaking underground storage tank (LUST), UST, and Independent Cleanup Site Report

(ICR) databases. Cornwall Fuel Company commissioned multiple environmental investigations and remedial actions at the Property including removal of the four USTs in 1990 and bioremediation of the excavated soils (ATC 2006).

In 1992, Silver Cloud purchased the Property and constructed the existing hotel which opened in 1994 and has operated at the Property up to the present (ATC 2006).

2.0 FIELD INVESTIGATIONS AND REMEDIAL ACTIONS FROM 1988 TO 1993

The Property was the subject of investigations and remedial actions that occurred from 1988 to 1993. Environmental consultants involved in the investigations and remedial actions were Earth Consultants, Inc. (ECI), Burlington Environmental Inc. (Burlington) (formerly Chemical Processors, Inc. [Chempro]), and Geotech Consultants, Inc. (Geotech). The investigations and remedial actions are summarized in the sections that follow. The Site is that area where remedial excavation and bioremediation of excavated soil occurred on the Property as shown on Figure 3.

Historical soil analytical results are summarized in Table 1 and historical groundwater/water analytical results are summarized in Table 2. Figure 3 shows the prior investigation locations and other features as derived from the prior reports. Appendix A includes figures from the prior reports. Copies of the prior reports are included in Appendix B.

Note that Golder was not involved in the prior investigations and remedial actions and has relied on the information in the prior reports provided to Golder by Silver Cloud, which may not be complete copies of the entire reports.

2.1 ECI - 1988

In 1988, ECI conducted a preliminary investigation of the extent of petroleum hydrocarbons in Property soil and groundwater (ECI 1988). ECI's investigation consisted of drilling 12 soil borings, excavating 2 test pits, installing groundwater monitoring wells in 4 of the 12 borings, and laboratory analysis of soil and groundwater samples for petroleum hydrocarbons. Details of ECI's investigation are presented below.

ECI advanced 12 soil borings (B-1 through B-5 and B-101 through B-107) and excavated 2 test pits (TP-1 and TP-2) (Figure 3 and Appendix A). Monitoring wells were installed in four of the soil borings (B-1, B-101, B-102, and B-103). Depth to groundwater in the borings ranged from 2 to 5 feet below ground surface (bgs). Total petroleum hydrocarbons (TPH) were detected in surface and near-surface soil samples (from 0- to 2.5 feet bgs) with concentrations ranging from 29.7 to 4,060 parts per million (ppm) (Table 1). The soil analytical results exceeded the TPH pre-MTCA cleanup level (CUL) of 200 ppm in soil borings B-1, B-2, B-3, and B-107. Only the soil samples from B-1 (2.5 feet bgs) and B-2 (2.5 feet bgs) had concentrations of TPH that exceeded the current MTCA Method A CUL of 2,000 ppm for diesel- and oil-range organics (DRO and ORO). Fuel scan characterization of a soil sample collected from Boring B-107 indicated the detected petroleum product was diesel type 2 fuel (Table 1), which is consistent with the diesel fuel and heating oil product stored in the three USTs north of B-107 (USTs removed in 1990).

ECI's report suggested further investigation could indicate a "halo" of heating oil and gasoline in soil surrounding the three heating oil USTs and the one gasoline UST resulting from tank overfilling or spills during transfer. Elevated TPH concentrations in shallow soil at other areas were attributed to incidental surface spill or leaks from

trucks stored onsite, particularly at B-2. The near-surface soil from boring B-104 (located near B-2) was sampled and analyzed for petroleum hydrocarbons. No petroleum hydrocarbons were detected in the soil sample from B-104, which supported the ECI opinion that the petroleum hydrocarbon contamination was limited in extent in the area of B-2.

Two soil samples, one from B-105 (7.5 feet bgs) and one from B-107 (1-foot bgs) were analyzed for polychlorinated biphenyls (PCBs). PCBs were not detected in these two soil samples. One groundwater sample from monitoring well B-1 was also analyzed for PCBs. PCBs were not detected in the B-1 groundwater sample.

Four groundwater monitoring wells were installed in borings B-1, B-101, B-102, and B-103. The wells had the following screen intervals (Appendix C includes boring logs):

B-1: 2.5 to 12.5 feet bgs

B-101: 3.5 to 13.5 feet bgs

B-102: 1.6 to 11.6 feet bgs

B-103: 1.7 to 11.7 feet bgs

Only the groundwater sample from B-1 was analyzed for TPH (by EPA Method 503D). The groundwater sample from B-1 had a TPH concentration of 3.2 ppm which exceeds the current MTCA Method A CUL of 1 ppm for DRO and ORO.

All four monitoring wells (B-1, B-101, B-102, and B-103) were sampled and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). BTEX was not detected in the groundwater samples (Table 2).

Three monitoring wells (B-1, B-102, and B-103) were sampled and analyzed for purgeable aromatic compounds (by EPA Method 602) and purgeable halocarbons (by EPA Method 601). The analytical results were less than the detection limits (Table 2).

A standing water sample was collected from the inside of a catch basin. The standing water sample had a TPH concentration of 6.8 ppm (this was water collected from the former north interceptor trench drain (Figure 3). Purgeable aromatic compounds and purgeable halocarbons were not detected in the catch basin water sample.

2.2 Burlington – 1990-1992

In 1990 and 1991, Burlington (formerly Chempro) removed a 550-gallon gasoline UST located east of the former retail building; and one 10,000-gallon and two 12,000-gallon USTs containing heating oil located near the northern property boundary (Figure 3). The excavated petroleum contaminated soil (PCS) was placed in an on-site treatment bed for treatment through natural biodegradation and periodic tilling with nitrogen-rich fertilizer. Details of Burlington's tank removal, confirmation soil sampling, and bioremediation of excavated PCS are presented below.

On November 12, 1990, Chempro notified Ecology of the intent to remove three registered USTs from the Property (one 10,000-gallon UST and two 12,000-gallon USTs) (Chempro 1990). The tanks had previously stored heating oil and/or diesel.

On November 27, 1990, the Seattle Fire Department issued a permit (number 153261) to remove the three registered USTs. Approximately 1,500 gallons of rinse water from the tanks was transported offsite in tanker trucks for disposal.

On November 26 and 27, 1990, Sound Testing, Inc. (Sound Testing) certified the three registered heating oil/diesel USTs (one 10,000-gallon UST and two 12,000-gallon USTs) and one unregistered 550-gallon gasoline UST as inert and safe for excavation (Geotech 1993). In addition, Sound Testing certified a 45- and a 300-gallon UST as inert and safe for excavation. The locations of the 45- and 300-gallon USTs were not indicated.

A letter report documented the removal of four USTs (550-gallon gasoline tank, one 10,000-gallon and two 12,000-gallon heating oil/diesel tanks) from November 27 through 29, 1990 (Burlington 1991a). Confirmation samples were not collected from the 550-gallon gasoline tank excavation.

Approximately 800 cubic yards of soil impacted with heating oil/diesel was removed from the two north excavations (northwest and northeast excavations) and stockpiled onsite. The northeast excavation (containing the 10,000-gallon UST) was excavated to 15 feet bgs. The northwest excavation (containing the two 12,000-gallon USTs) was excavated to 12 feet bgs. Twenty-one (21) soil samples were collected from the sidewall and bottoms of these two north excavations (Table 1 and Appendix A). Analytical results confirmed remaining soil in the side walls of the northwest excavation and bottom met current MTCA Method CULs except one soil sample (sample ‘o’), which had concentrations of petroleum hydrocarbons at 6,600 ppm, which exceeds the current MTCA Method A CUL (Table 1). Analytical results confirmed remaining soil in the side walls and bottom of the northeast excavation met current MTCA Method A CULs. Based on these results, Joe Hickey (Ecology) approved on-site land farming of the excavated soil (Burlington 1991a).

On December 7, 1990, Chempro requested authorization to discharge approximately 30,000 gallons of water that had accumulated in the north excavations to the sanitary sewer system. The water was discharged to a sanitary sewer cleanout inside one of the buildings reportedly under Metro authorization. The concentration of petroleum hydrocarbons in the discharge water was 58 ppm. According to Geotech, Metro did not have a record of the report (Geotech 1993).

In January 1991, Chempro excavated four test pits (TP-A, -B, -C, and -D) located south of the north excavations (Figure 3). Concentrations of petroleum hydrocarbons from soil samples collected at 4- to 6- feet bgs at test pit TP-A exceeded the current MTCA CUL (Table 1).

From April 29, 1991 through May 15, 1991, Chempro constructed a soil treatment bed (approximately 100 feet by 200 feet) to remediate approximately 1,500 cubic yards of PCS (Figure 3). Chempro extended the northwest excavation to the south (south excavation) and excavated approximately 700 cubic yards of additional soil exceeding MTCA CULs (Burlington 1991b). This excavated area included the over-excavation of the test pit TP-A area where a 4-to 6- feet bgs soil sample had exceeded the current MTCA CUL. This soil was combined with approximately 800 cubic yards of soil excavated and stockpiled during previous UST removal excavations, for a total of approximately 1,500 cubic yards. The southern portion of the northwest excavation was backfilled with clean imported soil. Chempro collected eight soil samples from the sidewalls and bottom of the new excavation (Appendix A). TPH in soil was detected at concentrations below the current MTCA Method A CUL 2,000 ppm (Table 1). The analytical results indicated the extent of the contamination exceeding the MTCA Method A CUL had been removed from the excavations (Burlington 1991b).

Approximately 1,500 cubic yards (the initial 800 cubic yards and a later 700 cubic yards) of excavated soil was placed in a plastic-lined treatment bed (approximately 100 feet by 200 feet) located just south of the northern UST excavations (Figure 3). The soil was placed in the bed in a 2- to 3-foot deep layer for subsequent bioremediation. Soil treatment consisted of tilling to maximize soil aeration and applying a fertilizer (i.e., diammonium phosphate

at a concentration of 10 percent) every 3 months. Tilling was performed monthly after heavy rainfall. Chempro estimated that the petroleum hydrocarbons would degrade and volatilize within 8 to 12 months.

In January 1992, Chempro collected four soil samples from stockpiled soil in the treatment bed that had been removed from the UST excavations and from the expanded excavation (Geotech 1992). Concentrations of diesel-range hydrocarbons were less than the current MTCA Method A CULs in all four samples (Table 1) (Geotech 1992).

2.3 Geotech – 1992-1993

In July 1992, Geotech completed an environmental assessment of the approximately 1,500 cubic yards of soil undergoing bioremediation in the constructed treatment bed (Geotech 1992). In February 1992, the concentration of TPH in soil samples collected from the treatment bed ranged from 1300 to 1800 ppm (Table 1). In July of 1992, the detected concentrations ranged from 385 to 719 ppm for an average of 575 ppm (Table 1 and Appendix A, soil samples HC-1 to HC-6). The report concluded that a significant reduction in concentrations of petroleum hydrocarbons had been achieved through bioremediation, but that residual concentrations of hydrocarbons exceeded 200 ppm, the cleanup level in effect at that time. Two samples collected from the treatment bed in September 1992 had concentrations of 300 and 370 ppm (Table 1) (Geotech 1992). These concentrations were all less than the current MTCA Method A CUL of 2,000 ppm for DRO and ORO.

In July 1993, Geotech conducted a study to assess the condition of soil and groundwater in the vicinity of the former USTs and to assess the condition of the soil in the treatment bed undergoing bioremediation. The scope of work included sampling soil from the stockpile and the treatment bed, drilling five soil borings (locations MW-1, MW-2, MW-4, B3, and B-5), installing groundwater monitoring wells in three of the five soil boring locations, and collecting soil and groundwater samples (Figure 3).

Geotech concluded that all the diesel-contaminated soil in the excavation locations of the former one 10,000-gallon UST and two 12,000-gallon USTs was removed and treated. Based on their findings, Geotech concluded that the remaining soil and groundwater in the vicinity of the former USTs was less than MTCA Method A CULs.

Petroleum hydrocarbons were not detected in soils or groundwater at the location of the former 550-gallon gasoline UST (Tables 1 and 2 and Geotech B-3 in Figure 3).

Analytical results of soil samples from borings, surface soils, and stockpiled fill are shown in Table 1. No evidence of odors or soil discoloration were noted during Geotech's drilling. Petroleum hydrocarbons were not detected in soil samples collected from the borings. The surface soil samples reported concentrations of gasoline, diesel, and heavy oil-range hydrocarbons well below the MTCA Method A CULs.

The results of soil samples collected from the treatment bed indicated concentrations of diesel fuel ranging from 170 to 390 ppm (Table 1 and Appendix A). The average concentration of petroleum hydrocarbons in the soil in the treatment bed was 234 ppm. These concentrations are less than the current MTCA Method A CUL of 2,000 ppm for DRO and ORO.

Treatment bed soils were considered Class 3 soils based on the results of laboratory analysis and Ecology's 1991 guidelines (Geotech 1993). Treated Class 3 soils were suitable for further treatment, for use at the original site, for use as a pavement base in road construction, or for disposal at a permitted landfill (Geotech 1993). The treated soil was reportedly used onsite as backfill as is approved under Ecology's guidelines.

Petroleum hydrocarbons were not detected in groundwater collected from the four monitoring wells (MW-1, MW-2, MW-4, and B-101 renamed MW-3 by Geotech). Based on topography, the assumed groundwater flow direction is to the south. Based on that, the location of MW-2 is upgradient from the Site (former UST locations) and MW-1 is located downgradient from the Site. MW-4 is located downgradient from the Site and downgradient from the former bioremediation treatment bed. MW-3 (B-101) is located adjacent to the former 550-gallon gasoline UST.

In their Independent Remedial Action Report Summary, Geotech concluded that no further action was required to address the closure of the USTs (Geotech 1993).

3.0 SITE CHARACTERIZATION

During February and March 2020, Golder completed the field investigation in accordance with Golder's Site Characterization Work Plan (Golder 2019). The objective of the proposed site characterization was to confirm previous remedial actions had sufficiently removed sources of contamination from the Site and that underlying soil and groundwater conditions were not a threat to human health or environment.

The Site Characterization field investigation included the following (locations shown in Figure 3):

- Drilled three soil borings (B-2018-1 to B-2018-3) to a maximum explored depth of 21.5 feet bgs at the south UST excavation area to confirm that soils contaminated with ORO had been effectively removed. At a minimum, two soil samples were collected from each boring:
  - Immediately below the interface between excavation backfill and native material
  - At the bottom of each boring

Four groundwater monitoring wells (MW-5 to MW-8) were drilled and installed to a maximum explored depth of 21.5 feet bgs in the locations shown on Figure 3. In general, monitoring wells were completed with 10 feet of screen and were screened to maximum depths ranging from 15 to 17.5 feet bgs depending on the depth of groundwater observed during drilling.

- MW-5 is located downgradient from former borings B-2 and B-104, to confirm no groundwater impacts have occurred from the localized impacts found at B-2.
- MW-6 is located near the former 10,000-gallon UST, to confirm that no releases of GRO/BTEX were present from the former 10,000-gallon UST.
- MW-7 is located near the former 550-gallon UST, to confirm that no release of GRO/BTEX had occurred from the 550-gallon UST. MW-7 was moved farther south than indicated in the Work Plan to avoid underground sewer and storm drain lines at the original location. The sewer and storm drain locations were identified during pre-drilling activities necessitating the location adjustment of MW-7.
- MW-8 is located on the southern portion of the Site, in a downgradient location, to help establish a groundwater flow direction and gradient.

After the monitoring wells were completed, a geodetic survey of their locations and elevations was completed. A summary of groundwater monitoring well construction details is provided in Table 3. Boring logs are included in Appendix C.

3.1 Soil Analytical Results

Each monitoring well and borehole location was field screened and soil samples were collected during borehole advancement. A total of 15 soil samples were collected on February 25 and 26, 2020 during field activities and analyzed for GRO, DRO, ORO, BTEX, and lead. No soil samples collected during drilling contained concentrations of any analytes greater than their respective MTCA Method A CULs. DRO and ORO were detected in one soil sample (MW-6 at a depth of 7.5 feet bgs) at concentrations of 42 milligrams per kilogram (mg/kg) and 110 mg/kg, respectively. No other analytes were detected in any other soil samples at concentrations greater than their laboratory practical quantitation limits (PQLs). The 2020 site characterization soil sample analytical results are summarized in Table 4, and laboratory reports are included in Appendix D.

3.2 Groundwater Analytical Results

Following installation and development, Golder sampled the four newly installed groundwater monitoring wells to confirm that groundwater is not impacted at the Site. A total of five groundwater samples (four primary samples and a duplicate sample) were collected on March 6, 2020 from monitoring wells MW-5 through MW-8. Samples were analyzed for GRO, DRO, ORO, BTEX, and total lead. No groundwater samples contained concentrations of any analytes greater than their respective MTCA Method A CULs. ORO was detected in one groundwater sample (MW-8) at a concentration of 420 micrograms per liter (µg/L). No other analytes were detected in any other samples at concentrations greater than their PQLs. The 2020 site characterization groundwater sample analytical results are summarized in Table 5, and laboratory reports are included in Appendix D.

3.3 Groundwater Gradient and Flow Direction

The location and surface elevation of each borehole and the location, surface elevation, and top of well casing elevation of each monitoring well were surveyed by David Evans and Associates Inc. (DEA).

- Horizontal Datum: NAD 83/2011
- Vertical datum: NAVD 88

The survey report is included in Appendix E.

Depth to water measurements in each well were made concurrently with sample collection. Groundwater elevations ranged from a minimum of 33.95 feet above mean sea level (amsl) in MW-7 to a maximum of 38.86 feet amsl in MW-5. The general groundwater flow direction is south at a gradient of 0.0306. Groundwater elevations are shown in Table 5 and a potentiometric map of the March 2020 sampling event is included in Figure 4.

4.0 CONCEPTUAL SITE MODEL

This section discusses the conceptual site model including the physical setting, topography, geology, and exposure pathways and receptors.

4.1 Physical Setting

The Property (and within it the Site) is located in the Puget Sound Lowland, which is the region bordering Puget Sound and bounded by the Olympic Mountains to the west and the Cascade Range to the east. The recent geologic history of the Puget Sound Lowland region has been dominated by several glacial episodes. The most recent, the Vashon Stade of the Fraser Glaciation (about 12,000 to 20,000 years ago), is responsible for most of the present day geologic and topographic features. As world-wide sea levels lowered and the Puget Lobe of the Vashon Stade advanced southward from British Columbia into the Puget Sound Lowland, sediments composed of proglacial lacustrine silt and clay, advance outwash, lodgment till, and recessional outwash were deposited upon either bedrock or older Pre-Vashon sediments. The older Pre-Vashon deposits include predominantly glacial and nonglacial sediments deposited during repeated glacial and interglacial periods during the past two million years. As the Puget Lobe of the Vashon stade glacier retreated northward, it deposited a discontinuous veneer of recessional outwash and deposits of dense ablation till mantling the glacial drift uplands. The resulting post-glacial sculpted landscape is characterized by elongated north-south oriented drift uplands and intervening valleys. Post glacial deposits include: alluvium deposited within active stream channels, modern lacustrine deposits, organic silt and local peat deposits within kettle depressions, drainages, and outwash channels; and landslide deposits.

The Property is located in a broad gently southeast-sloping swale bounded to the east and west by drift uplands. Union Bay, an embayment of Lake Washington, is located about 1 mile to the southeast. The Property is mapped geologically is being underlain by Vashon subglacial till on the northern portion and Vashon advance outwash deposits on the southern portion (Booth et al. 2009). Artificial fill is mapped overlying these native deposits.

4.1.1 Topography

A generalized topographic map of the Property is shown in Figure 5 (King County iMap). The topographic high at the Property is at approximately 50 feet amsl at the western and northern sides of the Property sloping gradually to an elevation of 40 feet amsl at the southern side of the Property. The general surrounding area slopes gradually downward to the southeast to Union Bay-Lake Washington. The water level in Lake Washington is controlled to fluctuate between approximately 20 and 22 feet amsl. Union Bay is located about 1 mile southeast from the Property.

Storm drainage is captured by a series of catch basins connected to and conveyed by underground drain pipes to a main storm drain line under 25th Avenue NE. Figure 6 shows the generalized storm drain system.

4.1.2 Site Geology and Hydrogeology

Based on boring logs from the 2020 remedial investigation, the Property is underlain by a surface layer of fill soil of variable thickness across the Property up to 10 feet thick (B-2018-1). The fill was composed of silty sand with gravel and at times included some rubble with brick fragments, some wood debris, and metal fragments. Controlled density fill (CDF) was encountered in the vicinity of MW-6 and B-2018-3 to a maximum depth of approximately 5 feet. Generally, native soils underlying the fill across the Site were dense to very dense silty fine to medium sand with gravel and lenses of clay, silt, sand, or gravel, typical of Vashon subglacial till and glacial drift. These native soils extended to the full depth explored of 21.5 feet bgs.

Development of the existing Silver Cloud hotel in 1994 altered surface topography and surficial soils to a limited and uncertain extent. Boring logs from prior investigations (ECI 1988; Geotech 1993; Appendix B and C) indicate the Site may have been underlain by up to 11 feet of fill (B-101) that contained silty sand, rubble and bricks, and wood debris. Underlying the fill, prior boring logs indicate native soils consisting of dense to very dense silty sand typical of Vashon subglacial till extended to a maximum explored depth of 27.5 feet bgs (B-3, ECI 1988).

Figure 7 includes two generalized cross-sections based on the 2020 investigation boring logs and topography. Appendix C includes the boring logs from the prior investigations as well as the boring logs from the 2020 investigation.

Groundwater was encountered at relatively shallow depths during the prior investigations and during the 2020 investigation. Measured depth to groundwater on July 14, 1993 from the top of well casing varied from 3.6 feet (MW-2) to 4.93 feet (MW-3/B-101) (Geotech 1993). The monitoring wells from the prior investigations were apparently not surveyed and, therefore, no historical groundwater flow direction could be interpreted from the depth to groundwater information.

In March 2020, groundwater elevations ranged from 33.95 feet amsl in MW-7 (14.30 feet below top of casing) to 38.86 feet amsl in MW-5 (9.74 feet below top of casing). MW-5 and MW-7 are located at topographically high areas. The shallowest depth of groundwater at the Site was measured in MW-6 (topographically lower) at a depth of 2.75 feet below top of casing. General groundwater flow direction was southerly at a gradient of 0.0306 (Figure 4).

4.2 Contaminants of Concern, Release, and Fate and Transport

In accordance with MTCA regulations, the Site is defined as that area where contaminants have come to be located. Based on the prior investigations and remedial actions, the Site was the area of the former three heating oil/diesel USTs and remedial excavations (Figure 3). The Site was entirely located within the boundaries of the Property.

The general release mechanism at the Site was a release of heating oil/diesel from the three USTs formerly located on the northern portion of the Property. The specific release mechanism was not known or indicated but typically would be a leak from the tanks themselves, leaks from product piping, spills from overfilling or product transfer, or a combination of these release mechanisms.

The contaminants of potential concern (COPCs) and confirmed Site contaminants of concern (COCs) investigated as documented in the prior reports were:

- Total petroleum hydrocarbons (TPH)
- Gasoline-range organics (GRO)
- Diesel-range organics (DRO)
- Oil-range organics (ORO)
- Volatile organic compounds (VOCs - aromatic and halogenated), including benzene, toluene, ethylbenzene, and xylene (BTEX)
- Polychlorinated biphenyls (PCBs)

GRO, VOCs (including BTEX), and PCBs were not detected at the Site above laboratory reporting limits or above MTCA Method A CULs. Therefore, the COCs at the Site are limited to DRO and ORO; or TPH in accordance with the analytical methods used at the time of the prior investigations and remedial actions. Soil and groundwater samples collected in February and March 2020 investigation activities did not contain DRO or ORO at concentrations above the MTCA Method A CUL.

4.3 Exposure Pathways and Receptors

Based on a review of prior investigations and remedial actions described in Section 2.0, PCS was treated onsite through bioremediation and then reused onsite as fill (Section 2.2). Approximately 30,000 gallons of water that had accumulated in the north UST excavations were discharged to the sanitary sewer system. Excavation verification soil samples, final bioremediation soil stockpile samples, and groundwater samples from monitoring wells were all less than applicable MTCA Method A CULs. Overall, based on the remedial actions and final sampling results, exposure pathways to potential receptors were eliminated.

Terrestrial ecological receptors are discussed in Section 4.1. Golder completed a Terrestrial Ecological Evaluation (TEE) Form that was submitted to Ecology with the original VCP submittal package (Golder 2016). The Terrestrial Ecological Evaluation Form is also included in Appendix F.

4.3.1 Soil – Direct Contact

Approximately 1,500 cubic yards of PCS were excavated from the northern area around the three heating oil USTs and treated onsite by bioremediation and then reused onsite as fill (Section 2.2). Excavation verification soil samples and final bioremediation soil stockpile samples were all less than applicable MTCA Method A CULs. Approximately 80% of the Property inclusive of the Site is covered by the building and asphalt pavement. Soil analytical results for the COPCs and COCs from soil samples collected from the seven soil borings (B-2018-1 to B-2018-3; MW-5 to MW-8) confirmed that MTCA Method A CULs for soil had been achieved. The soil – direct contact pathway is thus eliminated.

4.3.2 Groundwater – Direct Contact

Groundwater samples collected in July 1993 from MW-1, MW-2, MW-3 (B-101), and MW-4 after completion of remedial actions (excavation and on-site bioremediation) did not detect CPOCs or COCs above laboratory reporting limits or above MTCA Method A CULs. No water supply wells are located within one mile of the Site. Groundwater analytical results for the COPCs and COCs from groundwater samples collected from MW-5 to MW-8 confirmed that MTCA Method A CULs for groundwater had been achieved. The groundwater – direct contact pathway is thus eliminated.

4.3.3 Soil and Groundwater to Indoor Air Pathway

Excavation verification soil samples and final bioremediation soil stockpile samples were all less than applicable MTCA Method A CULs. Groundwater samples collected in July 1993 from MW-1, MW-2, MW-3 (B-101), and MW-4 after completion of remedial actions (excavation and on-site bioremediation) did not detect CPOCs or COCs above laboratory reporting limits or above MTCA Method A CULs. Soil samples from the seven soil borings (B-2018-1 to B-2018-3; MW-5 to MW-8) and groundwater samples from the four monitoring wells (MW-4 to MW-8) confirmed that MTCA Method A CULs for soil and groundwater had been achieved. GRO and VOCs were not detected at the Site in either soil or groundwater. The soil and groundwater to indoor air pathway is thus eliminated.

5.0 PROPOSED CLEANUP STANDARDS

The original release at the Site was from the three heating oil/diesel USTs formerly located on the northern portion of the Property. The specific release mechanism was likely a combination of a leak of heating oil from the tanks themselves, leaks from product piping, or spills from overfilling or product transfer.

The COCs at the Site are limited to DRO and ORO; or TPH in accordance with the analytical methods used at the time of the prior investigations and remedial actions. GRO, VOCs (including BTEX), and PCBs were not detected at the Site above laboratory reporting limits or above MTCA Method A CULs. The MTCA Method A CULs are listed in the following Table 6 and in Tables 1 through 4.

The affected media was soil and groundwater. The proposed cleanup levels for soil and groundwater are MTCA Method A CULs based on the limited number of COCs and the simple cleanup actions (i.e. excavation and on-site bioremediation) used to address the release. MTCA Method A CULs have been achieved for both soil and groundwater based on confirmatory soil and groundwater sample results with concentrations of DRO, ORO, and TPH either not detected or less than MTCA Method A CULs.

Table 6: Proposed Cleanup Standards

COC	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (µg/L)
Diesel-range organics (DRO)	2,000 (1)	500 (2)
Oil-range organics (ORO)	2,000 (1)	500 (2)

Notes:

1. Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses
2. Table 720-1 Method A Cleanup Levels for Groundwater

5.1 Terrestrial Ecological Evaluation

Golder completed a TEE Form that was submitted to Ecology with the original VCP submittal package (Golder 2016), which is also included in Appendix F. Based on the TEE, the Site qualifies for an exclusion from terrestrial ecological evaluation primarily based on WAC 173-340-7491(1)(c)(i) (Ecology 2007), where there is less than 1.5 acres of contiguous undeveloped land on the Site or within 500 feet of the Site.

Other factors considered in the TEE:

- Soil contamination from a release of heating oil/diesel was remediated to less than MTCA Method A CULs. The exposure pathway from soil contamination to soil biota, plants, and wildlife is thus eliminated.
- The Site is in an area developed primarily with commercial properties including hotels, restaurants, parking facilities, and office buildings.
- The Site and surrounding areas are built-up and largely paved. The Site and Property include small areas of intensively managed non-native ornamental landscape.

6.0 SUMMARY AND CONCLUSIONS

6.1 Summary

In 1988, ECI conducted a preliminary investigation of the extent of petroleum hydrocarbons in Property soil and groundwater (ECI 1988). ECI's investigation consisted of drilling 12 soil borings, excavating 2 test pits, installing groundwater monitoring wells in 4 of the 12 borings, and laboratory analysis of soil and groundwater samples for petroleum hydrocarbons. Petroleum hydrocarbons exceeding current MTCA Method A CULs were identified in two shallow (2.5 feet bgs) soil samples at B-1 south of the three heating oil USTs and B-2 located at the northwestern corner of the Property. Four groundwater monitoring wells were installed in borings B-1, B-101, B-102, and B-103. The groundwater sample from B-1 had a TPH concentration of 3.2 ppm which exceeds the current MTCA Method A CUL of 1 ppm for DRO and ORO. BTEX were not detected in the groundwater samples from B-1 and B-101 (adjacent to the 550-gallon gasoline UST).

In 1990 and 1991, Burlington (formerly Chempro) removed a 550-gallon gasoline UST located east of the former retail building and one 10,000-gallon and two 12,000-gallon USTs containing heating oil located near the northern property boundary (Figure 3). Approximately 1,500 cubic yards of excavated soil was placed in an on-site treatment bed for treatment through natural biodegradation and periodic tilling with nitrogen-rich fertilizer. Final verification soil samples from the sidewalls and bottom of the final excavation limits indicated that TPH in soil was detected at concentrations below the current MTCA Method A CUL 2,000 ppm (Table 1). The analytical results indicated the extent of the contamination exceeding the MTCA Method A CUL had been removed from the excavations. Four soil samples were collected from stockpiled soil in the treatment bed that had been removed from the UST excavations and from the expanded excavation. Concentrations of diesel-range hydrocarbons were less than the current MTCA Method A CULs in all four samples (Table 1).

In July 1992, Geotech completed an environmental assessment of the approximately 1,500 cubic yards of soil undergoing bioremediation. In February 1992, the concentration of TPH in soil samples collected from the treatment bed ranged from 13,000 to 18,000 ppm (Table 1). In July of 1992, the detected concentrations ranged from 385 ppm to 719 ppm for an average of 575 ppm. The report concluded that a significant reduction in concentrations of petroleum hydrocarbons had been achieved through bioremediation, but that residual concentrations of hydrocarbons exceeded 200 ppm, the cleanup level in effect at that time. Two samples collected from the treatment bed in September 1992 had concentrations of 300 and 370 ppm (Table 1) (Geotech 1992). These concentrations were all less than the current MTCA Method A CUL of 2,000 ppm for DRO and ORO.

In July 1993, Geotech conducted a study to assess the condition of soil and groundwater in the vicinity of the former USTs and to assess the condition of the soil in the treatment bed undergoing bioremediation. The scope of work included sampling soil from the stockpile and the treatment bed, drilling five soil borings (locations MW-1, MW-2, MW-4, B3, and B-5), installing groundwater monitoring wells in three of the five soil boring locations, and collecting soil and groundwater samples (Figure 3). Petroleum hydrocarbons were not detected in groundwater collected from the four monitoring wells (MW-1, MW-2, MW-4, and B-101 renamed MW-3 by Geotech) (Table 2). BTEX were not detected in groundwater from MW-3 (B-101) located adjacent to the former 550-gallon gasoline UST location. Based on the presumed south groundwater flow direction (and verified during 2020 field investigations), the location of MW-2 is upgradient from the Site (former UST locations) and MW-1 is located downgradient from the Site. MW-4 is located downgradient from the Site and downgradient from the former bioremediation treatment bed.

During February and March 2020, Golder completed the field investigation in accordance with Golder's Site Characterization Work Plan (Golder 2019). The purpose and objective of the proposed Site characterization were to confirm previous remedial actions had sufficiently removed sources of contamination from the Site and that underlying soil and groundwater conditions were not a threat to human health or environment. The scope of the Site characterization included the drilling of three soil borings (B-2018-1 to B-2018-3) and the drilling and installation of four groundwater monitoring wells (MW-5 to MW-8). Soil samples from the seven soil borings (B-2018-1 to B-2018-3; MW-5 to MW-8) and groundwater samples from the four monitoring wells (MW-4 to MW-8) confirmed that MTCA Method A CULs for the COPCs and COCs in soil and groundwater had been achieved.

6.2 Conclusions

The remedial actions and soil and groundwater sampling at the Site have demonstrated that MTCA Method A CULs have been achieved for the COCs of DRO and ORO in soil and groundwater and that conditions at the Site are not a threat to human health and the environment.

7.0 CLOSING

Golder Associates Inc. appreciates the opportunity to provide our services to University Silver Cloud Inn LP. If you have questions or require any additional information, please contact the undersigned at (425) 883-0777.

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https://golderassociates.sharepoint.com/sites/106728/project files/6 deliverables/ri report - 2020/1650276-rev0-silver cloud ri report-2020-052720.docx

8.0 REFERENCES

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Tables

Table 1: Historical Soil Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample ID	Sample Location	Date Sampled	Sample Depth (feet bgs)	Fuel Scan in Soil[1] (ppm)			Petroleum Hydrocarbons (ppm)						PCBs[8] (ppm)	Aromatic Volatile Organics[9] (ppm)			
				Gasoline	Diesel #1	Diesel #2	Petroleum Hydrocarbons[2]	WTPH-D[3]	WTPH-HCID[4]	WTPH-G[5]	WTPH-Heavy Oils[6]	Total Extractable Hydrocarbons[7]		Benzene	Toluene	Ethylbenzene	Xylenes
Preliminary Hydrocarbon Evaluation (Earth Consultants Inc. 1988)																	
B-1		06/1988	2.5				**3900**										
B-2		06/1988	2.5				**4060**										
B-3		06/1988	2.5				234										
B-3		06/1988	3.5				29.7										
B-4		06/1988	2.5				74.4										
B-4		06/1988	3.5				176										
B-101		06/1988	2.5				<5.0										
B-101		06/1988	7.5				<5.0										
B-101		06/1988	12.5				<5.0										
B-102		06/1988	2.5				<5.0										
B-102		06/1988	7.5				<5.0										
B-104		06/1988	2.5				<5.0										
B-104		06/1988	5.0				<5.0										
B-105		06/1988	2.5				<5.0										
B-105		06/1988	7.5				<5.0						ND				
B-105		06/1988	12.5				<5.0										
B-106		06/1988	2.5	ND	ND	ND	123										
B-106		06/1988	7.5				<5.0										
B-107		06/1988	1.0	ND	ND	170	347						ND				
Tank Removal and Soil Excavation (Burlington Environmental Inc. 1990 - 1992)																	
A/B	Stockpile	12/4/1990									**2300**						
C	Stockpile	12/4/1990									910						
238-15	Composite side wall tank 1	11/29/1990	8.0								830						
238-25	Composite side wall tank 2	11/29/1990	8								1500						
238-35	Composite side wall tank 3	11/29/1990	8								**2200**						
A	Tank 1 bottom	11/28/1990	12								**2100**						
B	Tank 2 bottom	11/28/1990	12								15						
C	Tank 3 bottom	11/28/1990	12								49						
D	North wall of east excavation	11/30/1990	8								10						
E	East wall of east excavation	11/30/1990	8								53						
F	South wall of east excavation	11/30/1990	8								19						
G	Bottom NW of east excavation	11/30/1990	8								25						
H	Bottom NE of east excavation	11/30/1990	15								5.7						
I	Bottom NE of east excavation	11/30/1990	15								6						
J	Mid bottom of east excavation	11/30/1990	15								19						
K	Bottom of SW of east excavation	11/30/1990	15								46						
L	Bottom of SE of east excavation	11/30/1990	15								7.3						
M	NE wall of west excavation	12/11/1990	8								23						
N	East wall of west excavation	12/11/1990	8								1400						

Table 1: Historical Soil Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample ID	Sample Location	Date Sampled	Sample Depth (feet bgs)	Fuel Scan in Soil[1] (ppm)			Petroleum Hydrocarbons (ppm)						PCBs[8] (ppm)	Aromatic Volatile Organics[9] (ppm)			
				Gasoline	Diesel #1	Diesel #2	Petroleum Hydrocarbons[2]	WTPH-D[3]	WTPH-HCID[4]	WTPH-G[5]	WTPH-Heavy Oils[6]	Total Extractable Hydrocarbons[7]		Benzene	Toluene	Ethylbenzene	Xylenes
O	SE wall of west excavation	12/11/1990	8								**6600**						
P	NW wall of west excavation	12/11/1990	8								12						
Q	West wall of west excavation	12/11/1990	8								170						
R	SW wall of west excavation	12/11/1990	8								170						
	Tank 2 and 3 composite	12/11/1990									**2500**						
S	Test pit A	1/14/1991	6								**21000**						
T	Test pit B	1/14/1991	4								120						
U	Test pit C	1/14/1991	4								69						
V	Test pit D	1/14/1991	4								24						
Additional Excavation (Burlington Environmental Inc. 1991 - 1992)																	
Excavation	West wall	5/2/1991									19	4.0					
	West Floor	5/2/1991									16	3.3					
	East Wall	5/2/1991									31	2.7					
	East Floor	5/6/1991									14	5.4					
	West wall B	5/6/1991									7.7	4.3					
	West floor B	5/6/1991									18	8.2					
	East wall B	5/6/1991									7.7	2.7					
	East floor B	5/6/1991									7.2	3.4					
Treatment Bed	North	1/8/1992										1300					
	West	1/8/1992										1800					
Characterization of Treatment Bed Soil (Geotech Consultants, Inc. 1992)																	
HC-1	Treatment Bed Stockpile 2	6/12/1992	-					667									
HC-2	Treatment Bed Stockpile 1, 2, and 3	6/12/1992	-					385									
HC-3	Treatment Bed Stockpile 4, 5, and 6	6/12/1992	-					492									
HC-4	Treatment Bed Stockpile 7, 8, and 9	6/12/1992	-					719									
HC-5	Treatment Bed Stockpile 10, 11, and 12	6/12/1992	-					604									
HC-6	Treatment Bed Stockpile 8	6/12/1992	-					580									
7, 8, 9	Treatment Bed	9/11/1992						370									
2A	Treatment Bed	9/11/1992						300									
Borings and Characterization of Treatment Bed Soil (Geotech Consultants, Inc. 1993)																	
B1-3	MW-1	6/22/1993	7.5						ND								
B2-1	MW-2	6/22/1993	5.0						ND								
B4-1	MW-4	6/22/1993	3.0						ND								
B3-2	B-3	6/22/1993	5.0						ND								
B3-3	B-3	6/22/1993	7.5						ND								
B5-1	B-5	6/22/1993	5.5						ND								
Fill	Fill stockpile, west of excavation	6/22/1993	-						ND								
S-3	Stained surface soil, east of garage	6/22/1993	-							28	55			0.075	0.40	0.14	0.93

Table 1: Historical Soil Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample ID	Sample Location	Date Sampled	Sample Depth (feet bgs)	Fuel Scan in Soil[1] (ppm)			Petroleum Hydrocarbons (ppm)						PCBs[8] (ppm)	Aromatic Volatile Organics[9] (ppm)			
				Gasoline	Diesel #1	Diesel #2	Petroleum Hydrocarbons[2]	WTPH-D[3]	WTPH-HCID[4]	WTPH-G[5]	WTPH-Heavy Oils[6]	Total Extractable Hydrocarbons[7]		Benzene	Toluene	Ethylbenzene	Xylenes
11, 12, 13	Treatment Bed	7/14/1993	-					210									
14, 15, 16	Treatment Bed	7/14/1993	-					170									
17, 18, 19	Treatment Bed	7/14/1993	-					190									
20, 21, 22	Treatment Bed	7/14/1993	-					210									
23, 24, 25	Treatment Bed	7/14/1993	-					390									
MTCA Method A Cleanup Level (current - adopted 2001)				100/30[10]	2000	2000	2000	2000		100/30[10]	2000	2000	1	0.03	7	6	9
MTCA Method A Cleanup Levels (1991)				100	200	200	200	200		100	200	200	1	0.5	40	20	20

Abbreviations:

feet bgs	Feet below ground surface
WTPH-D	Washington Total Petroleum Hydrocarbons-Diesel
WTPH-G	Washington Total Petroleum Hydrocarbons-Gasoline
WTPH-HCID	Washington Total Petroleum Hydrocarbons-Hydrocarbons Identification
MTCA	Model Toxics Control Act
ND	Non Detect
PCB	polychlorinated biphenyl
ppm	parts per million
TPH	Total Petroleum Hydrocarbons
VCP	Voluntary Cleanup Program
	Result exceeds current MTCA Method A Cleanup Levels (adopted 2001)

Notes:

[1] Method E-3545-1 (fuel scan)
[2] Method 503 B (total oil and grease), Method 503E (silica gel separation)
[3] Method WTPH-D
[4] Method WTPH-HCID
[5] Method WTPH-G
[6] Method 418.1 WTPH-Heavy Oils
[7] Method 8015-Modified Total Extractable Hydrocarbons
[8] Method E-3545-1 (PCBs)
[9] Method 8020 Aromatic Volatile Organics
[10] Cleanup level is 30ppm when benzene is present
Blank cells indicate not analyzed

Table 2: Historical Groundwater Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample Location	Date Sampled	Petroleum Hydrocarbons[1] (µg/L)			Volatile Aromatic Compounds[2] (µg/L)					PCBs[3] (µg/L)	Purgeable Halocarbons[2] (µg/L)																						
		Petroleum Hydrocarbons	'TPH-Diesel[4]	TPH-Gas[5]	Benzene	Toluene	Ethylbenzene	Xylene (M+P)	Xylene (o)		Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Dichlorodifluoromethane	Trichlorofluoromethane	1,1-Dichloroethylene	Methylene Chloride	Trans-1, 2-Dichloroethylene	1,1-Dichloroethane	Chloroform	1, 1, 1-Trichloroethane	Carbon Tetrachloride	1, 2-Dichloroethane	Trichloroethylene	1, 2-Dichloropropane	Dichlorobromomethane	Trans-1, 3-Dichloropropene	Cis-1, 3-Dichloropropene	1, 1, 2-Trichloroethane	Tetrachloroethylene	Dibromochloromethane	Bromoform	1, 1, 2, 2,-Tetrachloroethane
B-1	06/01/88	**3200**			<0.5	<0.5	<0.5	<0.5	<0.5	<0.4	<0.3	<0.2		<0.3	<0.2	<0.2	<25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B-101	06/01/88				<0.5	<0.5	<0.5	<0.5	<0.5																								
B102	06/01/88				<0.5	<0.5	<0.5	<0.5	<0.5		<0.3	<0.2	<0.2	<0.3	<0.2	<0.2	<25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
B103	06/01/88				<0.5	<0.5	<0.5	<0.5	<0.5		<0.3	<0.2	<0.2	<0.3	<0.2	<0.2	<25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Catch Basin	06/01/88	68007			<0.5	<0.5	<0.5	<0.5	<0.5		<0.3	<0.2	<0.2	<0.3	<0.2	<0.2	<25	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Water	11/30/90	58																															
MW-1	07/14/93		<0.50																														
MW-2	07/14/93		<0.50																														
MW-3 (B-101)	07/14/93			<300	<1	<1		<1	<1																								
MW-4	07/14/93		<0.50																														
MTCA Method A Cleanup Level (adopted 2001)		500	500	1000/ 800[6]	5	1000		1000	1000	0.1		0.2						5				200		5	5					5			

Abbreviations:

MTCA	Model Toxics Control Act
ND	Non Detect
PCB	polychlorinated biphenyl
ppm	parts per million
TPH	Total Petroleum Hydrocarbons
VCP	Voluntary Cleanup Program
WTPH-D	Washington Total Petroleum Hydrocarbons-Diesel
WTPH-G	Washington Total Petroleum Hydrocarbons-Gasoline
WTPH-HCID	Washington Total Petroleum Hydrocarbons-Hydrocarbons Identification
µg/L	micrograms per liter
	Result exceeds MTCA Method A Cleanup Level

Notes:

[1] Method 503D from Standard Methods for Examination of Water and Waste Water
[2] Methods 601 Purgeable Aromatic Compounds and 602 Purgeable Aromatics
[3] Method for PCBs
[4] Method WTPH-D
[5] Method WTPH-G
[6] 800 µg/L where benzene is present
[7] Catch basin water sample not subject to groundwater cleanup levels
Blank cells indicate not analyzed

Table 3: Monitoring Well Construction Summary
Silver Cloud Inn U-District Remedial Investigation

Monitoring Well	Date Installed	Well Data					
		Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Bentonite Seal (feet bgs)	Casing Diameter (inches)	Rim Elevation[1] (feet NAD 83)	TOC Elevation[1] (feet NAD 83)
MW-5	2/24/2020	21.0	5-15	2-4	2	49.05	48.60
MW-6	2/24/2020	21.5	5.5-15.5	2-4	2	42.31	41.49
MW-7	2/26/2020	21.5	7.5-17.5	2-5	2	48.79	48.25
MW-8	2/25/2020	21.5	5-15	2-4	2	41.95	41.45

Notes:

feet bgs	Feet below ground surface
feet amsl	Feet above mean sea level
NAD 83	North American Datum of 1983
TOC	Top of casing inside PVC well

[1] Wells surveyed by David Evans and Associates, Inc. on March 31, 2020

Table 4: 2020 Soil Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample ID	Date Sampled	Sample Depth (feet bgs)	Total Petroleum Hydrocarbons (mg/kg)			Volatile Organic Compounds[3] (mg/kg)				Metals[4] (mg/kg)
			Gasoline Range Organics[1]	Diesel Range Organics[2]	Oil Range Organics[2]	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
MW-5-10	2/25/2020	10.0	< 6.4	< 31	< 63	< 0.020	< 0.064	< 0.064	< 0.128	< 6.3
MW-5-20	2/25/2020	20.0	< 6.2	< 30	< 61	< 0.020	< 0.062	< 0.062	< 0.124	< 6.1
MW-6-7.5	2/25/2020	7.5	< 6.0	42	110	< 0.020	< 0.060	< 0.060	< 0.120	< 5.7
MW-6-20	2/25/2020	20.0	< 5.9	< 29	< 58	< 0.020	< 0.059	< 0.059	< 0.118	< 5.8
MW-7-13	2/26/2020	13.0	< 5.9	< 27	< 53	< 0.020	< 0.059	< 0.059	< 0.118	< 5.3
MW-7-19	2/26/2020	19.0	< 5.9	< 29	< 58	< 0.020	< 0.059	< 0.059	< 0.118	< 5.8
MW-8-7.5	2/26/2020	7.5	< 5.6	< 28	< 55	< 0.020	< 0.056	< 0.056	< 0.112	< 5.5
MW-8-20	2/26/2020	20.0	< 6.0	< 29	< 59	< 0.060	< 0.060	< 0.060	< 0.120	< 5.9
B-2018-1-10	2/25/2020	10.0	< 6.4	< 30	< 60	< 0.020	< 0.064	< 0.064	< 0.128	< 6.0
B-2018-1-20	2/25/2020	20.0	< 5.4	< 28	< 56	< 0.020	< 0.054	< 0.054	< 0.108	< 5.6
B-2018-2-8	2/25/2020	8.0	< 5.6	< 28	< 56	< 0.020	< 0.056	< 0.056	< 0.112	< 5.6
B-2018-2-20	2/25/2020	20.0	< 4.9	< 28	< 57	< 0.020	< 0.049	< 0.049	< 0.098	< 5.6
B-2018-3-5	2/25/2020	5.0	< 6.6	< 27	< 55	< 0.020	< 0.066	< 0.066	< 0.132	< 5.5
B-2018-3-10	2/25/2020	10.0	< 6.2	< 28	< 57	< 0.020	< 0.062	< 0.062	< 0.124	< 5.7
B-2018-3-20	2/25/2020	20.0	< 4.8	< 28	< 57	< 0.020	< 0.048	< 0.048	< 0.096	< 5.7
MTCA Method A Cleanup Level			100/30[5]	2000	2000	0.03	7	6	9	250

Abbreviations:

feet bgs	Feet below ground surface
mg/kg	milligrams per kilogram
MTCA	Model Toxics Control Act
<	Result below the Practical Quantitation Limit
	Result exceeds current MTCA Method A Cleanup Level

Notes:

[1] Method NWTPH-Gx
[2] Method NWTPH-Dx
[3] EPA Method 8021B
[4] EPA Method 6010D
[5] Cleanup level is 30 mg/kg when benzene is present

Table 5: 2020 Groundwater Elevations and Analytical Results
Silver Cloud Inn U-District Remedial Investigation

Sample Location	Date Sampled	Top of Casing Elevation (feet NAD 83)[1]	Groundwater Elevation (feet NAD 83)	Total Petroleum Hydrocarbons (µg/L)			Volatile Organic Compounds[4] (µg/L)				Total Metals[5] (µg/L)
				Gasoline Range Organics[2]	Diesel Range Organics[3]	Oil Range Organics[3]	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
MW-5	03/06/20	48.60	38.86	< 100	< 210	< 210	< 1.0	< 1.0	< 1.0	< 2.0	< 1.1
MW-6	03/06/20	41.49	38.74	< 100	< 220	< 220	< 1.0	< 1.0	< 1.0	< 2.0	< 1.1
MW-6 (Duplicate)	03/06/20	--	--	< 100	< 220	< 220	< 1.0	< 1.0	< 1.0	< 2.0	< 1.1
MW-7	03/06/20	48.25	33.95	< 100	< 210	< 210	< 1.0	< 1.0	< 1.0	< 2.0	< 1.1
MW-8	03/06/20	41.45	34.58	< 100	< 220	420	< 1.0	< 1.0	< 1.0	< 2.0	< 1.1
MTCA Method A Cleanup Level				1000/ 800[6]	500	500	5	1000	700	1000	15

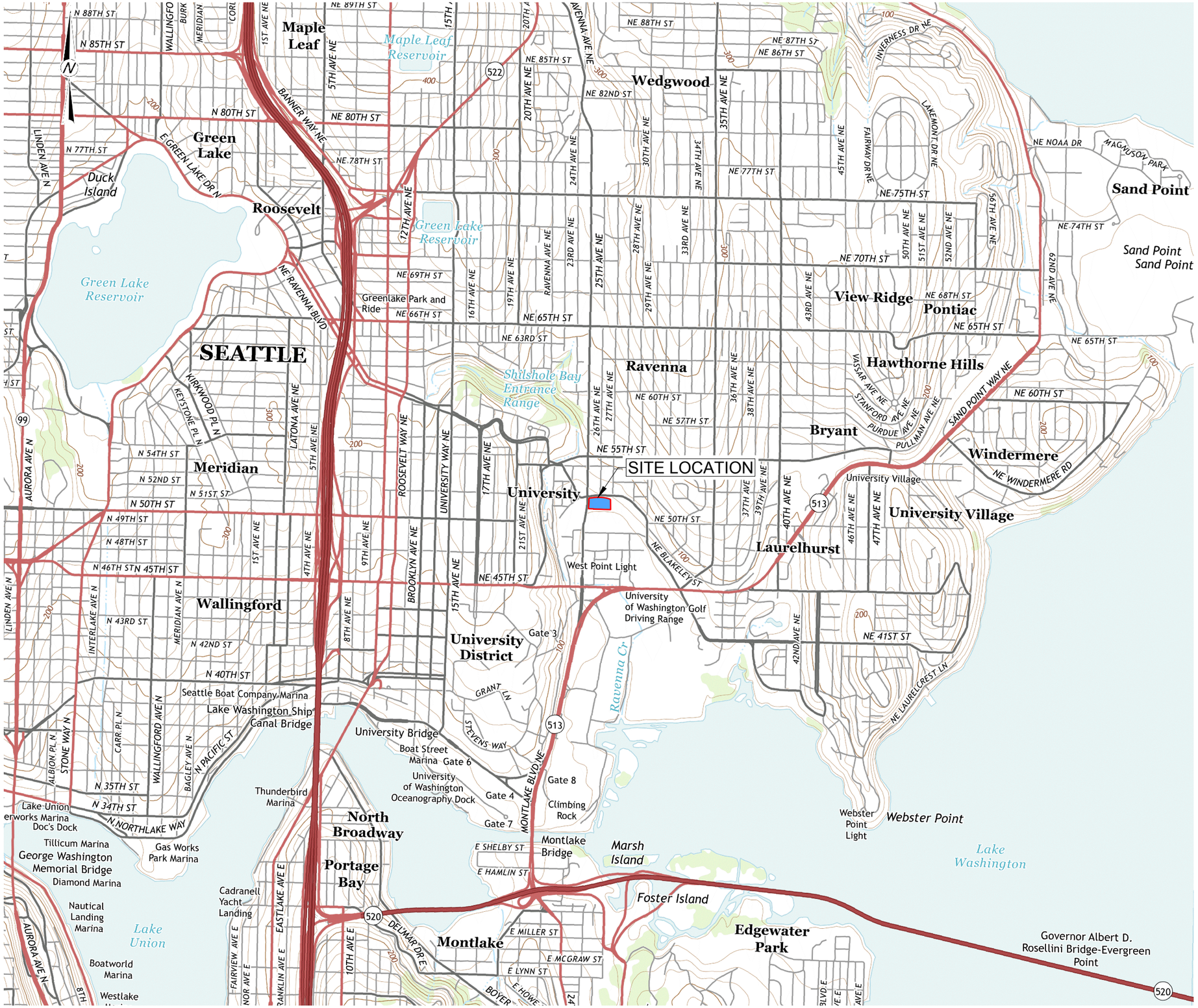
Abbreviations:

MTCA	Model Toxics Control Act
NAD 83	North American Datum of 1983
µg/L	micrograms per liter
<	Result below the Practical Quantitation Limit
	Result exceeds MTCA Method A Cleanup Level

Notes:

[1] Surveyed March 31, 2020 by David Evans & Associates, Inc.
[2] Method NWTPH-Gx
[3] Method NWTPH-Dx
[4] EPA Method 8021B
[5] EPA Method 200.8
[6] 800 µg/L where benzene is present

Figures



REFERENCE(S)

7.5-MINUTE QUADRANGLE MAP PROVIDED BY THE UNITED STATES GEOLOGICAL SURVEY, DOWNLOADED IN PDF FORMAT ON 2017-07-18.

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1in

Path: \\redmond.golder.gds\data\geomatics\SilverCloudInc\Seattle\99_PROJECTS\1650276_SilverCloudInc02_PRODUCTION\DWGs | File Name: 1650276_300_002.dwg | Last Edited By: tybarr Date: 2020-04-15 Time:4:54:01 PM | Printed By: tybarr Date: 2020-04-16 Time:10:01:53 AM

LEGEND

PROPERTY BOUNDARY

NOTE(S)

1. DRAWING COORDINATE SYSTEM: WASHINGTON STATE PLANE, NORTH ZONE, US FOOT.

0 30 60
1" = 30' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
SITE PLAN

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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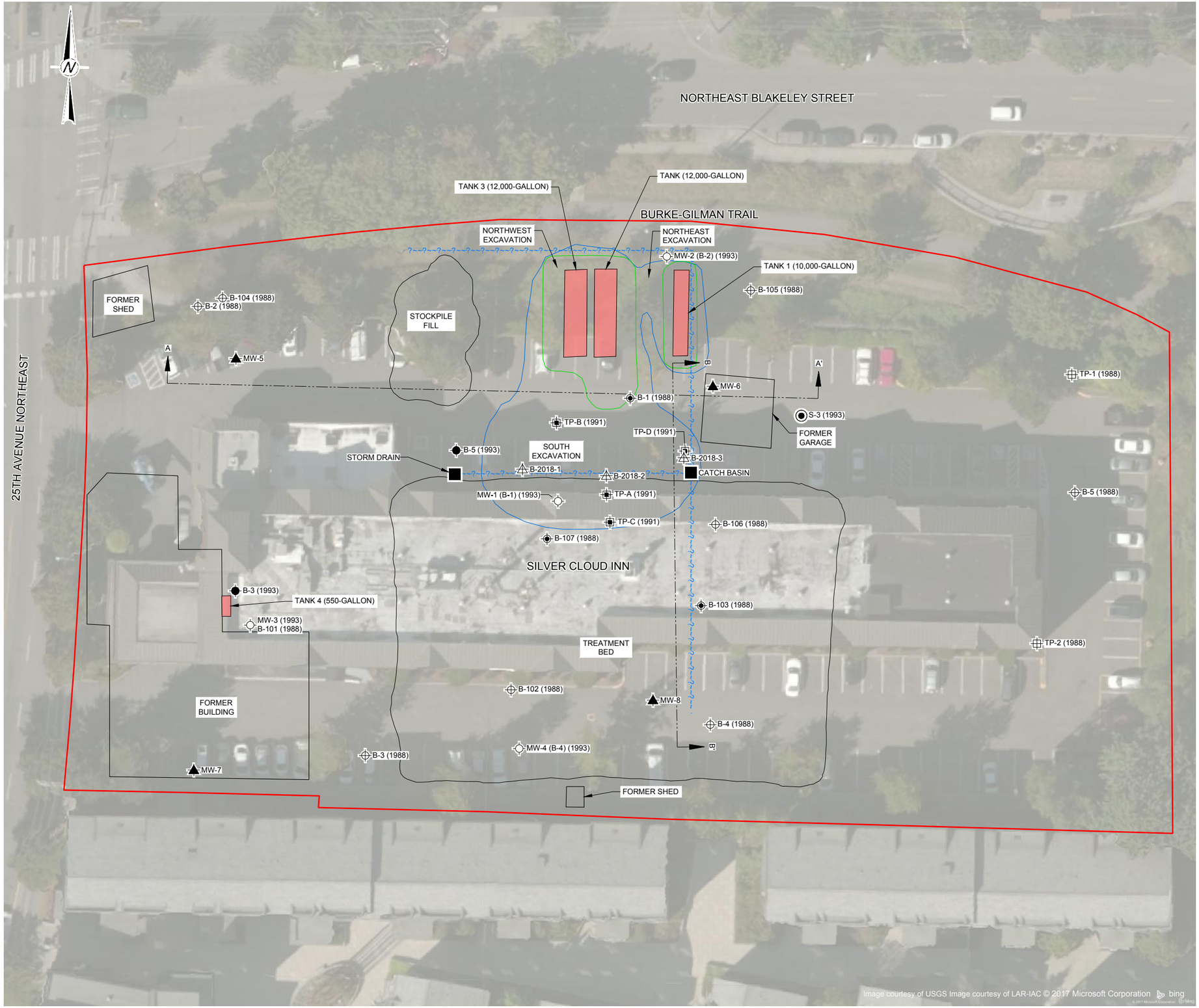

LEGEND

- SOIL BORING INSTALLED BY GOLDER, 2020
- MONITORING WELL INSTALLED BY GOLDER, 2020
- SOIL BORING INSTALLED BY EARTH CONSULTANTS, INC. 1988
- MONITORING WELL INSTALLED BY EARTH CONSULTANTS INC. 1988
- SOIL BORING INSTALLED BY GEOTECH CONSULTANTS, INC. 1993
- MONITORING WELL INSTALLED BY GEOTECH CONSULTANTS INC. 1993
- TEST PIT LOCATION INSTALLED BY EARTH CONSULTANTS, INC. 1988
- TEST PIT INSTALLED BY BURLINGTON ENVIRONMENTAL 1991
- SAMPLING LOCATION BY GEOTECH CONSULTANTS INC. 1993
- EXCAVATION BY BURLINGTON ENVIRONMENTAL, INC. NOVEMBER 1990
- ADDITIONAL EXCAVATION BY BURLINGTON ENVIRONMENTAL, INC. APRIL-MAY 1991
- HISTORICAL FEATURES OUTLINE
- INTERCEPTOR TRENCH DRAIN - REMOVED
- UNDERGROUND STORAGE TANK - REMOVED

NOTE(S)

1. DRAWING COORDINATE SYSTEM: WASHINGTON STATE PLANE, NORTH ZONE, US FOOT.
2. APPROXIMATE LOCATION OF STRUCTURES, USTS, SOIL BORINGS, INTERCEPTOR TRENCH DRAIN AND GROUNDWATER MONITORING WELLS.
3. B101 WAS INSTALLED AS A MONITORING WELL IN 1988. THIS WELL WAS SAMPLED IN 1993AND LABELED AS MW-3 IN THE GEOTECH CONSULTANTS INC. 1993 REPORT.
4. TWO SEPARATE BORINGS LABELED B-3 WERE INSTALLATED: ONE IN 1988 BY EARTH CONSULTANTS INC. AND ONE IN 1993 BY GEOTECH CONSULTANTS, INC.

REFERENCE(S)

GEOTECH CONSULTANTS (FEATURES WERE DIGITIZED FROM GEOREFERENCED EXPLORATION PLAN MAP)

0 20 40
1" = 20' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
SITE LAYOUT PLAN

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL INSTALLED BY GOLDER, 2020
- (38.86) GROUNDWATER POTENTIOMETRIC ELEVATION
- 35 POTENTIOMETRIC SURFACE CONTOUR
- INFERRED DIRECTION OF GROUNDWATER FLOW
- 0.0306 ft/ft GROUNDWATER GRADIENT

NOTE(S)

1. DRAWING COORDINATE SYSTEM: WASHINGTON STATE PLANE, NORTH ZONE, US FOOT.

0 30 60
1" = 30' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
GROUNDWATER CONTOUR MAP, MARCH 6, 2020

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	4

LEGEND

- SUBJECT PROPERTY BOUNDARY
- 10-FOOT CONTOUR
- 2-FOOT CONTOUR

NOTE(S)

1. DRAWING COORDINATE SYSTEM: WASHINGTON STATE PLANE, NORTH ZONE, US FOOT.

REFERENCE(S)

1. 2016 TOPOGRAPHIC SURFACE PROVIDED BY THE PUGET SOUND LiDAR CONSORTIUM, DOWNLOADED AS SHAPE FILES, ACCESSED ON 2017-07-18. (NAVD88 VERTICAL DATUM)

0 30 60
1" = 30' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
GENERALIZED TOPOGRAPHIC MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

LEGEND

- DRAIN LINE - MAIN LINE
- DRAIN LINE - NON-MAIN LINE
- CATCH BASIN

REFERENCE(S)

1. DRAWING COORDINATE SYSTEM: WASHINGTON STATE PLANE, NORTH ZONE, US FOOT.
2. DRAIN LINES AND CATCH BASINS PROVIDED BY CITY OF SEATTLE GIS DATABASE, DOWNLOADED IN SHAPEFILE FORMAT, DATED 2017.

0 30 60
1" = 30' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
GENERALIZED STORM DRAIN AND SANITARY SEWER MAP

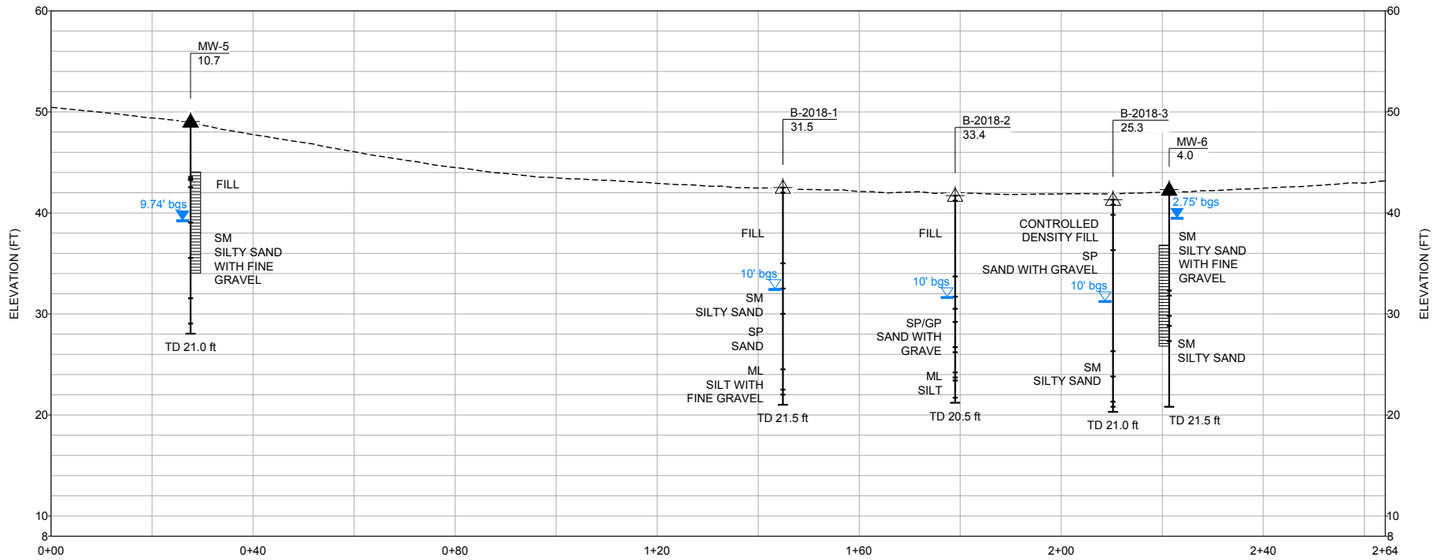
CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	6

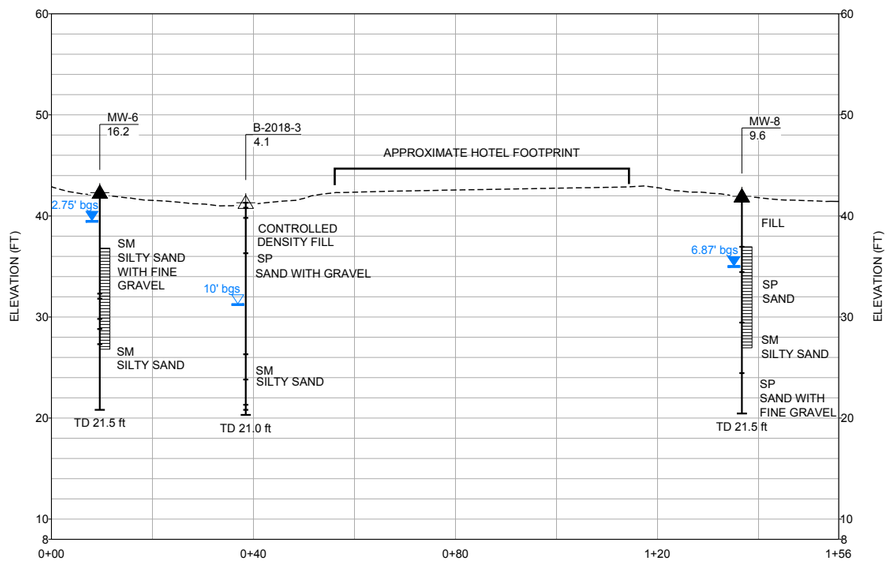
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in



A

CROSS-SECTION A-A'
SCALE 1" = 15'
2x Vertical Exaggeration



B

CROSS-SECTION B-B'
SCALE 1" = 15'
2x Vertical Exaggeration

LEGEND

- EXISTING GROUND ELEVATION (NAVD88 VERTICAL DATUM)
- SOIL BORING INSTALLED BY GOLDER, 2020
- MONITORING WELL INSTALLED BY GOLDER, 2020
- GROUNDWATER DEPTH MEASURED ON MARCH 6, 2020
- GROUNDWATER DEPTH OBSERVED DURING DRILLING

REFERENCE(S)

1. 2016 TOPOGRAPHIC SURFACE PROVIDED BY THE PUGET SOUND LiDAR CONSORTIUM, DOWNLOADED AS SHAPE FILES, ACCESSED ON 2017-07-18.

0 15 30
1" = 15' FEET

CLIENT
SILVER CLOUD INNS & HOTELS

PROJECT
REMEDIAL INVESTIGATION
SILVER CLOUD HOTEL SEATTLE - UNIVERSITY DISTRICT

TITLE
CROSS SECTIONS

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	TH
PREPARED	REDMOND
REVIEWED	TH
APPROVED	NG

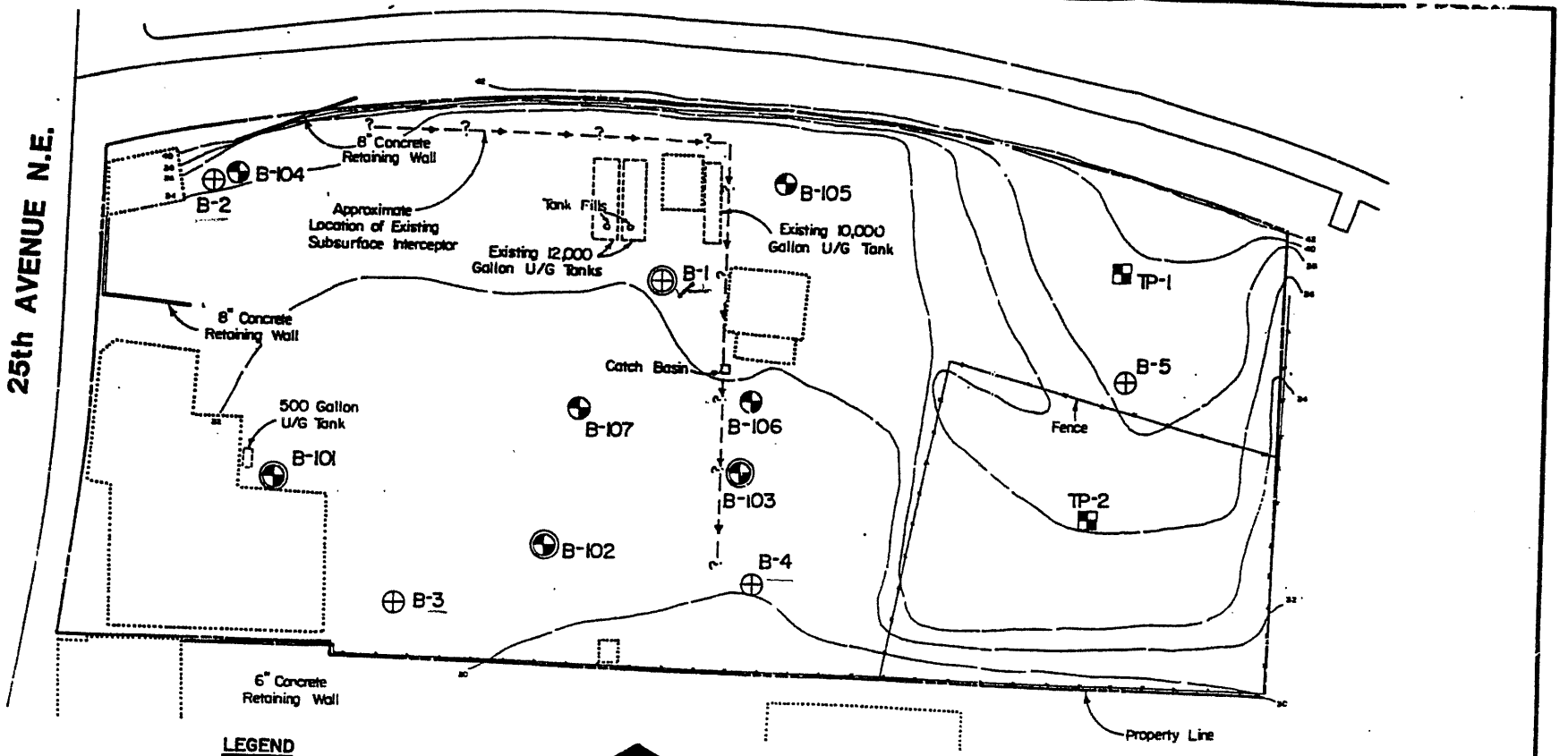
PROJECT NO.	PHASE	REV.	FIGURE
1650276	300	A	7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

APPENDIX A

Figures from Prior Investigations



LEGEND

B-101 Approximate Location of ECI Boring, Proj. No. E-3545-1, June 1988

Indicates Installation of Monitoring Well in Boring

TP-1 Approximate Location of ECI Test Pit, Proj. No. E-3545-1, June 1988

⊕ B-1 Approximate Location of ECI Boring, Proj. No. E-3545, Sept. 1987

Existing Building

N

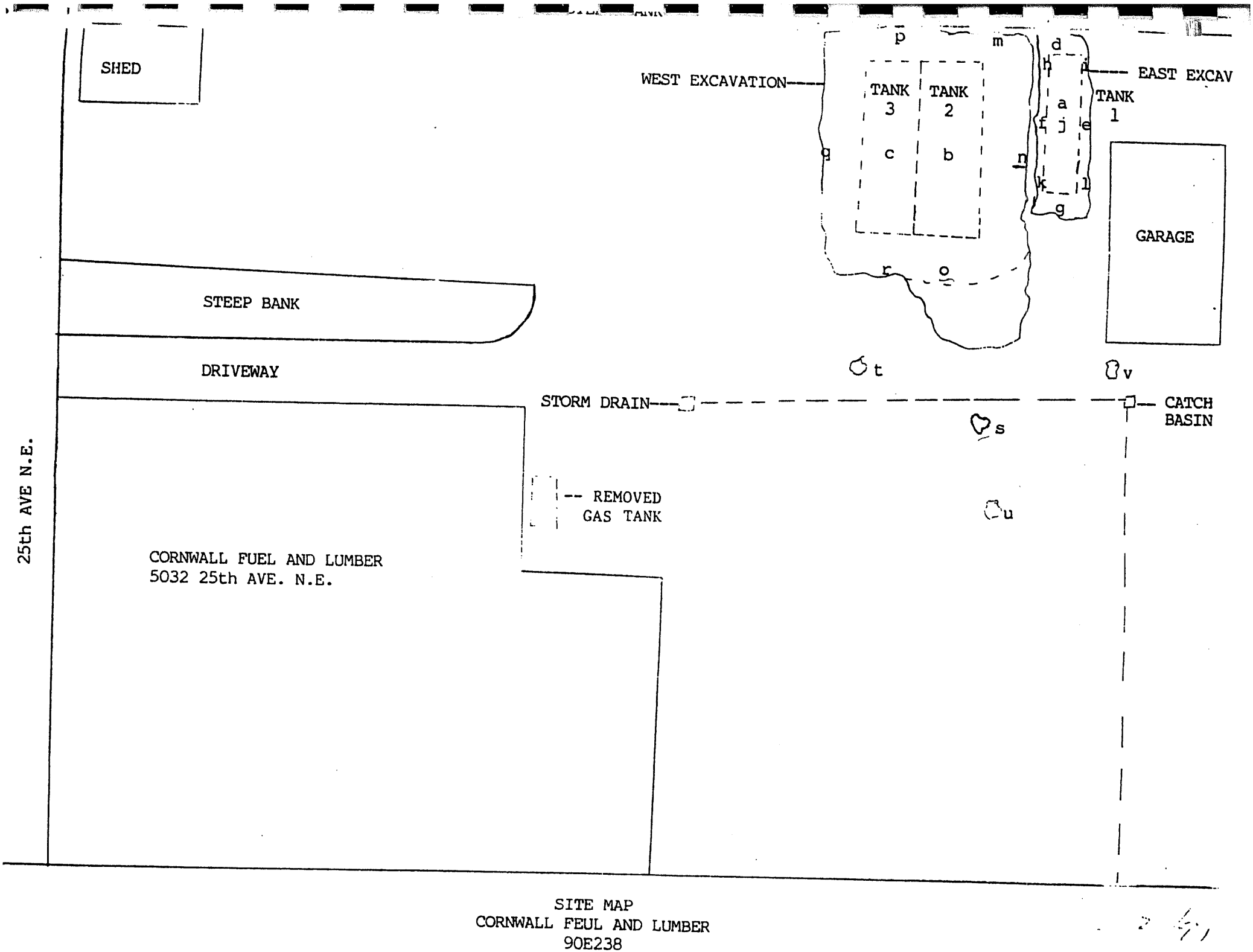
Approximate Scale
0 20 40 60ft.

Reference :
Job No. 880881.00
Boundary & Topographic Survey
By Bush, Reed & Hitchings, Inc.
Dated 5/10/88

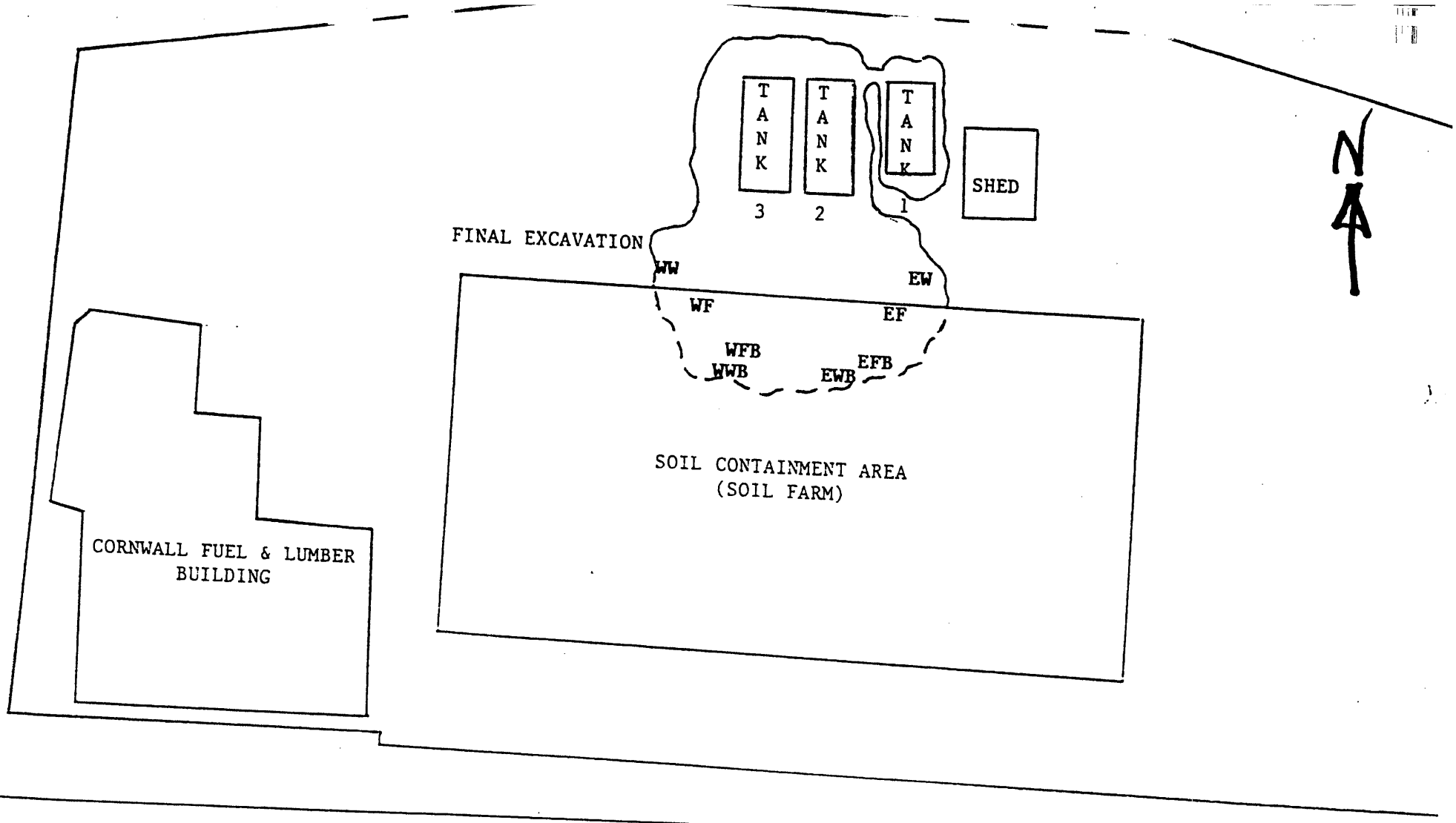
Earth Consultants Inc.
Geotechnical Engineering and Geology

Boring and Test Pit Location Plan
Cornwall Fuel Site
Seattle, Washington

Proj. No. 3545-1	Date June '88	Plate 2



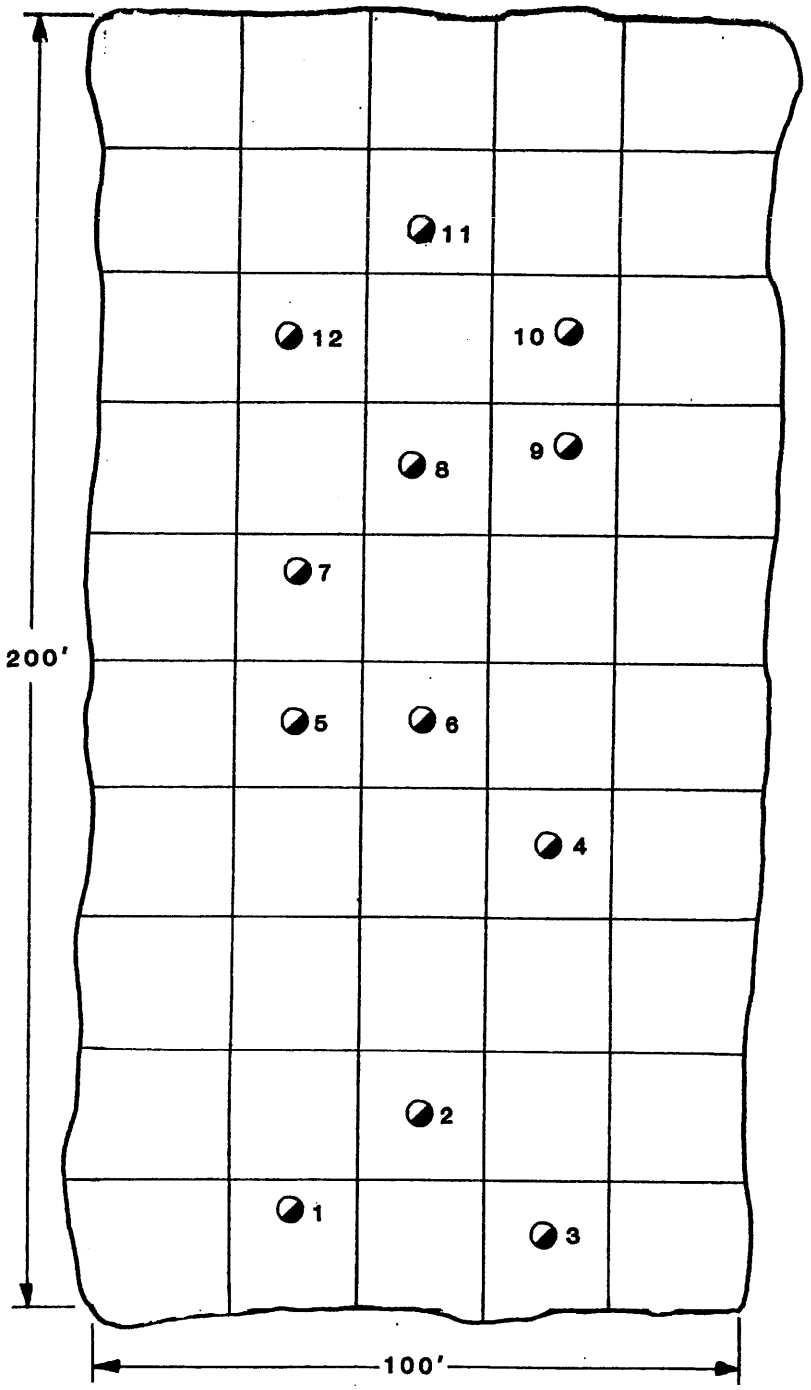
SITE MAP
CORNWALL FEUL AND LUMBER
90E238



MAP LOCATION	SAMPLE #	418.1 ANALYSIS	8015 ANALYSIS
WW	WEST WALL	19 PPM	4.0 PPM
WF	WEST FLOOR	16 PPM	3.3 PPM
EW	EAST WALL	31 PPM	2.7 PPM
EF	EAST FLOOR	14 PPM	5.4 PPM
WWB	WEST WALL B	7.7 PPM	4.3 PPM
WFB	WEST FLOOR B	18 PPM	8.2 PPM
EWB	EAST WALL B	7.7 PPM	2.7 PPM
EFB	EAST FLOOR B	7.2 PPM	3.4 PPM

CORNWALL FUEL & LUMBER
SITE MAP
90E238

NOTE: SAMPLE LOCATIONS ARE IN BOLD TYPE.



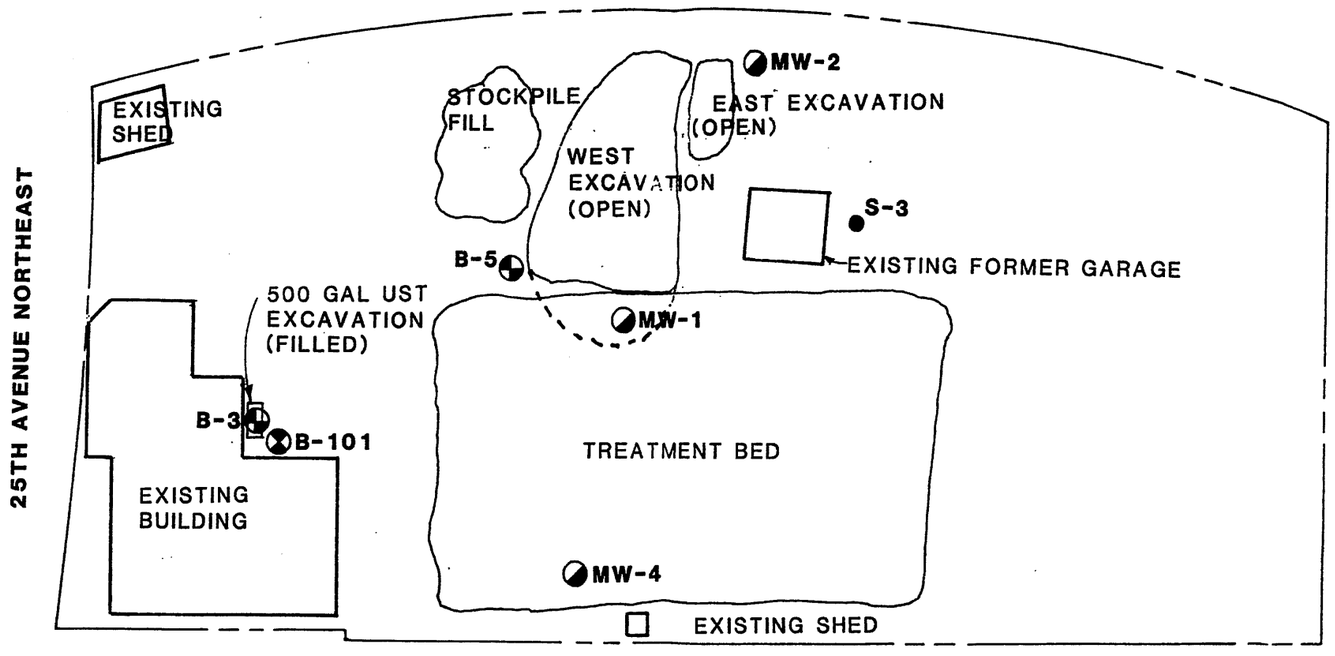
LEGEND:

◐ APPROXIMATE SAMPLE LOCATION

GEOTECH CONSULTANTS

SAMPLE LOCATION PLAN
5036 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
92273E	JULY 1992	1"=30'	1



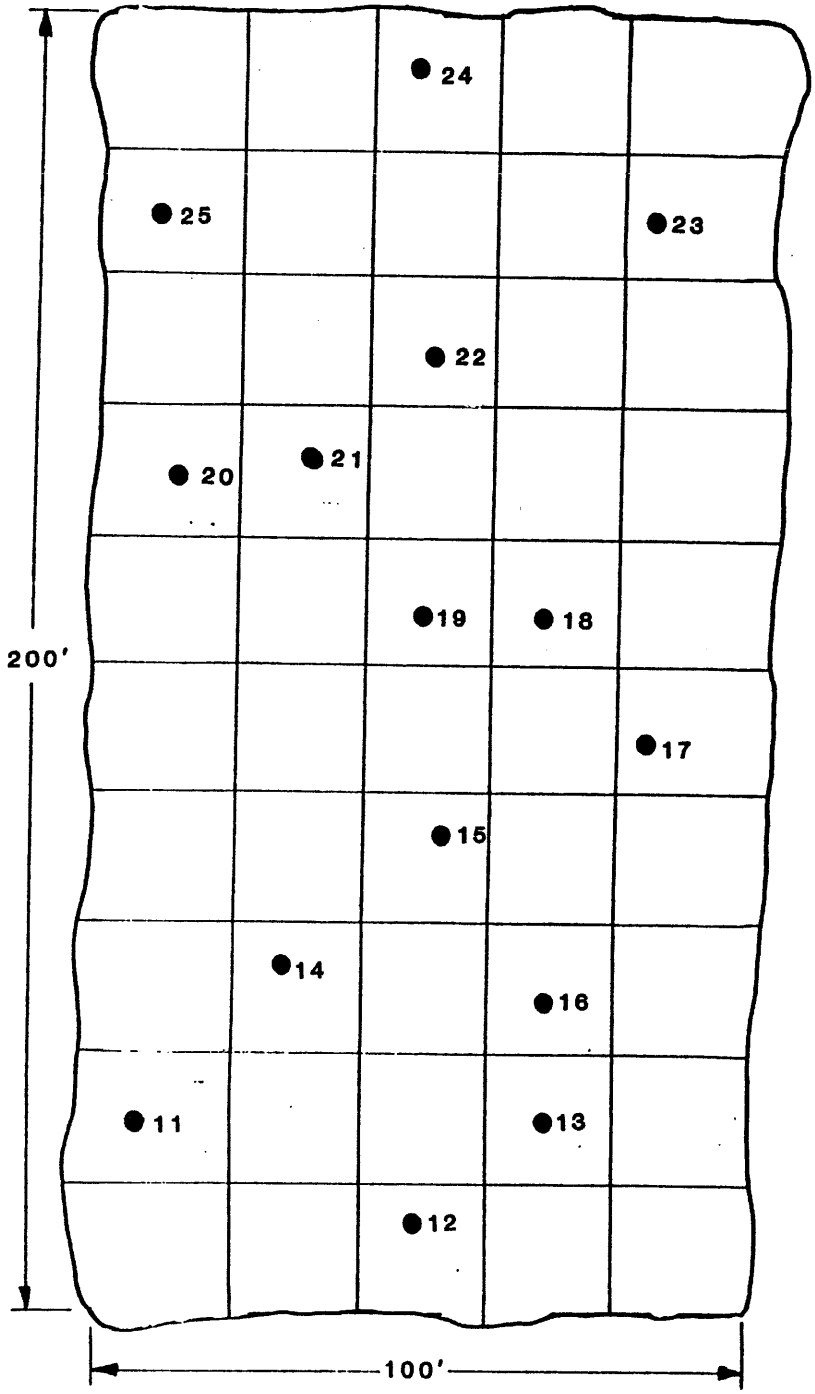
LEGEND:

- APPROXIMATE SAMPLING LOCATION
- APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY EARTH CONSULTANTS, INC.
- APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY GEOTECH CONSULTANTS, INC.
- APPROXIMATE TEST BORING LOCATION
- – – – ORIGINAL OUTLINE OF EXCAVATION (FILLED)

GEOTECH CONSULTANTS

SITE EXPLORATION PLAN
5032 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
92273	JULY 1993	1"=50'	2



LEGEND:

● APPROXIMATE SAMPLE LOCATION

GEOTECH CONSULTANTS

SAMPLE LOCATION PLAN
5036 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
922735	JULY 1993	1"=30'	2

APPENDIX B

Prior Reports

PREPARED BY:

Charles R. Lie
Engineering Geologist

not working here any longer

Scott

Don W. Spencer, M.Sc.
Vice-President
Director of Environmental Services

not working here any longer

A REPORT PREPARED FOR
ASTRAL INVESTMENTS

PRELIMINARY HYDROCARBON STUDY
CORNWALL FUEL PROPERTY
SEATTLE, WASHINGTON

E-3545-1

SEPTEMBER 27, 1988

Earth Consultants, Inc.
Environmental Services Division
1805 - 136th Place Northeast
Suite 101
Bellevue, Washington 98005
(206) 643-3780

TABLE OF CONTENTS

E-3545-1

ILLUSTRATIONS

E-3545-1

Earth Consultants Inc.
Geotechnical Engineers, Geologists & Environmental Scientists

September 27, 1988 E-3545-1

Astral Investments
Island Corporate Center
7525 Southeast 240, Suite 408
Mercer Island, Washington 98040

Attention: Mr. Burton Cornwall
Project Manager

Subject: Preliminary Hydrocarbon Content Evaluation
Cornwall Fuel Property
5032 - 25th Avenue Northeast
Seattle, Washington

Dear Mr. Cornwall:

The Environmental Services Division of Earth Consultants, Inc. (ECI) is pleased to submit herewith our report titled "Preliminary Hydrocarbon Evaluation, Cornwall Fuel Property, 5032-25th Avenue Northeast, Seattle, Washington". This report presents a summary of our field exploration and laboratory methods along with findings and preliminary conclusions.

PROJECT DESCRIPTION/SCOPE OF WORK

The subject site is located at 5032-25th Avenue Northeast in Seattle, Washington. Development on the site currently consists of a hardware store and a heating oil storage/retail facility. It is our understanding that you plan to remove four existing underground storage tanks and to develop the site with a new commercial structure. The new structure may require excavation and export of soils from the site. As explained later in this report, certain state and local health regulations stipulate maximum hydrocarbon concentrations which may be left in soils and/or groundwater at sites of this type. In an effort to assist Astral Investments in evaluating the potential for the presence of hydrocarbon contamination of soil and groundwater on the site, the scope of work for this study included drilling test borings, excavating test pits, installation of monitoring wells, soil and groundwater sampling, laboratory analysis for petroleum hydrocarbons, and preparation of this report. Our earlier preliminary report for this project, dated October 21, 1987, recommended the general scope of work discussed here.

METHODS OF INVESTIGATION

Twelve borings and two test pit excavations were made to evaluate subsurface conditions and to obtain samples. A mobile B-61 truck-mounted drilling unit equipped with four-inch I.D. hollow-stem augers was employed to accomplish the drilling. Earth Consultants, Inc. field sampling program followed the general technical guidelines for sampling outlined in our proposal dated May 11, 1988, as outlined below.

Soil Sampling

The sampling technique consisted of advancing the hole with the hollow-stem auger to the desired depth, then lowering the sampler and connecting rods through the center of the hollow stem augers. The inner rod/sampler assembly was driven eighteen (18) inches at each designated sampling interval using a one hundred forty (140) pound hammer following the general procedures specified in ASTM-D-1586. The sampler was then withdrawn from the boring and opened for examination.

Samples were transferred from the sampler directly to sterilized glass jars with teflon lids furnished by the project laboratory. Samples were stored in iced chests at the site and taken to the lab in this condition to minimize excessive dissipation of volatile fraction hydrocarbons. Each jar was clearly labeled as to boring number, sample number, environmental scientist, etc. EPA-recommended protocols for sample management, including maintenance of chain of custody documents, were observed at each stage of the project.

Following removal of the sample, the split spoon sampler was subjected to a three-phase cleaning before reassembly to avoid contamination between samples. All components of the sampler were washed and scrubbed by brush using Alconox soap and water. This was followed by a rinse with methyl alcohol and a final thorough rinse with triple distilled deionized water. The sampler was then reassembled for the next run.

During drilling, a field log was made by the project geologist for the boring. Information recorded versus corresponding depth included a soil description, color, texture, estimated moisture content, sample number and depth, and standard penetration test (SPT) blow counts obtained during sampling. In an effort to minimize the possibility of transfer of contamination from one boring to another, augers and peripheral equipment were steam cleaned and scrubbed between borings.

Well Installation/Groundwater Sampling

Two-inch diameter monitoring wells were installed in borings B-1, B-101, B-102, and B-103. The general design for the wells is illustrated on Plate 18, Well Installation Design. Three-quarter-inch standpipes for groundwater level measurements were placed in Borings B-104, B-105 and B-107.

Prior to sampling monitoring wells, a piston lift type pump was used to purge each well by removing a minimum of three well volumes of water from each well. This effort was intended to assure that samples obtained from the wells were representative of ambient groundwater conditions. Following developmental pumping, a sterilized teflon bailer was used to extract water samples from each well, and water samples were poured into preconditioned, labeled glassware furnished by the project laboratory.

Laboratory Analysis

Hydrocarbon analysis consisted of infrared spectrophotometry (IR) with supplemental silica gel separation for petroleum hydrocarbons ranging from C-4 to C-22. In an effort to obtain improved resolution keyed to detection of petroleum hydrocarbons, a two-phased laboratory analytical process was employed. First, IR was used to evaluate total hydrocarbon in the sample. Following this, silica gel was used to remove all polar compounds including fatty acids from the sample, leaving only the non-polar compounds consisting primarily of petroleum hydrocarbons for repeat analysis by IR. This method permits some differentiation of decaying vegetable and animal matter from petroleum hydrocarbons. Current system detection limits are on the order of 5 parts per million (ppm) for hydrocarbons in soil and 1 ppm for water.

In addition to IR analysis, four water samples were analyzed by EPA Methods 601 and/or 602 for purgeable aromatic compounds and purgeable halocarbons. Analysis was performed by gas chromatography with photoionization detection. Current system detection limits for these compounds are listed with the specific test results in the attached Table E. Results of GC analysis on two water samples for Benzene, Toluene and Xylene are presented on Table B.

In addition to the analysis discussed in the preceding paragraphs, a fuel scan was performed on two soil samples and PCB analysis was performed on selected soil samples. The fuel scan was performed in an effort to identify the actual type of hydrocarbons present (i.e., gasoline, diesel, etc.).

RESULTS OF INVESTIGATION

Surface

The Boring and Test Pit Location Plan, Plate 2, illustrates the location of explorations made during this study in relation to existing and proposed structures, underground storage tanks, and adjacent roadways. As noted earlier in this report, the property is currently occupied by a hardware store and heating oil distributor. As shown on Plate 2, there are three underground storage tanks for heating oil in the north central portion of the site. In addition, a five hundred (500) gallon underground gasoline tank is located adjacent to the main building as shown on Plate 2. Several piles of coal were noted along the northwestern portion of the site. Numerous trucks and cars in various states of disrepair are parked along the southern portion of the site. As shown on the Boring Location Plan, several clusters of empty steel drums are present at several locations on the site. We understand from conversations with Burton Cornwall that the drums have been used for temporary storage of heating oil.

Subsurface

A review of boring logs attached to this report indicates that site soils are characterized by a surficial mantle of fill soils extending from one (1) to eleven (11) feet below existing site grades. The fill is generally a silty granular (sand) soil. In Test Pits TP-1 and TP-2, the fill also contains brick rubble.

Beneath the fills, our borings encountered loose to dense and very dense silty sands. In Test Pit TP-2, beneath the surficial soils, a very dense till was encountered. Please refer to the boring and test pit logs, Plates 4 through 17, in the appendix for a more detailed description of the conditions encountered at each location explored.

Groundwater

Groundwater was encountered at a depth of from two to five feet below existing grades in the borings. No groundwater seepage was noted during the excavation of Test Pits TP-1 and TP-2. However, the soil conditions in Test Pits TP-1 and TP-2 are likely to develop perched near-surface water tables close to existing grades during the wetter winter months. Based on inference from local topography, shallow "perched" groundwater flow is inferred to be toward the south-southeast.

We understand an interceptor drain is present along the northern property line as shown on Plate 2. The actual depth and construction details of this drain are not known to ECI.

No free petroleum product was encountered in any of our borings or wells.

Laboratory Analyses

The results of hydrocarbon content tests performed on selected soil and water samples are presented in Table A appended to this report. As discussed under Methods, hydrocarbon concentrations were measured by infrared spectrophotometry.

A review of the results of analyses presented in Table A indicates that hydrocarbon concentrations in excess of 200 parts per million (ppm) were measured soil samples obtained from: Boring B-1 at two and one-half feet; Boring B-2 at two and one-half feet; Boring B-3 at two and one-half feet; and in Boring B-107 at the surface. The 200 ppm threshold used here is taken from existing WDOE guidelines establishing this concentration as a maximum permissible value in soil.

"Fuel scan" characterization testing for the surface sample taken at Boring B-107 indicates the hydrocarbons are a diesel-type 2. Results of hydrocarbon testing on water samples indicate that the groundwater in Boring B-1 had a total petroleum hydrocarbon content of 3.2 ppm and a water sample taken from a catch basin adjacent to Boring B-1 had a total petroleum hydrocarbon content of 6.8 ppm. The catch basin provided access to allow sampling of water flowing from the northern interceptor drain.

The results of PCB testing on selected water and soil samples indicate that no detectable PCB's were present.

The results of GC analysis for purgeable aromatic compounds (EPA Method 602) and purgeable halocarbons (EPA Method 601) indicate that none of the compounds tested for were present above the detection limits of the tests.

To allow visual observation of the building rubble placed as fill in the eastern portion of the site, two test pits were excavated. The building rubble encountered in the test pits consisted of red bricks. No foundry bricks or other rubble potentially containing asbestos or other known contaminants was encountered in these test pits.

CONCLUSIONS

Based on the results of our subsurface exploration and chemical analyses, together with current understanding of Washington Department of Ecology (WDOE) policies, it is likely that some remediation at the site will be required. In the preparation of this report, we have evaluated and considered four possible remediation alternatives. These are:

1. Capping of the site.

2. Aeration of contaminated soils.

3. Bio-remediation of contaminated soils.

4. Excavation and removal of contaminated soils.

Our understanding of current WDOE policies formulated in part through discussion with WDOE's representative is that acceptance of capping of the site as a remediation approach is unlikely. The second alternative, aeration on-site, will not be effective for soils containing oil residue due to the low volatility of heating oils and diesel fuel. This option might be acceptable for soils adjacent to the gasoline storage tank if elevated hydrocarbon levels are encountered.

The third alternative, on-site bio-remediation, is not considered cost-effective at this time in view of the time required to start and complete an appropriate program together with actual costs. However, ECI can evaluate this option with you in more detail, if desired.

At this time, it appears that selective excavation and export of soils with higher than 200 ppm total petroleum hydrocarbons will be the most cost-effective option. Either the county landfill at Cedar Hills or the Coal Creek Landfill may be willing to receive soils excavated from the site.

Based on the existing data and our experience, it appears that three areas on the site will require removal of soils due to elevated hydrocarbon levels in the soil. These include:

1. Heating oil tank backfill materials.

Although not tested in this study, we anticipate that a "halo" of soil with heating oil will surround the existing tanks. The source of this halo is typically due to overfilling of tanks and/or incidental spillage of heating oil during transfer to and from the underground tanks.

2. Gasoline tank backfill.

Although not tested in this study, it is possible that incidental spills may have occurred and that a "halo" of hydrocarbons may be present adjacent to the gasoline tank.

3. Incidental Surface Spills

As noted earlier, elevated hydrocarbons were detected in near-surface soil samples in Borings B-1, B-2, B-3 and B-107. These elevated hydrocarbon levels are most likely isolated occurrences. They probably resulted from incidental spills or leaks from trucks that have been stored on the site. In support of this opinion, a resample of the near-surface soils in Boring B-104 immediately adjacent to Boring B-2 encountered no measurable petroleum hydrocarbons, indicating a relatively limited extent of potential contamination at that area where petroleum hydrocarbons soil content of 4060 ppm had been encountered in Boring B-2 at 2.5 feet in our initial study.

In regard to hydrocarbons encountered in groundwater and in the catch basin, evidence developed as a result of studies regarding the composition of urban runoff conducted by the U.S. Environmental Protection Agency, the Municipality of Metropolitan Seattle (Metro), and other agencies suggests that in many localities throughout the Puget Sound area, trace hydrocarbon concentrations similar in magnitude to those detected in the water at the subject site have been detected in runoff derived from streets and parking areas. At this time, it does not appear that remediation in regard to the groundwater would be required.

ECI is prepared to work with you and your remediation contractor to plan a workable, cost-effective approach to identify soils that need to be removed from the site and exported to an approved landfill. We will also be available to help in preparing anticipated budgets and appropriate testing. When requested, we will provide a proposal to perform and/or monitor remedial activities on this site.

LIMITATIONS

The conclusions submitted in this report are based upon the data developed from analysis of soil samples obtained in the borings and test pits. Soil conditions between the borings may vary. If variations do appear during construction work at the site, Earth Consultants, Inc. should be allowed to reevaluate the conclusions presented in this report.

This report has been prepared for specific application to this project in a manner consistent with that level of care and skill normally exercised by members of the profession currently practicing under similar conditions in the area. This report is for the exclusive use of Astral Investments and their representatives. No other warranty, expressed or implied, is made. If new information is developed in future site work, which may include excavations, borings, studies, etc., Earth Consultants, Inc. should be requested to reevaluate the conclusions of this report, and to provide amendments as required.

We trust that the information presented in this report will be of value in your planning efforts and we appreciate the opportunity to provide environmental consulting services to the project. If you have any questions or if we may be of further service, please do not hesitate to contact us.

Respectfully submitted,

EARTH CONSULTANTS, INC.

Charles R. Lie
Engineering Geologist

Don W. Spencer, M.Sc.
Vice-President
Director-Environmental Services

DWS/CRL/k*

TABLE A
E-3545-1
Analytical Results
Soil Samples

Boring Number	Sample Depth (Feet)	Petroleum Hydrocarbons (ug/g or ppm)
B-1	2.5	3900.0*
B-2	2.5	4060.0*
B-3	2.5	234.0*
B-3	3.5	29.7
B-4	2.5	74.4
B-4	3.5	176.0
B-1	Water Sample	3.2
B-106	2.5	123.0
B-106	7.5	<5.0
Catch Basin	Water Sample	6.8
B-107	1.0	347.0*
B-104	2.5	<5.0
B-104	5.0	<5.0
B-105	2.5	<5.0
B-105	7.5	<5.0
B-101	2.5	<5.0
B-101	7.5	<5.0
B-101	12.5	<5.0
B-105	12.5	<5.0
B-102	2.5	<5.0
B-102	7.5	<5.0

Analytical Methodology:
(1) Method 503 B (total oil and grease),
(2) Method 503 E (silica gel separation)
Both methods were run following extraction by Method 503 D from Standard Methods for the Examination of Water and Waste Water, Fifteenth Edition (modified for soil samples).
*Samples exceeding 200 ppm

TABLE B

BTX TEST RESULTS

Water Samples

E-3545-1

Compound	Measured Concentration (ppb) B-1	B-101	Detection Limit (ppb)
Benzene	N.D.	N.D.	0.5
Toluene	0.5	N.D.	0.5
m+p-Xylene	N.D.	N.D.	0.5
o-Xylene	N.D.	N.D.	0.5

Analytical Methodology:

For BTX: EPA Method 602

TABLE C

E-3545-1

PCB Test Results

Compound	Measured Concentration (ppb)	Detection Limit (ppb)
B-1 Water	<0.4	0.4
B-107 Soil at 1.0 foot	N.D.	30.0
B-105 Soil at 7.5 feet	N.D.	30.0

TABLE D

E-3545-1

Fuel Scan in Soil

Compound	B-106 2.5 feet Soil	B-107 1.0 feet Soil	Detection Limit (Ug/g)
Gasoline (ug/g)	N.D.	N.D.	9.0
Diesel #1 (ug/g)	N.D.	N.D.	9.0
Diesel #2 (ug/g)	N.D.	170	50.0

N.D. = Not Detected

TABLE E

GC ANALYSIS OF PURGEABLE HALOCARBONS BY EPA METHOD 601

Laboratory Sample Nos.	807225	807226	DETECTION LIMIT
Client Identification	B102, WS1	B103, WS1	(ug/l)
Chloromethane	ND	ND	3.
Vinyl Chloride	ND	ND	2.
Bromomethane	ND	ND	2.
Chloroethane	ND	ND	2.
Dichlorodifluoromethane	ND	ND	3.
Trichlorofluoromethane	ND	ND	2.
1,1-Dichloroethylene	ND	ND	2.
Methylene Chloride	ND	ND	25.
Trans-1,2-Dichloroethylene	ND	ND	1.
1,1-Dichloroethane	ND	ND	0.5
Chloroform	ND	ND	0.5
1,1,1-Trichloroethane	ND	ND	0.5
Carbon Tetrachloride	ND	ND	0.5
1,2-Dichloroethane	ND	ND	0.5
Trichloroethylene	ND	ND	0.5
1,2-Dichloropropane	ND	ND	0.5
Dichlorobromomethane	ND	ND	0.5
Trans-1,3-Dichloropropene	ND	ND	0.5
Cis-1,3-Dichloropropene	ND	ND	0.5
1,1,2-Trichloroethane	ND	ND	0.5
Tetrachloroethylene	ND	ND	0.5
Dibromochloromethane	ND	ND	0.5
Bromoform	ND	ND	0.5
1,1,2,2-Tetrachloroethane	ND	ND	0.5

ND = Not Detected.
All results are reported in ug/l.

Continued . . . . .

TABLE E

GC ANALYSIS OF PURGEABLE HALOCARBONS BY EPA METHOD 601

Laboratory Sample Nos.	807223	807224	DETECTION LIMIT
Client Identification	Catch Basin	B1, WS2	(ug/l)
Chloromethane	ND	ND	3.
Vinyl Chloride	ND	ND	2.
Bromomethane	ND	ND	2.
Chloroethane	ND	ND	2.
Dichlorodifluoromethane	ND	ND	3.
Trichlorofluoromethane	ND	ND	2.
1,1-Dichloroethylene	ND	ND	2.
Methylene Chloride	ND	ND	25.
Trans-1,2-Dichloroethylene	ND	ND	1.
1,1-Dichloroethane	ND	ND	0.5
Chloroform	ND	ND	0.5
1,1,1-Trichloroethane	ND	ND	0.5
Carbon Tetrachloride	ND	ND	0.5
1,2-Dichloroethane	ND	ND	0.5
Trichloroethylene	ND	ND	0.5
1,2-Dichloropropane	ND	ND	0.5
Dichlorobromomethane	ND	ND	0.5
Trans-1,3-Dichloropropene	ND	ND	0.5
Cis-1,3-Dichloropropene	ND	ND	0.5
1,1,2-Trichloroethane	ND	ND	0.5
Tetrachloroethylene	ND	ND	0.5
Dibromochloromethane	ND	ND	0.5
Bromoform	ND	ND	0.5
1,1,2,2-Tetrachloroethane	ND	ND	0.5

ND = Not Detected.
All results are reported in ug/l.

Continued . . . . .

TABLE E

GC ANALYSIS OF PURGEABLE AROMATIC COMPOUNDS BY EPA METHOD 602

Laboratory Sample Nos.	807223	807224	807225	807226	DETECTION LIMIT
Client Identification	Catch Basin	B1, WS2	B102, WS1	B103, WS1	(ug/l)
Benzene	ND	ND	ND	ND	0.5
Toluene	ND	ND	ND	ND	0.5
Chlorobenzene	ND	ND	ND	ND	0.5
Ethylbenzene	ND	ND	ND	ND	0.5
m+p-Xylene	ND	ND	ND	ND	1.0
o-Xylene	ND	ND	ND	ND	0.5
1,3-Dichlorobenzene	ND	ND	ND	ND	0.5
1,4-Dichlorobenzene	ND	ND	ND	ND	0.5
1,2-Dichlorobenzene	ND	ND	ND	ND	0.5

ND = Not Detected.
All results are reported in ug/l.
m-Xylene & p-Xylene coelute.

DISTRIBUTION

E-3545-1

4 Copies

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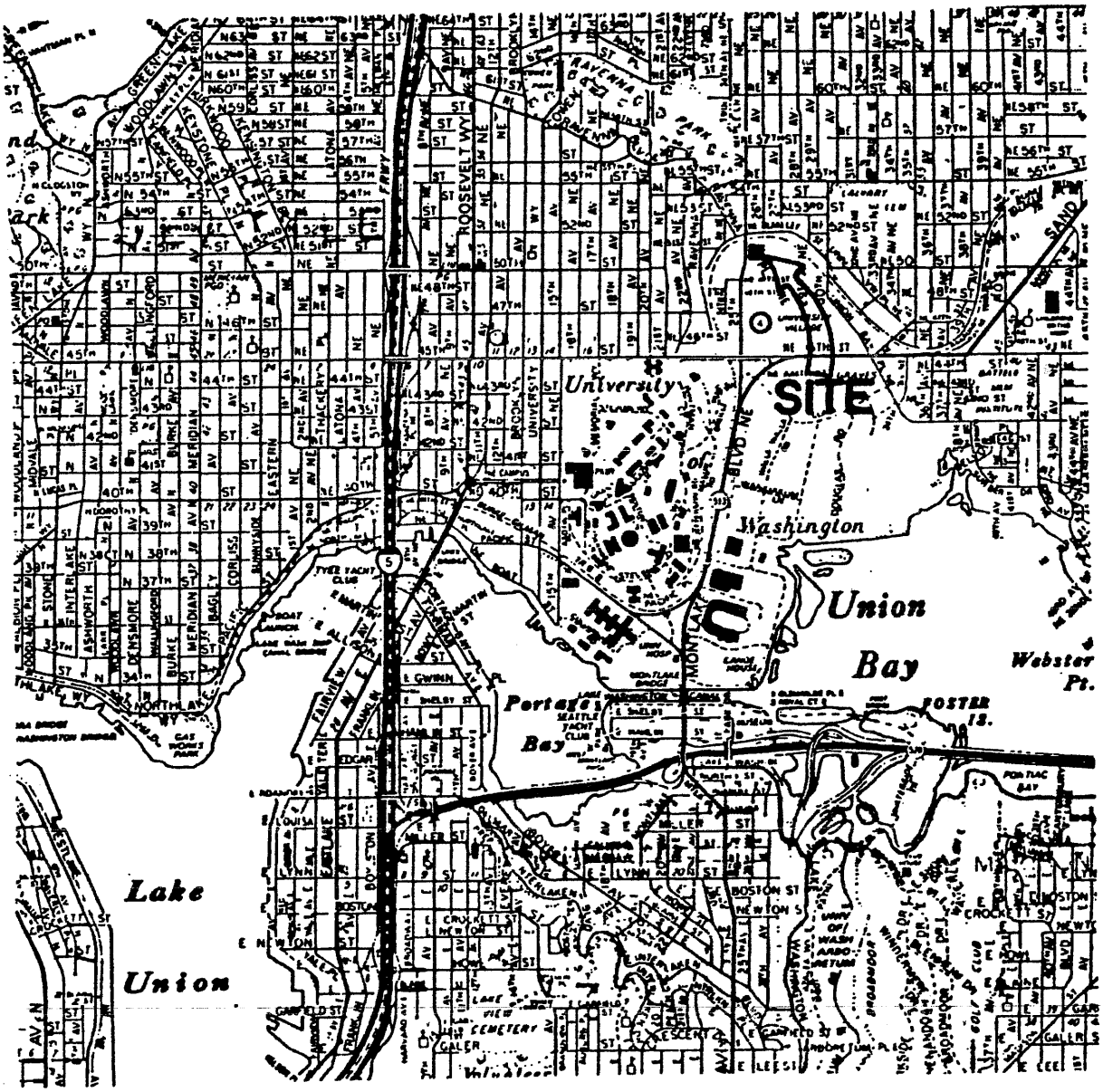
WP55.A#1



Reference :
King County / Map 14
By Thomas Brothers Maps
Dated 1988

Earth Consultants Inc.
Geotechnical Engineering and Geology

Vicinity Map
Cornwall Fuel Site
Seattle, Washington

Proj. No. 3545-1	Date June '88	Plate 1

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTION
Coarse Grained Soils	Gravel And Gravelly Soils	Clean Gravels (little or no fines)		GW gw	Well-Graded Gravels, Gravel-Sand Mixtures, Little Or No Fines
				GP gp	Poorly-Graded Gravels, Gravel-Sand Mixtures, Little Or No Fines
	More Than 50% Coarse Fraction Retained On No. 4 Sieve	Gravels With Fines (appreciable amount of fines)		GM gm	Silty Gravels, Gravel-Sand-Silt Mixtures
				GC gc	Clayey Gravels, Gravel-Sand-Clay Mixtures
More Than 50% Material Larger Than No. 200 Sieve Size	Sand And Sandy Soils	Clean Sand (little or no fines)		SW sw	Well-Graded Sands, Gravelly Sands, Little Or No Fines
				SP sp	Poorly-Graded Sands, Gravelly Sands, Little Or No Fines
	More Than 50% Coarse Fraction Passing No. 4 Sieve	Sands With Fines (appreciable amount of fines)		SM sm	Silty Sands, Sand-Silt Mixtures
				SC sc	Clayey Sands, Sand-Clay Mixtures
Fine Grained Soils	Silts And Clays	Liquid Limit Less Than 50		ML ml	Inorganic Silts & Very Fine Sands, Rock Flour, Silty-Clayey Fine Sands; Clayey Silts w/ Slight Plasticity
				CL cl	Inorganic Clays Of Low To Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean
				OL ol	Organic Silts And Organic Silty Clays Of Low Plasticity
More Than 50% Material Smaller Than No. 200 Sieve Size	Silts And Clays	Liquid Limit Greater Than 50		MH mh	Inorganic Silts, Micaceous Or Diatomaceous Fine Sand Or Silty Soils
				CH ch	Inorganic Clays Of High Plasticity, Fat Clays
				OH oh	Organic Clays Of Medium To High Plasticity, Organic Silts
Highly Organic Soils				PT pt	Peat, Humus, Swamp Soils With High Organic Contents

Topsoil		Humus And Duff Layer
Fill		Highly Variable Constituents

The Discussion In The Text Of This Report Is Necessary For A Proper Understanding Of The Nature Of The Material Presented In The Attached Logs

Notes :

Dual symbols are used to indicate borderline soil classification. Upper case letter symbols designate sample classifications based upon laboratory testing; lower case letter symbols designate classifications not verified by laboratory testing.

- I 2" O.D. SPLIT SPOON SAMPLER
- II 2.4" I.D. RING SAMPLER OR SHELBY TUBE SAMPLER
- P SAMPLER PUSHED
- ✳ SAMPLE NOT RECOVERED
- ▽ WATER LEVEL (DATE)
- WATER OBSERVATION WELL

- C TORVANE READING, tsf
- qu PENETROMETER READING, tsf
- W MOISTURE, percent of dry weight
- pcf DRY DENSITY, pounds per cubic ft.
- LL LIQUID LIMIT, percent
- PI PLASTIC INDEX

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LEGEND

Proj. No. 3545-1 | Date June '88 | Plate 3

BORING NO. 101

Logged By SCS

Date 5-13-88

ELEV. 32'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sp	(2" AC) Fill: Reddish oxidized light brown clean fine to medium grained SAND with gravel, moist to wet, medium dense	5		14	
		Possible fill: Light gray slightly silty SAND with occasional gravel, medium dense, saturated	10		14	
	sm	Light brown silty very fine grained SAND very dense, saturated			61	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 7 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 13.51 to 3.51 feet
Locking cap; yes
Bentonite seal; 2.51 to 1.5 feet
Concrete; 1.5 to surface
Suface casing; Double locking steel monument
Backfill; #8 sand, 13.51 to 2.51 feet

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BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June '88 | Plate 4

BORING NO. 102

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	gp	Fill: sand and gravel				
	sm	Light brown to tan silty fine grained SAND with trace gravel, loose, moist to wet	5		4	
	sp sm	Light gray slightly silty fine to medium grained with occasional gravel, dense, saturated	10		33	
	sm	Light gray silty very fine grained SAND, very dense, saturated			46/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 11.65 to 1.65 feet
Locking cap; yes
Bentonite seal; 1.4 to .8 feet
Concrete; only around outside of monument
Surface casing; Double locking steel monument
Backfill; #8 sand, 12 to 1.4 feet

Earth Consultants Inc.
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BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June'88 | Plate 5

BORING NO. 103

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	gp	Fill: Dark brown to black sandy GRAVEL				
	sp sm	Dark gray slightly silty, fine to medium grained SAND with occasional gravel, very loose, moist to wet	5		2	
	sm	Light to medium gray silty fine grained SAND, with trace gravels, very dense, saturated	10		50/3"	
					54/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 11.71 to 1.71 feet
Locking cap; yes
Bentonite seal; 1.3 to .8 feet
Concrete; only around outside monument
Backfill; #8 sand, 12 to 1.3 feet

BORING NO. 104

Logged By SCS

Date 5-13-88

ELEV. 35'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sp sm	(2" AC) Reddish oxidized staining light brown slightly silty fine to medium grained SAND with trace gravels, medium dense moist to wet	5		43	
					14	
	sm	Light gray silty fine grained SAND, very dense, saturated	10		50/2"	
					59	
					50/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4.5 feet during drilling.
Well as Built:
Screen size; hacksaw Casing size; 3/4"
Screen location; 12.5 to 2.5 feet
Locking cap; no
Bentonite seal; 2 to 1 foot
Concrete; 1 to surface
Surface casing; 5" dia. PVC
Backfill; native

BORING NO. 105

Logged By SCS

Date 5-13-88

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sm	(fill: 6" oil stained sandy gravel) Light gray silty fine grained SAND with occasional gravel, very dense, moist to wet	5		50/3"	
	sp sm	Light gray slightly silty fine to medium grained SAND with gravels, very dense, saturated	10		89/12"	
	sp	Light gray clean coarse grained SAND with gravel			53/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 3.5 feet during drilling.
Well as built;
Screen size; hacksaw blade Casing size; 3/4"
Screen location; 12.5 to 2.5 feet
Locking cap; no
Bentonite seal; 3 to 2 feet
Concrete; 2 feet to surface
Surface casing; 5" dia. PVC
Backfill; native

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BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June '88 | Plate 8

BORING NO. 106

Logged By SCS

Date 5-13-88

ELEV. 32'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)	
	sm	(fill: 6" oil stained gravel) Dark gray silty fine to medium grained SAND with occasional gravels, medium dense, moist to wet	5		13		
	sm	Light gray very silty fine SAND with trace gravel, very dense, saturated			50/6"		

Boring terminated at 8.5 feet below existing grade. Groundwater encountered at 4 feet during drilling. Boring backfilled with cuttings.

BORING NO. 107

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(fill: 6" coal debris with gravel				
	sm	Light brownish - light gray fine grained silty SAND with gravel, moist to wet, loose			8	
	sm	Light gray silty very fine grained SAND with trace gravels, saturated, very dense	5		82	

Boring terminated at 9 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; hacksaw blade Casing size; 3/4"
Screen location; 7.5 to 3.5 feet
Locking cap; no
Bentonite seal; 1.5 feet to surface
Concrete; 6"
Surface casing; 5" dia. PVC
Backfill; #8 sand, 9 to 1.5 feet

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BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June'88 | Plate 10

BORING NO. 108

Logged By SCS

Date 5-13-88

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)	
	gp	2" AC/Fill: sand and gravel					
	sp sm	Reddish light brown slightly silty fine to medium grained SAND, with occasional gravel, medium dense, moist to wet			21		
	sm	Light gray silty very fine grained SAND, very dense, saturated	5		86/12"		

Boring terminated at 9 feet below existing grade. Groundwater encountered at 4 feet during drilling. Boring backfilled with cuttings.

BORING NO. 1

Logged By SL

Date 9/3/87

ELEV. _____

Graph	USCS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	SM	Brown silty fine SAND, wet, medium dense (fill)			50/3	8
	sm sp	Gray silty to clean SAND with some gravel, wet, very dense	5		50/4	
					50/4	
			10		50/4	
					50/6	
			15		50/5	
			20		50/4	

Boring terminated at 22.9 feet below existing grade. Groundwater encountered at 8 feet during drilling.

Well as built:

Screen size: 010
Casing size: 2"
Screen Location: 12.5-2.5
Locking cap: yes
Backfill: Hole caved from 22.5 feet to 12.5 feet

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BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 12

BORING NO. 2

Logged By SL

Date 9/3/87

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(3" AC)				
	sm	Brown becoming gray, silty to clean, fine to medium SAND, moist to wet, very dense	5		54	10
			10		93	17
			15		77	18
			20		50/5	14
					50/5	10

Boring terminated at 22.9 feet below existing grade. Groundwater encountered at 6.5 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 13

BORING NO. 3

Logged By SL

Date 9/3/87

ELEV. _____

Graph	USCS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(3" AC)				
	sm	Brown to black silty fine SAND, wet, loose to medium dense		I	18	13 6
			5			
	sm	Brown to gray silty fine to medium SAND, wet, very dense		I	76/11"	15
			10			
				I	86/11"	
			15			
				I	83/11"	20
			20			
				I	50/3"	15
			25			

Boring terminated at 27.5 feet below existing grade. Groundwater encountered at 7.0 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 14

BORING NO. 4

Logged By SL

Date 9/3/87

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	SM	Dark brown to black silty SANDS with some gravels, moist, loose (fill)	5	I	5	16 7
	sm	Gray silty fine SAND with some gravels and silt lenses, saturated, very dense	10	I	50/5	15
			15	I	50/5	16
				I	50/3	14

Boring terminated at 18.2 feet below existing grade. Groundwater encountered at 8 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 15

TEST PIT NO. 1

Logged By CRL

Date 6-2-88

Elev. 39'±

Depth (ft.)	USCS	Soil Description	W (%)
0		(6" sod) Fill: red brick rubble with silty SAND	
5	sm	Fill: gray silty medium SAND, moist to wet, loose	
	gm	Fill: black to brown silty sandy gravel, wet, medium dense	◁
10	sm	Gray silty medium SAND, wet, dense	
15		Test pit terminated at 12 feet below existing grade. Light groundwater seepage encountered at 9 feet during excavation.	

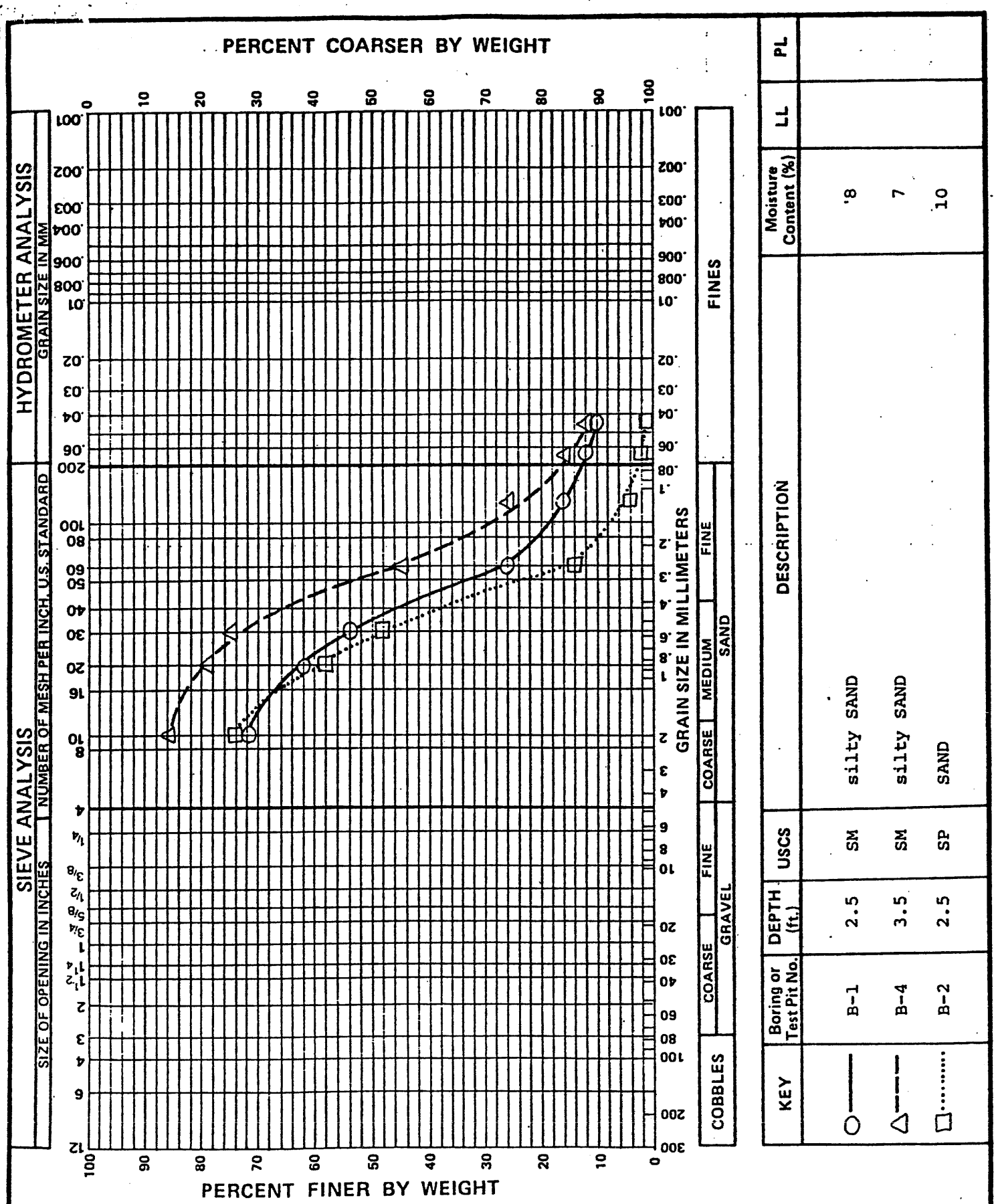
Logged By CRL

Date 6-2-88

TEST PIT NO. 2

Elev. 36'±

0	sm	Fill: silty SAND, loose, wet	
		Fill: red brick rubble	
5	sm	Fill; brown silty SAND with some wood debris, wet, loose	
	sm	Gray silty SAND, with some gravel, moist to wet, very dense (till)	
10		Test pit terminated at 10 feet below existing grade. No groundwater seepage encountered during excavation.	
15			

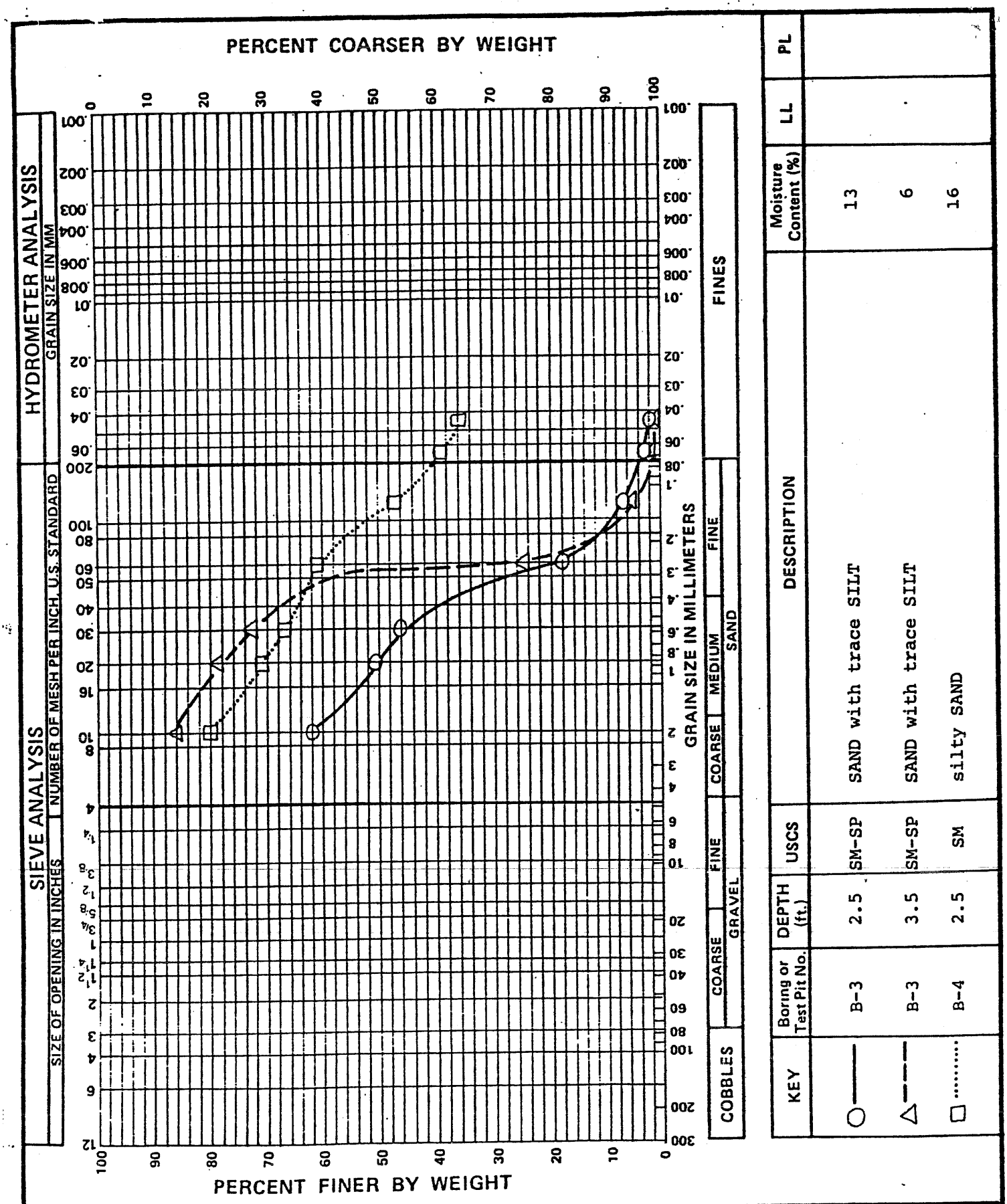


KEY	Boring or Test Pit No.	DEPTH (ft.)	USCS	DESCRIPTION	Moisture Content (%)	LL	PL
○———	B-1	2.5	SM	silty SAND	8		
△—— —	B-4	3.5	SM	silty SAND	7		
□·····	B-2	2.5	SP	SAND	10		

Earth Consultants Inc.
GEOTECHNICAL ENGINEERING & GEOLOGY

GRAIN SIZE ANALYSES
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 18

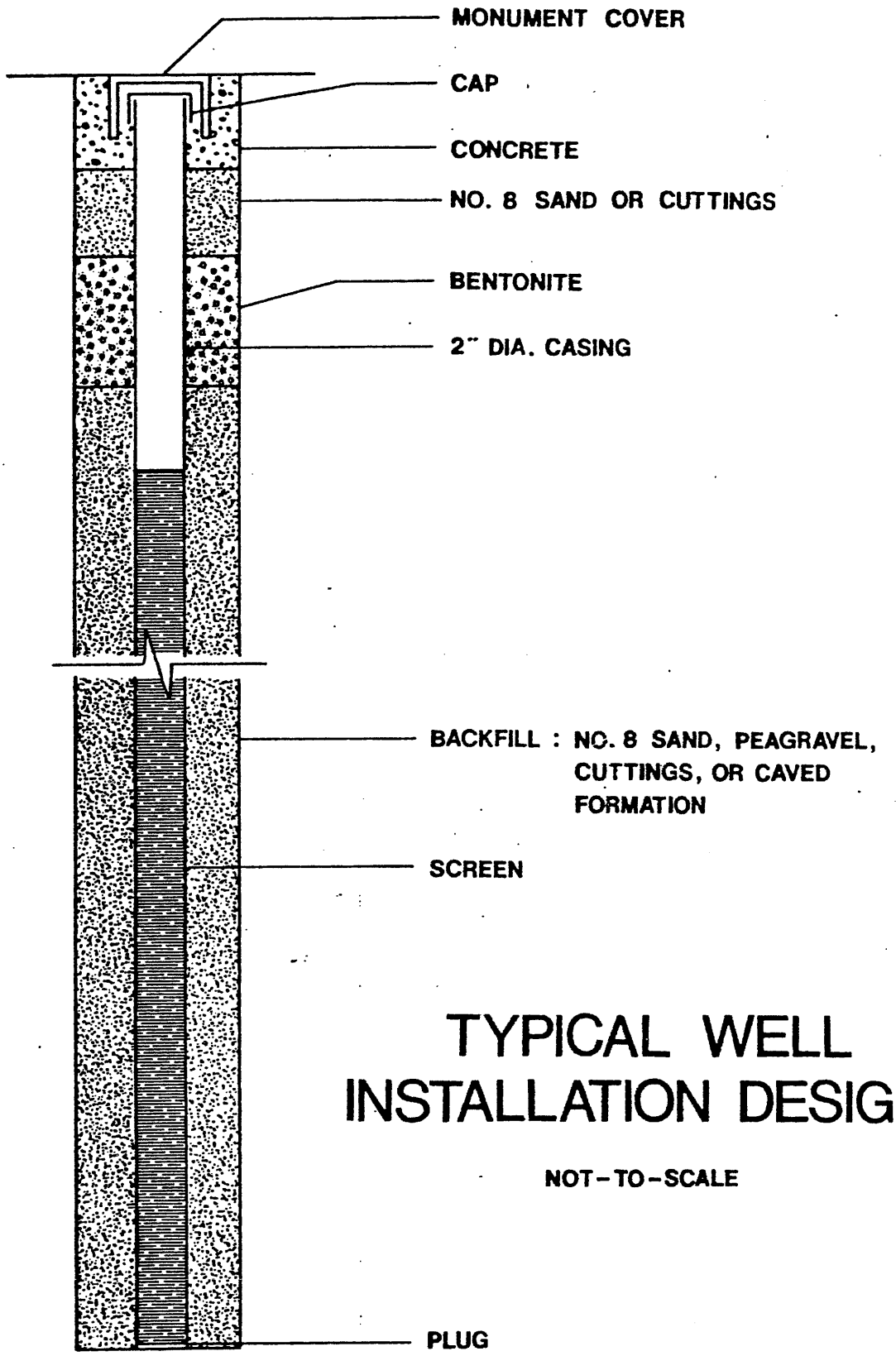


KEY	Boring or Test Pit No.	DEPTH (ft.)	USCS	DESCRIPTION	Moisture Content (%)	LL	PL
○	B-3	2.5	SM-SP	SAND with trace SILT	13		
△	B-3	3.5	SM-SP	SAND with trace SILT	6		
□	B-4	2.5	SM	silty SAND	16		

Earth Consultants Inc.
GEOTECHNICAL ENGINEERING & GEOLOGY

GRAIN SIZE ANALYSES
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 19



TYPICAL WELL INSTALLATION DESIGN

NOT-TO-SCALE

Earth Consultants Inc.
Geotechnical Engineering and Geology

TYPICAL WELL INSTALLATION DESIGN

CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1	Date June'88	Plate 20

2/2

GEOTECH
CONSULTANTS, INC.

13256 N.E. 20th St. (Northup Way), Suite 16
Bellevue, WA 98005
(206) 747-5618
FAX 747-8561

July 13, 1992

JN 92273E

Cornwall Fuel and Lumber Co.
5036 - 25th Avenue Northeast
Seattle, Washington

Attention: Burt Cornwall

Subject: Hydrocarbon Analysis in Stockpiled Soils
5036 - 25th Avenue Northeast
Seattle, Washington

Dear Mr. Cornwall:

At your recent request, we have collected representative samples from the soils stockpiled in the back of your property at the north end of the University Village Shopping Center area of Seattle, Washington. The purpose of our visit was to collect samples to characterize the site for existing contamination levels and to make recommendations for future remediation requirements. Fuel oil tanks were removed from the property on June 12, 1991, and approximately 2,000 cubic yards of contaminated soils were stockpiled on plastic in the southeastern part of the property. This stockpile is 100 feet wide, about 200 feet long and 2 feet or so in depth. Samples collected from these stockpiled soils in February 1992 by personnel from Chem Pro were reported to contain 1500 to 1800 parts per million (ppm) petroleum hydrocarbons (TPH diesel).

On June 12, 1992, we collected a total of six samples from the stockpiled soils. Prior to our visit, the stockpile area had been marked into a 20-by 20-foot grid pattern. Four composite samples were collected to represent the general site soils, one sample was collected from soils that had obvious hydrocarbon odors, and one sample was collected from soils having no obvious indications of contamination. Samples were collected from locations indicated on the Sample Location Plan (Plate 1). The samples were placed in sterilized glass jars with teflon-sealed lids furnished by the project laboratory. Samples were stored in an iced chest at the site and taken to the laboratory in this condition in an effort to preserve sample integrity by minimizing excessive dissipation of volatile fraction hydrocarbons. Each jar was clearly labeled as to sampling location, time of day, sampling person, project

number, etc. EPA-recommended protocol for sample management, including maintenance of chain-of-custody documentation, was observed during the course of the project.

As diesel oil was reportedly stored in the tanks during their operating life, WDOE Method WTPH-D, which provides concentrations for total petroleum hydrocarbons in the diesel/fuel oil range, was used to analyze the samples from the spoil pile. This method provides a basis for comparison of site conditions to cleanup levels specified in the Model Toxics Control Act (MTCA). The following table provides a summary of the results of laboratory analysis.

Sample Number	Sample Location	TPH (ppm)
HC-1	Gray soil with hydrocarbon odor, Hole 2.	667
HC-2	Composite of Holes 1, 2, and 3.	385
HC-3	Composite of Holes 4, 5, and 6.	492
HC-4	Composite of Holes 7, 8, and 9.	719
HC-5	Composite of Holes 10, 11, and 12.	604
HC-6	Brown soil from Hole 8.	580
Washington State MTCA "Method A" soil cleanup level		200

Conclusions/Recommendations

Hydrocarbon concentrations within the stockpiled soils appear to be relatively uniform throughout the entire stockpile, with an average of 575 ppm, which exceeds the MTCA 200 ppm cleanup level for diesel hydrocarbon contamination in soil. Based on the information provided to us regarding previous concentrations of hydrocarbons in these stockpiled soils, however, it appears that natural biologic activity is occurring to reduce the hydrocarbon contamination. The total petroleum hydrocarbon concentration of 1500 to 1800 ppm measured in February 1992 has been reduced to an average of 575 ppm in about four months. Future remediation efforts may include the following:

1) Do nothing. Natural biologic activity is reducing the hydrocarbon concentrations without outside effort. This method is cost effective but requires a significant amount of time and space. All remedial methods require periodic laboratory analysis to confirm their effectiveness.

2) Augment the active biologic process. The natural process is dependent on the number of active hydrocarbon-eating organisms present, plus air, water, and nutrient conditions in the soil. The time required for remediation of the contaminated soils may be reduced by actively controlling conditions in the stockpiled soils. Some of these methods include:

    a) Feeding native organisms by adding nitrogen fertilizer to the soil.

    b) Mulching the soils with manure to increase the population of active bacteria, plus adding nutrients and bulking agents to the soil.

    c) Adding additional organisms and nutrient from an outside source.

3) Soil burning, which requires importation of equipment capable of heating the soil to a sufficient temperature to drive off the hydrocarbon contamination. Costs range, but can be estimated at $50 to $75 per ton.

4) Soil removal to off-site disposal. Designated landfills will accept contaminated soils. Costs include loading, hauling, disposal/treatment fees, and soil replacement for the original excavation. Because the soils are manifested as hazardous waste, the owner assumes liability of these materials in the landfill/facility for life. Disposal/treatment costs range widely but can be estimated at about $50 to more than $70 per ton.

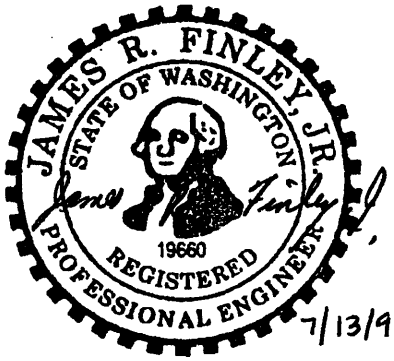
We trust this information is adequate for your present needs. If there are any questions or if we may be of further service, please contact us.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

John F Cole

John F. Cole
Senior Environmental Geologist

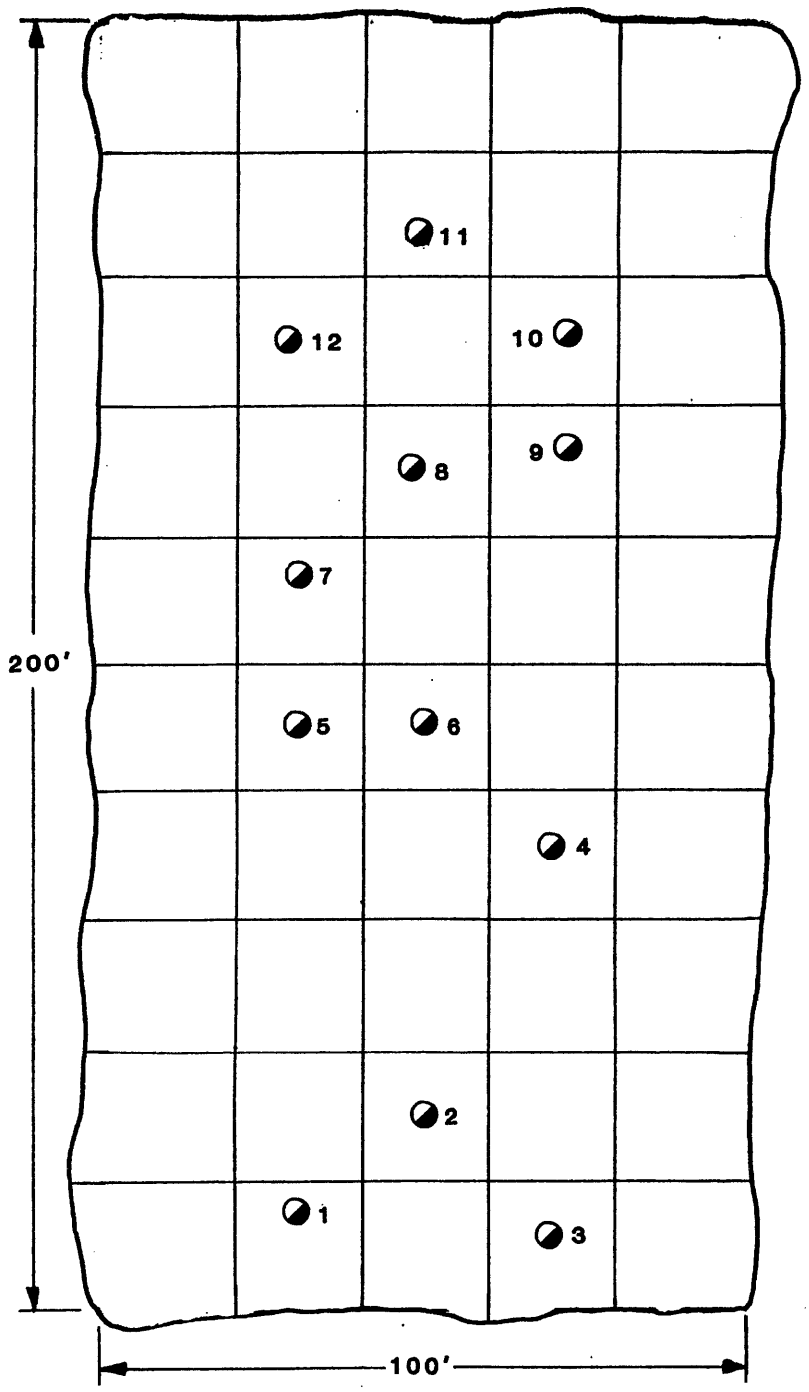


7/13/92

EXPIRES 8/17/93

James R. Finley, Jr., P.E.
Principal

Attachments: Sample Location Plan
Laboratory Results (4)



LEGEND:

APPROXIMATE SAMPLE LOCATION

GEOTECH CONSULTANTS

SAMPLE LOCATION PLAN
5036 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
92273E	JULY 1992	1"=30'	1

ON-SITE ENVIRONMENTAL INC.

RECEIVED JUN 17 1992 Cornwall

June 15, 1992

Fred Cole
GeoTech Consultants
13256 NE 20th Street.
Suite 16
Bellevue, WA 98005

Dear Mr. Cole:

Enclosed are the results of the analyses of samples submitted on June 12, 1992 from Project 92273E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Tammy C. Howard

Tammy C. Howard
Senior Chemist

Enclosures

Date of Report: June 15, 1992
Samples Submitted: June 12, 1992
Lab Traveler: 06-005
Project: 92273E

Matrix: Soil
Units: ppm

ANALYSES FOR WTPH-D

Sample #	Dilution Factor	TPH	Surrogate Recovery
HC-1	5	667	108
HC-2	5	385	90
HC-3	5	492	85
HC-4	5	719	102
HC-5	5	604	94
HC-6	5	580	100
Quality Assurance			
Method Blank	0.5	<25	90
HC-6 Original	5	580	100
HC-6 Duplicate	5	579	102
Spike Blank Percent Recovery	0.5	93%	104%
Spike Blank Duplicate Percent Recovery	0.5	96%	105%
RPD		3%	

CHAIN OF CUSTODY RECORD

ON-SITE ENVIRONMENTAL INC.

2859 152nd Ave. NE
Redmond, WA 98052
(206) 883-3881

06-005

Client: Geotech Consultants Inc

Project Manager: FRED COLE

Project #: 92273 E

Project Name: Cornwall

dash	Sample Number	Date Sampled	Type	# Jars	Analysis Required	Comments
	HC-1	6-12-92	Soil	1	WTPH-D	Comp Hole 2
	HC-2	"	"	1	"	Comp 1, 2, 3
	HC-3	"	"	1	"	Comp 4, 5, 6
	HC-4	"	"	1	"	Comp 7, 8, 9
	HC-5	"	"	1	"	Comp 10, 11, 12
	HC-6	"	"	1	"	Hole 8

Submitted: John F Cole	date: 6-12-92	Received by: Tammy C. Howard	date:	6-12-92
Firm: Geotech Consultants Inc	time: 1:45	Firm: OSE	time:	1:45 P
Submitted:	date:	Received by:	date:	
Firm:	time:	Firm:	time:	

GEOTECH
CONSULTANTS, INC.

PHASE 2 ENVIRONMENTAL SERVICES/ INDEPENDENT REMEDIAL ACTION REPORT UNIVERSITY SILVER CLOUD INN (FORMER CORNWALL FUEL AND LUMBER) 5032 25TH AVENUE NORTHEAST SEATTLE, WASHINGTON

GEOTECH
CONSULTANTS, INC.

13256 N.E. 20th St. (Northup Way), Suite 16
Bellevue, WA 98005
(206) 747-5618
FAX 747-8561

July 28, 1993

JN 92273E

Silver Cloud Management
c/o Northwest Products Group, Inc.
6385 138th Place Southeast
Bellevue, Washington 98006

Attention: Jerry Jones

Subject: Phase 2 Environmental Services/
Independent Remedial Action Report
University Silver Cloud Inn
(Former Cornwall Fuel and Lumber)
5032 25th Avenue Northeast
Seattle, Washington

References: 1) Earth Consultants, Inc., September 27, 1988. "Preliminary Hydrocarbon Study," same site.

2) Geotech Consultants, Inc., July 13, 1992. "Hydrocarbon Analysis in Stockpiled Soils," same site.

Dear Mr. Jones:

Geotech Consultants, Inc. is pleased to present this Phase 2 Environmental Services report for the former Cornwall Fuel and Lumber site in Seattle, Washington. The western portion of the property is being used by a metal furniture design and fabrication business. The eastern portion of the property is vacant at this time. Future plans include demolition of the structures on the site, and the construction of a 145-unit Silver Cloud Inn. This report, prepared in accordance with our proposal dated May 20, 1993, summarizes our approach to the project, along with results and conclusions.

EXECUTIVE SUMMARY

The site is located at 5032 25th Avenue Northeast, in Seattle, Washington. The property was previously occupied by a lumber yard, hardware store, and home fuel distribution business. For most of the past five decades, the property owners sold coal and No. 2 diesel fuel oil.

Three 10,000- to 12,000-gallon fuel oil USTs were present on the northern portion of the property. A 500-gallon gasoline UST was adjacent to the main building, located in the southwest corner of the property.

Earth Consultants, Inc. studied the site in 1988 and concluded that there were shallow surface spills on the site and the potential for deeper contamination around the USTs (Reference 1). During 1990 and 1991, Chemical Processors, Inc. (CHEMPRO) removed the USTs and excavated approximately 1,500 cubic yards of fuel-oil-contaminated soil from the northern excavations. This soil was placed in a treatment bed south of the fuel oil USTs for bioremediation. Documentation provided by CHEMPRO suggests that the fuel oil UST area was overexcavated after tank removal, and that residual hydrocarbon concentrations in the sides and bottom of the excavations were below the 200 parts per million (ppm) cleanup level established by the Washington Department of Ecology (WDOE) for fuel oil. No closure report documenting the UST removal and remediation was provided by CHEMPRO for our review. Documentation from CHEMPRO does state that the 500-gallon gasoline UST was removed "without incident," but it does not appear that confirmation samples were collected from this excavation.

Our firm completed an environmental assessment of the soils undergoing bioremediation during July of 1992 (Reference 2). This study reported an average hydrocarbon concentration of 575 ppm in samples collected from the treatment bed, which exceeds the regulatory cleanup level. However, the report noted that biological activity appeared to be reducing hydrocarbon concentrations within the bed, based on concentrations of 1,500 to 1,800 ppm measured in February of 1992.

The current study was conducted to assess the condition of soil and groundwater in the vicinity of the USTs, and to assess the condition of the soil undergoing bioremediation. Our findings suggest that petroleum hydrocarbon concentrations remaining in the soil and groundwater in the vicinity of the

former USTs are below the "Method A" cleanup levels specified in the Model Toxics Control Act (MTCA). No further action is recommended to address closure of the UST installations. The WDOE "Independent Remedial Action Report Summary" has been included in Appendix C.

Our assessment of the treatment bed suggests that the hydrocarbon concentrations of these soils have been reduced since our previous study, but the average concentration of 234 ppm slightly exceeds the regulatory cleanup level. Soils in the treatment bed would be considered "Class 3" soils based on the results of laboratory analysis. Treated Class 3 soils are considered by the WDOE to be suitable for further treatment, use at the original site, road construction, or disposal at a permitted landfill.

SCOPE OF WORK

The scope of work for this project included:

- Review of previous reports, documentation and laboratory analysis for the property, and review of the WDOE Leaking UST file for the site,
- Sampling of the stockpiled soils being treated by landfarming on the site,
- The drilling of five borings on the site, and the collection of soil samples from these borings,
- The installation of a 2-inch-diameter PVC groundwater monitoring well in three of the borings,
- Collection of groundwater samples from the three wells installed by our firm, and from a monitoring well installed by Earth Consultants during 1988,
- Laboratory analysis of selected samples, and
- Preparation of this summary report.

METHODOLOGY

Drilling/Soil Sampling

The test borings were completed on June 22, 1993, using a truck-mounted, hollow-stem auger drill owned and operated by Associated Drilling, at the locations shown on the Site Exploration Plan, Plate 2. Our field sampling program followed the general technical guidelines outlined in the following paragraphs.

The drilling/sampling technique consisted of advancing the hole with the auger string to the desired sampling depth. Then, the split-spoon sampler and connecting rods were lowered through the hollow-stem augers. The sampler and rods were driven 18 inches into native soils beyond the tip of the augers using a 140-pound hammer, in general accordance with ASTM Method D-1586. The sampler was then withdrawn and the sample transferred to laboratory-prepared glassware with teflon-sealed lids. Following this procedure, the sampler was cleaned and sterilized using laboratory grade detergent and distilled water.

During drilling and sampling, a field log was made by the field engineer for each boring. Information recorded versus corresponding depth on each log included soil type, color, texture, moisture characteristics, and other observable qualities.

Samples were stored in an iced chest during field sampling and transfer to the project laboratory. Each sample was clearly identified with respect to boring number, sample depth, date, field scientist, etc. EPA-recommended sample management protocol, including maintenance of chain-of-custody documentation, was observed at each stage of the project.

To minimize the possibility of transferring any contamination from one boring location to another, augers and peripheral equipment were steam cleaned and scrubbed between borings.

Monitoring Well Installation/Groundwater Sampling

Following drilling and soil sampling, 2-inch-diameter PVC well casings were installed in three of the borings. Each casing consisted of a blank riser on the upper few feet, followed by a

slotted well screen. Monitoring well design and construction methods conformed to requirements and specifications outlined in WAC 173-160 for "resource protection wells" in the state of Washington.

A typical well design is illustrated schematically on Plate 9. The well screen in each installation was positioned to span the maximum and minimum range of seasonal groundwater fluctuation, thereby facilitating representative sampling at any time during the year. The annulus of each well casing was sand packed 2 to 3 feet above the well screen; a bentonite seal was placed above the sand and carried to within 2 feet of the ground surface to prevent infiltration of surface contamination along the well casing. A non-shrinking cement grout was used to stabilize the upper section of each well. A protective casing with provisions for locking access to each well head was also provided.

Groundwater samples were collected by an environmental engineer from our firm on July 14, 1992. Prior to groundwater sampling, a sterilized electric water level indicator was used to measure the depth to groundwater relative to the north edge of the monitoring well casing. A stainless steel bailer was then used to purge the well by removing a minimum of three well volumes of water. This effort was intended to ensure samples obtained from the well were representative of ambient groundwater conditions. Following this, the bailer was re-sterilized using laboratory grade detergent and distilled water, and used to extract groundwater samples from the well. Samples were poured into bottles furnished by the project laboratory.

Protocol followed for management of groundwater samples was similar to procedures previously described for soil samples.

Treatment Bed Sampling

Soil samples from the treatment bed were collected by an environmental geologist from our firm on July 14, 1993. Samples were collected from the locations indicated on the Sample Location Plan (Plate 3). Each sample submitted for laboratory analysis was composited from three locations on an equal volume basis, mixed thoroughly in a clean, stainless steel bowl, and transferred to glassware provided by the project laboratory. Protocol followed for management of treatment bed samples was identical to procedures previously described for other soil samples collected during this study.

Laboratory Analysis

Soil samples obtained from the borings were selected for laboratory analysis based on observed indications of contamination (i.e. discoloration, sheens, or odors). In the absence of any observed indications of contamination, samples were selected from the depth at which contamination was judged most likely to occur.

Samples from the borings, ground surface, and stockpile were first analyzed using the Washington Total Petroleum Hydrocarbons-Hydrocarbon Identification (WTPH-HCID) method, a qualitative analysis that determines which hydrocarbons, if any, are present. Samples with detected hydrocarbons were then analyzed for concentrations of the appropriate contaminant. For example, samples in which gasoline was identified were then analyzed using the WTPH-G method, which provides concentrations of gasoline.

Samples from the treatment bed were analyzed using the WTPH-D method for diesel, based on the contamination identified during past studies.

Groundwater samples were analyzed for the hydrocarbon compounds considered appropriate based on the location of the well. For example, monitoring wells in the vicinity of the fuel oil UST excavation were analyzed for diesel-fuel-range hydrocarbons using the WTPH-D method.

FINDINGS

Review of Previous Work

Earth Consultants

Earth Consultants, Inc. completed an environmental study of the property during September of 1988 (reference 1). This study included excavating two test pits, drilling 12 test borings, installing groundwater monitoring wells in four of the borings, and analyzing selected soil and groundwater samples at a laboratory. Subsurface soils reported by Earth Consultants consisted of 1 to 11 feet of fill underlain by silty sands. Groundwater was reported at depths ranging from 2 to 5 feet in the borings, but no groundwater was encountered in the test pits. The depths of exploration ranged from 8.5 to 27.5 feet below grade.

Laboratory analysis reported hydrocarbon concentrations that exceeded the 200 ppm cleanup level in the upper 2.5 feet of soil at four of the boring locations. Earth Consultants concluded that the elevated concentrations were probably the result of incidental spills or leaks from trucks stored on the site.

A groundwater sample was collected from Monitoring Well B-1, which was located roughly 10 feet south of the fuel oil USTs. Laboratory analysis of this sample reported a hydrocarbon concentration of 3.2 ppm, which exceeds the 1 ppm regulatory cleanup level for hydrocarbons in groundwater. This monitoring well was presumably destroyed during subsequent excavation and removal of the fuel oil USTs.

The Earth Consultants report also notes the possibility of hydrocarbon contamination in soils surrounding the three fuel oil USTs, and the 500-gallon gasoline UST, which were present on the site at the time of their report.

A copy of the Site Plan from the Earth Consultants report, which illustrates the approximate boring and test pit locations, has been included in Appendix A of this report.

CHEMPRO

According to Burt Cornwall, one of the current property owners and a former owner of Cornwall Fuel and Lumber, all of the USTs were removed from the property during November of 1990 by Chemical Processors, Inc. (CHEMPRO). Mr. Cornwall also stated that during the period from November 1990 until May 1991, CHEMPRO removed approximately 1,500 cubic yards of fuel-oil-contaminated soil from the northern excavations. This soil was placed in a plastic-lined, bermed treatment bed, located south of the excavation. According to Mr. Cornwall, the bed is 2 to 3 feet deep.

CHEMPRO is no longer in business, having been acquired by Burlington Environmental and then Foss Environmental. Based on discussions with Mr. Cornwall and Foss personnel, it does not appear that a closure report documenting the UST removal and subsequent remediation was completed.

However, documents pertaining to the UST removal and remediation were provided by Foss Environmental, and were available in the WDOE's Leaking UST file for the site. Relevant documents have been attached in Appendix A of this report. These documents include notification to the WDOE prior to UST removal, a Seattle Fire Department removal permit, Marine Chemist certification, pump and rinse documentation, and progress reports, which include site maps, sample indexes, and laboratory reports. The following summary is based on review of these documents, WDOE files, and discussions with Mr. Cornwall.

- CHEMPRO notified the WDOE of the intent to remove three registered USTs from the site in a letter dated November 12, 1990. The USTs consisted of one 10,000-gallon tank last used to store gasoline, and two 12,000-gallon tanks used for fuel oil storage. According to Mr. Cornwall, the 10,000-gallon UST had also been used for fuel oil storage.

- Sound Testing, Inc., of Seattle, Washington certified the three registered tanks, and the unregistered, 500-gallon gasoline tank, as inert and safe for excavation on November 26 and 27, 1990. As stated in Burlington Environmental's February 2, 1991 letter, all four USTs were removed during November of 1990. Mr. Cornwall informed us that the larger tanks were cut in quarters prior to transportation off site by CHEMPRO. Sound Testing also certified a 45- and a 300-gallon UST and a 1,500-gallon fuel oil truck as inert on November 26, 1990. According to Mr. Cornwall, the 45-gallon "UST" was an above-ground barrel used for storage of waste fluids, and the 300-gallon UST was a heating oil tank that had been removed from a Seattle residence several years before, and had not been used on the Cornwall property. These additional tanks were also disposed of by CHEMPRO according to Mr. Cornwall.

- The Seattle Fire Department issued a permit for the removal of the three registered USTs on November 27, 1990. The permit indicates the USTs were rinsed, and the rinse water and residuals were removed using a vacuum truck. CHEMPRO shipping documents indicate that they transported a total of 1,500 gallons of oil and water off site in tanker trucks.

- In a letter to METRO dated December 7, 1990, CHEMPRO requested authorization for discharge of approximately 30,000 gallons of water which had accumulated in the excavations. The water would be discharged into the sanitary sewer system via a sewer cleanout on the property. Laboratory analysis appended to this letter indicated a hydrocarbon concentration of 58 ppm in this water, which exceeds the 1 ppm cleanup level. According to Mr. Cornwall, the excavation was pumped dry and the water discharged to the sanitary sewer system on at least two occasions. Christie True of METRO informed us that she believed discharge had occurred, but was unable to locate the file on the site at the time of this report.

- CHEMPRO collected 21 samples from the sides and bottoms of the two large excavations during November and December of 1990, and submitted the samples to Alden Analytical Laboratories, Inc., for analysis using the 418.1 method for oils. As stated in Burlington Environmental's February 2, 1991 letter, approximately 800 cubic yards of petroleum contaminated soil was removed from the excavations during this time period. The east excavation, which contained the 10,000-gallon UST, was excavated to a depth of 15 feet, and the west excavation, which contained the two 12,000-gallon USTs, was excavated to a 12-foot depth. Laboratory analysis indicated some soils remaining in the west excavation contained hydrocarbon concentrations in excess of the 200 ppm cleanup level.

- The February 2, 1990 letter states that the 500-gallon gasoline tank was "excavated, removed and disposed of without incident." However, it does not appear that confirmation samples were collected from the gasoline UST excavation. This excavation was brought up to grade with clean fill according to Mr. Cornwall.

- CHEMPRO excavated four test pits south of the excavations during January of 1991, and collected samples from the test pits at depths of 4 to 6 feet. Laboratory analysis indicated hydrocarbon concentrations greater than 200 ppm in one of the test pits.

- CHEMPRO returned to the site during May of 1991, and extended the west excavation, primarily toward the south. A total of eight soil samples were collected from the sides and bottom of the extended excavation. The samples were analyzed for hydrocarbons using the 418.1 and modified 8015 methods. The reported hydrocarbon concentrations in all of the samples were below 200 ppm. Burlington Environmental's June 14, 1992 letter states that the analysis indicates that the "extent of the contamination" had been removed from the excavation.

- The southern portion of the west excavation was filled with imported soils, and the treatment bed was constructed south of the excavation.

- CHEMPRO returned to the site during January of 1992 and collected four samples from the treatment bed. Two of these were analyzed using the modified 8015 method. Hydrocarbon concentrations of 1,300 and 1,800 ppm were reported. The laboratory report indicates that the contaminant was in the diesel No. 2 hydrocarbon range.

Geotech Consultants

Our firm completed a study of the treatment bed during July of 1992 (Reference 2). Six soil samples were collected and analyzed for diesel-range hydrocarbons using the WTPH-D method. The reported concentrations ranged from 385 to 719 ppm, with an average value of 575 ppm. The report concluded that significant reduction in hydrocarbon concentrations had occurred, but that residual concentrations still exceeded the 200 ppm cleanup level.

Additional Sampling

Mr. Cornwall collected two samples from the treatment bed during September of 1992 and submitted them to Laucks Testing Laboratory, Inc., of Seattle, Washington. The samples were analyzed using the WTPH-D method for diesel-range hydrocarbons, with reported concentrations of 300 and 370 ppm. The laboratory report for this analysis is included in Appendix A.

Current Study

Surface

The general layout of the property is illustrated on the Site Exploration Plan, Plate 2. The furniture design and manufacturing business occupies the main structure on the site, located in the southwest corner. Asphalt-paved parking is located north of the building, and a small shed is located in the northwest corner of the property. A gravel-surfaced area was observed along the wall of the main building, at the reported location of the removed 500-gallon gasoline UST. Monitoring Well B-101, which was installed by Earth Consultants during 1988, was observed several feet east of the former excavation. Areas of patched asphalt were observed at the reported locations of test borings conducted by Earth Consultants.

The eastern portion of the site, comprising approximately three-fourths of the total area, is undeveloped with the exception of a small shed near the south property line, and the former garage, which is located in the north-central portion of the site. The three 10,000- to 12,000-gallon USTs were located north and west of the garage, and the excavations for these USTs have remained open and contained water at the time of our visits. The water surface was located roughly 4 to 5 feet below grade.

Approximately 100 cubic yards of sand and gravel fill was stockpiled west of the excavations. According to Mr. Cornwall, this soil is from a residential property located at 5254 University Way Northeast, in Seattle, Washington, and is not contaminated to the best of his knowledge. Mr. Cornwall plans to use the soil to fill the open excavations. No odors or other indications of contamination were observed in this stockpile. A composite soil sample was collected from four randomly selected locations within the stockpile, at depths of 1 to 4 feet.

The former garage is boarded up, and is roughly 600 square feet in size. An above-ground tank, which is roughly 275 gallons in capacity, was observed along the north wall of the structure. According to Mr. Cornwall, this tank had been used to store heating oil for a furnace in the garage, and is now empty. No staining or other indications of leakage were observed around the tank. Several 20- and 55-gallon barrels were observed

inside the garage. Some of these are partially full, and contain various petroleum compounds according to Mr. Cornwall. The barrels did not appear to be leaking.

Several small areas of surficial staining were observed north of the garage. Several barrels containing petroleum products had been observed in this area during our previous site visits. A sample of the stained surface soils was collected for laboratory analysis. The location of this sample is included on the Site Exploration Plan.

The treatment bed, which measures roughly 100 feet (north-south) by 200 feet (east-west) is located south of the garage and UST excavation area. The bed is vegetated with moderately dense brush and grass. Faint hydrocarbon odors were detected in one of the samples collected from the treatment bed during assessment on July 14, 1993. The sampling locations for the treatment bed are illustrated on Plate 3.

Topography in the area of the site slopes gently downward toward the south.

Subsurface

Test boring locations are illustrated on the Site Exploration Plan. Subsurface soils from the borings generally consisted of silty and gravelly sands, extending to the maximum depth of 21 feet. Fill was encountered in Borings 1, 3, and 4, extending to depths of 8, 5.5, and 4 feet below grade, respectively. The upper 7 feet of soil encountered in Boring 5 may have been fill. Please refer to the Boring Logs on Plates 4 through 8 for a detailed description of conditions encountered at each location explored.

No odors, soil discoloration, or other physical conditions that might suggest the presence of contamination were observed in any of the soil samples collected from the borings.

Groundwater

Based on local topography, the expected direction of shallow groundwater flow in the area would be toward the south. Groundwater monitoring wells were installed in Borings 1, 2,

and 4, to provide one "up-gradient" and two "down-gradient" wells relative to the east and west UST excavations.

The depth to groundwater estimated during drilling varied from 3.5 to 9 feet. The following depth to groundwater measurements, relative to the northern edge of the well casings, were obtained prior to sampling activities on July 14, 1993. It should be noted that the well casings are situated slightly below the ground surface.

Well:	MW1	MW2	B101*	MW4
Depth (ft):	4.47	3.60	4.93	4.12

* NOTE: B101 was installed by Earth Consultants during 1988.

No odors, discoloration, iridescent sheens or other conditions which might suggest contamination were noted in groundwater during our field study.

Results of Laboratory Analyses

The results of laboratory analyses of selected soil samples collected from the borings, surface soils, and stockpiled fill are presented in Table A, appended to this report. No hydrocarbon concentrations were detected in any of the samples from the borings or the fill sample. The WTPH-HCID method reported gasoline, diesel and heavy-oil-range hydrocarbons in the sample of surface soils. Based on discussions with laboratory personnel, the contaminants were primarily in the heavy oil and gasoline ranges. The sample was therefore analyzed using WTPH methods for heavy oils, gasoline, and the gasoline constituents benzene, toluene, ethylbenzene, and xylenes (BTEX). The reported concentrations were well below cleanup levels.

The results of laboratory analysis of soil samples collected from the treatment bed are presented in Table B. Reported diesel concentrations ranged from 170 to 390 ppm, with an average value of 234 ppm. This value slightly exceeds the 200 ppm cleanup level for diesel-range hydrocarbons in soil.

The results of laboratory analysis of groundwater samples collected during this study are presented in Table C. No hydrocarbon concentrations were detected in any of the four monitoring wells.

Laboratory reports documenting the analyses performed during this study are included in Appendix B.

CONCLUSIONS/RECOMMENDATIONS

Our review of previous studies and the findings of this study suggest that all of the diesel-contaminated soil has been removed from the former locations of the three 10,000- to 12,000-gallon USTs on the property, and placed in the treatment bed south of the excavation. No hydrocarbons were detected by laboratory analysis of groundwater samples collected from four monitoring wells on the property. No hydrocarbon contamination was identified in soils or groundwater at the former location of the 500-gallon gasoline UST. Based on these considerations, we recommend no further action to address closure of the UST installations on the site. The WDOE "Independent Remedial Action Report Cleanup Summary" form is included in Appendix C.

The results of this study suggest that diesel concentrations of the soils in the treatment bed slightly exceed the 200 parts per million (ppm) cleanup level specified in the Model Toxics Control Act (MTCA). These soils would be considered "Class 3" soils based on the WDOE's Guidance for Remediation of Releases from Underground Storage Tanks. Treated Class 3 soils are considered by the Washington Department of Ecology (WDOE) to be suitable for further treatment, use at the original site, road construction, or disposal at a permitted landfill. It is our understanding that use of these soils for fill beneath the planned building or parking lot is being considered. This appears to be an acceptable use for Class 3 soils. We recommend that the soils not be used in or adjacent to wetlands, surface water, groundwater, drinking water, or utility trenches, and that the soils not be used as topsoil.

Several barrels, which reportedly contain petroleum products, were observed inside the garage, which has been boarded up. The barrels did not appear to be leaking. We recommend proper disposal of the contents of these barrels.

We recommend that copies of this report, and our previous report dated July 13, 1992, be forwarded to the Joe Hickey of the WDOE's Northwest Regional Office, at 3190 160th Avenue Southeast, in Bellevue, Washington, 98008-5452, and to the WDOE UST Section, Mailstop PV-11 Olympia, Washington, 98504-8711.

LIMITATIONS

This report has been prepared for the exclusive use of Silver Cloud Management, Northwest Products Group, Inc., the Cornwall Partnership, and their representatives for specific application to this site. Our work for this project was conducted in accordance with the terms of our proposal dated May 20, 1993, and in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

If new information is developed in future site work which may include excavations, borings, studies, etc., Geotech Consultants, Inc. should be allowed to reevaluate the conclusions of this report and to provide amendments as required.

We trust that the information presented in this report will be of value in your planning efforts. If you have any questions, or if we may be of further service, please do not hesitate to contact us.

The following plates, tables and appendices are attached and complete this report:

Tables A, B, and C	Analytical Results
Plate 1	Vicinity Map
Plate 2	Site Exploration Plan
Plate 3	Sample Location Plan
Plates 4-8	Boring Logs
Plate 9	Typical Well Installation Design
Appendix A	Previous Environmental Work
Appendix B	Laboratory Reports
Appendix C	Remedial Action Summary

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

Henry Perrin
Environmental Engineer

WDOE-Registered UST Site Assessor

EXPIRES 8/17/95

James R. Finley, Jr., P.E.
President

TABLE A:

ANALYTICAL RESULTS - SOIL

Sample Number	Location	Depth (feet)	Analysis	Results
Test Borings				
B1-3	MW-1	7.5	HCID	ND
B2-1	MW-2	5.0	HCID	ND
B3-2	B-3	5.0	HCID	ND
B3-3	B-3	7.5	HCID	ND
B4-1	MW-4	3.0	HCID	ND
B5-1	B-5	5.5	HCID	ND
Other Samples				
Fill-1	fill stockpile, west if excavation		HCID	ND
S-3	Stained surface soils, east of garage		HCID	Gas, Diesel, Oils
			WTPH-G, for:	
			TPH - gas	28 ppm
			B	0.075 ppm
			T	0.40 ppm
			E	0.14 ppm
			X	0.93 ppm
			WTPH-418.1, for TPH - heavy oils	55 ppm

Cleanup guidelines as published in the Model Toxics Control Act (MTCA), chapter 173-340 WAC:		
for TPH, diesel and heavy oil range		200 ppm
for TPH, gasoline range		100 ppm
for BTEX	B	0.5 ppm
	T	40 ppm
	E	20 ppm
	X	20 ppm

Notes:
(1) Ppm denotes parts per million.
(2) B,T,E, and X denote benzene, toluene, ethylbenzene, and xylenes, respectively.
(3) TPH denotes total petroleum hydrocarbons.
(4) ND denotes none detected. Refer to laboratory reports for detection limits.

TABLE C:

ANALYTICAL RESULTS - GROUNDWATER

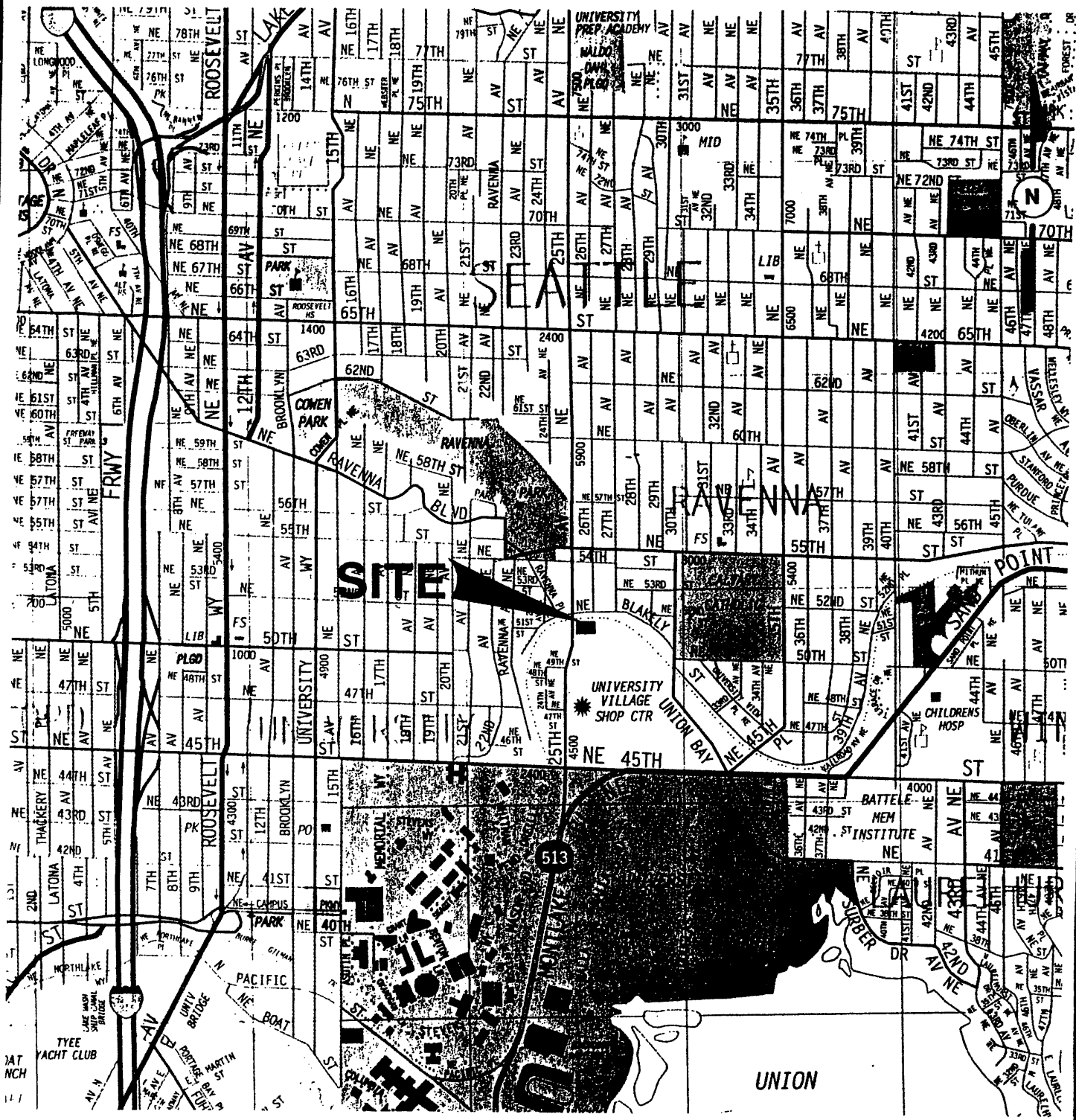
Sample Number	Location	Analysis	Results
MW-1	MW-1	WTPH-D for Diesel	ND
MW-2	MW-2	WTPH-D for Diesel	ND
MW-3	B-101	WTPH-G for Gas/BTEX	ND
MW-4	MW-4	WTPH-D for Diesel	ND

Cleanup guidelines as published in the Model Toxics Control Act (MTCA), chapter 173-340 WAC:

for TPH gas, diesel and heavy oil range		1 ppm
for BTEX	B	5 ppb
	T	40 ppb
	E	30 ppb
	X	20 ppb

Notes:

(1) Ppm denotes parts per million.
(2) Ppb denotes pars per billion.
(3) B,T,E, and X denote benzene, toluene, ethylbenzene, and xylenes, respectively.
(4) TPH denotes total petroleum hydrocarbons.
(5) ND denotes none detected. Refer to laboratory reports for detection limits.



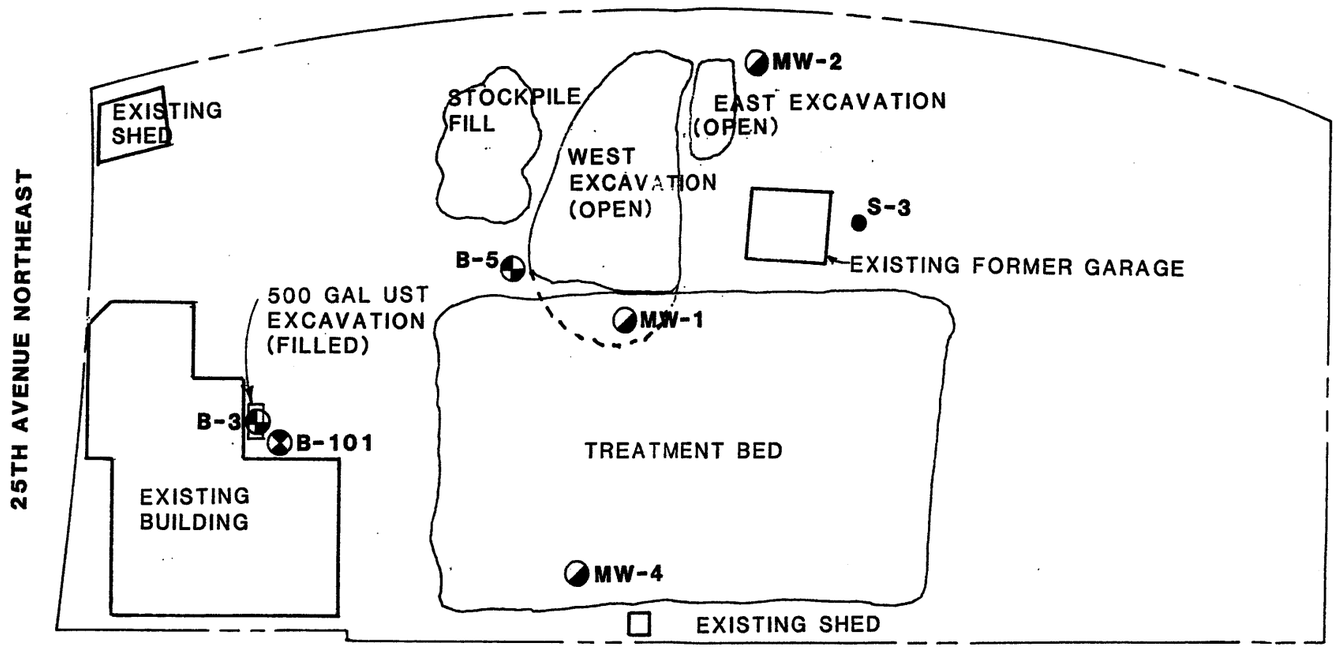
GEOTECH
CONSULTANTS, INC.

VICINITY MAP

5032 25TH AVENUE NORTHEAST

SEATTLE, WASHINGTON

Job No:	Date:		Plate:
92273	JULY 1993		1



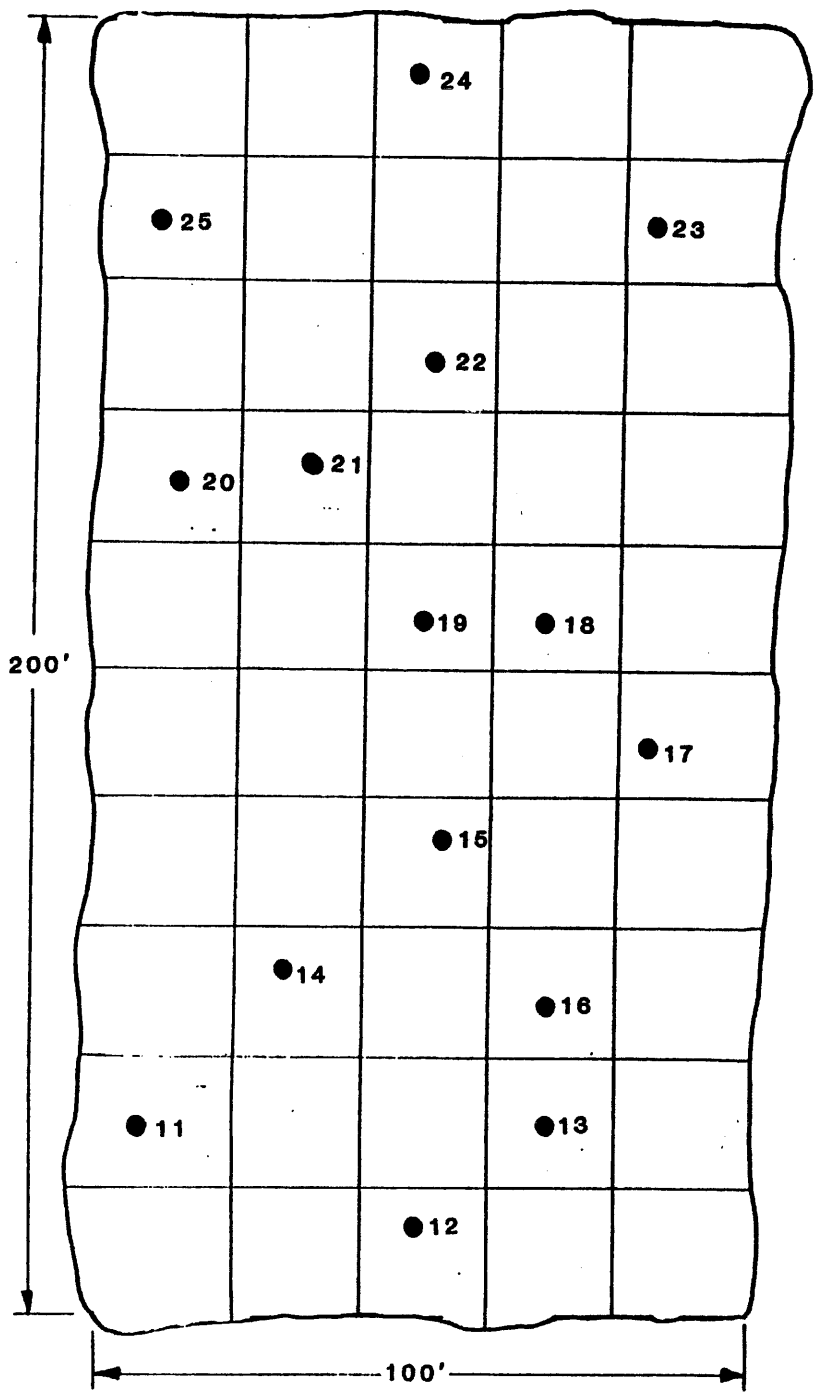
LEGEND:

- ● APPROXIMATE SAMPLING LOCATION
- ⊗ APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY EARTH CONSULTANTS, INC.
- ◪ APPROXIMATE LOCATION OF MONITORING WELL INSTALLED BY GEOTECH CONSULTANTS, INC.
- ◔ APPROXIMATE TEST BORING LOCATION
- – – – – ORIGINAL OUTLINE OF EXCAVATION (FILLED)

GEOTECH CONSULTANTS

SITE EXPLORATION PLAN
5032 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
92273	JULY 1993	1"=50'	2



LEGEND:

● APPROXIMATE SAMPLE LOCATION

GEOTECH CONSULTANTS

SAMPLE LOCATION PLAN
5036 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:	Scale:	Plate:
92273E	JULY 1993	1"=30'	3

BORING 1

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	14	fill	Light brown, gravelly SAND, moist, medium-dense (landfarmed soils).
	2	6	fill	Brown, very gravelly SAND, moist to wet, loose (fill). 6" layer of coal or asphalt
	3	39		
	4	39	SM	Tan, gravelly, slightly silty fine grained SAND, moist, dense. -becomes silty, no gravel
	5	85-9"	SP	Brown, medium grained SAND, wet, very dense. -becomes slightly gravelly
	6	92-10"		

5 10 15 20 25 30 35 40

Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 6' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	4

BORING 2

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	78/12"		Tan, very silty, slightly gravelly, fine grained SAND, moist, very dense.
	2	65/6"		
			SM	-gravel lens
	3	56		-gravel lenses, wet
	4	83/9"		
	5	87/6"	GP	Brown, sandy GRAVEL, wet, very dense.

Test boring terminated at 20.5' on 6-22-93.
Groundwater seepage encountered at 7' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	5

BORING 3

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	4	fill	Tan, silty, fine grained SAND, moist, loose.
	2	14		
	3	34		Brown to gray, slightly gravelly, medium-grained SAND, very moist, medium-dense. -becomes brown, gravelly, dense -becomes wet
	4	35	SM	
	5	58	SP	Tan, very silty, fine-grained SAND, very dense
	6	70-14"	SM	Brown to gray, slightly silty, medium grained SAND, wet, very dense.

5 10 15 20 25 30 35 40

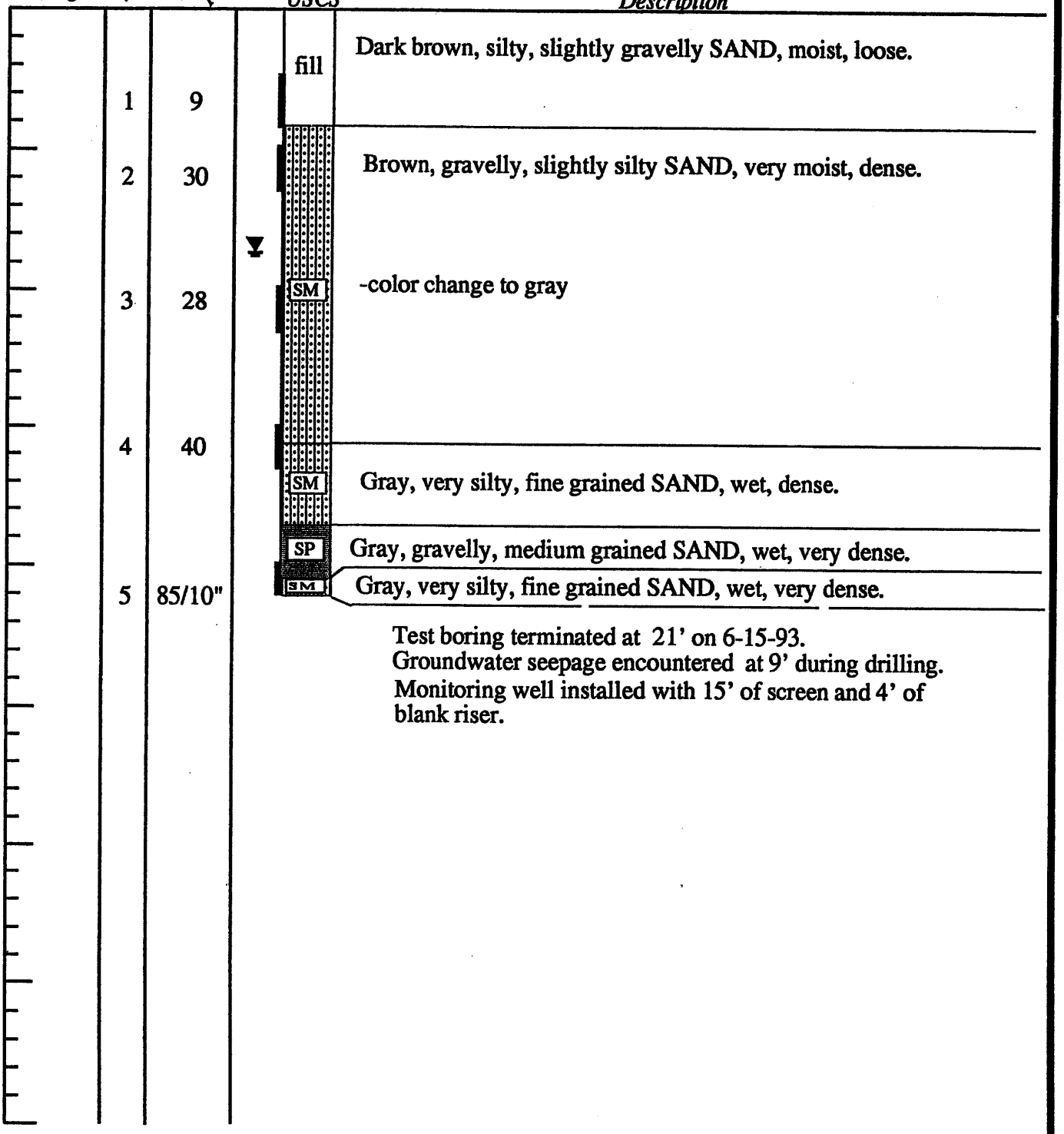
Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 9' during drilling.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	6

BORING 4



Test boring terminated at 21' on 6-15-93.
Groundwater seepage encountered at 9' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	7

CHEMICAL PROCESSORS, INC.
3400 East Marginal Way South
Seattle, Washington 98134
(206) 682-4898 • FAX: (206) 233-0869

November 12, 1990

SUE SIMM
State of Washington
Department of Ecology
Underground Storage Tank
PV-11
Olympia, WA 98504-8711

Dear Sue Simm,

Chemical Processors, Inc. (CHEMPRO) would like to request a variance from the Department of Ecology for the excavation and removal of three (3) underground storage tanks located at the below referenced site address.

The property is owned by the Cornwall Fuel and Lumber Compnay, with a property sale/transfer pending on removal of these tanks.

The property address is 5036 - 25th Avenue Northeast, Seattle, Washington.

There are three (3) underground storage tanks currently registered at this site. They are out of service. They formerly contained both gasoline, diesel and heating oils.

CHEMPRO would appecriate your consideration of a waiver to the required 30 day notification. All excavation and removal would be in compliance with directives from Federal, state and local requlations governing underground storage tank excavation/closure for the State of Washington.

Very sincerely,
CHEMICAL PROCESSORS, INC.
Environmental Services Division

Virgil Christenson
Projects Estimator
Northwest Division

COPY

BORING 5

Elevation

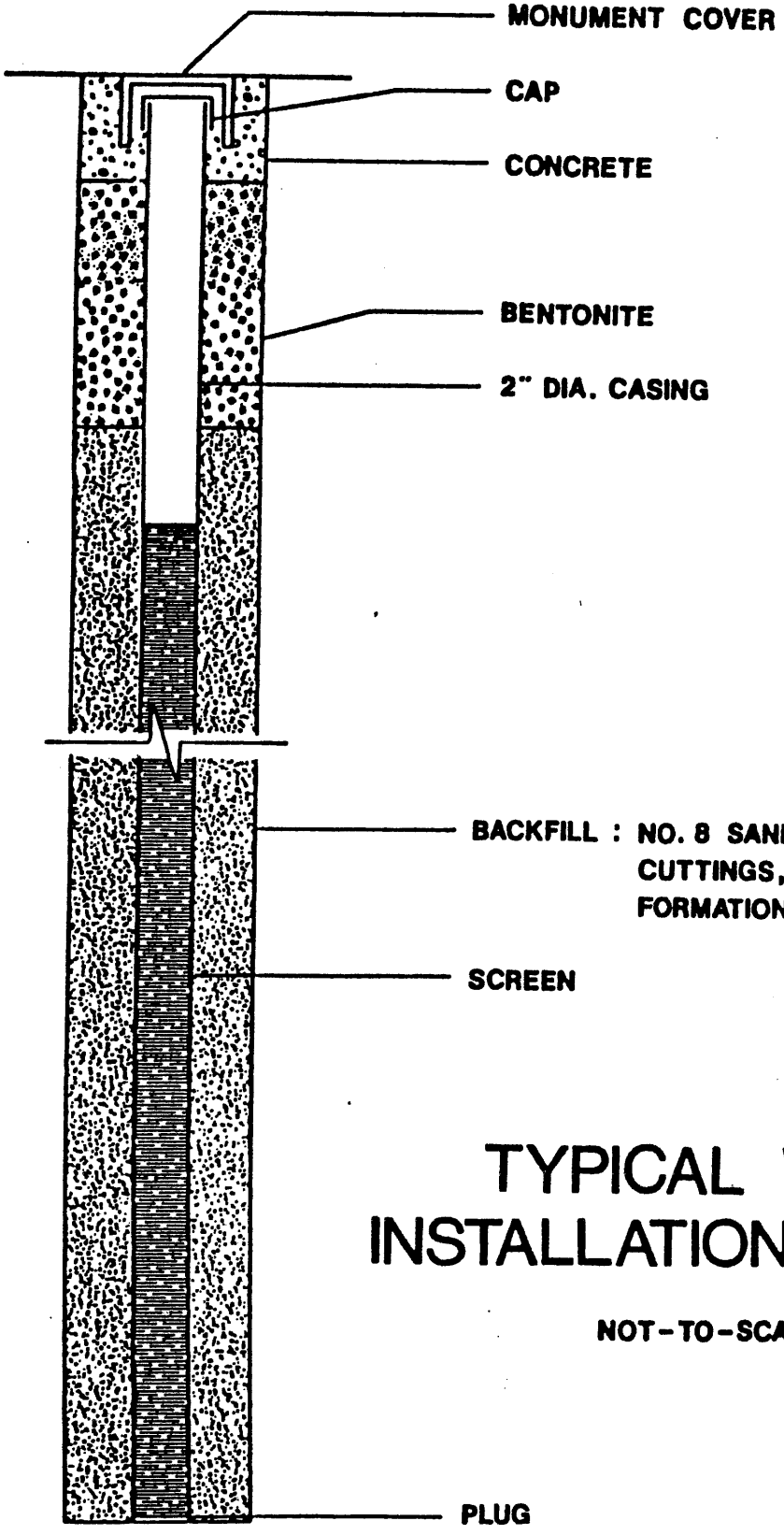
Moisture Content (%)	Sample	Blows per Foot	USCS	Description
			fill ?	Gray, silty, gravelly SAND, wet, loose (fill?).
	1	6		
	2	36	SM	Gray, silty, gravelly SAND, wet, dense.
	3	37	SM	Tan, very silty, fine grained SAND, wet, dense.
	4	85-9"	SM	Gray, slightly gravelly, medium grained SAND, wet, very dense. -increasing gravel content
	5	90-10"		

Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 3.5' during drilling.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	8



TYPICAL WELL INSTALLATION DESIGN

NOT-TO-SCALE

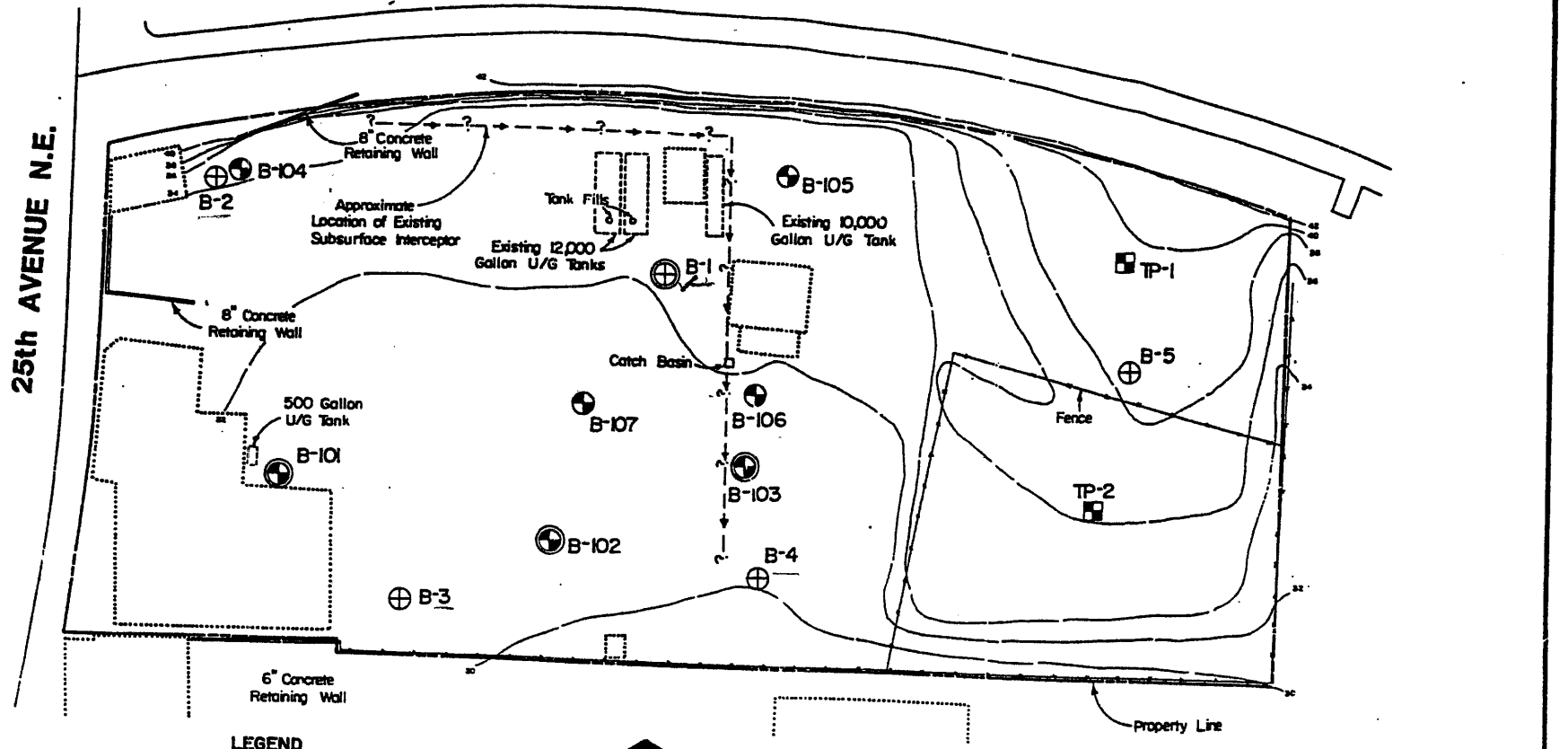
GEOTECH CONSULTANTS

SITE EXPLORATION PLAN
5032 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON

Job No.:	Date:		Plate:
92273	JULY 1993		9

APPENDIX A:

Previous Environmental Work



LEGEND

- B-101 Approximate Location of ECI Boring, Proj. No. E-3545-1, June 1988
- Indicates Installation of Monitoring Well in Boring
- TP-1 Approximate Location of ECI Test Pit, Proj. No. E-3545-1, June 1988
- B-1 Approximate Location of ECI Boring, Proj. No. E-3545, Sept. 1987
- Existing Building

N

Approximate Scale
0 20 40 80ft.

Reference :
Job No. 88081.00
Boundary & Topographic Survey
By Bush, Roed & Hitchings, Inc.
Dated 5/10/88

Earth Consultants Inc.
Geotechnical Engineering and Geology

Boring and Test Pit Location Plan
Cornwall Fuel Site
Seattle, Washington

Proj. No. 3545-1	Date June '88	Plate 2

CHEMICAL PROCESSORS, INC.
3400 East Marginal Way South
Seattle, Washington 98134
(206) 682-4898 • FAX: (206) 233-0869

December 7, 1990

Metro
322 West Ewing St.
Seattle, WA 98119

RE: One time discharge of accumulated excavation water.

Dear Ms. True

Chempro request authorization for discharge of approximately 30,000 gallons of water accumulated in an over excavated tank pit. This will provide access to contaminated soil located within this excavation. This discharge would commence as soon as authorization is granted. Hopefully this could occur as soon as the afternoon of 12-7-90 (today). So that dewatering operations could continue through the weekend of 12-9-90 to provide for a timely excavation on Monday 12-10-90. The discharge point was authorized by Charles Cox of Seattle Engineering this point (5035 25th Ave. N.E., Seattle, WA. 98125) will most likely be the sanitary sewer clean out located in the basement of the Cornwall building. Should this not suffice as a discharge point an alternate location was identified, it will be the man hole in the parking lane in front of building 5015 next door to the Cornwall building. Please find enclosed a site sketch and analytical results for TPH (418.1) analysis.

If you have any questions or comments please feel free to call Pete Vandervelde at (206) 682-4898.

Sincerely,
Chemical Processors, Inc.

Pete Vandervelde

Pete Vandervelde
Operations Supervisor

PV/jh

CHEMICAL PROCESSORS, INC.
3400 East Marginal Way South
Seattle, Washington 98134
(206) 682-4898 • FAX (206) 233-0869

STATE OF WASHINGTON
Department of Ecology
PV-11
Olympia, WA 98504-8711
Attn: Sue Simm

Reference: 30 DAY NOTIFICATION FOR UST REMOVAL

Chemical Processors, Inc. (CHEMPRO) is advising you, pursuant to the requirement of 30 days advance notice, prior to removing underground storage tanks in the State of Washington.

We would like to document notification for removal/closure of the following tank (s)

DATE: NOVEMBER 12, 1990

SITE ADDRESS 5036 - 25th AVENUE NORTHEAST

CITY/STATE/ZIP SEATTLE, WA 98125

PROPERTY OWNER CORNWALL FUEL & LUMBER COMPANY

TANK SIZE (S) ONE (1) 10,000; two (2) 12,000

CONTENTS GASOLINE, HEATING OIL, DIESEL

METHOD OF CLOSURE - REMOVAL XXX CLOSE IN PLACE

TANK AGE IF KNOWN OVER 25 YEARS (ESTIMATED)

REGISTERED/UNREGISTERED UNKNOWN

Sincerely,
CHEMICAL PROCESSORS, INC.
Environmental Services Division

BY VIRGIL CHRISTENSON

TITLE PROJECTS ESTIMATOR

COPY

SOUND TESTING, INC.
P.O. BOX 16204 SEATTLE, WA 98116
(206) 932-0206

MARINE CHEMIST CERTIFICATE

SERIAL NO.

GREG/CHEMPRO	CHEMPRO/CORNWALL FUEL & LUMBER II,	
Survey Requested by	Vessel Owner or Agent	Date
N/A	U.S.T.'S	5036 25TH AV. N.E.
Vessel	Type of Vessel	Specific Location of Vess
DIESEL, GASOLINE	LEL, O_2, TOXICS, INERT	0945
Last Three (3) Cargoes	Test Method	Time Survey Complet

ONE(1) 45 GAL U.S.T.

ONE(1) 300 GAL U.S.T.

ONE(1) 500 GAL U.S.T.

ONE(1) 10000 GAL U.S.T.

TWO(2) 12000 GAL U.S.T.

ONE(1) 1500 GAL FUEL OIL TRUCK

INERTED WITH CARBON DIOXIDE

SAFE FOR EXCAVATION

EXCAVATION PERMITTED TO REMOVE TANKS FROM UNDERGROUND.

14/50 4/20

In the event of any physical or atmospheric changes adversely affecting the gas-free condition of the above spaces, or if in any doubt, immediately stop all work and contact the undersigned Marine Chemist

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipe lines, tanks or compartments subject to gas accumulation, unless specifically approved in this Certificate, requires inspection and endorsement or reissue of Certificate for the spaces so affected. All lines, vents, heating coils, valves, and similarly enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated.

STANDARD SAFETY DESIGNATIONS

SAFE FOR WORKERS Means that in the compartment or space so designated (a) the oxygen content of the atmosphere is at least 19.5 percent by volume, and that, (b) toxic materials in the atmosphere are within permissible concentrations, and that, (c) the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Marine Chemist's Certificate

NOT SAFE FOR WORKERS Means that in the compartment or space so designated, the requirements of Safe for Workers has not been met

SAFE FOR HOT WORK: Means that in the compartment so designated: (a) oxygen content of the atmosphere is at least 19.5 percent by volume, with the exception of inerted spaces or where external hot work is to be performed; and that, (b) the concentration of flammable materials in the atmosphere is below 10 percent of the lower flammable limit; and that, (c) the residues are not capable of producing a higher concentration than permitted by (b) above under existing atmospheric conditions in the presence of fire, and while maintained as directed on the Marine Chemist's Certificate; and further, that, (d) all adjacent spaces have been cleaned sufficiently to prevent the spread of fire, or are satisfactorily inerted, or, in the case of fuel tanks, or lube oil tanks, or engine room or fire room bilges, have been treated in accordance with the Marine Chemist's requirements.

NOT SAFE FOR HOT WORK Means that in the compartment so designated, the requirements of Safe for Hot Work have not been met

SAFE FOR REPAIR YARD ENTRY Means that the compartments and spaces of the flammable cryogenic liquid carrier so designated (a) have been tested by sampling at remote sampling stations, and results indicate the atmosphere tested to be above 19.5 percent oxygen, and less than 10 percent of the lower flammable limit, or (b) are inerted

CHEMIST'S ENDORSEMENT This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306 1980 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation

"The undersigned acknowledges receipt of this Certificate under Section 2-3 of NFPA 306 1980 and understands conditions and limitations under which it was issued."

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions

Signed X John Hevrin (Name) CHEMPRO (Company) 11/26/90 (Date)

Signed (Marine Chemist) (Certificate No.)

SOUND TESTING, INC.
P.O. BOX 16204 SEATTLE, WA 98116
(206) 932-0206

MARINE CHEMIST CERTIFICATE

SERIAL NO.

JOHN SWAIN	CHEMPRO	11/27/19
Survey Requested by	Vessel Owner or Agent	Date
N/A	U.S.T.	5036 25TH N.E. 9
Vessel	Type of Vessel	Specific Location of Ve
DIESEL, GASOLINE	LEL, O_2, TOXICS, INERT	1000 A
Last Three (3) Cargoes	Test Method	Time Survey Comple

ONE(1) 500 GAL U.S.T. (GASOLINE)	INERTED W/ CARBON DIOXIDE. (CO_2)
	SAFE FOR HOT WORK
ONE(1) 10000 GAL UST (DIESEL)	
TWO(2) 12,000 GAL UST (DIESEL)	INERTED W/ CARBON DIOXIDE. (CO_2)
	SAFE FOR EXCAVATION

In the event of any physical or atmospheric changes adversely affecting the gas-free condition of the above spaces, or if in any doubt, immediately stop all work and contact the undersigned Marine Chemist.

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipe lines, tanks or compartments subject to gas accumulation, unless specifically approved in this Certificate, requires inspection and endorsement or reissue of Certificate for the spaces so affected. All lines, vents, heating coils, valves, and similarly enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated.

STANDARD SAFETY DESIGNATIONS

SAFE FOR WORKERS Means that in the compartment or space so designated (a) the oxygen content of the atmosphere is at least 19 5 percent by volume, and that, (b) toxic materials in the atmosphere are within permissible concentrations, and that, (c) the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Marine Chemist s Certificate

NOT SAFE FOR WORKERS Means that in the compartment or space so designated, the requirements of Safe for Workers has not been met

SAFE FOR HOT WORK: Means that in the compartment so designated: (a) oxygen content of the atmosphere is at least 19.5 percent by volume, with the exception of inerted spaces or where external hot work is to be performed; and that, (b) the concentration of flammable materials in the atmosphere is below 10 percent of the lower flammable limit; and that, (c) the residues are not capable of producing a higher concentration than permitted by (b) above under existing atmospheric conditions in the presence of fire, and while maintained as directed on the Marine Chemist's Certificate; and further, that, (d) all adjacent spaces have been cleaned sufficiently to prevent the spread of fire, or are satisfactorily inerted, or, in the case of fuel tanks, or lube oil tanks, or engine room or fire room bilges, have been treated in accordance with the Marine Chemist's requirements.

NOT SAFE FOR HOT WORK Means that in the compartment so designated, the requirements of Safe for Hot Work have not been met

SAFE FOR REPAIR YARD ENTRY Means that the compartments and spaces of the flammable cryogenic liquid carrier so designated (a) have been tested by sampling at remote sampling stations, and results indicate the atmosphere tested to be above 19 5 percent oxygen, and less than 10 percent of the lower flammable limit, or (b) are inerted

CHEMIST S ENDORSEMENT This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306 1980 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation

"The undersigned acknowledges receipt of this Certificate under Section 2 3 of NFPA 306 1980 and understands conditions and limitations under which it was issued"

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions

Signed X John Swain ChemPro 11/27/90 Signed [redacted]

Name Company Date Marine Chemist Certificate No

SOUND TESTING, INC.
P.O. BOX 16204 SEATTLE, WA 98116
(206) 932-0206

MARINE CHEMIST CERTIFICATE

SERIAL NO.

JOHN SWAIN Survey Requested by	CHEMPRO Vessel Owner or Agent	11/27/90 Date
N/A Vessel	U.S.T. 5036 Type of Vessel	25th NE Specific Location of Vess
DIESEL Last Three (3) Cargoes	LEL, O2, TOXICS, INERT Test Method	1200 P Time Survey Complet

ONE (1) 10,000 GAL. U.S.T. DIESEL	ENTER WITH RESTRICTIONS (1030AM) (ENTRY PERMITTED FOR TANK CLEANING)
TWO (2) 12,000 GAL U.S.T.'S DIESEL	INERTED WITH CARBON DIOXIDE. (1100 AM SAFE FOR HOT WORK (1100 (HOT WORK PERMITTED TO CU TANKS OPEN FOR CLEANING.
TWO (2) 12,000 GAL U.S.T.'S. (SAME AS ABOVE)	ENTER WITH RESTRICTIONS (1200PM) (ENTRY PERMITTED FOR TANK CLEANING)

*RESTRICTIONS: ① VENTILATION
② WEAR ORGANIC VAPOR CARTRIDGE RESPIRATORS.

1150 1120

In the event of any physical or atmospheric changes adversely affecting the gas-free condition of the above spaces, or if in any doubt, immediately stop all work and contact the undersigned Marine Chemist.

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipe lines, tanks or compartments subject to gas accumulation, unless specifically approved in this Certificate, requires inspection and endorsement or reissue of Certificate for the spaces so affected. All lines, vents, heating coils, valves, and similarly enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated.

STANDARD SAFETY DESIGNATIONS

SAFE FOR WORKERS Means that in the compartment or space so designated (a) the oxygen content of the atmosphere is at least 19 5 percent by volume, and that, (b) toxic materials in the atmosphere are within permissible concentrations, and that, (c) the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Marine Chemist s Certificate

NOT SAFE FOR WORKERS Means that in the compartment or space so designated, the requirements of Safe for Workers has not been met

SAFE FOR HOT WORK: Means that in the compartment so designated: (a) oxygen content of the atmosphere is at least 19.5 percent by volume, with the exception of inerted spaces or where external hot work is to be performed; and that, (b) the concentration of flammable materials in the atmosphere is below 10 percent of the lower flammable limit; and that, (c) the residues are not capable of producing a higher concentration than permitted by (b) above under existing atmospheric conditions in the presence of fire, and while maintained as directed on the Marine Chemist's Certificate; and further, that, (d) all adjacent spaces have been cleaned sufficiently to prevent the spread of fire, or are satisfactorily inerted, or, in the case of fuel tanks, or lube oil tanks, or engine room or fire room bilges, have been treated in accordance with the Marine Chemist's requirements.

NOT SAFE FOR HOT WORK Means that in the compartment so designated, the requirements of Safe for Hot Work have not been met

SAFE FOR REPAIR YARD ENTRY Means that the compartments and spaces of the flammable cryogenic liquid carrier so designated (a) have been tested by sampling at remote sampling stations, and results indicate the atmosphere tested to be above 19 5 percent oxygen, and less than 10 percent of the lower flammable limit, or (b) are inerted

CHEMIST S ENDORSEMENT This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306-1980 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation

The undersigned acknowledges receipt of this Certificate under Section 2 3 of NFPA 306 1980 and understands conditions and limitations under which it was issued "

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions

Signed John Swain Chempro 11/27/90 Signed [redacted]
Name Company Date Marine Chemist Certificate No

Your Seattle Fire Department

SEATTLE FIRE DEPARTMENT

PERMIT CODE: 799 T Title: TEMPORARY UNDERGROUND TANK REMOVAL/ABANDONMENT PERMIT

FEE: $60.00 + TIME CHARGE $_____ Code Reference: 79.113 11/19/90 11:57 AM

Date Received Date Issued

Receipt # ~~159261~~ or Data Entry # _____

Firm Name: CHEMPRO ENVIRONMENTAL Phone: 682-4898

Firm Address: 3400 E. MARGINAL WAY, SO Zip: 98134

Job Site: CORNWALL FUEL AND LUMBER COMPANY 5036-25TH AVE, NORTHEAST / SEATTLE, WA.

Person in Charge G. FLADSETH / J. SWAIN Phone: 682-4898

Number/size of tanks: #1-10,000 GAL #2-12,000 GAL #3-12,000 GAL

Product last contained: #1-DIESEL/GAS #2-FUEL OIL #3-FUEL OIL

Type of rinse: ~~TSP~~ / WATER VACUUM TRUCK FOR RESIDUALS

CONDITIONS:

1. TANKS MAY BE REMOVED ONLY AFTER FIRE DEPARTMENT INSPECTION.
2. Two (2) 20 BC portable fire extinguishers are to be on site within 50' of the operation.
3. Rope or ribbon barricades must be provided circling 10' from the operation or be enclosed in a fenced yard.
4. "No Smoking" signs must be posted in readily visible locations.
5. No hot works allowed unless the tanks are certified gas free. A separate Fire Department permit (Code 491) is required for cutting and welding operations.

PROCEDURES:

1. Call 386-1450, 24 hours prior to removal to arrange for an appointment. Appointments must be confirmed by an Inspector.
2. Permits may cover multiple tanks located at a single inspection area. If additional tanks are to be removed at later dates, separate permits shall be obtained.
3. Additional fees will be charged if inspectors are required to work other than normal business hours. (Normal business hours are 7:30 a.m. to 4:30 p.m.)
4. To ensure tanks are completely free of all flammable or combustible liquids, a receipt or certificate must be on site indicating the tank has been pumped and rinsed with an approved material. Product and rinse water must be disposed of in an approved manner.

This Shipping Order must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

Shipper No. NO 20

Carrier No. 90E232

Date 11-30-

Page 1 of 1

CHEMPRO ENVIRONMENTAL SERVICES I
3400 East Marginal Way South
Seattle, Washington 98134

(Name of carrier) (SCAC)

TO:
Consignee Chempro Environmental Service
On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

Street 82 Bradley & 25th N.E.

Destination 2001-Garfield Pier 91 Zip Code

FROM:
Shipper Chempro Envtro Service

Street 3400 - E Marginal Wy S.

Origin

Route

Vehicle Number AE501

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class Identification Number (UN or NA) per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGE (For Carrier Use Only)
Trk	X	Oil and water Waste	1000	gal		

PLACARDS TENDERED: YES ☒ NO ☐

REMIT C.O.D. TO:
ADDRESS

Note — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ _____ per _____

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and are in all respects in proper condition for transport by ▫ Rail ▫ Highway ▫ Water (DELETE NON-APPLICABLE MODE OF TRANSPORT) according to applicable international and national governmental regulations.

_____ Signature

COD Amt: $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of Consignor)

C.O.D. FEE:
PREPAID ☐
COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐ Check box if charges are to be collected

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER Chempro
PER John Jones
11-30-90

CARRIER William Kuntz
PER Chempro (FMW)
DATE 11-30-90

2

This Shipping Order must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

Shipper No. No 204

Carrier No. M-19

Date 11-27-9

Page 1 of 1

CHEMPRO ENVIRONMENTAL SERVICES INC.
3400 East Marginal Way South
Seattle, Washington 98134

(Name of carrier) (SCAC)

TO:
Consignee Chemipro Enviro Service
On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

Street 3400 - E Marginal Wy S.

Destination Seattle Zip Code 98036

FROM:
Shipper Cornwall

Street Bradley + 25th N.E.

Origin Seattle, Wash.

Route

Vehicle Number

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class Identification Number (UN or NA) per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
1 TK		Waste Heating Fuel UN1993 + Water	750	gal.		

PLACARDS TENDERED: YES ☒ NO ☐

REMIT C.O.D. TO:
ADDRESS

Note — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ _____ per _____

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled, and are in all respects in proper condition for transport by ≡ Rail ≡ Highway ≡ Water (DELETE NON-APPLICABLE MODE OF TRANSPORT) according to applicable international and national governmental regulations.

_____ Signature

COD Amt: $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of Consignor)

C.O.D. FEE:
PREPAID ☐
COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐ Check box if charges are to be collected

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER John Stram

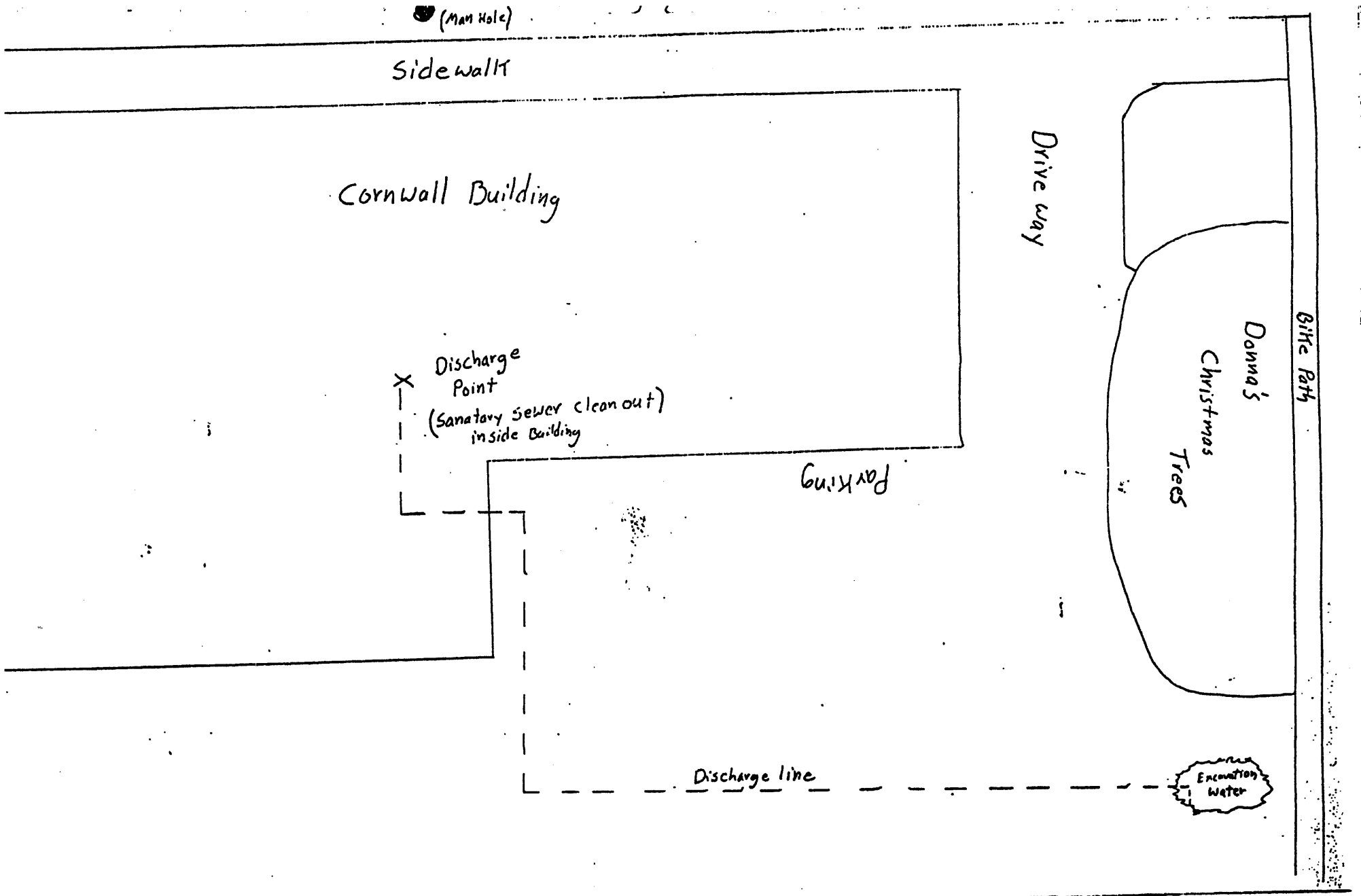
PER Cornwall Sanitary

CARRIER [illegible]

PER [illegible]

DATE 11-27-90

2



Cornwall Fuel & Lumber
5035 - 25th ave NE
Seattle, WA 98125

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro	Alden Job Number: 9011038/1
Client Sample Number: See below	Alden Sample Number: See below
Date of Sample Receipt: 11/30/90	Analysis Method: 418.1
Date of Sample Extraction: 11/30/90	Matrix: Water
Date of Sample Analysis: 12/3/90	Reporting Units: mg/L

Client Sample ID	Alden Sample Number	Total Petroleum Hydrocarbons
90E238	5658A	58

Note: Results are reported to two significant figures.

BURLINGTON
ENVIRONMENTAL INC.
CHEMPRO Division

February 2, 1991

Mr. Burton Cornwall
Cornwall Fuel and Lumber Company
5035 25th Ave. N.E.
Seattle, WA 98125

RE: Progress report

Dear Mr. Cornwall

This letter is submitted to Cornwall Fuel and Lumber to up date interested parties as to progress and proposed objectives regarding soil remediation at the: 5032 25th Avenue N.E. Seattle site.

This scope of work was accomplished over the period of 11-27-90 through 1-31-90.

Between 11-27-90 and 11-29-90 Chempro removed four Underground Storage Tanks (UST's) 1) 550 gallon gasoline tank, and 3) Heating fuel tanks [(1) 10,000 gallon and (2) 12,000 gallon]. The gasoline tank was located near the Northeast corner of the main facility on the property. This tank was excavated, removed and disposed of without incident.

However upon initial sampling of soil from heating fuel tank pit indicated varying degrees of contamination. This is illustrated on the enclosed site map with sample index attached to correlate known data with specific sampling locations. (It should be noted that only relevant discreet grab samples pertinent to this heating fuel tank pit are described on this site map.)

At this time Chempro began over excavation activities to remove and stockpile contaminated soils on site. Further sample analysis after over excavation revealed substantial progress toward remediation of the heating fuel tank pit area. Although, the soil wall division between the East and West excavations is known to still have elevated levels of TPH beyond acceptable clean up concentrations; this isolated area will be addressed when total remediation of the heating fuel tank pit area is completed. The East excavation is fully within acceptable clean up levels. But, the South to Southeast corner of the West excavation still maintains a significant amount of contamination. The test pits installed 1-14-91 suggest that the outer limits of contamination with regard to the heating fuel tank pit area will require excavation of another approximately 300 cubic yards of soil. This soil has been approved to be land farmed on the property by Joe Hickey of the Department of Ecology (D.O.E.) (Redmond-Regional Headquarters)

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

Chempro believe's this will be the most cost effective method to bring the soil contamination levels down to acceptable limits for reuse. Presently there is approximately 800 cubic yards already excavated and with the addition of another 400 cubic yards to be excavated the soil farm will require an area of about 100' X 150' with a soil depth of 2' this soil would be routinely sampled and rototilled to provide proper aeration to maintain optimum biological degradation along with volitilization of lighter hydrocarbon constituents. The cost and time constraints are presently being developed. You will receive a formal cost estimate along with any technical information by the end of February 1991.

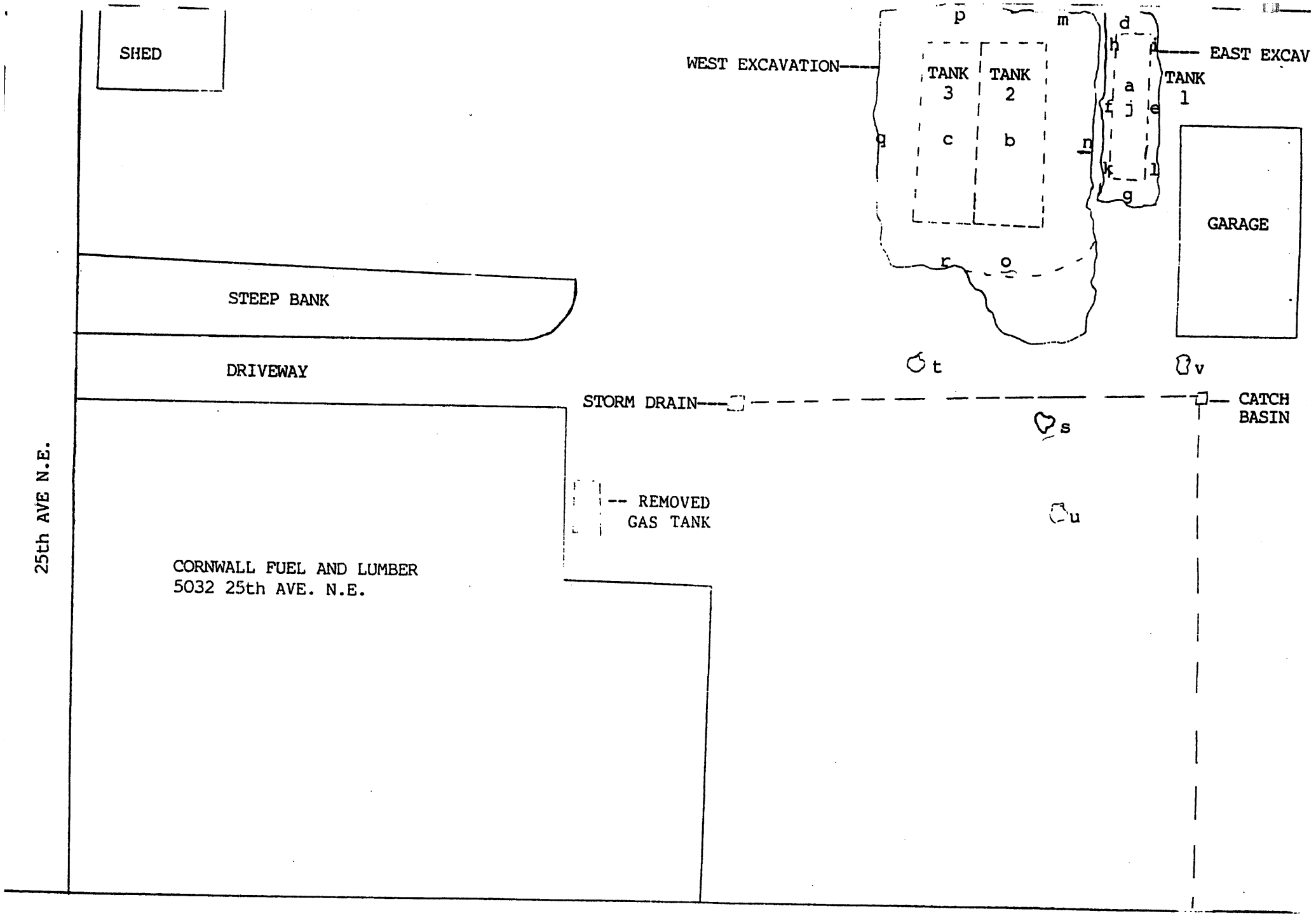
If you have any questions please contact Pete Vandervelde at (206) 682-4898.

Sincerely,

Peter Vandervelde
Operations Supervisor

PV/jh

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869



SITE MAP
CORNWALL FEUL AND LUMBER
90E238

CORNWALL FUEL AND LUMBER
SAMPLE INDEX
90E238

MAP INDICATOR	CHEMPRO SAMPLE #	ALDEN SAMPLE #	TPH 418.1 ANALYSIS (PPM)	DEPTH	DATE-TIME	LOCATION	OUT OF COMPLIANCE
NONE	238-15	5635	830	8'	11/29-10:30	side wall	**
4 SIDE WALL COMP						comp tank 1	**
NONE	238-25	5636	1500	8'	11/29-10:30	side wall	**
4 SIDE WALL COMP						comp tank 2	**
NONE	238-35	5637	2200	8'	11/29-10:30	side wall	**
4 SIDE WALL COMP						comp tank 3	
a	238-1b	5628	2100	12'	11/28-11:00	tank 1-bottom	
b	238-2b	5630	15	12'	11/28-11:00	tank 2-bottom	
c	238-3b	5632	49	12'	11/28-11:00	tank 3-bottom	
d	North wall	5661	10	8'	11/30-11:25	N. wall of E. excavation	
e	East wall	5662	53	8'	11/30-11:30	E. wall of E. excavation	
f	West wall	5663	19	8'	11/30-11:20	S. wall of E. excavation	
g	South wall	5664	25	8'	11/30-11:00	bottom N.W. of E. excavation	
h	bottom #1	5665	5.7	15'	11/30-11:05	bottom N.E. of E. excavation	
i	bottom #2	5666	6	15'	11/30-11:30	bottom N.E. of E. excavation	
j	bottom #3	5667	19	15'	11/30-11:20	mid. bottomof E. excavation	
k	bottom #4	5668	4.6	15'	11/30-11:40	bottom S.W. of E. excavation	
l	bottom #5	5669	7.3	15'	11/30-11:10	bottom S.E. of E. excavation	
m	North wall tank #2	5741	23	8'	12/11-10:00	N.E. wall of W. excavation	
n	East wall tank #2	5742	1400	8'	12/11-10:00	E. wall of W. excavation	**
o	South wall tank #2	5743	6600	8'	12/11-10:00	S.E. wall of W. excavation	**
p	North wall tank #3	5744	12	8'	12/11-10:00	N.W. wall of W. excavation	
q	West wall tank #3	5745	170	8'	12/11-10:00	W. wall of W. excavation	
r	South wall tank #3	5746	170	8'	12/11-10:00	S.W. wal. of W. excavation	
s	test pit A	6362	21000	6'	1/14-3:15	15' S. of "o"	**
t	test pit B	6363	120	4'	1/14-2:45	10' S. of "s"	
u	test pit C	6364	69	4'	1/14-3:00	20' S.W. of "o"	
v	test pit D	6365	24	4'	1/14-2:30	30' S.E. of "o"	

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 11/30/90
Matrix: Soil

Alden Job Number: 9[redacted]1
Alden Sample Number: See below
Analysis Method: 418.1
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Petroleum Hydrocarbons
North Wall	5661	11/30/90	12/3/90	10 D
East Wall	5662	11/30/90	12/3/90	53 E
West Wall	5663	11/30/90	12/3/90	19 F
South Wall	5664	11/30/90	12/3/90	25 G
Bottom #1	5665	11/30/90	12/3/90	5.7 H
Bottom #2	5666	11/30/90	12/3/90	6.0 I
Bottom #3	5667	11/30/90	12/3/90	19 J
Bottom #4	5668	11/30/90	12/3/90	46 K
Bottom #5	5669	11/30/90	12/3/90	7.3 L

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 12/11/90
Date of Sample Extraction: 12/13/90
Date of Sample Analysis: 12/14/90

Alden Job Number: 9012014/1
Alden Sample Number: See below
Analysis Method: 418.1
Matrix: Soil
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Total Petroleum Hydrocarbons
N/A	Blank	< 5.0
North Wall Tank #2	5741	23 M
East Wall Tank #2	5742	1400 N
South End Tank #2	5743	6600 O
North Wall Tank #3	5744	12 P
West Wall Tank #3	5745	170 Q
South Wall Tank #3	5746	170 R
Tank #2 & #3 Composite	5747	2500

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro	Alden Job Number [redacted]
Client Sample Number: See below	Alden Sample Number: See below
Date of Sample Receipt: 1/15/91	Analysis Method: 418.1
Date of Sample Extraction: 1/20/91	Matrix: Soil
Date of Sample Analysis: 1/21/91	Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Total Petroleum Hydrocarbons
Pit A	[redacted]	21000
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Pit D	6365A, B	24

Note: Results are reported to two significant figures.

BURLINGTON
ENVIRONMENTAL INC.
CHEMPRO Division

June 14, 1991

Mr. Burton Cornwall
Cornwall Fuel and Lumber Company
5036 25th Avenue Northeast
Seattle, WA 98125

Re: Status report

Dear Mr. Cornwall,

This letter is submitted to update interested parties as to the progress and objectives regarding soil remediation at the 5036 25th Avenue Northeast, Seattle site.

During the time period of 4-29-91 through 5-15-91, Chempro installed a soil containment area and commenced a soil remediation operation of approximately 1,500 cubic yards of contaminated soil. In addition to this, Chempro excavated 500-600 previously unexcavated soil and combined this soil with approximately 800 cubic yards of soil excavated and stockpiled during earlier excavating operations. The excavation created, extended into the proposed soil farm area. Therefore, partial backfilling of the excavation was necessary to accommodate the soil farm.

Soil samples of the newly excavated area were taken from the floor and sidewalls at various locations (see site map). These samples were analyzed for Total Petroleum Hydrocarbons (TPH) by two methods, 418.1 and modified 8015. These analyses indicate that the extent of the contamination within the soil has been excavated and contained in the soil containment area.

To enhance the biodegradation of the contamination Chempro recommends frequent tilling for maximum aeration of the soil farm, with the addition of a fertilizer as diammonium phosphate at a concentration of approximately 10%, applied at a rate of 1/2 lbs. per cubic yard (ie. 750 lbs) initially and every 3 months after that. Tilling should be done on a monthly basis preferably as soon as feasibly possible after heavy rainfall.

The contaminants within the soil in the containment area is expected to degrade and volatilize in a time frame of approximately 8 to 12 months. Monthly TPH samples are recommended to track the progress of the soil farm to determine when the soil is within acceptable limits (ie. 200 ppm TPH) at this time several soil samples should be taken in a grid pattern to verify the entire soil farm has been remediated. The fate and final destination of this soil is at the owners discretion it is recommended that the soil be graded over the property and/or used as backfill.

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

Chempro further recommends sampling all existing monitoring wells on site to verify that ground water has not been impacted and submit a report to the DOE, reporting all actions taken analytical results and other typical information required under the model toxics control act in an interim action/site characterization report.

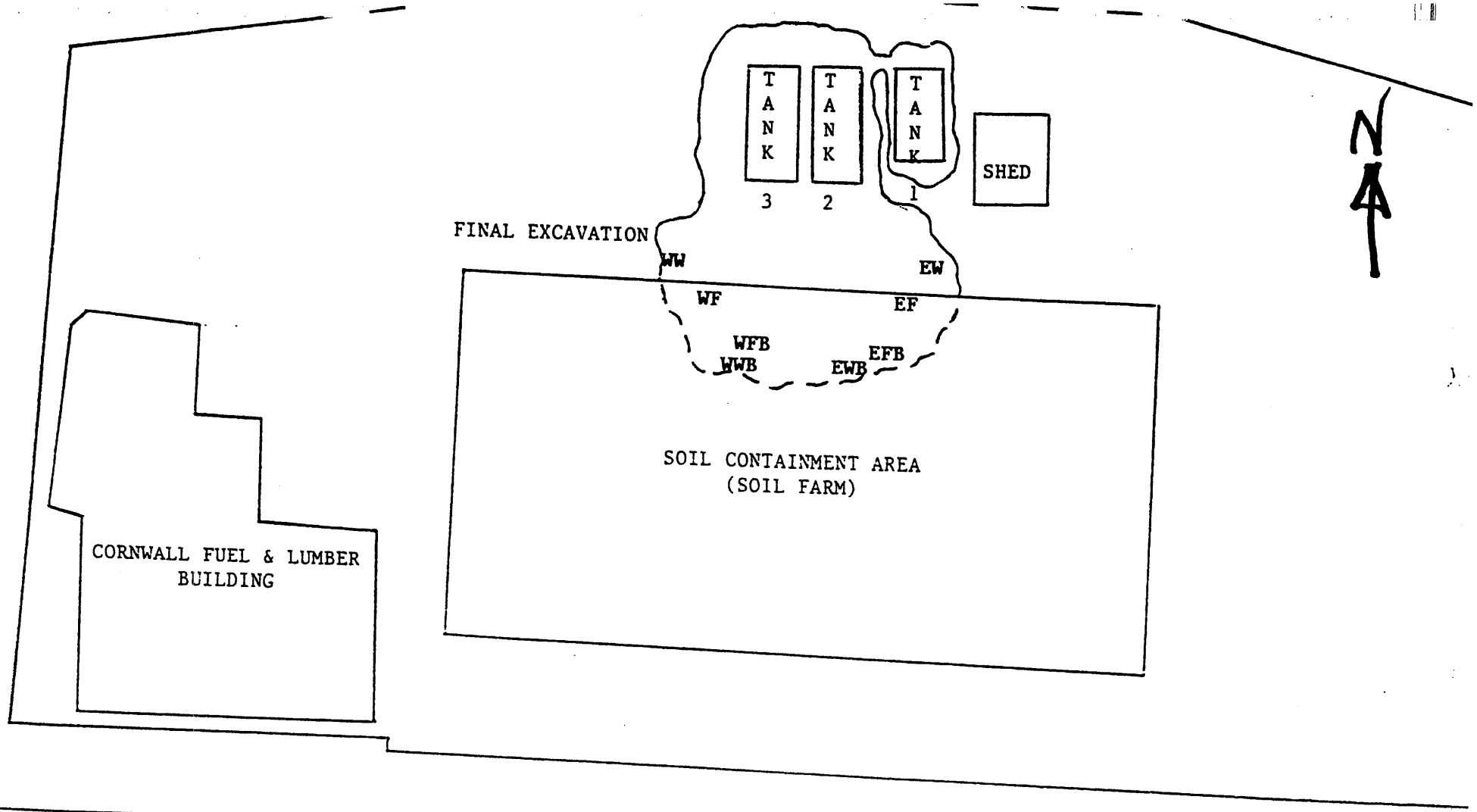
Chempro will provide these services if requested please feel free to call me with any questions or concerns regarding this matter.

Sincerely,

Pete Vandervelde

Pete Vandervelde
Operations Supervisor

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869



MAP LOCATION	SAMPLE #	418.1 ANALYSIS	8015 ANALYSIS
WW	WEST WALL	19 PPM	4.0 PPM
WF	WEST FLOOR	16 PPM	3.3 PPM
EW	EAST WALL	31 PPM	2.7 PPM
EF	EAST FLOOR	14 PPM	5.4 PPM
WWB	WEST WALL B	7.7 PPM	4.3 PPM
WFB	WEST FLOOR B	18 PPM	8.2 PPM
EWB	EAST WALL B	7.7 PPM	2.7 PPM
EFB	EAST FLOOR B	7.2 PPM	3.4 PPM

CORNWALL FUEL & LUMBER
SITE MAP
90E238

NOTE: SAMPLE LOCATIONS ARE IN BOLD TYPE.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 5/2/91
Matrix: Soil

Alden Job Number: 9105002/1
Alden Sample Number: See below
Analysis Method: 418.1
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
West Wall	7115	5/2/91	5/2/91	19
West Wall	7115 Dup	5/2/91	5/2/91	15
East Wall	7116	5/2/91	5/2/91	31
West Floor	7117	5/6/91	5/6/91	7.0
West Floor	7117 Dup	5/6/91	5/6/91	16
East Floor	7118	5/6/91	5/6/91	14

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 5/3/91
Matrix: Soil

Alden Job Number: 9105004/1
Alden Sample Number: See below
Analysis Method: 418.1
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
West Wall B	7124	5/6/91	5/6/91	7.7
West Floor B	7125	5/6/91	5/6/91	18
East Wall B	7126	5/6/91	5/6/91	7.7
East Floor B	7127	5/6/91	5/6/91	7.2

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 5/7/91
Matrix: Soil

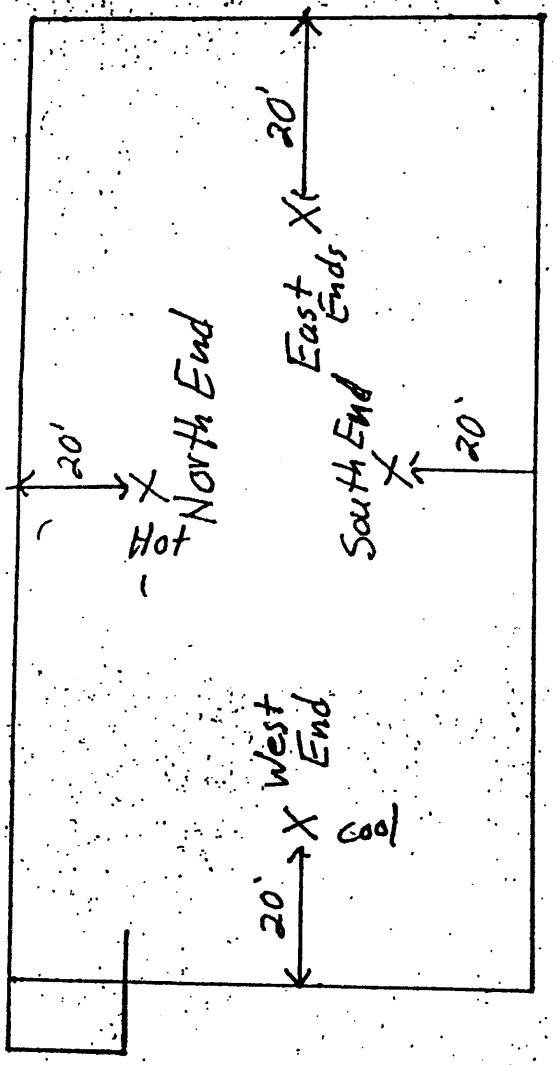
Alden Job Number: 9105004/2
Alden Sample Number: See below
Analysis Method: 8015-Modified
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
N/A	Blank	5/9/91	5/10/91	2.1
West Wall	7115	5/9/91	5/10/91	4.0
East Wall	7116	5/9/91	5/10/91	2.7
West Floor	7117	5/9/91	5/10/91	3.3
East Floor	7118	5/9/91	5/10/91	5.4
West Wall B	7124	5/9/91	5/10/91	4.3
West Floor B	7125	5/9/91	5/10/91	8.2
East Wall B	7126	5/9/91	5/10/91	2.7
East Floor B	7127	5/9/91	5/10/91	3.4
East Floor B	7127 Dup	5/9/91	5/10/91	2.7

Note: Results are reported to two significant figures.

Corn Wall Fuels 1/8/92

4 TPH 8015 samples



N

Buildings

Alden Analytical
Laboratories, Inc.

January 17, 1992

Chempro
Attn: Pete Van der Velde
7440 West Marginal Way
Seattle, WA 98108

RE: ALDEN PROJECT NUMBER 9201005/1

Dear Pete:

Enclosed are the analytical results for the soil samples submitted to Alden Labs January 8, 1992. The samples were analyzed for TEPH using Method 8015-Modified.

It is Alden's policy to dispose of all samples and extracts after the expiration of their hold time unless notified otherwise. If you have any questions please feel free to call me.

Sincerely,

John M. Buerger
Laboratory Manager

Enclosures

1001 SW Klickitat Way
Seattle, WA 98134
Telephone (206) 623-3660
Facsimile (206) 624-8778

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Burlington Environmental	Alden Job Number: 9201005/1
Client Sample Number: See below	Alden Sample Number: See below
Date of Sample Receipt: 1/8/92	Analysis Method: 8015-Modified
Matrix: Soil	Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
NA	Blank	1/13/92	1/14/92	< 2.0
North	9368	1/13/92	1/14/92	1300
West	9371	1/13/92	1/14/92	1800

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

CORNWALL STOCK PILES ? 6

REPORT OF ANALYTICAL RESULTS before excavation started

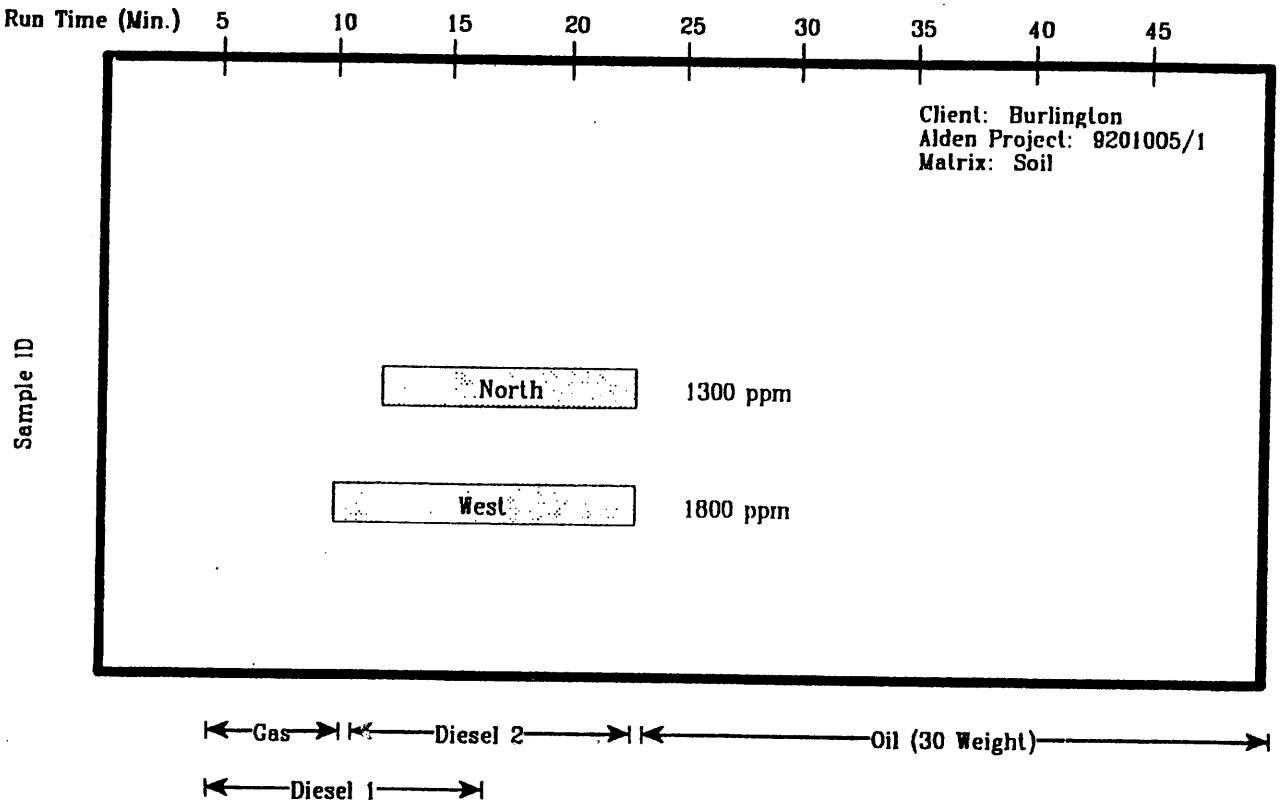
Client: Chempro	Alden Job Number: 9012002/1
Client Sample Number: See below	Alden Sample Number: See below
Date of Sample Receipt: 12/4/90	Analysis Method: 418.1
Date of Sample Extraction: 12/5/90	Matrix: Soil
Date of Sample Analysis: 12/6/90	Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Total Petroleum Hydrocarbons
N/A	Blank	< 5.0
A,B	5681	2300
C	5682	910

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

TPH (8015-Mod) GRAPHICAL SUMMARY*



Elution Ranges: Gasoline 5-10 minutes
Diesel 1 5-17 minutes
Diesel 2 10-22 minutes
Oil (30W) 22-50 minutes

*Note: This graphical representation is intended to provide a qualitative measurement of the elution range of hydrocarbons present in the sample versus known petroleum standards.

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

CLIENT: Cornwall Fuel Co.
5036 25th Ave.
Seattle, WA 98105

ATTN : Mr. Cornwall

Certificate of Analysis

Work Order# : 92-09-760
DATE RECEIVED : 09/11/92
DATE OF REPORT: 09/19/92

Work ID : Cornwall Property
Taken By : Client
Transported by: Hand Delivered
Type : Soil

SAMPLE IDENTIFICATION:

	Sample Description	Collection Date			
01	#7,8,9 Composite	09/11/92 10:00	370		719
02	#2A	09/11/92 10:00	300	—	667

7/13/92

FLAGGING:

The flag "U" indicates the analyte of interest was not detected, to the limit of detection indicated.

ATTACHMENTS:

Following presentation of sample results, the following appendices are attached to this report:

Appendix A: Method Blank and Method Blank Surrogate Recoveries Report
Appendix B: Duplicate Report
Appendix C: Chain-of-Custody

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry Microbiology and Technical Services

CLIENT : Cornwall Fuel Co.

Certificate of Analysis

Work Order# : 92-09-760

Unless otherwise instructed all samples will be discarded on 10/30/92

Respectfully submitted,
Laucks Testing Laboratories, Inc.

J. M. Owens

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

CLIENT : Cornwall Fuel Co.

Certificate of Analysis

Work Order # 92-09-760

TESTS PERFORMED AND RESULTS:

Analyte	Units	01	02
Total Solids	%	91.1	90.8

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
Chemistry, Microbiology, and Technical Services

REPORT ON SAMPLE: 9209760-01A
Client Sample ID: #7,8,9 Composite

Collection Date : 09/11/92
Date Received : 09/11/92
Date Analyzed : 09/14/92

Test Code : WTPHDS
Test Method : WTPH-D

Analyte	Result (mg/kg DB)	SDL (mg/kg DB)
Diesel range, as diesel	370	270

Surrogate recovery report for sample 9209760-01A

Surrogate	Percent Recovery	Limits: Min.	Max.
2-Fluorobiphenyl	80	50	150
p-Terphenyl	110	50	150

* = Indicates that recovery is outside control limits

Comments:There is a unresolved envelope in the diesel range of this sample but the pattern does not match the diesel standard.

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry Microbiology and Technical Services

REPORT ON SAMPLE: 9209760-02A
Client Sample ID: #2A

Collection Date : 09/11/92
Date Received : 09/11/92
Date Analyzed : 09/14/92

Test Code : WTPHDS
Test Method : WTPH-D

Analyte	Result (mg/kg DB)	SDL (mg/kg DB)
Diesel range, as diesel	300	270

Surrogate recovery report for sample 9209760-02A

Surrogate	Percent Recovery	Limits: Min.	Max.
2-Fluorobiphenyl	120	50	150
p-Terphenyl	110	50	150

* = Indicates that recovery is outside control limits

Comments:There is a unresolved envelope in the diesel range of this sample but the pattern does not match the diesel standard.

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
Chemistry, Microbiology, and Technical Services

Quality Control Report
Multi-Component Method Blanks
Surrogate Recoveries for Work Order 9209760

Blank Name	Test Description	Surrogate Compound	Recov	LCL	UCL
B091292_GSV_S01	WTPH diesel in soil	2-Fluorobiphenyl	100	50	150
		p-Terphenyl	105	50	150

* = Recovery exceeds control limit

Recov = Percent recovery of surrogate compound
LCL = Lower Control Limit
UCL = Upper Control Limit

Laucks 84 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
Chemistry, Microbiology, and Technical Services

Quality Control Report
Duplicate Report for Work Order 9209760

Duplicate Name	Sample Fractions Verified	Sample	Analyte	RPD	Limit
D091292_GVOS01	1-2	9209760-01	Diesel	3.3	50
D091492_TSS04	1-2	9209760-02	Total Solids	1.4	30

* = Value Exceeds Control Limit
RPD = Relative Percent Difference
L = RPD control limit for this analyte is 5x the detection limit. The value appearing in the RPD column is the absolute difference of the duplicates.
-1 for recovery value indicates that recovery could not be calculated

A duplicate pair can validate the results for more than one work order. For this reason, results for analytes not requested on this work order may appear in this duplicate report.

APPENDIX B:

Laboratory Reports

OnSite Environmental Inc.

June 29, 1993

Henry Perrin
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Henry:

Enclosed are the results of the analyses of samples submitted on June 24, 1993 from Project 92273E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Karl P. Hornyik
Project Chemist

Enclosures

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

Date of Report: June 29, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Matrix: Soil
Date Extracted: June 24, 1993
Date Analyzed: June 24, 1993

WTPH-HCID

Sample Number	GC Characterization	o-terphenyl Surrogate Recovery
Fill-1	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	103%
S-3	Gasoline range hydrocarbons Diesel range hydrocarbons[T] Oil range hydrocarbons	123%
B1-3	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	106%
B2-1	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	101%
B3-2	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	99%
B3-3	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	100%

T-The chromatogram is not similar to a typical diesel chromatogram.

Date of Report: June 29, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Matrix: Soil
Date Extracted: June 24, 1993
Date Analyzed: June 24, 1993

WTPH-HCID

Sample Number	GC Characterization	o-terphenyl Surrogate Recovery
B4-1	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	108%
B5-1	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	112%

Quality Assurance

Method Blank	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	94%

Date of Report: June 29, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: June 24, 1993
Date Analyzed: June 24, 1993

WTPH 418.1

Sample Number	Dilution Factor	Total Petroleum Hydrocarbons
S-3	5	**55**

QUALITY ASSURANCE

	Dilution Factor	Total Petroleum Hydrocarbons
Method Blank	5	<25
Sample: 06-074-2	5	<25
Duplicate	5	<25
RPD		0%

Date of Report: June 29, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Date Analyzed: June 25, 1993

RESULTS OF DRY WEIGHT

Sample Number	Moisture
S-3	15%

COMPANY Geotech

PROJECT # 92273E

PROJECT NAME

MANAGER Henry Perrin

TRAVELER # KH

OnSite Environmental Inc.
2859 152nd Ave. NE, Redmond, WA 98052
Phone (206) 883-3881 Fax (206) 885-4603

REQUESTED TURNAROUND?

06-070

06-070

Dash	Sample Number	Date	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1	Hold		DRY WEIGHT	Comments
-1	FILL-1	6/22	S	1	X								
-2	S-3	6/22	S	1	X				X			X	418.1 per order Henry Perrin 6-25-93 JC
-3	B1-3				X								
-4	B2-1				X								
-5	B3-2				X								
-6	B3-3				X								
-7	B4-1				X								
-8	B4-2									X			
-9	B5-1				X								

Submitted Henry Perrin Date 11:50 AM Received by Bob Walker Date 6/24/93

Firm Geotech Time 6/24 Firm OSE Time 11:50 A.

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

OnSite Environmental Inc.

July 9, 1993

Henry Perrin
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Henry:

Enclosed are the results of the analyses of samples submitted on June 24, 1993 from Project 92273E.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Karl P. Hornyik
Project Chemist

Enclosures

RECEIVED JUL 14 1993

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

Date of Report: July 9, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: July 7, 1993
Date Analyzed: July 7, 1993

EPA 8020 & WTPH-G
(PURGE & TRAP)

Sample Number	S-3
Dilution Factor	50
Benzene	.075
Toluene	.40
Ethylbenzene	.14 J
m- & p-Xylene	.58
o-Xylene	.35
TPH-Gas	28
4-Bromofluorobenzene Surrogate Recovery	78%

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

Date of Report: July 9, 1993
Samples Submitted: June 24, 1993
Lab Traveler: 06-070
Project: 92273E

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: July 7, 1993
Date Analyzed: July 7, 1993

EPA 8020 & WTPH-G
(PURGE & TRAP)

QUALITY CONTROL

	Method Blank
Dilution Factor	50
Benzene	<.050
Toluene	<.050
Ethylbenzene	<.050
m,p-Xylene	<.050
o-Xylene	<.050
TPH-Gas	<5.0
4-Bromofluorobenzene Surrogate Recovery	75%

COMPANY Geotech

PROJECT # 92273E

PROJECT NAME

MANAGER Henry Perrin

TRAVELER # KH

OnSite Environmental Inc.
2859 152nd Ave. NE, Redmond, WA 98052
Phone (206) 883-3881 Fax (206) 885-4603

REQUESTED TURNAROUND?

06-070

06-070

Dash	Sample Number	Date	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1	HoLD		DRY WEIGHT	Comments
					Analysis Required								
-1	FILL-1	6/22	S	1	X								
-2	S-3	6/22	S	1	X	X	X		X			X	418.1 per order Henry Perrin 6-25-93 JC
-3	B1-3				X								G/BTEX Added per H. Perrin 7-7-93
-4	B2-1				X								
-5	B2-2				X								
-6	B3-3				X								
-7	B4-1				X								
-8	B4-2									X			
-9	B5-1				X								

Submitted Henry Perrin Date 11:50 AM Received by Bob Wade Date 6/24/93

Firm Geotech Time 6/24 Firm OSE Time 11:50 A.

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

OnSite Environmental Inc.

July 16, 1993

Fred Cole
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Fred:

Enclosed are the results of the analyses of samples submitted on July 14, 1993 from Project 92273.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Karl P. Hornyik
Project Chemist

Enclosures

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

Date of Report: July 16, 1993
Samples Submitted: July 14, 1993
Lab Traveler: 07-019
Project: 92273

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

WTPH-D

Sample Number	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Combined 11,12,13	1	210	112%
Combined 14,15,16	1	170	123%
Combined 17,18,19	1	190	116%
Combined 20,21,22	1	210	114%
Combined 23,24,25	1	390	117%

Date of Report: July 16, 1993
Samples Submitted: July 14, 1993
Lab Traveler: 07-019
Project: 92273

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

WTPH-D
QUALITY ASSURANCE

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	1	<25	112%
Sample: Combined 23,24,25	1	395	117%
Duplicate	1	363	122%
RPD		8.3%	

Date of Report: July 16, 1993
Samples Submitted: July 14, 1993
Lab Traveler: 07-019
Project: 92273

Date Analyzed: July 15, 1993

RESULTS OF DRY WEIGHT

Sample Number	Moisture
Combined 11,12,13	7.0%
Combined 14,15,16	8.0%
Combined 17,18,19	7.0%
Combined 20,21,22	8.0%
Combined 23,24,25	8.0%

COMPANY Golder Consultants Inc

PROJECT # 92273

PROJECT NAME Conwell

MANAGER FRED COLE

TRAVELER #

OnSite Environmental Inc.

2859 152nd Ave. NE, Redmond, WA 98052
Phone (206) 883-3881 Fax (206) 885-4603

REQUESTED TURNAROUND?

07-019

Dash	Sample Number	Date	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1			DRY WEIGHT	Comments
					Analysis Required								
-1	Combined 11, 12, 13	7-14-93	Soil	1				X				X	
-2	" 14, 15, 16	"	"	1				X				X	
-3	" 17, 18, 19	"	"	1				X				X	
-4	" 20, 21, 22	"	"	1				X				X	
-5	" 23, 24, 25	"	"	1				X				X	

Submitted Fred Cole Date 7-14-93 Received by Bob Walla Date 7-14-93

Firm Golder Consultants, Inc Time 3:42 Firm OSE Time 3:40

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

OnSite Environmental Inc.

July 16, 1993

Henry Perrin
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Henry:

Enclosed are the results of the analyses of samples submitted on July 15, 1993 from Project 92273.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Karl P. Hornyik
Project Chemist

Enclosures

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

Date of Report: July 16, 1993
Samples Submitted: July 15, 1993
Lab Traveler: 07-020
Project: 92273

Matrix: Water
Units: ug/L (ppb)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

EPA 602 & WTPH-G
(PURGE & TRAP)

Sample Number	MW3
Dilution Factor	1
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
m- & p-Xylene	<1.0
o-Xylene	<1.0
TPH-Gas	<300
4-Bromofluorobenzene Surrogate Recovery	81%

Date of Report: July 16, 1993
Samples Submitted: July 15, 1993
Lab Traveler: 07-020
Project: 92273

Matrix: Water
Units: ug/L (ppb)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

EPA 602 & WTPH-G
(PURGE & TRAP)

QUALITY CONTROL

		Sample: MW3		
	Method Blank	Original	Duplicate	RPD
Dilution Factor	1	1	1	
Benzene	<1.0	<1.0	<1.0	0%
Toluene	2.0	<1.0	<1.0	0%
Ethylbenzene	<1.0	<1.0	<1.0	0%
m,p-Xylene	<1.0	<1.0	<1.0	0%
o-Xylene	<1.0	<1.0	<1.0	0%
TPH-Gas	<300	<300	<300	0%
4-Bromofluorobenzene Surrogate Recovery	75%	81%	79%	

Date of Report: July 16, 1993
Samples Submitted: July 15, 1993
Lab Traveler: 07-020
Project: 92273

Matrix: Water
Units: ug/L (ppb)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

EPA 602 & WTPH-G
(PURGE & TRAP)

QUALITY CONTROL

Sample : MW3
Spiked @ 50.0 ppb

	Matrix Spike Conc.	Percent Recovery	Matrix Spike Dup. Conc.	Percent Recovery	RPD
Dilution Factor	1		1		
Benzene	44.5	89%	47.1	94%	5.7%
Toluene	43.6	87%	46.2	92%	5.8%
Ethylbenzene	43.0	86%	45.5	91%	5.6%
m,p-Xylene	44.5	89%	47.0	94%	5.5%
o-Xylene	42.7	85%	45.0	90%	5.2%
4-Bromofluorobenzene Surrogate Recovery	77%		80%		

Date of Report: July 16, 1993
Samples Submitted: July 15, 1993
Lab Traveler: 07-020
Project: 92273

Matrix: Water
Units: mg/L (ppm)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

WTPH-D

Sample Number	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
MW-1	.02	<.50	113%
MW-2	.02	<.50	96%
MW-4	.02	<.50	105%

Date of Report: July 16, 1993
Samples Submitted: July 15, 1993
Lab Traveler: 07-020
Project: 92273

Matrix: Water
Units: mg/L (ppm)
Date Extracted: July 15, 1993
Date Analyzed: July 15, 1993

WTPH-D
QUALITY ASSURANCE

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	.02	<.50	112%
Sample: MW-1	.02	<.50	113%
Duplicate	.02	<.50	112%
RPD		0%	

PROJECT # 9273

PROJECT NAME

MANAGER Henry Perrin

TRAVELER # AAB

OnSite Environmental Inc.

2859 152nd Ave. NE, Redmond, WA 98052
Phone (206) 883-3881 Fax (206) 885-4603

REQUESTED TURNAROUND?

07-020

Dash	Sample Number	Date	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1	Hold		DRY WEIGHT	Comments
-1	MW-1	7/14	W	2				X					
-2	MW-2	"	"	1				X					
-3	MW-3	"	"	5		X							
-4	MW-4	"	"	1				X					
-5	DRAIN-1	7/14	S	1						X			

Submitted Hy Pi Date 7/15/93 Received by Judith T. Colina Date 7-15-93

Firm Geotech Time 8 AM Firm OnSite Environmental Time 8:00 am

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

APPENDIX C:

Remedial Action Summary

Independent Remedial Action Report Summary

This report summary is an important part of the Independent Remedial Action Report. Please complete the summary and submit it with your Independent Remedial Action Report. If this document does not accompany your cleanup report, or if it is not fully completed, your report cannot enter the review process necessary for Ecology to provide you with a "no further action" determination, or to remove your site from the hazardous sites lists.

FOR ECOLOGY USE ONLY			
ERTS No.	TCP I.D. No.	Date Received	☐ NFA ☐ SHA Referral ☐ Interim Action ☐ Emergency Action
Reviewed by		Initial Investigation (Date)	

PLEASE PRINT CLEARLY OR TYPE

Complete all of the following:

GENERAL INFORMATION

Name of Site Owner: Cornwell Partnership	Phone: (206) - 524 - 5413
Address: 7348 55th Ave NE, Seattle, WA 98115	
Authorized Contact: B.W. Cornwall	Phone:
Name of Facility Operator: N/A (closed)	Phone:
Address:	
Authorized Contact:	Phone:
Name of Consultant: Henry Perrin	Phone: (206) 747-5618
Name of Firm: Geotech Consultants, Inc.	
Address: 13256 NE 20th St., Suite 16, Bellevue, WA 98005	

Please indicate which of the above persons completed this report. If the report was completed by someone other than listed above, please provide their name, address, and a daytime phone.

Henry Perrin

REPORT INFORMATION

Type of Report (*check one*)

- ☐ Combined release and independent remedial action report
- ☑ Independent remedial action report
- ☐ Interim Action Report
- ☐ Final Cleanup Action Report

Is this a Leaking Underground Storage Tank (LUST) report? Yes ☑ No ☐

Date release was reported to Ecology: 12/5/90

Date cleanup was completed: 5/14/91

FACILITY INFORMATION

Site Name: Cornwall Fuel and Lumber Co.

Other Names (*the site may be known as*):

Site Contact Person If Other Than Owner/Operator (*This must be a person who is on-site during normal working hours and is authorized and qualified to answer questions about the site, or a person who is available during normal business hours and has knowledge about the site and the remediation.*)

Name: BW Cornwall Phone: (206) 524-5413

Site Mailing Address (*or site contact mailing address*): 7348 55th Ave NE, Seattle, WA 98115

Site Location Address (*including zip code*): 5032 25th Ave NE, Seattle, WA 98105

Closest City: Seattle

County (*where site is located*): King

Township: 25N Range: 4E Section: 9 Quarter-Quarter: NW¼SE¼ Meridian:

Longitude: ~~West~~ Degree: 122° Minute: 17 Second: 55"

Latitude: ~~East~~ Degree: 47° Minute: 40' Second: 4"

Ownership and Operator Type Complete the table below by checking the appropriate box to identify the type of owner and operator for the facility. (*For example, if the property owner is a port district and the operator a private individual, then check the boxes under owner identification column in the municipal, code #2 row, and under the operator identification column in the private party, code #1 row.*)

Ownership/OperatorType	Code #	Owner Identification	Operator Identification
Private Party	1	✓	
Municipal (Public)	2		
County	3		
Federal	4		
State	5		
Tribal	6		
Mixed	7		
Other	8		
Unknown	9		
Public Entity Acquisition through Bankruptcy	10		
Financial Institution Acquisition through Bankruptcy	11		

Standard Industrial Classification (SIC) Codes. List all that apply. If none apply, or if you don't know your SIC code, list activities conducted at the site, e.g., automotive repair and maintenance, construction equipment storage, etc.

former heating oil distributor

Hazardous Substance Management Practice(s). The hazardous substance(s) cleaned up from the site was the result of which of the following sources, activities, or actions? Please circle all that apply to the facility.

1 = Drug Lab
2 = Drum
3 = A Leaking Impoundment
4 = Improper Handling
5 = Landfill
6 = Land application
7 = Pesticide application
8 = Pesticide Disposal
9 = A Spill
10 = Storm Drain
(11) = Leaking Tank: (a - below ground; b - above ground)
12 = Unknown

CLEANUP INFORMATION (continued)

Indicate the treatment methods used by completing Tables 5-B through 5-D below. *(Check all that apply)*

TABLE 5-B

	Destruction or Detoxification				Media Transfer		
	Carbon Adsorption[1]	Biological Treatment	Chemical Destruction	Incineration	Air Stripping/ Air Sparging	Aeration/Vapor Extraction	Thermal Desorption
Soil	-NA-	✓			-NA-		
Ground Water				-NA-		-NA-	-NA-
Surface Water				-NA-		-NA-	-NA-
Air		-NA-				-NA-	
Wastes	-NA-				-NA-	-NA-	-NA-

[1]Carbon followed by regeneration; use of granular activated carbon followed by landfilling would be classified in these tables as volume reduction and off-site landfill.

→ Pumped into Sanitary Sewer System under MSD authorization.

TABLE 5-C

	Immobilization		Reuse/Recycling[2]	Separation/Volume Reduction		
	Vitrification	Solidification/ Stabilization		Solvent Extraction	Soil Washing	Physical Separation[3]
Soil						
Ground Water	-NA-	-NA-		-NA-	-NA-	
Surface Water	-NA-	-NA-		-NA-	-NA-	
Wastes						

[2]For example, reuse of free petroleum product recovered in a pump and treat system.
[3]For example, oil/water separators.

TABLE 5-D

	Land Disposal/Containment		Institutional Controls	Others
	Containment or On-site Landfill	Off-site Landfill		Specify treatment method
Soil				
Ground Water		-NA-		
Surface Water	-NA-	-NA-		
Wastes				

LUST SITE INFORMATION

Type of product released *(check one)*
Leaded Gas ☐ Diesel ☑ Waste Oil ☐
Unleaded Gas ☐ Heating Oil ☐ Other ☐ (Identify _____)

Approx. Tank Size: 10,000 gals

Was free product encountered?
Yes ☐ No ☑

ENVIRONMENTAL INDICATORS

Answer the following questions as they are applicable to your site:

How many cubic yards of soil have been treated? 1,500 - 2,000

Where soil treatment was conducted, was it done on-site, off-site, or both? *(circle one)*

How many cubic yards of soil have been disposed of off-site? 0 *(Calculate these quantities of soil while the soil is in place, prior to any excavation and/or treatment.)*

Identify the off-site location(s) where soil was disposed. NA

If ground water pump and treatment was conducted, how many gallons of ground water have been treated to date? Unknown gals.

How many years is the ground water extraction system expected to continue in operation? — yrs.

RELEASE INFORMATION

Date of Release *(If known)*	Date of Discovery	Are there any drinking water systems affected?
—	12/5/90	Yes ☐ No ☐ Unknown ☑

If drinking water systems are affected, are the systems public, private, or both? *(circle one)*	If drinking water systems are affected, has alternate drinking water been provided? Yes ☐ No ☐ Unknown ☐

General Hazardous Substance Categories Using the contaminants listed below, complete the table. *(A more detailed description of the contaminants can be found in Appendix A of the guidance.)*

Contaminants. For each of the applicable contaminants, enter the appropriate letter designating the status of the contaminants: C = Confirmed or S = Suspected *(Contaminant status definitions are defined in Appendix A of the guidance.)*

Affected Media	Halogenated Organic Compounds	Metals - Priority Pollutants	Metals - Other	Polychlorinated Bi-Phenyls (PCBs)	Pesticides/Herbicides	Petroleum Products	Phenolic Compounds	Non-Halogenated Solvents	Dioxins	Polynuclear Aromatic Hydrocarbons (PAH)	Reactive Wastes	Corrosive Wastes	Radioactive Wastes	Conventional Contaminants - Organics	Conventional Contaminants - Inorganic	Base/Neutral Organic Compounds	Asbestos
Ground Water						C											
Surface Water																	
Drinking Water																	
Soil						C											
Air																	

CLEANUP INFORMATION

Indicate cleanup level methods used by completing Table 5-A below. *(Check all that apply)*

TABLE 5-A

	Soil	Ground Water	Air	Surface Water
Method A	✓	✓		
B				
C				
Have these levels been met throughout the site? *(circle only one)*	(YES) * NO	(YES) NO	YES NO	YES NO

* With exception of soil treatment bed, TPH 170 - 340 ppm

APPENDIX H

RESUMES

J. DAVID PATTON, PG, CHMM
Operations Manager

EDUCATION

B.S. Geology
University of Kansas, 1985

Masters Business Administration, Major: Corporate Finance
Keller Graduate School of Management, 1999

PROFESSIONAL REGISTRATION

- Certified Professional Geologist: Illinois (#196-000308), Indiana (#1070), and Wisconsin (#146-013)
- Certified Hazardous Materials Manager, Master Level (#1822)
- Certified Environmental Inspector (#7371)
- Registered Environmental Professional (#2880)
- Illinois Notary Public

PROFESSIONAL SUMMARY

Mr. Patton is the operations manager for the ATC Lombard, Illinois, office, supervising approximately 40 professionals in the general fields of due diligence site assessments, subsurface evaluations and remediation, industrial hygiene, and property condition assessments. He has 20 years of experience providing environmental engineering and consulting services to government agencies and private industry. His specific expertise includes profit and loss management, development of local, regional, and national business development and marketing strategies, resource management, training and mentoring of staff, project management, and performing due diligence site assessments. Mr. Patton's diverse project related experience includes managing and performing environmental site assessments, building/property condition assessments, multi-media environmental compliance assessments, geotechnical evaluations, asbestos consulting, lead-based paint consulting, indoor air quality evaluations, radon consulting and mitigation, underground storage tank testing, upgrading, and decommissioning, subsurface soil and groundwater assessments, risk-based closure reporting, and electromagnetic subsurface investigations. Mr. Patton has been involved in over 3,000 environmental and engineering related projects located throughout the United States Mexico, and Canada over the past 20 years.

Mr. Patton has performed, coordinated, and managed numerous Phase I environmental site assessment portfolio acquisitions and divestitures for Fortune 500 Companies and Wall Street rating agencies. Mr. Patton has also performed approximately 750 single property Phase I environmental site assessments for real estate portfolio managers, property developers, attorneys, banks, insurance companies and pension funds. Types of properties assessed included commercial retail centers, office buildings, multi-family complexes, light industrial facilities, industrial facilities, and vacant land.

Mr. Patton has also performed and managed numerous Phase II subsurface investigations involving proposal preparation, reporting and government compliance. Mr. Patton is also responsible for project management, Health and Safety Plan development and implementation, training and mentoring of staff professionals, implementation of methodology for assessment techniques, characterization of petroleum, solvent, PBC, and metals impacted properties, and permitting activities. His experience also includes projects involving the application of Federal RBCA, state of Illinois TACO, and state of Indiana RISC Guidelines for corrective action. Mr. Patton is also responsible for developing proposals and cost estimates, supervision of field staff, performing field sampling and data gathering activities, and preparing project budgets, schedules, and reports.

Mr. Patton has an extensive background performing environmental audits of industrial manufacturing facilities. His work has involved the review of solid, hazardous, and waste treatment and disposal facilities throughout the United States. Mr. Patton has also managed a variety of projects that were designed to resolve non-compliance issues with regulatory statutes. Mr. Patton has performed and managed the preparation of multi-media environmental compliance and training programs for numerous industrial facilities throughout the U.S. and Canada.

Mr. Patton has had extensive contact with regulatory agencies and has performed numerous reviews of regulatory files for CERCLIS, RCRA, LUST, UST, and landfill sites.

Mr. Patton has experience in managing and performing numerous removals, tightness tests, installations, upgrades, and closure reporting for UST and AST piping and tank systems. Responsibilities include preparing UST closure proposals and reports, preparation and implementation of Corrective Action Plans and interacting with state and local environmental agencies. UST and AST removal and installation activities were performed and documented in accordance with applicable state regulatory guidelines. Subsurface assessment activities were accomplished using soil gas survey techniques, soil probe assessments with on-site gas-chromatograph analysis, soil borings, ground-water monitoring well installations, and soil and ground-water sample collection. Data from field activities was evaluated and reports were formatted in response to client needs, regulatory guidelines, and risk based approaches.

Mr. Patton has assisted clients on numerous projects involving the state of Illinois, Indiana, and Wisconsin voluntary cleanup programs to remediate solvent and metals impacted soil and groundwater. Assistance has included enrollment into the cleanup programs, securing necessary permits, preparation of work and corrective action completion reports, and liaison between the client and the specific regulatory agency.

Mr. Patton has coordinated and managed numerous building condition surveys prior to real estate transactions for property developers, attorneys, and lending institutions. The engineering assessments generally included condition surveys of the structural components, foundation, roof system, pavement, exterior walls, mechanical/electrical systems, site work, life safety, and ADA compliance. Types of properties included high-rise office/residential buildings, hotels, warehouse buildings, multi-family apartment complexes, commercial retail shopping centers, light industrial facilities, and resort properties.

Mr. Patton has performed numerous asbestos surveys for various clients, including local, regional, and national government agencies, school districts, universities, real estate portfolio managers, attorneys, insurance companies, and lending institutions. Types of facilities surveyed include schools, university buildings, government buildings, military installations, industrial buildings, commercial retail shopping centers, hotels and resorts, high-rise office/residential buildings, and apartment complexes. Mr. Patton is a certified asbestos building inspector and management planner in several states. He has also completed the NIOSH 582 and AHERA abatement design professional training courses.

Mr. Patton has been an air sampling professional and project manager for numerous asbestos abatement projects. Mr. Patton has also developed numerous asbestos abatement specifications and bid documents to assist owners in removing asbestos located in schools, university buildings, government buildings, military installations, industrial buildings, commercial retail shopping centers, hotels and resorts, high-rise office/residential buildings, and apartment complexes. Mr. Patton is PAT proficient and has collected and analyzed work area and clearance air samples associated with asbestos abatement projects. Mr. Patton has prepared and implemented Operations & Maintenance Programs and provided awareness training for workers that could come into contact with asbestos-containing materials during the course of their work activities.

Mr. Patton is an Illinois Department of Public Health licensed lead inspector/risk assessor. He has performed and managed numerous lead-based paint and lead-in-drinking water inspections, risk assessments, and surveys for various clients. Types of facilities surveyed include single family residential dwellings, multi-family residential apartment complexes, commercial office buildings, hotels, and industrial facilities. Mr. Patton has also performed lead-based paint and dust abatement services including specification preparation, project management, and clearance sampling for residential, commercial, industrial and historical buildings. Mr. Patton has prepared and implemented Operations & Maintenance Programs and provided awareness training for workers that could come into contact with lead-containing paint and dust during the course of their work activities.

Mr. Patton has performed and managed over 200 projects related to mold and bacterial contamination in single-family residences, condominium and apartment buildings, nursing homes, commercial office buildings, food service facilities, government buildings, and light industrial buildings. Mr. Patton has also performed microbial and bacterial abatement services including specification preparation, project management, and clearance sampling for these properties. Mr. Patton has prepared and implemented Operations & Maintenance Programs and provided awareness training for workers that could come into contact with mold or bacteria during the course of their work activities.

Mr. Patton has performed environmental consulting and sampling for the presence of radon gas, electromagnetic fields (EMFs), indoor air contaminants, and polychlorinated biphenyls (PCBs).

PROFESSIONAL EXPERIENCE

Environmental

- **Environmental Site Assessments and Subsurface Soil / Groundwater Sampling / Packerland Packing / US.** Project Manager for a Phase I/II environmental site and contamination assessment project for 10 meat packing facilities in Nebraska, Kansas, Wisconsin, Iowa, and Missouri. Study involved historical data research, site and area reconnaissance, conducting environmental subsurface explorations and groundwater monitoring well installation at the sites, and writing reports presenting results, recommendations, and remedial options.

- **Environmental Site Assessment / Asbestos Survey / Subsurface Soil / Groundwater Sampling / Mark IV Realty / IL.** Project Manager for a Phase I and II environmental site assessment and asbestos survey for Marina City Condominium Complex in Chicago, Illinois. This study involved a Phase I environmental site assessment and asbestos survey, which revealed potential impact from existing asbestos-containing materials and underground storage tanks on-site. A Phase II environmental subsurface assessment was performed utilizing soil borings. Petroleum impacted soil removal and asbestos abatement cost estimates were given for budgeting purposes.

- **Environmental Site Assessment Portfolio Management / Harris Bank / IL.** Managed an environmental assessment portfolio for a large financial institution that was purchasing the assets of Household Financial comprising 46 sites in the Chicagoland area. The environmental assessment program performed for the financial institution involved Phase I assessments on all the properties, and some limited asbestos surveys in the older facilities and 10 Phase II assessments on the properties that were identified to be formerly occupied by gas stations. The project was completed in approximately one month.

- **Environmental Site Assessment Portfolio Management / Confidential Client / IL.** Managed a portfolio of 25 industrial/office/warehouse buildings for a REIT located in the Chicagoland area. The properties were located throughout the country. Mr. Patton developed a proposal for Phase I environmental site assessment program, coordinated the project with the client, and provided senior technical review of the reports. Mr. Patton also developed proposals for several Phase II environmental site assessments on some of the properties, and managed the Phase II process.

- **Environmental Site Assessment Portfolio Management / Westinghouse Evaluation Services / US.** Managed of portfolio of 55 sites for Westinghouse Evaluation Services comprising a sale of RTC properties. Mr. Patton provided coordination of the Phase I environmental site assessments with project personnel and provided project management review of the reports. Mr. Patton assisted in the development of proposals for Phase II environmental site assessments at several of the sites, and managed the Phase II process.

- **Underground Storage Tank Project Management / Confidential Client / IL.** Project manager for underground storage tank (UST) removal and leaking UST (LUST) closure for eight USTs for a major real estate investment company.

- **Geotechnical Investigation/ Environmental Site Assessments / Electromagnetic Survey / Chicago Park District / IL.** Project Manager for a Geotechnical Evaluation, Historical Survey, Asbestos Survey, Electromagnetic Survey, and Phase II ESA for the Chicago Park District property occupied by the Southwest Mental Health Center.

- **Environmental Site Assessments and Geotechnical Investigations / Voice Stream Wireless / Schaumburg, IL.** Project manager for over 50 VoiceStream Wireless projects including geotechnical services, NEPA Phase I ESAs, and Phase II ESAs.

- **Environmental Site Assessments / Target Stores / IL.** Project Manager and Principal Investigator for 20 former Montgomery Ward facilities including auto service centers that were to be sold. The environmental site assessments included review of existing environmental reports and incorporation of available information into an updated environmental report.

- **Environmental Site Assessment / Various Clients / Various Locations Throughout the U.S.** Project scientist for over 700 phase I environmental site assessments at commercial office, retail, and light industrial facilities throughout the country. Many of the projects included review and evaluation of existing reports or review of government agency files to assess the environmental quality of the sites. The diversity of site locations has provided a wide range of experience with various local and state regulatory environments.

- **Compliance Audit / Confidential Client / IL.** Developed and conducted site specific OSHA audit for a major chemical manufacturer. Successfully negotiated with state OSHA official for site compliance decree. Successfully negotiated with state OSHA official to reduce fines. Developed and implemented OSHA compliance training programs, bringing the site into compliance with OSHA training requirements.

- **Compliance Audit Program Development / Confidential Client / US.** Developed a site specific audit program for a major telecommunications company to keep the company in compliance with OSHA and EPA regulations.

- **Regulatory Compliance Consulting / Confidential Client / US.** Provided consulting services for an environmental auditing program for a major manufacturing facility with 25 facilities throughout the United States. Managed an audit program of 25 steel fabricating facilities, covering RCRA, TSCA, OSHA, EPA, CAA and CWA compliance issues.

- **Regulatory Compliance Consulting / Confidential Client / IL.** Negotiated EPA environmental consent decree requirements, which met business objectives and financial plan for RCRA violations for a small packaging facility. Developed, implemented and conducted RCRA training for 25 employees. Implemented a tracking system for waste manifesting. Provided regulatory review of manifests resulting in change of generator status from large quantity to small quantity resulting in significant cost savings for waste disposal. Provided project management services for PSM and RMP initiative identifying through task analysis-compliance objectives.

- **Regulatory Compliance Consulting / Confidential Client / NC.** Developed and implemented chemical purchasing policies and procedures for a major furniture manufacturer. These procedures and policies allowed for the purchase and use of less hazardous chemicals thus reducing regulatory reporting requirements. Additionally, through the use of the new chemical purchasing policy a reduction of overall chemical usage was realized resulting in reduced operating costs.

- **Underground Storage Tank Project Management / Confidential Client / IL.** Project manager for underground storage tank (UST) removal and leaking UST (LUST) closure for fifteen USTs located at three facilities located in Wisconsin, Illinois, and Indiana for a major real estate investment company.

Building Sciences

- **Asbestos Management / Marquette Building / Chicago, IL.** Project Manager and Asbestos Inspector conducting an asbestos survey of the historic structure for remodeling purposes. Duties included sampling, removal specification preparation, abatement bidding assistance, construction oversight, air sampling, report preparation, and project closeout.

- **Asbestos AHERA Inspections / Fenwick High School / IL.** Field inspector conducting the initial AHERA Comprehensive Asbestos Survey and Management Plan for the high school. Mr. Patton also conducted the three-year re-inspections for the facility.

- **Asbestos Survey and Sampling / US Army / OK.** Field supervisor and inspector conducting a comprehensive asbestos survey and hazard assessment of Fort Sill Military Base, in Lawton, Oklahoma. 25 million square-feet of space was surveyed by a team of four people over a period of approximately 6 months.

- **Asbestos Survey and Sampling / State University System of New York / NY.** Project coordinator and field inspector for a one year long asbestos survey and sampling project conducted throughout the state of New York at all state funded universities. Comprehensive asbestos surveys and hazard assessments were performed at these universities.

APPENDIX H

RESUMES

J. DAVID PATTON, PG, CHMM
Operations Manager

EDUCATION

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Mr. Patton has performed environmental consulting and sampling for the presence of radon gas, electromagnetic fields (EMFs), indoor air contaminants, and polychlorinated biphenyls (PCBs).

PROFESSIONAL EXPERIENCE

Environmental

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- **Environmental Site Assessments / Target Stores / IL.** Project Manager and Principal Investigator for 20 former Montgomery Ward facilities including auto service centers that were to be sold. The environmental site assessments included review of existing environmental reports and incorporation of available information into an updated environmental report.

- **Environmental Site Assessment / Various Clients / Various Locations Throughout the U.S.** Project scientist for over 700 phase I environmental site assessments at commercial office, retail, and light industrial facilities throughout the country. Many of the projects included review and evaluation of existing reports or review of government agency files to assess the environmental quality of the sites. The diversity of site locations has provided a wide range of experience with various local and state regulatory environments.

- **Compliance Audit / Confidential Client / IL.** Developed and conducted site specific OSHA audit for a major chemical manufacturer. Successfully negotiated with state OSHA official for site compliance decree. Successfully negotiated with state OSHA official to reduce fines. Developed and implemented OSHA compliance training programs, bringing the site into compliance with OSHA training requirements.

- **Compliance Audit Program Development / Confidential Client / US.** Developed a site specific audit program for a major telecommunications company to keep the company in compliance with OSHA and EPA regulations.

- **Regulatory Compliance Consulting / Confidential Client / US.** Provided consulting services for an environmental auditing program for a major manufacturing facility with 25 facilities throughout the United States. Managed an audit program of 25 steel fabricating facilities, covering RCRA, TSCA, OSHA, EPA, CAA and CWA compliance issues.

- **Regulatory Compliance Consulting / Confidential Client / IL.** Negotiated EPA environmental consent decree requirements, which met business objectives and financial plan for RCRA violations for a small packaging facility. Developed, implemented and conducted RCRA training for 25 employees. Implemented a tracking system for waste manifesting. Provided regulatory review of manifests resulting in change of generator status from large quantity to small quantity resulting in significant cost savings for waste disposal. Provided project management services for PSM and RMP initiative identifying through task analysis-compliance objectives.

- **Regulatory Compliance Consulting / Confidential Client / NC.** Developed and implemented chemical purchasing policies and procedures for a major furniture manufacturer. These procedures and policies allowed for the purchase and use of less hazardous chemicals thus reducing regulatory reporting requirements. Additionally, through the use of the new chemical purchasing policy a reduction of overall chemical usage was realized resulting in reduced operating costs.

- **Underground Storage Tank Project Management / Confidential Client / IL.** Project manager for underground storage tank (UST) removal and leaking UST (LUST) closure for fifteen USTs located at three facilities located in Wisconsin, Illinois, and Indiana for a major real estate investment company.

Building Sciences

- **Asbestos Management / Marquette Building / Chicago, IL.** Project Manager and Asbestos Inspector conducting an asbestos survey of the historic structure for remodeling purposes. Duties included sampling, removal specification preparation, abatement bidding assistance, construction oversight, air sampling, report preparation, and project closeout.

- **Asbestos AHERA Inspections / Fenwick High School / IL.** Field inspector conducting the initial AHERA Comprehensive Asbestos Survey and Management Plan for the high school. Mr. Patton also conducted the three-year re-inspections for the facility.

- **Asbestos Survey and Sampling / US Army / OK.** Field supervisor and inspector conducting a comprehensive asbestos survey and hazard assessment of Fort Sill Military Base, in Lawton, Oklahoma. 25 million square-feet of space was surveyed by a team of four people over a period of approximately 6 months.

- **Asbestos Survey and Sampling / State University System of New York / NY.** Project coordinator and field inspector for a one year long asbestos survey and sampling project conducted throughout the state of New York at all state funded universities. Comprehensive asbestos surveys and hazard assessments were performed at these universities.

- **Lead-Based Paint Project Management / AIMCO / US.** Project Manager for the Midwest region of a major lead-based paint survey project encompassing over 500 apartment complexes located throughout the US. Services included HUD protocol sampling with Niton XRF machines and risk assessment services by collecting paint chip, dust wipe, dust vacuum, and soil samples.

- **Lead Dust Abatement Project Management / Finova Capital Corporation / IL.** Project Manager and Principal Investigator of a lead dust abatement project at the Dakota Building located in Chicago, Illinois. Services included lead-based paint and dust sampling, removal specification preparation, abatement bidding assistance, construction oversight, air sampling, report preparation, and project closeout.

- **Lead-Based Paint and Asbestos Surveys / Risk Assessments / Transwestern Financial Corporation / US.** Project Manager and Principal Investigator for lead-based paint and asbestos inspections/risk assessments as part of a portfolio acquisition of 25 office buildings.

- **Indoor Air Quality Surveys / Property Conditions Surveys / Lighting Evaluations / CAD Design Services / Bank One Corporation / US.** Client account manager to provide indoor air quality evaluations, property condition surveys, ATM lighting studies, and CAD design services to various Bank One owned facilities located throughout the US. Responsible for identifying internal resources located throughout the country to service Bank One's environmental and engineering consulting needs.

- **Indoor Air Quality Surveys / Property Conditions Surveys / Environmental Site Assessments / Parking Deck Restoration / Grubb & Ellis, Inc / US.** Client account manager to provide indoor air quality evaluations, property condition surveys, facilities engineering and environmental assessment services to various Grubb & Ellis managed facilities located throughout the US. Prepared various scopes of work for Grubb & Ellis to conduct indoor air quality evaluations, property condition surveys, facilities engineering and environmental assessment services of their managed facilities. Responsible for identifying internal resources located throughout the country to service Grubb & Ellis's environmental and engineering consulting needs.

- **Indoor Air Quality Surveys / Environmental Consulting Services / Roofing Evaluation Services / State Farm Insurance Company / US.** Client account manager to provide indoor air quality evaluations, environmental consulting services, and roofing evaluation services to various State Farm owned facilities located throughout the US. Responsible for identifying internal resources located throughout the country to service State Farm's environmental and engineering consulting needs.

- **Indoor Air Quality Services / Equity Office Properties / IL.** Responsible for managing and performing numerous baseline indoor air quality survey and sampling services to tenants in Equity owned high rise office buildings complaining of compromised indoor air quality.

TRAINING AND CERTIFICATIONS

- Asbestos Building Inspector (IL, #100-0236, IN, # 192221067).
- Asbestos Management Planner (IL, #100-0236, IN # 192221067).
- Lead-Based Paint Inspector/Risk Assessor (IL, L-1137).
- OSHA 40-Hour Hazardous Waste Site Worker Training, Environmental Training Consultants, 1988.
- Site Assessments Training Workshop, Environmental Hazards Management Institute, 1991.
- Asbestos Design Professional Certification, BCM Engineers 1988.
- NIOSH 582 Airborne Fiber Analysis, McCrone Research Institute, 1987.
- NEHA Certified Radon Inspector, 2000.
- Leak Detection and Corrective Action for Underground Storage Tanks, University of Wisconsin, 1989.
- Basic Environmental Risk Management Training, LAW Engineering, 1998.
- Quality Assurance Training, LAW Engineering, 2000.
- Contract Documents Preparation, Review, and Negotiation Training, LAW Engineering, 1999.
- Stormwater Management Training, LAW Engineering, 2001.
- Niton Spectrum Analyzer Training in Radiation Safety, Monitoring, Measurement, and Machine Maintenance, Niton Corporation, 2000 (Certificate # A0060534198).
- Microbial Investigations, Assessments and Remediation in the Indoor Environment 2-Day Training Class, ATC 2002.
- Housing and Urban Development Department (HUD) MAP Training for Environmental Assessments, 2004.

PROFESSIONAL ACTIVITIES

- Member of American Institute of Professional Geologists (AIPG)
- Member of Illinois/Indiana Chapter of AIPG
- Member of Institute of Hazardous Materials Management
- Member of Academy of Certified Hazardous Materials Managers
- Member of Illinois Environmental Professionals Association
- Member of National Registry of Environmental Professionals
- Member of Environmental Assessment Association
- Member of National Groundwater Association
- Member of Geological Society of America
- Member of Wheaton, Illinois Chamber of Commerce
- Member of International Fire Code Institute

Terrence S. McDunner
Branch Manager

EDUCATION

B.S., Biology, Truman State University, 1988

PROFESSIONAL SUMMARY

Since 1988, Mr. McDunner has been actively engaged in all aspects of environmental services relating to Phase I and Phase II environmental site assessments and soil and groundwater remediation, and general industrial hygiene and compliance/permitting efforts. His work experience and responsibilities have included; project management, work plan and sampling plan preparation, soil and groundwater sampling and remediation design, specification and bid document development, construction oversight, permit assistance and review, project management, supervision of field staff and multi-year contract administration. Mr. McDunner has extensive experience with public works and commercial projects for clients throughout the Pacific Northwest and the United States and Canada.

PROFESSIONAL EXPERIENCE

- ***Pierce County Redevelopment, Port of Tacoma, Tacoma, Washington.*** Managed the decommissioning of several PCB transformers, and remedial activities involving underground and aboveground storage tanks, contaminated soils and RCRA hazardous waste as part of the largest single expansion project at the Port of Tacoma. Project involved historical data review and media sampling, specification design and bidding assistance and review along with oversight of remedial activities and final reporting.

- ***Portfolio Environmental Assessment, Seattle, Washington.*** Managed environmental site assessments and subsequent soil and groundwater assessments for a national Real Estate Investment Trust of their industrial property portfolio located throughout the greater Seattle Metropolitan area. The project included hundreds of acres of developed industrial land and was conducted with multiple teams. Environmental assessments were conducted within three weeks of authorization and subsequent investigations were conducted based on the findings of the Phase I Assessments.

- ***Totem Ocean Trailer Express Redevelopment, Port of Tacoma, Tacoma, Washington.*** Managed the decommissioning of several PCB transformers and underground and aboveground storage tanks and handling and disposal of contaminated groundwater originating from an off-site source. Subsequent to the assessments, provided design specifications, cost analysis and bidding support. Conducted contractor bid and submittal review and comment, and project management of construction oversight, soil and air sampling, waste disposal and final reporting.

- ***Former Industrial Laundry, Seattle, Washington.*** Performed project management for the demolition of six buildings at a former industrial dry cleaning facility in Seattle, Washington. Subsequent to building demolition, performed management of remedial activities for contaminated soil and groundwater. Approximately 30,000 cubic yards of petroleum affected soils were excavated and transported off-site for disposal. After completion of soil excavation and disposal, performed quarterly groundwater monitoring and reporting per Department of Ecology requirements.

- ***Data Gap Analysis.*** Completed a review of prior investigations to determine potential data gaps for a petrochemical plant in southern Washington State. The plant was originally constructed in the 1960s and had been upgraded multiple times throughout the years. Multiple releases had occurred throughout the years and subsequent investigations related to the releases had been conducted. Based on information collected during the document review, recommended additional soil and groundwater investigations be conducted.

- ***Hazardous Materials Permitting and Abatement Design, New Jersey.*** Designed survey, sampling plan, and specifications and assisted in permitting for the removal of asbestos containing materials from a regional power plant and an onsite landfill in New Jersey. Portions of the facility remained in operation during the work. The work was conducted as part of the decommissioning of the plant and required approximately two years to complete.

Michelle Limón
Senior Project Manager

EDUCATION

B.A., Natural Resources Management, Alaska Pacific University, 1993
M.S., Environmental Management, West Coast University, 1997

PROFESSIONAL SUMMARY

Ms. Limón has 12 years of diverse experience as an environmental professional including Phase I and Phase II environmental site assessments, industrial hygiene projects, National Environmental Protection Act (NEPA) EIS preparation and permitting, and industrial compliance. Her work experience and responsibilities have included: operations, project, and client management; contract administration; regulatory compliance audits; environmental site assessments; asbestos, lead-based paint, and indoor air quality assessments; ecological and historical resource assessments; work plan and sampling plan preparation; soil and groundwater sampling; waste water sampling; and supervision of field staff.

PROFESSIONAL EXPERIENCE

HAZARDOUS MATERIALS

- ***Asbestos Management, New York City (NYC) School Construction Authority.*** Managed multi-million dollar contract to provide asbestos surveys, design and air monitoring for abatement projects in NYC public schools. Supervised asbestos abatement Project Monitors. Reviewed capital construction projects and evaluated regulatory requirements for removal of asbestos-containing materials to ensure compliance with Asbestos Hazard Emergency Response Act (AHERA), New York State Industrial Code Rule 56 and NYC Department of Environmental Protection Title 15 regulations.

ENVIRONMENTAL ASSESSMENTS

- ***Phase I Environmental Site Assessments, Multiple Projects, Metro New York City Area.*** Supervised staff of eight project managers conducting ASTM Phase I Environmental Site Assessments (ESAs), including asbestos, lead paint, and indoor air quality testing and assessment. Managed client relationships, proposal preparation, and estimating, coordinating project assignment, tracking progress, and reviewing reports. Performed numerous technically-complex site assessments and investigations.

- ***Phase I Environmental Site Assessment, Harborside Plaza, Jersey City, New Jersey.*** Conducted an environmental site assessment during construction of the Harborside Plaza, a large multi-use commercial and residential development. The land area was originally part of the Hudson River that was filled with fill materials contaminated with Polyaromatic Hydrocarbons (PAHs). Reviewed historical reports, prior investigations, and remedial management plans for contaminated soils. Evaluated construction activities for compliance with management plans.

- ***Phase I and Phase II Environmental Site Assessment, Flemington, NJ.*** Project Manager for environmental assessment of a yogurt and fruit juice and associated aseptic packaging plant. Conducted extensive historical and regulatory review, a facility compliance audit, and groundwater sampling and analysis.

- ***Phase I Environmental Site Assessment, New Jersey.*** Project Manager for environmental assessment of a 184-acre retail mall site built on a former municipal solid waste landfill with methane gas accumulation issues, groundwater contamination, PCB contamination, black tar/paint sludge and lead contaminated soil. Reviewed historical documents; regulatory documents; past assessments; as well as a Remedial Action Work plan and associated quarterly inspection and monitoring reports. Evaluated current status and condition of required remedial actions and engineering controls including methane vents, groundwater monitoring, leachate collection system, final cover and vegetation and stormwater management system.

NEPA COMPLIANCE

- ***NEPA Environmental Impact Statement (EIS), North Slope, Alaska.*** Assistant Project Manager for the Alpine Satellites Development Plan, a 3,000,000-dollar EIS for oil and gas development in sensitive arctic Alaska. Involved in all aspects of project management, client communication, and public participation. Conducted the preliminary review of deliverables for scope compliance, technical consistency, and EIS format. Responsible for Historic Preservation and Endangered Species Act agency consultation. Identified interrelationships of federal, state and local regulations to the NEPA process along with associated permitting actions of participating agencies and governments and incorporated them into the EIS.

- ***NEPA/FCC Wireless Telecommunications, Metro New York Area.*** Completed and reviewed NEPA preliminary evaluations in accordance with Federal Communications Commission requirements for telecommunications (wireless) antenna locations.

REGULATORY COMPLIANCE

- ***Toxic Substance Control Act (TSCA) Standard Operating Procedure, Pirelli U.S., Columbia, South Carolina.*** Prepared a standard operating procedure for comprehensive TSCA compliance.

- ***Audit, Storm Water Discharge Management Plan and Annual Reports, Naval Training Center, San Diego.*** Evaluated the Storm Water Discharge Management Plan and annual reports for the Naval Training Center in San Diego

- ***National Pollutant Discharge Elimination System (NPDES) Water Discharge Emissions, North Slope Oil Fields, Alaska.*** Prepared monthly water emission reports for submission to the EPA in compliance with regulations. Interpreted data to assure accuracy and identify problem areas.

TRAINING AND CERTIFICATIONS

- AHERA-Certified Building Inspector
- 40-Hour Hazardous Materials Worker

APPENDIX C

Boring Logs

BORING NO. 101

Logged By SCS

Date 5-13-88

ELEV. 32'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sp	(2" AC) Fill: Reddish oxidized light brown clean fine to medium grained SAND with gravel, moist to wet, medium dense	5		14	
		Possible fill: Light gray slightly silty SAND with occasional gravel, medium dense, saturated	10		14	
	sm	Light brown silty very fine grained SAND very dense, saturated			61	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 7 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 13.51 to 3.51 feet
Locking cap; yes
Bentonite seal; 2.51 to 1.5 feet
Concrete; 1.5 to surface
Suface casing; Double locking steel monument
Backfill; #8 sand, 13.51 to 2.51 feet

BORING NO. 102

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	gp	Fill: sand and gravel				
	sm	Light brown to tan silty fine grained SAND with trace gravel, loose, moist to wet	5		4	
	sp sm	Light gray slightly silty fine to medium grained with occasional gravel, dense, saturated	10		33	
	sm	Light gray silty very fine grained SAND, very dense, saturated			46/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 11.65 to 1.65 feet
Locking cap; yes
Bentonite seal; 1.4 to .8 feet
Concrete; only around outside of monument
Surface casing; Double locking steel monument
Backfill; #8 sand, 12 to 1.4 feet

BORING NO. 103

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	gp	Fill: Dark brown to black sandy GRAVEL				
	sp sm	Dark gray slightly silty, fine to medium grained SAND with occasional gravel, very loose, moist to wet	5		2	
	sm	Light to medium gray silty fine grained SAND, with trace gravels, very dense, saturated	10		50/3"	
					54/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; .010 Casing size; 2"
Screen location; 11.71 to 1.71 feet
Locking cap; yes
Bentonite seal; 1.3 to .8 feet
Concrete; only around outside monument
Backfill; #8 sand, 12 to 1.3 feet

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHNGTON

Proj. No. 3545-1 | Date June'88 | Plate 6

BORING NO. 104

Logged By SCS

Date 5-13-88

ELEV. 35'±

Graph	USCS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sp sm	(2" AC) Reddish oxidized staining light brown slightly silty fine to medium grained SAND with trace gravels, medium dense moist to wet	5		43	
					14	
	sm	Light gray silty fine grained SAND, very dense, saturated	10		50/2"	
					59	
					50/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 4.5 feet during drilling.
Well as Built:
Screen size; hacksaw Casing size; 3/4"
Screen location; 12.5 to 2.5 feet
Locking cap; no
Bentonite seal; 2 to 1 foot
Concrete; 1 to surface
Surface casing; 5" dia. PVC
Backfill; native

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June '88 | Plate 7

BORING NO. 105

Logged By SCS

Date 5-13-88

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	sm	(fill: 6" oil stained sandy gravel) Light gray silty fine grained SAND with occasional gravel, very dense, moist to wet	5		50/3"	
	sp sm	Light gray slightly silty fine to medium grained SAND with gravels, very dense, saturated	10		89/12"	
	sp	Light gray clean coarse grained SAND with gravel			53/6"	

Boring terminated at 14 feet below existing grade. Groundwater encountered at 3.5 feet during drilling.
Well as built;
Screen size; hacksaw blade Casing size; 3/4"
Screen location; 12.5 to 2.5 feet
Locking cap; no
Bentonite seal; 3 to 2 feet
Concrete; 2 feet to surface
Surface casing; 5" dia. PVC
Backfill; native

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June '88 | Plate 8

BORING NO. 106

Logged By SCS

ELEV. 32'±

Date 5-13-88

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)	
	sm	(fill: 6" oil stained gravel) Dark gray silty fine to medium grained SAND with occasional gravels, medium dense, moist to wet	5		13		
	sm	Light gray very silty fine SAND with trace gravel, very dense, saturated			50/6"		

Boring terminated at 8.5 feet below existing grade. Groundwater encountered at 4 feet during drilling. Boring backfilled with cuttings.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545-1 | Date June'88 | Plate 9

BORING NO. 107

Logged By SCS

Date 5-13-88

ELEV. 31'±

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(fill: 6" coal debris with gravel				
	sm	Light brownish - light gray fine grained silty SAND with gravel, moist to wet, loose			8	
	sm	Light gray silty very fine grained SAND with trace gravels, saturated, very dense	5		82	

Boring terminated at 9 feet below existing grade. Groundwater encountered at 4 feet during drilling.
Well as Built;
Screen size; hacksaw blade Casing size; 3/4"
Screen location; 7.5 to 3.5 feet
Locking cap; no
Bentonite seal; 1.5 feet to surface
Concrete; 6"
Surface casing; 5" dia. PVC
Backfill; #8 sand, 9 to 1.5 feet

BORING NO. 108

Logged By SCS

Date 5-13-88

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)	
	gp	2" AC/Fill: sand and gravel					
	sp sm	Reddish light brown slightly silty fine to medium grained SAND, with occasional gravel, medium dense, moist to wet			21		
	sm	Light gray silty very fine grained SAND, very dense, saturated	5		86/12"		

Boring terminated at 9 feet below existing grade. Groundwater encountered at 4 feet during drilling. Boring backfilled with cuttings.

BORING NO. 1

Logged By SL

Date 9/3/87

ELEV. _____

Graph	USCS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	SM	Brown silty fine SAND, wet, medium dense (fill)				
					50/3	8
	sm sp	Gray silty to clean SAND with some gravel, wet, very dense	5		50/4	
					50/4	
			10		50/4	
					50/6	
			15			
					50/5	
			20			
					50/4	

Boring terminated at 22.9 feet below existing grade. Groundwater encountered at 8 feet during drilling.

Well as built:

Screen size: 010
Casing size: 2"
Screen Location: 12.5-2.5
Locking cap: yes
Backfill: Hole caved from 22.5 feet to 12.5 feet

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 12

BORING NO. 2

Logged By SL

Date 9/3/87

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(3" AC)				
	sm	Brown becoming gray, silty to clean, fine to medium SAND, moist to wet, very dense			54	10
			5			
					93	17
			10			
					77	18
			15			
					50/5	14
			20			
					50/5	10

Boring terminated at 22.9 feet below existing grade. Groundwater encountered at 6.5 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 13

BORING NO. 3

Logged By SL

Date 9/3/87

ELEV. _____

Graph	USCS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
		(3" AC)				
	sm	Brown to black silty fine SAND, wet, loose to medium dense	5	I	18	13 6
	sm	Brown to gray silty fine to medium SAND, wet, very dense	10	I	76/11"	15
			15	I	86/11"	
			20	I	83/11"	20
			25	I	50/3"	15

Boring terminated at 27.5 feet below existing grade. Groundwater encountered at 7.0 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 14

BORING NO. 4

Logged By SL

Date 9/3/87

ELEV. _____

Graph	US CS	Soil Description	Depth (ft.)	Sample	(N) Blows Ft.	W (%)
	SM	Dark brown to black silty SANDS with some gravels, moist, loose (fill)	5	I	5	16 7
	sm	Gray silty fine SAND with some gravels and silt lenses, saturated, very dense	10	I	50/5	15
			15	I	50/5	16
				I	50/3	14

Boring terminated at 18.2 feet below existing grade. Groundwater encountered at 8 feet during drilling.

Earth Consultants Inc.
Geotechnical Engineering and Geology

BORING LOG
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No. 3545 | Date Oct'87 | Plate 15

TEST PIT NO. 1

Logged By CRL

Date 6-2-88

Elev. 39'±

Depth (ft.)	USCS	Soil Description	W (%)
0		(6" sod) Fill: red brick rubble with silty SAND	
5	sm	Fill: gray silty medium SAND, moist to wet, loose	
	gm	Fill: black to brown silty sandy gravel, wet, medium dense	◁
10	sm	Gray silty medium SAND, wet, dense	
15		Test pit terminated at 12 feet below existing grade. Light groundwater seepage encountered at 9 feet during excavation.	

Logged By CRL

Date 6-2-88

TEST PIT NO. 2

Elev. 36'±

0	sm	Fill: silty SAND, loose, wet	
		Fill: red brick rubble	
5	sm	Fill; brown silty SAND with some wood debris, wet, loose	
	sm	Gray silty SAND, with some gravel, moist to wet, very dense (till)	
10		Test pit terminated at 10 feet below existing grade. No groundwater seepage encountered during excavation.	
15			

Subsurface conditions depicted represent our observations at the time and location of this exploratory hole, modified by engineering tests, analysis, and judgement. They are not necessarily representative of other times and locations. We cannot accept responsibility for the use or interpretation by others of information presented on this log

Earth Consultants Inc.
GEOTECHNICAL ENGINEERING & GEOLOGY

TEST PIT LOGS
CORNWALL FUEL SITE
SEATTLE, WASHINGTON

Proj. No.	Date	Plate
3545-1	June'88	17

BORING 1

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	14	fill	Light brown, gravelly SAND, moist, medium-dense (landfarmed soils).
	2	6	fill	Brown, very gravelly SAND, moist to wet, loose (fill). 6" layer of coal or asphalt
	3	39		
	4	39	SM	Tan, gravelly, slightly silty fine grained SAND, moist, dense. -becomes silty, no gravel
	5	85-9"	SP	Brown, medium grained SAND, wet, very dense. -becomes slightly gravelly
	6	92-10"		

Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 6' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	4

BORING 2

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	78/12"		Tan, very silty, slightly gravelly, fine grained SAND, moist, very dense.
	2	65/6"		-gravel lens
			SM	
	3	56		-gravel lenses, wet
	4	83/9"		
	5	87/6"	GP	Brown, sandy GRAVEL, wet, very dense.

Test boring terminated at 20.5' on 6-22-93.
Groundwater seepage encountered at 7' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	5

BORING 3

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	4	fill	Tan, silty, fine grained SAND, moist, loose.
	2	14		
	3	34		Brown to gray, slightly gravelly, medium-grained SAND, very moist, medium-dense.
				-becomes brown, gravelly, dense
	4	35	SM	-becomes wet
	5	58	SP	Tan, very silty, fine-grained SAND, very dense
			SM	Brown to gray, slightly silty, medium grained SAND, wet, very dense.
	6	70-14"		

5 10 15 20 25 30 35 40

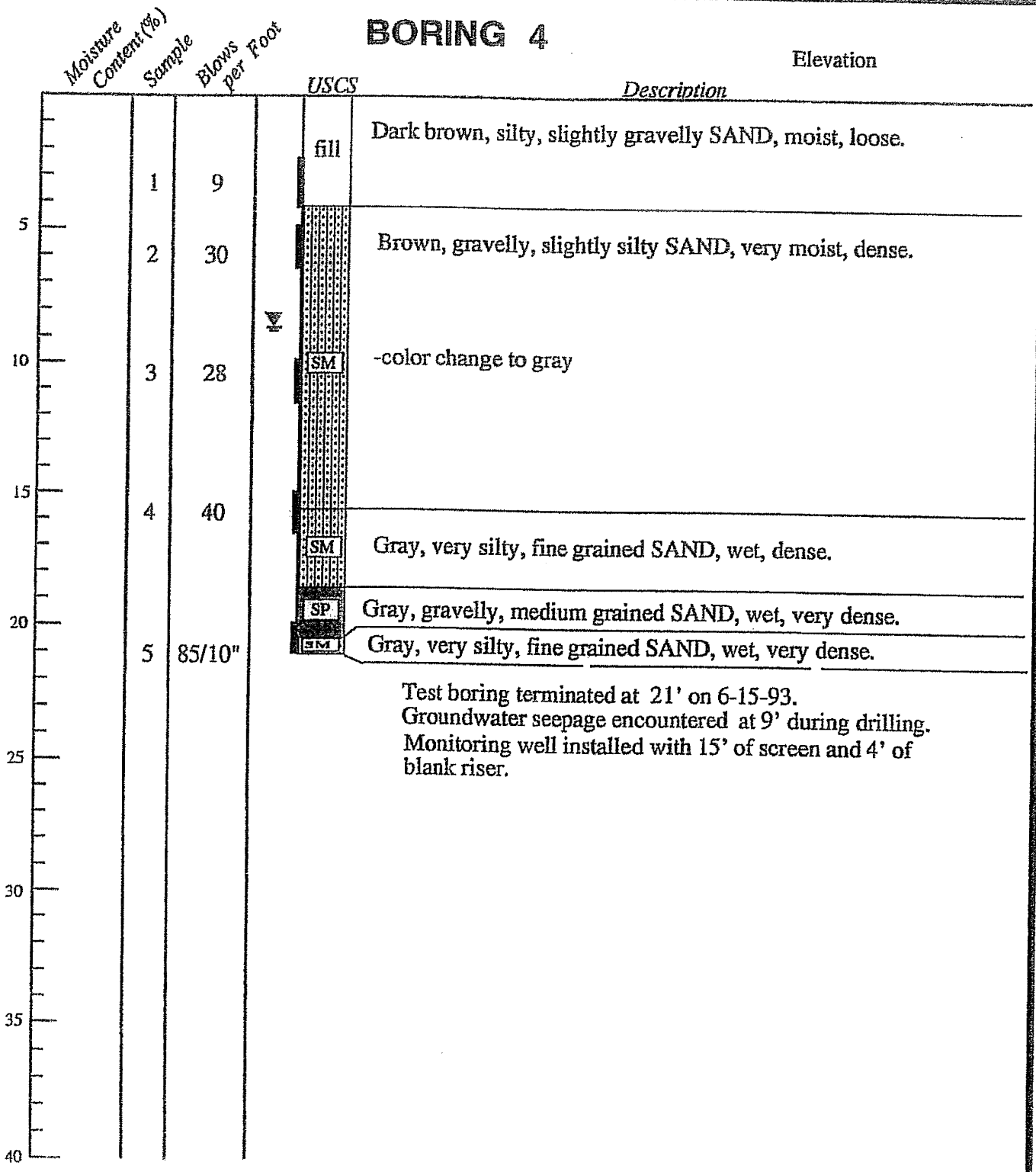
Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 9' during drilling.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	6

BORING 4



Test boring terminated at 21' on 6-15-93.
Groundwater seepage encountered at 9' during drilling.
Monitoring well installed with 15' of screen and 4' of blank riser.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	7

BORING 5

Elevation

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
	1	6	fill ?	Gray, silty, gravelly SAND, wet, loose (fill?).
	2	36	SM	Gray, silty, gravelly SAND, wet, dense.
	3	37	SM	Tan, very silty, fine grained SAND, wet, dense.
	4	85-9"	SM	Gray, slightly gravelly, medium grained SAND, wet, very dense. -increasing gravel content
	5	90-10"		

Test boring terminated at 21' on 6-22-93.
Groundwater seepage encountered at 3.5' during drilling.

GEOTECH
CONSULTANTS, INC.

TEST BORING LOG
5036 25TH AVE NE
SEATTLE, WA

Job No:	Date:	Logged by:	Plate:
92273E	JUNE 1993	HP	8

BORING NUMBER B-2018-1

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/24/20 **COMPLETED** 2/25/20
GROUND ELEVATION 42.51 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 10.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
AFTER DRILLING ---
NOTES N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)
					0.50 (FILL) Asphalt	
					(FILL) Bricks, debris, wood with gray, gravelly (fine to coarse, subangluar to subrounded) fine to medium sand matrix, some silt and clay, moist, no odor	
5	SS	67	14-12-9 (21)			PID = 0
					7.50	
	SS	33	4-2-2 (4)		(FILL) Dark gray, gravel, asphalt, bricks, moist	PID = 0
10					10.00▽	
	SS	100	12-19-26 (45)		(SANDY SILT) Gray, SILT and very fine sand, wet, no odor **Sample: B-2018-1-10**	PID = 0
						PID = 0
					12.50	
	SS	100	50		(SAND) Brown, coarse SAND, some fine to medium sand and gravel, trace silt, wet, no odor	PID = 0
15	SS	100	13-34-50 (84)		Color changes to gray, fine to very coarse SAND, some subangular to subrounded gravel (0.5-in. to 1.5-in. dia.), trace silt, moist, no odor	PID = 0
	SS	100	15-50		18.00 Increased silt, less gravel	PID = 0
					(SILT) SILT with some fine gravel (<1-in. dia.), some coarse sand lenses, stiff, moist, no odor	
20					20.00	
	SS	100	29-36-50 (86)		20.50 (SAND) Gray, fine to coarse SAND with silt and subangular to subrounded gravel (<2-in. dia.), no odor **Sample: B-2018-1-20**	PID = 0
					21.00	
					21.50 (SILT) Brown, SILT, moist, no odor	
					(SAND) Brown, fine SAND, moist, no odor	
					Bottom of borehole at 21.5 feet .	

BORING NUMBER B-2018-2

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/24/20 **COMPLETED** 2/25/20
GROUND ELEVATION 41.71 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 10.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
AFTER DRILLING ---
NOTES N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)
					0.50 (FILL) Asphalt	
					(FILL) Brick fragments	
					(FILL) Gray, fine to medium sand, trace very fine to medium gravel and silt, bricks, cobbles, wood debris present, moist, no odor	
5						
	SS	67	25-36-46 (82)		Asphalt, bricks, gravel, sand	PID = 0
						PID = 0
	SS	67	14-15-16 (31)		8.00 Asphalt, gravel	PID = 0
					(SANDY SILT) Gray, SILT and very fine sand **Sample: B-2018-2-8**	PID = 0
10					10.00▽	
	SS	100	16-29-24 (53)		(SAND) Very fine SAND with silt and fine gravel (0.5-in. dia.)	PID = 0
						PID = 0
					11.20	PID = 0
					(SAND) Gray, coarse SAND with gravel, no odor	
					12.50	
	SS	150	27-50		(SAND) Gray, fine to medium SAND with some coarse sand, silt, and gravel (<1-in. dia.), wet, no odor	PID = 0
						PID = 0
						PID = 0
15					15.00	
	SS	100	19-50		15.50 (SAND) Brownish-gray, fine to very coarse SAND with silt and few fine gravel (<0.5-in. dia.), wet, no odor	PID = 0
					(SILT) Light brown, SILT with some sand, very stiff, moist, no odor	PID = 0
					17.50	
	SS	100	36-50		18.00 (SAND) Brown, fine to coarse SAND with silt and fine gravel (<0.5-in. dia.)	PID = 0
					18.30 (SILTY SAND) Brown, silty, very fine SAND, very stiff, moist, no odor	PID = 0
					(SILT) Brown, SILT	
20					20.00	
	SS	100	50		20.50 (SAND) Brown, fine to medium SAND with silt and fine gravel, very stiff, moist, no odor **Sample: B-2018-2-20**	PID = 0

Bottom of borehole at 20.5 feet.

BORING NUMBER B-2018-3

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/24/20 **COMPLETED** 2/25/20
GROUND ELEVATION 41.31 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 10.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
AFTER DRILLING ---
NOTES N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)
					0.50 (FILL) Asphalt	
					(FILL) Sand and gravel	
					1.50 (FILL) Controlled Density Fill (CDF)	
5					5.00	
	SS	100	25-50		(SAND) Gray to dark gray, fine SAND and gravel (<1-in. dia.), moist, no odor **Sample: B-2018-3-5**	PID = 0
						PID = 0
						PID = 0
	SS	100	23-33-33 (66)		Same as above	PID = 0
						PID = 0
						PID = 0
10					▽	
	SS	100	50		Coarser SAND and larger gravel, wet, no odor **Sample: B-2018-3-10**	PID = 0
						PID = 0
						PID = 0
	SS	50	42-50		Fine to coarse SAND, little silt and coarse gravel, no odor	PID = 0
15					15.00	
	SS	100	32-50		(SILTY SAND) Brownish-gray, silty, very fine SAND, few fine gravel (<0.5-in. dia.), stiff, moist	PID = 0
						PID = 0
					17.50	
	SS	50	26-50		(SAND) Brownish-gray, fine to medium SAND, some silt, moist, no odor	PID = 0
20					20.00	
	SS		27-50		20.50 (SILTY SAND) Brown, silty, fine to medium SAND, stiff, moist, no odor **Sample: B-2018-3-20**	PID = 0
					21.00 (SAND) Gray, fine to coarse SAND with silt, few fine gravel, moist, no odor	PID = 0
					Bottom of borehole at 21.0 feet.	

WELL NUMBER MW-5

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/24/20 **COMPLETED** 2/25/20
GROUND ELEVATION 49.05 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 10.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
▼ **AFTER DRILLING** 9.74 ft
NOTES Ecology Well ID: BLU346

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)	WELL DIAGRAM
					0.25 (FILL) Asphalt		Flush-mount monument
					(FILL) Bricks and asphalt		Concrete surface seal
	SS 1	50	8-24-33 (57)			PID = 0	
						PID = 0	3/8-in. hydrated bentonite chips
5							
	SS 2	100	13-14-14 (28)		5.50	PID = 0	
					5.70 (FILL) Reddish-brown, silty, fine to medium SAND, some gravel, moist, no odor	PID = 0	
					5.80	PID = 0	
					6.50 (FILL) Lens of pea gravel		
					(FILL) Red brick		12/20 Colorado silica sand
	SS 3	0	6-7-6 (13)		No recovery; rock in shoe		
10					10.00 ▽		
	SS 4	67	2-1-2 (3)		(SAND) Reddish-brown and gray, fine to coarse SAND with silt, few rootlets, trace fine gravel, dense, moist **Sample: MW-5-10**	PID = 0	0.010-in. slotted PVC
						PID = 0	
	SS 5	100	8-26-50 (76)			PID = 0	
					13.50	PID = 0	
15					(SILTY SAND) Silty, fine to coarse SAND, fine gravel, dense, moist		
	SS 6	100	12-46-25 (71)		Same as above, wet, no odor	PID = 0	End Cap
						PID = 0	
	SS 7	100	50		17.50 (SAND) Brown, fine to coarse SAND with silt, few fine gravel, wet, no odor	PID = 0	
							3/8-in. hydrated bentonite chips
20					20.00		
	SS 8	100	18-28-30 (58)		(SILTY SAND) Brown, silty, very fine to fine SAND, moist to wet, no odor	PID = 0	
					21.00 **Sample: MW-5-20**	PID = 0	
					Bottom of borehole at 21.0 feet.		

WELL NUMBER MW-6

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/24/20 **COMPLETED** 2/25/20
GROUND ELEVATION 42.31 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 10.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
▼ **AFTER DRILLING** 2.75 ft
NOTES Ecology Well ID: BLU345

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)	WELL DIAGRAM
					0.50 (FILL) Asphalt		Flush-mount monument
					(SILTY SAND) Brown, silty, fine SAND, some coarse sand, fine to medium, gravel, dense, moist, no odor		Concrete surface seal
					▼	PID = 0	3/8-in. hydrated bentonite chips
5							
	SS	75	14-50		Gray, silty, very fine SAND, moist, no odor	PID = 0	
							12/20 Colorado silica sand
	SS	50	10-50		Same as above, with subangular fine gravel (<1-in. dia.), moist, no odor **Sample: MW-6-7.5**	PID = 0	
10					10.00 ▽		
	SS	100	24-26-26 (52)		10.50 (SILT) Brown SILT with clay, moist	PID = 0	0.010-in. slotted PVC
					(SAND) Gray-brown, fine SAND with silt and subangular fine gravel (<1-in. dia.), no odor	PID = 0	
					12.50		
	SS	100	26-50		(SAND) Dark brown, coarse SAND, some fine to medium sand, trace silt, wet	PID = 0	
					13.50		
15					(SILTY SAND) Brown, silty, very fine SAND with fine gravel (<0.5-in. dia.), wet, no odor		
					15.00		
	SS	100	36-50		(SAND) Brown, fine to coarse SAND with few subangular to subrounded fine gravel, very dense, no odor, moist	PID = 0	End Cap
						PID = 0	
	SS	50	13-50		More gravel content, moist	PID = 0	
							3/8-in. hydrated bentonite chips
20							
	SS	100	26-41-50 (91)		Color changes to gray, few subrounded gravel, moist, no odor **Sample: MW-6-20**	PID = 0	
					21.50	PID = 0	

Bottom of borehole at 21.5 feet.

WELL NUMBER MW-7

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/26/20 **COMPLETED** 2/26/20
GROUND ELEVATION 48.79 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 15.0 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
▼ **AFTER DRILLING** 14.30 ft
NOTES Ecology Well ID: BLU348

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)	WELL DIAGRAM
					0.20 (FILL) Asphalt (FILL) Reddish-brown, bricks, cobbles, gravel, sand, pieces of metal, dry		Flush-mount monument Concrete surface seal
5	SS 1	100	8-12-8 (20)		5.50 (FILL) Dark brownish-gray, silty, fine to coarse SAND with fine to coarse gravel, asphalt, moist, no odor	PID = 0 PID = 0 PID = 0	3/8-in. hydrated bentonite chips
	SS 2	67	5-8-15 (23)		8.20 Red brick layer (SAND) Reddish-brown, fine to coarse SAND with fine gravel, trace silt, moist, no odor	PID = 0 PID = 0	12/20 Colorado silica sand
10	SS 3	100	6-7-9 (16)		Color grades redder, moist, no odor	PID = 0 PID = 0 PID = 0	
	SS 4	67	20-27-28 (55)		12.50 (GRAVELLY SAND) Brown, gravelly (fine to coarse) fine to coarse SAND, some silt, moist to wet, no odor **Sample: MW-7-13**	PID = 0 PID = 0 PID = 0	0.010-in. slotted PVC
15	SS 5	100	17-20-21 (41)		▼ ▽ Wet	PID = 0 PID = 0	
	SS 6	100	3-15-24 (39)		17.50 (CLAY) Light brown, CLAY, high plasticity, stiff, moist, no odor 18.50 (SILTY SAND) Brown, silty, fine to coarse SAND, few fine gravel, wet, no odor **Sample: MW-7-19**	PID = 0 PID = 0 PID = 0	End Cap
20	SS 7	100	11-20-21 (41)		20.00 (SANDY GRAVEL) Brown, sandy (fine to coarse), fine to coarse GRAVEL with silt, loose, wet, no odor	PID = 0 PID = 0 PID = 0	3/8-in. hydrated bentonite chips
					21.50 Bottom of borehole at 21.5 feet.		

WELL NUMBER MW-8

GOLDER

CLIENT Silver Cloud Inns & Hotels
PROJECT NAME Silver Cloud Inn (formerly Cornwall Fuel Company, Inc)
PROJECT NUMBER 1650276
PROJECT LOCATION Seattle, WA
DATE STARTED 2/25/20 **COMPLETED** 2/26/20
GROUND ELEVATION 41.95 ft NAVD88 **HOLE SIZE** 8-in dia.
DRILLING CONTRACTOR Holocene Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Hollow-Stem Auger
▽ **DURING DRILLING** 7.5 ft
LOGGED BY T. Haskins **CHECKED BY** N. Gilham
▼ **AFTER DRILLING** 6.87 ft
NOTES Ecology Well ID: BLU347

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA (ppm)	WELL DIAGRAM
					0.50 (FILL): Asphalt		Flush-mount monument
					(FILL) Dark gray, fine to medium SAND with silt and subangular to subrounded fine gravel, some rootlets, moist, no odor		Concrete surface seal
					Plastic sheeting present		3/8-in. hydrated bentonite chips
5					5.00		
	SS	33	2-5-5 (10)		(SILTY SAND) Dark gray, silty, fine to coarse SAND with fine to coarse gravel, loose, moist, no odor	PID = 0	
					▼ 7.50 ▽		12/20 Colorado silica sand
	SS	67	6-21-27 (48)		(SAND) Gray, fine to coarse SAND with silt, trace fine gravel, wet, no odor **Sample: MW-8-7.5**	PID = 0 PID = 0	
10							0.010-in. slotted PVC
	SS	100	15-34-50 (84)			PID = 0 PID = 0 PID = 0	
					Color changes to brown, lithology coarsens (fine to coarse SAND with silt and fine gravel), no odor Silt lens		
					12.50		
	SS	50	32-50		(SILTY SAND) Brown, silty, fine SAND/sandy SILT, few coarse sand and fine gravel, stiff, wet, no odor	PID = 0 PID = 0	
15							End Cap
	SS	67	22-35-46 (81)		Color changes to light brown, moderately stiff, moist to wet, no odor	PID = 0 PID = 0	
					17.50		
	SS	100	14-29-31 (60)		(SAND) Gray, fine to coarse SAND, some fine gravel, trace silt, moist to wet, no odor	PID = 0 PID = 0	
					Color changes to reddish-brown		3/8-in. hydrated bentonite chips
20							
	SS	100	17-31-46 (77)		Few fine gravel, moderately stiff, moist to wet, no odor **Sample: MW-8-20**	PID = 0 PID = 0	
					21.50		
					Bottom of borehole at 21.5 feet.		

APPENDIX D

2020 Laboratory Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 6, 2020

Neil Gilham
Golder Associates Inc.
18300 NE Union Hill Road, Suite 200
Redmond, WA 98052-3333

Re: Analytical Data for Project 1650276
Laboratory Reference No. 2002-274

Dear Neil:

Enclosed are the analytical results and associated quality control data for samples submitted on February 27, 2020.

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 Manager

Enclosures

Date of Report: March 6, 2020
Samples Submitted: February 27, 2020
Laboratory Reference: 2002-274
Project: 1650276

Case Narrative

Samples were collected on February 25 and 26, 2020 and received by the laboratory on February 27, 2020. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 6, 2020
Samples Submitted: February 27, 2020
Laboratory Reference: 2002-274
Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-7.5**					
Laboratory ID:	02-274-01					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.0	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*58-129*				
Client ID:	**MW-6-20**					
Laboratory ID:	02-274-02					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.9	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*58-129*				
Client ID:	**B-2018-1-10**					
Laboratory ID:	02-274-03					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.4	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*58-129*				

Date of Report: March 6, 2020
Samples Submitted: February 27, 2020
Laboratory Reference: 2002-274
Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2018-1-20**					
Laboratory ID:	02-274-04					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.054	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.054	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.054	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.054	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.4	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*58-129*				
Client ID:	**B-2018-2-8**					
Laboratory ID:	02-274-05					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.6	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*58-129*				
Client ID:	**B-2018-2-20**					
Laboratory ID:	02-274-06					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.049	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.049	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.049	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.049	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	4.9	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*58-129*				

Date of Report: March 6, 2020
Samples Submitted: February 27, 2020
Laboratory Reference: 2002-274
Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2018-3-5**					
Laboratory ID:	02-274-07					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.066	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.066	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.066	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.066	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.6	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*110*	*58-129*				
Client ID:	**B-2018-3-10**					
Laboratory ID:	02-274-08					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.2	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*108*	*58-129*				
Client ID:	**B-2018-3-20**					
Laboratory ID:	02-274-09					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.048	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.048	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.048	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.048	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	4.8	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*58-129*				

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Samples Submitted: February 27, 2020
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Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5-10**					
Laboratory ID:	02-274-10					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.064	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.4	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*58-129*				
Client ID:	**MW-5-20**					
Laboratory ID:	02-274-11					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.062	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.2	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*58-129*				
Client ID:	**MW-8-7.5**					
Laboratory ID:	02-274-12					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.056	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.6	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*58-129*				

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Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-8-20**					
Laboratory ID:	02-274-13					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.060	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	6.0	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*58-129*				
Client ID:	**MW-7-13**					
Laboratory ID:	02-274-14					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.9	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*58-129*				
Client ID:	**MW-7-19**					
Laboratory ID:	02-274-15					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.059	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.9	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*58-129*				

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GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0304S1					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.0	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*58-129*				
Laboratory ID:	MB0304S2					
Benzene	**ND**	0.020	EPA 8021B	3-4-20	3-4-20	
Toluene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
Ethyl Benzene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
m,p-Xylene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
o-Xylene	**ND**	0.050	EPA 8021B	3-4-20	3-4-20	
Gasoline	**ND**	5.0	NWTPH-Gx	3-4-20	3-4-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*58-129*				

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Samples Submitted: February 27, 2020
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Project: 1650276

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-030-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*96*	*58-129*			
Laboratory ID:	02-274-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*101*	*102*	*58-129*			
SPIKE BLANKS											
Laboratory ID:	SB0304S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.867**	**0.879**	1.00	1.00		**87**	**88**	69-109	1	10	
Toluene	**0.873**	**0.886**	1.00	1.00		**87**	**89**	67-112	1	10	
Ethyl Benzene	**0.873**	**0.885**	1.00	1.00		**87**	**89**	67-113	1	10	
m,p-Xylene	**0.865**	**0.876**	1.00	1.00		**87**	**88**	66-114	1	11	
o-Xylene	**0.891**	**0.906**	1.00	1.00		**89**	**91**	68-112	2	11	
Surrogate:											
Fluorobenzene						*85*	*85*	*58-129*			

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Samples Submitted: February 27, 2020
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Project: 1650276

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-7.5**					
Laboratory ID:	02-274-01					
Diesel Range Organics	**42**	29	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**110**	57	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				
Client ID:	**MW-6-20**					
Laboratory ID:	02-274-02					
Diesel Range Organics	**ND**	29	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*68*	*50-150*				
Client ID:	**B-2018-1-10**					
Laboratory ID:	02-274-03					
Diesel Range Organics	**ND**	30	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	60	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*72*	*50-150*				
Client ID:	**B-2018-1-20**					
Laboratory ID:	02-274-04					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				
Client ID:	**B-2018-2-8**					
Laboratory ID:	02-274-05					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	56	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*72*	*50-150*				
Client ID:	**B-2018-2-20**					
Laboratory ID:	02-274-06					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*69*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2018-3-5**					
Laboratory ID:	02-274-07					
Diesel Range Organics	**ND**	27	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	55	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*76*	*50-150*				
Client ID:	**B-2018-3-10**					
Laboratory ID:	02-274-08					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*76*	*50-150*				
Client ID:	**B-2018-3-20**					
Laboratory ID:	02-274-09					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*77*	*50-150*				
Client ID:	**MW-5-10**					
Laboratory ID:	02-274-10					
Diesel Range Organics	**ND**	31	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	63	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*57*	*50-150*				
Client ID:	**MW-5-20**					
Laboratory ID:	02-274-11					
Diesel Range Organics	**ND**	30	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*72*	*50-150*				
Client ID:	**MW-8-7.5**					
Laboratory ID:	02-274-12					
Diesel Range Organics	**ND**	28	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	55	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*73*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-8-20**					
Laboratory ID:	02-274-13					
Diesel Range Organics	**ND**	29	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	59	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*73*	*50-150*				
Client ID:	**MW-7-13**					
Laboratory ID:	02-274-14					
Diesel Range Organics	**ND**	27	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	53	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*65*	*50-150*				
Client ID:	**MW-7-19**					
Laboratory ID:	02-274-15					
Diesel Range Organics	**ND**	29	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	58	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*61*	*50-150*				

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DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0228S4					
Diesel Range Organics	**ND**	25	NWTPH-Dx	2-28-20	3-2-20	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	2-28-20	3-2-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*75*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-274-06										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*69*	*76*	*50-150*			
Laboratory ID:	02-274-12										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*73*	*67*	*50-150*			

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TOTAL LEAD
EPA 6010D

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-7.5**					
Laboratory ID:	02-274-01					
Lead	**ND**	5.7	EPA 6010D	3-2-20	3-2-20	
Client ID:	**MW-6-20**					
Laboratory ID:	02-274-02					
Lead	**ND**	5.8	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-1-10**					
Laboratory ID:	02-274-03					
Lead	**ND**	6.0	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-1-20**					
Laboratory ID:	02-274-04					
Lead	**ND**	5.6	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-2-8**					
Laboratory ID:	02-274-05					
Lead	**ND**	5.6	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-2-20**					
Laboratory ID:	02-274-06					
Lead	**ND**	5.6	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-3-5**					
Laboratory ID:	02-274-07					
Lead	**ND**	5.5	EPA 6010D	3-2-20	3-3-20	
Client ID:	**B-2018-3-10**					
Laboratory ID:	02-274-08					
Lead	**ND**	5.7	EPA 6010D	3-2-20	3-3-20	

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TOTAL LEAD
EPA 6010D

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-2018-3-20**					
Laboratory ID:	02-274-09					
Lead	**ND**	5.7	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-5-10**					
Laboratory ID:	02-274-10					
Lead	**ND**	6.3	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-5-20**					
Laboratory ID:	02-274-11					
Lead	**ND**	6.1	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-8-7.5**					
Laboratory ID:	02-274-12					
Lead	**ND**	5.5	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-8-20**					
Laboratory ID:	02-274-13					
Lead	**ND**	5.9	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-7-13**					
Laboratory ID:	02-274-14					
Lead	**ND**	5.3	EPA 6010D	3-2-20	3-3-20	
Client ID:	**MW-7-19**					
Laboratory ID:	02-274-15					
Lead	**ND**	5.8	EPA 6010D	3-2-20	3-3-20	

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TOTAL LEAD
EPA 6010D
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0302SM2					
Lead	**ND**	5.0	EPA 6010D	3-2-20	3-3-20	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-274-01										
	ORIG	DUP									
Lead	**ND**	**17.0**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-274-01										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**219**	**222**	250	250	ND	**87**	**89**	75-125	1	20	

Date of Report: March 6, 2020
Samples Submitted: February 27, 2020
Laboratory Reference: 2002-274
Project: 1650276

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
MW-6-7.5	02-274-01	**13**	2-28-20
MW-6-20	02-274-02	**13**	2-28-20
B-2018-1-10	02-274-03	**17**	2-28-20
B-2018-1-20	02-274-04	**10**	2-28-20
B-2018-2-8	02-274-05	**10**	2-28-20
B-2018-2-20	02-274-06	**11**	2-28-20
B-2018-3-5	02-274-07	**9**	2-28-20
B-2018-3-10	02-274-08	**12**	2-28-20
B-2018-3-20	02-274-09	**12**	2-28-20
MW-5-10	02-274-10	**20**	2-28-20
MW-5-20	02-274-11	**18**	2-28-20
MW-8-7.5	02-274-12	**9**	2-28-20
MW-8-20	02-274-13	**15**	2-28-20
MW-7-13	02-274-14	**6**	2-28-20
MW-7-19	02-274-15	**14**	2-28-20

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

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

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

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

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

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

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

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

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 2

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Golder
Project Number: 1650276
Project Name: Silver Cloud
Project Manager: Neil Gilham
Sampled by: Tom Haskins

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 02-274

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total Lead (6020)			% Moisture
1	MW-6-7.5	2/25/20	0905	S	2		X		X														X			X
2	MW-6-20		0950																							
3	B-2018-1-10		1035																							
4	B-2018-1-20		1105																							
5	B-2018-2-8		1135																							
6	B-2018-2-20		1210																							
7	B-2018-3-5		1440																							
8	B-2018-3-10		1450																							
9	B-2018-3-20		1520																							
10	MW-5-10		1620																							

	Signature	Company	Date	Time
Relinquished		Golder	2/27/20	~~0700~~ 0958
Received		OSE	2/27/20	0958
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
- In accordance with the MSLA
- Spreadsheet in Ecology EIM format

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Golder
Project Number: 1650276
Project Name: Silver Cloud
Project Manager: Neil Gilham
Sampled by: Tom Haskins

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 02-274

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total Lead (Pb)	DB			% Moisture
11	MW-5-20	2/25/20	1650	S	2		X		X														X				X
12	MW-8-7.5	2/26/20	1040	S	2																						
13	MW-8-20		1115	S	2																						
14	MW-7-13		1255	S	2																						
15	MW-7-19		1315	S	2																						

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished		Golder	2/27/20	~~0700~~ 0958	• In accordance with the MSLA
Received		BSE	2/27/20	0958	• Spreadsheet in Ecology EIM format
Relinquished					
Received					
Relinquished					
Received					Data Package: Standard ☑ Level III ☐ Level IV ☐
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 16, 2020

Neil Gilham
Golder Associates Inc.
18300 NE Union Hill Road, Suite 200
Redmond, WA 98052-3333

Re: Analytical Data for Project 1650276.300
Laboratory Reference No. 2003-078

Dear Neil:

Enclosed are the analytical results and associated quality control data for samples submitted on March 6, 2020.

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 Manager

Enclosures

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

Case Narrative

Samples were collected on March 6, 2020 and received by the laboratory on March 6, 2020. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-7-20200306**					
Laboratory ID:	03-078-01					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*59-122*				
Client ID:	**MW-8-20200306**					
Laboratory ID:	03-078-02					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*59-122*				
Client ID:	**MW-5-20200306**					
Laboratory ID:	03-078-03					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*59-122*				

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-20200306**					
Laboratory ID:	03-078-04					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*82*	*59-122*				
Client ID:	**DUP-20200306**					
Laboratory ID:	03-078-05					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*82*	*59-122*				
Client ID:	**Trip Blank**					
Laboratory ID:	03-078-06					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*59-122*				

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0311W1					
Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Toluene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Ethyl Benzene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
m,p-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
o-Xylene	**ND**	1.0	EPA 8021B	3-11-20	3-11-20	
Gasoline	**ND**	100	NWTPH-Gx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*59-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-078-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*94*	*95*	*59-122*			
SPIKE BLANKS											
Laboratory ID:	SB0311W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**54.8**	**53.7**	50.0	50.0		**110**	**107**	76-120	2	11	
Toluene	**55.2**	**54.1**	50.0	50.0		**110**	**108**	80-116	2	12	
Ethyl Benzene	**54.8**	**53.6**	50.0	50.0		**110**	**107**	80-116	2	12	
m,p-Xylene	**54.3**	**53.2**	50.0	50.0		**109**	**106**	76-117	2	12	
o-Xylene	**53.5**	**52.6**	50.0	50.0		**107**	**105**	79-114	2	11	
Surrogate:											
Fluorobenzene						*99*	*101*	*59-122*			

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-7-20200306**					
Laboratory ID:	03-078-01					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	3-11-20	3-12-20	
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	3-11-20	3-12-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				
Client ID:	**MW-8-20200306**					
Laboratory ID:	03-078-02					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Lube Oil Range Organics	**0.42**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**MW-5-20200306**					
Laboratory ID:	03-078-03					
Diesel Range Organics	**ND**	0.21	NWTPH-Dx	3-11-20	3-12-20	
Lube Oil Range Organics	**ND**	0.21	NWTPH-Dx	3-11-20	3-12-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**MW-6-20200306**					
Laboratory ID:	03-078-04					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**DUP-20200306**					
Laboratory ID:	03-078-05					
Diesel Range Organics	**ND**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Lube Oil Range Organics	**ND**	0.22	NWTPH-Dx	3-11-20	3-12-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*82*	*50-150*				

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0311W1					
Diesel Range Organics	**ND**	0.20	NWTPH-Dx	3-11-20	3-11-20	
Lube Oil Range Organics	**ND**	0.20	NWTPH-Dx	3-11-20	3-11-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	SB0311W1										
	ORIG	DUP									
Diesel Fuel #2	**0.373**	**0.367**	NA	NA		NA		NA	2	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*84*	*85*	*50-150*			

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

TOTAL LEAD
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-7-20200306**					
Laboratory ID:	03-078-01					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	
Client ID:	**MW-8-20200306**					
Laboratory ID:	03-078-02					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	
Client ID:	**MW-5-20200306**					
Laboratory ID:	03-078-03					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	
Client ID:	**MW-6-20200306**					
Laboratory ID:	03-078-04					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	
Client ID:	**DUP-20200306**					
Laboratory ID:	03-078-05					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	

Date of Report: March 16, 2020
Samples Submitted: March 6, 2020
Laboratory Reference: 2003-078
Project: 1650276.300

TOTAL LEAD
EPA 200.8
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0311WM1					
Lead	**ND**	1.1	EPA 200.8	3-11-20	3-11-20	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-022-05										
	ORIG	DUP									
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-022-05										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**102**	**104**	111	111	ND	**92**	**93**	75-125	2	20	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

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

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

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

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

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

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

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

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

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

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

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

CHAIN OF CUSTODY

03-078

Page _1__of__1_

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052
Telephone: 425.883.3881

Company: Golder Associates, Inc.
Project No.: 1650276.300
Project Name: Silver Cloud Hotel UDistrict
Project Manager: Neil Gilham

Turnaround Requested:

_____ 1 Day
_____ 2 Day
_____ 3 Day
____X_ Standard

Laboratory No.

Requested Analyses

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Gx/BTEX by NWTPH-Gx	NWTPH-Dx	Total Lead ~~by 6020~~ DS
1	MW-7-20200306	3/6/20	0917	GW	6	X	X	X
2	MW-8-20200306	3/6/20	1020	GW	6	X	X	X
3	MW-5-20200306	3/6/20	1135	GW	6	X	X	X
4	MW-6-20200306	3/6/20	1255	GW	6	X	X	X
5	DUP-20200306	3/6/20	1305	GW	6	X	X	X
6	Trip Blank	-	-	W	3	X		

Relinquished by [signature] Date 3/6/20 Received by [signature] Date 3/6/20

Firm Golder Time 1352 Firm OSE Time 1352

Relinquished by _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

Comments:

In accordance with the MSLA

Spreadsheet in Ecology EIM format

APPENDIX E

Survey Report

DAVID EVANS AND ASSOCIATES INC.
20300 Woodinville-Snohomish Road NE
Suite A | Woodinville, WA 98072
p: (425) 415-2000 f: (425) 486-5059

MONITORING WELL LOCATION REPORT

DEA JOB NAME:	**SILVER CLOUD - UNIV. DISTRICT**
DEA JOB NUMBER:	**GOLD00000046**
SITE ADDRESS	**5036 25th AVENUE NE SEATTLE WA.**

***RIM ELEVATION = SHOT ON TOP NORTH SIDE OF MONITORING WELL RIM CASE**

***PVC PIPE ELEVATION = SHOT ON TOP NORTH SIDE PVC PIPE WITHIN CASE**

MONITORING WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	*RIM ELEV.*	*PVC PIPE ELEV.*
MW #5	246408.08'	1278991.28'	N047°39'57.87"	W122°18'00.83"	49.05'	48.60'
MW #6	246396.84'	1279184.80'	N047°39'57.79"	W122°17'58.00"	42.31'	41.49'
MW #7	246241.08'	1278974.18'	N047°39'56.22"	W122°18'01.03"	48.79'	48.25'
MW #8	246269.45'	1279160.49'	N047°39'56.53"	W122°17'58.32"	41.95'	41.45'
BOREHOLE					*CNTR. PATCH*	
B-2018-1	246363.18'	1279107.52'	N047°39'57.45"	W122°17'59.12"	42.51'	
B-2018-2	246360.52'	1279141.57'	N047°39'57.43"	W122°17'58.62"	41.71'	
B-2018-3	246367.81'	1279173.00'	N047°39'57.50"	W122°17'58.17"	41.31'	

HORIZONTAL DATUM - NAD 83/2011

ORIGINATING MONUMENT - WSDOT DESIGNATION: C 411 RESET, NGS DISK SET IN A DRILL HOLE IN CONCRETE FOOTING FOR A LUMINAIRE AT ENTRANCE TO UNIVERSITY OF WASHINGTON AREA E-1 PARKING LOT

NORTHING = 242667.31' **LATITUDE = N047°39'20.91"**
EASTING = 1278731.02' **LONGITUDE = W122°18'03.59"**

ADDITIONAL MONUMENT - WSDOT DESIGNATION: EPB-011, ALUMINUM CAP CEMENTED IN A DRILL HOLE LEVEL WITH CONCRETE SIDEWALK ON NORTH SIDE OF NE 45th STREET, EAST OF MOST WESTERLY DRIVEWAY TO SAFEWAY STORE

NORTHING = 244657.28' **LATITUDE = N047°39'40.81"**
EASTING = 1280146.27' **LONGITUDE = W122°17'43.47"**

VERTICAL DATUM - NAVD 88

ORIGINATING BENCHMARK - CITY OF SEATTLE 3932-0401, 2" BRASS CAP STAMPED "3932 0401" AT SE CORNER 25th AVE NE AND NE BLAKELEY STREET

ELEV.= 51.79'

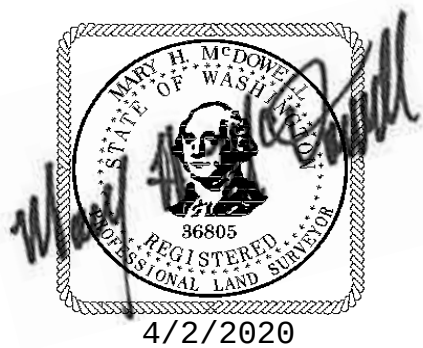
TBM "A" - SCRIBED SQUARE, NW CORNER POWER VAULT IN FRONT OF SILVER CLOUD HOTEL, EAST SIDE OF 25th AVE NE, 6' SW OF FDC'S

ELEV.= 51.10'

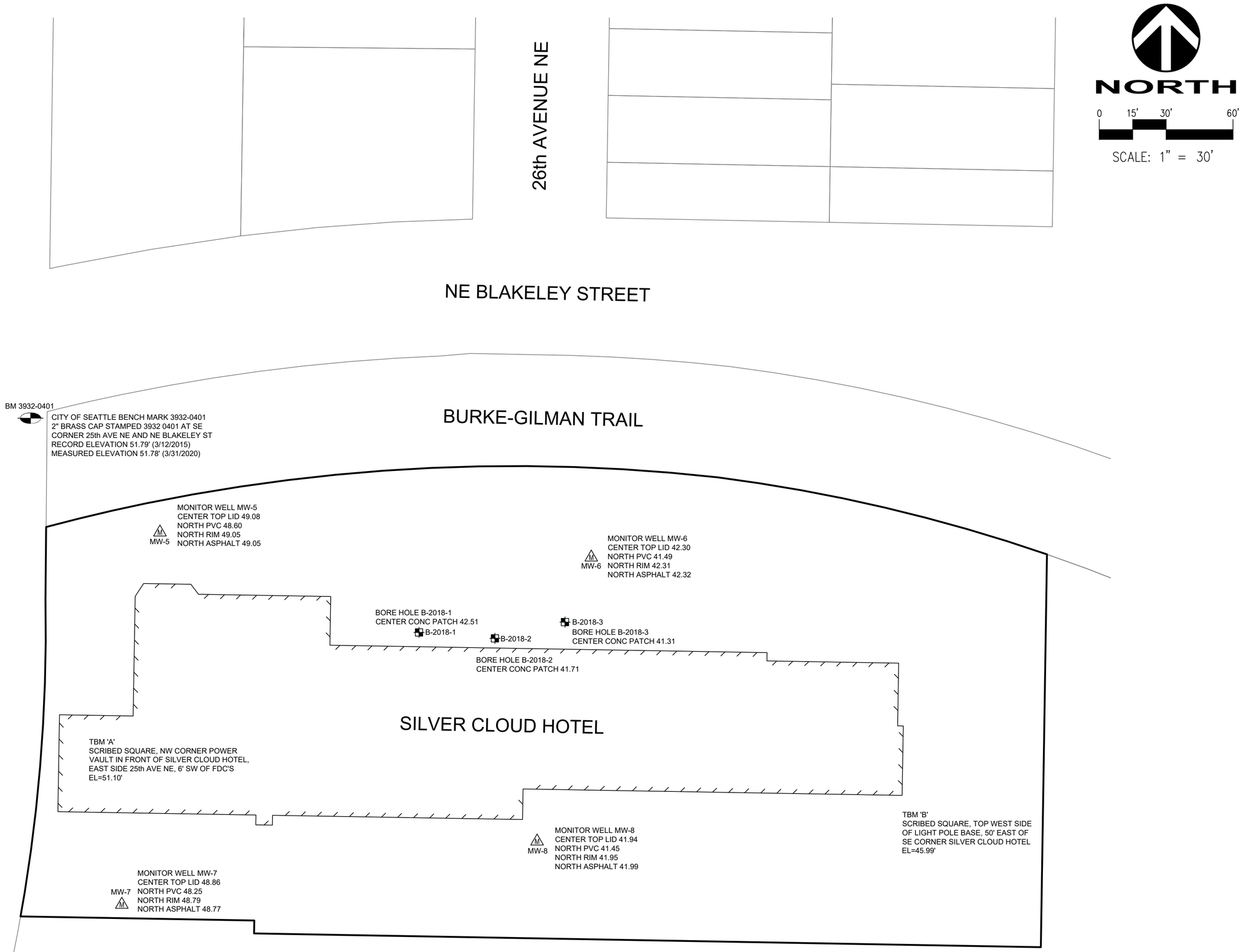
TBM "B" - SCRIBED SQUARE, TOP WEST SIDE OF LIGHT POLE BASE, 50' EAST OF SE CORNER SILVER CLOUD HOTEL

ELEV.= 45.99'

FIELD WORK DONE ON 3/31/2020



4/2/2020



NOTES:

1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A FIELD SURVEY MADE ON MARCH 31, 2020 AND CAN ONLY BE CONSIDERED AS INDICATING THE CONDITIONS EXISTING AT THAT TIME.
2. BOUNDARY AND BUILDING LINES SHOWN ARE FROM KING COUNTY GIS AND ARE FOR REFERENCE PURPOSES ONLY.
3. PRIMARY CONTROL POINTS AND MONUMENT POSITIONS WERE FIELD MEASURED UTILIZING GLOBAL POSITIONING SYSTEM (GPS) SURVEY TECHNIQUES USING TRIMBLE R10 GNSS EQUIPMENT. MONUMENT POSITIONS THAT WERE NOT DIRECTLY OBSERVED USING GPS SURVEY TECHNIQUES WERE TIED INTO THE CONTROL POINTS UTILIZING TRIMBLE VX SPATIAL STATION FOR THE MEASUREMENT OF BOTH ANGLES AND DISTANCES. THIS SURVEY MEET OR EXCEEDS THE STANDARDS SET BY WAC 332-130-090.

DAVID EVANS AND ASSOCIATES INC.
20300 Woodinville Snohomish Rd NE
Woodinville Washington 98072
Phone: 425.415.2000

MONITOR WELL LOCATION EXHIBIT
FOR
GOLDER ASSOCIATES, INC.

SILVER CLOUD HOTEL

5036 25th AVENUE NE
CITY OF SEATTLE, WASHINGTON

CADD: CPC
DESIGNED:

GREG JUNEAU, PLS
PROJECT MANAGER
MARY McDOWELL, PLS
PROJECT SURVEYOR
PROJECT ENGINEER
PROJECT LANDSCAPE ARCHITECT
FIRST SUBMITTAL DATE: 4/2/2020
SCALE: HORIZ.: 1"=30' VERT.:

MARY H. McDONELL
STATE OF WASHINGTON
96805
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/2/2020
STAMP NOT VALID
UNLESS SIGNED AND DATED

JOB NO.
GOLD00000046
SHEET NO. 1 OF 1

Plot Date: 4/2/2020 12:17 PM By: Charles Cornwall
Save Date: 4/2/2020 10:59 AM By: Cpc File: P:\G\GOLD\00000046\0400CAD\SV\BASES\SV-BS-GOLD0046.dwg

APPENDIX F

Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Silver Cloud Inns & Hotels	
Facility/Site Address: 5036 25th Avenue NE, Seattle, WA 98105	
Facility/Site No: 88124865	VCP Project No.: 10915

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Mr. Neil Gilham, LG			Title: Senior Environmental Geologist
Organization: Golder Associates Inc.			
Mailing address: 18300 NE Union Hill Road, Suite 200			
City: Redmond		State: WA	Zip code: 98052
Phone: 425-883-0777	Fax: 425-882-5498	E-mail: neil_gilham@golder.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☒ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☒ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☒ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☒ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☒ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☒ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☒ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

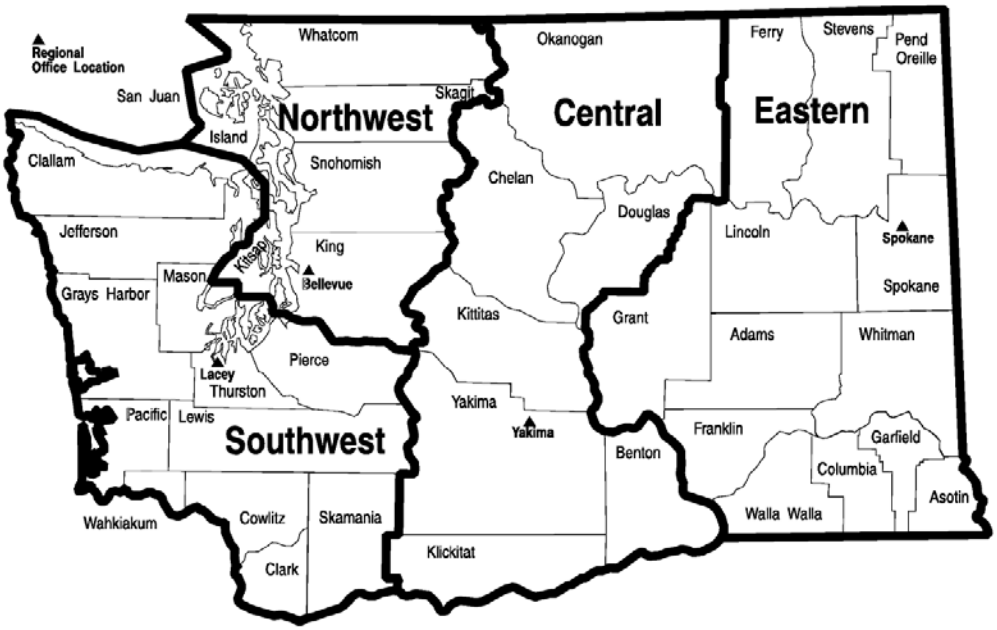
☒ Yes If so, please identify the Ecology staff who approved those steps: Joe Hickey

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295



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