

PHASE III
Limited and Targeted Subsurface Investigation

Performed at:
GEAR JAMMER TRAVEL PLAZA
AM Best Truck Stop
2310 Rudkin Road
Union Gap, Washington 98903

AEROTECH
Environmental Consulting Inc.

January 5, 2017

Anchorage Seattle Portland

Cost-effective environmental solutions
for the western United States and Alaska

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January 5, 2017

Performed by:
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**LIMITED AND TARGETED PHASE II
TARGETED SUBSURFACE INVESTIGATION**

performed for:
POWELL CHRISTENSEN, INC.
AM Best Truck Stop
2310 Rudkin Road
Union Gap, Washington 98903

Client: **MR. BRANDON CHRISTENSEN**
POWELL-CHRISTENSEN, INC.
151 North Commercial Avenue
Pasco, Washington 99301

Point of Contact: Mr. Brandon Christensen / Owner

Property: **GEARJAMMER TRAVEL PLAZA**
AM Best Truck Stop
2310 Rudkin Road
Union Gap, Washington 98903

County: Yakima County, Washington

Commercial Activity: Truck Stop and Shell franchised Gasoline Station

Licensed Geologist: James G. McDermott (License No. 3063)

Project Number: 216 - 8247

Report Date: January 5, 2017

EXECUTIVE SUMMARY

On May 8, 2016, after conducting an All Appropriate Inquiry ("AAI") Compliant¹ *Phase I Environmental Site Assessment* for the subject Property, an irregular 11.46-acre Parcel of commercial land located on the west side of Rudkin Road in Union Gap, Washington. Aerotech Environmental Consulting, Inc. ("Aerotech") completed a limited and targeted Phase II subsurface investigation on September 1, 2016 and recommended that a Phase III investigation be conducted to ascertain the lateral and vertical extent of diesel-impacted soils or groundwater at the Site.

Adjoining to the east is U.S. Interstate I-82 and two blocks to the south is East Valley Mall Boulevard. The main channel of the Yakima River is 1,700 feet to the east, with side channels and associated ponds within the flood plain 1,200 feet to the east. The Property is developed with two commercial buildings occupied by *Freight Savers Lube and Oil* and the *GearJammer Shell Travel Plaza / AM Best Truck Stop*.

The main building is a one-story structure occupied by the *GearJammer Travel Plaza*. The main entrance is at the southeastern side of the building, followed by a full service restaurant, a Trucker's Lounge with Store, and the Jammers Sports Bar. An attached canopy to the northeast protects six truck diesel fuel dispenser islands, and a smaller southern canopy protects four gasoline fuel dispensers. Indications of seven additional diesel fuel dispenser islands along the north side of the canopy were visible, consistent with architectural plans dated June 1977. An underground fuel tank basin is located to the south. It houses four 20,000-gallon tanks (three diesel and one gasoline) and one 10,000-gallon gasoline tank. Figures 2 and 2b.

Situated along the northern margin of the Property is a rectangular-shaped building occupied by *Freight Savers Lube and Oil*. To the south is the lube bay with a below grade mechanic's pit; to the north are two bays, one used primarily for tire changing and the other as a truck and semi wash area. Interior zipper drains discharge to an oil-water separator located near the northwestern corner of the building.

The Site was originally developed in 1964. In 1978, the *Gearjammer Truck Stop* installed four 20,000-gallon tanks and two 1,000-gallon tanks. The following year (1979) an underground waste oil tank was installed. In 1998, a 12,000-gallon unleaded gasoline tank was installed at the Site. In 1999, the Site reported a Petroleum Release to the State of Washington Department of Ecology. Subsequent investigations revealed that non-halogenated solvents and petroleum hydrocarbons had impacted both the Site subsurface soils and ground water. The Phase II report made the following recommendations:

"Diesel Fuel Pump Area: Further Action Recommended. Gasoline constituents were not detected on Site. Diesel fuel was detected in soil at a depth of 12.5 feet, at 3,200 mg/kg, above MTCA Cleanup Levels for soil of 2,000 mg/kg, at location B-34, southwest of the diesel fuel dispenser area, and at 960 mg/kg at location B-20, at the landscaped area to the south. Diesel fuel was not detected in water at MW-3, approximately 40 feet south of location B-20. Further action is recommended."

Limited & Targeted Phase III Subsurface Investigation: Conclusions & Recommendations:

Aerotech performed a Phase III Subsurface Investigation on November 29 and 30, 2016 in order to define the extent and nature of diesel contamination identified during the Phase II Investigation. Eleven soil borings were advanced to a maximum depth of 16 feet below ground surface ("bgs"). Groundwater was encountered near 11 to 14 feet bgs. The Phase III Subsurface Investigation determined:

■ **Diesel Fuel Dispenser Area: Further Action Recommended.** Diesel fuel constituents were detected at depths of 10 to 14 feet bgs, at concentrations between 400 and 29,000 mg/kg, well above the most stringent Model Toxics Control Act ("MTCA") Method A Cleanup Levels for soil. Soils underneath the diesel fueling area are impacted. The axis of an estimated 60-foot wide diesel plume extends from the diesel fuel pump area southeast toward the nearby southeast driveway. Refer to Figure 3b. Concentrations of 29,000 mg/kg were documented near the eastern corner of the diesel fuel area, and concentrations of 9,900 mg/kg were observed within 45 feet of the center of the southeast driveway. Diesel and gasoline constituents were not detected in groundwater samples collected south of the main building. The body of the diesel plume has been well-defined, however, the precise location of the downgradient and upgradient terminus of the plume has not been defined. Further action is recommended.

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INTRODUCTION

Aerotech Environmental Consulting, Inc., performed this Limited and Targeted Phase III Subsurface Investigation¹ of the subject Property located at 2310 Rudkin Road, in Union Gap, Washington. The objective of this Investigation was to attempt to ascertain the vertical and lateral extent of diesel impacted soils or groundwater in the vicinity of the diesel fuel dispenser island area in the southeast quadrant of the Property.

On November 15, 2016, Mr. Brenden Christensen of *Powell-Christensen, Inc.* in Pasco, Washington, engaged Aerotech Environmental Consulting, Inc. to perform a *Limited and Targeted Phase III Environmental Investigation* of the Site – the Scope of Work of said Investigation was communicated verbally and in the form of a Service Agreement at that time.

SECTION I. SITE DESCRIPTION

Site Exterior and Interior Description:

The main building is a one-story irregular five-sided structure situated on concrete slab at grade and occupied by the *GearJammer Travel Plaza*. The main entrance is at the southeastern side of the building providing access to a cash register counter and *Subway Sandwich* service counter. Adjoining to the west is a full service restaurant followed by the Trucker's Lounge with a Trucker' Store to the north and the Jammers Sports Bar to the west. Refer to Figures 2, 2b and 3.

Two attached metal-framed canopies extend to the northeast and south. The northeast canopy protects four truck diesel dispensers and lanes between Cat scale lanes on each end. The southern canopy protects four double-side fuel dispensers serving cars and small trucks.

Southeast of the south canopy is an underground fuel tank pit housing four 20,000-gallon tanks (three diesel and one gasoline) and one 10,000-gallon gasoline tank. The larger tanks were installed in 1978, and the smaller tank in 1998. The product supply piping is corrosion resistant double-walled flexible fiberglass piping. The tanks and lines are monitored by a *Incon TS 2001 Tank Sentinel*© TLS-350 real time Automatic Line Leak Detection.

Situated along the northern margin of the Property is a rectangular-shaped slab on grade concrete block building occupied by *Freight Savers Lube and Oil*. In the east central portion of the building is the office and parts storage space. Adjoining to the south is the lube bay with a below grade mechanic's pit and roll up doors on both ends. Adjoining the north side of the office are two bays, each with roll up doors on both ends, one used primarily for tire changing and the other as a truck and semi wash area. Interior zipper drains discharge to an oil-water separator located near the northwestern corner of the building.

The western half of the Property is dominated by a semi-truck overnight parking. Access between the Property and Rudkin Road is provided by three driveways along the eastern Property perimeter. One driveway provides access to the adjoining property to the south.

¹ This Phase II Site Assessment is "targeted" as defined by the ASTM *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, Designation E 1903-97 (Reapproved 2002); "an assessment performed in accordance with the process described in this [E 1903-97] practice, which addresses only certain *releases* or potential *releases*, or certain *target analytes*, at a property as selected by the *User* but which does not address all *releases*, potential *releases*, and *target analytes*. [E 1903-97, § 3.1.43]"

Site Development Description:

The Site was originally developed in 1964. In 1978, the *Gearjammer Truck Stop* installed four 20,000-gallon tanks and two 1,000-gallon tanks. The following year (1979) an underground waste oil tank was installed. In 1998, a 12,000-gallon unleaded gasoline tank was installed at the Site. In 1999, the Site reported a Petroleum Release to the State of Washington Department of Ecology. Subsequent investigations revealed that non-halogenated solvents and petroleum hydrocarbons had impacted both the Site subsurface soils and ground water.

Previously Recognized Environmental Conditions:

The objective of this Investigation was to evaluate the condition of the subsurface soils and groundwater for the Recognized Environmental Conditions associated with the historic use on the Property of a 1,000-gallon underground gasoline fuel tank, in order to determine whether the Site has been impacted by petroleum compounds or lead.

Previously Identified Contaminants of Concern:

Aerotech Environmental Consulting, Inc. completed a Phase I Environmental Assessment for the Property on May 23, 2016. The Phase I Environmental Assessment prepared by Aerotech identified Petroleum compounds, fuel additive and lead as Contaminants of Concern. During a Phase II investigation dated September 1, 2016, diesel fuel was identified at concentrations above State of Washington MTCA Method A Cleanup Levels for soil.

Site Observations and Reported Conditions:

With the exception of the above referenced environmental concern, there were no additional Recognized Environmental Conditions or concerns identified as potential impacts to the Property.

SECTION II. FIELD WORK

Notifications - "Public" Utilities:

Due to the age and nature of the Site, a "public" utilities notification was performed prior to the start of work. Aerotech Environmental Consulting, Inc.² Performed the "public" utilities notification and was issued Ticket Number 161241401 on August 1, 2016 by the Utilities Underground Location Center. A digital version of the original side sewer card was also acquired prior to the start of drilling activities. According to the Utilities Underground Location Center the utilities necessary for notification included:

Washington Ticket#: 16241401 2 FULL BUSINESS DAYS
Transmit Date: 8/01/16 Time: 10:35 AM
County: YAKIMA State: WA
Place: UNION GAP
Address / Street: 2310 RUDKIN RD

Map Twp: 13N Rng: 19E Sect-Qtr: 32
Excavation Coordinates for # Polygons: 1
Poly 1: NW Lat: 46.5705383 Lon: -120.4771589 SE Lat: 46.5670370 Lon: -120.4711994

Members Notified			
District	Company	Markings	Customer Service
CNG08	CASCADE NATURAL GAS-YAKIMA	(509)457-8176	(888)522-113
FALCON19	CHARTER COMMUNICATIONS	(800)778-9140	(888)438-2427
LSN02	LIGHTSPEED NETWORKS INC.	(866)366-2638	(503)414-0475
NSI01	NEW SHANNO IRRIGATION CO	(509)930-9001	(509)453-5604
PPL31	PACIFIC POWER	(425)392-6412	(888)221-7070
QLNWA03	CTLQL-CENTURYLINK	(800)778-9140	(800)283-4237
UNION01	CITY OF UNION GAP	(509)248-0434	(509)248-0434
WDOTS02	WSDOT-SCR	(509)577-1961	(509)577-1960
YAKIMA01	CITY OF YAKIMA	(509)575-6154	(509)575-6154
YAKIMA02	YAKIMA SIGNAL DEPARTMENT	(509)576-6425	(509)576-6425
YCPW01	YAKIMA COUNTY PW	(509)574-2396	(509)574-2396

Private Utilities Location

Additionally, Aerotech engaged personnel of Locate Plus, Inc. of Yakima, Washington to locate building and site utilities on November 29, 2016, prior to the start of the on Site drilling activities. No unanticipated or unexpected situations were discovered or encountered during the "private" locating activities.

Based in part upon pavement markings made by utility location technicians; the location of fuel product lines, utility fixtures such as water, electrical, or manholes, and the presence of anomalies detected by induction methodologies, locations were chosen in order to permit the safe placement of planned soil borings. As an added precaution, the upper 4 to 6 feet at most borehole locations deemed critical was evacuated by means of compressed air driven air-knife and vacuum equipment operated by Standard Environmental Probe of Tacoma, Washington.

A 30-inch sanitary sewer main extends diagonally from Rudkin Road southwestward along

² Aerotech Environmental Consulting, Inc., was previously issued a Contractor Identification Number by the non-profit Utilities Underground Location Center (www.callbeforeyoudig.com).

the north wall of the trucker's lounge and restaurant. City of Union Gap maps indicate an 8-inch water main extending along Rudkin Road. Refer to the attached Borehole Location Map for additional details regarding utility locations.

Conductible Utilities Investigation:

In order to confirm the locations of buried utilities on the Property, a magnetometer, and a conductible utilities investigation employing an induction method, were performed on November 29, 2016 prior to the initiation of drilling activities, by personnel from Utilities Plus, Inc. of Yakima, Washington. Locations of buried electrical, natural gas and other possible impediments to drilling were marked, with special attention to the planned locations of soil borings.

Ground Penetrating Radar Survey:

A Ground Penetrating Radar Survey conducted by Mountain View Locating Services staff on November 29, 2016, confirmed the presence of a former tank basin situated west of the west wall of the Truck Wash and Lube Building. No underground tanks were indicated in the vicinity of either building on Site, aside from the known active tanks operating near the southern margin of the Property. Utilities Plus staff employed Radar equipment utilizing Dual Frequency Antennae (300 MHz/800 MHz) manufactured by Geophysical Survey Systems.

Site Activities:

The *Limited & Targeted Phase II Subsurface Investigation* was performed between August 8 and August 11, 2016, under contract with Aerotech Environmental Consulting, Inc. All the work was performed during normal business hours. No unusual or unforeseen circumstances occurred during the Site activities.

Drilling Activities:

Due to the nature of the Site surfaces and cobble-laden alluvial gravels, drilling operations employing a Truck-mounted Direct Push Drilling Rig equipped with stainless steel macrocore or microcore tooling, was chosen for use on Site.

The subsurface soil borings were performed by equipment owned by and operated by a Licensed Driller from Standard Environmental Probe ("SEP"). Air knife equipment was utilized to safely evacuate soils between the surface and depths of 4 to 6 feet. The on Site drilling equipment was operated by personnel employed by SEP, Mr. Chris Ross (State of Washington Department of Ecology Well Driller's License No. 3018). All subsurface work was overseen by State of Washington Licensed Geologist, Mr. James McDermott (No. 3063). Mr. Ryan Wigg was present to assist and log samples. The laboratory analytical services were performed by a State of Washington Licensed Lab, Advanced Analytical Labs in Redmond, Washington.

Soil Borings:

Consistent with conditions documented in the Phase II Investigation performed in August 2016, the Site subsurface in the area of the Phase III investigation was dominated by cobble-laden coarse sandy gravels, with occasional areas of shallow fill. The gravel fraction is commonly between 75 and 90 percent by volume, with well-graded fine to very coarse sand matrix containing traces of silt. Water was present between 11 and 14 feet bgs.

A total of eleven soil borings were advanced in the area of the diesel fuel dispenser pump

area. This includes the north tier of the canopy-covered diesel fueling area where evidence of the presence of an additional six fuel dispensers was observed, consistent with the original architectural plans for the facility, dated June 1, 1977. Detailed descriptions of soils encountered may be found in soil boring logs attached as an appendix to this report.

Soil and Groundwater Sample Collection:

A total of 32 discrete soil samples and two groundwater grab samples were collected on November 29 and 30, 2016 at eleven soil boring locations. Water samples were collected from two temporary wells inserted in open boreholes at locations B-40 and B-42. Soil samples were collected at depths between 4 and 16 feet bgs. Visual or olfactory evidence of petroleum impacted soil was observed near the water table at depths between 11 and 14 feet at all four locations explored underneath the diesel fuel canopy, and at two of six locations explored in the downgradient direction southeast of the canopy area. Groundwater samples were obtained from temporary wells established at locations B-40 and B-42, south and southeast of the main entrance to the cash register area of the main building.

Soils collected from each location were visually inspected for color quality and evidence of discoloration, and physically observed for the purpose of recording composition and noting odor, where distinctive. Samples were placed in sterile four-ounce glass jars and/or 40cc glass vials preserved with 5ml methanol in accordance with procedures specified for USEPA Method 5035A.

Water samples were collected utilizing a fresh pair of nitrile gloves, under low flow conditions by means of peristaltic pump and fresh disposable poly-tubing, after approximately 10 minutes, in order to permit suspended silt, where present, to be reduced.

Each sample was given a unique identifier number and placed in an iced cooler for sample preservation. A Chain of Custody was maintained in order to record details associated with the collection and handling of each sample. The remaining soil samples were retained by the laboratory for analysis in the event that the soil samples selected for laboratory analysis revealed elevated levels of constituents. Following the production of the initial Site sample results for soil, some follow-up laboratory analyses were requested for the subject Site, as of the date of this report.

Site Restoration:

Each borehole was completed with bentonite chips, and the final three to four inches were finished with concrete or asphalt. No landscape restoration was necessary.

SECTION III. GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

Geologic Conditions:

The precise Property location is Latitude: North 46 34' 7.07" / West 120 27' 17.15" as determined by the Department of Ecology EIM database. The Site elevation is approximately 989 feet above mean sea level ("MSL"). The relevant US Geological Survey topographic sheet is the 2013 7.5-Minute Yakima West Topographic Quadrangle.

The Site lies above the western margin of the Yakima River flood plain within 1,700 feet of the main channel of the Yakima River, and only a few hundred feet from the westernmost range of a series of ponds, wetlands, and side-channels associated with the broad braided river pattern typical of the Yakima River where it crosses broad valleys. It lies somewhat south of the center of a valley situated between the Ahtanum Ridge, rising over 1,200 feet approximately two miles to the south, and the Yakima Ridge, rising nearly 2,000 feet approximately three miles to the north.

Members of the Columbia River Basalt Group (CRBG), a series of folded horizontally deposited lava flows, underlie the basins and form the ridges and bluffs in the area. This valley, filled with fluvial and alluvial gravels and sands, is one of six geologic basins which lie between tectonically folded basaltic ridges aligned roughly west to east, along the western third of the Columbia River Basin. The site lies along the rising northern flanks of the Ahtanum-Moxee Syncline, whose east-west oriented axis lies at the deep central portion of the basin.

According to the most current geologic map available, the subject property is underlain by Quaternary-Recent Undifferentiated Sedimentary Deposits ("Qsu"), including cobble- and boulder-laden sands and gravels such as those encountered during this investigation. These deposits, varying in thickness from a few feet to many hundreds of feet, are characterized as:

Sedimentary Deposits - Undifferentiated (Qsu): "Recent stream alluvium and Pleistocene glacial and valley-train deposits. Strata are composed of silt, sand, and gravel, which in places exceed several hundred feet in thickness. Deposits partly fill all the valleys and structural basins and form the principal conduits carrying valley underflow. The porosity of these deposits probably ranges from 10 to 40 percent, and their permeability ranges from very low to very high. They provide a very large proportion of the effective ground-water storage that supplies the ground-water component of streamflow, and also serve as important aquifers."

Ibid. WSP 1595

In the vicinity of the Site, the thickness of the valley fill gravels is indicated as approximately 800 feet, where the uppermost bedrock unit is the Saddle Mountain Member of the CRBG.

These deposits are in turn underlain by the clay-rich deposits of the Miocene and Pliocene Ellensburg Formation, mapped as comprising the core of this east-west ridge, defining a portion of the northern flank of the Yakima Basin:

Ellensburg Formation - "Undifferentiated (Te)": "A thick sequence of stream- and lake-deposited silt, sand, and gravel which is composed chiefly of light-colored volcanic ash, pumice, and purple and gray hornblende andesite. The thickness of the Ellensburg Formation exceeds 1,000 feet in some of the structural basins. It has moderate to high porosity, and low to medium permeability, and provides a large amount of effective storage. Permeable strata form important aquifer."

Geologic Map of the Yakima River Basin, Washington, Water Supply Paper 1595, US Geological Survey, H.B. Kinnison and J.E. Sceva, 1963.

The average thickness of the Ellensburg Formation is 510 feet.

Hydrogeological Characteristics:

Groundwater at the subject Property was encountered during this investigation at depths between 11 and 13 feet bgs. Three groundwater monitoring wells were constructed on site by the White Shield Company in 1999. Refer to Figure 3 for locations. Groundwater flow direction has been documented to the south-southeast as well as to the south-southwest. The baseline over which these wells are placed is broad, and these calculated flow directions may not accurately reflect the anticipated curvature of the flow lines from the eastward flow direction expected in areas to the west, to flow toward the southeast and ultimately to the south expected as the central Yakima River flood plain is encountered.

Limited diesel free product (1/8 inch measured in well) was recovered by means of a 1-liter Keck Product Recovery Canister from the downgradient well, MW-3, during the period between 2000 and May 2002, as documented in a Sage Earth Sciences, Inc. report attached to an Ecology letter dated February 4, 2009. A grab sample was collected by Aerotech staff from this well on August 9, 2016.

The general hydrogeologic character and variability within the several basins formed by the distinctive tectonic folding of the western Columbia River Basin is addressed in U.S. Geological Survey Scientific Investigations Report 2011-5152. In this semi-arid climate, many alternating segments of rivers and creeks may be either losing or gaining water in seasonally dynamic exchange with underlying groundwater system, all dependent upon localized geologic conditions and other factors.

"[The] net exchange of water for 46 stream sections investigated with seepage run ranged from nearly zero to 1,071 ft³/s for 28 gaining sections, and -3 to -242 ft³/s for 19 losing sections. Gains are much more vigorous than the losses with 55 percent being larger than 3.0 (ft³/s)/mi."

Map Showing Generalized Altitude of the Water Table in Six Structural Basins, Spring 2001, Yakima River Basin Aquifer System, Washington, United States Geological Survey Scientific Investigation Report 5152, J.J. Vaccaro, M.A. Jones, et al., 2009.

The segment of the Yakima River approaching the Site to the east is presumed to be a gaining river, with perhaps the exception of the arid summer months. However, micro-piezometer measurements conducted by the U.S. Geological Survey along the segment of the Yakima River adjacent to the subject Property indicated very slight downward vertical gradients approaching 0.04 feet per foot. If the river is gaining, groundwater flow would be expected to the south-southeast or the southeast, toward the river. If during the hot arid summer months the river is losing groundwater flow might be expected to the south-southwest. Perhaps consistent with this hypothetical dynamic, groundwater flow at the Site, based upon measurements at three wells, has deviated within this very range. However, available data is very limited. Waters and groundwater from the Yakima sub-basin are effectively funneled to the south through the narrow alluvial sand and gravel 'conduit' located above the CRBG bedrock, lying underneath the topographic gap in the Ahtanum Ridge after which the City of Union Gap is named.

The precise location of the downgradient and upgradient terminus of the diesel plume has not been defined. and additional exploration will be necessary to determine whether the plume extends to the Property perimeter or underneath Rudkin Road, adjoining to the southeast.

SUMMARY OF SAMPLE ACQUISITION

A total of 32 discrete soil samples and two groundwater grab samples were collected on November 29 and 30, 2016 at eleven soil boring locations. Water samples were collected from two temporary wells inserted in open boreholes at locations B-40 and B-42. Soil samples were collected at depths between 4 and 16 feet bgs. Visual or olfactory evidence of petroleum impacted soil was observed near the water table at depths between 11 and 14 feet at all four locations explored underneath the diesel fuel canopy, and at two of six locations explored in the downgradient direction southeast of the canopy area. Two groundwater samples were obtained from temporary wells established at locations B-40 and B-42, south and southeast of the main entrance to the cash register area of the main building.

SECTION IV. ANALYTICAL RESULTS

Aerotech Environmental Consulting, Inc. performed a Limited & Targeted Phase III Subsurface Investigation on November 29 and 30, 2016, in the vicinity of the diesel fueling area, the Areas of Concern identified during a Phase II Investigation completed on September 1, 2016. Refer to Table 1 and Figure 3b and 3c for presentations of analytical results

The Limited and Targeted Phase III Subsurface Investigation produced the following results:

Diesel and Heavy Oils in Soil

A total of 32 discrete soil samples and two groundwater grab samples were collected on November 29 and 30, 2016 at eleven soil boring locations. Water samples were collected from two temporary wells inserted in open boreholes at locations B-40 and B-42. Soil samples were collected at depths between 4 and 16 feet bgs. Visual or olfactory evidence of petroleum impacted soil was observed near the water table at depths between 11 and 14 feet at all four locations explored underneath the diesel fuel canopy, and at two of six locations explored in the downgradient direction southeast of the canopy area. Groundwater samples were obtained from temporary wells established at locations B-40 and B-42, south and southeast of the main entrance to the cash register area of the main building.

Diesel fuel constituents were detected at depths of 10 to 14 feet bgs, at concentrations between 400 and 29,000 mg/kg, well above the most stringent Model Toxics Control Act ("MTCA") Cleanup Levels for soil. The axis of an estimated 60-foot wide diesel plume extends from the diesel fuel pump area southeast toward the nearby southeast driveway, and may potentially extend beyond the Property perimeter underneath Rudkin Road. Refer to Figure 3b. Concentrations of 29,000 mg/kg were documented near the eastern corner of the diesel fuel area, and concentrations of 9,900 mg/kg were observed within 45 feet of the center of the southeast driveway. The precise location of the downgradient and upgradient terminus of the diesel plume has not been defined, and additional exploration will be necessary to determine whether the plume extends to the Property perimeter or underneath Rudkin Road.

TPH-Gasoline, Benzene, Ethylbenzene, Xylenes, Toluene, and TPH-Diesel/Oil in Water

Diesel and gasoline constituents were not detected in groundwater samples collected south of the main building, at locations B-40 and B-42. These results suggest the absence of diesel and gasoline contamination underneath the main building.

APPLICABLE ANALYTICAL METHODOLOGIES AND PARAMETERS

The analysis parameters requested were chosen to provide a comprehensive characterization of the subsurface soils and/or water present at the Site Areas of Concern and to comply with State of Washington recommended analysis parameters.

Soil: Diesel and Lubricant Range Organics
State of Washington NWTPH-Dx/Dx Extended

Water: Gasoline Range Organics & Benzene, Ethylbenzene, Toluene, and Xylenes
State of Washington NWTPH-Gx/8021B

Water: Diesel and Lubricant Range Organics
State of Washington NWTPH-Dx/Dx Extended

Laboratory Analysis:

Laboratory analysis was provided by:

Advanced Analytical Laboratory, LLC
4078 148 Avenue NE
Redmond, WA 98052
425.702.8571 (office)
aachemlab@yahoo.com

STATEMENT OF QUALITY ASSURANCE

I have performed this Phase II Subsurface Investigation in accordance with generally accepted environmental practices, procedures, and regulatory requirements, as of the date of this Report. I have employed the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental professionals practicing in this area.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of this part. I have the specific qualifications based upon education, training, and experience necessary to plan and implement subsurface investigations.

STATEMENT OF THE LICENSED GEOLOGIST

As stipulated in the Regulatory Code of the State of Washington Title 18, Chapter 18.220, the undersigned is a licensed Geologist in the State of Washington, and has met the statutory requirements of RCW § 18.220.060 for such licensing including, but not limited to, educational requirements, work and field experience, examination proficiency, and acceptance by the State Licensing Board.

The undersigned Licensed Geologist has supervised the geological work performed as described in attached Report – a majority of said work being performed by employees of the firm which employs undersigned Licensed Geologist – as delineated in RCW Title 18, Chapter 18.220, Paragraph 190.

Signature of Licensed Washington Geologist:


Signature – James McDermott (License No. 3063)



DEFINITIONS SPECIFIC TO LIMITED & TARGETED PHASE II ASSESSMENT

Background Concentration..... the concentration of a target analyte in groundwater, surface water, air, soil gas, sediment, or soil at a referenced location near a release or potential release area under investigation, which is not attributable to the release under investigation. Background samples may contain the target analyte, due to either naturally occurring or manade sources, but not due to the release(s) in question. (See, E 1903-97, § 3.1.3).

Phase II Environmental Site Assessment.... This practice (ASTM E 1903-97, Reapproved 2002) defines a commercially practical process for sound Phase II investigation that includes sampling and chemical testing. Such Phase II investigation is performed, at a minimum, to confirm the actual presence of contamination in environmental media at a property where prior assessment had indicated that contaminants may occur due to releases or potential releases of substances to the environment at the property, or to demonstrate prior to property acquisition that contamination by targeted analytes is absent. (See, E 1903-97, § 1.1.1).

Phase II Environmental Site Assessment Limitations..... "This practice [ASTME1903-97, Reapproved 2002] recognizes that the *Phase II ESA* process can be applied either to an overall assessment of a property with respect to all releases and potential releases at the property, or to an evaluation targeted to a specific release or potential release. It a property-wide assessment is not necessary to meet the particular *User* objective, then the Phase II investigation process described herein should be applied to generate sound information regarding the specific question of problem to be resolved. If a Phase II investigation does not address all releases and potential releases identified at a property, the report of the assessment must be denoted as a "*Targeted Phase II Environmental Site Assessment*". [E 1903-97, § 1.1.3]"

Phase II Targeted Environmental Site Assessment.... This Phase II Site Assessment is "targeted" as defined by the ASTM *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, Designation E 1903-97 (Reapproved 2002); "an assessment performed in accordance with the process described in this [E 1903-97] practice, which addresses only certain *releases* or potential *releases*, or certain *target analytes*, at a property as selcted by the *User* but which does not address all *releases*, potential *releases*, and *target analytes*.[E 1903-97, § 3.1.43]"

Prior Knowledge.... "This Standard Practice [ASTM E 1903-97, Reapproved 2002] assumes ... that all reasonably ascertainable information, including but not limited to prior Phase I Environmental Site Assessment Reports, will be considered in conducting a Phase II ESA and interpreting its results. [E 1903-97, § 1.1.2]."

Targeted Analytes.... substances that have been released or potentially have been released to environmental media at the site, and which are of interest in the context of the particular Phase II ESA and its objectives, the presence of which will be sought and concentrations of which will be quantified through field screening or chemical testing. (See, E 1903-97, § 3.1.63).

REPORT ENDNOTES

1. All Appropriate Inquiry as defined in 40 Code of Federal Regulations 40 CFR Part 312.

APPENDIX

- Site Location and Photographs
- Project Contract Documents
- Boring Logs
- Analytical Results
- Chain of Custody

APPENDICES

SITE LOCATION AND PHOTOGRAPHS

Fig 1

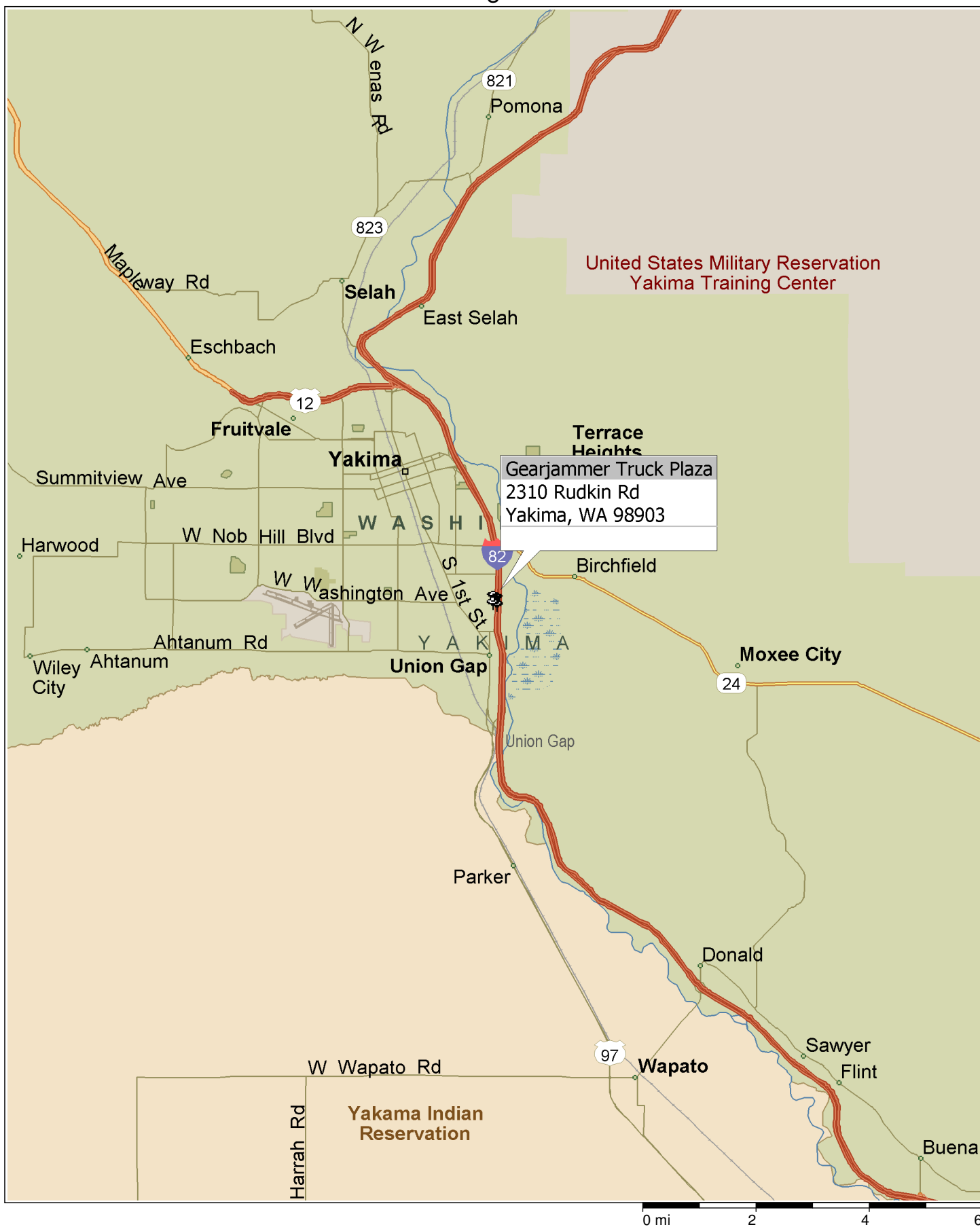
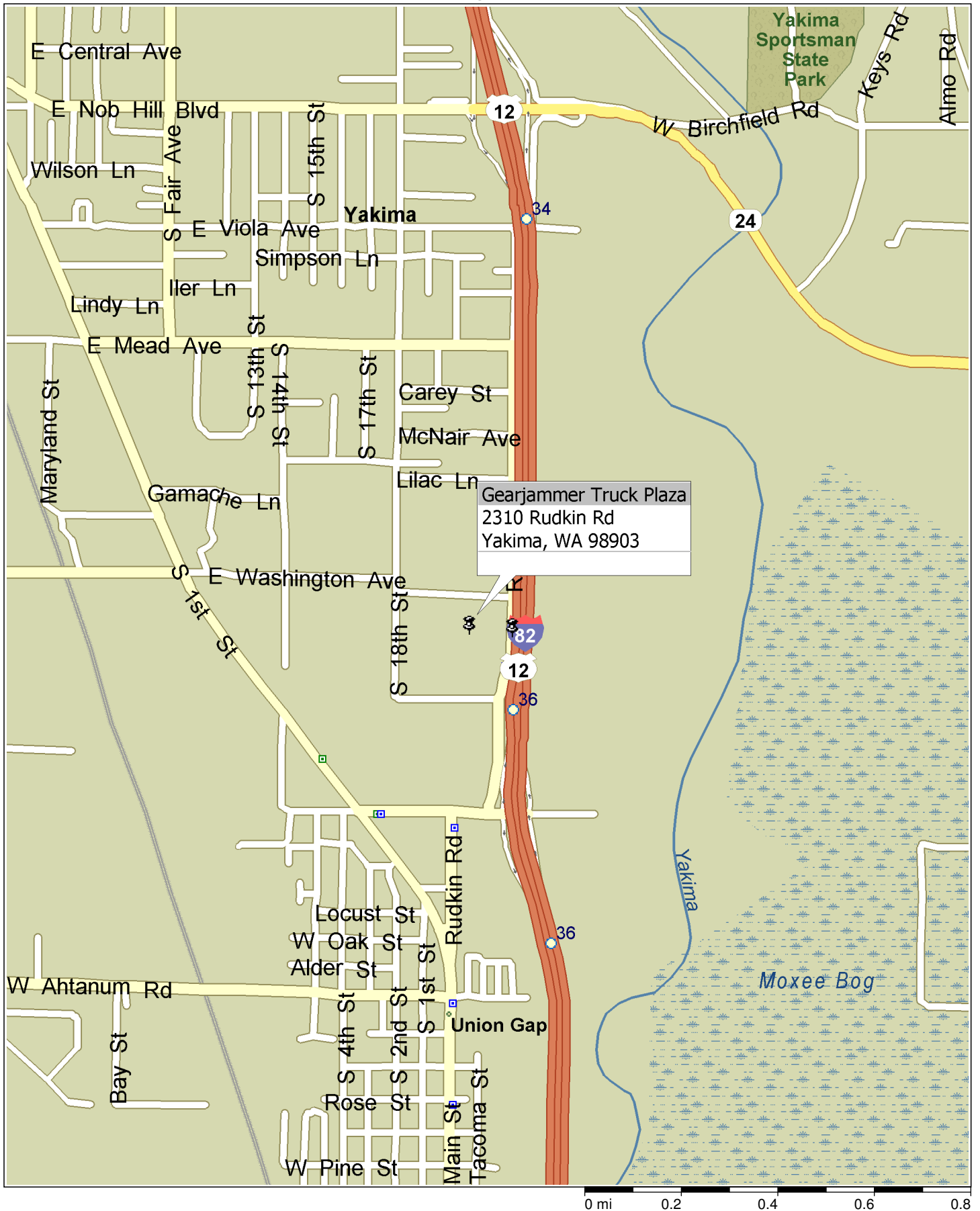


Fig 1b





PAGE 1: Gearjammer Plaza - 2310 Rudkin Rd, Yakima, Wa - Dec 2016 - PH 3 - B-42 (View NW)



B-43 (View NW)



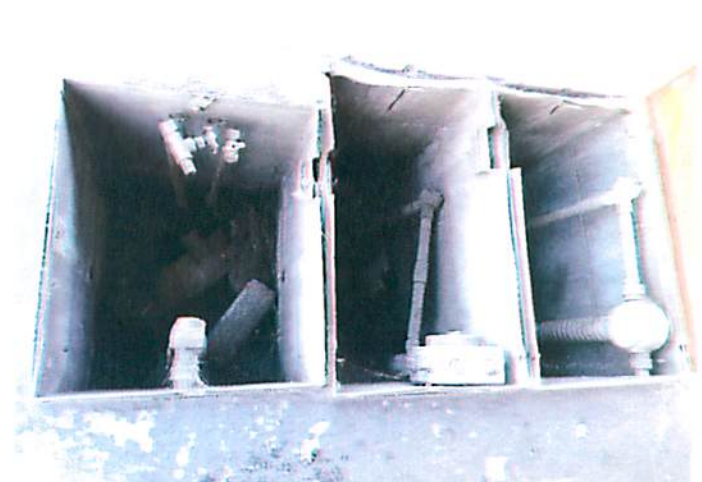
B-44 (View NW)



Locations of former fuel dispenser pumps - North tier (View NE)



Water, Air, Oil distribution system junction box - Area B-37 (View SE)



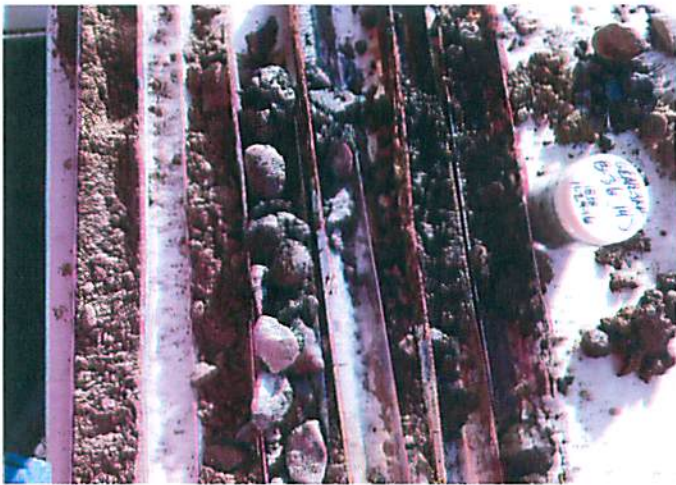
Water, air, oil distribution junction box. System long inactive.



PAGE 2: Gearjammer Plaza - 2310 Rudkin Rd, Yakima, Wa - Dec 2016 - PH 3 - B-36



Area B-36 - fuel spills (View NE) (29,000 mg/kg in soil at 11 ft bgs)



B-36 cores



B-37 cores



B-38 - soil vacuum activities (View NW)



B-39 (View east)



PAGE 3: Gearjammer Plaza - 2310 Rudkin Rd, Yakima, Wa - Dec 2016 - PH 3 - B-40 (W) Water sample



B-43cores



B-44 cores



B-44 cores

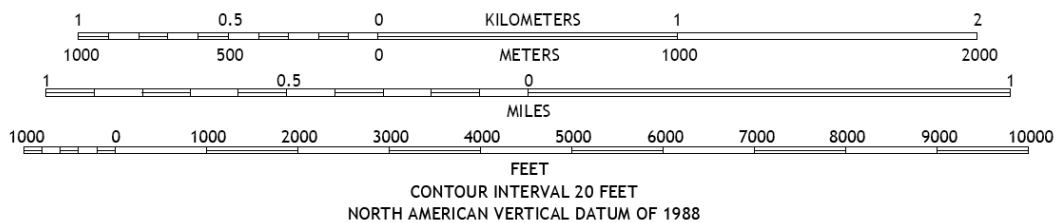
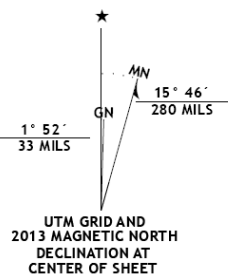
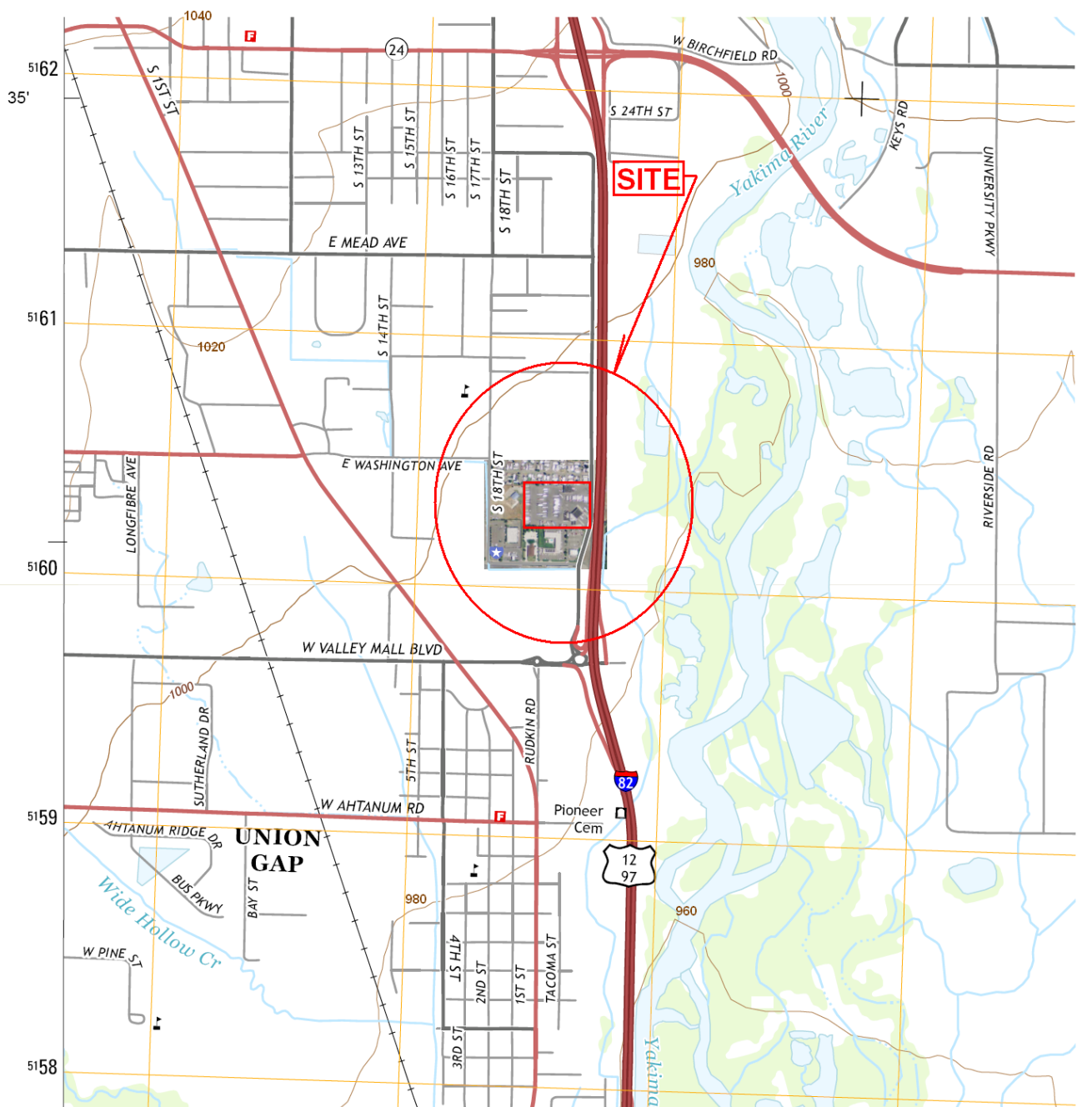


B-45 (View west)



Area downgradient of Diesel Fuel Pump Canopy (View SW)

FIGURES



Aerotech Environmental Consulting, Inc
13925 Interurban Avenue South, Ste. 210
Seattle, Washington
www.AerotechEnvironmental.com

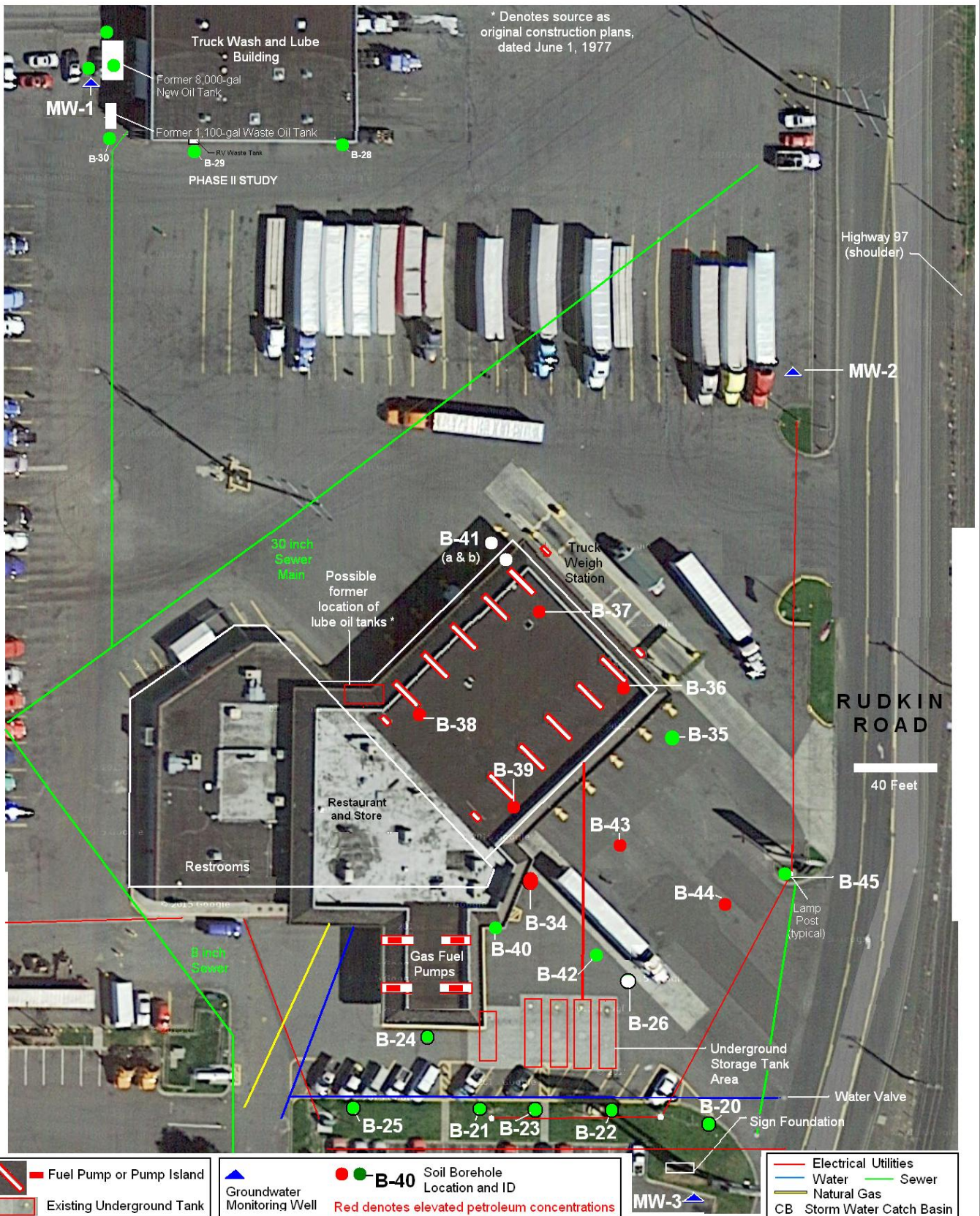
Drawing by McDermott : 24 Aug 2016

FIGURE 2

PHASE 2 INVESTIGATION

U.S. Geological Survey
7.5-Minute Topographic Quadrangle

GEARJAMMER TRUCK PLAZA
2310 Rudkin Road
Union Gap, Washington
VCP Project No.CE0312



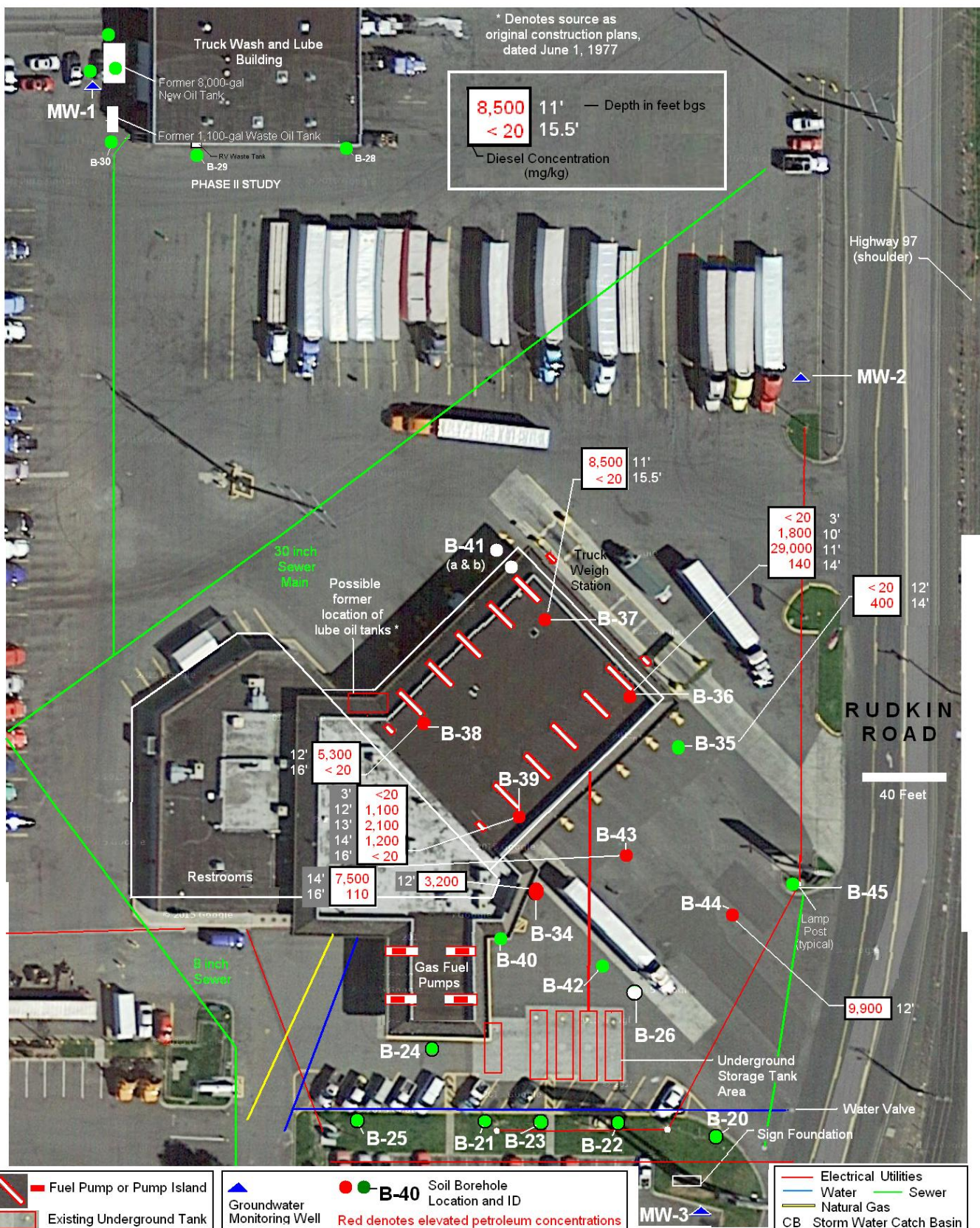
Aerotech Environmental Consulting, Inc
13925 Interurban Avenue South, Ste. 210
Seattle, Washington
www.AerotechEnvironmental.com

Drawing by McDermott : 30 Dec2016

FIGURE 3

PHASE 3 INVESTIGATION BOREHOLE LOCATION MAP

GEARJAMMER TRUCK PLAZA
2310 Rudkin Road
Union Gap, Washington
VCP Project No.CE0312



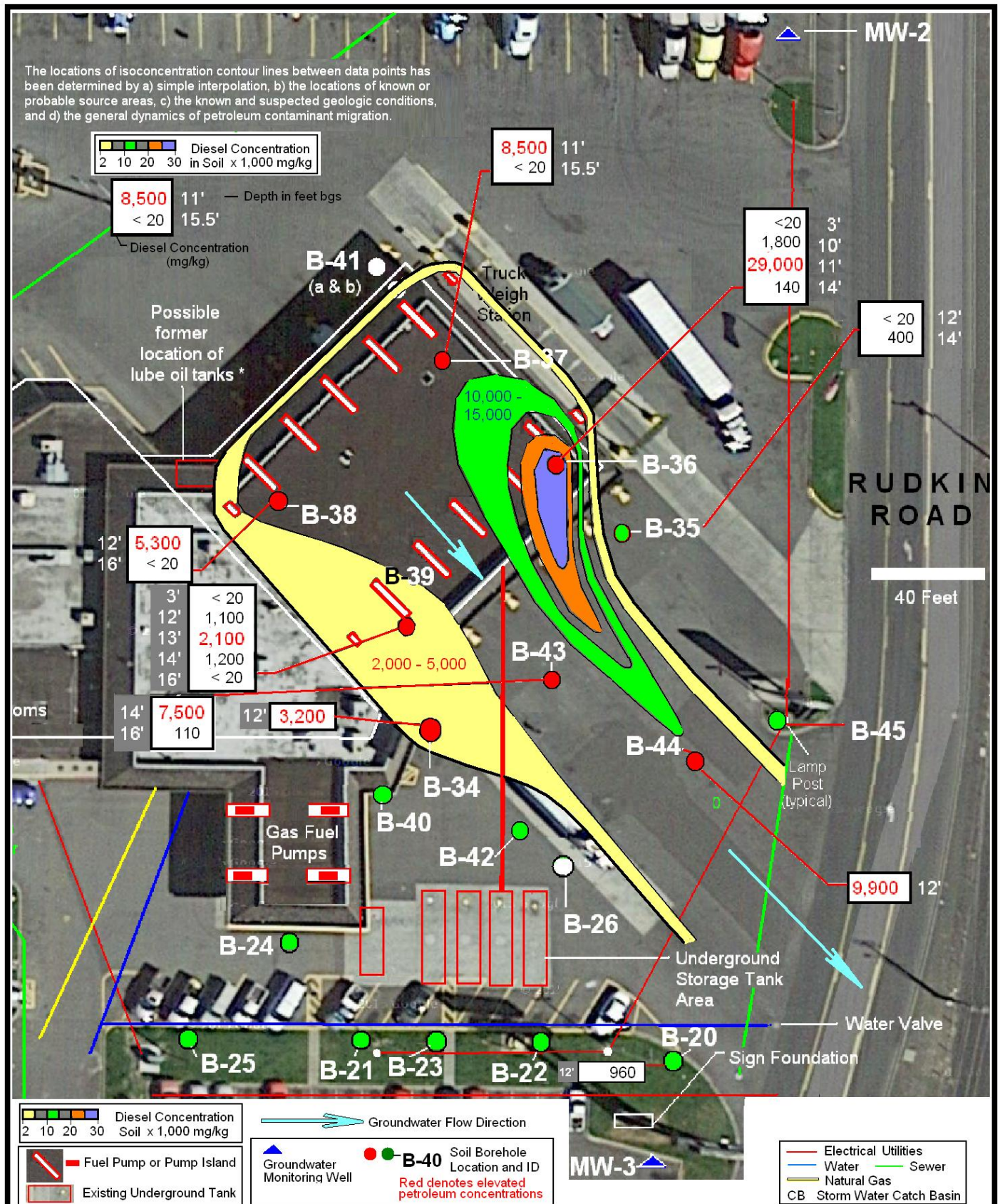
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FIGURE 3B

PHASE 3 INVESTIGATION LAB RESULTS : DIESEL FUEL CONCENTRATIONS (mg/kg)

GEARJAMMER TRUCK PLAZA
 2310 Rudkin Road
 Union Gap, Washington
 VCP Project No.CE0312



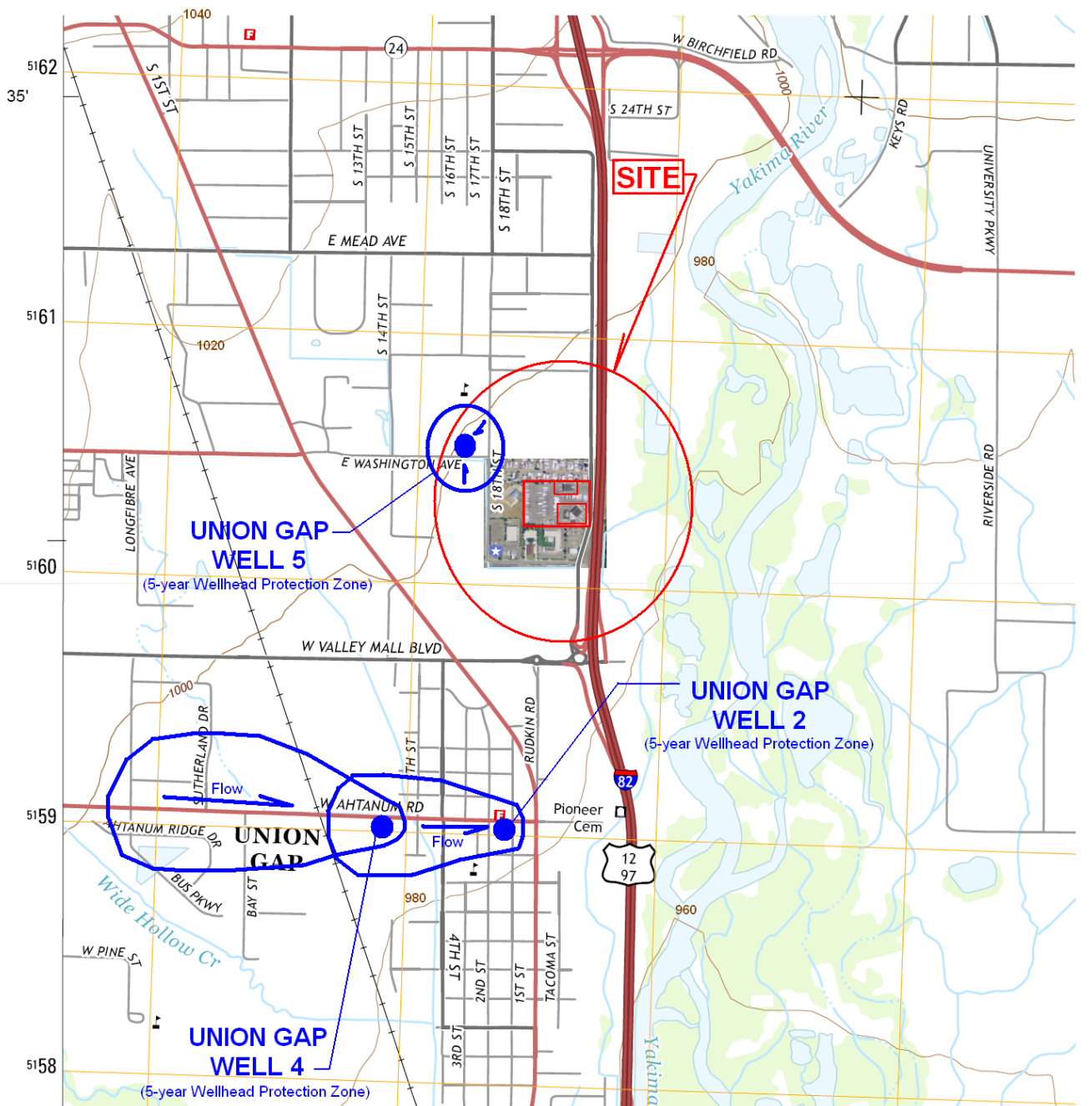
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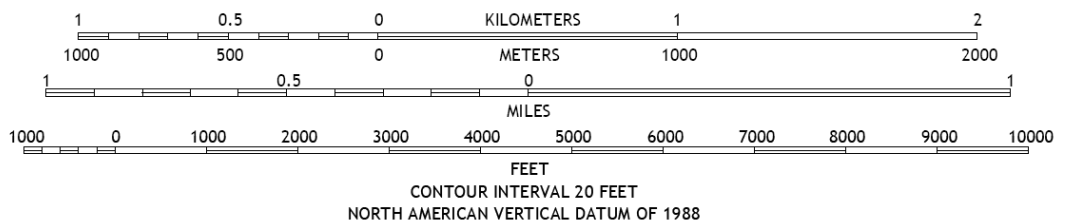
FIGURE 3C

PHASE 3 INVESTIGATION LAB RESULTS : DIESEL FUEL ISOCONCENTRATION CONTOURS (mg/kg)

GEARJAMMER TRUCK PLAZA
2310 Rudkin Road
Union Gap, Washington
VCP Project No.CE0312



GN
 1° 52' 33 MILS
 MN
 15° 46' 280 MILS
 UTM GRID AND
 2013 MAGNETIC NORTH
 DECLINATION AT
 CENTER OF SHEET



Aerotech Environmental Consulting, Inc
 13925 Interurban Avenue South, Ste. 210
 Seattle, Washington
www.AerotechEnvironmental.com

Drawing by McDermott : 24 Aug 2016

FIGURE 5

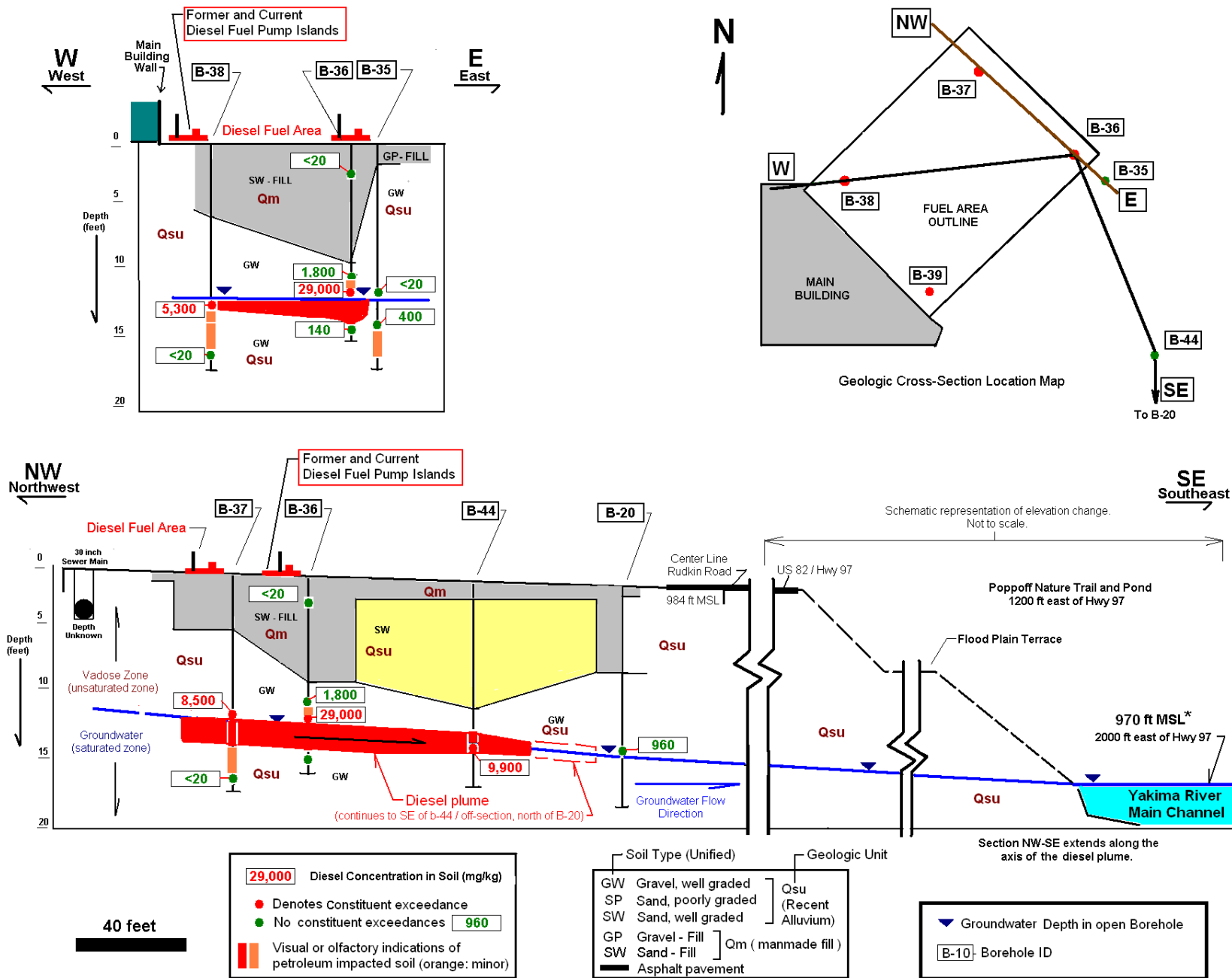
NEARBY WELLHEAD
 PROTECTION ZONES
 U.S. Geological Survey
 7.5-Minute Topographic Quadrangle

GEARJAMMER TRUCK PLAZA
 2310 Rudkin Road
 Union Gap, Washington
 VCP Project No.CE0312

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13925 Interurban Avenue South, Ste 210
Seattle, Washington
www.aerotechenvironmental.com
Drawing by R.H. Wfeg
06 Jan 2017

FIGURE 6 HYDROGEOLOGICAL CROSS-SECTIONS WITH LAB RESULTS

GEARJAMMER TRUCK PLAZA
2310 Rudkin Road
Union Gap, Washington
VCP Project No. CE0312



TABLES

GASOLINE RANGE ORGANICS in SOIL August 2016 - Phase II Investigation

Aerotech Environmental Consulting, Inc
13925 Interurban Avenue South, Ste 210, Seattle, Washington

2,100 Above MTCA Method A **5.6** Below MTCA Method A

Underground Tank, Gasoline and Diesel Fueling Areas

Truck Wash and Lube Building Area

NWTPH-Gx/ BTEX		B-21 (8')		B-21 (12.5')		B-23 (12.5')		B-24 (4')		B-24 (13.5')		B-25 (8')		B-25 (12')		B-25 (14')		B-27 (12')		B-29 (14')		B-30 (12')		B-30 (14')		B-31 (12')	
Matrix - Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date collected	Soil	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	08/09/16	
NWTPH-Gx, mg/kg	Soil Reporting Limits mg/kg																										
Mineral spirits/Stoddard	5.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Gasoline	5.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	

BTEX 8021B, ug/kg

mg/kg

Underground Tank, Gasoline and Diesel Fueling Areas

Truck Wash and Lube Building Area

Benzene	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Ethylbenzene	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Xylenes	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
MTBE	0.100		<0.100			<0.100			<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	
EDB	0.005		< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
EDC	0.020		< 0.020			< 0.020			< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	
Chlorinated VOCs	Variable													ND	ND				ND							
PCB	Variable																							ND		
PAH	Variable																							ND		
Lead	1.0		<1.0			<1.0			<1.0		<1.0															

</

Analytical Results

Underground Tank, Gasoline and Diesel Fueling Areas

Truck Wash and Lube Building Area

NWTPH-Gx / BTEX		B-20 (12)	B-20 (15)	B-22 (10)	B-23 (12.5)	B-23 (14)	B- 26 (3)	B-26 (8.5)	B- 27 (12)	B-28 (4)	B-28 (12)	B-29 (14)	B-30 (12)	B-30 (14)	B-31 (12)	B-31 (14)	B-34 (4)	B-34 (10)	B-34 (12.5)	B-34 (15)	MTCA Method A Cleanup Levels SOIL
Matrix - Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
	Reporting Limits																				
Date collected		08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/10/16	08/11/16	08/11/16	08/11/16	08/11/16

NWTPH-Dx, mg/kg

Matrix - Soil	mg/kg	Underground Tank, Gasoline and Diesel Fueling Areas								Truck Wash and Lube Building Area								mg/kg			
Kerosene/Jet fuel	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	2,000
Diesel/Fuel oil	20	960	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	3,200	< 50	2,000
Heavy oil	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	1,500	< 50	< 50	< 50	< 50	2,000

Analytical Results

Diesel Fuelling Area

Gasoline Pumps / Underground Tank Area

[illegible]

Analytical Results

Downgradient of Diesel Fueling Area

NWTPH-Gx / BTEX		B-43 (14')	B-43 (16')	B-44 (12')	B-45 (13.5')		MTCA Method A Cleanup Levels SOIL
Matrix - Soil	Soil	Soil	Soil	Soil	Soil		
	Reporting						
	Limits						
Date collected		11/30/16	11/30/16	11/30/16	11/30/16		

NWTPH-Dx, mg/kg		mg/kg Downgradient of Diesel Fueling Area					mg/kg	
Matrix - Soil								
Kerosene/Jet fuel	20	< 20	< 20	< 20	< 20			2,000
Diesel/Fuel oil	20	7,500	110	9,900	< 50			2,000
Heavy oil	50	< 50	< 50	< 50	< 50			2,000

LABORATORY ANALYTICAL RESULTS

Gearjammer Travel Plaza, 2310 Rudkin Road, Union Gap, Washington
Phase II - Limited & Targeted Phase II Subsurface Investigation (Aug 2016) / Phase III Dec 2016

Aerotech Environmental Consulting, Inc
13925 Interurban Avenue South, Ste 210, Seattle, Washington

2,100 Above MTCA Method A

5.6 Below MTCA Method A

GASOLINE, DIESEL AND LUBRICANT RANGE ORGANICS in WATER Aug 2016 - Phase II and Dec 2016 Phase III Investigations

Analytical Results		Truck Wash and Lube Building Area				Diesel / Gasoline Fueling Area		MTCA Method A Cleanup Levels WATER	
NWTPH-Dx, mg/L		W-B-27	W-B-29	W-B-31	MW-3	B-40-W	B-42-W		
Matrix Water	Water	Water	Water	Water	Water	Water	Water		
	Reporting								
	Limits								
Date collected		8/10/2016	08/10/16	08/10/16	08/09/16	11/29/16	11/30/16		
mg/L									
Kerosene/Jet fuel	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	Kerosene/Jet fuel	0.500
Diesel/Fuel oil	0.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	Diesel/Fuel oil	0.500
Heavy oil	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	Heavy Oil	0.500
mg/L									
NWTPH-Gx, mg/L		W-B-27	W-B-29	W-B-31	MW-3	B-40-W	B-42-W		mg/L
Mineral spirits/Stoddard	0.100			< 0.100		< 0.100		Mineral spirits/Stoddard	0.800
Gasoline	0.100			< 0.100		< 0.100		Gasoline	0.800
BTEX 8021B, mg/L		mg/L*							mg/L
Benzene	0.001			< 0.001		< 0.001		Benzene	0.005
Toluene	0.001			< 0.001		< 0.001		Toluene	1.000
Ethylbenzene	0.001			< 0.001		< 0.001		Ethylbenzene	0.700
Xylenes	0.001			< 0.001		< 0.001		Xylenes	1.000
VOCs	Varies	ND		ND				Chlorinated VOCs	Varies

* NOTE: BTEX compounds are presented here as mg/kg rather than ug/kg.

Bold Red denotes samples exhibiting concentrations exceeding State of Washington MTCA Method A Cleanup Levels

Sample Depth is indicated in Sample ID in units of feet below ground surface (bgs), within parentheses; Example: "B-21 (14)" = B-21 at 14 ft bgs

* State or Oregon RBCs (Risk-Based Concentrations)

ND= No listed compound detected at or above Lab RLs

RED SHADING:

Above MTCA Method A Cleanup Level

GREEN SHADING:

Below MTCA Method A Cleanup Level

NO SHADING

Constituent was not detected at or above the indicated lab reporting limit

GRAY SHADING

Not analyzed

mg/kg - milligrams per kilogram (ppm) mg/L- milligrams per liter (ppm)

Reference: *Guidance for Remediation of Petroleum Contaminated Sites*, State of Washington Department of Ecology, Revised 2016

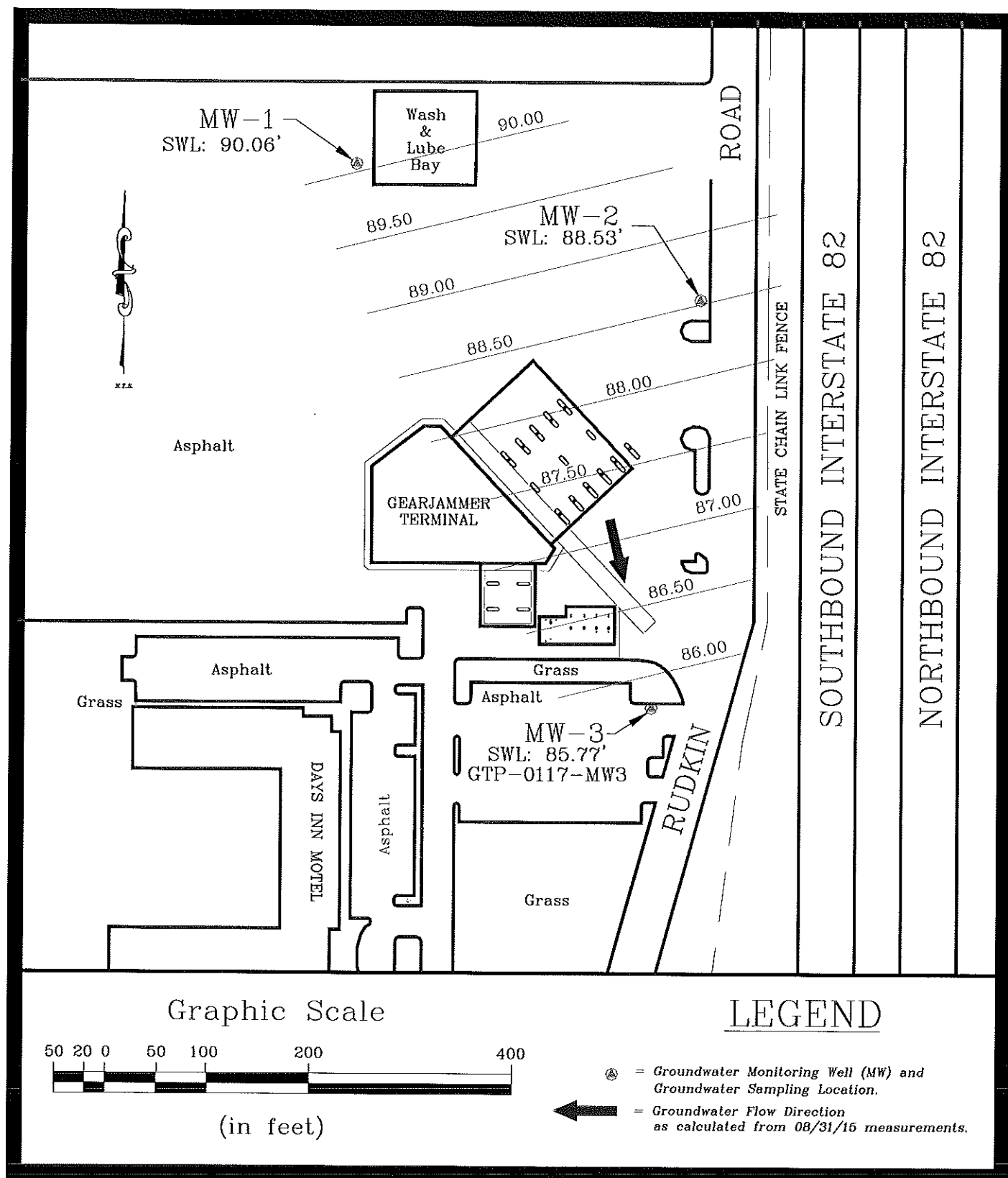


Figure 1. Groundwater Sampling Location & Water Table Contours on August 31, 2015


PROJECT CONTRACT DOCUMENTS

ENVIRONMENTAL CONTRACTOR'S CERTIFICATION

Gearjammer Truck Plaza
2310 Rudkin Road
Union Gap, Washington 98903

1. Contractor's Name: Aerotech Environmental Consulting, Inc.
2. Contractor's Address: 13925 Interurban Avenue South, Suite 210, Seattle, Washington 98168
3. Name and title of person completing this certification: Alan T. Blotch / President
4. Answer the following questions about each employee that contractor will have perform the assessment or prepare the report showing the results of the inspection:
 - a. Name and Title of Employee: Alan T. Blotch – Environmental Professional
 - b. Length of experience doing environmental assessments: 32 years
 - c. Education degrees received: Masters of Business Administration
Juris Doctor – Environmental Law
 - d. Relevant training received: ASTM E50 Environmental Assessment Committee Meetings
5. Identify any certifications and approvals issued to contractor pursuant to an official Federal, State or local program or policy to conduct environmental assessments: Registered Environmental Assessor
Issued by State of California
6. Describe the generally recognized standards which the contractor will use to perform the assessment.
Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process
(ASTM E 1903)
7. Disclose the nature of any previous environmental inspections contractor has ever performed for the Owner of the property: Phase I Environmental Site Assessment
8. Disclose the nature of any affiliation or association contractor now has, or ever had, with the above referenced seller of the property, of the above referenced buyer of the property: N/A
9. Describe the liability insurance carried by contractor to cover claims in the event that it fails to discover adverse environmental conditions during an environmental inspection.
Professional Errors & Omissions Coverage \$1,000,000 / claim and \$1,000,000 aggregate liability

THE UNDERSIGNED HEREBY CERTIFIES, UNDER PENALTY OF THE CRIMINAL AND/OR CIVIL PENALTIES IN 18 U.S.C. § 1001 FOR FALSE STATEMENTS TO THE UNITED STATES GOVERNMENT, THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.



Signature

01-05-17

Date

CURRICULUM VITAE

James McDermott

State of Washington Licensed Professional Geologist No. 3063

Mr. McDermott has 15 years experience in small business, and 9 years experience in environmental consulting with increasing scope, responsibility, innovation and effective results involving commercial and industrial properties spanning the country from the upper Midwestern states within glacial, alluvial or coastal geologic/hydrogeologic settings to complex bedrock, volcanic and glacial/fluvial settings in the northern Rocky Mountain states, the Pacific Northwest and Alaska. He has conducted field work and mapping in mountainous terrain in northern Wyoming and in central Utah where he has published: Utah Geologic Survey Geologic Quadrangle (Chriss Canyon 7.5 min.). These projects included extensive sampling of soils, rock, surface waters, groundwater, limited submarine sampling, soil borings, monitoring well installations, soil vapor extraction wells and systems, and dual-phase extraction and incineration. He is proficient in the application of aerial photographs, satellite imagery and on-line tools, and has limited surveying experience. His work has included compliance activities involving Superfund Sites, and waste remediation sites, as well as Phase I Environmental Site Assessments, Phase II Subsurface Investigations, hydrogeologic studies, pump tests, remediation system design, and groundwater monitoring. His work has required a familiarity with ASTM Phase I and Phase II Protocols, and other relevant ASTM Protocols as well as USEPA, CERCLA, RCRA regulations. He is familiar with Washington State MTCA regulations (hazardous assessments and independent remedial actions), as well as State of Oregon Risk Based Standards. His academic background has included work in organic chemistry and chemical engineering as well as an undergraduate engineering physics and calculus sequence.

Education	University of Illinois - Urbana, IL – BSci Geology – 1984 (Field Mapping: Sheridan, WY) Northern Illinois University - DeKalb, IL – Graduate research/Published USGS Map, Utah).
Publications	Chriss Canyon 7.5-Min. Geologic Quadrangle, Utah, Coauthor, UGS Map 185, 2003
Professional History	Aerotech Environmental Consulting, Inc. Hydrogeologist/Environmental Professional (2011-Present) James McDermott Consulting, Proprietor, Web Design-IT (1995-2010) (Including work with Bank One, Xerox, and IGO Cars) Earthscience Consulting, Proprietor, Hydrogeologist (1993-1994) ATEC Environmental Associates, Inc., Hydrogeologist (1991-1993) EIS Environmental, Inc., Staff Geoscientist (1989-1991)
Certifications	OSHA 40-hr Hazwoper, 8hr Refresher (2013) Participation Certificate: Chlorinated Solvent Remediation - Sequential In-Situ Chemical Oxidation and Enhanced Anaerobic Biodegradation.
Organizations & Memberships	Geological Society of America – Cordilleran Section, Rocky Mountain Section, Environmental and Engineering Geology Division, Hydrogeology Division, Structural Geology and Tectonics Division.
Expertise	Mr. McDermott has performed over 150 Phase I and Phase II investigations including property transfers and LUST closures, conducted site reconnaissance, and prepared Phase I and Phase II Site Assessment reports. Phase II investigations included groundwater monitoring well design, installation and monitoring. He has participated in the design and monitoring of several remediation systems installed at selected Phase II project sites, contributed to RCRA landfill compliance monitoring projects and often the associated subsurface investigation and planning. He managed and planned a large number of these projects, implemented the investigations,

created both preliminary and final reports, and defined and implemented the additional investigation where required.

USGS GEOLOGIC MAPPING PROGRAM (Utah Geological Survey): He has contributed to the study and mapping of geologic units as a part of the related US Geological Survey program to complete national coverage of geologic maps at the 1:24,000 scale. He has mapped intrusive and volcanic bodies, faults, landslide hazards, mineral deposits, hydrothermal alteration, and springs. He has integrated data such as petroleum exploration well logs (gamma/SP), aerial and satellite imagery.

SUPERFUND SITE INVESTIGATIONS : He has performed subsurface characterization and hydrogeological assessments including the assembly and interpretation of soil boring and laboratory data, monitoring well design, well installation and groundwater monitoring well sampling plans.

RCRA COMPLIANCE : He has participated in the subsurface characterization and hydrogeological assessments on RCRA sites and has contributed to research and evaluation of previous investigations as well as pertinent public records.

UST SITE CHARACTERIZATION & REMEDIATION: He has performed Phase I, Phase II investigation, and planned and participated in successful Phase III remediation projects, including the management and on-site supervision of the removal of tanks at a 40-unit, 25,000 gallon pre-WWII aircraft engine tank farm site. Contaminants included fuels, solvents and lubricants, DNAPLs. He has performed numerous subsurface characterization and hydrogeological assessments including soil borings, split spoon, cores, monitoring well design and installation, remediation sampling, monitoring, pump testing, modeling /analysis.

REAL ESTATE TRANSFERS: He has performed Phase II Subsurface investigation / preliminary hydrogeological evaluations for the purpose of property transfers for lenders, property owners and prospective buyers.

GEOPHYSICAL SURVEYS: He has participated in the performance of a groundwater investigation for the Illinois Geological Survey designed to locate and define gravel channel aquifers in buried bedrock valleys.

BIOREMEDIATION APPLICATIONS: He has participated in a seminar devoted to groundwater bioremediation with particular attention to chlorinated solvents and the use of in-situ chemical oxidation and enhanced anaerobic biodegradation. This technique is being applied to contaminated industrial properties in Washington state.

Notable Projects and Innovations

His subsurface investigation experience has also included field studies and reports on projects such a Superfund property in an industrial park, several RCRA landfill compliance projects, a large underground tank farm (over 40 25,000-gal. tanks and a great variety of fuels, solvents and lubricants) at the location of a former WWII-era aircraft engine plant, a contaminant incineration remediation project at a major LUST site located within a sensitive urban area, the mapping and excavation of over 20,000 cubic yards of contaminated fluvial and alluvial sands in an aging 19th – 20th century riverside industrial complex, landslide mapping, risk assessment and an aquifer mapping project for a State Geological Survey.

Innovations and improvements he has introduced during his environmental consulting career

have included the composition and refinement of numerous Standard Operating Procedures including those related to monitoring well design and encompassing equipment maintenance, calibration and operation. An innovation at the time and place, he initiated the routine incorporation of documentation and analysis of utility and transportation conduits (sewer, storm water and tunnel plans) in considering groundwater and contaminant flow dynamics, and their potential as primary or secondary conduits for the transport of contaminants in groundwater or in surface runoff for Phase I, Phase II and other investigations. For example, in one case in the central Chicago business district where flammable vapors were reported in the basement of a landmark building, he utilized both sewer design plans and subway depth measurements to trace probable vapor pathways and successfully divert the unproven assignment of primary responsibility from his client. In another case he devised and implemented a simple incinerator design change which greatly reduced time and cost associated with automated emergency systems shutdowns. In routinely evaluating previous studies prior to incorporation into his reports, he occasionally discovered and corrected errors in groundwater flow calculations or elevation data. He discovered forged soil boring logs, accepting no external material without some verification where the economic and legal concerns of a client might be jeopardized.

**Small Business
Experience**

He has fifteen years experience operating a web design and computer consulting business as a sole proprietor with several staff, meeting the unique needs and budgets of the small business and mid-sized business community, employing web design and marketing to increase the profits a of one small business by over 1000 percent.

SOIL BORING LOGS

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 4 ft East of 50 ft sign + 2 ft south of curb

Borehole Area (AOC): South of Tank Area- landscaped are north of 50 ft + sign

Logged by: J. McDermott: Boring Depth: 15.5 feet

GW Encountered: YES

Static GW Level: 12 ft

Approx. Surface Elevation: 985 ft MSL

Airknife to 6 ft 0750-

Start Date: 08-09-16 End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/ Description	Well Construction
1						SM	Lawn / limited topsoil.	
2					Air Knife	GP	FILL- SAND, very fine, with 25-40 percent silt, moist, soft, grayish brown. At 2 ft: 1 ft layer of 2 to 6 inch subrounded cobbles/gravel. Large cobble or boulder at 4.5 ft - cannot remove. No foul odor.()	
3							Air knife to 4.5 ft - sample collected by auger at 3-4 ft interval	
4		LAB 0.0				SM		
5						GP	Large cobble(s) Air knife 'refusal' 0850	
6							FILL - SAND - fine to very fine, poorly graded, some silt (15-20 percent), little small to large subrounded gravel, medium brown, slightly moist, soft. No foul odor.	
7		0.0				GW	GRAVEL (75 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray, dry. No foul odor.	
8							Slough - pushed cobbles	
9								
10								
11						GW	GRAVEL (80 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray, dry. Wet at 12 ft No foul odor.	
12		0.0 LAB 17						
13								
14						GW	Same as above. Wet. Slight petrol odor at 12.5 -13.5	
15		1.1						
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name:

Drilling Information

Project Number:

Drilling Contractor:

Logged by:

Start Date:

End Date:

[illegible]

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

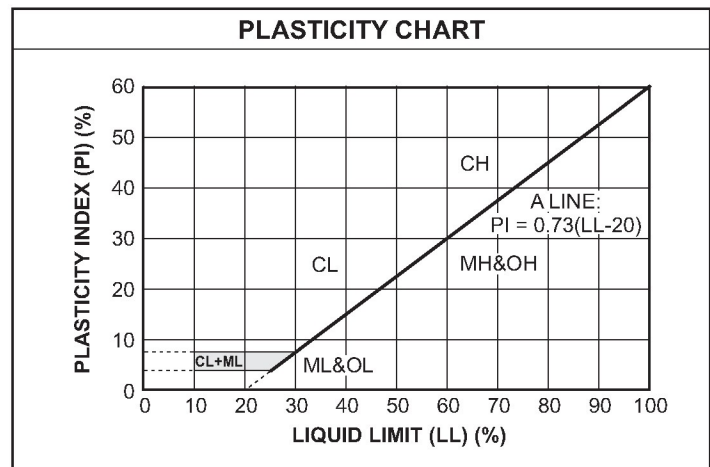
UNIFIED SOIL CLASSIFICATION SYSTEM

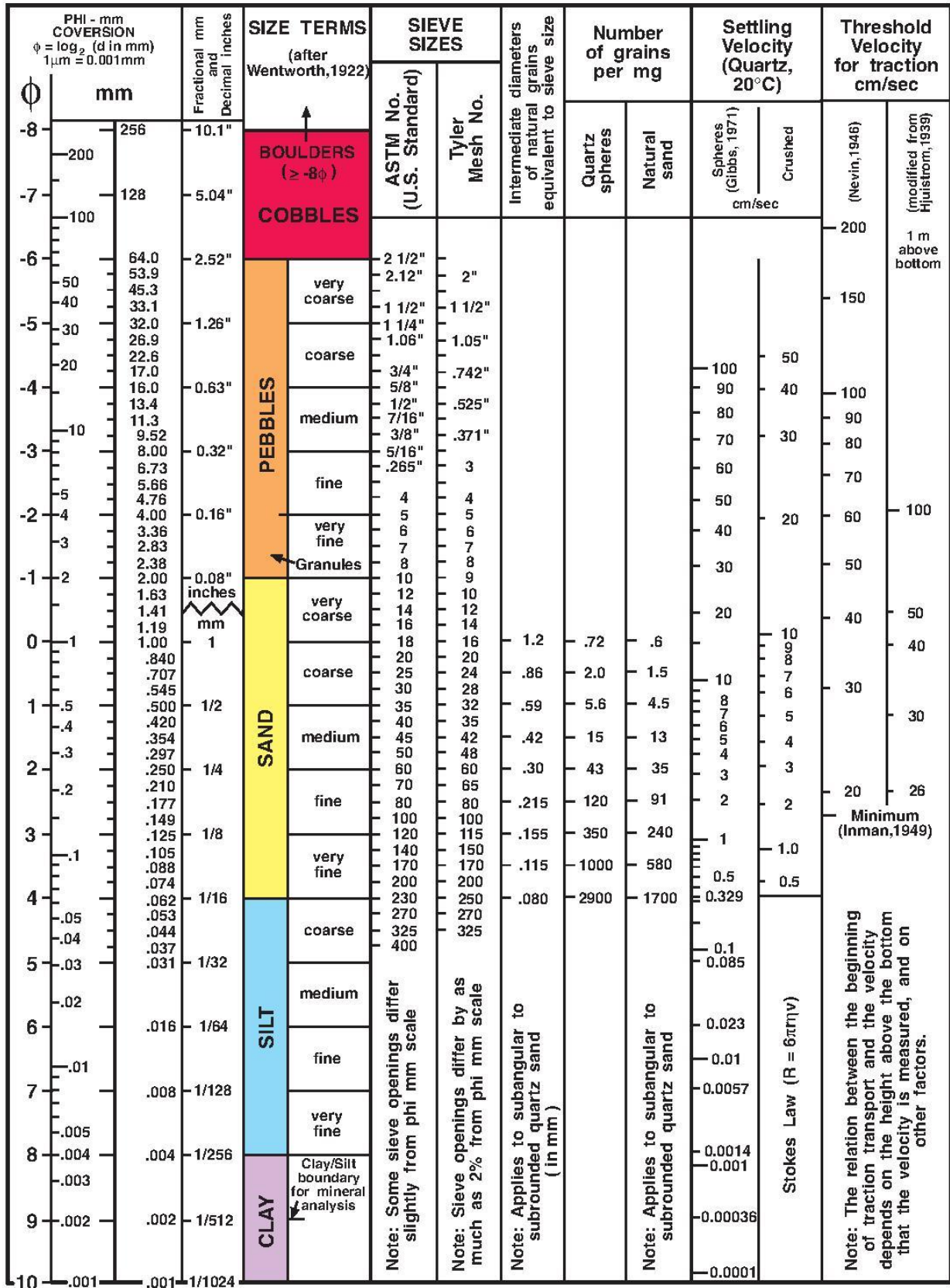
UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART			
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA		
GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent GW, GP, SW, SP
More than 12 percent GM, GC, SM, SC
5 to 12 percent Borderline cases requiring dual symbols





Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: Borehole Location: 107 ft West of 50 ft sign + 2 ft south of curb
Borehole Area (AOC): South of south pump island are - SSE of SE Pump No. 6 on lawn

Logged by: J. McDermott: Boring Depth: 16 feet

GW Encountered: YES Static GW Level: 12 ft

Notes:

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-09-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1						SP	Landscaped lawn area	
2						SM	FILL - SAND - fine to very fine, poorly graded, some silt (15-20 percent), little small to large subrounded gravel, medium brown, slightly moist, soft. No foul odor.	
3		LAB						
4		0.4						
5		0.0				SP	FILL - SAND, fine to med, mod grading, trace silt and coarse to very coarse sand, little small to large subrounded gravel, dry. No foul odor.	
6							Cobble/gravel driven to 7 ft - no recovery	
7		LAB					Offset 1.5 ft south- sample recovered 6-8 ft	
8		0.0				GW	GRAVEL (75 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry. No foul odor.	
9						GW		
10						GW	GRAVEL (50 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, medium brown, brown dry. No foul odor.	
11		0.5					Same as above. Wet at 12.2 ft	
12		LAB				GW		
13								
14								
15		LAB				GW	GRAVEL (80 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, medium to dark brown, dry. No foul odor.	
16		0.0						
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: Borehole Location: 43 ft West of 50 ft sign + 2 ft south of curb

Borehole Area (AOC): South of Tank Area

Logged by: J. McDermott:

Boring Depth: Refusal at 11 feet

GW Encountered: NO

Static GW Level:

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-09-16

End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1						SM	Lawn	
2		2.9			Air Knife	GP	FILL- SAND, very fine, with 25-40 percent silt, moist, soft, grayish brown. At 2 ft: 1 ft layer of 2 to 6 inch subrounded cobbles/gravel. Large cobble or boulder at 4.5 ft - cannot remove. No foul odor.()	
3							Air knife to 5.5 ft - sample collected by auger at 3-4 ft interval	
4		LAB				SM	Black organic seam at 2 ft - approx 4 inch thickness	
5								
6								
7		0.0				GW	GRAVEL (85 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry. No foul odor.	
8								
9		LAB				GW	Same as above. Dry. No foul odor.	
10		0.0						
11		0.0				GW	Same as above. Medium to dark brown, dry. No foul odor.	
12		LAB					Refusal atop large cobble at 11.0 ft	
13								
14								
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: Borehole Location: 80 ft West of 50 ft sign + 2 ft south of curb

Borehole Area (AOC): South of Tank Area

Logged by: J. McDermott: Boring Depth: 16.5 feet

GW Encountered: YES Static GW Level: 12

Notes:

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-09-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1					Air Knife		Lawn / topsoil	
2							FILL - SAND, very fine, trace med-coarse, with silt (25 percent), dark brown, subrounded gravel (cobbles to 6 inch at 2 ft), slightly moist. No foul odor.	
3								
4								
5								
6								
7		LAB				GW	GRAVEL (85 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry. No foul odor.	
8		0.0						
9						GW	Same as above. Dry. No foul odor.	
10		0.4						
11		0.3					Same as above. Dry, slightly moist at tip. No foul odor.	
12								
13		LAB				GW	Same as above. Wet below 12 ft. No foul odor.	
14		0.1 LAB						
15						GW	Same as above. Medium to dark brown. Wet. No foul odor.	
16		0.0						
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

1ft south of concrete pad, midway between pumps no 6 and no 8

Borehole Location: 27 ft east and 4 ft south of SE corner of South Pump Island Canopy

Borehole Area (AOC): South of vehicular fuel pump island area

Logged by: J. McDermott:

Boring Depth: 13.5 feet

GW Encountered: YES

Static GW Level: 12 ft

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-09-16

End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Lawn / topsoil	
2					Air Knife	SP	FILL - SAND, very fine, with silt (30 percent), dark brown, subrounded gravel (cobbles to 6 inch at 2 ft), slightly moist. No foul odor.	
3		LAB						
4								
5							GRAVEL (85 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry. No foul odor.	
6		0.0				GW	GRAVEL (75 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray, dry. No foul odor.	
7		LAB						
8		0.0						
9						GW	Same as above. Brown with gray. Dry. No foul odor.	
10		0.0						
11								
12		0.0				GW	Same as above. Brown with trace gray. Wet. No foul odor.	
13		0.0						
14		LAB						
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: Borehole Location: 170 ft West of 50 ft sign + 2 ft south of curb

Borehole Area (AOC): South of Tank Area

Logged by: J. McDermott: Boring Depth: 14 feet

GW Encountered: YES

Static GW Level: 12

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-10-16 End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0					Sod/Topsoil - 6 inches	
2								
3					Air Knife	SP	FILL - SAND, with cobbles and silt, very fine to medium, moderately graded, (cobbles are subrounded), damp, dark brown, No foul odor.	
4		0.0		LAB				
5								
6								
7		LAB				GW	GRAVEL (85 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown and gray, dry. No foul odor.	
8		0.0						
9								
10								
11		LAB				GW	Same as above. brown and gray. Dry, very moist to wet below 11.9 ft. No	
12		0.0						
13		LAB				GW	Same as above. brown and gray. Dry, very moist to wet below 11.9 ft. No	
14		0.0						
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 68ft SE of Restaurant sidewalk and 3 ft SW truck lane concrete pad

Borehole Area (AOC): Southwest of AMBest(easternmot)truck scale / concrete pad

Logged by: J. McDermott: Boring Depth: REFUSAL at 9.5 feet

GW Encountered: NO

Static GW Level:

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-09-16 End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement atop densely compacted angular sandy gravel.	
2					Air Knife	SP	FILL -SAND, very fine, with silt (30 percent), dark brown, subrounded gravel (cobbles to 6 inch at 2 ft), slightly moist. No foul odor.	
3		LAB					FILL-GRAVEL, subrounded, with sand, very densely compacted, gray, dry. No foul odor.	
4							Pushing cobble/gravel - no recovery 4.5 to 6	
5							GRAVEL (90 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray, dry. No foul odor.	
6	0.0						Same as above. Dry No foul odor.	
7	0.0						Same as above. Gray, dry, slightly moist at 9.1 ft. No foul odor.	
8	0.0	LAB					Refusal at 9.5 ft	
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19							Bottom of borehole at feet	
20							Groundwater encountered at feet. No well installed.	
							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 34 ft west and 11 ft south of SW Corner of Wash-Lube Bldg - S of Separator

Borehole Area (AOC): West of Truck Wash-Oil Change Area - 850 sq ft Concrete Oil-Water Separator

Logged by: J. McDermott:

Boring Depth: 14 feet

GW Encountered: YES

Static GW Level: 10.5 ft

Approx. Surface Elevation:

Start Date: 08-10-16

End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 6 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2								
3					Air Knife			
4		0.0		LAB		SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6								
7								
8		0.0						
9								
10		0.1				GW	GRAVEL (90 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry slightly moist at 10 ft. No foul odor.	
11		LAB						
12		0.0				GW	Same as above, wet. No foul odor.	
13		LAB						
14		0.0						
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type:	Core sampler + virgin poly-sleeve
---------------	--------------------------------------

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 6 ft east and 6 ft south of SE corner of wash lube bldg

Borehole Area (AOC): South of Tank Area

Logged by: J. McDermott:

Boring Depth: 14 feet

GW Encountered: N YES

Static GW Level: 11.5

Notes:

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-09-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, highly compacted, No foul odor.	
2					Air			
3					Knife			
4		0.0		LAB		SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6		LAB						
7		0.0				SP	FILL - SAND, very fine to fine, with medium, medium brown dry. No foul odor.	
8								
9								
10		0.0				GW	GRAVEL (75 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown, dry. No foul odor.	
11		LAB						
12		0.0				GW	Same as above (gravel=85 percent). Wet. No foul odor.	
13		LAB						
14		0.0						
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

3 ft south of 16 sq ft disused RV waste sump location

Borehole Location: 34 ft east and 7 feet south of SW corner of Wash/Lube Service Bldg

Borehole Area (AOC): Southeast of former 8,000-gal tank basin / south of disused RV waste sump

Logged by: J. McDermott:

Boring Depth: 14 feet

GW Encountered: YES

Static GW Level: 11.5

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-10-16 End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2								
3								
4		0.0		LAB	Air Knife	SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6								
7		LAB				SP	FILL - SAND, very fine to fine, with medium, medium brown dry. Trace asphalt fragments. No foul odor.	
8		0.0						
9						GW	GRAVEL (85 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, brown and gray, dry. No foul odor.	
10		0.0						
11		LAB						
12		0.0						
13		LAB				QW	Same as above. Wet. No foul odor.	
14		0.0						
15								
16								
17								
18								
19							Bottom of borehole at feet Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 2 ft north and 10 ft west of SW corner of wash/lube bldg

Borehole Area (AOC): East of Truck Wash-Oil Change Area - Former 8,000-gal UST Loc

Logged by: J. McDermott:

Boring Depth: 14 feet

GW Encountered: YES

Static GW Level: 14 ft

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-10-16 End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2								
3								
4		0.0		LAB	Air Knife	SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6								
7							No recovery at 6 to 9 - pushing a cobble/gravel	
8	LAB							
9		0.0				GW	GRAVEL (90 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray and brown, dry slightly moist at 11 ft. No foul odor.	
10								
11		0.1						
12	LAB						Same as above. Slightly moist to moist at 14 ft	
13						GW		
14	LAB							
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor:	SEP, Tumwater, Wa
Drilling Method:	Direct Push
Borehole Diameter:	2"
Sampler Type:	Core sampler + virgin poly-sleeve

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 25 ft north and 10 ft west of SW corner of wash/lube bldg

Borehole Area (AOC): East of Truck Wash-Oil Change Area - Former 8,000-gal UST Loc

Logged by: J. McDermott:

Boring Depth: 14 feet

GW Encountered: YES

Static GW Level: 11.5

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-09-16

End Date: Same

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - atop compact angular gravel base.	
2						GP	FILL - PEA GRAVEL, subounded to subangular, trace to little fine to coarse sand, trace silt. Dry. No foul odor.	
3								
4		0.0						
5								
6								
7						GP	FILL - PEA GRAVEL, Same as above. Gray, dry. No foul odor.	
8		0.0						
9								
10		LAB 0.0						
11		LAB 0.0				GP	FILL - PEA GRAVEL, Same as above. Gray, dry, wet below 11.5 ft. SEAM: Pea gravel matrix between 9 and 11 ft is mix of fine sand, silt and clay, Trace medium to large angular gravel, moist. No foul odor, except narrow 1/2 inch zone at approx 11.9 - hint of petrol	
12		LAB 0.0						
13		LAB 0.0				GP	FILL - PEA GRAVEL. SEAM: Pea gravel matrix between 13 and 14 ft is mix of fine sand, silt and clay, Trace medium to large angular gravel, wet. (SEAM at 13.5 ft: 2 in sandy silt atop 2 inch fine sand) Disturbed brown and gray mix in this interval. No foul odor.	
14						SW		
15							Refusal at 14 ft. - Base - 2 inches - possibly mix of fill and disturbed in-situ sandy gravel.	
16								
17								
18								
19							Bottom of borehole at feet Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 27 ft north and 20 ft west of SW corner of wash/lube bldg

Borehole Area (AOC): East of Truck Wash-Oil Change Area - Former 8,000-gal UST Loc

Logged by: J. McDermott: Boring Depth: 13 feet

GW Encountered: YES Static GW Level: 10.5

Notes:

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-11-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2								
3								
4		0.0		LAB		SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6								
7								
8		0.0	LAB					
9								
10		0.0				GW	GRAVEL (90 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray and brown, dry, slightly moist at 10 ft. No foul odor.	
11		0.0	LAB					
12						GW	Same as above. Wet. No foul odor.	
13		0.0	LAB					
14								
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 43 ft north and 17 ft west of SW corner of wash/lube bldg

Borehole Area (AOC): East of Truck Wash-Oil Change Area - Former 8,000-gal UST Loc

Logged by: J. McDermott: Boring Depth: 14 feet

GW Encountered: YES Static GW Level: 12

Notes:

Approx. Surface Elevation: 989 ft MSL

Start Date: 08-11-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2								
3								
4		0.0		LAB		SP	FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
5								
6								
7								
8								
9								
10						GW	GRAVEL (80 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray with some brown, dry, slightly moist at 10 ft. No foul odor.	
11								
12	0.0 LAB							
13						GW	Same as above. Wet. No foul odor.	
14	0.0 LAB							
15								
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 6 ft west of concrete east truck lane and 5ft south /perpendicular of concr walk.

Borehole Area (AOC): South of SE corner of Diesel fuel pump area

Logged by: J. McDermott: Boring Depth: 15 feet

GW Encountered: YES Static GW Level: 13 ft

Notes:

Approx. Surface Elevation: 985 ft MSL

Start Date: 08-10-16 End Date: Same

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/ Description	Well Construction
1		0.0				GP	Asphalt pavement - 4 inch FILL - Gravel, with silt and sand, medium, subangular, poorly graded, (sand is fine-grained), dry, dark brown, No foul odor.	
2							FILL - SAND, with cobbles and silt, very fine, moderately graded, (cobbles are subrounded), dry, dark brown, No foul odor.	
3								
4		0.0		LAB		SP	As above, dark gray	
5								
6								
7						GW	GRAVEL (80 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray with trace brown, dry. No foul odor.	
8		0.1						
9						GW	Same as above.	
10		LAB						
11								
12		LAB 247				GW	GRAVEL (80 percent), small to large/cobbles, sand matrix is fine to very coarse, well graded, trace silt, gray and brown, black at 12 to 13 ft, dry to moist. Strong diesel odor at 12 to 13 ft.	
13								
14		12.8					Same as above, brown, wet. Moderate diesel odor.	
15		7.3	LAB					
16								
17								
18							Bottom of borehole at feet	
19							Groundwater encountered at feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-8247

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)
Approx. Surface Elevation: 989 ft MSL

Start Date: 11-29-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 3 ft SE and 1ft SW of SW corner of pump island

Borehole Area (AOC): South adjoining second pump from SE corner. (Designate "PUMP S-2")

Logged by: Ryan Wigg: Boring Depth: 14 feet

GW Encountered: YES Static GW Level: 11 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - 4 inches, atop gravel base.	
2								
3		LAB 0935			Air Knife	SW	FILL - SAND, fine to medium, few large, with silt, trace small gravel, medium brown. No foul odor.	
4								
5								
6								
7								
8		LAB 1010						
9						GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, dry. No foul odor.	
10		LAB 1025					Same as above. Foul odor.	
11		LAB 1030						
12							Wet below 11 feet.	
13								
14		LAB 1050						
15								
16								
17								
18							Bottom of borehole at 14 feet	
19							Groundwater encountered at 11 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)
Approx. Surface Elevation: 989 ft MSL

Start Date: 11-29-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 7 ft NW and 2ft SW of SE end of pump island N-2

Borehole Area (AOC): Adjoining S of 2nd pump from NW corner. (Designate "PUMP N-2")

Logged by: Ryan Wigg: Boring Depth: 15.5 feet

GW Encountered: YES Static GW Level: 10.5 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Concrete Pavement - 10 inches, atop gravel base.	
2					Air Knife	SW	FILL - SAND, fine to medium, few large, with silt, trace small gravel, medium brown, moist. No foul odor. Trace one to three inch wood fragments.	
3		LAB	1027					
4							Air knife operator indicates dense cobble layer at 5 ft	
5						GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, slightly moist. No foul odor.	
6								
7								
8								
9								
10								
11	LAB	1120					Same as above. Wet below 10.5, dark, heavily stained. Foul odor.	
12							Same as above. Light brown, foul odor.	
13								
14								
15	LAB	1145						
16							Failed attempt to collect water from temporary well - consistency of sludge - peristaltic pump will not raise more than 4 ft	
17								
18							Bottom of borehole at 15.5 feet	
19							Groundwater encountered at 10.5 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type:	Core sampler + virgin poly-sleeve
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Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-29-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 3ft SE and 2 ft SW of SE corner of Pump island N-6

Borehole Area (AOC): Adjoining S of 6th pump from NW corner. (Designate "PUMP N-6")

Logged by: Ryan Wigg:

Boring Depth: 16 feet

GW Encountered: YES

Static GW Level: 11 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery		USCS Classification	Soil Classification/Description	Well Construction		
1								Concrete Pavement - 10 inches, atop gravel base.			
2					Air Knife		SW	FILL - SAND, fine to large, with small to large angular to rounded gravel, medium brown, no foul odor.			
3		LAB 1135									
4											
5											
6							GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, dry to slightly moist. No foul odor.			
7											
8											
9											
10											
11	LAB 1415							Same as above. Groundwater encountered at 11 feet. Moderate odor.			
12											
13											
14								Slight odor.			
15	LAB 1435										
16											
17											
18								Bottom of borehole at 16 feet			
19								Groundwater encountered at 11 feet. No well installed.			
20								Borehole completed with bentonite chips.			

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)
Approx. Surface Elevation: 989 ft MSL

Start Date: 11-29-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 3 ft SE and 2 ft Sw of SW corner of pump island

Borehole Area (AOC): Adjoining south of sixth pump from S corner. (Designate "PUMP S-6")

Logged by: Ryan Wigg: Boring Depth: 16 feet

GW Encountered: YES Static GW Level: 11.5 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - 4 inches, atop gravel base.	
2								
3		LAB 1405			Air Knife	SW	FILL - SAND, fine to large, little silt, some small to large angular to round gravel, medium brown. No foul odor.	
4								
5								
6								
7							No recovery at 5 ft to 8 ft - pushed large gravel.	
8								
9							Little recovery between 8 and 12 feet.	
10								
11						GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, moist to wet. Slight to strong foul odor.	
12	LAB 1540							
13	LAB 1600							
14	LAB 1605							
15	LAB 1606							
16								
17							Caved at 10 feet, unable to collect water sample	
18							Bottom of borehole at 16 feet	
19							Groundwater encountered at 11.5 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-29-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 11 ft SE and 7 ft NE of the SE end of the NE Pump of gasoline fueling area

Borehole Area (AOC): Immediately south of NE gasoline (Shell) pump.

Logged by: Ryan Wigg: Boring Depth: 14 feet

GW Encountered: YES Static GW Level: 11 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - 4 inches, atop gravel base.	
2								
3		LAB 1530			Air Knife	SW	FILL - SAND, fine to medium, little silt, few large round gravel, medium brown. Dry. No foul odor.	
4								
5								
6								
7						GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, slightly moist. No foul odor.	
8								
9		LAB 1700						
10								
11		LAB 1700						
12							Groundwater encountered. No foul odor.	
13		LAB 1715					Overall odorless. Slight indistinct / possibly diesel odor for one inch at	
14		LAB 1730						
15							Water samples collected with peristaltic pump from temporary PVC well, with screen at 9 to 14 ft: 2 ambers.	
16								
17								
18							Bottom of borehole at 14 feet	
19							Groundwater encountered at 11.5 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type:	Core sampler + virgin poly-sleeve
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Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 2 ft NE and 3 ft NW of former Pump loc N2

Borehole Area (AOC): Upgradient borehole - North of the NEX Diesel Area pump, N-1

Logged by: Ryan Wigg:

Boring Depth: 8.5 feet

GW Encountered: NO

Static GW Level: ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction		
1							Asphalt Pavement - 4 inches, atop gravel base.			
2						GW	GRAVEL (80 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, slightly moist. No foul odor.			
3					Air					
4		LAB 0815			Knife					
5										
6										
7										
8							Little recovery. Driller reports numerous cobbles and large gravel. Dry. No foul odor.			
9							Refusal at 8.5 feet. Driller indicates sampler rotating from probable large cobbles.			
10							Offset next boring (B-42b) 12 feet to the north.			
11										
12										
13										
14										
15										
16										
17										
18										
19							Bottom of borehole at 8.5 feet Groundwater not encountered. No well installed.			
20							Borehole completed with bentonite chips.			

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)
Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 2 ft NE and 15 ft NW of former Pump loc N2

Borehole Area (AOC):

Logged by: Ryan Wigg: Boring Depth: 8 feet

GW Encountered: NO Static GW Level: ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - 8 inches, atop gravel base.	
2						GW	GRAVEL (90 percent) - small to large with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, slightly moist. No foul odor. Potentially fill or reworked native.	
3								
4								
5								
6						GW	Same as above. Dry. No foul odor.	
7		LAB 0910						
8								
9							Refusal at 8.5 feet. Driller indicates sampler rotating from probable large cobbles.	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19							Bottom of borehole at 8 feet Groundwater not encountered. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa
Drilling Method: Direct Push
Borehole Diameter: 2"
Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)
Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 18 ft N of UST pad and 6 ft SW of Concrete Truck exit pad

Borehole Area (AOC): Downgradient of Deisel fuel area

Logged by: Ryan Wigg: Boring Depth: 16 feet

GW Encountered: YES Static GW Level: 13 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1							Asphalt Pavement - 4 inches, atop gravel base.	
2							FILL - SAND, fine to medium, little silt, few small angular gravel, medium brown. No foul odor.	
3								
4								
5						GW	GRAVEL (90 percent) - small to large, mostly small subrounded, with cobbles; sand - fine to very coarse, well graded: trace silt, gray and brown, slightly moist. No foul odor.	
6								
7								
8								
9								
10								
11							Possibly 2 inch recovery due to driven large gravel/cobble.	
12		LAB 1040					Same as above. Dry to slightly moist. No foul odor.	
13								
14								
15		LAB 1100					Presumed wet below 13 feet. Same as above. Slight indistinct / possible diesel odor. Collected 1 4-ou glass jar + 2 40cc VOAs preserved with 5ml methanol	
16								
17							Water samples collected with peristaltic pump from temporary PVC well, with screen at 10 to 15 ft: 2 ambers + 2 40cc HCL preserved.	
18							Bottom of borehole at 16 feet	
19							Groundwater encountered at 12 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 39 ft SE of canopy and 25 ft NE of concrete "runway"

Borehole Area (AOC):

Logged by: Ryan Wigg:

Boring Depth: 16 feet

GW Encountered: YES

Static GW Level: 13.5 ft

Notes:

Depth (ft)	Groundwater	PID	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1						SP	Asphalt Pavement - 4 inches, atop gravel base. SAND - fine, little silt, some small to large subrounded gravel, dark grey, trace small wood fragments and organic.	
2								
3								
4						GW	GRAVEL (90 percent) - small to large, mostly small angular, with cobbles; sand - medium to very coarse, well graded: trace silt, gray and brown, dry to slightly moist. No foul odor.	
5								
6								
7							Same as above. Dry. No foul odor.	
8		LAB 1315						
9							Same as above. Dry. No foul odor.	
10								
11								
12							Same as above. Wet below 13.5 ft. Strong diesel odor and very dark grey between 13.5 to 14 feet.	
13								
14		LAB 1325					Strong odor and medium brown below 14 feet.	
15		LAB 1330						
16								
17								
18								
19							Bottom of borehole at 16 feet Groundwater encountered at 13.5 feet. No well installed.	
20							Borehole completed with bentonite chips.	

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type:	Core sampler + virgin poly-sleeve
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Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 85 ft SE of canopy and 37 ft NE of concrete "runway"

Borehole Area (AOC):

Logged by: Ryan Wigg:

Boring Depth: 14.5 feet

GW Encountered: YES

Static GW Level: 11.5 ft

Notes:

[illegible]

Project Name: Gearjammer Truck Stop

Project Number: 216-

Drilling Information

Drilling Contractor: SEP, Tumwater, Wa

Drilling Method: Direct Push

Borehole Diameter: 2"

Sampler Type: Core sampler +
virgin poly-sleeve

Shallow: Air knife / Hand auger samples

Driller: Russell Vaughn (Wa 3018T)

Approx. Surface Elevation: 989 ft MSL

Start Date: 11-30-16 End Date: Same

Site Location: 2310 Rudkin Road, Union Gap, WA 98903

Borehole Location: 4 ft east of west post - Tall Shell signage in landscaped area

Borehole Area (AOC): Lawn are underneath sign.

Logged by: Ryan Wigg: Boring Depth: 14.5 feet

GW Encountered: YES Static GW Level: 11.5 ft

Notes:

Depth (ft)	Groundwater	Visual or Olfactory Evidence	Blow Counts	Recovery	USCS Classification	Soil Classification/Description	Well Construction
1					SP	Grass landscaping - 4 inches, atop 4 inch gravel base. SAND - fine, little silt, trace small to large subrounded gravel, medium brown, organic, moist.	
2							
3							
4					GW	GRAVEL (90 percent) - small to large, mostly small angular, with cobbles; sand - medium to very coarse, well graded: trace silt, gray and brown, dry.	
5							
6							
7							
8							
9							
10						Same as above. Wet below 11.5 feet. No foul odor.	
11							
12							
13						Same as above. Medium brown. Slight diesel odor between 13 and 13.5 feet.	
14		LAB	13.5ft				
15							
16							
17							
18						Bottom of borehole at 14.5 feet Groundwater encountered at 11.5 feet. No well installed. Borehole completed with bentonite chips.	
19							
20							

LABORATORY ANALYTICAL RESULTS

December 08, 2016

*James McDermott
Aerotech Environmental, Inc.
13925 Interurban Avenue South, Suite 210
Seattle, WA 98168*

Dear Mr. McDermott:

Please find enclosed the analytical data report for the *Gearjammer Truck Plaza (C61201-1)* Project.

Samples were received on *December 01, 2016*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 702-8571.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

4078 148 Ave NE ■ Redmond, WA 98052
425.702-8571
E-mail: aachemlab@yahoo.com

Advanced Analytical Laboratory
(425) 702-8571

AAL Job Number:	C61201-1
Client:	Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Gearjammer Truck Plaza
Client Project Number:	na
Date received:	12/01/16

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results		Dupl						
NWTPH-Gx/BTEX		MTH BLK	LCS	B-40 (W)	B-40 (W)	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd		nd	nd			
Gasoline	100	nd		nd	nd			

BTEX 8021B, ug/L

Benzene	1.0	nd	97%	nd	nd	104%	94%	10%
Toluene	1.0	nd	93%	nd	nd	77%	78%	1%
Ethylbenzene	1.0	nd		nd	nd			
Xylenes	1.0	nd		nd	nd			

Surrogate recoveries:

Trifluorotoluene	111%	126%	107%	110%	128%	127%		
Bromofluorobenzene	97%	93%	94%	101%	103%	100%		

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 na - not analyzed
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	B-35 (12')	B-35 (14')	B-36 (3')	B-36 (10')	B-36 (11')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	400	nd	1,800	29,000
Heavy oil	50	nd	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	115%	113%	105%	114%	102%	M
o-Terphenyl	110%	125%	128%	128%	129%	M

Data Qualifiers and Analytical Comments

na - not analyzed

Results reported on dry-weight basis

M - matrix interference

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results

NWTPH-Dx, mg/kg		B-36 (14')	B-37 (11')	B-37 (15.5')	B-38 (11')	B-38 (16')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	140	8,500	nd	5,300	nd
Heavy oil	50	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	107%	M	119%	M	120%
o-Terphenyl	126%	M	128%	M	125%

Data Qualifiers and Analytical Comments

na - not analyzed

Results reported on dry-weight basis

M - matrix interference

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: C61201-1
Client: Aerotech Environmental
Project Manager: James McDermott
Client Project Name: Gearjammer Truck Plaza
Client Project Number: na
Date received: 12/01/16

Analytical Results

NWTPH-Dx, mg/kg		B-39 (3')	B-39 (12')	B-39 (13')	B-39 (14')	B-39 (16')	B-40 (3')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	1,100	2,100	1,200	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	118%	125%	130%	128%	119%	120%
o-Terphenyl	125%	128%	M	128%	125%	130%

Data Qualifiers and Analytical Comments

na - not analyzed

Results reported on dry-weight basis

M - matrix interference

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results

NWTPH-Dx, mg/kg		B-40 (12')	B-40 (13.5')	B-42 (16')	B-43 (14')	B-43 (16')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/02/16
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	7,500	110
Heavy oil	50	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	121%	119%	118%	M	112%
o-Terphenyl	125%	120%	121%	M	127%

Data Qualifiers and Analytical Comments

na - not analyzed

Results reported on dry-weight basis

M - matrix interference

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results		Dupl		Dupl		
NWTPH-Dx, mg/kg		B-44 (12')	B-44 (12')	B-45 (13.5')	B-45 (13.5')	MTH BLK
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/02/16	12/02/16	12/02/16	12/02/16	12/08/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16	12/02/16	12/08/16
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	9,900	9,900	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	M	M	121%	122%	115%
o-Terphenyl	M	M	128%	129%	129%

Data Qualifiers and Analytical Comments

na - not analyzed

Results reported on dry-weight basis

M - matrix interference

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results		Dupl		RPD
NWTPH-Dx, mg/kg		B-42 (12')	B-42 (12')	B-42 (12')
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	12/08/16	12/08/16	12/08/16
Date analyzed	Limits	12/08/16	12/08/16	12/08/16
Kerosene/Jet fuel	20	nd	nd	
Diesel/Fuel oil	20	nd	nd	
Heavy oil	50	250	330	28%

Surrogate recoveries:

Fluorobiphenyl	112%	115%
o-Terphenyl	110%	114%

Data Qualifiers and Analytical Comments

na - not analyzed
 Results reported on dry-weight basis
 M - matrix interference
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

AAL Job Number: C61201-1
 Client: Aerotech Environmental
 Project Manager: James McDermott
 Client Project Name: Gearjammer Truck Plaza
 Client Project Number: na
 Date received: 12/01/16

Analytical Results

NWTPH-Dx, mg/L		MTH BLK	B-40 (W)	B-42 (W)
Matrix	Water	Water	Water	Water
Date extracted	Reporting	12/02/16	12/02/16	12/02/16
Date analyzed	Limits	12/02/16	12/02/16	12/02/16
Kerosene/Jet fuel	0.20	nd	nd	nd
Diesel/Fuel oil	0.20	nd	nd	nd
Heavy oil	0.50	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	122%	124%	123%
o-Terphenyl	129%	125%	125%

Data Qualifiers and Analytical Comments

na - not analyzed
 C - coelution with sample peaks
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

Laboratory Job #:

2821 152 Avenue NE
Redmond, WA 98052
(425) 497-0110 fax: (425) 497-8089
aachemlab@yahoo.com

Client: AEROTECH ENVIRONMENTAL

Project Manager: J. McDermott

Address: SEATTLE, WA

Phone: (425) 686-0032 Fax:

Project Name: GEARJAMMER TRUCK PLAZA
2310 BUCKIN RD, UNION GAP, WA

Project Number:

Collector: J. McDERMOTT / RYAN WIGG

Date of collection: 29 NOV 2016

	Sample ID	Time	Matrix	Container type	8260 Volatiles	8021B Volatiles	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead		Notes, comments	# of containers	
1	B-35 (5')	0905	SOIL	130r																	
2	B-35 (12')	0910	↓	↓					X												
3	B-35 (14')	0920								X											
4	B-36 (3')	0935								X											
5	B-36 (8')	1010																			
6	B-36 (10')	1025								X											
7	B-36 (11')	1030								X											
8	B-36 (14')	1050								X											
9	B-37 (11')	1120								X											
10	B-37 (15.5')	1145								X											
11	B-38 (11')	1415								X											
12	B-38 (16')	1435								X											

Relinquished by:	Date/Time	Received by:	Date/Time
<u>Ryan Wigg</u>	<u>12.1.16 1205</u>	<u>[Signature]</u>	<u>12.1.16 1305</u>
Relinquished by:	Date/Time	Received by:	Date/Time
<u>[Signature]</u>	<u>12.1.16 1205</u>	<u>[Signature]</u>	<u>12.1.16 1305</u>

Sample receipt info:

Total # of containers:

Condition (temp, °C)

Seals (Intact?, Y/N)

Comments:

Turnaround time:

Same day ☐

24 hr ☐

48 hr ☐

Standard ☒

Laboratory Job #:

2821 152 Avenue NE

Redmond, WA 98052

(425) 497-0110 fax: (425) 497-8089

aachemlab@yahoo.com

Client: AEROTECH ENVIRONMENTAL

Project Manager: J. McDERMOTT

Address: SEATTLE, WA

Phone: 425-686-0032 Fax:

Project Name: GEARJAMMER TRUCK PLAZA 2310 RUDKIN RD, UNION GAP, WA

Project Number:

Collector: J. McDERMOTT / ETAN WIGG

Date of collection: 29 NOV 2016 + 30 NOV 2016

	Sample ID	Time	Matrix	Container type															Notes, comments	# of containers
					8260 Volatiles	8021B Volatiles	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx 10x100	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead			
1	B-39 (3')	1406	SOIL	1500						X										
2	B-39 (12')	1540								X										
3	B-39 (13')	1600								X										
4	B-39 (14')	1605								X										
5	B-39 (16')	1606								X										
6	B-40 (3')	1830								X										
7	B-40 (9')	1700																		
8	B-40 (12')	1705								X										
9	B-40 (13.5')	1715								X										
10	B-40 (W)	1730	WATER	22 and 22 USA			X		X											
11	B-41a (4')	0815	SOIL	gl jar																
12	B-41b (8')	0910																		

Relinquished by:	Date/Time	Received by:	Date/Time
<i>[Signature]</i>	12-1-16 1205	<i>[Signature]</i>	12/1/16 1205
Relinquished by:	Date/Time	Received by:	Date/Time
<i>[Signature]</i>	12/1/16 1255	V. Travor	12/1/16 13:00

Sample receipt info:

Total # of containers:

Condition (temp, °C)

Seals (intact?, Y/N)

Comments:

Turnaround time:

Same day ☐

24 hr ☐

48 hr ☐

Standard ☒

Laboratory Job #:

2821 152 Avenue NE

Redmond, WA 98052

(425) 497-0110 fax: (425) 497-8089

aachemlab@yahoo.com

Client: **AEROTECH**

Project Manager: **McDermott**

Address:

Phone: **425-686-8032**

Fax:

Project Name:

**GEARJAMMER TRUCK RIAZ
UNION GAP, WA**

Project Number:

Collector:

J. McDermott / Ryan Wiss

Date of collection:

30 NOV 2016

	Sample ID	Time	Matrix	Container type	8260 Volatiles	8021B Volatiles	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	Notes, comments	# of containers
1	B-42 (12')	1040	SOIL	1 jar															
2	B-42 (16')	1100	↓	1 jar + 2 bags					X										
3	B-42 (W)	1130	WATER	2 amb					X										
4	B-43 (8')	1315	SOIL	1 jar															
5	B-43 (14')	1325	↓						X										
6	B-43 (16')	1330	↓						X										
7	B-44 (8')	1415	↓																
8	B-44 (12')	1500	↓						X										
9	B-45 (7.5')	1525	↓																
10	B-45 (13.5')	1545	↓	↓					X										
11																			
12																			

Relinquished by:	Date/Time	Received by:	Date/Time
J. McDermott	12.1.16 1205	S. Zerbe	12/1/16 1205
Relinquished by:	Date/Time	Received by:	Date/Time
S. Zerbe	12/1/16 1205	V. Trauer	12/01/16 1300

Sample receipt info:

Total # of containers:

Condition (temp, °C)

Seals (intact?, Y/N)

Comments:

Turnaround time:

Same day ☐

24 hr ☐

48 hr ☐

Standard ☒

SUPPORTING DOCUMENTS

Well Records

State of Washington Department of Ecology

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

City of Union Gap Well #5

by Schneider Drilling Co.

Start Card #W07389

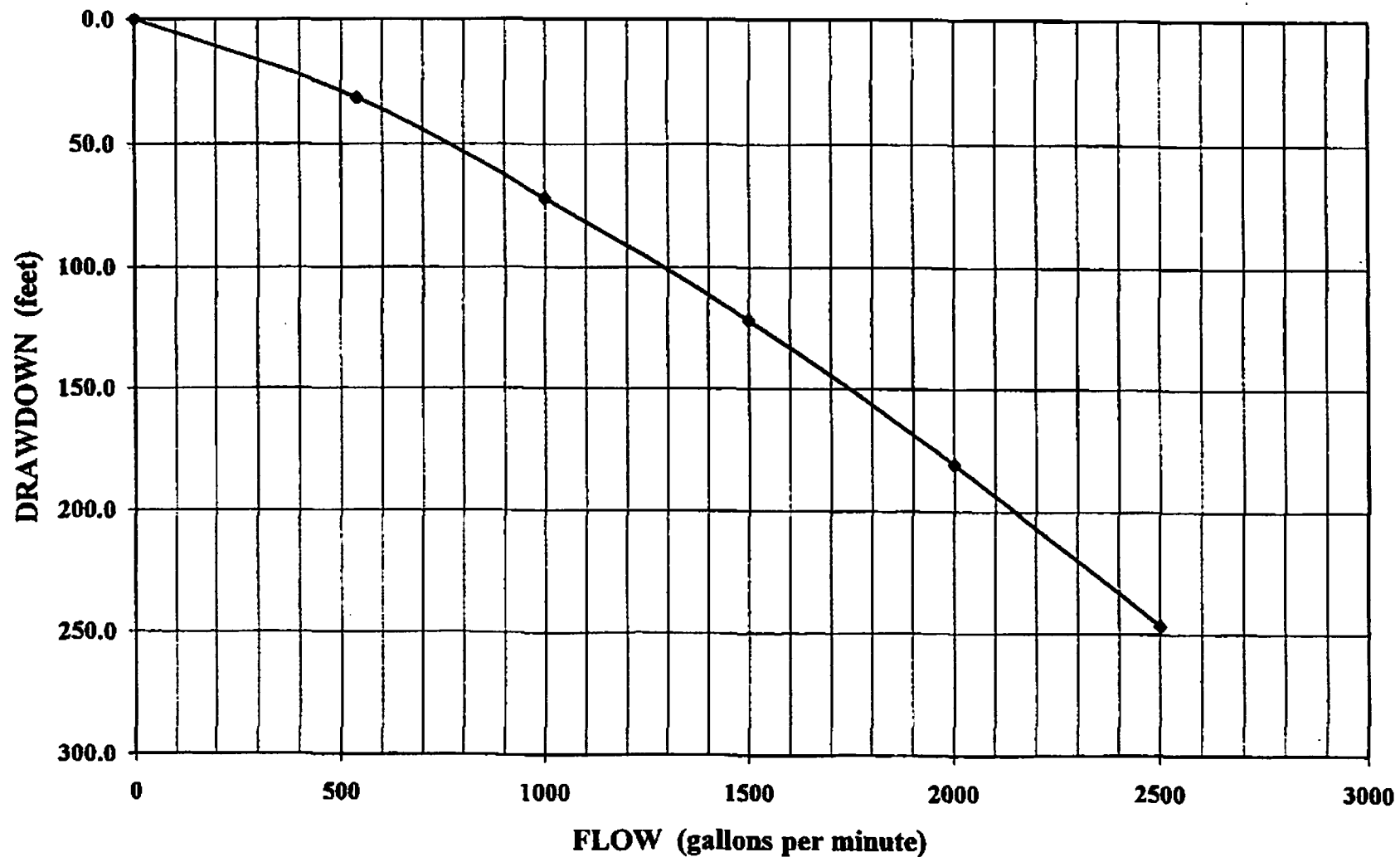
Label #AAS165

<u>FM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	2	Topsoil
2	5	Gravel, 3"- and clay, brown
5	16	Gravel, cobbles/boulders and sand
16	24	Gravel, sand and cobbles, multi-colored
24	27	Gravel, slightly cemented and sand
27	133	Gravel, cemented, multicolored, and cobbles/boulders
133	141	Gravel, cemented, multicolored, some shale, tan
141	181	Gravel, cemented, some cobbles, multicolored
181	186	Gravel, cemented, multicolored, some clay, tan, hard
186	216	Gravel, cemented, multicolored, some sand, red, cemented
216	282	Gravel & sand, cemented, multicolored, w/grey clay @ top
282	330	Gravel & sand, cemented, multicolored, w/clay, tan, sandy
330	341	Clay, tan, sandy, fairly dry, silty, soft
341	347	Clay, tan, med-hd, w/some gravel
347	360	Clay, tan, silty/sandy & cemented sand, tan w/some red
360	370	Gravel, slightly cemented, multicolored
370	371	Clay, tan, sandy/silty w/some gravel
371	378	Gravel, blue/green, medium
378	400	Gravel, blue/green, & green w/slight clay binder
400	405	Gravel, red & green
405	410	Gravel, cemented, red and green

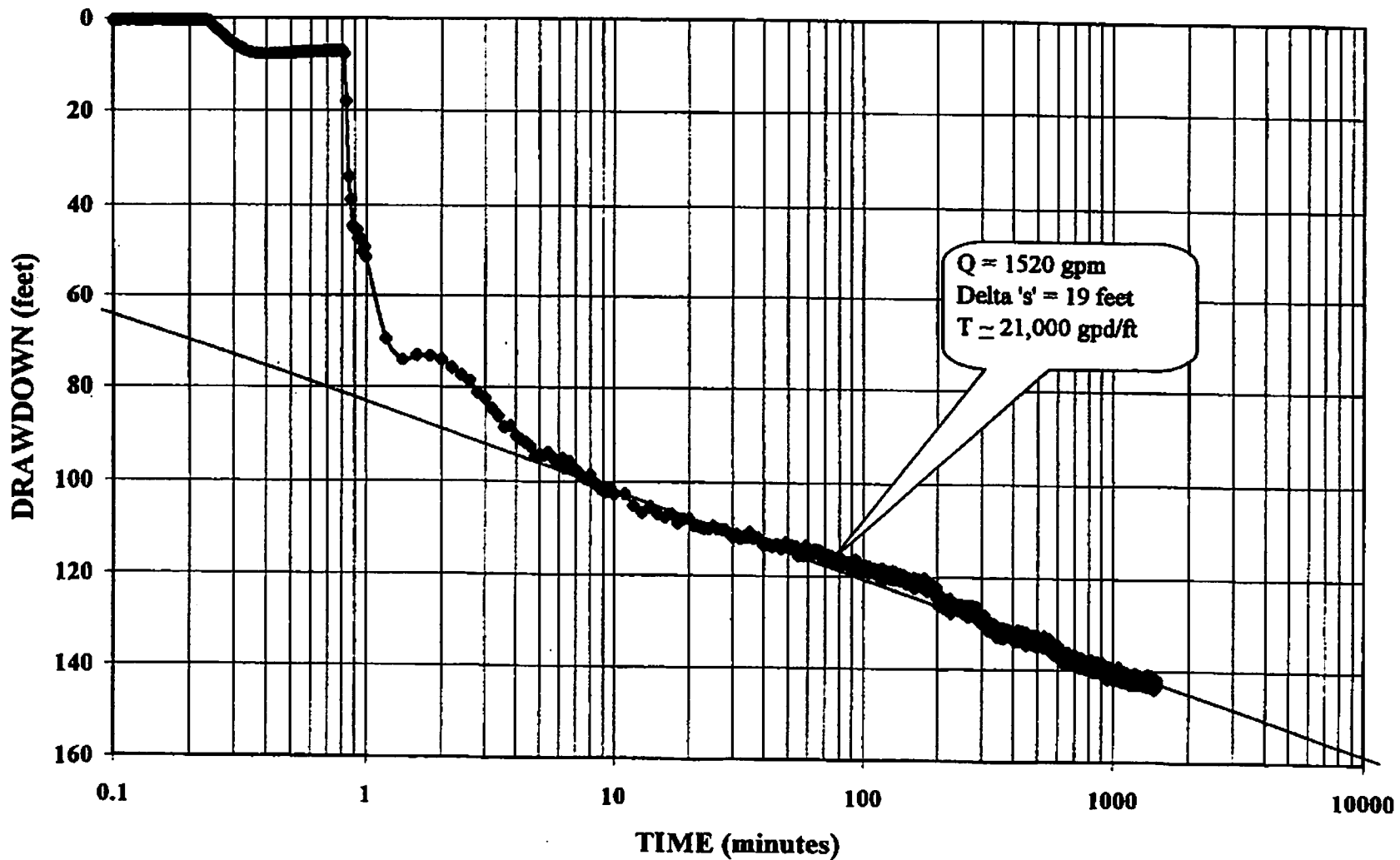
410	436	Gravel, cemented, red, green and clay, green and grey
436	441	Clay, blue/grey, silty w/cemented sand layers
441	446	Clay, blue grey, hard
446	451	Clay, blue grey, med & hard
451	454	Clay, blue grey and sand, grey, cemented
454	456	Clay, hard & med, grey & green
456	461	Gravel, red, green, black and clay, hard, grey & green
461	466	Gravel, multicolored and clay, green, hard
466	476	Gravel, multicolored and clay, green, hard & quartz, white
476	491	Gravel, multicolored & quartz white
491	496	Gravel, multicolored and sand, green, cemented
496	506	Gravel, mostly dark grey and clay, grey, green, hard and sand, red, cemented
506	511	Gravel, mostly dark grey and clay, green, hard & med, some crumbly
511	514	Gravel, mostly dark grey and clay, light grey, hard and sand, red, cemented
514	516	Gravel, multicolored and clay, brown, green, hard and sand, red, cemented
516	531	Gravel, multicolored red, rusty brown & clay, light green, brown, hard
531	546	Gravel, cemented, multicolored, red & clay, brown, hard
546	559	Gravel, cemented, multicolored & sand, red, cemented & clay, blue/grey
559	591	Gravel, cemented, multicolored, darker and sand, red, cemented
591	601	Gravel, darker and clay, brown, hard and clay, blue/grey, med
601	606	Sand, dark brown, cemented and clay, grey
606	616	Clay, green, silty, fairly sticky

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

CITY OF UNION GAP WELL #5
3/29/00 Step Test Drawdown after 2 Hours / Step

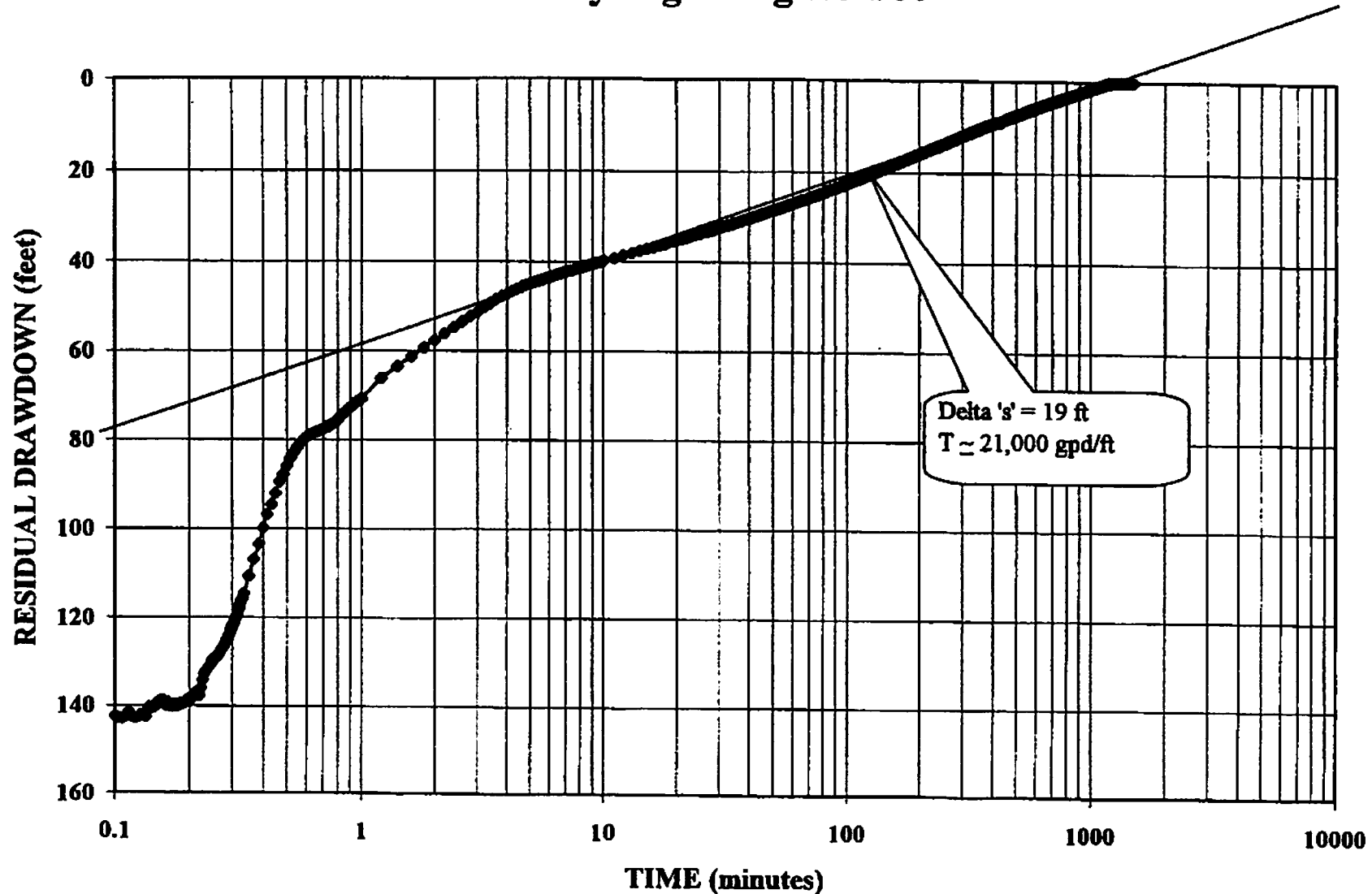


CITY OF UNION GAP WELL #5 3/30/00 Constant Rate Pump Test



CITY OF UNION GAP WELL #5

Recovery beginning 3/31/00





WELL LOG CHANGE FORM

Instructions: Record any change made to the well log record on this form. Append this form to the well log image. File with the original.

WCL Log ID (Required) 28543

Well Log ID 254732

Regional Office ☒ CRO ☐ ERO ☐ NWRO ☐ SWRO

Type of Well ☒ Water ☐ Resource

Notice of Intent W007389 Ecology Well ID Tag No AKJ-700

Property (Well) Owner's Name CITY OF UNION GAP
Well Street Address E. WASHINGTON AVE. @ CAHALAN PARK IN UNION GAP
City UNION GAP County YAKIMA Zip Code 98903

Location SE 1/4-1/4 NW 1/4 Sec 32 Twn 13 R 19 ☒ E or W (Circle One)

Lat /Long (Required) Lat Deg _____ Lat Min/Sec _____
Long Deg _____ Long Min/Sec _____
Horizontal Collection Method Code _____

Tax Parcel No 19133224015

Type of Work ☒ New Well ☐ Reconditioned ☐ Deepened

Well Log Received Date 5/22/2000

Well Diameter 20 (in inches) Well Depth 610 (in feet) Well Completed Date 4/10/2000

Driller's Ecology License No 0643

Trainee's Ecology License No _____

Reason/Source of Change (Required)

WELL ID TAG WAS LOST OR DESTROYED AND A NEW TAG WAS ISSUED 01-08-2004

Signature of Well Log Tracker (Required) G. Skronimus Date 1/29/04

Department of Ecology Well Log Image System

File Original and First Copy with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____

Permit No. 64-13040P

(1) OWNER: Name City of Yakima Public Relations Address 187 N. 2nd Street
(2) LOCATION OF WELL: County Yakima SE 1/4 Sec. 12, T.13 N., R.17 E. W.1
Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well ☐ Method Dug ☒ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 48 inches
Drilled 1 ft. Depth of casing 18 ft.

(6) CONSTRUCTION DETAILS: well casing
Casing installed: _____ Diam. from 4 ft. to _____ ft.
Threaded ☐ _____ Diam. from _____ ft. to _____ ft.
Welded ☐ _____ Diam. from _____ ft. to _____ ft.

Perforations: Yes ☒ No ☐
Type of perforator used single or casing
Size of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☐ No ☒ To what depth? _____ ft.
Material used to seal _____
Did any strata contain unsuitable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type Centrifugal HP 10

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 3 ft. below top of well Date June
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes by whom? _____
Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken to raise water level to static level) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Packer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG

Formation: Describe by color, character, size of material and structure and show thickness of strata and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.
MATERIAL FROM TO
The Company that put the well at no longer are business and that so far no effects for me from the well

Work started _____ 19____ Completed _____ 19____

WELL DRILLER'S STATEMENT

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME _____ (Person, firm, or corporation) (Type or print)

Address _____

(Signed) _____ (Well Driller)

License No. _____ Date _____ 19____

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

WELL LOG

Date 1936, 19__

Record by Don E. Gray

Source G. W. Decla. Claim

No. Decla. #526

Cert. #518-D

Location: State of WASHINGTON

County Yakima

~~xxx~~ Lot 12, Block 2 of

~~xxx~~ Union Gap, original

~~SW NW~~ sec. 5 T 12 N., R. 19 E.

~~xxxx~~ townsite

Address _____

Method of Drilling drilled Date Jul. 22 19 47

Owner Town of Union Gap

Address Union Gap, Wash.

Land surface, datum _____ ft. above
below _____



DIAGRAM OF SECTION

CORRE- LATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
------------------	----------	---------------------	-----------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

	Loose gravel & topsoil	15	15
	Cemented gravel	85	100
	Boulders	5	105
	Streaks of cemented	70	175
	gravel, loose gravel & boulders		
	River & cemented gravel	17	192
	Sand & gravel	23	215

Pump Test:

Dim: 215' x 12" x 10"

SWL: 10'

Dd: 56'

Yield: 450 g.p.m.

Casing: 12" dia. from 0' to 90'; 10"
dia. from 87' to 215'.

Perforations: 10" casing perfor. for
(Over)

Turn up

Sheet _____ of _____ sheets

? Union Gap
Well No 2

159-214 ft
'screen'

S F 7449-46

STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION
AND DEVELOPMENT

WELL LOG

No. Decla. 527
Date June 30, 1936
Cert. 519-D

Record by Don E. Gray
Source G. W. Decla. Claim

Location: State of WASHINGTON

County Yakima

Area Lot 12, Block 2 of

original town site

SW 1/4 NW 1/4 sec. 5 T. 12 N., R. 19 E.

Diagram of Section

Drilling Co.

Address

Method of Drilling drilled Date July 22, 1947

Owner Town of Union Gap

Address Union Gap, Washington

Land surface, datum ft. above
below

CORRE- LATION	MATERIAL	THICKNESS (feet)	DEPTH (feet)
------------------	----------	---------------------	-----------------

(Transcribe driller's terminology literally but paraphrase as necessary, in parentheses. If material water-bearing, so state and record static level if reported. Give depths in feet below land-surface datum unless otherwise indicated. Correlate with stratigraphic column, if feasible. Following log of materials, list all casings, perforations, screens, etc.)

Top soil	4	4
Cemented gravel	46	50
Boulders & gravel	13	63
Clay	5	68
Cemented gravel caving	42	110
Cemented gravel & boulders	40	150
Washed gravel caving	9	159
Cemented gravel	31	190
Cemented gravel caving	14	204
Cemented gravel	13	217

Pump test:

Dim: 217' x 12" x 10"

SWL: 10'

Dd: 60'

Yield: 450 g.p.m.

Casing: 12" dia. from 0' to 83'

Turn up

Sheet of sheets

? Union Gap
Well No 4

142-197 ft
'screened'

S. F. No. 74th—12-54—3M, 4th 08.

Previous Reports
Department of Ecology Files



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

15 W Yakima Ave, Ste 200 • Yakima, WA 98902-3452 • (509) 575-2490

September 8, 2010

Mr. Chuck Hinckley
2310 Rudkin Road
Union Gap, WA 98903

Re: Further Action at the following Site:

- **Site Name:** Gearjammer Truck Plaza
- **Site Address:** 2310 Rudkin Road
- **Facility/Site No.:** 26981244
- **VCP Project No.:** CE 0312

Dear Mr. Hinckley:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Gearjammer Truck Plaza facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Total Petroleum Hydrocarbons diesel (TPHd) into the Ground Water.

The Site is described and defined in the text and in Figures 1 through 6 in the June 21, 2010; March 19, 2010; November 11, 2009; and August 27, 2009, Groundwater Monitoring Reports by Blue Mountain Consulting.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Groundwater Monitoring Reports, Gearjammer Truck Plaza; Blue Mountain Environmental Consulting; June 21, 2010; March 19, 2010; November 11, 2009; and August 27, 2009.
2. Ecology letter of February 4, 2009; Richard Bassett.
3. Limited Groundwater Sampling & Analysis Report; Sage Earth Sciences, Inc.; June, 2000.

Those documents are kept in the Central Files of the Central Regional Office of Ecology (CRO) for review by appointment only. You can make an appointment by calling the CRO resource contact at (509) 454-7839.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

Diesel groundwater contamination has decreased significantly since May 23, 2000 (reference 3) when sampling analyses found TPHd at 14,000 ug/L (MTCA cleanup level is at 500 ug/L).

In the last four quarterly groundwater reports, there was no longer a report of free product in MW-3 (reference 1).

Yet, in the recent four Blue Mountain quarterly groundwater reports, TPHd was still above (580 ug/L) or close to (310 ug/L) the MTCA cleanup value of 500 ug/L (Table 720-1 Method A Cleanup Levels for Ground Water) in two of its four submittals (reference 1). An additional four quarters of sampling for just TPHd (reduced number of contaminant monitoring and analyses) at all three Site wells is required and may bring the Site to cleanup.

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

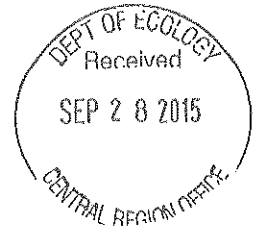
For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (509) 454-7839 or e-mail at rba461@ecy.wa.gov.

Sincerely,



Richard Bassett
CRO Toxics Cleanup Program

cc: Peter Trabusiner, Blue Mountain



September 18, 2015

Mr. Chuck Hinckley
GearJammer, Inc.
2310 Rudkin Road
Union Gap, WA 98903

SUBJECT: LIMITED GROUNDWATER MONITORING REPORT FOR THE
GEARJAMMER, INC. FACILITY, UNION GAP, WA.

Dear Mr. Hinckley,

Enclosed, please find two (2) copies of the above referenced report. We will transmit a copy of this report to the Washington State Department of Ecology (WSDOE), Toxics Cleanup Program. The WSDOE requires that you retain this report for a minimum of ten (10) years. Sage recommends that you retain it indefinitely.

Sage Earth Sciences, Inc. appreciates the opportunity to provide you with environmental services for your remediation project. Please contact us if you have any questions or comments.

Respectfully,
SAGE EARTH SCIENCES, INC.

A handwritten signature in black ink, appearing to read "D. Green".

David L. Green
Hydrogeologist

Enclosures: *Invoice* dated September 18, 2015 and
Groundwater Monitoring Report dated September 18, 2015.

cc: file
Washington State Department of Ecology, Toxics Cleanup Program, Yakima, WA

1705 South 24th Avenue ☒ Yakima, WA 98902
Phone: 509.834.2333 ☒ Fax: 509.834.2334 ☒ E-mail: info@sage-earth-sciences.com

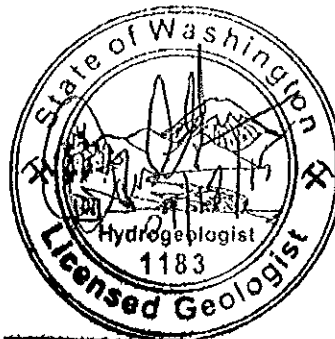
Groundwater Monitoring Report

For the GearJammer Truck Plaza
2310 Rudkin Road,
Union Gap, WA 98903

Prepared For:

GearJammer, Inc.
2310 Rudkin Road
Union Gap, WA 98903

Prepared By:



DAVID L. GREEN



1705 S. 24th Ave.
Yakima, WA 98902

September 18, 2015

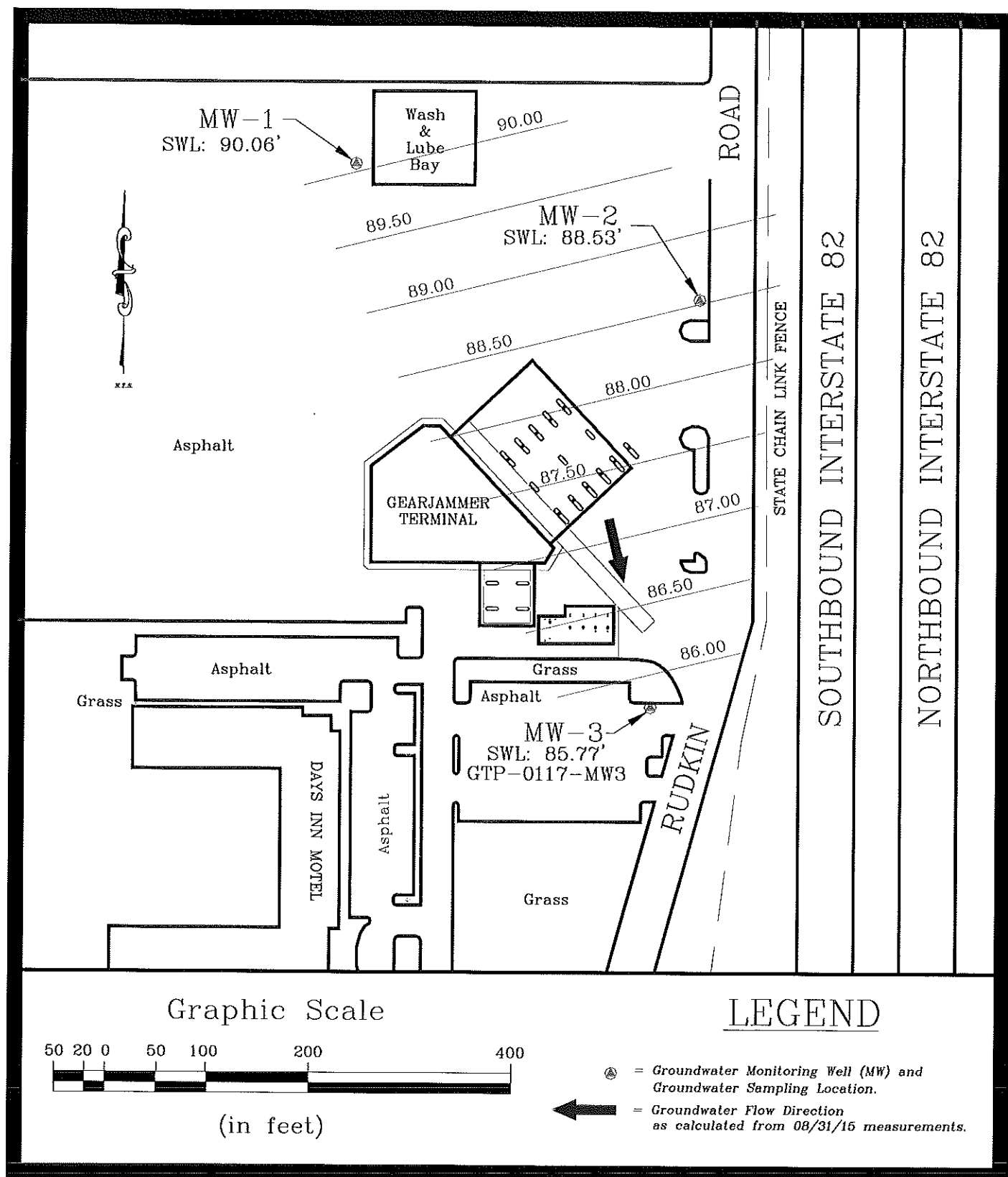


Figure 1. Groundwater Sampling Location & Water Table Contours on August 31, 2015

Table 1. Well Survey and Groundwater Level Data					
Well ID	Date	Top of Casing Elevation (TBM)	Measured Depth to Groundwater (feet TOC)	Relative Groundwater Elevation (feet)	Change From Previous Elevation (feet)
MW-1	10/16/14	98.87	8.56	90.31	--
	02/23/15		10.31	88.56	-1.75
	06/01/15		9.63	89.24	+0.68
	08/31/15		8.81	90.06	+0.82
MW-2	10/16/14	97.20	8.44	88.76	--
	02/23/15		9.96	87.24	1.52
	06/01/15		9.36	87.84	+0.60
	08/31/15		8.67	88.53	+0.69
MW-3	10/16/14	95.56	9.79	85.77	--
	02/23/15		10.42	85.14	0.63
	06/01/15		10.45	85.11	-0.03
	08/31/15		9.79	85.77	+0.66
TBM – Relative to Temporary Bench Mark, BGS – Below Ground Surface, TOC – Relative to Top Of Casing					

On August 31, 2015, the groundwater surface was found to lie at depths ranging from 8.67 to 9.79 feet below top of casing in the wells. The local groundwater gradient was calculated to be approximately 0.007 ft/ft from the north-northwest toward the south-southeast as shown by Figure 1.

2.2 Groundwater Sampling & Analysis

Sage collected a groundwater samples (GTP-0117-MW3) from Monitoring Well #3 on August 31, 2015. Sage collected the groundwater sample using methods described in Appendix A. The *Monitoring Well Sampling Log* (Appendix B) provides sampling observations. Sage observed no petroleum sheen or diesel odors during the sampling process. Approximately 10 gallons of well purge water was placed in barrels temporarily stored at the northern portion of the subject property.

Sage submitted the groundwater sample to Friedman & Bruya, Inc. (FBI), Seattle, WA for analysis using the following methods: 8021B/NWTPH-Gx (gasoline range and aromatic petroleum hydrocarbons) and NWTPH-Dx (diesel range petroleum hydrocarbons extended to include motor oil range compounds). The monitoring well and groundwater sampling location is shown by Figure 1.

FBI analytical results for the Monitoring Well #3 sample are summarized by Table 2. Comparison of the analytical results (Appendix C) with the *Method A Groundwater Cleanup Levels* of WAC 173-340-720 (Appendix D) indicates that remedial action is required at the Groundwater Monitoring Well #3 sampling location for this groundwater sampling event to reduce diesel range petroleum hydrocarbon concentrations.

Table 2. FBI Analytical Results for Groundwater Monitoring Well #3 Samples								
Sample ID	Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
GTP-0114-MW3	10/16/14	<1	<1	<1	<3	<100	370	<250
GTP-0115-MW3	02/23/15	<1	<1	<1	<3	<100	62	<250
GTP-0116-MW3	06/01/15	<1	<1	<1	<3	<100	2,100	310
GTP-0117-MW3	08/31/15	<1	<1	<1	<3	<100	500	<250
Red Font indicates that concentration exceeds Method A Cleanup Levels of WAC 173-340-720								
Green Font indicates that concentration does not exceed Method A Cleanup Levels of WAC 173-340-720								
ug/L = parts per billion								

3.0 Conclusions

With the exception of diesel range petroleum hydrocarbons, the FBI independent laboratory analysis of the Groundwater Monitoring Well #3 sample found no detectable petroleum hydrocarbons. The FBI independent laboratory analysis found diesel range petroleum hydrocarbons at a concentration of 500 µg/L (ppb). Diesel range petroleum hydrocarbon concentrations were found to exceed the *Method A Groundwater Cleanup Levels* of WAC 173-340-720 at the Monitoring Well #3 location for this sampling event. Sage recommends that purge water generated during monitoring well sampling activities be uncovered and allowed to evaporate. It should be covered during period of precipitation.

4.0 Limitations

In performance of this project, Sage Earth Sciences has conducted its activities in accordance with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. The conclusions are based upon our field observations and independent laboratory analyses. Since the scope of work for this project is confined to sampling and analysis of Monitoring Well #3 for petroleum hydrocarbons and groundwater gradient characterization services, this document does not imply that the property is free of other environmental constraints. This report is solely for the use and information of our client. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and other parameters indicated. Sage Earth Sciences, Inc. is not responsible for the impacts of changes in environmental standards, practices, or regulations subsequent to the performance of services. Sage Earth Sciences, Inc. does not warrant the accuracy of information supplied by others, nor use of segregated portions of this report. Sage Earth Sciences, Inc. assumes no liability for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed.

YAKIMA COUNTY

SITE ID:	Gearjammer Truck Plaza	Cleanup Site ID: 7073	FS ID: 26981244
Alternate Name(s): Gear Jammer Truck Plaza, Gearjammer Truck Plaza, The Gearjammer, The Jammer			
LOCATION:	WRIA: 37	Lat/Long: 46.568 -120.473	View Vicinity Map
Address: 2310 RUDKIN RD UNION GAP 98903		Township Range Section 13N 19E 32	Legislative District: 15 Congressional District: 4
STATUS:	Cleanup Started	Rank: 5	View Site Web Page View Site Documents
Responsible Unit: Central		Site Manager: Smith, Frosti	
Is Brownfield?		Statute: MTCA	
Has Environmental Covenant?		Is PSI Site?	
NFA Received?		NFA Date: NFA Reason:	

ASSOCIATED CLEANUP UNIT(s)

culID	Cleanup Unit Name	Unit Type	Process Type	Unit Status	Size (Acres)	ERTS ID
6038	Gearjammer Truck Plaza	Upland	Independent Action	Cleanup Started		C503247

SITE ACTIVITIES:

Applies to:	Related ID (Unit-LUST-VCP)	Activity Display Name	Status	Start Date	End Date	Legal Mechanism	Performed By	Project Manager
CleanupSite		Site Discovery/Release Report Received	Completed	3/11/1999	3/11/1999			Bassett, Dick
CleanupSite		Early Notice Letter(s)	Completed	4/23/1996	4/23/1996			Bassett, Dick
CleanupSite		Site Hazard Assessment/Federal Site Inspection	Completed	4/2/2000	6/30/2004		Ecology	Bassett, Dick
CleanupSite		Hazardous Sites Listing/NPL	Completed	1/29/2004	1/29/2004			Bassett, Dick
LUST		LUST - Notification	Completed	3/11/1999	3/11/1999			Kroon, Debra
LUST		LUST - Notification	Completed	2/26/1996	2/26/1996			
LUST		LUST - Site Assessment Report	Completed	8/31/2004	8/31/2004			
LUST		LUST - Site Characterization Report		2/22/1996	2/22/1996			
LUST		LUST - Report Received	Completed	6/20/2002	6/20/2002			
LUST		LUST - Report Received	Completed	7/20/2015	7/20/2015			
LUST		LUST - Report Received	Completed	3/24/2010	3/24/2010			
LUST		LUST - Report Received	Completed	11/11/2009	11/11/2009			
LUST		LUST - Report Received	Completed	10/23/2009	10/23/2009			

LUST		LUST - Report Received	Completed	11/7/2014	11/7/2014			
LUST		LUST - Report Received	Completed	5/8/2001	5/8/2001			
LUST		LUST - Report Received	Completed	5/8/2001	5/8/2001			
LUST		LUST - Report Received	Completed	7/13/2010	7/13/2010			
LUST		LUST - Report Received	Completed	9/28/2015	9/28/2015			
LUST		LUST - Report Received	Completed	3/16/2015	3/16/2015			
LUST		LUST - Report Received	Completed	7/3/2000	7/3/2000			
VcpProject	CE0312	VCP Application	Completed	7/28/2009	7/28/2009			Smith, Frosti
VcpProject	CE0312	VCP Status Request	Completed	5/16/2012	5/21/2012			Smith, Frosti
VcpProject	CE0312	VCP Termination	Completed	5/21/2012	5/21/2012			Smith, Frosti
VcpProject	CE0312	VCP Opinion on Interim Action	Completed	7/27/2009	9/8/2010			Bassett, Dick

AFFECTED MEDIA & CONTAMINANTS:

Media:

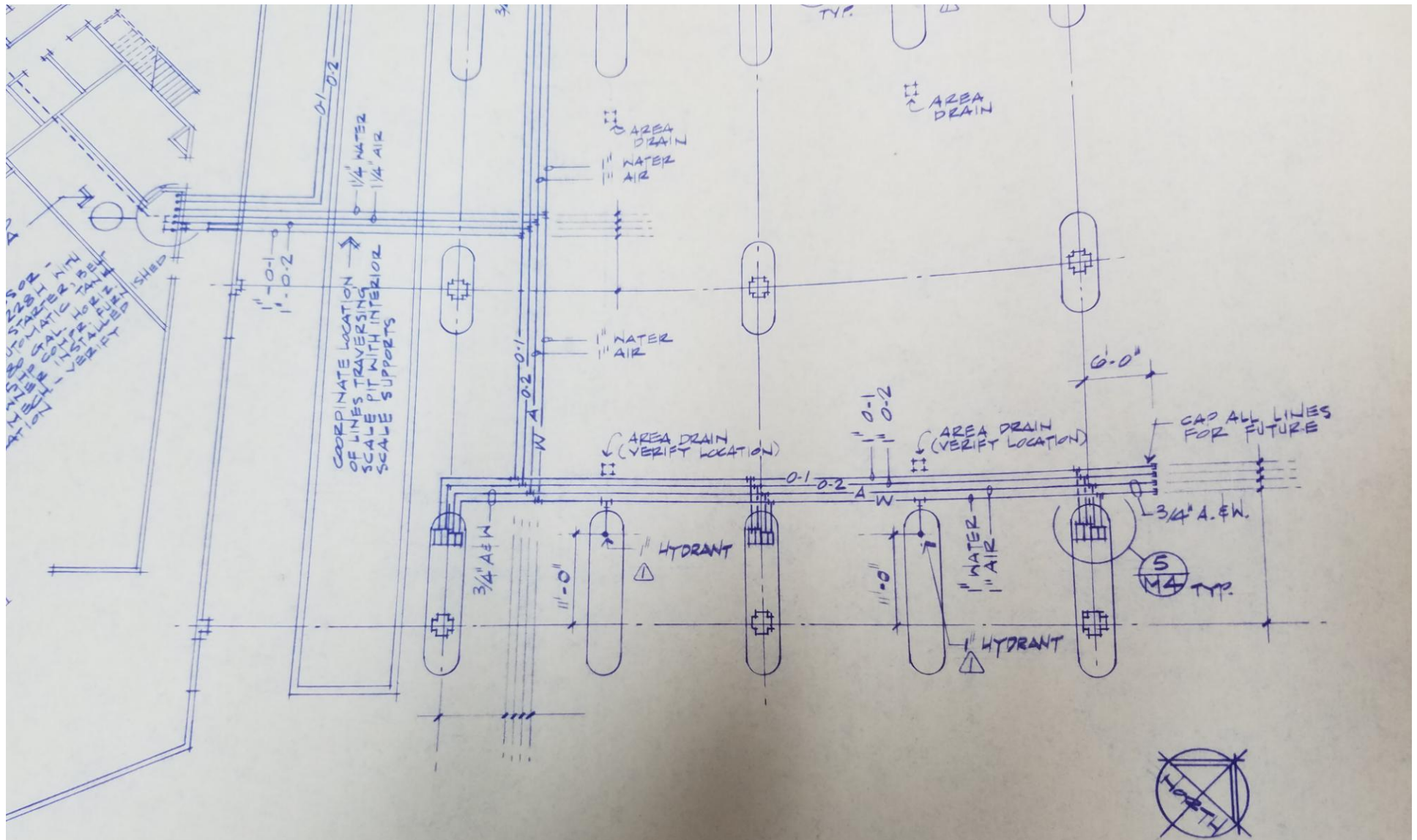
Contaminant:	Ground Water	Surface Water	Soil	Sediment	Air	Bedrock
Non-Halogenated Solvents	C		C			
Petroleum Products-Unspecified	C					
Petroleum-Diesel	C		C			
Petroleum-Gasoline			C			

Key:

B - Below Cleanup Level
C - Confirmed Above Cleanup Level
S - Suspected

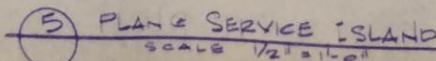
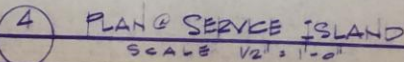
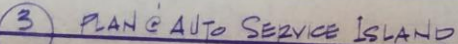
R - Remediated
RA - Remediated-Above
RB - Remediated-Below

CleanupSiteDetails2014



2
OIL, AIR, & WATER PIPING PLAN
 SCALE $\frac{1}{16"} = 1'-0"$

1. JOINTS AT ALL ELEVATIONS TO DISPENSERS IN PUMPS
 2. STD. WEIGHT GALV. HEAVY DUTY MAIL FITTINGS (GALV) JOBS
 3. STD. WEIGHT BLACK WITH HEAVY DUTY MAIL - WRAP ALL LINES.
 4. BE PLING TO BE STD. RUN PIPE & FITTINGS. BROWN LINES.
 5. BE STD. WEIGHT & FITTINGS. WRAP NO LINES - PROVIDE REPAIR.



DATE:

D S CAMERO