



PERIODIC REVIEW REPORT FINAL

**Automotive Service, Inc.
Facility Site ID#: 4380
Cleanup Site ID# 5210**

**2327 W Mill Plain Boulevard
Vancouver, Washington 98660**

**Southwest Regional Office
TOXICS CLEANUP PROGRAM**

July 2020

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1.0 Introduction

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Automotive Services, Inc. (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under the Voluntary Cleanup Program (VCP). The cleanup actions resulted in concentrations of diesel-range total petroleum hydrocarbons (TPH-D) and kerosene remaining at the Site in soil and groundwater that exceed MTCA Method A Unrestricted Land Use Cleanup Levels. The MTCA Method A cleanup levels for soil and groundwater were established under WAC 173-340-740 and WAC 173-720(2), respectively. WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action.
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree.
- (c) Or, as resources permit, whenever the department issues a no further action (NFA) opinion
- (d) And one of the following conditions exists:
 - 1. Institutional controls or financial assurance are required as part of the cleanup.
 - 2. Where the cleanup level is based on a practical quantitation limit.
 - 3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.
- (b) New scientific information for individual hazardous substances of mixtures present at the Site.
- (c) New applicable state and federal laws for hazardous substances present at the Site.
- (d) Current and projected Site use.
- (e) Availability and practicability of higher preference technologies.
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 Summary of Site Conditions

2.1 Site History

The Automotive Services, Inc. (ASI) cleanup Site is located at 2327 W Mill Plain Boulevard, Vancouver, Clark County, Washington. The Site occupies approximately 4.33-acres with a parcel number designated by the Clark County Assessor as 059115-068, and situated in Section 21 of Township 2 North, Range 1 East of the Willamette Meridian near the quarter/quarter section. The Site is bounded by West Fourth Plain Boulevard to the north, the City of Vancouver Wastewater Treatment Plant to the south, Tesoro Tank Farm to the west, and Mill Plain Extension to the east. The property is owned by the Port of Vancouver (Port) and currently leased by CalPortland (formerly Glacier Northwest, Inc.) for its West Vancouver Ready Mix Plant. A Vicinity Map and Site Plan are included as Appendix 6.1 and Appendix 6.2, respectively.

The Site was an agricultural field until the ASI car wash facility was constructed in 1972-1973. The facility used hot water with kerosene to clean a Cosmoline-based protective coating from new import cars after they arrived at the Port via ship. The original car wash facility covered a larger area than the current parcel noted above, and had an address of 2001 West Fourth Plain Boulevard. However, in 1998, the new Mill Plain Boulevard extension was constructed, which dissected the former facility. The former car wash and areas of residual contamination are now located within the parcel noted above at 2327 West Mill Plain Boulevard.

The source of kerosene contamination in soil was generally believed to be from pipe and floor leakage during the operation of the car wash and from several documented overflows (upsets) of the water treatment system including a 1980 process upset. During the 1980 process upset event, water containing kerosene flowed onto the ground surface from two large concrete process vaults which had been used as part of the car wash's wastewater treatment system. During the early spring of 1981, under City of Vancouver guidance, an unknown quantity of soil between the vault and the sewer pipeline that was contaminated from this incident was removed, and the excavation was backfilled.

Diesel-contaminated soil was discovered on the west side of the former location of the ACI car wash building. The source of this contamination was not identified. However, field evidence and historical aerial photographs indicated that it was probably from a surface spill located in a topographically low area adjacent to the Tesoro Alaska Petroleum Company (Tesoro) bulk fuel storage facility. No information was discovered to link the spill either to the fuel storage facility or to Olympic Pipeline located north of the contaminated area. Both field and laboratory data supported the contention that the spill probably occurred in early 1970s. The volume of the spill (or accumulation of smaller spills) might have exceeded 3,000-gallons. The spill resulted in localized contamination of soil and groundwater at the spill site.

2.2 Geology and Hydrogeology

The Site is located on a dominantly, nearly level flood plain of the Portland Basin. The region is underlain by consolidated volcanic rocks of Eocene to Miocene age. The bedrock formation are overlain by semiconsolidated Pliocene deposits of fine-grained sands, silts, and clays that comprise the lower member of the Troutdale Formation. The upper Troutdale member consists of cemented sandy gravel and was deposited in the late Pliocene age. The Troutdale formation is estimated to be over 1000 feet thick in the Vancouver area and shows evidence of folding and faulting.

Pleistocene glacial drift typically comprising of tills, silts, and clays embedded with outwash sands and gravels overlie the Troutdale Formation. This unit is in turn overlain by Pleistocene fluvial and deltaic sediments deposited by the Columbia River. The sediments comprise stratified and cross-bedded gravels, sands, silts, and clays and are estimated to be several hundreds of feet thick in the Vancouver area. Terrace features in the Vancouver area are remnants of the erosional sequences caused by the down cutting of the Columbia River through these deposits.

Much of this area has been altered by industrial development which has included filling with what is assumed to be mostly Columbia River dredge sands. This material tends to be relatively fine grained, clean sands. The soils present at the Site are classified by the United States Geological Survey as Hillsboro loam with swath of McBee silty loam located diagonally across the center of the property from the northwest corner to the southeast corner. These soils were formed from Columbia River alluvium (likely flood deposits). Based on filed observations, the soils became more sandy with depth (10-15 feet) with more of a coarse sand observed at 18-20 feet.

The depth to groundwater at the Site seasonally ranges from about 14 to 20 feet below ground surface (bgs). The groundwater gradient at the Site is nearly flat, so the flow direction is seasonally variable to the northwest and south-southeast.

2.3 Site Investigations and Cleanups

2.3.1 1976 – Removal of Soil from the Disposal Pit

General anecdotal information and information gathered through interviews indicated that when the car wash was built in 1972, a pit was excavated to the south of the car wash tunnel. The pit was used as a collection/disposal area for wastewater from the treatment system, kerosene/Cosmoline sludge, and also any overflow wastewater for approximately four years. In 1976, the petroleum contaminated soil from this pit was excavated and removed. The purpose of the excavation/over excavation was to facilitate the construction of the south concrete vault. It was assumed that the excavated contaminated soil was transported to the local landfill for disposal.

2.3.2 1980 – Treatment Process Upset Spill Cleanup

In December 1980, an unknown quantity of wastewater containing kerosene and Cosmoline was released from the car wash's treatment system onto ground surface. This release was from an

overflow of the northern concrete vault, which spilled to a low ditch located between the 48" Westside Interceptor sewer pipeline and the car wash. This incident was reported to the Environmental Protection Agency (EPA) and Ecology by the City's wastewater treatment management because some of the water entered the sewer line through a manhole cover. The cause of the overflow was vaults that were too full to contain rainwater that entered the vaults because they were not properly sealed against the weather. The Preliminary Assessment conducted by EPA in 1987, indicated that such overflows might have occurred in the past, which may have been the source of shallow contamination in the soils west of the treatment plant. At the request of EPA and Ecology, an unknown quantity of contaminated soil was excavated from the ditch area between the car wash and the sewer line and disposed of the contaminated soil at the a local landfill. The excavated area was backfilled under the supervision of the City.

2.3.3 1987 – EPA's Preliminary Assessment

In 1987, EPA's contractor, Ecology & Environment conducted a Preliminary Assessment (PA) at the ASI facility. This PA was conducted because of the 1980 process upset spill to identify potential public health and/or environmental hazards related to the Site and, if present, evaluate the need for additional investigation and action. The PA revealed that the ASI had discharged a petroleum wax/kerosene mixture to a 300-foot long ditch on the western boarder of the ASI Plant and overflow from this ditch was entering a sanitary sewer service manhole. The PA also indicated that the solvent reclamation system was poorly maintained and tanks were overflowing for some time with evidence of stained pavement with flow patterns to a ditch filled with oily solvent waste. It appeared that dumping of waste material in the ditch was standard procedure, and not the result of equipment failure. Ecology assessed a fine of \$500 against ASI in February 1981 in relation to this incident.

To assess the potential public health and/or environment hazards, Ecology collected two sludge samples in December 1980 and July 1985 for the laboratory chemical analysis. In addition to the chemical analysis, 96-hours bioassays tests were conducted with rainbow trout (*Salmo gairdneri*) as the test organism. The test groups were maintained in aquarium filled with a mixture of 100 milligrams per liter (mg/L) of concentrated sludge for both bioassays. On both occasions, none of the fish in the test group died during the bioassay tests.

Based on the bioassay results and presence of low quantities of inorganics constituents of environmental concern, the sludge was not considered as hazardous waste, and the potential for health risks to the public due to this release was likely to be small. In addition, information collected from a search of the relevant literature suggested that the releases of kerosene/Cosmoline sludge from the activities at the ASI had limited potential to pose human health and/or environmental risks. Locations of car wash facility, treatment system, the ditch and the results of sludge samples are included in Appendix 6.3.

2.3.4 1991 – Underground Storage Tanks Removal and Soil Cleanup

In September 1991, four USTs (two 6,500-gallon kerosene, one 6,500-gallon gasoline, and one 8,000-gallon diesel) were excavated and removed from three different locations on the property. Tanks 1 and 2 were removed from Pit 1, Tank 3 was removed from Pit 2, and Tank 4 was removed from Pit 3. The removed USTs were observed to be in relatively good condition, with

no holes, and only minor pitting. Minor staining was apparent on the tanks top and on one-half inch of soil immediately above the tank top near the fill port of all four tanks. After tanks 3 and 4 were removed from Pit 2 and Pit 3, there were apparent signs of petroleum impacted soil. Pit number 3 contained the remains of two dry sumps used between 1967 and 1972 for dumping wastewater and sludge from the carwash (eventually these dry sumps were replaced with two 36,000-gallon concrete storage tanks to hold the wastewater and sludge from the carwash). A total of approximately 800 to 1,000 cubic yards of petroleum contaminated soil was excavated from Pit number 2 and Pit number 3.

Sixteen confirmation soil samples were collected from the floor/bottom and sidewalls of the tank pits. One sample was collected from each wall in each tank pit and one sample was collected from beneath each of the tank pit. All the soil samples were analyzed for total petroleum hydrocarbons (TPH) by EPA method 418.1 to identify kerosene and number 2-diesel. Since Pit number 1 contained the gasoline tank, soil samples from this pit were also analyzed for gasoline-range total petroleum hydrocarbons (TPH-G), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Results of confirmation soil samples had either low levels of TPH or were all below the laboratory detection limits, except two soil samples collected on west and south side of the wall from Pit number 3, which showed elevated levels of TPH concentrations at 9,600 milligrams per kilogram (mg/kg) and 7,700 mg/kg, respectively. Since tank number 4 in Pit number 3 was located in close proximity to the car wash building foundation and a natural gas line, additional excavation was not conducted in order to maintain the integrity of the building and not damage the natural gas line. Approximately 900 cubic yards of excavated petroleum contaminated soil was stock piled on the site and bioremediated. The approximate extent of soil excavation, carwash building location and soil sample results are included in Appendix 6.4.

2.3.5 1991 and 1992 – Phase I and Phase II Site Investigation

The Phase I investigation was conducted in late 1991 and a report was completed in November 1991. The purpose of phase I investigation was to better delineate the extent of petroleum contamination in the soils following the UST removal and soil excavation was completed. Four soil borings (B-1 through B-5) were advanced out of which three borings (B-1, B-3, and B-4) were advanced to a depth of 25 feet and the boring B-2 was advanced to 35 feet and converted into a monitoring well MW-1. Soil samples were collected at five-foot intervals and following field screening, selected soil samples were sent to the laboratory for TPH analysis. The soil sample results indicated relatively low concentrations of TPH with the highest concentration being 500 mg/kg. A groundwater sample collected from monitoring well MW-1 showed a TPH concentration of 5.3 mg/L. Approximate locations of soil borings and soil and groundwater sample results are included in Appendix 6.5.

The Phase I investigation recommended that additional borings be installed to further characterize the extent of the petroleum contamination and additional monitoring wells be installed to determine the extent of the groundwater contamination. Based on these recommendations, Phase II investigation was conducted during the summer of 1992. As part of this, seventeen soil borings were drilled and two borings were converted into monitoring wells (MW-2 and MW-3). The TPH concentrations in the soil samples collected at various depths from the soil borings ranged from nondetect to a high of 22,000 mg/kg near the Tesoro fence line

(boring B-3). In addition, floating product on the groundwater was also discovered in this boring. The contamination in this area was found to be diesel, not kerosene. Soil boring locations (Figure 5) and soil sample results are included in Appendix 6.5.

2.3.6 1996 - CH2M HILL Subsurface Investigation

The City of Vancouver (City) hired CH2M Hill to conduct a subsurface investigation at the southern end of the former ASI facility. The purpose of this investigation was to evaluate this portion of the Site because of the City's plans to acquire it from the Port for use in expanding their wastewater treatment plant. Fifteen soil borings (SB-1 through SB-15) were drilled and soil samples were collected for the laboratory analysis. Results indicated the presence of heavy oil to the east and southeast of the car wash in several samples, but only one boring (SB-6) located immediately south of the south concrete vault had both kerosene and heavy oil concentrations of 1,600 mg/kg and 4,000 mg/kg, respectively in a sample collected at 10 feet depth. A water sample collected from the same boring had a kerosene and diesel concentrations of 5.7 mg/L and 10 mg/L, respectively. Soil boring locations (Figure 6) and soil sample results are included in Appendix 6.6.

2.3.7 1996 and 1997 – CEC and Tesoro Site Investigations

In July 1996, Coles Environmental Consulting, Inc. (CEC) conducted a soil investigation at the ASI Site. As a part of this investigation, 10 soil borings (PVP-1 through PVP-10) were completed around the car wash facility for the Port. The purpose of CEC's investigation was to confirm and document the subsurface conditions at the former ASI Site as observed in the previous sampling efforts. It was also intended to determine the extent of kerosene contamination due to the car wash operation, to expand the area previously investigated, and to evaluate whether other contaminants are present. The results indicated the detection of diesel in two borings, PVP-4 and PVP-5 located at to the west of the carwash facility.

In PVP-4, weathered diesel was detected at 940 mg/kg at a depth of 15 to 16 feet below ground surface (bgs). In PVP-5 weathered diesel was detected at 9,400 mg/kg at a depth 7 to 8 feet bgs and 11,000 mg/kg at a depth 11 to 12 feet bgs. Diesel concentrations detected in boring PVP-5 exceeded the MTCA Method A cleanup level of 2,000 mg/kg. Kerosene and heavy oil related to the car wash facility were detected in soil samples in the other borings and some of the concentrations exceeded MTCA Method A cleanup levels. Groundwater samples were not collected from these borings, but were collected from monitoring wells, MW-1, MW-2 and MW-3 and results showed kerosene concentrations of 3.5 milligrams per liter [mg/L, 3,500 micrograms per liter (µg/L)], 0.88 mg/L (880 µg/L), and 0.44 mg/L (440 µg/L), respectively. The results of water samples collected from MW-1 and MW-2 exceeded the MTCA Method A cleanup level of 500 µg/L. Soil boring locations (Figure 6) and soil sample results are included in Appendix 6.7.

Because the diesel contamination was detected near the Tesoro Facility located to the west of the carwash building the Port requested that Tesoro determine whether its facility was the source for the diesel contamination. Tesoro hired Pacific Environmental Group (PEG) to install four soil borings (SB-1 through SB-4) along the Tesoro side of the fence between the two leasehold properties. The borings were advanced to 22.5 feet bgs and thirty-six soil samples were

collected at 2.5-foot intervals and analyzed for TPH related compounds. No petroleum hydrocarbons were detected in any of the 36 soil samples collected from the four borings. Locations of soil borings are shown on Figure 1 in Appendix 6.7.

2.3.8 1997 and 1998 – Emcon’s Mill Plain Extension Project Study and Petroleum Contaminated Soil Removal

In 1997, the Washington State Department of Transportation (DOT) hired Emcon to conduct soil investigation along the right-of-way for the Mill Plain extension Project. Two of the soil borings drilled near the carwash facility detected diesel-and-oil-range total petroleum hydrocarbons (TPH-D and TPH-O), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and cadmium. In February 1998, during the installation of utilities as part of the Mill Plain extension through the center of the former ASI, TPH contamination was detected. Approximately 200 cubic yards of petroleum contaminated soil was excavated and transported to TPS Technologies in Portland for the thermal treatment.

2.3.9 1999 – Century West’s Investigation

In 1999, Century West (CW) conducted a subsurface investigation around the location of the summer 1999 excavation pit. The purpose of this investigation was to better define the area of diesel contamination, which had not been removed during the initial excavation. In November 1999, nineteen hydropunch soil borings were installed for collecting soil samples. In addition, CW also installed 54 test pits to establish the areal extent of shallow (between three to four feet bgs) petroleum contamination east and north of the diesel pit. This contamination later found to be kerosene. This area informally has been referred to as “Bullwinkle Nose” due to its areal shape. Fifteen of their 54 test pits had kerosene was detected in the shallow soil under the gravel cover. The analytical results ranged from non-detect (outside of the “Bullwinkle Nose” area) to a maximum of 6,200 mg/kg of kerosene. The highest concentration of diesel detected (22,000 mg/kg) was in a sample collected at the southwest corner of the 1999 pit. Figure 8 and Figure 20 in Appendix 6.8 shows the approximate extent of kerosene (Bullwinkle Nose area) and diesel soil contamination.

2.3.10 2000 – West and East of Sewer Line Investigations

In 2000, the Port of Vancouver and ASI conducted subsurface investigations to determine the nature, extent and volume of petroleum contaminated soil present on the west, east and under the sewer line.

In February 2000, seventeen soil borings (CWB-1 through CWB-17) were drilled to a depth of 18.5 feet west of the sewer line and soil samples were collected at intervals of every three to five feet. Results of kerosene concentrations in the soil samples ranged from non-detect to a maximum of 9,940 mg/kg.

In November 2000, four soil borings (CWB-18 through CWB-21) were drilled on the east of the sewer line to a depth of approximately 20 feet and six-foot composite soil samples were collected including a discrete bottom core sample (19.5 feet to 20 feet). The results showed that the kerosene concentration ranged from 743 mg/kg to 9,280 mg/kg. Soil boring locations and soil sample results are shown on Figure 21 and Figure 22 in Appendix 6.9.

2.3.11 Pre and Post-Remediation Groundwater Investigations

Pre-Remediation Groundwater Investigation

The groundwater monitoring has been conducted intermittently at this Site since three shallow monitoring wells (MW-1 through MW-3) were installed in 1991/1992. These monitoring wells were sampled only five times. They were sampled after being installed in 1991/1992 and were later sampled four times between July 1996 and March 1999. All the groundwater samples were analyzed for TPH-D, TPH-O and volatile organic compounds (VOCs). TPH-D was detected in all three monitoring wells and concentrations ranged from 0.34 mg/L (340 µg/L) to 5.9 mg/L (5,900 µg/L). The ethylbenzene was detected only during the July 1996 sampling event at concentration 3.3 µg/L in monitoring well MW-1.

The potentiometric water level measurements indicated that the groundwater flow direction was eastward albeit with an almost imperceptible gradient. The depth of groundwater varied from 12.20 feet bgs to 20.56 feet bgs indicating that the wet-season and dry-season lows can be as much as eight feet different. Locations of monitoring wells (Figure 2) and groundwater sample results are included in Appendix 6.10.

Post-Remediation Groundwater Investigation

In December 2002, in addition to the existing three wells (MW-1 through MW-3), four new shallow monitoring wells (GL-4 through GL-7) were installed. Also the designation of existing wells were changed from MW-1, MW-2 and MW-3 to GL-1, GL-2 and GL-3, respectively. All seven wells were used for conducting four rounds of quarterly monitoring from January 2003 through October 2003. All the groundwater samples were analyzed for TPH-D, TPH-O and VOCs. Only TPH-D was detected in GL-1 with the exception that the January 2003 sample from GL-4 also had kerosene concentration of 0.28 mg/L. The results of groundwater samples collected from GL-1 during January, July, and October indicated TPH-D concentrations of 0.611 mg/L, 0.423 mg/L, and 0.28 mg/L, respectively. However, only January GL-1 sample result exceeded the Model Toxics Cleanup (MTCA) Method A cleanup level of 0.500 mg/L and TPH-D concentrations decreased overtime indicating the effectiveness of the source removal. Locations of seven monitoring wells and groundwater sample results are included in Appendix 6.11.

2.4 Remedial Actions

2.4.1 Underground Storage Tanks Removal and Soil Remediation

In September 1991, during the removal of four USTs, approximately 1,500 to 1,800 cubic yards of contaminated soil was excavated from three pits. The soil was stockpiled on-Site and bioremediated. Windrows were constructed in lifts of approximately 1.5 feet deep. During periodic tilling, the soil was inoculated with hydrocarbon-degrading microbes and fertilizer (nitrogen, phosphorous, and potassium) was added in a liquid matrix to the soil. Tilling was frequent and soil moisture levels were monitored and maintained. The final confirmation soil samples were collected in August 1994 and the results of all the soil samples were below the

laboratory detection limits. In September 1994, the Port moved the treated soil to the southwest corner of the property and used as fill material.

2.4.2 Concrete Vault and Car Wash Building Removal

In 1998, ASI and the Port agreed and decided to demolish the carwash facility because no long-term future for the facility was forecast. In addition, removal of the carwash building was warranted for the excavation of contaminated soils near and below the carwash building. The whole process took more than a year to complete.

In March 1998, the Oil Re-refining Company (ORRCo) was hired to remove the water and residual sludge from the dual-compartments from the north and south concrete vaults. This effort took nearly a year to accomplish because the south vault was full and contained considerable thick sludge. It could only be removed as fast as ORRCo was able to process it in their plant. The north vault was later pumped. This was a simpler operation because both compartments contained mostly water. Once the vaults were emptied, they were pressure washed by ORRCo and the resulting wash water was removed using a vacuum truck.

Following the vaults cleaning, the Northwest Demolition Company removed the asbestos containing roofing from the car-wash tunnel and then demolished the carwash building. After the building structure was demolished, both north and south concrete vaults were removed. Late in the building demolition process, a dry well was discovered. The dry well was connected to a sump in the center of the car wash tunnel. The dry well consisted of a three-foot diameter concrete pipe set on end and open to the soil below. ORRCo pumped residual water and sludge from the pipe before it was removed.

During the building demolition, CEC collected eight soil samples from near the two vaults and from under the building footings. All the samples were analyzed for TPH-D, TPH-O and selected samples were analyzed for VOCs. Mostly TPH-D and TPH-O were detected in the soil samples and confirmed that the actual products were kerosene and Cosmoline, respectively. In addition, the existing groundwater monitoring wells (MW-1 through MW-3) were sampled including grab samples of accumulated groundwater from both north and south vault excavation pits. Locations of soil samples and soil and groundwater results are included in Appendix 6.12.

2.4.3 Initial Excavation

The initial car-wash kerosene and diesel excavations were conducted alternatively from August 5 through October 4, 1999. In an attempt to locate the extent of diesel contamination, soil samples were collected from two additional push probe borings (PVP-17 and PVP-18), located approximately 60 feet north and south of PVP-5. Excavation of diesel contaminated soil was determined to be confined to a circular area approximately 60 feet in diameter and centered on the PVP-5 location (see Figure 6 in Appendix 6.7).

During the excavation, contamination was evaluated by visual and olfactory means and by headspace scanning of soil samples with a photoionization detector (PID). The excavation depth was 16 feet bgs. Going deeper was not possible as groundwater was encountered at 17 feet bgs where there was a change in lithology from silty sand to unconsolidated medium-coarse grained

sand. It was feared that wet sand would not have supported the excavator that had been moved into the excavation bottom.

Obvious contamination remained on the south and west walls and contamination was left in-place at these locations. The pit was not extended to the west because it would have undermined the fence along the Tesoro property boundary. The excavation was stopped because no further space was available to expand the excavation or stockpile the removed soil. It was determined that the excavation needed to be filled so that excavation at the kerosene release area could be completed and excavated soils could be spread for on-Site treatment. The space where the diesel excavation was located was needed to lay out soil remediation cells. The location of excavation walls were measured and documented, confirmation soil samples were collected, and the excavation was filled with clean overburden soil and treated soil (Ecology approved) from the former Swan Manufacturing trichloroethylene (TCE) excavation. Due to the large amount of soil removed from the kerosene and diesel excavation and the limited room for the soil treatment, two phases of excavation were needed for the diesel area and three phases of soil remediation were needed for the kerosene and diesel soils.

Sixteen confirmation soil samples were collected from the walls and bottom of the diesel excavation and analyzed for TPH-D by NWTPH-Dx Method. In addition, one water sample was collected from a hand-dug sump on the bottom of the excavation. Analytical results indicated that elevated concentrations of TPH-D (26.5 mg/kg to 24,400 mg/kg) were still present in the soils surrounding the diesel excavation, although it appeared the bulk of the contamination was contained in the silty sand unit and the concentration decreased dramatically in the underlying unconsolidated sands. TPH-D was detected in the water sample at a concentration of 38,500 µg/L, although this detection was suspect due to sloughing of diesel-containing soil into the water sampling pit before the sample was collected. The sequence of kerosene and diesel excavation including the approximate extent of excavation and the final confirmation sampling locations and sample results are included in Appendix 6.13 and Appendix 6.14, respectively.

2.4.4. Second Excavation

The confirmation soil sample results of the initial excavation indicated that a significant levels of diesel contamination remained in the walls and floor of the excavation pit. In addition, Century West's subsurface investigation conducted in 1999 helped to better define the aerial extent of contamination. As a result, the Port decided to conduct second round of excavation of diesel-contaminated soil. This excavation surrounded the initial excavation area to remove contamination left on the original excavation walls and bottom. The excavation depth varied from 17 to 20 feet deep bgs, which was deeper than the initial excavation of 16 feet bgs. In the northern section of the new excavation, soil was only removed to a depth of 17 feet bgs, leaving bench of contaminated soil (approximately 139 cubic yards) extending the entire north wall of the excavation. This soil was left in place because of the need to refill the pit before the confirmation soil sample analytical results became available, which was done to prevent excavating equipment from becoming idled. A pedestal of contaminated soil from the initial excavation conducted in 1999 (16 feet bgs, approximately 250 cubic yards) was left below fill material because of higher water table. This pedestal was not remove during the second excavation event as it would require the removal of approximately 3,000 cubic yards of clean fill

to recover approximately 250 cubic yards of contaminated soil. Approximately 139 cubic yards of contaminated soil was left in place in the northern portion of the diesel excavation and approximately 250 cubic yards of contaminated soil was left in place in the center bottom of the excavation.

The second excavation followed the contamination in all directions and was expanded onto the Tesoro property. The total volume of excavated soil from the combined diesel pits was estimated to be 9,120 cubic yards, with an estimated volume of impacted soil placed into the treatment cells of 7,250 cubic yards, or 9,400 cubic yards of fluffed soil material that was remediated. Thus, the combined fluff volume of soil treated in the cells for both kerosene and diesel sites, was approximately 18,000 cubic yards.

Following the excavation a total of thirty-four confirmatory soil samples were collected from the walls and bottom of the final diesel excavation. Residual diesel concentrations in the walls of the excavation were all non-detect except for one sample in the southwest corner that had a concentration of 362 mg/kg diesel. Two samples from the north floor had diesel detection of 8,000 mg/kg and 4,000 mg/kg (approximately 17 feet bgs) and a floor sample from the south floor (at approximately 19 feet bgs) had a diesel detection of 722 mg/kg. Two samples at 16 feet bgs from the pedestal remaining from the initial excavation had diesel detections of 21,300 mg/kg and 12,600 mg/kg. It was estimated that approximately 389 cubic yards of diesel-impacted soil remains below 16 feet bgs. The second diesel excavation was filled with treated clean (Ecology approved) kerosene-contaminated and clean overburden soil. Approximate areal and vertical extent of diesel contaminated soil excavation are indicated on Figures 9, 10 and 11 in Appendix 6.15. Figure 12 in Appendix 6.15 shows the approximate extent of worst-case estimated volumes of residual kerosene and diesel contaminated soil remaining on the Site.

2.4.5 On-Site Bioremediation of Contaminated Soils

On-Site bioremediation of the kerosene-and-diesel-impacted soils was the selected as the most cost effective treatment process and was conducted at the same time. Bioremediation treatment of kerosene-impacted soil occurred from September 1999 through July 2000, and the diesel-impacted soil treatment occurred from September 1999 through 2001. A combined total of approximately 18,000 cubic yards of kerosene and diesel contaminated soils were treated.

2.4.6 Long-Term Groundwater Monitoring

Since June 2007, the long-term groundwater monitoring has been conducted on an 18-month frequency at the Site. From June 2007 to June 2012, all seven groundwater monitoring wells (GL-1 through GL-7) were used for conducting the monitoring. However, with Ecology's approval, only five monitoring wells, GL-1, GL-2, GL-3, GL-4 and GL-6 were used during the subsequent monitoring events and wells GL-5 and GL-7 were eliminated from the monitoring network. Since June 2007, ten rounds of groundwater monitoring have been conducted at the Site. All groundwater samples were analyzed for TPH-D, TPH-O and VOCs. Only TPH-D was detected consistently in monitoring wells GL-1 (563 µg/L to 1,930 µg/L) and GL-2 (652 µg/L to 1,200 µg/L) at or above the MTCA Method A cleanup level of 500 µg/L. However, since 2015, TPH-D concentrations have remained stable in well GL-2 without any significant statistical variation and TPH-D concentrations have decreased from 1,420 µg/L to 440 µg/L in well GL-1.

All other contaminant concentrations were either below MTCA Method A cleanup levels or below the laboratory detection limits. The depth of groundwater varied from 18 feet to 23 feet bgs during the sampling events. The groundwater flow direction was generally to the northwest; however, the gradient was nearly flat. Locations of groundwater monitoring wells and groundwater sample results are included in Appendix 6.16.

2.4.7 Cleanup Levels

WAC 173-340-704 states that MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used.

MTCA Method A cleanup levels for unrestricted land use were determined to be appropriate for this Site. The cleanup actions conducted at the Site were determined to be 'routine', few hazardous substances were found at the Site, and numerical standards were available for each hazardous substance. The table below presents the current MTCA Method A cleanup levels.

Table-1: MTCA Method A Soil and Groundwater Cleanup Levels

Chemical	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (µg/L)
TPH-Gas	30/100*	800/1000*
TPH-Diesel	2,000	500
TPH-Oil	2,000	500
Benzene	0.03	5
Toluene	7	1,000
Ethylbenzene	6	700
Xylenes	9	1,000
Lead	250	15

Note: mg/kg: milligrams per kilogram
µg/L: micrograms per liter
*benzene present/benzene not present

2.4.8 Environmental Covenant

The remedial activities at the Site included the excavation of majority of contaminated soil. However, some diesel and kerosene contaminated soils and groundwater are remain at the Site exceeding MTCA Method A cleanup levels. As a result, an Environmental Covenant (EC) was recorded for the Site on March 12, 2012. However, an EC correction was recorded on September 18, 2013 for correcting the wrong parcel number stated in the originally recorded EC without any other substantive changes. A no further action letter was issued on March 7, 2014. The EC imposes the following limitations:

Section 1. The property shall be used only for traditional industrial uses, as described in RCW70.105D.020(23) and defined in and allowed under the city of Vancouver's zoning regulations codified in the City of Vancouver Municipal Codes-Title 20-Zoning Ordinance as of the date of this Restrictive Covenant.

Section 2. No groundwater may be taken for potable use from the Property.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited.

Section 4. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 5. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 6. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 7. The Owner must restrict leases to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 9. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 10. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Section 11. The Owner will conduct groundwater monitoring according to the Revised Long-Term Confirmation Groundwater Monitoring Plan (dated May 10, 2010) until such time Ecology approves termination of the monitoring plan. A copy of the Revised Long-Term Groundwater Monitoring Plan is attached as Exhibit B.

The EC is attached as Appendix 6.17.

3.0 PERIODIC REVIEW

3.1 Effectiveness of Completed Cleanup Actions

Based upon the Site visit conducted on August 28, 2019, the asphalt pavement continues to provide an adequate barrier to direct exposure pathways (ingestion and direct contact) to the contaminated soils. Asphalt pavement is in satisfactory condition and no repair, maintenance or contingency actions are required at this time, except in a small area in the northwestern portion of the Site where few cracks need to be sealed (Appendix 6.18, Photo 9). However, these cracks will not affect the overall integrity and performance of the cap. The Port is in the process of sealing these cracks. A photo log is available as Appendix 6.18.

The EC for the Site was recorded and is in place. This EC prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. This EC serves to assure the long-term property use and integrity of the property surface.

3.2 New Scientific Information for Individual Hazardous Substances for Mixtures Present at the Site

Cleanup levels at the Site were based on regulatory standards rather than calculated risk for chemicals and/or media. These standards were sufficient to be protective of Site-specific conditions.

3.3 New Applicable State and Federal Laws for Hazardous Substances Present at the Site

The MTCA cleanup levels have not changed since the NFA determination letter was issued for the Site on March 7, 2014.

3.4 Current and Projected Site Use

The Site is currently occupied by an operating concrete ready mix plant (West Vancouver Ready Mix Plant) and this use is not likely to have a negative impact on the risk posed by hazardous substances contained at the Site. The future land use is not expected to change.

3.5 Availability and Practicability of Higher Preference Technologies

The remedy implemented included the excavation and on-Site bioremediation of majority of the contaminated soils and containment of the remaining residual contaminated soils with long-term groundwater monitoring. The asphalt cap continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of Improved Analytical Techniques to Evaluate Compliance with Cleanup Levels

The analytical methods used at the time of the remedial actions were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site continue to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site; however, under WAC173-340-740(6)(f), the cleanup action is determined to comply with cleanup standards, since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.
- The groundwater cleanup levels have not been met at the Site for kerosene-and-diesel-range petroleum hydrocarbons. However, the contaminant concentrations either remain stable without any significant statistical variation, or are decreasing overtime. Currently the groundwater is being monitored on an 18-month frequency.
- The EC for the property is in place and will be effective in protecting public health from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, Ecology has determined that the remedial actions conducted at the Site continue to be protective of human health and the environment. Requirements of the EC are satisfactorily being met and no additional remedial action is necessary at this time. The asphalt cap is currently in satisfactory condition, and the conditions set forth in the EC are being followed. It is the property owner's responsibility to continue to inspect the Site to ensure that the integrity of the cap is maintained and conduct groundwater monitoring at the Site.

4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Phillip Martello, Environmental Specialist. Groundwater Monitoring Reports, Former Automotive Services, Inc. June 21, 2019, December 29, 2016, December 15, 2015.

Department of Ecology. No Further Action Determination Letter, Automotive Services, Inc. 2327 Mill Plain Boulevard, Vancouver, Washington. March 7, 2014.

Environmental Covenant. Number 4837692, dated 03/12/2012, Clark County, Washington. Grantor: Port of Vancouver.

Environmental Covenant Correction. Number 5015545, dated 09/18/2013, Clark County, Washington. Grantor: Port of Vancouver.

Kennedy/Jenks. Groundwater Monitoring Reports, ASI/Glacier Site, Port of Vancouver, Washington. April 2012 and December 2010.

Kennedy/Jenks. Revised Long-Term Groundwater Monitoring Plan, ASI/Glacier Site, Port of Vancouver, Washington. May 10, 2010.

Kennedy/Jenks. Letter from Ms. Deonne Knill to Mr. Scott Rose (Ecology), RE: Automotive Service, Inc. – Long-Term Groundwater Monitoring, request for Groundwater Sampling Reduction. February 19, 2010.

Kennedy/Jenks. Groundwater Monitoring Reports, ASI/Glacier Site, Port of Vancouver, Washington. July 31, 2009.

Coles Environmental Consulting. Letter Report for the First Round of Confirmational Groundwater Monitoring Plan, ASI/Glacier Site, 2210 NW Mill Plain Boulevard, Vancouver, Washington. December 19, 2007.

Coles Environmental Consulting. Long Term Confirmational Groundwater Monitoring Plan, ASI/Glacier Site, 2210 NW Mill Plain Boulevard, Vancouver, Washington. March 9, 2007.

Department of Ecology. Letter from Scott Rose to Ms. Patty Boyden, RE: Further Action Determination, Automotive Services, Inc. Diesel Release, September 19, 2006.

Department of Ecology. Letter from Scott Rose to Mr. Lars Amlie, RE: Further Action Determination, Automotive Services, Inc. Car Wash, October 11, 2006.

Coles Environmental Consulting. Confirmatory Monitoring Plan, ASI/Glacier Site Groundwater Investigation Related to Diesel Contamination. June 5, 2006.

Coles Environmental Consulting. Final Report on the Post-Remediation Groundwater Investigation, Automotive Services, Inc. Former Leasehold, Port of Vancouver, Washington. January 25, 2005.

Coles Environmental Consulting. Final Report on the Investigation and Remediation of Diesel-Contaminated Soil, Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington. August 30, 2001.

Coles Environmental Consulting. Final Report on the Investigation and Remediation of Kerosene-Contaminated Soil, Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington. July 17, 2001.

Coles Environmental Consulting. Final Confirmatory Soil Sample Results for Remediation of Soil Contaminated with Diesel from the West Side of the Former ASI Car-Wash Leasehold, Vancouver, Washington. May 30, 2001.

Coles Environmental Consulting. Final Soil Sample Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Analytical Results). September 28, 2000.

Coles Environmental Consulting. Final Soil Sample Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Narrative). September 5, 2000.

Coles Environmental Consulting. Work Plan for the Excavation and Treatment of Kerosene-Impacted Soil, ASI Car-Wash Facility, Port of Vancouver, Washington. June 21, 1999.

Coles Environmental Consulting. Report on Subsurface Investigation at the Automotive Services, Inc. Site, Port of Vancouver, Washington. November 4, 1996.

Enviro-Logic, Inc. Report Relating to Removal of Four Underground Storage Tanks at Automotive Services, Inc., 2001 West Fourth Plain, Vancouver, Washington. September 16, 1991.

Environment First, Inc. Report on Environmental Investigation Related to Phase II Site Investigation, Automotive Services, Inc., 2001 West Fourth Plain, Vancouver, Washington. October 27, 1992.

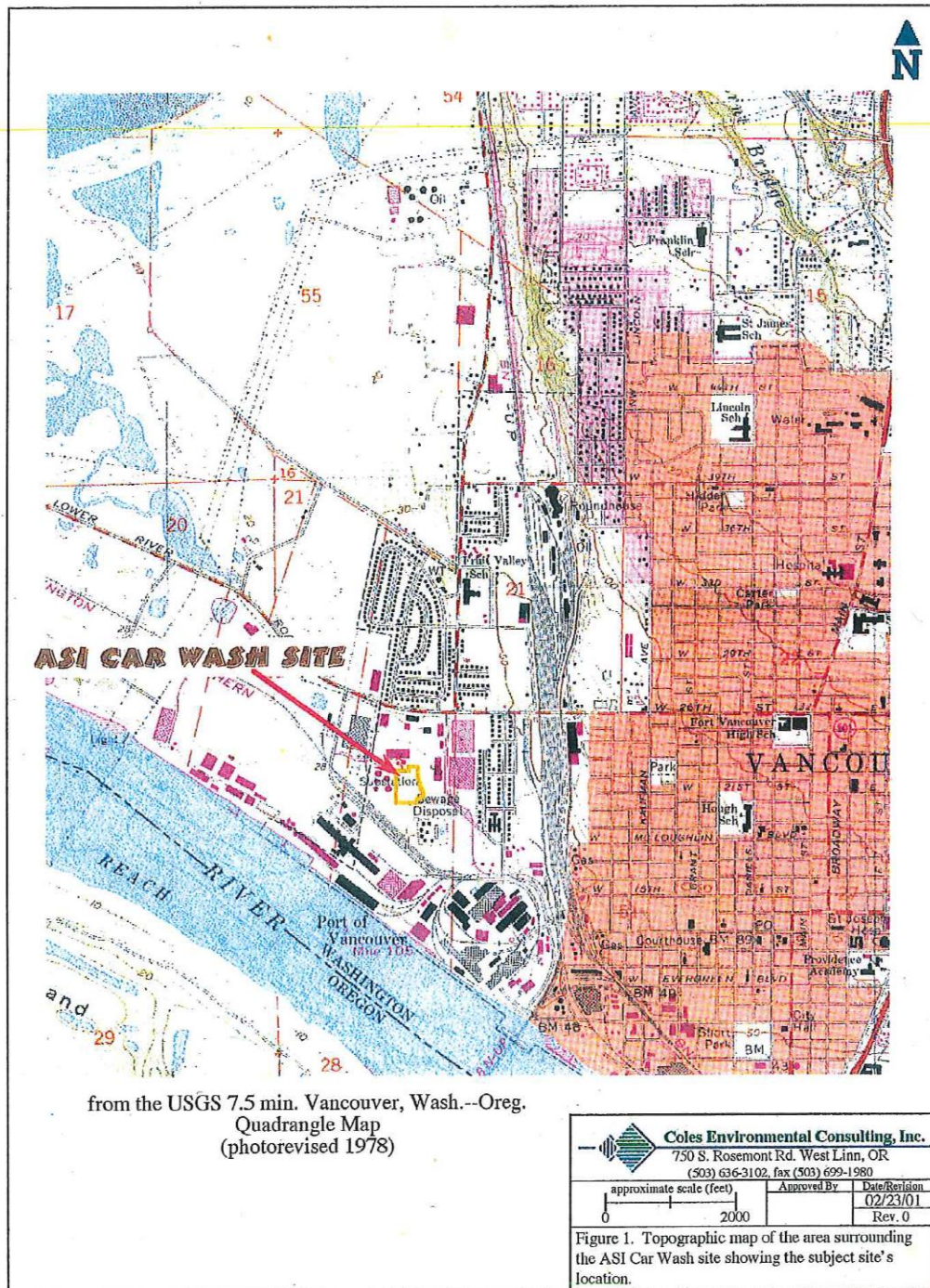
Environment First, Inc. Report Related to the Phase I Investigation, Automotive Services, Inc., 2001 West Fourth Plain, Vancouver, Washington. October 28, 1991.

Ecology and Environment, Inc. Preliminary Assessment Report for Automotive Services, Inc., Vancouver, Washington. November 30, 1987.

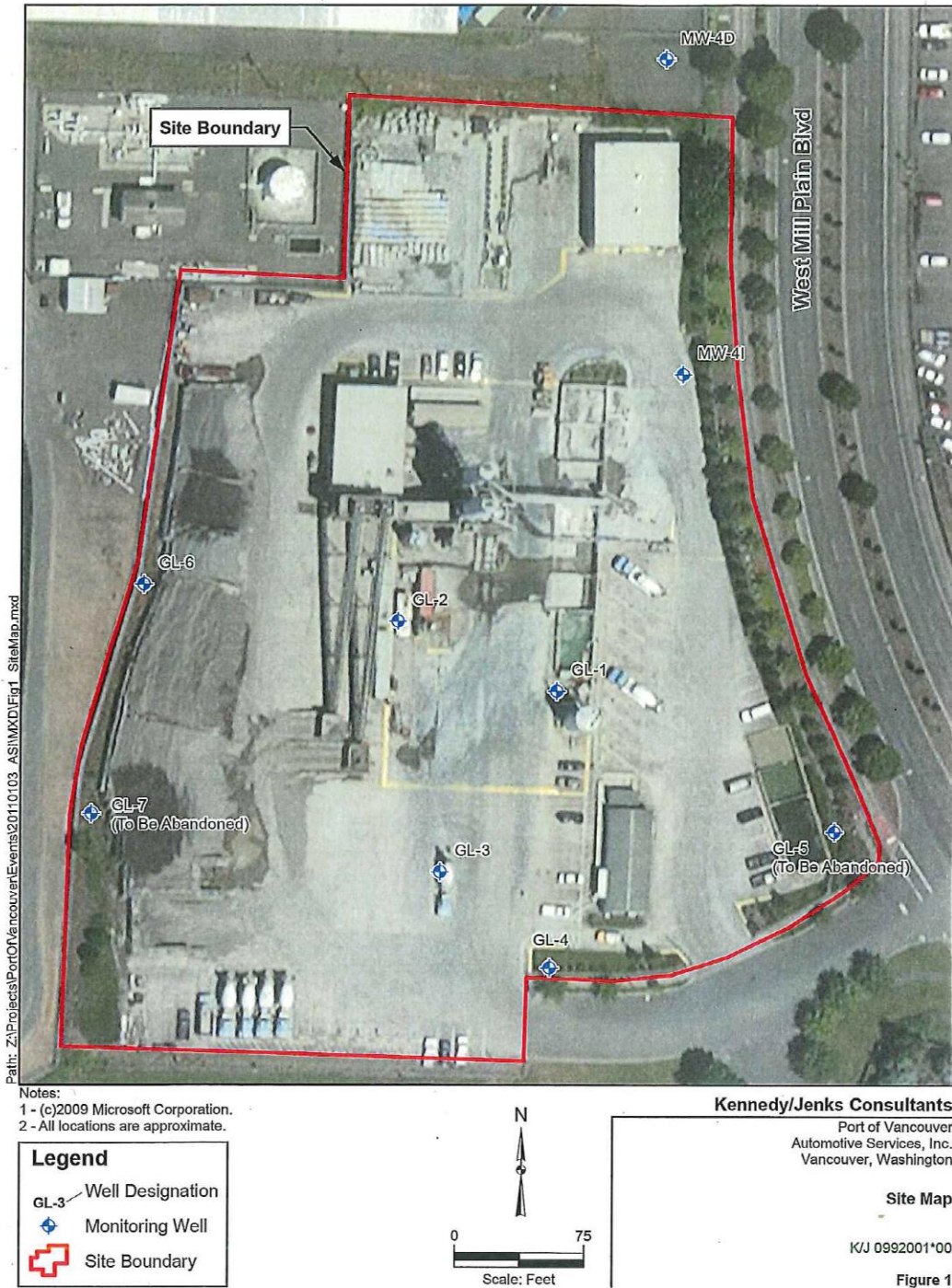
Department of Ecology. Site Visit August 28, 2019.

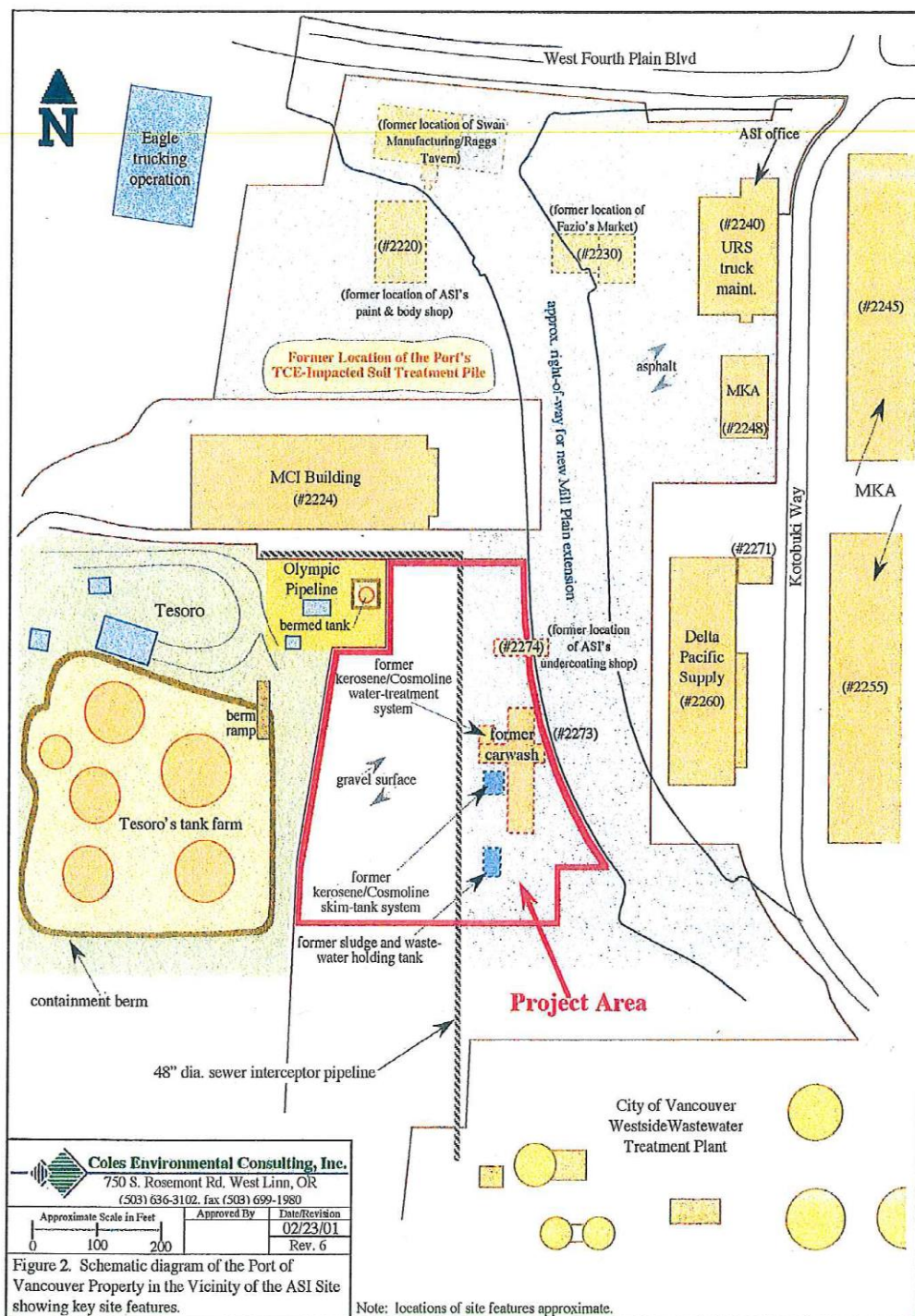
6.0 APPENDICES

6.1 Location Map

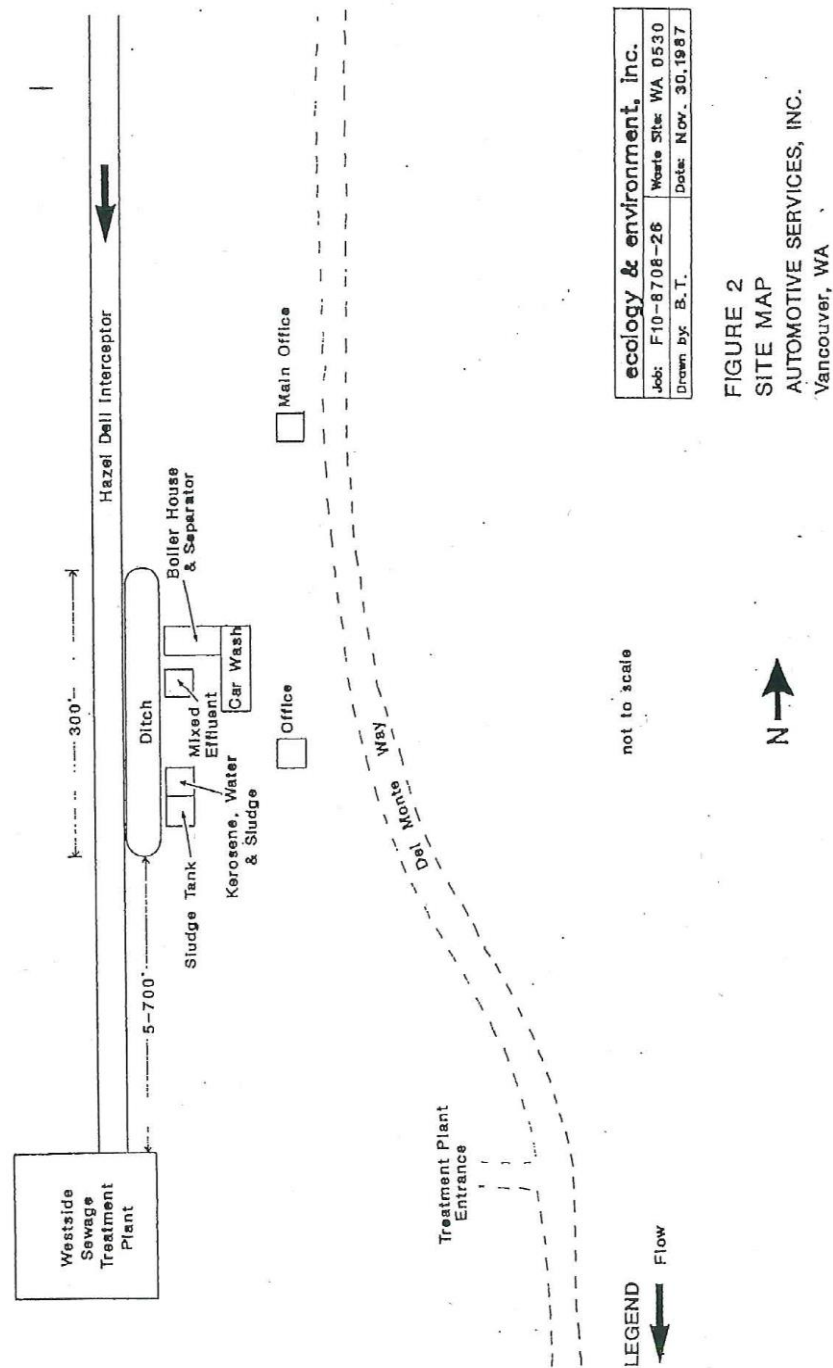


6.2 Site Plan





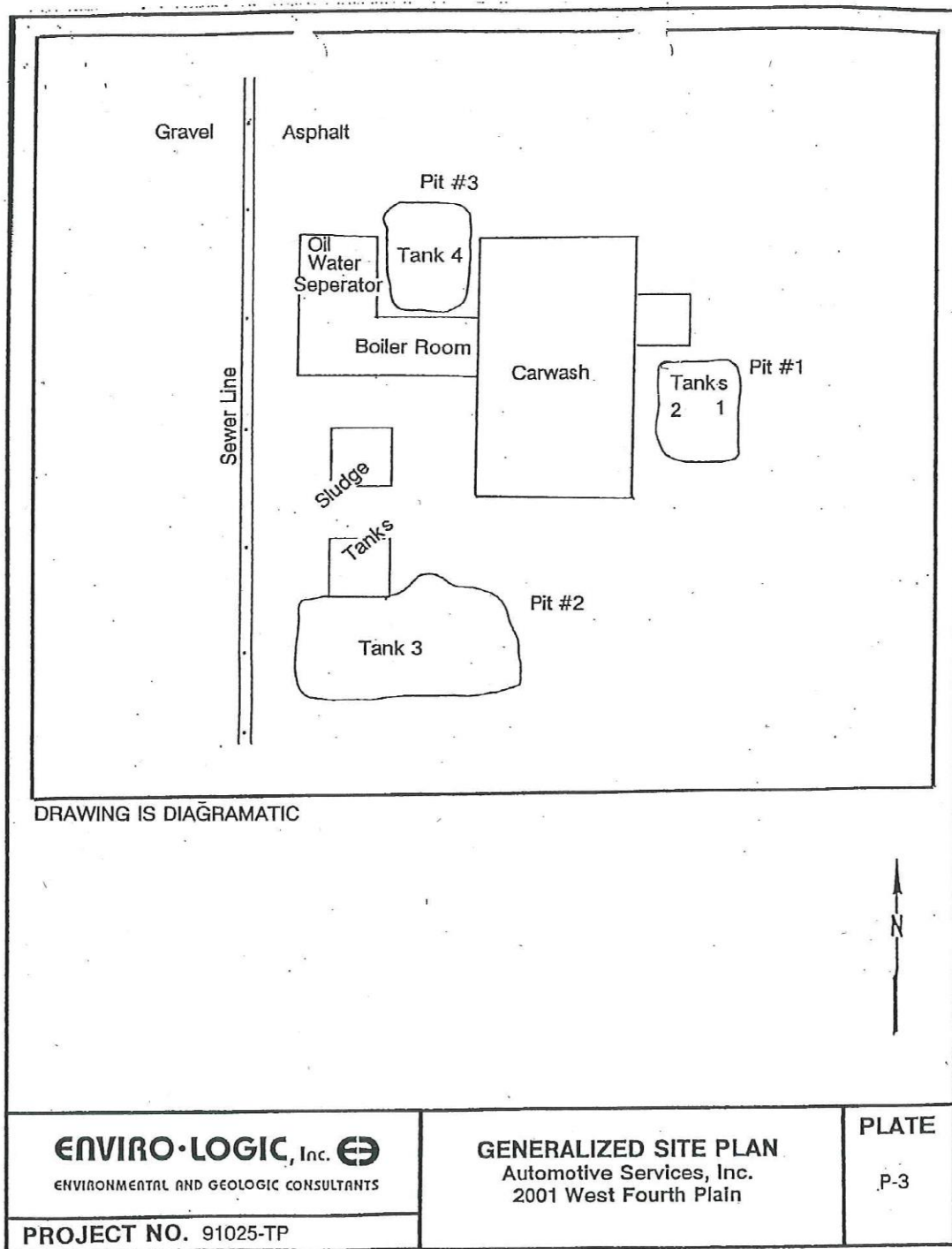
6.3 1987 – EPA’s Preliminary Site Assessment: Automotive Service Facility’s Features and Water Sample Results

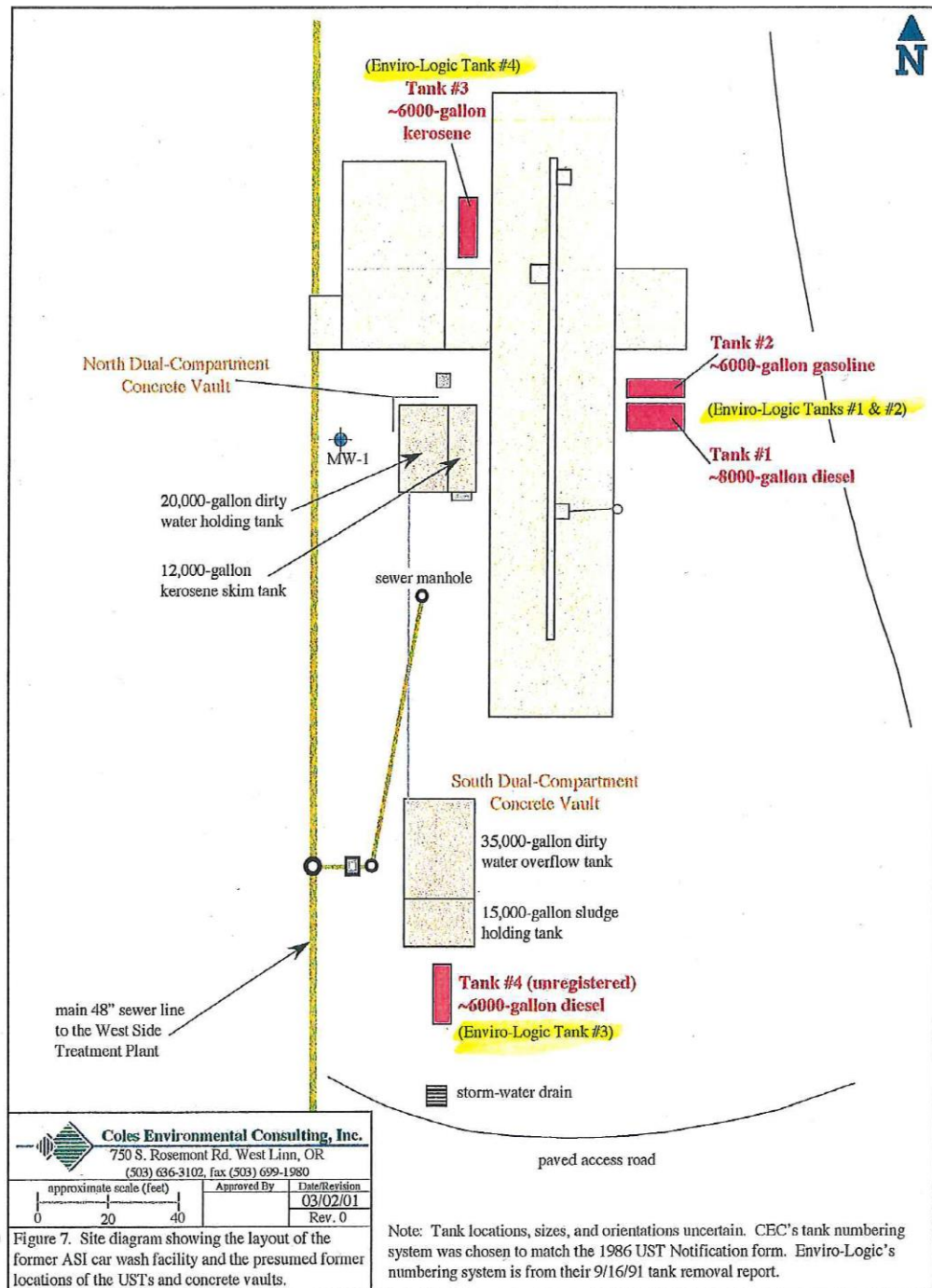


Preliminary Assessment Report
Automotive Services, Inc. TABLE 1 (2)

Sampling Date:	12/13/80	07/24/85
Arsenic (ug/l)	20	4
Barium (ug/l)	1500	less than 10
Cadmium (ug/l)	20	34.4
Chromium (ug/l)	60	115
Lead (ug/l)	200	101
Mercury (ug/l)		less than 0.05
Nickel (ug/l)	300	
Selenium (ug/l)		4
Silver (ug/l)	10	less than 0.1

6.4 1991 – Underground Storage Tanks Removal: USTs Locations, Approximate Extent of Contaminated Soil Excavation and Soil Sample Locations and Results





Limited Environmental Investigation
Automotive Services, Inc.

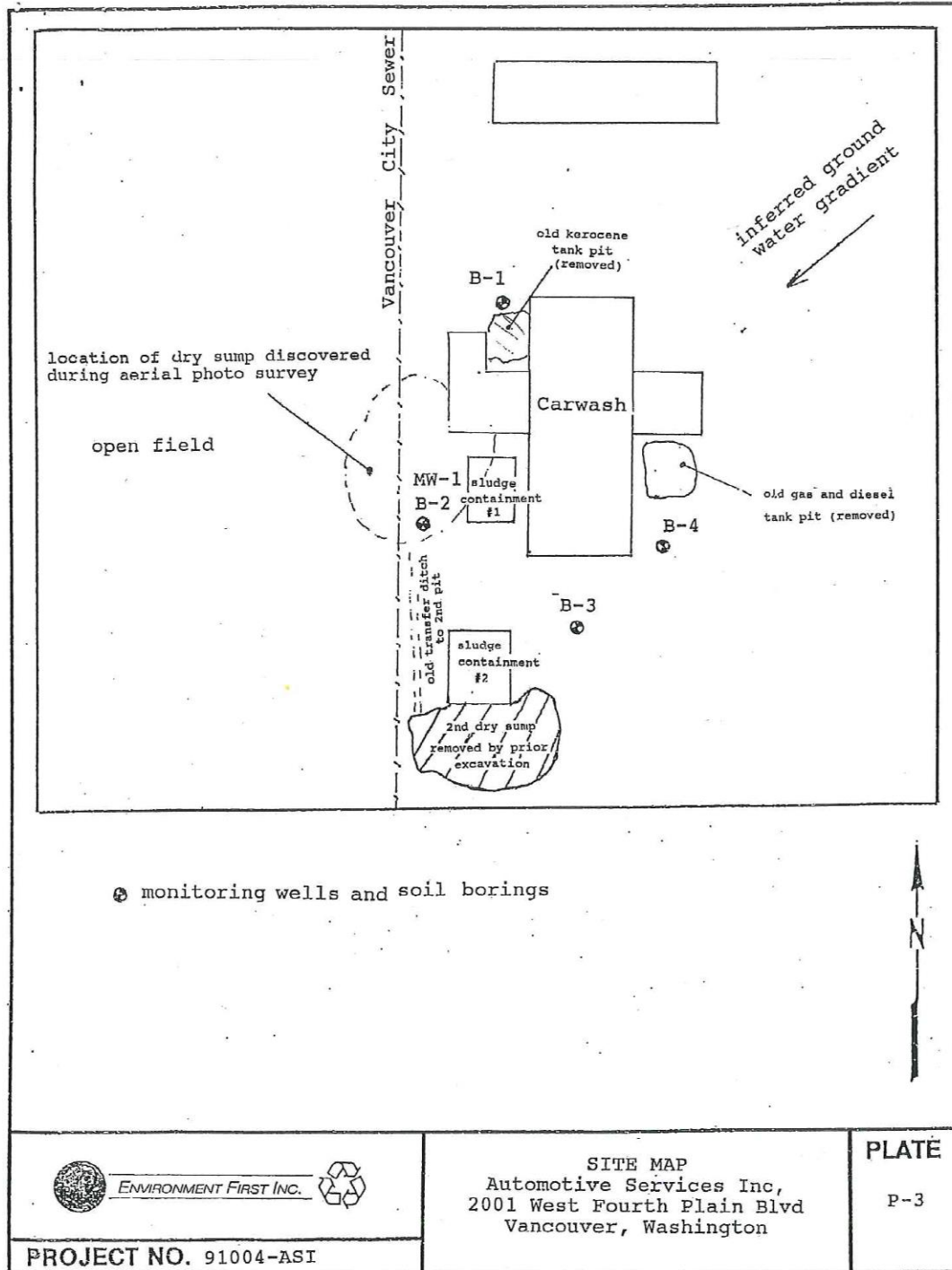
September 16, 1991
ELI No. 91025-TP

TABLE 1
RESULTS OF CHEMICAL ANALYSES ON SOIL SAMPLES
Automotive Services Inc.
Vancouver, Washington

June 19, 1991

Sample No.	TPH	B	E	T	X	Flash Point
PIT NUMBER 1						
Tank #1	11	<0.2	<0.2	<0.2	<0.2	
Tank #2	<5	<0.2	<0.2	<0.2	<0.2	
South wall	10	<0.2	<0.2	<0.2	<0.2	
North wall	6	<0.2	<0.2	<0.2	<0.2	
East wall	9	<0.2	<0.2	<0.2	<0.2	
West wall	<5	<0.2	<0.2	<0.2	<0.2	
PIT NUMBER 2						
Tank #3	32					
South wall	<5					
North wall	6					
East wall	8					
West wall	5					
PIT NUMBER 3						
Tank #4	29					
South wall	7,700					141
North wall	<5					
East wall	11					
West wall	9,600					138
Results are presented in parts per million (ppm)						
TPH: Total petroleum hydrocarbons						
<2: Results less than detection limits						
NA: Not analyzed						
Flash Point: Shown in degrees fahrenheit						

6.5 1991 and 1992 – Phase I and Phase II Site Investigations: Soil Boring Locations and Soil Sample Results

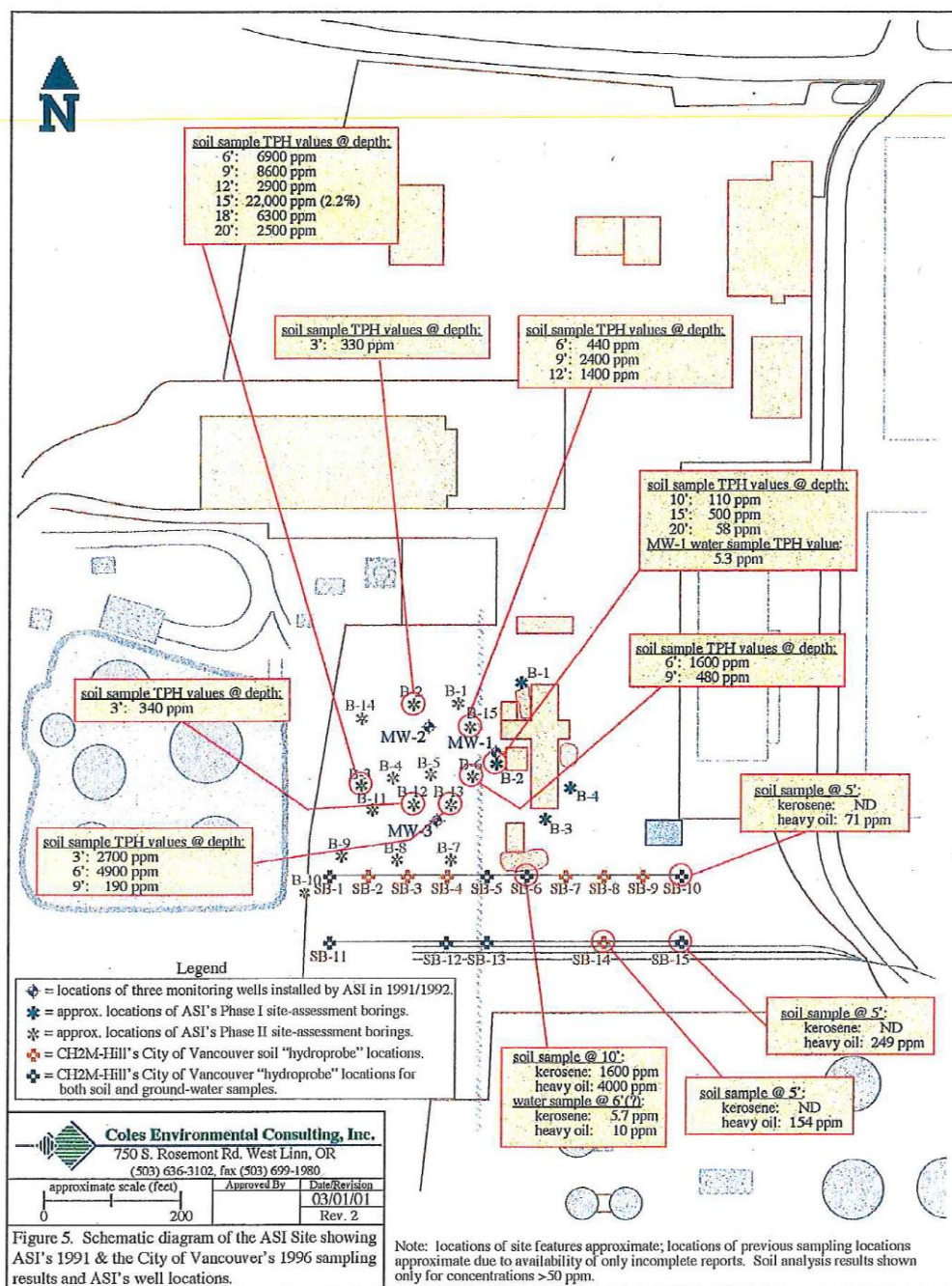


October 28, 1991
Automotive Services Inc.,

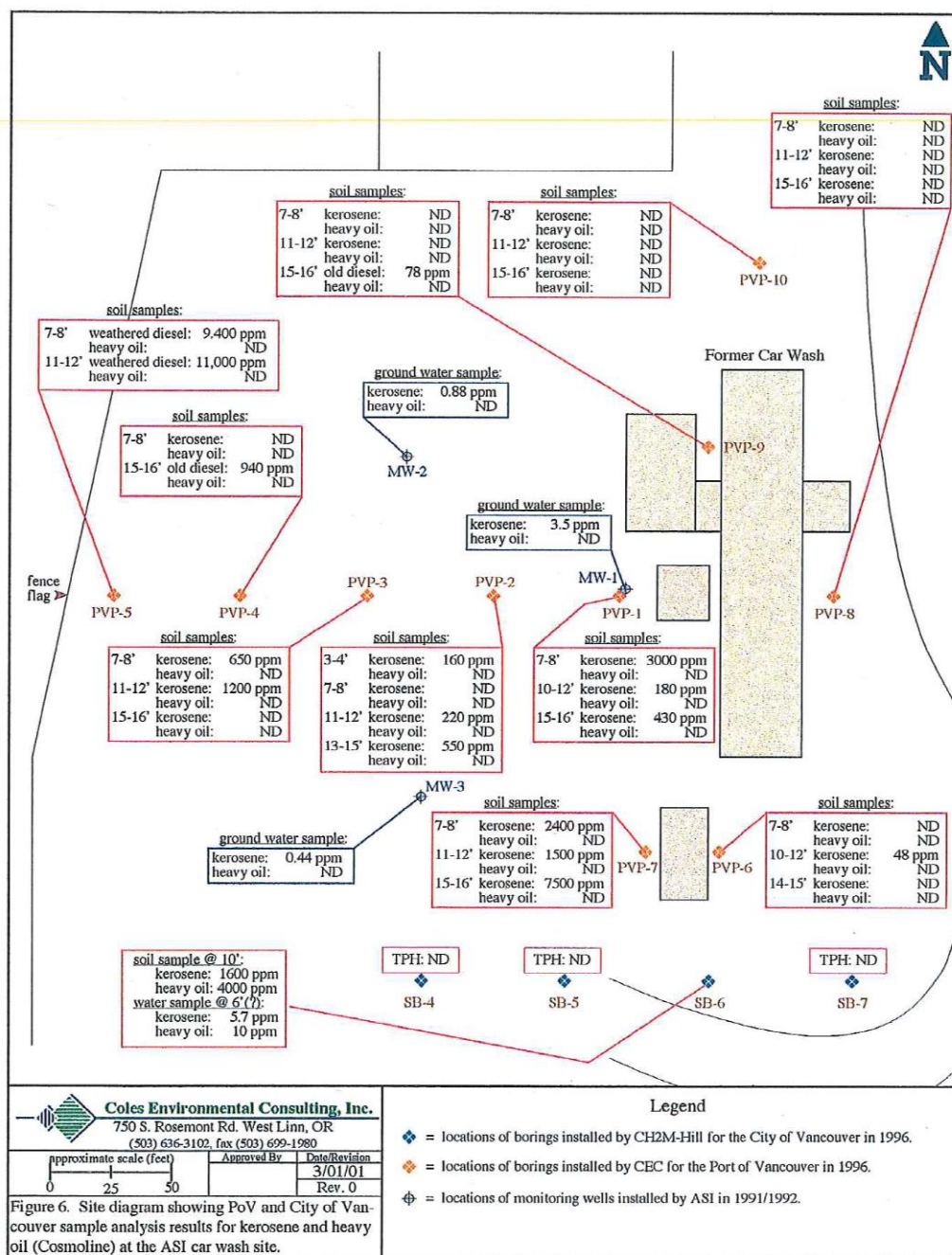
Job No. 91004-ASI
Vancouver, Washington

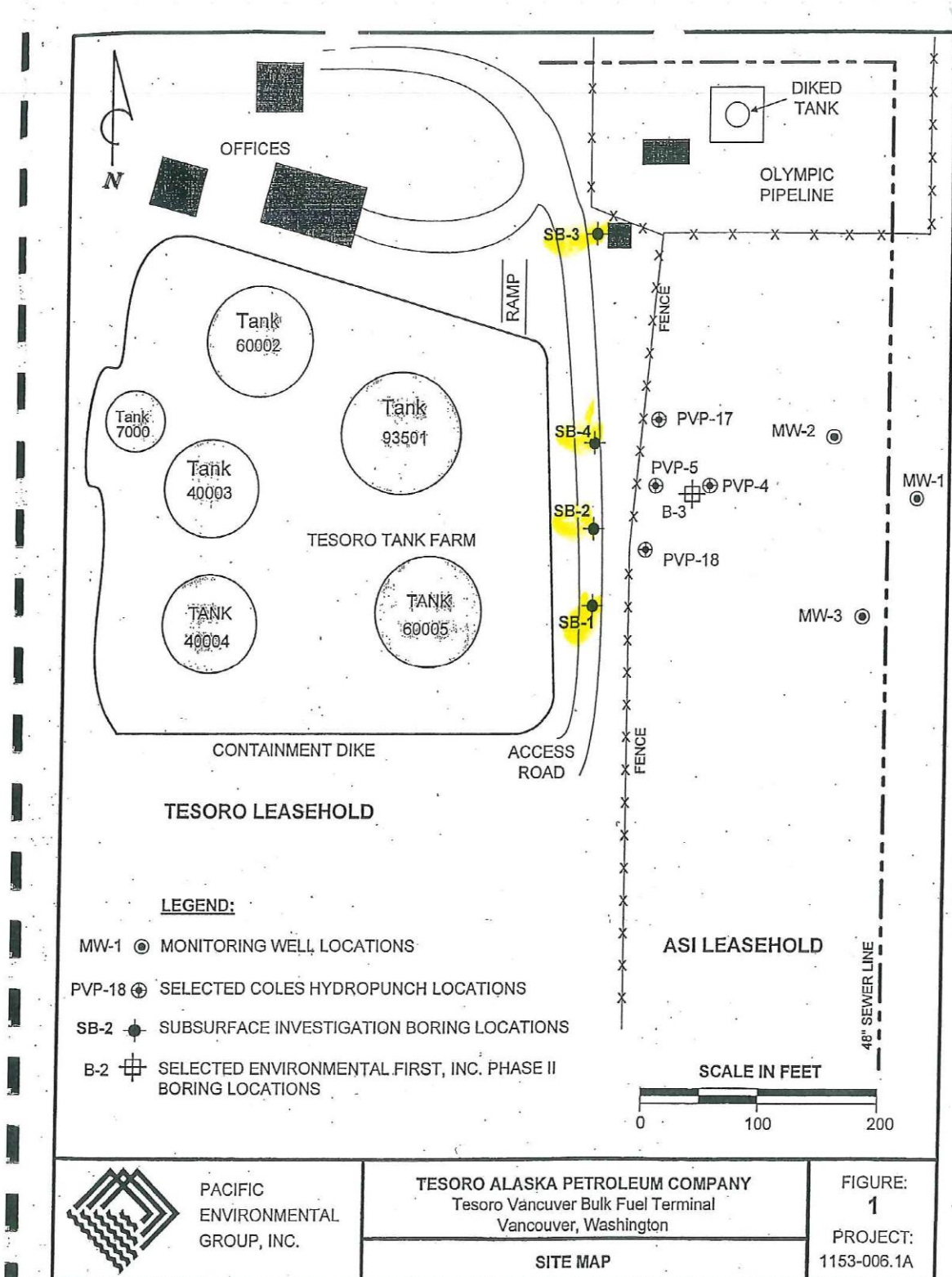
SOIL/WATER SAMPLE RESULTS at Automotive Services Inc Vancouver, Washington October 28, 1991			
soil samples	TPH	water samples	TPH
SB-1-5	16		
SB-1-10	17		
SB-1-15	20		
SB-1-20	12		
SB-2-5	10	MW-1	5.3
SB-2-10	110	*	
SB-2-15	500	*	
SB-2-20	58	*	
SB-3-5	<5		
SB-3-10	7		
SB-3-15	8		
SB-4-5	<5		
SB-4-10	<5		
SB-4-15	15		
TPH: Total Petroleum Hydrocarbons Results shown in parts per million (ppm) <: Less than detection limit S-40-B1 └─ Boring No. 1 └─ Depth └─ Soil			

6.6 1996 - CH2M HILL Subsurface Investigation: Locations of Soil Borings and Soil Sample Results

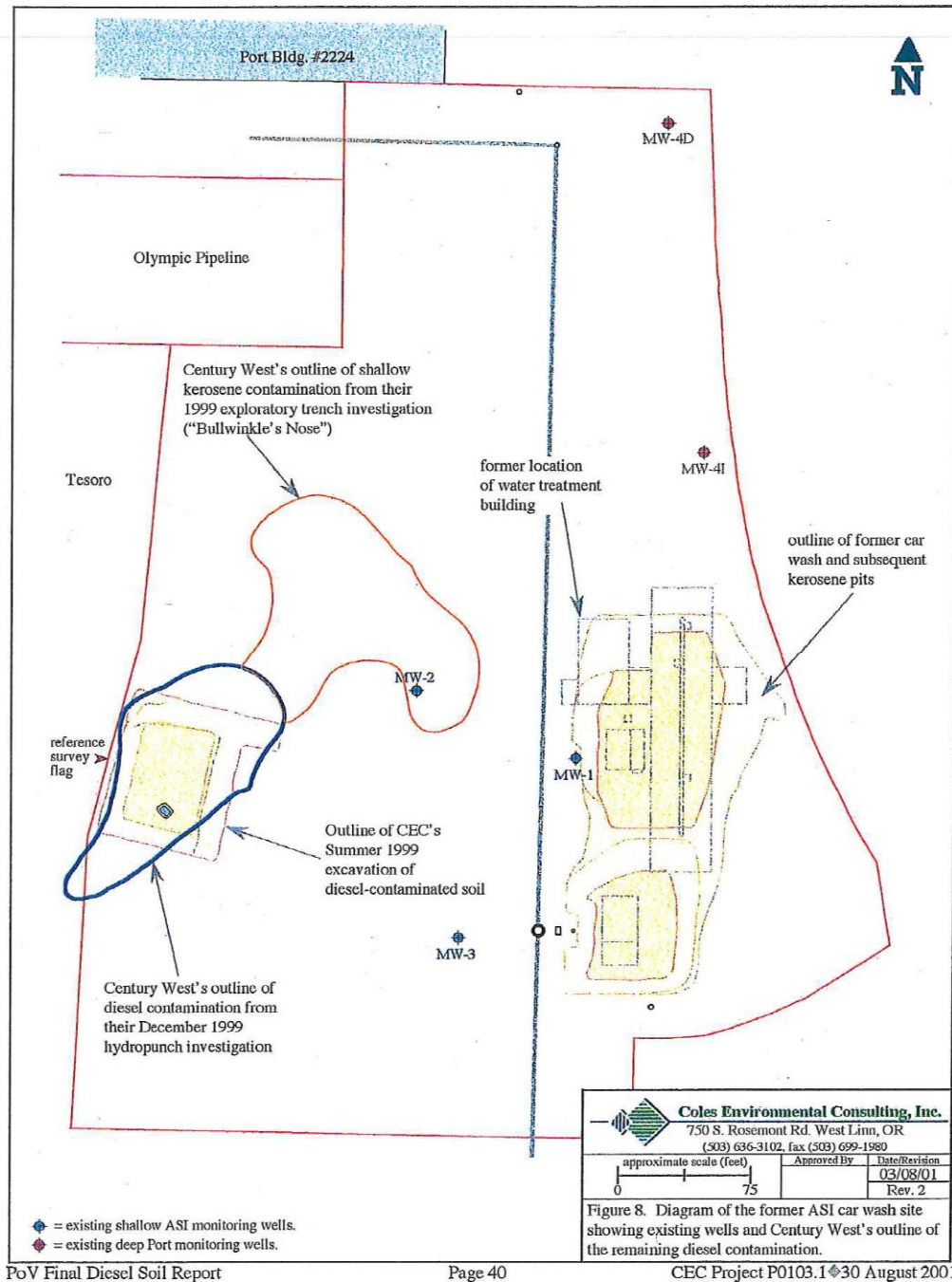


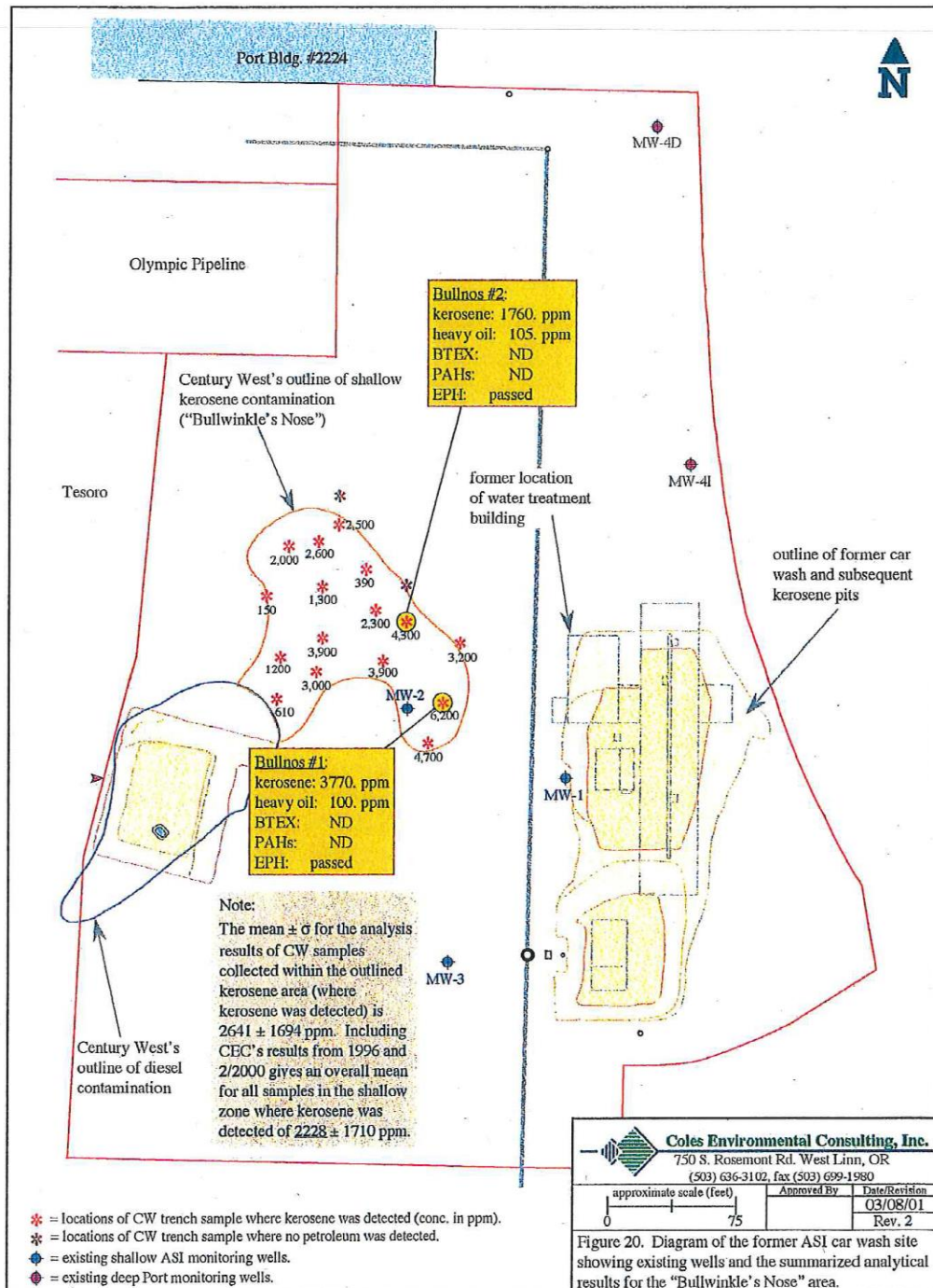
6.7 1996 and 1997 - CEC and Tesoro's Site Investigations: Locations of Soil Borings and Soil Sample Results



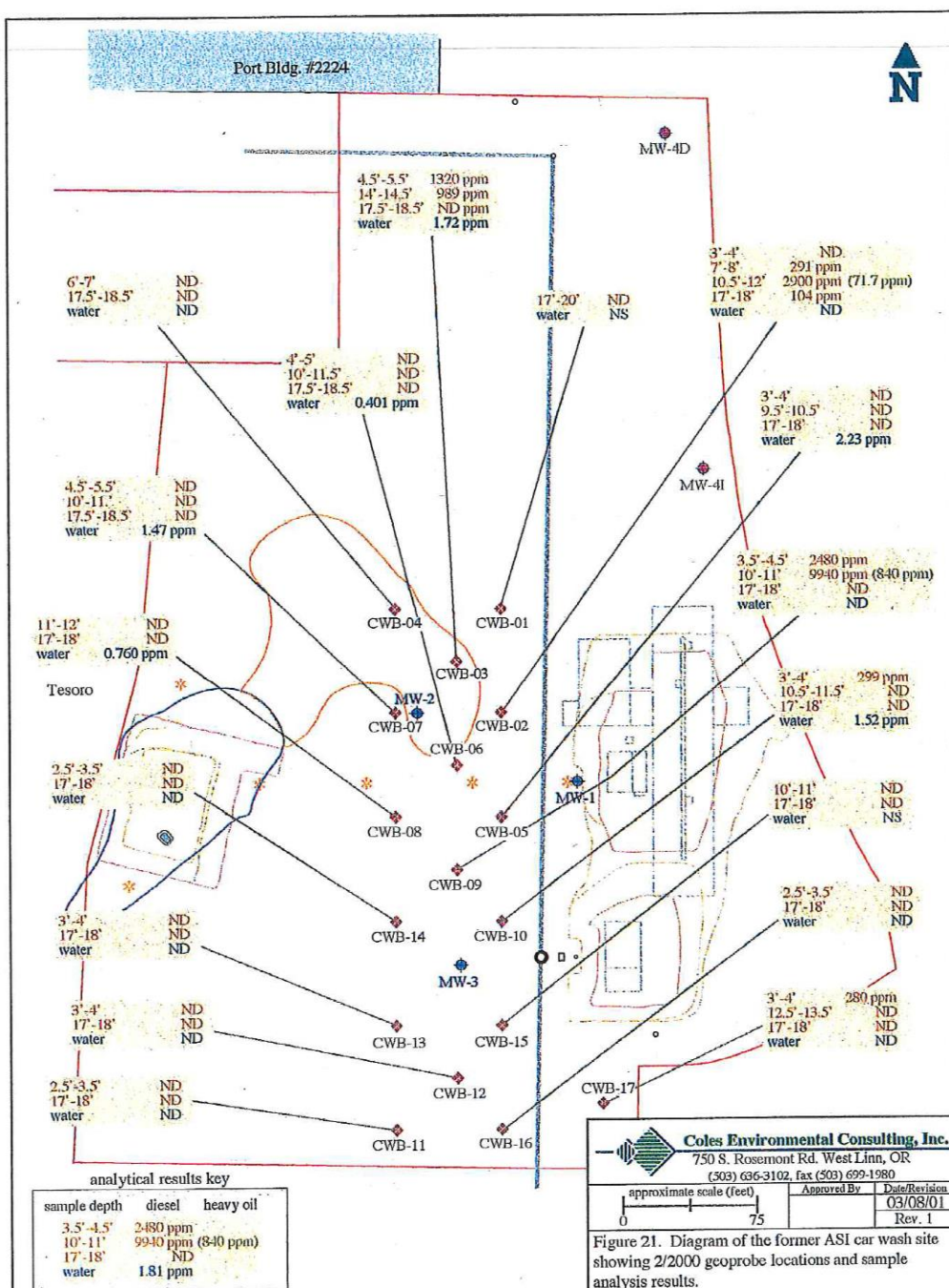


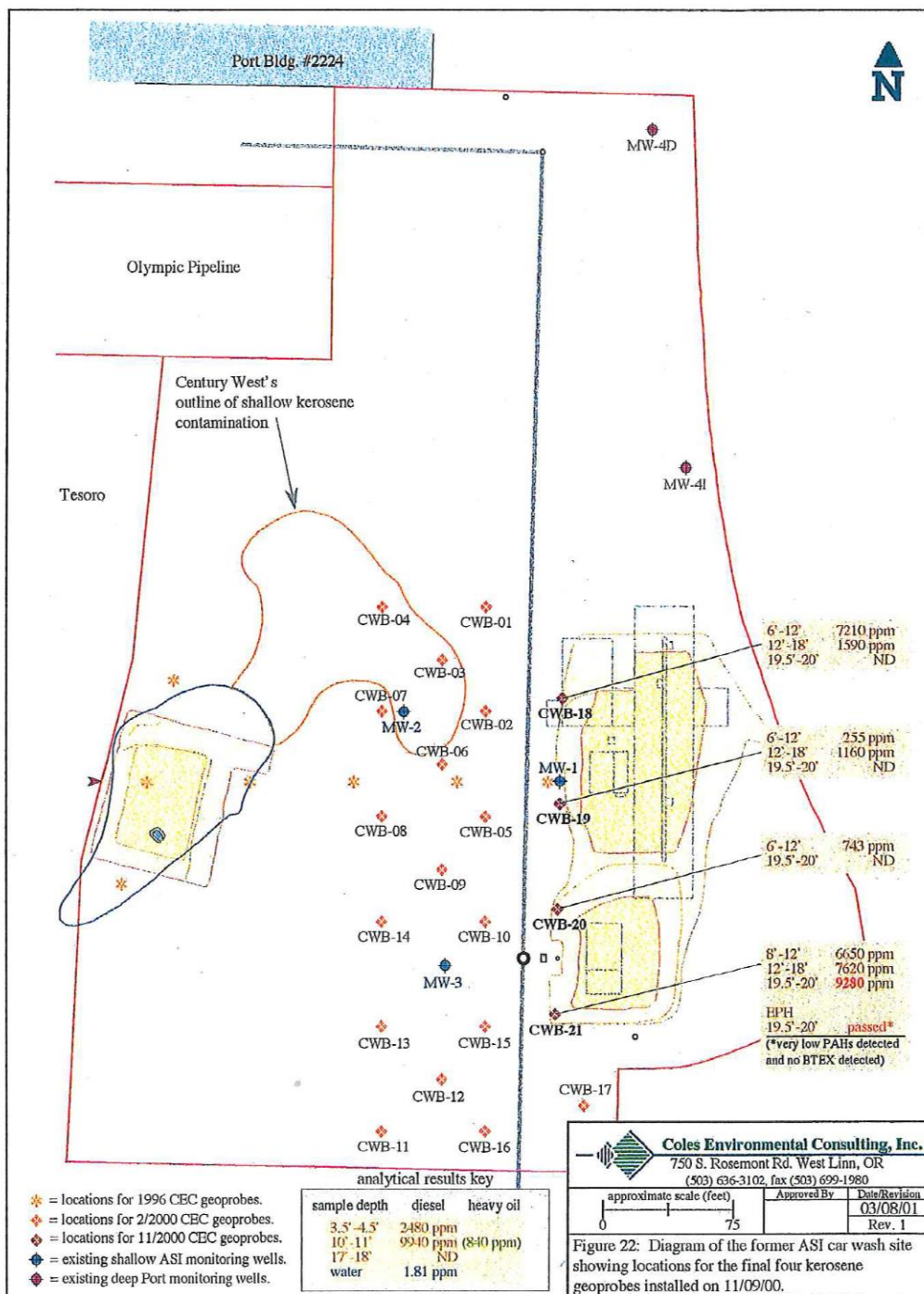
6.8 1999 - Century West's Subsurface Investigation: Soil Boring Locations and Soil Sample Results





6.9 2000 - West and East Sewer Line Investigations: Soil Boring Locations and Soil Sample Results





6.10 Pre-Remediation Groundwater Monitoring: Locations of Three Monitoring Wells (MW-1, MW-2 and MW-3) and Groundwater Sample Results

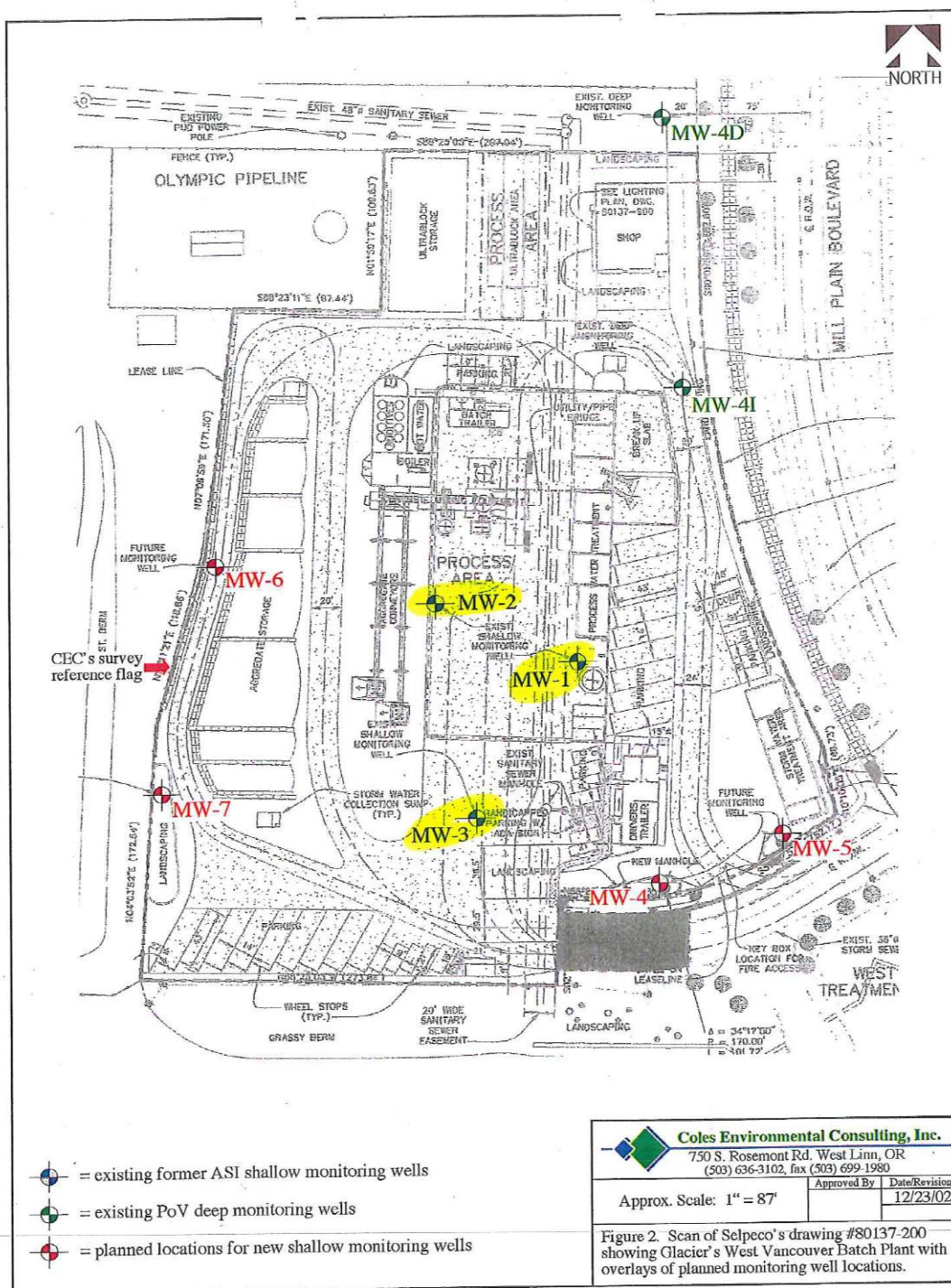


Table 4. Ground-water analysis results for samples collected from ASI monitoring wells.

date Monitoring Well	WTPH-D Ex mg/l (ppm)		8260 µg/l (ppb)					8270
	diesel-related	heavy-oil-related	sec-butyl/benzene	ethyl/benzene	isopropyl/benzene	n-propyl/benzene	benzene	all analytes
7/09/96^a								
MW-1	3.5	ND	19.	3.3	47.	86.	ND	ND
MW-2	0.88	ND	ND	ND	ND	ND	ND	ND
MW-3	0.44	ND	ND	ND	ND	ND	ND	ND
Trip Blank	ND	ND	ND	ND	ND	ND	ND	ND
7/22/97								
MW-1 ^b	1.93	ND	12.8	ND	29.	57.6	ND	NA
MW-2	0.41	ND	ND	ND	ND	ND	ND	NA
MW-3	0.34	ND	ND	ND	ND	ND	ND	NA
Trip Blank	ND	ND	ND	ND	ND	ND	ND	NA
11/20/97								
MW-1	3.26	ND	11.9	ND	ND	73.8	ND	NA
MW-2	0.97	ND	ND	ND	ND	ND	ND	NA
MW-3	ND	ND	ND	ND	ND	ND	ND	NA
3/26/99								
MW-1 ^c	5.90	ND	20.1	ND	60.6	117.	ND	NA
MW-2	0.64	ND	ND	ND	ND	ND	ND	NA
MW-3	ND	ND	ND	ND	ND	ND	ND	NA

ND = not detected above analytical detection limit. NA = not analyzed.

^aData from CEC (1996), laboratory analysis reports for others in Appendix J.

^bAlso contained 7.70 ppb n-butyl benzene.

^cAlso contained 9.75 ppb n-butyl benzene.

6.11 Post-Remediation Groundwater Investigation: Locations of Groundwater Monitoring Wells and Groundwater Sample Results

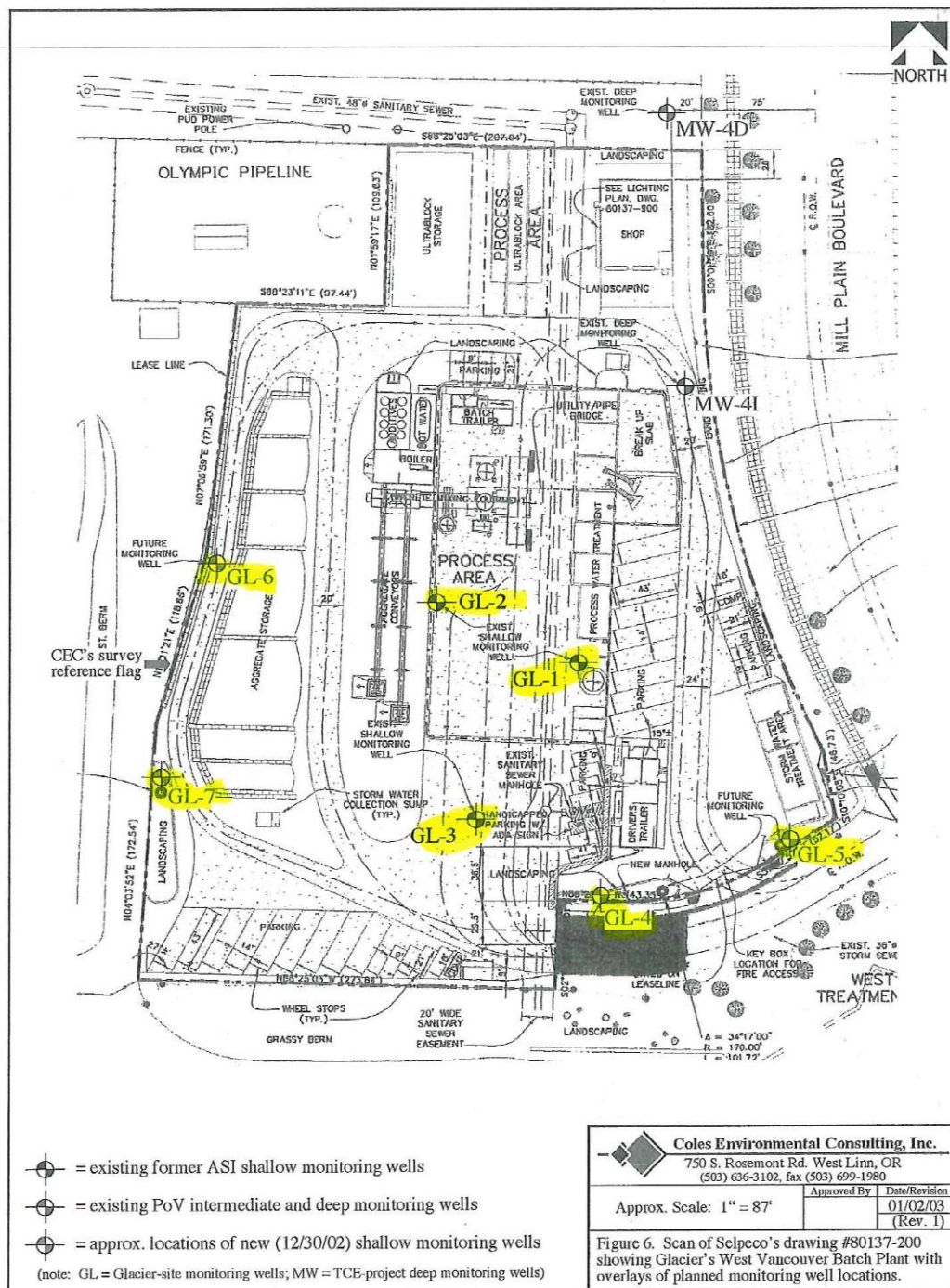


Table 4: Groundwater Monitoring Results, Port of Vancouver/Glacier Site (former ASI Site), page 2 of 2.

Date/Well ID	field measurements						µg/l							
	groundwater elevation (ft amsl)	temperature (°F)	conductivity (µS/cm)	pH	Bh (mV)	dissolved oxygen (mg/l)	diesel-range TPH	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	ethylbenzene	isopropylbenzene	n-propylbenzene	
7/24/03								No Samples Collected, Well Damaged						
GL-1	4.16	56.2	916	6.62	oor ^b	0.6	0.423	ND	14.6	1.25	1.83	34.6	57.2	
GL-2	4.19													
GL-3	4.18	55.5	633	6.00	150	4.1	ND	ND	ND	ND	ND	ND	ND	
GL-4	4.16	56.1	342	7.35	20	2.0	ND	ND	ND	ND	ND	ND	ND	
GL-5	4.21	56.5	1,152	7.03	95	2.0	ND	ND	ND	ND	ND	ND	ND	
GL-6	4.21	53.4	59	6.47	145	7.2	ND	ND	ND	ND	ND	ND	ND	
GL-7	4.27	56.4	447	6.50	120	4.5	ND	ND	ND	ND	ND	ND	ND	
10/15/03														
GL-1	3.66	56.3	714	6.58	oor ^b	0.4	0.28	NA	NA	NA	NA	NA	NA	
GL-2	3.68	56.0	595	6.49	175	0.9	ND	ND	ND	ND	ND	ND	ND	
GL-3	3.69	56.4	1,016	5.84	190	4.0	ND	NA	NA	NA	NA	NA	NA	
GL-4	3.67	56.3	456	6.50	115	0.8	ND	NA	NA	NA	NA	NA	NA	
GL-5	3.72	55.9	1,024	6.85	225	1.4	ND	NA	NA	NA	NA	NA	NA	
GL-6	3.70	54.6	73	6.08	220	6.8	ND	NA	NA	NA	NA	NA	NA	
GL-7	3.75	55.5	472	6.27	250	6.1	ND	NA	NA	NA	NA	NA	NA	
reference concentrations							0.500	240	240	240	1,300	660	240	

^aDetection limit for diesel is 0.25 mg/l; ^boor = out of range (too low to measure). Note: dissolved oxygen concentration in water equilibrated with the atmosphere at 56°F is approx. 11 mg/l. Reference values for diesel-range hydrocarbons and ethylbenzene are from MTC Method A (Table 720.1) while values for the other aliphatic-substituted aromatic compounds are from the Region 9 PRGs (revised 10/20/04). Note that 8260 VOC results only show detected analytes of the 65 compounds analyzed by this method.

Table 4: Groundwater Monitoring Results, Port of Vancouver/Glacier Site (former ASI Site), page 1 of 2.

Date/Well ID	field measurements						mg/l ^a	µg/l						
	groundwater elevation (ft amsl)	temperature (°F)	conductivity (µS/cm)	pH	Eh (mV)	dissolved oxygen (mg/l)	diesel-range TPH	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	ethylbenzene	isopropylbenzene	n-propylbenzene	
1/16/03														
GL-1	5.40	55.9	835	7.07	oor ^b	0.4	0.611	7.17	15.7	1.22	3.74	45.3	99.2	
GL-2	5.41	56.2	614	7.03	140	1.7	ND	ND	ND	ND	ND	ND	ND	
GL-3	5.40	50.2	136	7.07	125	6.0	ND	ND	ND	ND	ND	ND	ND	
GL-4	5.39	55.9	304	6.88	45	1.3	0.280	ND	ND	ND	ND	ND	ND	
GL-5	5.44	56.5	1,605	7.32	165	0.6	ND	ND	ND	ND	ND	ND	ND	
GL-6	5.87	54.5	106	6.95	180	5.9	ND	ND	ND	ND	ND	ND	ND	
GL-7	5.57	56.0	380	7.03	175	6.0	ND	ND	ND	ND	ND	ND	ND	
4/17/03														
GL-1	8.76	55.0	256	6.46	-60	0.3	ND	NA	NA	NA	NA	NA	NA	
GL-2							No Samples Collected, Well Damaged							
GL-3	8.75	53.5	187	6.35	140	0.9	ND	NA	NA	NA	NA	NA	NA	
GL-4	8.73	56.0	330	6.74	170	2.0	ND	NA	NA	NA	NA	NA	NA	
GL-5	8.68	56.0	1,437	6.79	140	0.8	ND	NA	NA	NA	NA	NA	NA	
GL-6	8.67	52.9	66	6.06	160	NA	ND	NA	NA	NA	NA	NA	NA	
GL-7	8.76	55.6	295	6.35	165	6.0	ND	NA	NA	NA	NA	NA	NA	
reference concentrations							0.500	240	240	240	1,300	660	240	

^aDetection limit for diesel is 0.25 mg/l; ^boor = out of range (too low to measure). Note: dissolved oxygen concentration in water equilibrated with the atmosphere at 56°F is approx. 11 mg/l. Reference values for diesel-range hydrocarbons and ethylbenzene are from MTC Method A (Table 720.1) while values for the other aliphatic-substituted aromatic compounds are from the Region 9 PRGs (revised 10/20/04). Note that 8260 VOC results only show detected analytes of the 65 compounds analyzed by this method.

6.12 Concrete Vaults and Car-Wash Building Removal: Soil Sampling Locations and Soil Sample Results

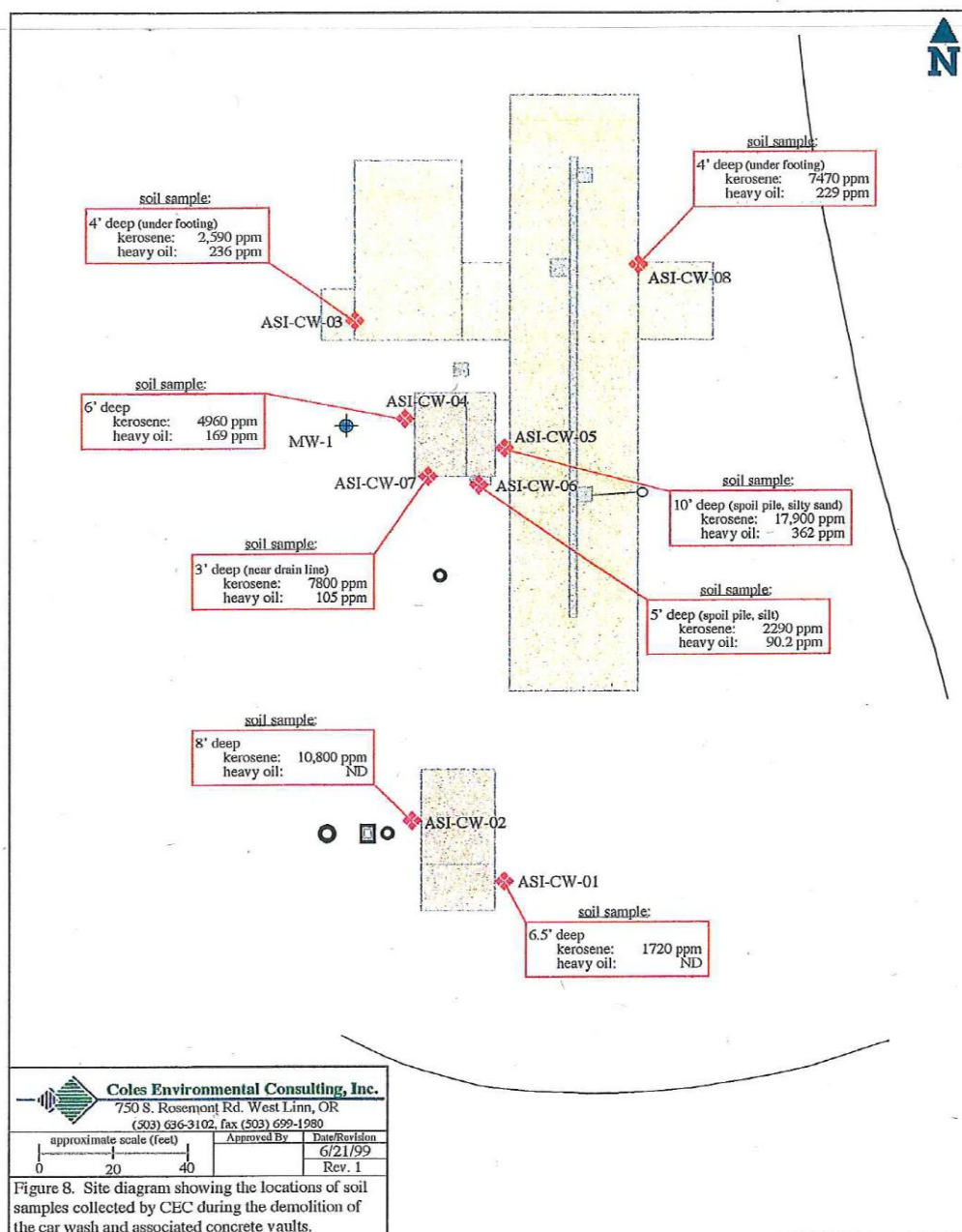


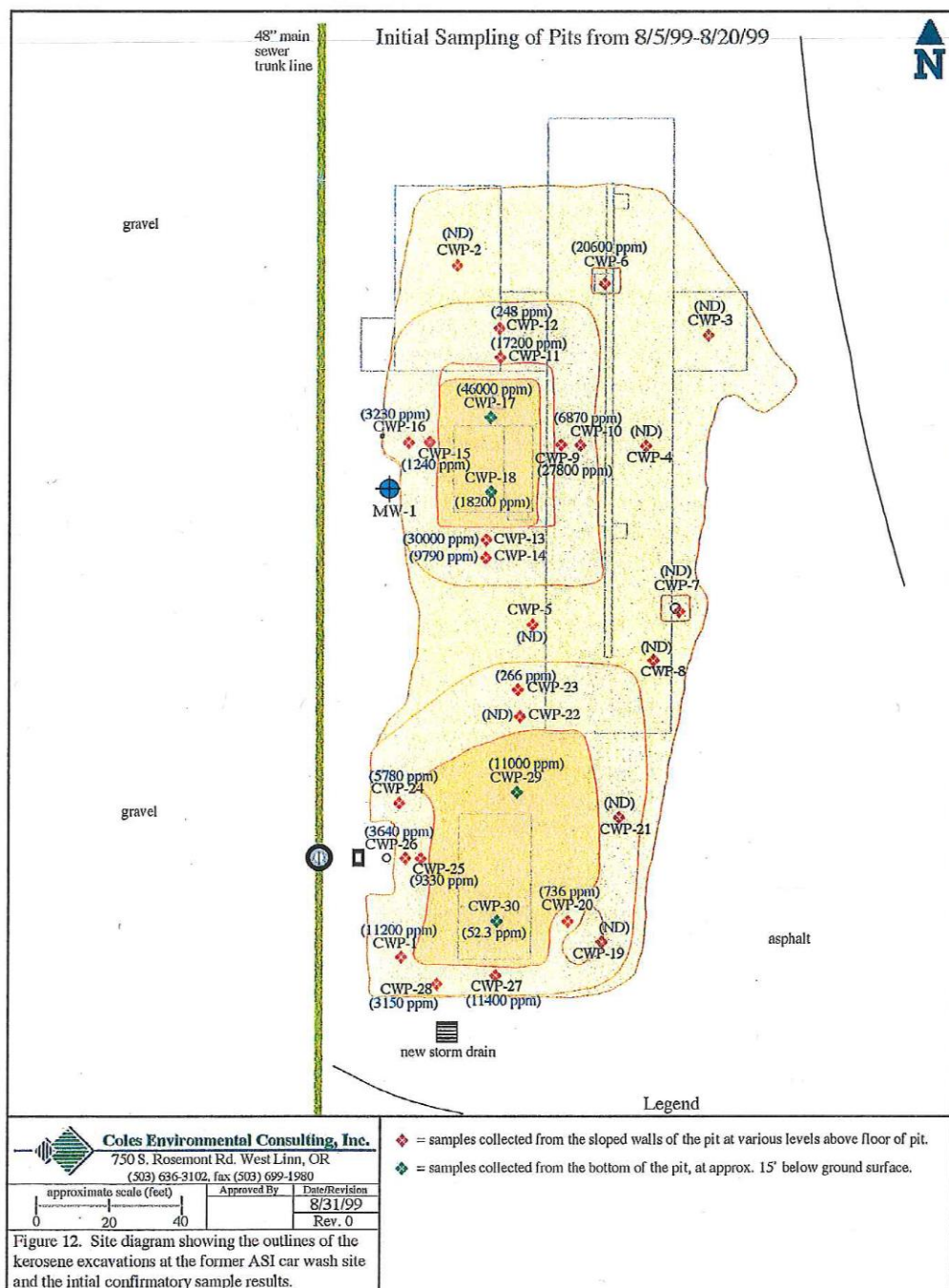
Table 2: Summary table of soil and ground-water analysis results collected during (and immediately after) the ASI car wash demolition.

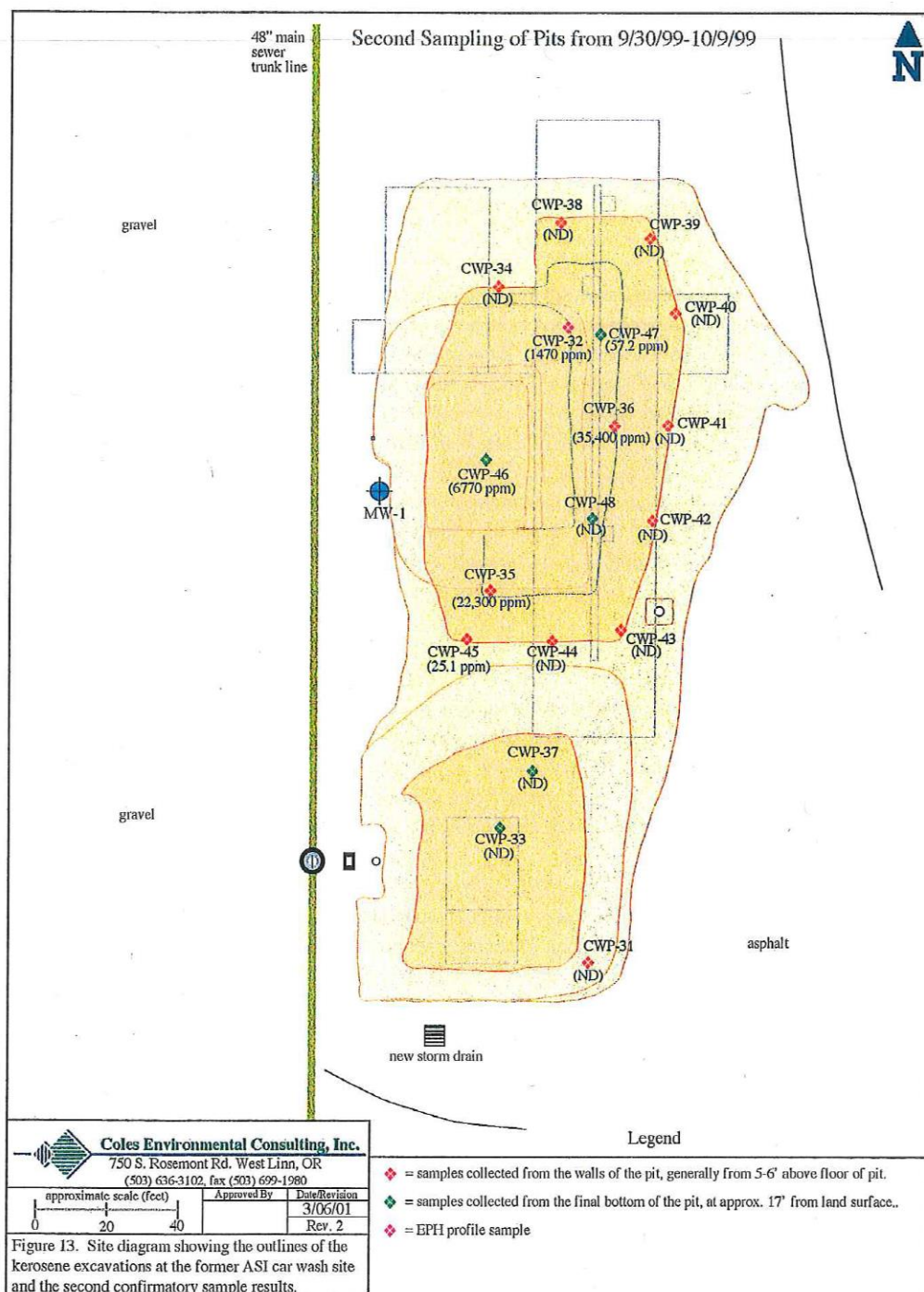
Sampling Date Sample Designation	Sample description/field observations	NWTPH-Dx mg/kg (ppm)		Method 8260B $\mu\text{g/kg}$ (ppb)					
		diesel range*	heavy-oil range	sec-butylbenzene	n-propylbenzene	n-butylbenzene	isopropylbenzene	ethylbenzene	naphthalene
1/28/99-2/5/99	Soil Samples								
ASI-CW-01	Soil sample from the east side of the south vault at a depth of 6.5'	1720	ND	142	475	ND	ND	ND	ND
ASI-CW-02	Soil sample from the west side of the south vault at a depth of 8'	10,800	ND	NA	NA	NA	NA	NA	NA
ASI-CW-03	Soil from under footing-SW corner of boiler room; black, kerosene odor	2590	236	NA	NA	NA	NA	NA	NA
ASI-CW-04	Gray sand against northern vault's west wall at a depth of 6'	4960	169	NA	NA	NA	NA	NA	NA
ASI-CW-05	Gray spoil pile soil: excavated 10' deep--along east wall, northern vault	17,900	362	9190	36,800	18,900	14,000	2490	ND
ASI-CW-06	Gray spoil pile soil: excavated 5' deep--SE corner of northern vault	2290	90.2	NA	NA	NA	NA	NA	NA
ASI-CW-07	Soil near sludge-laden northern vault drain pipe, 3' deep, south wall of pit	7800	105	3090	16,200	5350	6230	ND	1110
ASI-CW-08	Sand from under footing, 4' deep, NW corner of office/tunnel walls	7470	229	NA	NA	NA	NA	NA	NA
3/26/99	Water Samples	mg/l (ppm)	$\mu\text{g/l}$ (ppb)						
ASI S. Pit**	Grab sample of water from south vault excavation pit	1.28	ND	ND	ND	ND	ND	ND	ND
ASI N. Pit	Grab sample of water from north vault excavation pit	3.90	ND	ND	ND	ND	ND	ND	ND
MW-1	Groundwater sample from MW-1, after standard purge	5.90	ND	20.1	117	9.75	60.6	ND	ND
MW-2	Groundwater sample from MW-2, after standard purge	0.643	ND	NA	NA	NA	NA	NA	NA
MW-3	Groundwater sample from MW-3, after standard purge	ND	ND	NA	NA	NA	NA	NA	NA

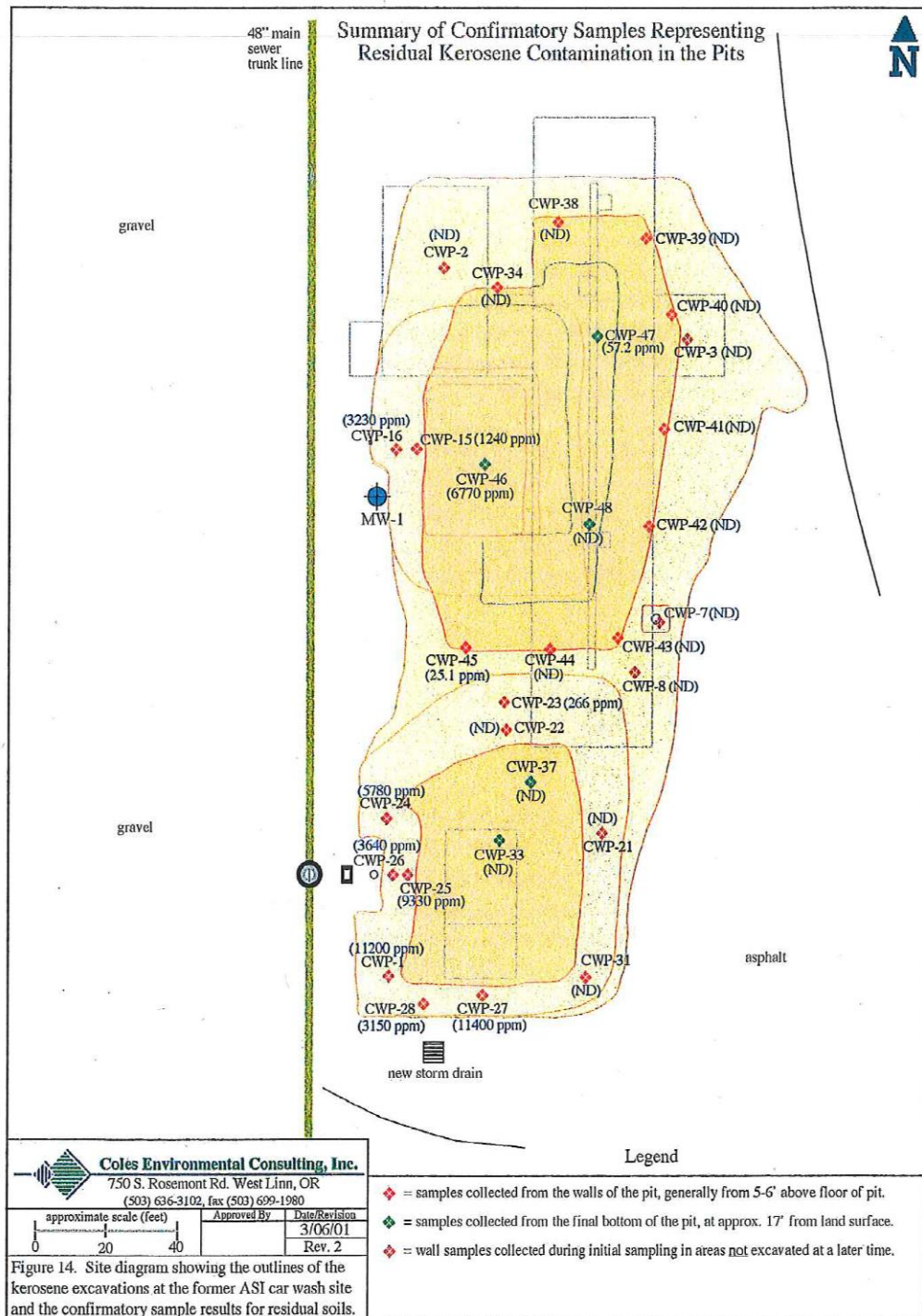
ND = not detected; NA = not analyzed; *diesel range hydrocarbons determined by NCA to be kerosene; **8.82 $\mu\text{g/l}$ 1,1,1-trichloroethane was detected in this sample. Unless later samples show its presence, it is assumed to be an anomaly. For comparison, the Federal Drinking Water Act Maximum Concentration Level for this compound is 200 $\mu\text{g/L}$.

CEC/4 May 1999

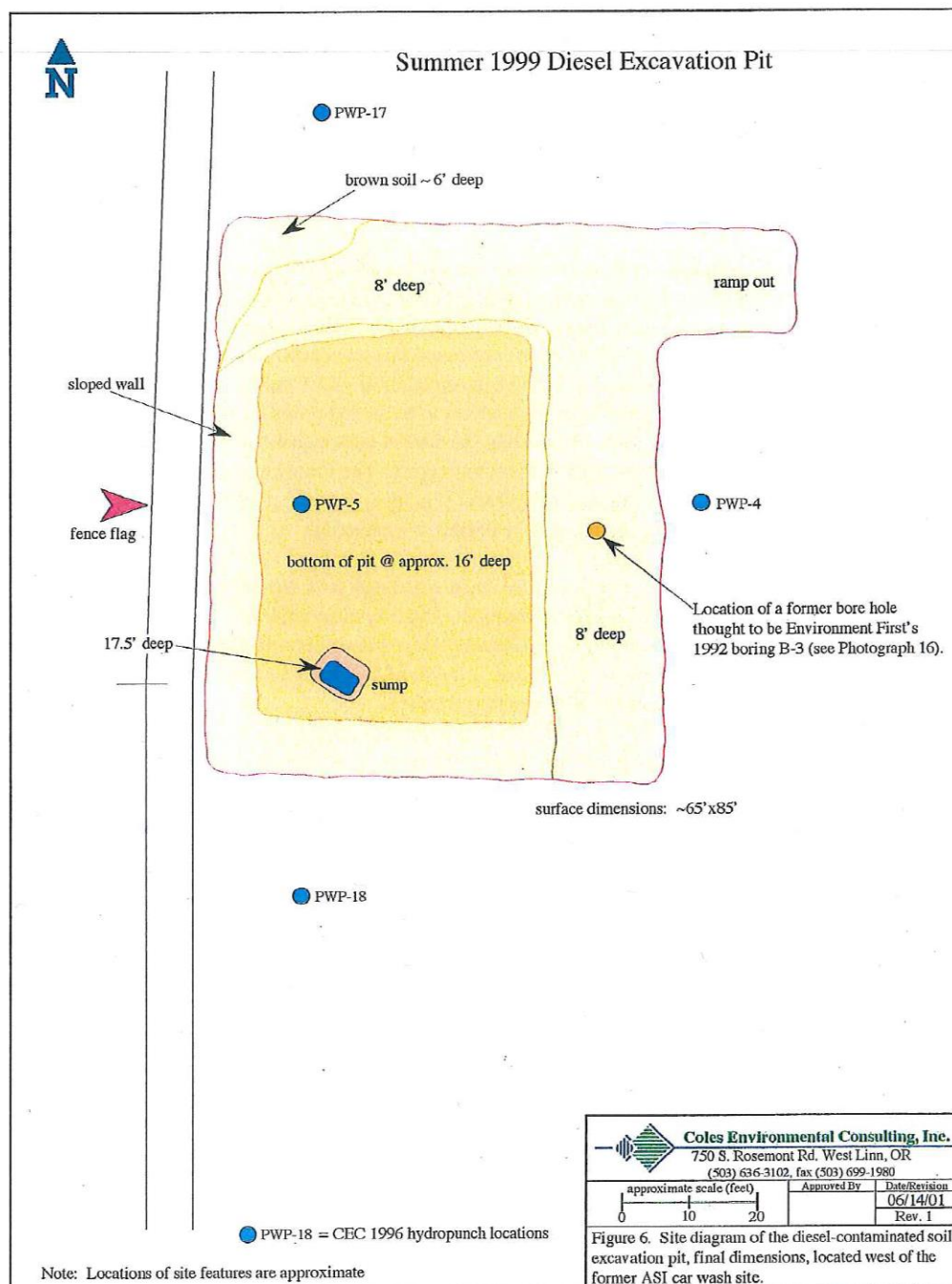
6.13 July 1999 – Initial Excavation: Extent of Kerosene Contaminated Soil Excavation, Locations of Confirmatory Soil Samples and Results

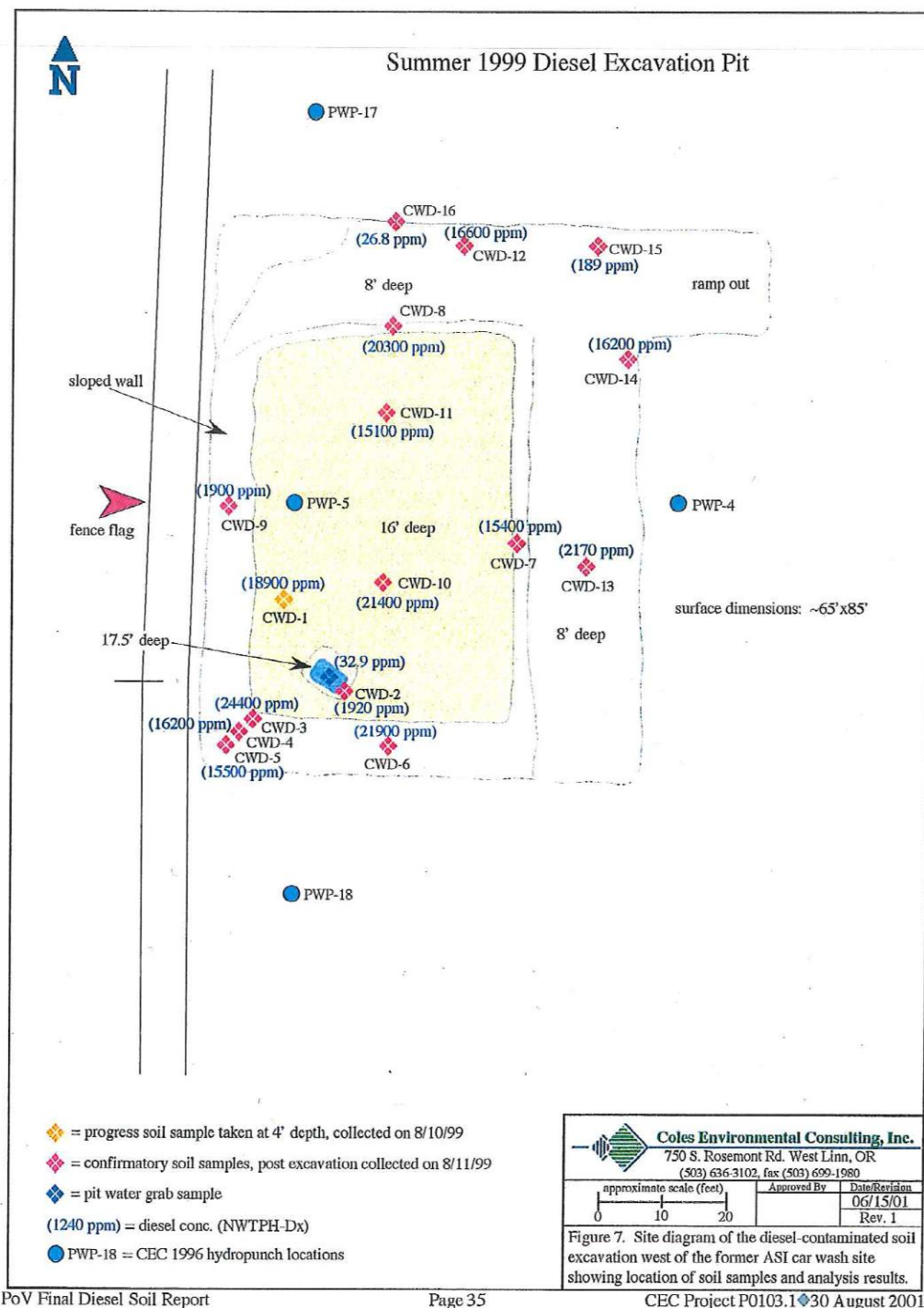




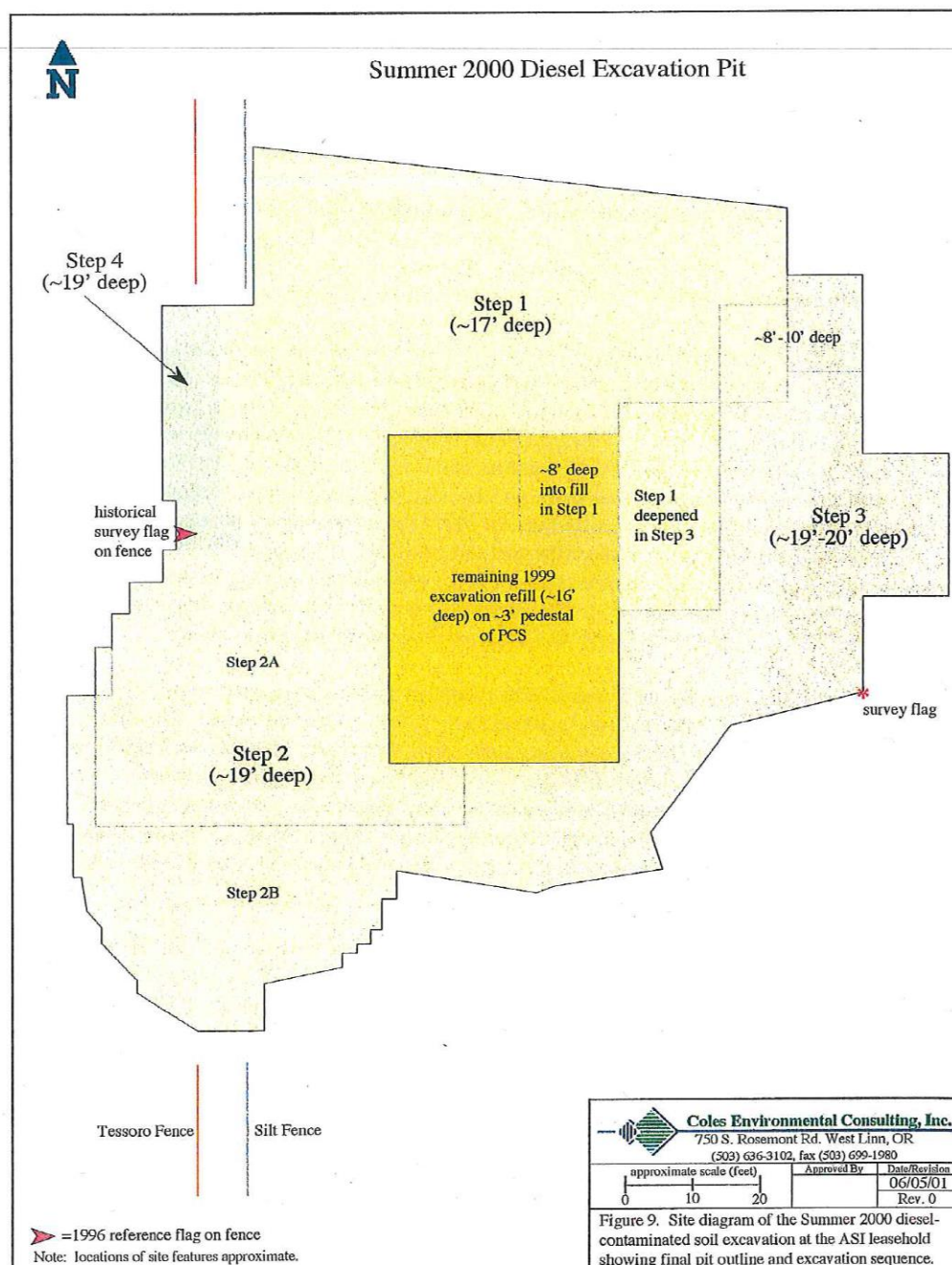


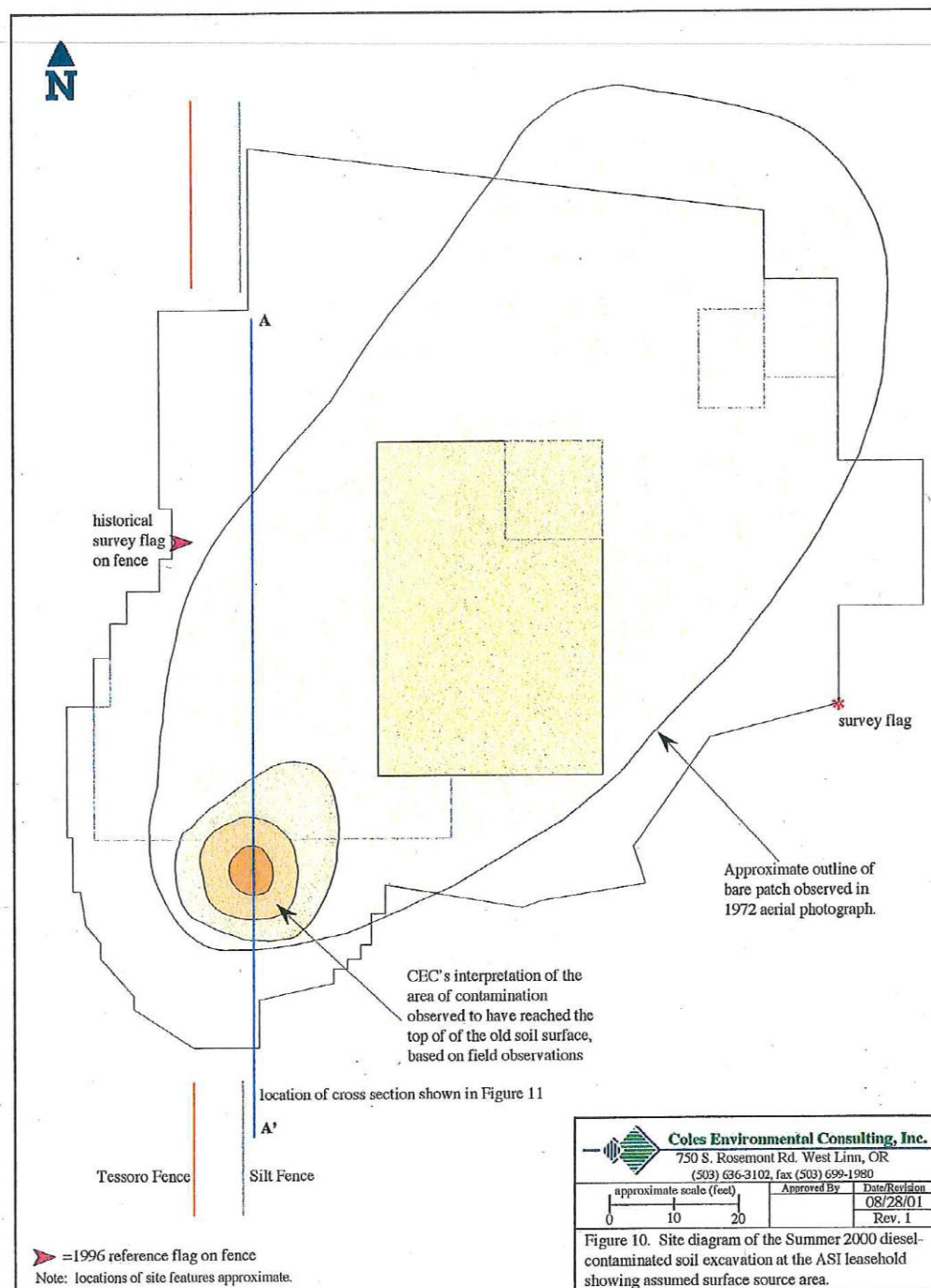
6.14. Summer 1999 – Initial Excavation: Extent of Diesel Contaminated Soil Excavation, Confirmatory Soil Sample Locations and Soil Sample Results

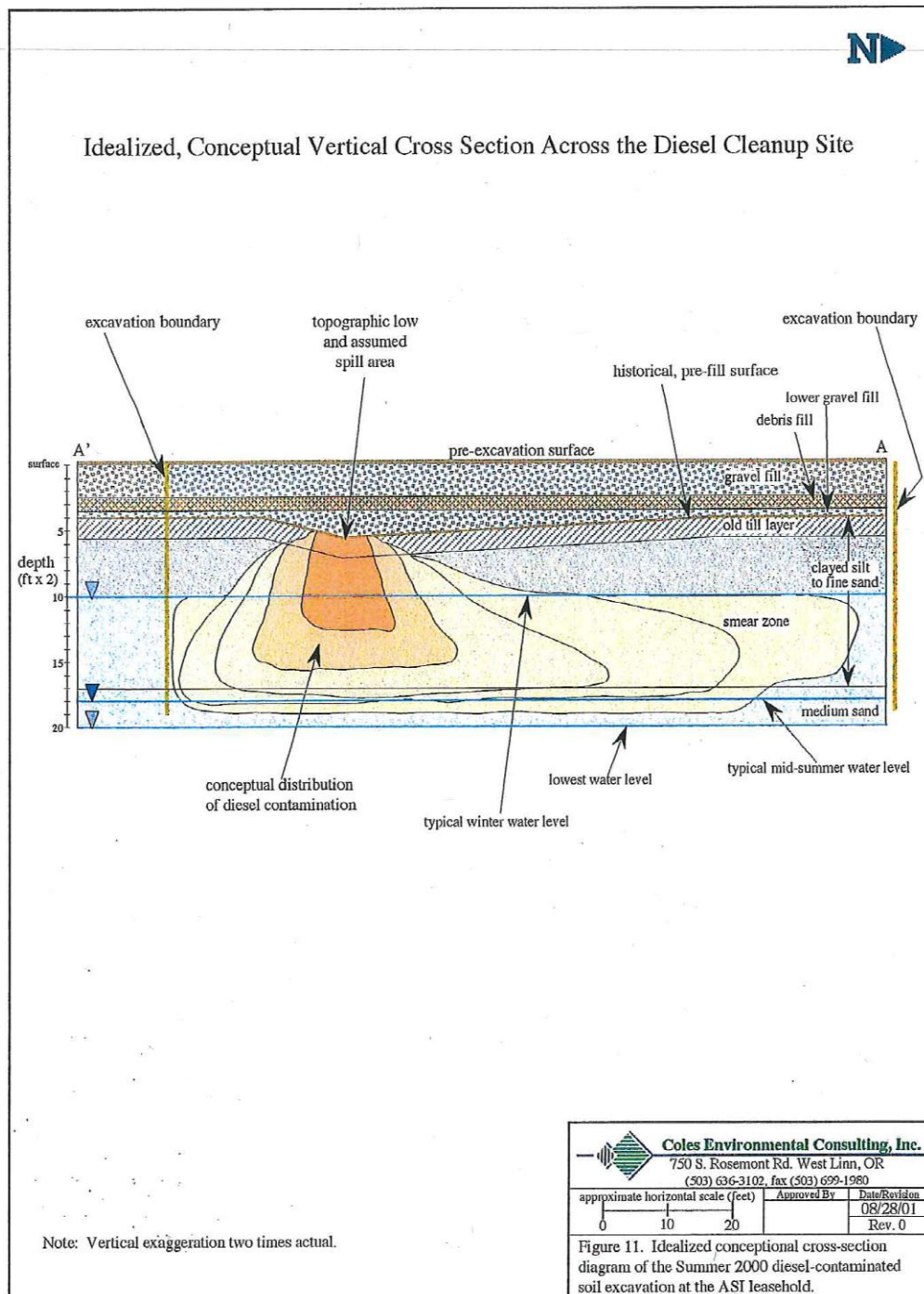


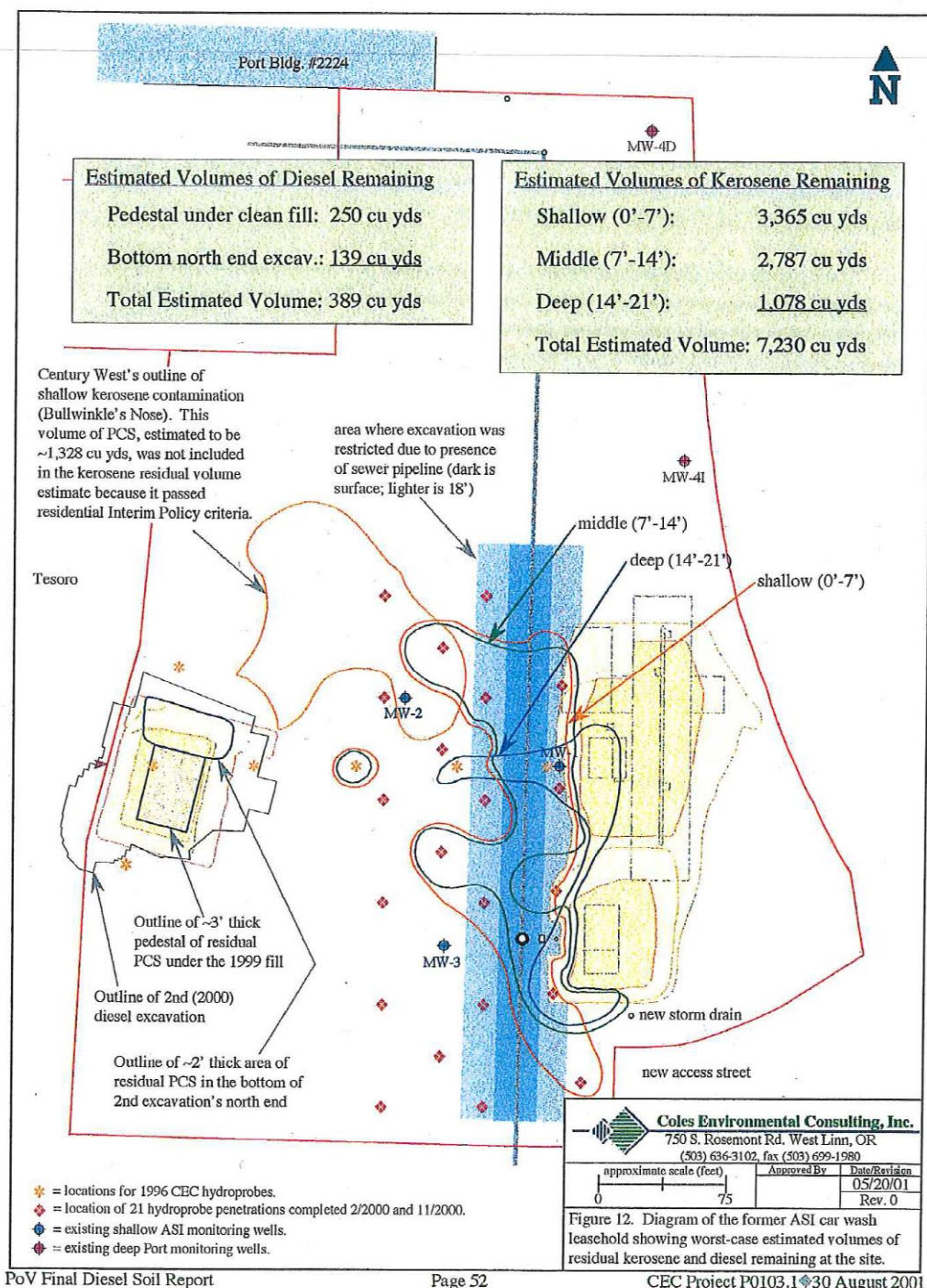


6.15 Summer 2000 - Second Excavation: Areal and Vertical Extent of Diesel Contaminated Soil Excavation, Confirmation Soil Sample Locations and Results

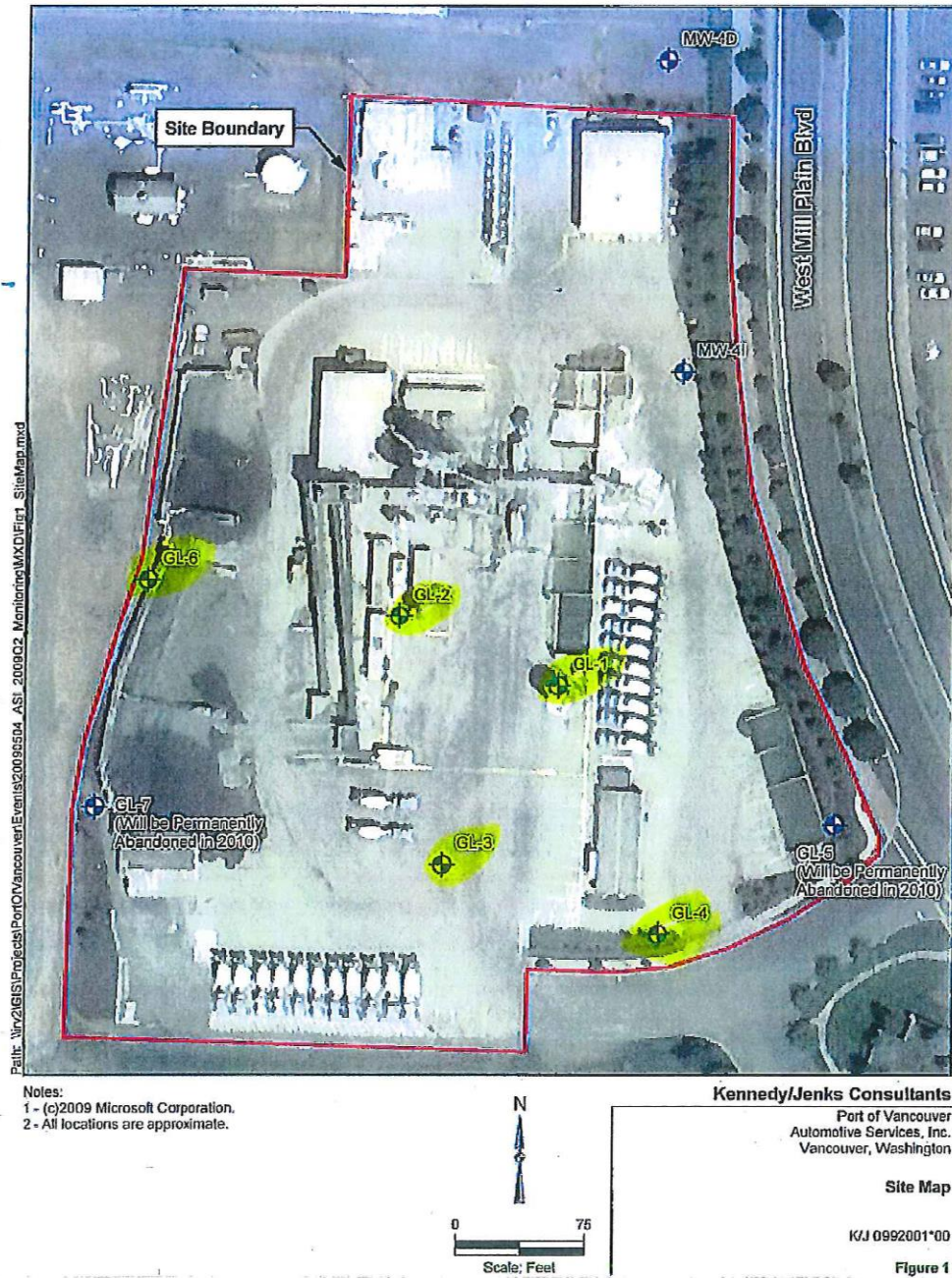








6.16 Long-Term Groundwater Monitoring: Locations of Groundwater Monitoring Wells and Groundwater Sample Results





Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Port of Vancouver
3103 NW Lower River Road
Vancouver, WA 98660

Project: **ASI**
Project Number: [none]
Project Manager: Matt Graves

Report ID:
A9F0368 - 06 21 19 1005

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Dup (A9F0368-01)				Matrix: Water		Batch: 9060943		
Diesel	0.563	---	0.190	mg/L	1	06/14/19 02:28	NWTPH-Dx	F-11
Oil	ND	---	0.381	mg/L	1	06/14/19 02:28	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %	1	06/14/19 02:28	NWTPH-Dx	
GL-1 (A9F0368-02)				Matrix: Water		Batch: 9060943		
Diesel	0.404	---	0.190	mg/L	1	06/14/19 02:51	NWTPH-Dx	F-20
Oil	ND	---	0.381	mg/L	1	06/14/19 02:51	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 91 %		Limits: 50-150 %	1	06/14/19 02:51	NWTPH-Dx	
GL-2 (A9F0368-03)				Matrix: Water		Batch: 9060943		
Diesel	0.659	---	0.190	mg/L	1	06/14/19 03:14	NWTPH-Dx	F-11
Oil	ND	---	0.381	mg/L	1	06/14/19 03:14	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 99 %		Limits: 50-150 %	1	06/14/19 03:14	NWTPH-Dx	
GL-3 (A9F0368-04)				Matrix: Water		Batch: 9060943		
Diesel	ND	---	0.190	mg/L	1	06/14/19 03:36	NWTPH-Dx	
Oil	ND	---	0.381	mg/L	1	06/14/19 03:36	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 94 %		Limits: 50-150 %	1	06/14/19 03:36	NWTPH-Dx	
GL-4 (A9F0368-05)				Matrix: Water		Batch: 9060943		
Diesel	ND	---	0.190	mg/L	1	06/14/19 03:59	NWTPH-Dx	
Oil	ND	---	0.381	mg/L	1	06/14/19 03:59	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 93 %		Limits: 50-150 %	1	06/14/19 03:59	NWTPH-Dx	
GL-6 (A9F0368-06)				Matrix: Water		Batch: 9060943		
Diesel	ND	---	0.190	mg/L	1	06/14/19 04:22	NWTPH-Dx	
Oil	ND	---	0.381	mg/L	1	06/14/19 04:22	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		Recovery: 93 %		Limits: 50-150 %	1	06/14/19 04:22	NWTPH-Dx	

Apex Laboratories

Darrell Auvil, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Automotive Services, Inc. Groundwater Monitoring Report, November 2016
Port of Vancouver

Table 3: Total Petroleum Hydrocarbons in Groundwater

Sample Location	Date Sampled	Diesel Range Organics mg/l ^(a)	Residual Range Organics mg/l
GL-1	4/29/15	1.93	0.381 U ^(b)
GL-2	4/29/15	0.721	0.381 U
GL-3	4/29/15	0.189 U ^(b)	0.381 U
GL-4	4/29/15	0.189 U	0.381 U
GL-5	--- ^(d)	---	---
GL-6	4/30/15	0.189 U	0.381 U
Field Dup ^(c)	4/29/15	0.690	0.381 U
MTCA Method A GW Cleanup Level		0.5	0.5

Notes:

a mg/L = Milligrams per liter

b U = Constituent not detected at or above the laboratory reporting limit.

c DUP = Duplicate sample at GL-1

d --- = Well is no longer sampled

Values in bold were detected above the laboratory reporting limit.

Shaded values exceed the MTCA Method A GW Cleanup Level.

MTCA values were obtained from the Department of Ecology Cleanup Level and Risk Calculations database in June 2009.

<https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>

Automotive Services, Inc. Groundwater Monitoring Report, October 2013
Port of Vancouver

Table 3: Total Petroleum Hydrocarbons in Groundwater

Sample Location	Date Sampled	Diesel Range Organics mg/l (a)	Residual Range Organics mg/l
GL-1	10/17/13	1.1	0.24 U ^(b)
GL-2	10/17/13	1.2	0.24 U
GL-3	10/17/13	0.15	0.24 U
GL-4	10/18/13	0.096 U ^(b)	0.24 U
GL-5	--- (d)	---	---
GL-6	10/18/13	0.096 U	0.24 U
Field Dup ^(c)	10/17/13	1.0	0.24 U
MTCA Method A GW Cleanup Level		0.5	0.5

Automotive Services, Inc. Groundwater Monitoring Report, June 2015
Port of Vancouver

Table 3: Total Petroleum Hydrocarbons in Groundwater

Sample Location	Date Sampled	Diesel Range Organics mg/l (a)	Residual Range Organics mg/l
GL-1	4/29/15	1.42	0.377 U ^(b)
GL-2	4/29/15	0.943	0.377 U
GL-3	4/29/15	0.189 U ^(b)	0.377 U
GL-4	4/29/15	0.189 U	0.377 U
GL-5	--- (d)	---	---
GL-6	4/30/15	0.189 U	0.377 U
Field Dup ^(c)	4/29/15	0.189 U	0.377 U
MTCA Method A GW Cleanup Level		0.5	0.5

6.17 Environmental Covenant Correction and Environmental Covenant

Environmental Covenant Correction

RETURN ADDRESS

PORT OF VANCOUVER USA
3103 NW Lower River Rd
Vancouver, WA 98660

5015545 COV

RecFee - \$139.00 Pages: 18 - PORT OF VANCOUVER
Clark County, WA 09/18/2013 03:11



Please print neatly or type information
Document Title(s)

Environmental Covenant Correction

Reference Number(s) of related documents:

4837692 COV

Additional Reference #'s on page _____

Grantor(s) (Last, First and Middle Initial)

Port of Vancouver USA

Additional grantors on page _____

Grantee(s) (Last, First and Middle Initial)

State of Washington Dept. of Ecology

Additional grantees on page _____

Legal Description (abbreviated form: i.e. lot, block plat or section, township, range, quarter/quarter)

Tax Parcel No 057115-068 SLV quarter Section 21, T2N, R1E

Additional legal is on page _____

Assessor's Property Tax Parcel/Account Number

Additional parcel #'s on page _____

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.

[Signature]
Signature of Requesting Party

RECEIVED

APR 29 2013

WA State Department of Ecology

ENVIRONMENTAL COVENANT CORRECTION

An ENVIRONMENTAL COVENANT dated February 9, 2012 was recorded under Auditor's File Number 4837692 COV on March 12, 2012. That document incorrectly stated that it was applicable to Parcel Numbers 059115-030 and 059115-020.

This ENVIRONMENTAL COVENANT CORRECTION corrects the scrivener's errors to the ENVIRONMENTAL COVENANT dated February 9, 2012 recorded under Auditor's File Number 4837692 COV on March 12, 2012, with added and deleted text as follows:

Page 1 – Tax Parcel Nos.: (Add) 059115-068; (Delete) 059115-030 and 059115-020.

No change to the substantive requirements of the ENVIRONMENTAL COVENANT is made by this CORRECTION document.

Port of Vancouver, USA


Name of Signatory Todd M. Coleman
Title CEO/Executive Director
Dated 8-26-13

NOTARY AND ACKNOWLEDGEMENT BLOCKS
ON FOLLOWING PAGE

Environmental Covenant

4837692 COV

RecFee - \$75.00 Pages: 14 - PORT OF VANCOUVER
Clark County, WA 03/12/2012 02:47

After Recording Return to:

Scott Reese
Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Environmental Covenant

Grantor: Port of Vancouver
Grantee: State of Washington, Department of Ecology
Legal: SW quarter Section 21, T2N, R1E
Tax Parcel Nos.: 059115-030, 059115-020
Cross Reference: 3407456

Grantor, Port of Vancouver, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this 1st day of February, 2012 in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the Port of Vancouver, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

The Port of Vancouver is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Covenant. The Property is legally described in Attachment A of this covenant and made a part hereof by reference.

A remedial action (hereafter "Remedial Action") occurred at the Property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- 1) *Report Relating to Removal of Four Underground Storage Tanks at Automotive Services, Inc. 2001 West Fourth Plain Vancouver, Washington, Enviro-Logic, Inc., (September 16, 1991).*

RECEIVED

AUG 29 2013

WA State Department
of Ecology (SW60)

STATE OF WASHINGTON)
County of Clark) ss.

I certify that I know or have satisfactory evidence that Todd M. Coleman signed this instrument, on oath stated that he was authorized to execute this instrument and acknowledged it as the CEO/Executive Director of the Port of Vancouver, USA to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 26th day of August, 2013.



Michelle Allan
Michelle Allan
NOTARY PUBLIC for Washington
Residing in Clark County
My Commission Expires: 6/1/17

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Marean D. Abbott For Rebecca Lawson
Name of Person Acknowledging Receipt
Title Section Manager
Dated: 7/9/13

After Recording Return to:
Scott Rose
Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Environmental Covenant

Grantor: Port of Vancouver
Grantee: State of Washington, Department of Ecology
Legal: SW quarter Section 21, T2N, R1E
Tax Parcel Nos.: 059115--068
Cross Reference: 3407456

Grantor, Port of Vancouver, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this ^{9th} day of February, 2012 in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the Port of Vancouver, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

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A remedial action (hereafter "Remedial Action") occurred at the Property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- 1) *Report Relating to Removal of Four Underground Storage Tanks at Automotive Services, Inc. 2001 West Fourth Plain Vancouver, Washington, Enviro-Logic, Inc., (September 16, 1991).*

- 2) *Report on a Subsurface Investigation at the Automotive Services, Inc. Site, Port of Vancouver, Washington, CEC (November 4, 1996).*
- 3) *Seven figures, one table and an article received during March 11, 1999, meeting with Coles Environmental Consulting, Inc., and Port of Vancouver Representatives, CEC (March 11, 1999).*
- 4) *Work Plan for the Excavation and Treatment of Kerosene-impacted Soil Former ASI Car-Wash Facility, Port of Vancouver, Washington, CEC (June 21, 1999).*
- 5) *Five figures received during April 27, 2000, meeting with Coles Environmental Consulting, Inc., and Port of Vancouver Representatives, CEC (April 27, 2000).*
- 6) *Final Soil Sample Analysis Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Narrative), CEC (September 5, 2000).*
- 7) *Final Soil Sample Analysis Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Analytical Results), CEC (September 28, 2000).*
- 8) *Final Confirmatory Soil-Sample Analysis Results for Remediation of Soil Contaminated with Diesel from the West Side of the Former ASI Car-Wash Leasehold, Vancouver, Washington, CEC (May 30, 2001).*
- 9) *Final Report on the Investigation and Remediation of Kerosene-Contaminated Soil at the Former Location of Automotive Services, Inc.'s Car Wash, Port of Vancouver, Washington, CEC (July 17, 2001).*
- 10) *Final Report on the Investigation and Remediation of Diesel-Contaminated Soil at the Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington, CEC (August 30, 2001).*
- 11) *Final Report on the Post-Remediation Groundwater Investigation at the Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington, CEC (January 25, 2005)*
- 12) *Long Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site, 2210 NW Mill Plain Blvd, Vancouver, Washington, CEC (March 9, 2007)*
- 13) *Revised Long Term Groundwater Monitoring Plan for ASI/Glacier Site, Kennedy Jenks (May 10, 2010)*

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Section 9. The Owner will conduct groundwater monitoring according to the Revised Long-Term Confirmational Groundwater Monitoring Plan (dated May 10, 2010) until such time Ecology approves termination of the monitoring plan. A copy of the Revised Long-Term Groundwater Monitoring Plan is attached as Exhibit B.

These documents are on file at Ecology's Southwest Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of diesel and kerosene in soil and groundwater that exceed the Model Toxics Control Act Method A Unrestricted Land Use Cleanup Level(s) established under WAC 173-340-740. These residual concentrations are being managed under a soil and asphalt cap with monitoring of conditional points of compliance wells (wells GL-3, GL-4, and GL-6) along the downgradient Property boundary, and source area wells (wells GL-1 and GL-2). Monitoring frequency is every 18 months in accordance with the Revised Long-Term Groundwater Monitoring Plan (attached as Exhibit B).

The undersigned, Port of Vancouver, is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Covenant. The Property and legal description is described in Exhibit A.

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

Section 1. The following restrictions apply to the Property:

1. The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the city of Vancouver's zoning regulations codified in the City of Vancouver Municipal Codes- Title 20-Zoning Ordinance as of the date of this Restrictive Covenant.
2. No groundwater may be taken for potable use from the Property.
3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Washington Department of Ecology

Exhibit A
Legal Description

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7/21/99
MRN/ed
Rev'd 8-4-99

Mackay & Sposito Inc.
M & S ENGINEERS SURVEYORS PLANNERS
1703 MAIN STREET VANCOUVER, WASHINGTON 98660
WASHINGTON (360) 695-3411 FAX (360) 695-0833 OREGON (503) 289-8726 EMAIL msinc@a-z.net

LEGAL DESCRIPTION
PORT OF VANCOUVER
PARCEL OF LAND EAST OF TESORO
ADJACENT TO MILL PLAIN
VANCOUVER, WASHINGTON

Real property situated in the City of Vancouver, Clark County, Washington, being a portion of the George Mallick Donation Land Claim, lying in the Southwest quarter of Section 21, Township 2 North, Range 1 East of the Willamette Meridian, more particularly described as follows:

Beginning at a 2 inch diameter Iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Survey Book 39, Page 125, records of said county; thence along the West line of said Donation Land Claim South 02° 19' 42" West 712.40 feet to the Southeast corner of the United States of America Tract as Described in the Declaration of Taking, recorded under the Auditors File No. F0981, deed records of said county; thence North 88° 25' 03" West 529.26 feet to a point on the Westerly right of way line of Mill Plain Boulevard, as described in the Interlocal Agreement between the Port of Vancouver and the City of Vancouver, Washington for the "Mill Plain Extension Project", said point being 75.00 feet from centerline of said Boulevard when measured at right angles, said point also being the True Point of Beginning of the parcel to be described; thence along said Westerly right of way line, and the Northerly right of way line of the "B" line of said Mill Plain Extension Project the following courses:

South 00° 01' 59" East 82.60 feet to a point of curvature with a 715.00 foot radius curve; thence along said curve to the left, through a central angle of 26° 47' 42", an arc distance of 334.38 feet; thence South 10° 10' 05" East 46.73 feet; thence South 67° 17' 57" West 52.17 feet to a point of curvature with a 170.00 foot radius curve; thence along said curve to the right, through a central angle of 34° 17' 00", an arc distance of 101.72 feet;

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Attachment B Page 2

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Rev'd 8-4-99

thence continuing along said Northerly right of way line, and the Westerly extension thereof, North 88° 25' 03" West 315.37 feet to a point on the East line of the adjusted Tesoro Lease Area; thence along said East line the following courses:

North 04° 03' 52" East 112.48 feet; thence North 16° 11' 21" East 118.66 feet; thence North 07° 06' 59" East 171.30 feet

to a point on the South line of the adjusted Olympic Pipeline Lease; thence along said South line South 88° 23' 11" East 97.44 feet to the Southeast corner of said lease; thence along the East line of said lease North 01° 59' 17" East 109.63 feet to the Northeast corner thereof, said point being on the South line of said United States of America Tract; thence along said South line South 88° 25' 03" East 207.04 feet to the True Point of Beginning.

Containing 172,095 square feet or approximately 3.951 acres.

Subject to easements and restrictions of record.





Exhibit B
Revised Long-Term Groundwater Monitoring Plan

Kennedy/Jenks Consultants

Engineers & Scientists

200 S.W. Market Street, Suite 500
Portland, Oregon 97201
503-295-4911
FAX: 503-295-4901

10 May 2010

Mr. Scott Rose
Acting Unit Manager
Toxic Cleanup Program – Southwest Region Office
Washington State Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Subject: Automotive Services Inc. – REVISED Long Term Groundwater Monitoring Plan
K/J 0992001*00

Dear Mr. Rose:

On behalf of the Port of Vancouver (Port), this letter serves as an amendment to the 9 March 2007 "Revised Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site" prepared by Coles Environmental. For future monitoring events, this letter will serve as the guiding document for monitoring well network sampling frequency and analyses until the next 5-year review (set for 2013).

This plan is being revised to reduce the number of wells sampled during each event. Two monitoring wells, GL-5 and GL-7, will be permanently abandoned. Frequency will remain the same, with sampling occurring every 18 months.

Monitoring Well Network

The monitoring well network will consist of five wells: GL-1, GL-2, GL-3, GL-4, and GL-6. The location of these wells is included on Figure 1.

Field Parameters

Depth to groundwater will be measured in each well. Survey data from top of casing (TOC) will allow for calculation of groundwater elevation in feet above mean sea level (MSL). This data will be used to determine a groundwater gradient and flow direction at the time of sampling.

Field parameters will be measured as part of the field sampling operations. Monitoring well purging parameters include temperature, pH, dissolved oxygen, and specific conductivity.

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Kennedy/Jenks Consultants

Mr. Scott Rose
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10 May 2010
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Sampling Method and Laboratory Analyses

Low-flow sampling techniques will continue to be used for sampling at this site. This change was approved by Ecology, received by email 26 March 2009.

Samples will be collected in pre-cleaned, laboratory supplied containers. Samples will be labeled, packed on ice, and delivered to the Port's analytical laboratory under chain-of-custody procedures. Samples will be submitted for analysis of volatile organic compounds (VOCs) using EPA Method 8260B, and diesel-range and oil-range organics using Method NWTPH-Dx.

Investigation Derived Wastes

Purge water, disposable tubing, and disposable bailers are the only investigation-derived wastes generated during the sampling activities. Disposable tubing and bailers will be disposed in the trash dumpster at the site. Purge water will be collected into a Port-provided container with lid (e.g. 55-gallon drum) for Port characterization and disposal.

Data Quality

One field duplicate will be collected from a randomly selected monitoring well. Chemical analyses will include VOCs and NWTPH-Dx.

A field blank and a trip blank will also be used during sampling events. Each sample will be analyzed for VOCs. There will be no equipment blank analyzed because all sampling equipment is disposable.

Results from laboratory Quality Control (QC) checks will also be reviewed. Laboratory QC results are included with the data package of analytical results. Anomalies in laboratory QC results will be summarized in the summary report of sampling events. If the QC results indicate challenges with data quality and the acceptability of the data for reporting purposes, the laboratory and the Port will be notified to discuss next steps (e.g. re-sampling).

Reporting

A summary letter report of the sampling events and results will be prepared and submitted to Ecology for the file. Analytical results will be compared to MTCA Method A cleanup levels and summarized in a table. Depth to groundwater and field parameters will also be summarized. Finally, a site figure illustrating well location and estimated groundwater flow direction will be included.

Upcoming Events

Future monitoring events are scheduled for October 2010 and April 2012.

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10 May 2010
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We believe the above changes in the sampling approach continue to be protective of human health and the environment, and are in compliance with WAC 173-340-410(b) performance monitoring. Should you have any questions or comments, please contact me at 503-423-4019 or Jessi Belston, Port of Vancouver, at 360-992-1136.

Very truly yours,
KENNEDY/JENKS CONSULTANTS

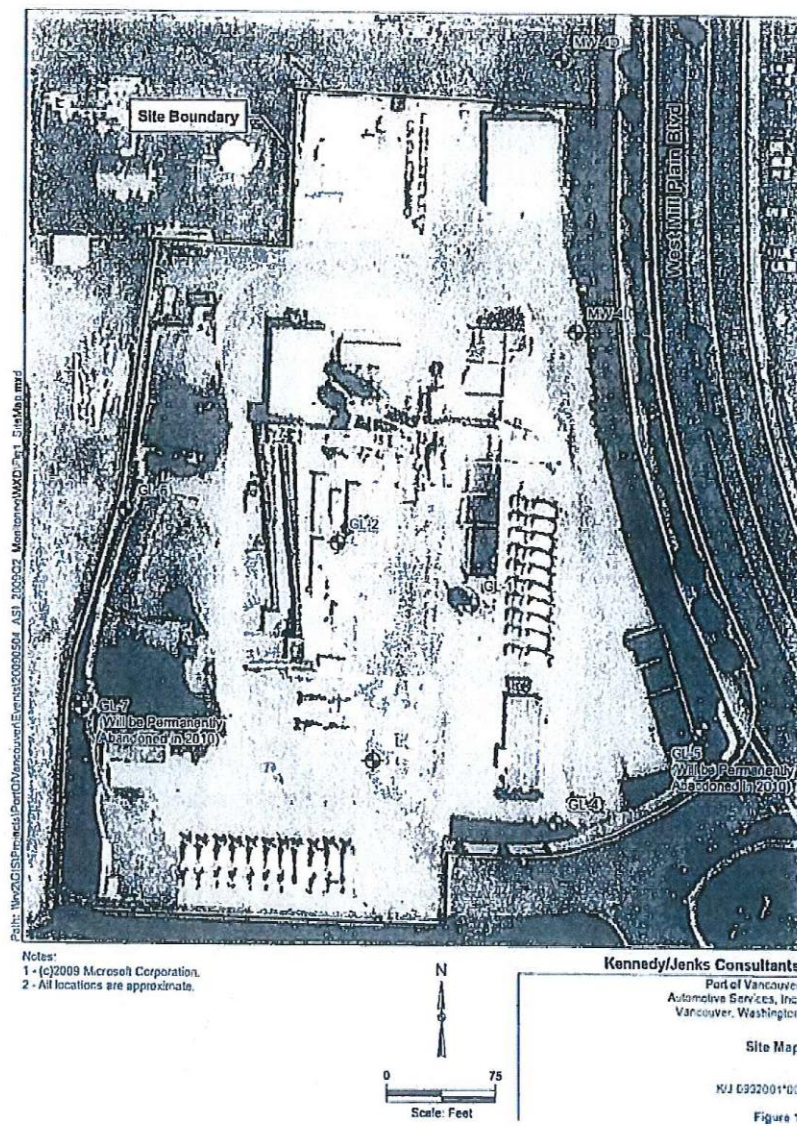


Deonne Knill
Project Manager

Enclosure

cc: Jessi Belston, Port of Vancouver

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6.18 Photo Log

Photo 1: West Vancouver Ready Mix Plant – From the South



Photo 2: West Vancouver Ready Mix Plant - From the Southwest

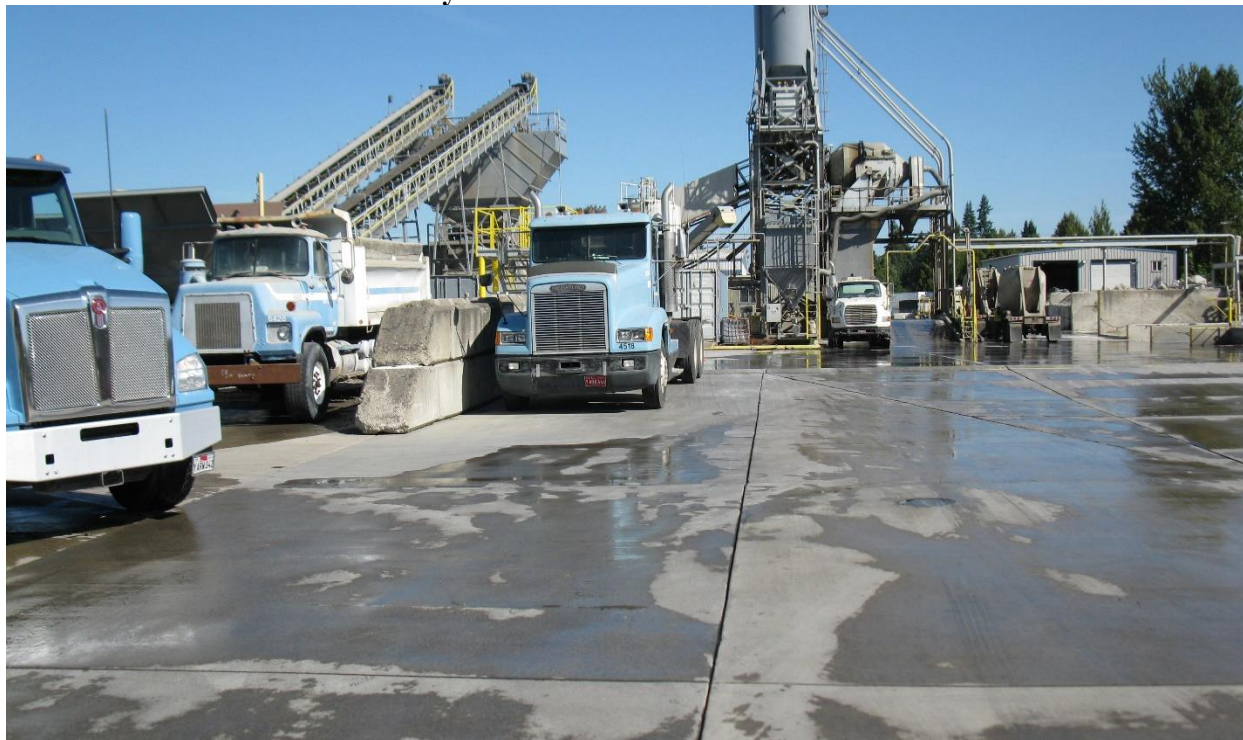


Photo 3: Area of Residual Kerosene and/or Diesel Contaminated Soil (below Gravel and Sand Piles and Concrete Cap) - From the Northeast



Photo 4: Area of Residual Diesel Contaminated Soil, Adjacent to Tesoro Facility – From the North



Photo 5: Area of Residual Kerosene and/or Diesel Contaminated Soil (below Gravel and Sand Piles and Concrete Cap) - From the Southeast



Photo 6: Area of Residual Kerosene and/or Diesel Contaminated Soil (below Gravel and Sand Piles and Concrete Cap) - From the South

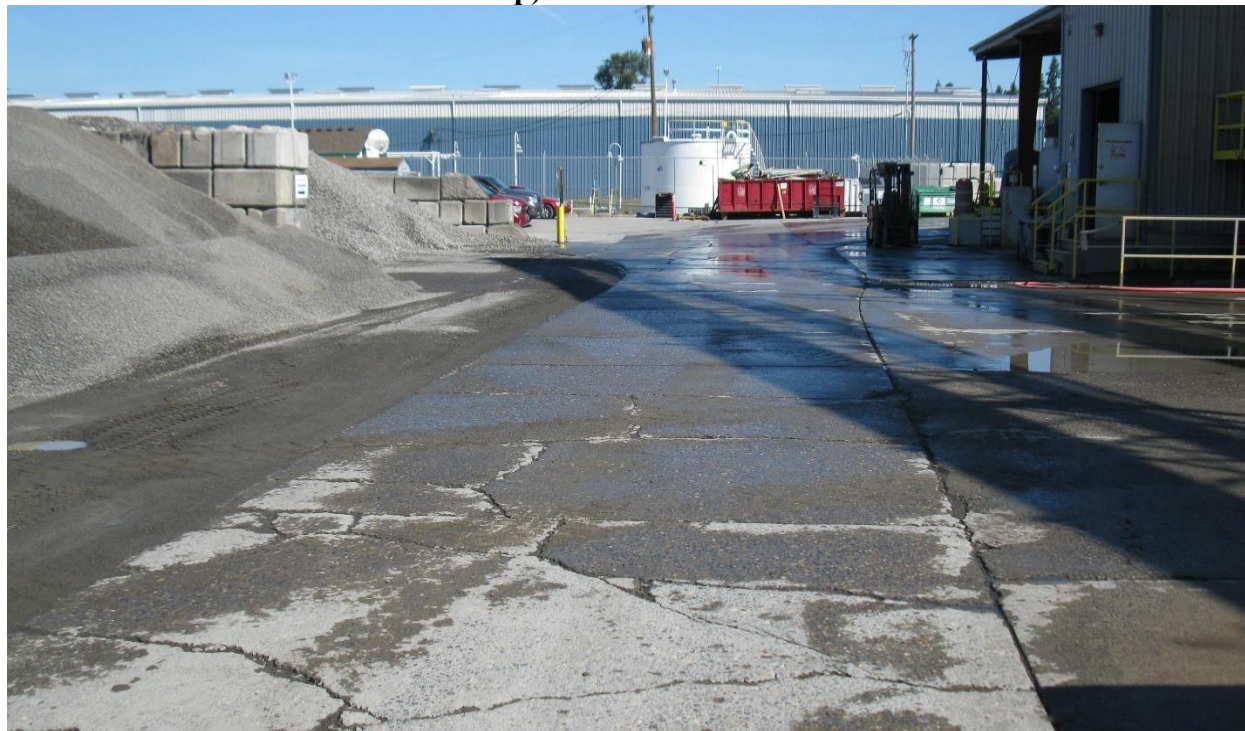


Photo 7: Concrete Cap – From the Northeast



Photo 8: Concrete Cap – From the South



Photo 9: Cracks in the Concrete Cap that needs Sealing – From the North



Photo 10: Groundwater Monitoring GL-4

