SECTION 4

GROUNDWATER WELL INSTALLATION REPORT

Groundwater Monitoring Well Installation Report

Performed at: Fife RV Center 3410 Pacific Highway East Fife, Washington 98424



November 17, 2016

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Performed by: Aerotech Environmental Consulting, Inc. 13925 Interurban Avenue South, Suite No. 210 Seattle, Washington 98168 Fax (206) 402-3872 (866) 800-4030

www.AeroTechEnvironmental.com

GROUNDWATER MONITORING WELL INSTALLATION REPORT

performed for: MR. CHRIS LaVERDIERE 3410 Pacific Highway East Fife, Washington 98424

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Clients:	MR. CHRIS LaVERDIERE 3410 Pacific Highway East Fife, Washington 98424
Point of Contact:	Mr. Chris LaVerdiere Representative of Ownership Group
Property:	FIFE RV CENTER 3910 Pacific Highway East Fife, Washington 98424
County:	Pierce County, Washington Parcel Number: 0320111067
Commercial Activity:	RV Retail
Project Number:	216-8246
Licensed Geologist:	James McDermott (Washington State License No. 3063)
Report Date:	November 17, 2016

EXECUTIVE SUMMARY

The subject Property consists of one irregularly-shaped 3.76-acre Parcel of commercial land located on the south side of Pacific Highway East in Fife, Washington. One approximately 10,763 square foot, 2story structure, occupied by *Fife RV Center*, is situated near the southeastern corner of the Property. Asphalt parking areas surround the structure on all sides and are utilized for the storage and display of the RV inventory. An approximately 0.77 acre gravel parking lot utilized to store RV inventory, and the subject of this investigation, is situated on the west side of the Property.

Adjoining to the south is a drainage ditch that appear to discharge to the east, followed by Interstate 5. The neighboring Parcel to the east includes approximately 5.24 acres, currently leased by the Fife RV Center for use as additional storage. The Puyallup River approaches the Site within 3,000 feet to the southwest, and the Blair Waterway and Commencement Bay are located over 3,500 feet to the north. Wapato Creek is situated 2,000 feet to the east and Hylobos Creek is located two miles to the east.

Formerly included within the same Parcel, and now adjoining to the north, is a Tahoma Express Gas Station and a Jack in the Box restaurant followed by Pacific Highway East and an *Econolodge*. The Tahoma Express Gas Station was listed on Ecology's Site Cleanup List as Site No. 5015. Petroleum hydrocarbons were documented at the Tahoma site prior to remediation, at concentrations above the State Cleanup Levels in soil and groundwater. Ecology issued a No Further Action determination for that site in 1993.

From the mid 1960's to the late 1980's a *Gasamet* gasoline station occupied the western portion of the western gravel paved lot on the Subject Property. Fuel dispenser islands were located south and southeast of the eastern terminus of the current restaurant drive-thru, with Underground Storage Tank Basins situated both to the east and west, and a building farther south. A triangular-shaped wooded water retention area (Bio-Swale) is located to the west. Test pit exploration conducted in 2000 indicated strong petroleum odor in soil both south and southeast of the current restaurant location, the bio-swale area, and the adjoining gravel lot.

In 2014, Associated Earth Sciences, Inc. conducted a Supplemental Phase II Environmental Site Assessment at the subject Property. Petroleum hydrocarbons were detected at concentrations above the Model Toxic Control Act ("MTCA") Method A Cleanup Levels in soil and groundwater samples in the vicinity of the former Gasamet pump islands and UST Basins. Based on these results, Mr. Chris LaVerdiere, the Client, requested Langseth Environmental ("Langseth") and Aerotech Environmental Consulting, Inc. ("Aerotech") initiate site remedial excavation and environmental consulting services to address petroleum impacted soils. 1,685.24 tons of petroleum impacted soil were removed to the LRI Landfill in Graham, Washington.

Groundwater Monitoring Well Installation: Conclusions & Recommendations:

Well Installation and Design: Aerotech Environmental Consulting, Inc. installed six 2-inch PVC Groundwater Monitoring Wells, north, west and southwest of the former *Gasamet* Pump island and UST areas. Two wells, MW-1 and MW-2, were installed in the probable upgradient groundwater flow direction to the north, and three wells, MW-4, MW-5, and MW-6, were installed in the probable downgradient direction, south and west. Well screens were placed between 4 and 15 feet bgs, in order to accommodate water level fluctuations related to daily tides and Puyallup River water level variations, as well as local recharge. One well, MW-3, was installed at a "hot spot" near the center of the excavated area.

Groundwater Flow Direction: Wellhead elevations were surveyed and groundwater flow was calculated to the west and southwest, toward the bio-swale and the adjoining drainage ditch, on November 11th and 14th, with a slight northwesterly flow to the north on November 11. These preliminary water levels and associated groundwater flow direction calculations may not represent equilibrium conditions. Additional measurements are planned.

Soil Analytical Results: Total Petroleum Hydrocarbons-Gasoline were detected above MTCA Method A Cleanup Levels for soil at MW-2, MW-4, and MW-5, at concentrations between 34 and 250 mg/kg (benzene at 0.061 to 0.530 mg/kg), and at MW-3 at 13,000 mg/kg (benzene at 9.3 mg/kg). Wells were developed by a block and surge method on November 11^{th} and 14^{th} and monitoring well sampling will occur on November 18^{th} .

Groundwater Monitoring Well Installation Report - November 2016 Fife RV Center, Fife, Washington

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INTRODUCTION

Aerotech Environmental Consulting, Inc., was retained by Mr. Chris LaVerdiere, the Client to install six recommended groundwater monitoring wells at the subject Property at 3410 Pacific Highway East in Fife, Washington, following the completion of remediation activities at the Site in October 2016. Groundwater monitoring wells were to be installed around the perimeter of fuel tanks and fuel dispenser pump islands associated with a former Gasamet retail station, formerly located at the western portion of the Fife RV Center gravel parking area.

SECTION I.

SITE DESCRIPTION

Property Exterior Description:

The subject Property consists of one irregularly-shaped 3.76-acre Parcel of commercial land located on the south side of Pacific Highway East in Fife, Washington. One approximately 10,763 square foot, 2-story structure, occupied by *Fife RV Center*, is situated near the southeastern corner of the Property. An approximately 1,000 square foot, 1-story structure is situated northeast of the main building along the eastern Property boundary. Asphalt parking areas surround the structure on all sides and are utilized for the storage and display of the RV inventory. An approximately 0.77 acre gravel parking lot, the subject of this investigation, and utilized to store RV inventory, is situated on the west side of the Property.

Adjoining to the south is a drainage that appears to discharge to the east and then south, followed by Interstate 5. The neighboring Parcel to the east includes approximately 5.24 acres, currently leased by the Fife RV Center for use as additional storage. The Puyallup River is approaches the Site within 3,000 feet to the southwest, and the Blair Waterway and Commencement Bay are located over 3,500 feet to the north. Wapato Creek is situated 2,000 feet to the east and Hylobos Creek is located two miles to the east.

Formerly included within the same Parcel, and now adjoining to the north, is a Tahoma Express Gas Station and a Jack in the Box restaurant followed by Pacific Highway East and an *Econolodge*. The Tahoma Express Gas Station was listed on Ecology's Site Cleanup List as Site No. 5015. Petroleum hydrocarbons were documented historically at the Tahoma site prior to remediation at concentrations above the State Cleanup Levels in soil and groundwater. Ecology issued a No Further Action determination in 1993.

Numerous utilities were located at the Site by private and public locators, included a water main oriented northwest of southeast, extending from the northwest corner of the Property. Parallel and to the northeast, nearer the Tahoma building, are electrical and natural gas conduits, as well as a storm sewer line. Electrical lines also extend from a power pole along the southern perimeter of the Site toward both the restaurant and the Tahoma building. A storm sewer pipe also extends toward the southwestern corner of the gravel lot, from the vicinity of the Tahoma building. Fefer to the attached figures.

A wooded water retention pond, known as a bioswale, is situated west of the area of this investigation. The water level observed in the bioswale area is consistent with water levels and groundwater flow documented at the newly installed monitoring wells.

Recognized Environmental Conditions

Site Development Description:

From the mid 1960's until the late 1980's a *Gasamet* gasoline station occupied the southeast portion of the adjoining Jack in the Box Property and the western portion of the western gravel paved lot on the Subject Property. Based upon an as-built plan on file with the City of Fife, fuel dispenser islands were located between 5 and 65 feet south and southeast of the eastern terminus of the restaurant drive-thru, with Underground Storage Tank ("UST") Basins situated both to the east and west, and building farther south. A triangular-shaped wooded water retention area, known as a Bio-Swale, is located on the west corner of the Parcel. A qualitative account of test pit activities conducted in 2000 and available in the permit documents maintained by the City of Fife, indicated strong petroleum odor in soil above depths of four feet.

In 2014, Associated Earth Sciences, Inc. conducted a Supplemental Phase II Environmental Site Assessment at the subject Property. Petroleum hydrocarbons were detected at concentrations above the Model Toxic Control Act ("MTCA") Method A Cleanup Levels in soil and groundwater samples in the vicinity of the former Gasamet pump islands and UST Basins. Based on these results, Mr. Chris LaVerdiere, the Client, requested Langseth Environmental ("Langseth") and Aerotech Environmental Consulting, Inc. ("Aerotech") initiate site remedial excavation and environmental consulting services to petroleum impacted soils.

Previously Identified Contaminants of Concern:

Conclusions derived from previous investigations at the Site identified gasoline range petroleum constituents, benzene, ethyl benzene, toluene, and xylenes as Contaminants of Concern at the subject Property.

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.¹ Performed the "public" utilities notification on November 7, 2016, and was issued Ticket Number163582276 by the Utilities Underground Location Center.

According to the Utilities Underground Location Center the utilities necessary for notification included:

Washington Ticket#: 16358276 **2 FULL BUSINESS DAYS** Transmit Date: 11/07/16Time: 7:21 AM 2 INCH MONITORING WELL INSTALLATION Type of Work: **Dig Site Location** County: PIERCE State: WA Place: FIFE Address / Street: PACIFIC HIGHWAY EAST Nearest Intersection: PORT OF TACOMA RD GRAVEL LOT LOCATED SOUTH OF TAHOMA STATION AND JACK IN THE BOX Map Twp: 20N Rng: 3E Sect-Oir: 2-SE,11-NE Poly 1: NW Lat: 47.2426032 Lon: -122.3832543 SE Lat: 47.2419646 Lon: -122.3823155 Members Notified: **District** Company Marking Customer Service Repair **INTEGRA TELECOM** (800)762-0592 ADTEL04 (866)468-3472 (866)468-3472 CC7711 COMCAST CABLE (800)762-0592 (800)266-2278 (888)824-8289 (253)922-9315 **FIFE01 CITY OF FIFE** (253)922-9315 (253)922-9315 MCCHRD01MC CHORD PIPELINE COMPANY (253)383-1651 (253)383-1651 (253)383-1651 OLYPE01 **BP/OLYMPIC PIPE LINE COMPANY** (425)981-2517 (425)981-2517 (888)271-8880 PUGE07 PUGET SOUND ENERGY ELECTRIC (888)728-9343 (888)225-5773 (888)225-5773 PUGET SOUND ENERGY GAS PUGG07 (888)728-9343 (888)225-5773 (888)225-5773 **CTLQL-CENTURYLINK** (800)778-9140 QLNWA24 (800)283-4237 (800)573-1311

Private Utilities Location

Additionally, Aerotech engaged personnel of Mountain View Locating Services of Bonney Lake, Washington to locate building and site utilities on November 8, 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.

(253)502-8263

(253)502-8600

(253)383-0982

Based in part upon pavement markings made by utility location technicians; the location of utility fixtures such as water, electrical, or manholes, and the presence of anomalies detected by induction or ground radar methodologies, monitoring well locations were chosen. Refer to Figure A for details regarding utility locations, well locations and other features.

Ground Penetrating Radar Survey:

TACPWR01TACOMA PWR & CLICK NETWORK

A Ground Penetrating Radar ("GPR") Survey conducted by Mountain View Locating Services staff on November 8, 2016 in order to augment the induced current methodology, and to

¹ Aerotech Environmental Consulting, Inc., was previously issued a Contractor Identification Number by the non-profit Utilities Underground Location Center (www.callbeforeyoudig.com).

verify the presence of utility trenches such as sewer and water main trenches. Mr. Dave Schaff of Mountain View Locating Services, LLC employed Radar equipment utilizing Dual Frequency Antennae (300 MHz/800 MHz) manufactured by Geophysical Survey Systems. The locations of the water main and storm sewers were confirmed by means of GPR activities.

Site Activities:

Six groundwater monitoring wells were installed on November 10 and 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:

Drilling operations employing a Track-mounted Hollow Stem Auger Drilling Rig, equipped with 2-foot stainless steel split spoon sampling tools.

The subsurface soil borings were performed by equipment owned by and operated by a Licensed Driller from Borehtech, Inc., of Spokane and Renton. The on Site drilling equipment was operated by personnel employed by Boretech, Mr. Carlos Gardea (State of Washington Department of Ecology Well Driller's License No. 3143). All subsurface work was overseen by State of Washington Licensed Geologist, Mr. James McDermott (State of Washington License No. 3063). The laboratory analytical services were performed by a State of Washington Licensed Lab, Advanced Analytical Labs in Redmond, Washington.

Soil Borings:

Approximately 5 to 6 feet of gravelly well-graded sand fill was generally underlain by 8 or more feet of silt or very fine sand and silt. Two 2- 4-foot thick poorly graded sand lens(es) were encountered above or below the silt encountered. Consistent with historical evidence, MW-3 and MW-4 appear to have been advanced within the sandy backfilled former underground tank basins situated west and east of the former pump island location. Refer to Figure 3c for a depiction of soils on Site in the form of a Hydrogeologic Cross-section.

A total of six soil borings were advanced and six groundwater monitoring wells were installed around the perimeter of the former fuel dispenser pump islands and two underground storage tank basins. Refer to Figure A.

Soil Sample Collection:

A total of 21 discrete soil samples were collected on November 10 and 11, 2016 at six soil boring locations. Olfactory indications believed to reflect the possible presence of petroleum-impacted soil were observed in association with significant PID responses at location MW-3 (PID: 880 ppm; LAB TPH-g: 13,000 ppm), MW-2 (PID 88 ppm; LAB TPH-g: 250 ppm), and MW-4 (PID 19 ppm; LAB TPH-g: 150 ppm).

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. Each sample was handled with a fresh pair of clean latex gloves. 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, utilizing a fresh disposable poly-bailer lowered to the middle of the available water column within temporary wells installed in boreholes, 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. Samples were held in the custody of the project manager, James McDermott, and ice was checked and replenished while samples were held in the evening, and maintained to the time of delivery to the lab. 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, no follow-up laboratory analyses were requested for the subject Site, as of the date of this report.

Installation and Design of Groundwater Monitoring Wells:

On November 10 and 11, 2016, groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 were installed at the subject Site.

At each well location, a two-inch diameter Schedule 40 PVC groundwater monitoring well was installed to a depth between 14 and 15 feet bgs, with ten feet of 2-inch diameter no. 10 PVC slotted screen situated between depths of 4 and 10 feet bgs or 5 and 15 feet bgs, in order to accommodate a wider range of fluctuations in groundwater levels due to the proximity of the Site to boththe Puyallup River and Commencement Bay, where the magnitude of the difference in elevation between low and high tide often exceeds 10 feet.

The annular space in each case was completed with clean Colorado silica sand sized to the No. 10 screen (No. 10 to 20 grade), to a depth of one foot above the top of the well screen interval. The remaining annular space was sealed with bentonite chips to within one foot of the surface toprevent the infiltration of surface water or contaminants to the depth of the screened interval. The well was completed with a sealable pressure cap, and cement was placed above the bentonite to secure a flush mountedwell0-head monument. Two wells, MW-5 and MW-6 were installed near the top of the landscaped slope located south of the gravel lot. Narrow terraces were created at a level approximately two feet below the elevation of the adjoining gravel lot, and above-ground steel monuments were constructed, protected by four steel bollards.

Well design details are depicted in the attached Soil Boring Logs. The Department of Ecology does not permit groundwater to be collected from a newly installed groundwater well until the well system has been allowed to chemically equilibrate for a period of at least 72 hours. This delay is intended to permit the groundwater environment to return to its natural chemical and physical state.

Well Identification	Well Tag	Total Depth (feet bgs)	Approximate Screened Interval (feet bgs)	Elevation of Well Head (feet)P
MW-1	BIS 683	14.0	4-14 ft	7.02
MW-2	BIS 684	14.0	4-14 ft	6.83
MW-3	BIS 685	14.0	4-14 ft	7.15
MW-4	BIS 686	15.0	5-15 ft	6.58
MW-5	BIT 785	14.0	4-14 ft	6.32 **
MW-6	BIT786	14.0	4-14 ft	5.47 **

* Estimated relative to Mean Sea Level ("MSL"). Catch Basin along north Site/gravel lot perimeter. BGS = Below ground surface ** Above ground steel monument, otherwise flush mounted.

Equipment Decontamination:

All sample acquisition equipment was decontaminated before and after the completion of each borehole in order to eliminate the potential for cross-contamination between borings, as required. All reusable sampling equipment for soil sampling, drive rods, and probes were decontaminated after each sampling point by washing with an Alconox-distilled water solution and rinsing with distilled water.

Site Restoration:

Each borehole was completed with bentonite chips, and finished with a concrete concrete pad. No landscape restoration was necessary.

SECTION III.

GEOLOGY AND HYDROGEOLOGY

Site and Regional Topography and Hydrology:

The precise Property location is N 47 14' 34.44" / W 122 22' 58.80" as determined by DeLorme mapping data. The Site is located in Universal Transverse Mercator Zone 11, and has an elevation of approximately 9 to 12 feet above mean sea level. As observed during the Site visit and confirmed on the USGS topographic map, the subject Property is relatively flat, with graded gravel or adjoining paved surfaces in the study area sloping toward two storm water catch basins located near the north fence line. The surface within five to ten feet of the southern Property margin slopes markedly to the level of the ditch to the south, which may perhaps as much as 6 to 8 feet below the average grade of the gravel lot. Similarly, adjoining to the west is a triangular-shaped bioswale in which a pond was observed near its center. The water level in this pond appears to be situated at a depths of approaching 6 to 8 feet below the elevation of the gravel lot. Work at the Site in October and November 2016 was completed during a period of exceptionally high rainfall.

As is commonly the case in low-lying areas near sea level, many roads and properties appear to be elevated as much as four or more feet above the original grade. Evidence of the original grade may be seen in the decrease in elevation evident north of Pacific Highway East, north of the subject Property. The 1897 USGS 15-Minute topographic Map depicts Commencement Bay estuaries and tidelands as they existed prior to development with fill. The subject Site is depicted as located within a few hundred feet of a small embayment, representing the relatively close approach of the high tide mark during that period.

A ditch is located a few tens of feet south of the Property. A second tributary ditch is located east of the property adjoining to the east. Pacific Avenue East is elevated approximately four feet above the Site. A Storm Water Systems Map update, published by the city of Fife, suggests that the adjoining ditch to the south discharges to the east, and is directed via pipe to the south, underneath Interstate 5, and ultimately to a ditch system parallel to the east side of the Puyallup River levee system, and to Commencement Bay.

The regional topography within the Commencement Bay tidal flats is that of the nearly planar surface generated by the placement of artificial fill material in the later decades of the nineteenth century and the early years of the twentieth century. Elevations on ridges over one mile to the south increase to more than 200 feet MSL, at the northernmost margins of the south Tacoma upland area.

Geology - Regional and on-Site Conditions:

The Puget Sound lies within a tectonic trough situated between the Olympic Mountains to the west, and the northern Cascade Mountains to the east. This trough is characterized by fault zones accommodating north-south compressional rotation, commonly resulting in predominant north-south and northwest-southeast oriented faults and fault zones. Elliott Bay lies north of the Seattle Fault Zone, while Tacoma's Commencement Bay lies south of the northernmost Tacoma Fault zone rupture. A major fault is mapped below the bluffs on which central Tacoma was developed, along the western margin of Commencement Bay. Commencement Bay and the Puyallup River Basin lie on the down dropped side of the fault. The original Commencement Bay intertidal zone has been elevated by the emplacement of fill throughout the early20th century. The uppermost soils in the Puyallup River Valley are dominated by alluvial and fluvial sediments.

Volcanic mudflow-lahar deposits, commonly 50 to 135 feet in thickness, originating below the slopes of the Mount Rainier volcano 1,500 and 5,700 years bp, serve to provide a somewhat extensive and uniform hydraulic barrier, separating the Holocene alluvial deposits into upper and lower hydraulic units. These alluvial deposits have been progressing northward over the last several millennia since the last ice sheet retreated, so much so that, approximately 6,000 years before present the estuary and Puget Sound inlet were located near Sumner, Washington. Isopach maps, depicting the thickness of the upper alluvial deposits, the thickness oft the Electron and Osceola mud flow deposits, and the lower alluvial aquifer (the latter deposited near the City of Puyallup andt o the southeast), are attached to an Appendix of this report.

Deep borehole data indicate a total of approximately 1,800 feet of unconsolidated glacial and interglacial sediments in the former tidal flats in the vicinity of the subject Property.

The subject Property and vicinity, south of the Blair Waterway, are mapped as Quaternary Alluvium. These soils are characterized as:

"Gravel, sand, silt, and clay. Deposited chiefly by modern streams, but includes some swamp deposits. Includes marine deposits near the mouth of the Puyallup river thickness ranges from a few feet to as much as 600 feet. Yields small to moderate quantities of water to wells. Locally capable of large yields."

Hydrogeologic Framework, Groundwater Movement, and Water Budget in the Puyallup River Watershed and Vicinity, Pierce and King Counties, Washington, U.S. Geological Survey Scientific Investigations Report 2015-5068, Wendy B. Welch, et al, 2015.

Ground-Water Occurrence and Stratigraphy of Unconsolidated Deposits, Central Pierce County, Washington, Water Supply Bulletin No. 22, State of Washington, Department of Water Resources, Kenneth L. Walters and Grant E. Kimmel, 1968

Geologic Map of the Tacoma North 7.5' Quadrangle, King and Pierce Counties, Washington, US Geological Survey, unpublished draft.

Geologic Map of the City of Tacoma, Pierce County Washington, Mackey Smith, 1977, and unpublished maps on topographic base by Timothy J Walsh, Washington State Department of Natural Resources, circa 1987.

Groundwater Hydrology of the Tacoma-Puyallup Area, Pierce Country, Washington, USGS Water Resources Investigation 99-4013, M.A. Jones, L.A. Orr, J.C. Ebbert, and S.S. Sumioka, 1999.

The following soils were encountered during drilling activities: Approximately 5 to 6 feet of gravelly well-graded sand fill was generally underlain by 8 or more feet of silt or very fine sand and silt. Two 2- 4-foot thick poorly graded sand lens(es) were encountered above or below the silt encountered. Consistent with historical evidence, MW-3 and MW-4 appear to have been advanced within the sandy backfilled former underground tank basins situated west and east of the former pump island location. Refer to Figure 3c for a depiction of soils on Site in the form of a Hydrogeologic Cross-section.

A Washington Department of Transportation test boring advanced near the intersection of the Port of Tacoma Road and Interstate 5, documents the presence of gravel with sand and sand to a depth of 8 feet, underlain by at least 12 feet of silt or silt with sand. The shallow gravels may represent fill material placed atop natural fluvially and alluvially deposited silts and sandy silts. These fill materials may be expected underneath roadways and developed properties, and are often designed to elevate the surface above shallow groundwater and reduce susceptibility to flooding due to groundwater flooding during wet periods, and flooding due to heavy precipitation or breaches and overtopping of the levee system or the associated ditch systems.

Subsurface and Hydrogeological Characteristics - Groundwater Flow:

The principal aquifers in the Puget Sound Region occur within a series of units of glacial drift, hydraulically separated by less permeable deposits commonly including interglacial deposits. One exception, the Vashon till, serves as an aquitard as well, restricting the vertical and lateral migration of groundwater and of contaminants. These deposits underlie the Puget Lowlands basin to depths often approaching 2,000 feet or more. Sand and gravel units within the glacial drift form the principle aquifers. These aquifers receive ample recharge from the typically heavy precipitation characteristic of western Washington. The glacial drift in the Puget Sound region varies greatly in composition and water yielding capacity. Typically, wells in glacial drift tapping sand- or gravel-rich glacial deposits or till in the region above depths of 100 feet may have yields of 100 gallons or more per minute. Deeper wells tapping thick, confined aquifers of highly permeable gravel and coarse sand, often at depths greater than 250 feet, can yield over 1,000 gallons per minute.

Water levels in wells on Site were measured at depths between 1.5 and 5 feet, and may reflect the record precipitation total distinguishing the previous month. The calculated groundwater flow direction at the Site is to the west and southwest. Refer to Figures 3A and 3B, attached to this report. Flow lines based upon potentiometric surface map, indicate flow may be deflected toward the pond present within the bio-swale to the west, and more sharply deflected toward the ditch located Preliminary water levels and associated groundwater flow direction calculations may not represent equilibrium conditions. Additional measurements are planned.

Static water levels north and east of the subject Property have been recorded between depths of three to six feet bgs. During the AESI Phase II, water levels were reported to range from three to seven feet bgs on the subject Property. Ditches in the vicinity are estimated to be as much as four to five feet deep. Groundwater flow direction has been documented at the property to the north as flowing to the south-southwest; to the west and southwest at the current *Travelodge* property, adjacent to the east; and at the former Texaco Station, adjacent to the northwest, as flowing to the west-southwest, or to the south or southwest. Topography is not always a reliable basis for predicting groundwater flow direction, and flow may vary considerably from site to site, according to local influences such as the presence of production or irrigation wells and variations in geologic material and the geometry of distinct geologic units.

A groundwater divide, north of which groundwater flow may be expected to flow toward Commencement Bay, is likely present perhaps as near as a few hundred feet to the north of the Site; this groundwater divide may migrate considerable. The straightened and levi-bound Lower Puyallup River channel is located approximately 3,000 feet south west of the subject Property. Groundwater in the vicinity of the Site, based upon water level data may flow predominantly in the direction of the Puyallup River channel, but may also flow to the west or northwest where the groundwater system is influence by elevated Puyallup River water levels during flood stage or the wet winter seasons.

Components of an extensive ditch system are visible south of the Site, along the northern and southern margins of Interstate 5, and north of Pacific Highway East. Portions of the ditch system to the north may discharge to Wapato Creek to the east. Ditches to the south do not appear to be connected to the system to the north. The ditch adjoining the Site appears todischarge to the east, and then to the south via pipe underneath US 5. When the water table is low, during dry summer months, water entering ditches may, in part, infiltrate vertically to a seasonally low water table; when the water table is higher, during wet winter periods, groundwater may discharge to deeper drainage ditches.

Because tidal fluctuations approach 15 or more feet in the Tacoma area, rythmic fluctuations in ground water levels twice daily and flow direction may occur within some low lying areas near Commencement Bay. Tidal fluctuations may potentially influence groundwater flow at the subject Property, given its location approximately 3,000 feet from the Blair Waterway and approximately

Groundwater Monitoring Well Installation Report - November 2016 Fife RV Center, Fife, Washington 3,000 feet northeast of the Puyallup River channel. Groundwater flow direction at low tide may potentially be diverted somewhat to the west or even northwest. The predominant groundwater flow direction south of this nearby section of Pacific Highway appears to be to the southwest or west.

Jones, Orr and Ebbert depict the shallow alluvial aquifer of Commencement Bay as hydraulically connected to adjoining glacial aquifers above; in general groundwater is expected to flow from the bluffs above, toward Commencement Bay and the Puyallup River, with a significant flow component in the direction of river flow, toward Commencement Bay.

The upper alluvial aquifer is characterized as a distinct hydrogeologic unit, hydraulically connected to more permeable sandy or gravelly units along the valley margins, often lying underneath glacial till:

"Aquifer Qc1 [Jones 1999] is generally a confined aquifer except where it is exposed at the surface, where it is unconfined, or not completely saturated beneath Qvt [Vashon Till]. It consists largely of sand and gravel deposits but does contain silt and clay within the sand and gravel matrix. ... The altitude of the top of this aquifer ranges from 50 feet below sea level to 509 feet above sea level."

Groundwater Hydrology of the Tacoma-Puyallup Area, Pierce Country, Washington, USGS Water Resources Investigation 99-4013, M.A. Jones, L.A. Orr, J.C. Ebbert, and S.S. Sumioka, 1999.

Ground-Water Occurrence and Stratigraphy of Unconsolidated Deposits, Central Pierce County, Washington, Water Supply Bulletin No. 22, State of Washington, Department of Water Resources, Kenneth L. Walters and Grant E. Kimmel, 1968

Lower Duwamish Waterway, Phase I Remedial Investigation Report, Final, Lower Duwamish Waterway Group, and Development of a Three-Dimensional, Numerical Groundwater Flow Model for the Duwamish River Basin, Booth and Herman 1998.

Tidal Along-shore Groundwater Flow in a Coastal Aquifer, L. Li, D.A. Barry, F. Stagnitti, and J.Y. Parlange, Environmental Modeling and Assessment 4 (1999), pp 179-188.

The shallow gravel and sand fill is generally expected to readily transmit groundwater, and where present, groundwater contaminants, while the underlying silts and sandy silts are generally expected to impede both the vertical and horizontal flow of groundwater, and where present, groundwater contaminants. Where porous fill materials associated with utility trenches, such as those that may be present underneath Pacific Highway East, are present, these trenches may serve to intercept and divert shallow groundwater.

SUMMARY OF SAMPLE ACQUISITION

A total of 6 soil borings were advanced in the Area of Concern to a maximum depth of 17 feet below ground surface. Six groundwater monitoring wells were subsequently installed in boreholes to maximum depths between 14 to 17 feet bgs. Detailed descriptions of each boring location, observations made during the acquisition, sampling information, and the field screening process are documented in soil boring logs attached to this report.

SECTION IV.

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons-Gasoline and other Gasoline Constituents:

Total Petroleum Hydrocarbons-Gasoline and Benzene were detected above MTCA Method A Cleanup Levels for soil at MW-2, MW-4, and MW-5, at concentrations between 34 and 250 mg/kg (benzene at 0.061 to 0.530 mg/kg), and at MW-3 at 13,000 mg/kg (benzene at 9.3 mg/kg). This pattern is consistent with isoconcentration contour maps presented in the Site Remedial Excavation Report, dated November 1, 2016 (Figures 6 and 7 are also attached to this report.) Refer to Figure 2C for a depiction of the hydrogeologic section with lab results indicated. A summary of these results may be found in an amended version of Table 1, including results associated with excavation and test pit activities during the previous month, and attached to this report.

APPLICABLE ANALYTICAL METHODOLOGIES AND PARAMETERS

The analytical parameters requested were chosen, based upon the results of previous investigations, including the Remedial Excavation Report dated November 1,2016, in order to provide a comprehensive characterization of the subsurface soils and groundwater present at the Site Areas of Concern and to comply with State of Washington recommendations.

Analytical Methodology:

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

State of Washington USEPA 8260B

Laboratory Analysis:

Laboratory analysis was provided by:

Advanced Analytical Laboratory 13256 NE 20 Street, Suite 8 Bellevue, WA 98005 425.747.7009 aachemlab@yahoo.com

Groundwater Monitoring Well Installation Report - November 2016 Fife RV Center, Fife, Washington

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:

Wash & Meden anus Signature – James McDermott (License No. 3063)

3063 ensed Geo

James G. McDermott

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 [ASTM E1903-97, 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

Groundwater Monitoring Well Installation Report - November 2016 Fife RV Center, Fife, Washington

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APPENDIX

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- Site Location and Photographs
- Project Contract Documents
- Soil Boring Logs

No.

- Laboratory Analytical Results and Chain of Custody
- Supporting Documentation

Groundwater Monitoring Well Installation Report - November 2016 Fife RV Center, Fife, Washington SITE LOCATION AND PHOTOGRAPHS

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PAGE 1 - FIFE RV CENTER: 3410 Pacific Hwy E, Fife, Wa Well Installation Nov 2016 - MW-1 (View NE)



MW-1 (View NE)



MW-1 (View NW)



MW-2 (View N-NW)



MW-2 Core Samples



MW-3 Core Sample



PAGE 2 - FIFE RV CENTER: 3410 Pacific Hwy E, Fife, Wa Well Installation Nov 2016 - MW-3 (View North)



MW-4



MW-5 (View West)



MW-5 Core Sample - Peat layers



MW-6 at 9 feet depth bgs - PEAT with silt and clay



MW-6 and MW-5 (View West)

FIGURES











TABLES

TABLE 1 SOIL ANALYTICAL RESULTS Fife RV Center 3410 Pacific Highway East Fife, Washington 1 of 3

Sample ID	Soil Boring/Point Well ID	Sampling Date	Sample Depth	TPHg	TPHd	трно	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Lead
			Feet BGS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kj
P1(10')	P1	10/03/16	10	9.0	<20	<50	0.096	< 0.050	< 0.050	< 0.050	
P2(5')	P2	10/03/16	5	<5.0	<20	<50	<0.020	< 0.050	<0.050	<0.050	
P3(10')	P3	10/03/16	10	<5.0	<20	<50	<0.020	<0.050	<0.050	<0.050	+
P4(5')	P4	10/03/16	5	8.5	<20	<50	<0.020	<0.050	0.10	<0.050	
P5(5')	P5	10/03/16	5	53	<20	<50	0.16	0.071	0.84	0.15	7.8
P5(10')	P5	10/04/16	10	<5.0	<20	<50	<0.020	<0.050	< 0.050	< 0.050	
P6(10')	P6	10/04/16	10	<5.0	<20	<50	<0.020	<0.050	< 0.050	<0.050	
P7(3')	P7	10/04/16	3	<5.0	<20	<50	<0.020	< 0.050	< 0.050	<0.050	
P8(10')	P8	10/04/16	10	<5.0	<20	<50	<0.020	< 0.050	< 0.050	< 0.050	
P9(5')	P9	10/04/16	5	110	<20	<50	0.15	<0.050	5.1	<0.050	5.2
P9(10')	P9	10/04/16	10	23	<20	<50	<0.020	< 0.050	0.34	<0.050	
P10(10')	P10	10/04/16	10	<5.0	<20	<50	<0.020	< 0.050	<0.050	< 0.050	
P11(10')	P11	10/04/16	10	<5.0	<20	<50	<0.020	<0.050	<0.050	<0.050	
P12(5')	P12	10/05/16	5	100	<20	<50	0.42	0.18	1.7	0.54	
P12(10')	P12	10/05/16	10	<5.0	<20	<50	< 0.020	< 0.050	<0.050	<0.050	
P13(5')	P13	10/05/16	5	6.7	<20	<50	<0.020	< 0.050	<0.050	<0.050	
P13(10')	P13	10/05/16	10	<5.0	<20	<50	<0.020	< 0.050	< 0.050	<0.050	
P14(5')	P14	10/05/16	5	60	<20	<50	Sector Control (0.17	Contraction of the states		
and the second s		Contraction of the second	2519	12.2	0.000	2.49.0000	0.15	enternation of	0.096	0.16	
P14(10')	P14	10/05/16	10	<5.0	<20	<50	<0.020	< 0.050	< 0.050	< 0.050	
P15(10')	P15	10/06/16	10	<5.0			< 0.020	< 0.050	<0.050	<0.050	
P16(5')	P16	10/06/16	5	1,100	<20	<50	0.72	0.072	7.5	32	7.0
P16(10')	P16	10/06/16	10	<5.0	**	**	<0.020	<0.050	< 0.050	<0.050	**
P17(5')	P17	10/06/16	5	<5.0			<0.020	< 0.050	<0.050	<0.050	
P17(10')	P17	10/06/16	10	<5.0	**		<0.020	< 0.050	<0.050	< 0.050	
P18(5')	P18	10/06/16	5	130			0.29	< 0.050	1.5	2.4	
P18(10')	P18	10/06/16	10	<5.0		**	<0.020	< 0.050	< 0.050	< 0.050	
P19(5')	P19	10/06/16	5	<5.0	-		<0.020	< 0.050	<0.050	<0.050	**
P19(10')	P19	10/06/16	10	<5.0			<0.020	<0.050	<0.050	<0.050	
TP1(5')	TP1	10/06/16	5	<5.0			<0.020	<0.050	< 0.050	<0.050	
TP2(5')	TP2	10/06/16	5	<5.0			<0.020	<0.050	<0.050	<0.050	-
TP2(10')	TP2	10/06/16	10	<5.0			<0.020	<0.050	<0.050	<0.050	
TP3(3')	TP3	10/06/16	3	2,500			0.34	0.35	15	10	
TP3(5')	TP3	10/06/16	5	650		-	0.53	5.3	7.5	7.3	
TP3(10')	TP3	10/06/16	10	27		-	<0.020	<0.050	0.18	0.25	
TP4(3')	TP4	10/06/16	3	<5.0			<0.020	<0.050	< 0.050	<0.050	
TP4(5')	TP4	10/06/16	5	<5.0			<0.020	<0.050	< 0.050	<0.050	
TP4(10')	TP4	10/06/16	10	<5.0			<0.020	< 0.050	<0.050	<0.050	
TP5(5')	TP5	10/06/16	5	<5.0			<0.020	< 0.050	<0.050	<0.050	
TP5(10')	TP5	10/06/16	10	<5.0			< 0.020	< 0.050	< 0.050	< 0.050	
TP6(5')	TP6	10/06/16	5	<5.0			<0.020	< 0.050	< 0.050	< 0.050	
TP6(10')	TP6	10/06/16	10	12			0.071	<0.050	<0.050	<0.050	
TP7(5')	TP7	10/06/16	5	690	<20	<50	0.90	1.9	32	0.33	
TP8(3')	TP8	10/06/16	3	60			<0.020	< 0.050	1.2	<0.050	
TP8(5')	TP8	10/06/16	5	<5.0			<0.020	< 0.050	<0.050	<0.050	
TP9(5')*	TP9	10/06/16	5	6,090	<20	<50	4.0	4.0	66	130	
				and the second se				-			-
TP9(10')*	TP9	10/06/16	10	240			0.59	1.5	1.6	3.7	
TP11(5')	TP11	10/06/16	5	<5.0			<0.020	<0.050	< 0.050	<0.050	**
TP12(5')	TP12	10/06/16	5	18			< 0.020	< 0.050	< 0.050	0.082	

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SOIL ANALYTICAL RESULTS T 3J8AT

	2 of 3
	rotgninkseW , 91i1
126	3 410 Pacific Highway E
	Fife RV Center

peal	Total	Ethyl-	Toluene	Benzene	oHqt	PHOT	BHGT	alqmaz	Sampling	foing/going lio2	Cl sigma2
			2016	vember 17,	oN - hoda	A noiselless	nl lleW gnin	otinoM 1916	c Groundw	nl ,gnitluznoð letnei	tech Environm
057	9	9	L	£0.0	000'Z	5,000	08		p Levels	unselD A borteM ADT	W
	050.0>	050.0>	050.0>	<0.020			0.2>	3	10/24/16	b3t	634(3,)
	050'0>	050.0>	050.0>	<0.020	**		0'5>	3	10/54/16	633	633(3,)
**	050.0>	050.0>	050.0>	<0.020			0.2>	3	10/24/16	b32	b35(3,)
	050.0>	050.0>	050.0>	<0.020	**		0.2>	10	10/54/16	b3J	b31(10.)
	050.0>	050.0>	050.0>	<0.020		**	0'5>	10	10/24/16	b30	b30(10.)
	040	0.28	61.0	980.0			00Z	S	10/24/16	b30	b30(2,)
	050.0>	050.0>	050.0>	<0.020	**		0.2>	3	10/24/16	67d	b56(3,)
	050'0>	050.0>	050.0>	<0.020			0.2>	10	10/21/16	678	678(10.)
4	050'0>	050.0>	050'0>	<0.020			0.2>	S	10/21/16	678	b28(2,)
+	65.0	\$60'0	050.0>	<0.020			85	S	10/21/16	LZd	(.S)/Zd
	14.0	050'0>	050'0>	<0.020			15	OT	10/21/16	676	626(10,)
	91	9°T	\$'E	91.0			055	OT	91/12/01	SZd	(.0T)SZd
122	530	SE	52	9't			007'S	S	10/21/16	SZd	(.s)szd
- 22	98.0	5.1	050'0>	0.26			05	OT	10/20/16	bZđ	b5t(10,)
	050.0>	050.0>	050'0>	<0.020			0.2>	S	10/20/16	bZđ	65¢(2,)
	01.0	0.22	050.0>	<0.020			91	ot	10/20/16	673	b53(10,)
144	5.4	8.4	\$L'0	91/0	1/12		094	S	10/20/16	623	b53(2,)
	050.0>	050.0>	050.0>	<0.020			0'5>	15	J1/02/01	b22	b22(15,)
	61.0	0.43	050'0>	670.0	· · ·		VE	10	10/20/16	b22	655(10.)
	6°L	50	6°T	£8.0			1'100	S	10/20/16	b22	b55(2.)
	\$7.0	0.34	0.14	11.0	144		99	10	10/20/16	tZd	b51(10.)
	54	1'8	65'0	\$9.0			1'500	S	91/02/01	IZd	(.S)IZd
	\$80.0	60.0	050.0>	0.24			50	01	91/02/01	b20	b20(10.)
	91.0	ST.0	101.0	590'0			15	S	91/02/01	b20	P20(5')
	050.0>	050.0>	050.0>	020.0>		**	0.2>	5	91/20/01	6141	(.5)6141
	050.0>	050.0>	050.0>	<0.020			0.2>	ε	91/20/01	6141	(.2)6141
	050'0>	050.0>	050.0>	020.0>	**	***	0.2>	E	91/20/01	1618	1618(3.)
	050'0>	050.0>	050'0>	020.0>		++	0.2>	S	91/20/01	LIdl	(.5)/141
	050'0>	050.0>	050.0>	<0.020	**	**	0.2>	8	91/20/01	LIGI	(.E)/101
	050.0>	050.0>	050.0>	<0.020			0.2>	S	91/20/01	1612	(12)91d1
	050.0>	050.0>	050'0>	020.0>	**		0'5>	5	91/20/01	TP16	1616(3.)
-	050.0>	050.0>	050.0>	020.0>			0.2>	OT	91/20/01	SIdi	(101)STGT
	050.0>	050.0>	050.0>	020.0>			0.2>	S	91/20/01	SIGI	(.5)5141
	050'0>	050.0>	050.0>	<0.020		**	0.2>	10	91/90/01	told told	1614(10.)
	050'0>	050.0>	050'0>	<0.020			0.2>	S	91/90/01	TP14	TP14(5')
	050.0>	050'0>	050.0>	<0.020			0'5>	S	91/90/01	TP14	())/III
ax/am	83/8ш	Bx/Bu	Ba/Bu	8x/8w	8×/8u	និង/និយ	Bx/Su	Feet BGS	51/30/01	C+OT	TP13/EIJ
peəŋ	Xylenes Total	peuseue Ethyl-	anauloT	genzene	онат	PHdT	SHAT	Depth	Bnildme2 9160	Soil Boring/Point Cl IIsW	di alqma2

052	9	9	7	0.03	2'000	2,000	30		MTCA Method A Cleanup Levels				
	050.0>	050.05	050.0>	<0.020	**		0.2>	2.41	91/01/11	E-WM	('2.41) E-WN		
÷*`	960.0	22.0	050.0>	<0.020	**	**	TS	6	91/01/11	E-WM	(.6) E-WM		
	\$'S	074	9'Z	5.2	4		13'000	5'0	91/01/11	E-WM	('2.4) E-WM		
	91.0	9.0	\$90'0	<0.020	**	**	54	6	91/01/11	Z-WM	(.6) Z-MW		
	\$8.0	8.5	\$5.0	£5'0			052	t	91/01/11	Z-WM	MM-5 (4.)		
-	050.0>	050.0>	050.0>	020.0>			0.2>	01	91/01/11	T-WW	(.01) I-MW		
	050.0>	<0.050.0>	050'0>	<0.020	**		0.2>	5'\$	91/01/11	I-MW	(.5'b) T-MW		
ax/am	3x/3w	ws/ks	3x/3m	wg/kg	BX/8m	3x/3m	2x/8w	Feet BGS					
beal	Xylenes	benzene Ethyl-	anauloT	genzene	OHAT	PHd1	BHGT	Depth	Sampling Date	Soil Boring/Point UilleW	GI sigme2		

TABLE 1 SOIL ANALYTICAL RESULTS Fife RV Center 3410 Pacific Highway East Fife, Washington

3 of 3

Aerotech Environmental Consulting, Inc. - Groundwater Monitoring Well Installation Report - November 17, 2016 (continued)

Sample ID	Soil Boring/Point Well ID	Sampling Date	Sample Depth	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Lead
	A CONTRACT OF A		Feet BGS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MW-4 (5')	MW-4	11/10/16	5	55			0.061	0.27	0.22	0.2	
MW-4 (10.5)	MW-4	11/10/16	10.5	150		++	0.51	1.2	1.1	1.7	
MW-4 (14.5)	MW-4	11/10/16	14.5	<5.0	-		<0.020	<0.050	<0.050	<0.050	
MW-5 (6')	MW-5	11/10/16	6	34			0.090	0.66	0.25	0.31	
MW-5 (10')	MW-5	11/10/16	10	<5.0		**	<0.020	<0.050	<0.050	<0.050	**
MW-6 (9')	MW-6	11/11/16	9	<5.0			<0.020	< 0.050	<0.050	<0.050	
MW-6 (10.5')	MW-6	11/11/16	10.5	<5.0	**	-	<0.020	<0.050	<0.050	<0.050	
N	TCA Method A Clean	up Levels		30	2,000	2,000	0.03	7	6	6	250

MTCA = Model Toxic Control Act Cleanup Level (WAC173-340-900) BGS = Below Ground Surface mg/kg = milligram of analyte per kilogram of soil < = not detected at indicated Laboratory Detection Limits -- = not analyzed

Benzen, Toluene, Ethylbenzene, Xylenes by EPA Method 8021B TPHg - Total Petroleum Hydrocarbons - Gasoline by NWTPH-Gx

TPHd - Total Petroleum Hydrocarbons - Diesel by NWTPH-Dx

TPHo - Total Petroleum Hydrocarbons - Motor Oil by NWTPH-Dx extended

Lead by EPA Method 7010

ND = Not Detected (minimum detection limit unknown)

Bolded numbers and red-shaded cells denote concentrations above the MTCA Method A Cleanup Levels for soil

Soil from which this sample originated was removed during the Remedial Excavation


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ELEVATION SURVEY DATA

	PROJECT NAME: Fife RV/Center
	PROJECT ADDRESS:
DATE: 11/11/16	
	3410 Pacific Highway/East, Fife, WA

www. AerotechEnvironmental.com

RIM ELEVATION SURVEY RECORD

Eleva	tion Survey Using Catch Basin	(CB) Elevation as the known v	alue (8 Feet a	Above MSL)	
MW1 Station 1 Rim Elevation Survey	MW1 Measurement (H1) Feet 4.679	CB Measurement (H2) Feet 5.452	ΔH Feet 0.773	ΔH + CB Elevation (H2) Feet 8.773	MW1 Rim Elevation: 8.77
MW2 Station 1 Rim Elevation Survey	MW2 Measurement (H1) Feet 3.633	CB Measurement (H2) Feet 5.452	ΔH Feet 1.819	ΔH + CB Elevation (H2) Feet 9.819	MW2 Rim Elevation: 9.82
MW3 Station 1 Rim Elevation Survey	MW3 Measurement (H1) Feet 3.660	CB Measurement (H2) Feet 5.452	ΔH Feet 1.792	ΔH + CB Elevation (H2) Feet 9.792	MW3 Rim Elevation: 9.79
MW4 Station 1 Rim Elevation Survey	MW4 Measurement (H1) Feet 2.920	CB Measurement (H2) Feet 5.452	ΔH Feet 2.532	ΔH + CB Elevation (H2) Feet 10.532	MW4 Rim Elevation: 10.53

WELLHEAD ELEVATION SURVEY RECORD

Eleva	tion Survey Using Catch Basin	(CB) Elevation as the known v	alue (8 Feet /	Above MSL)	
MW1 Station 1 Rim Elevation Survey MW1 Station 2 Rim Elevation Survey MW1 Station 3	MW1 Measurement (H1) Feet 5.080 MW1 Measurement (H1) Feet 4.891 MW1 Measurement (H1) Feet	CB Measurement (H2) Feet 5.452 CB Measurement (H2) Feet 5.261 CB Measurement (H2)	ΔH Feet 0.372 ΔH Feet 0.370 ΔH	ΔH + CB Elevation (H2) Feet 8.372 ΔH + CB Elevation (H2) Feet 8.370 ΔH + CB Elevation (H2)	MW1 Calculated Wellhead Elevation: 8.37
Rim Elevation Survey	5.060	Feet 5.432	Feet 0.372	Feet 8.372	
MW2 Station 1 Rim Elevation Survey	MW2 Measurement (H1) Feet 4.040	CB Measurement (H2) Feet 5.452	ΔH Feet 1.412	ΔH + CB Elevation (H2) Feet 9.412	MW2 Calculated
MW2 Station 2 Rim Elevation Survey	MW2 Measurement (H1) Feet 3.860	CB Measurement (H2) Feet 5.261	ΔH Feet 1.401	ΔH + CB Elevation (H2) Feet 9.401	Wellhead Elevation:
MW2 Station 3 Rim Elevation Survey	MW2 Measurement (H1) Feet 4.032	CB Measurement (H2) Feet 5.432	ΔH Feet 1.400	ΔH + CB Elevation (H2) Feet 9.400	9.40
	····	 .			
MW3 Station 1 Rim Elevation Survey	MW3 Measurement (H1) Feet 4.020	CB Measurement (H2) Feet 5.452	∆H Feet 1.432	ΔH + CB Elevation (H2) Feet 9.432	MW3
MW3 Station 2 Rim Elevation Survey	MW3 Measurement (H1) Feet 3.834	CB Measurement (H2) Feet 5.261	ΔH Feet 1.427	ΔH + CB Elevation (H2) Feet 9.427	Calculated Wellhead Elevation:
MW3 Station 3 Rim Elevation Survey	MW3 Measurement (H1) Feet 3.994	CB Measurement (H2) Feet 5.432	ΔH Feet 1.438	ΔH + CB Elevation (H2) Feet 9.438	9.43



ELEVATION SURVEY DATA

FIELD CREW! NAG & KW	PROJECT NAME: Fife RV Center PROJECT, ADDRESS: 3410 Pacific Highway East, Fife, WA
	3410 Pacific Highway East, Fife, WA

www. AerotechEnvironmental.com

MW4 Station 1 Rim Elevation Survey	MW4 Measurement (H1) Feet 3.315	CB Measurement (H2) Feet 5.452	ΔH Feet 2.137	ΔH + CB Elevation (H2) Feet 10.137	MW4
MW4 Station 2 Rim Elevation Survey	MW4 Measurement (H1) Feet 3.144	CB Measurement (H2) Feet 5.261	ΔH Feet 2.117	ΔH + CB Elevation (H2) Feet 10.117	Calculated Weilhead Elevation:
MW4 Station 3 Rim Elevation Survey	MW4 Measurement (H1) Feet 3.311	CB Measurement (H2) Feet 5.432	ΔH Feet 2.121	ΔH + CB Elevation (H2) Feet 10.121	10.12
MW5 Station 1 Rim Elevation Survey MW5 Station 2 Rim Elevation Survey MW5 Station 3 Rim Elevation Survey	MW5 Measurement (H1) Feet 2.161 MW5 Measurement (H1) Feet 1.994 MW5 Measurement (H1) Feet 2.160	CB Measurement (H2) Feet 5.452 CB Measurement (H2) Feet 5.261 CB Measurement (H2) Feet 5.432	ΔH Feet 3.291 ΔH Feet 3.267 ΔH Feet 3.272	ΔH + CB Elevation (H2) Feet 11.291 ΔH + CB Elevation (H2) Feet 11.267 ΔH + CB Elevation (H2) Feet 11.272	MW5 Calculated Wellhead Elevation: 11.27
MW6 Station 1 Rim Elevation Survey MW6 Station 2	MW6 Measurement (H1) Feet 3.401 MW6 Measurement (H1)	CB Measurement (H2) Feet 5.452 CB Measurement (H2)	ΔH Feet 2.051 ΔH	ΔH + CB Elevation (H2) Feet 10.051 ΔH + CB Elevation (H2)	MW6 Calculated Wellhead
Rim Elevation Survey MW6 Station 3 Rim Elevation Survey	Feet 3.260 MW6 Measurement (H1) Feet	Feet 5.261 CB Measurement (H2) Feet	Feet 2.001 ΔH Feet	Feet 10.001 ∆H + CB Elevation (H2) Feet	Elevation 10.05

Wellhead Elevations were calculated by averaging the 2 nearest measurements within 0.005 feet of one another.



www. AcrotochEnvironmental.com

GROUNDWATER MONITORING WELL GAUGING RECORD

FIELD CREW: NAG & RHW	PROJECT NAME: File RV Center
DATE: 11/14/16	PROJECT ADDRESS: 3410 Padlic Highway East, File, Washington

Wall ID	Time	Wellhead Elevation	Depth to Weter	Groundwater Elevation	Dopth of Well	Woll Diamotor	Comments
	hh:mm	Fect Above MSL	Feet Below TOC	Feet Above MSL	Feet Below TOC	l nches	
MW1	7:58	8.37	1.35	7.02	13.55	2	Well is new and in great condition
MW2	8:05	9.40	2.57	6.83	13.53	2	Well is now and in great condition
MW3	8.08	9.43	2.28	7.15	13.23	2	Well is now and in great condition
MW4	8.04	10.12	3.54	6.58	14.45	2	Well is new and in great condition
MW5	8.02	11.27	4.95	6.32	16.83	2	Well is new and in great condition
6WM	8 01	10.05	4.58	5.47	-	2	Well is new and in great condition

EXPLANATION MSL = Moan Soa Lovol TOC + Top of Casing - + Not Measured or Not Cakulated

Excerpted Figures

Hydrogeologic Framework, Groundwater Movement, and Water Budget in the Puyallup River Watershed and Vicinity, Pierce and King Counties, Washington,

U.S. Geological Survey Scientific Investigations Report 2015-5068 Wendy B. Welch, et al, 2015.

> And other sources (As referenced on individual sheets)



10 Hydrogeologic Framework in the Puyallup River Watershed, Pierce and King Counties, Washington

Figure 3. Extent and thickness of AL1 upper alluvial aquifer in Puyallup River Watershed and vicinity, Washington.





Figure 4. Extent and thickness of MFL confining unit in Puyallup River Watershed and vicinity, Washington.

Hydrogeologic Framework 13







07843-A6(131)GN-WA-HYD (N HEGI07843/Report 128 Updated SCR/Figures/Section 3 Figures/Figure 3.10.srf) JUL 31/2014



07843-A6(128)GN-WA-HYD (N1)HEG107643/Report 128 Updated SCR1Figures/Section 3 Figures/Figure 3 11 srf) JUL 31/2014



07843-A6(128)GN-WA-HYD (N-HEG/07843/Report 128 Updated SCR/Figures/Section 3 Figures/Figure 3.12 srf) JUL 31/2014



07843-A6(128)GN-WA-HYD (N:WEG\07843\Report 128 Updated SCR\Figures\Section 3 Figures\Figure 3.14.srl) JUL 31/2014



⁰⁷⁸⁴³⁻A6(128)GN-WA-HYD (N:HEG'07843)Report 128 Updated SCR/Figures/Section 3 Figures/Figure 3.16.srf) JUL 31/2014



Commencement Bay and Puyallup River – Water Levels







City of Fife - Stormwater System Plan - March 3, 2015



Date/Time (LST/LDT)

Tacoma, Commencement Bay, Sitcum Waterway, WA StationId: 9446484

PROJECT CONTRACT DOCUMENTS

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ENVIRONMENTAL CONTRACTOR'S CERTIFICATION

Fife RV Center

3410 Pacific Highway East Fife, Washington 98424

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 of local program or policy to conduct environmental assessments: 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 Owne 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 ir fails to discover adverse environmental conditions during an environmental inspection. Professional Errors & Omissions Coverage \$1,000,000 / claim and \$1,000,000 aggregate liability
PENA	JNDERSIGNED HEREBY CERTIFIES, UNDER PENALTY OF THE CRIMINAL AND/OR CIVIL LTIES IN 18 U.S.C. § 1001 FOR FALSE STATEMENTS TO THE UNITED STATES GOVERNMENT, THE ABOVE INFORMATION IS TRUE AND CORRECT.

Signature

11.17 16 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)
mstory	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 Biodegredation.
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 insitu 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

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ww.Aerotec	hEnvir	onment	al.com		ject Na ject Nu					llevi	ue
ite Locati	24	10 Pag	Go Ulur	E ElC	We (C		C	Drilling Method: H.S.A.			
ne Locan	on: 54	10 Pac	ine riwy	E, File	, wa (Gri	ivel lot :	s of Tai	noma Gas and Jack-in-the-Box) Borehole Diameter: 8" Sampler Type: Stainle	Charles Charles		
Borehole	Locat	tion: 3.	5 ft S of	N Fenc	c + 10 ft	from ber	nd in fe	nce + 60 east of NWX fence Sampler Type: Stainle		ALC: NO	Inl
								fabric / Former UST-Pump areas Driller: Carlos Gardea (Wa Lic I		_	P
		_							40 51-	(3)	_
Logged GW End Notes:	counte Low	ered: Y tide C	'ES ommen	icemen Ionitori	Boring Static t Bay at ng Well i	GW Lev 0700 -	vel: 5 ft high tic	Approx. Surface Elevation:	ate: 1	Sam	ne
Depth (ft)	Groundwater	DID	Visual or Olfactory Evidence	Blow Counts	Recovery .		USCS Classification	Soil Classification/ Description	Well Construction		
				1			GP	Gravel Pavement Concrete pad atop bentonite seal>			
1											
								Air-knife 3.5 ft west of natural gas main / electrical / storm sewer			
2					Air		SW	Air knife to 5.5 ft bgs			
-					Knife			FILL - SAND, very fine to coarse, well graded, with silt, little to trace clay,			
3						1223		little small to large subround tosubangular gravel, gray to olive gray, slightly moist, wet below 5 ft. Very slight but indistinct odor.			
								signly moist, wet below 5 it. Very signt but indistinct odor.			
4			0824								1
		0.3	LAB				SW	Hand auger sample from beneath air knife hole			
5 -							-			-	
-		_		2			-				
6			_	3			ML	SILT, trace very fine sand, wet. No foul odor.			
			LAB	3			IVIL		-		
7 -		0.0	0905			luni Te		No. 10-20 Colorado Silica Sand in annular space>			
					-						
8											
				1	Carline of						
9			0915	1				SILT, trace very fine sand, roots below 9 ft. very moist to wet. No foul			
10 -		0.1	LAB	1							
10				3		1.4.9					
11				3		1005	SP	SAND, very fine to fine, trace silt, gray, wet.			
197.20 197.20		0.0		3	in Sin						
12 -											
-					-						
13				3	Contraction of						
-		0.1	0935	3			SM	SILT AND SAND, very fine to fine,gray, wet.			F
14 -		040700	LAB	4	ali-		a cristiana	No foul odor.			t
15							1	Note 11-12 ft deep tank basin to NE most likely penetrates silt		-	٢
15								Also, former Gasamet Station UST basin to south.			
16											
10								WELL CONSTRUCTION DETAIL:			
17								2 inch Sched 40 PVC - 10 ft No 10 slot PVC screen at 4-14ft bgs			
11								5 x 50 lbs bags of No. 10-20 Silica Sand + 1bag grout (3ft thick)			
18								Finished with 4 sq ft concrete pad and flush-mount monument			
			-					Bottom of borehole at 14.5 feet			
19							-	Groundwater encountered at 5 feet. Well installed at 4 - 14 ft.			
							1	Borehole completed with bentonite chips.	(I		1

Depth (ft) Groundwater Image: Comparison of the comparison)	0																					1)	1
Evidence	. ENVIRONN	www.Aerote			(ft)	oth	Dept	D		- If ii	1	1			1								1	1				1	1	1		Ti -		1	1			1	Ţ	1	1	
Evidence	ENTAL O	chEnviron			/ater	ndw	oun	Gro															F																_			_
Blow Counts Recovery	ENVIRONMENTAL CONSULTING	mental.com			factory ce	: Ol Jen	l or Evide	'isual E	,																						-					_	-		_	_		_
Recovery	Proje	Proje	3	1	unts	Co	ow C	Blo																																		
	Project Name:	ect Nu			əry	ove	Reco	R																																		
PPPE PPPE PPPE PPPE Uscs Classification	Project Name:	mber:		_	ification	ass	Cla	SCS	U	CW.	G	GM	GC	WS SW	SP	MS	SC	ML		CL	-lol	MH		CH	ОН	PT													_			-
Driling Contractor: Logged by: Start Date: End Date: Soli Classification/ Description UNIFIED SOIL CLASSIFICATION SYSTEM GRAVELS, peorly-graded* OR Gravel+Sand mix, little-no fines GRAVELS, peorly-graded* OR Gravel+Sand mix, little-no fines GRAVELS, clayey OR Gravel-sand-clay mix SAND, well-graded OR Gravely Sands, little-no fines SAND, beloy-graded OR Gravely Sands, little-no fines SAND, beloy-graded OR Gravely Sands, little-no fines SAND, clayey OR Sand-silt mix SAND, clayey OR Sand-silt mix SAND, clayey OR Sand-silt pasticity SIT, inorganic (very fine sands, rock flour, silty or clayey fine sands) OR Olayer and plasticity (gravely, sandy, silty, lean) SIT, ronganic (mitaceous or diatomaceous fin sindy/silty solis) OR SILT V SOLS, elastic SULTS PEAT and other highty lasticity IR clays Gladal TIII - High density, USCS/color indicates grain size present. The former term is employed in geotechnical descriptions, while the latter is preferred by the USDA in characterizing topsolis and subsolis.	Drilling Information	Drilling Contractor:			Soil Classification/ Description		CLASSIFICATION SY	EXPLANATION		GRAVELS well-oraded" OR Gravel+Sand mix little-no fines	GRAVELS, poorly-graded OK Gravel+Sand mix, little-no tines	GRAVELS, silty OR Gravel-sand-silt mix	GRAVELS, clayey OR Gravel-sand-clay mix	SAND, well-graded OR Gravelly Sands, little-no fines	SAND, poorly-graded OR Gravelly Sands, little-no fines	SAND, silty OR Sand-silt mix	SAND, clayey OR Sand-clay mix	SILT, inorganic (very fine sands, rock flour, silty or clayey fine	sands) OR Clayey silts with slight plasticity		SILT, organic, AND SILT-CLAY, organic, low plasticity	SILT, inorganic (micaceous or diatomaceous fn sndy/silty soils)	OR SILTY SOILS, elastic SILTS	CLAY, inorganic, high plasticity, fat clays	CLAY, organic, med-high plasticity OR Organic SILTS	PEAT and other highly organic SOILS	Glacial Till - High density, USCS/color indicates grain size				• Ierminology clarification: The term "Weil graded" is a synonym for "Poorly sorted" both meaning that a wide range of particle sizes are	present. The former term is employed in geotechnical descriptions, while	the latter is preferred by the USDA in characterizing topsoils and	subsoils.								
Well Construction				ġ	ruction	ıstı	Con	ell C	W																	_													_			

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F	-100	128	- 5.04"	co	BBLES	2		tut equ	o o	-	cm/	sec	200	1 m above
-4	50 -	64.0 53.9 45.3 33.1 32.0	- 2.52"		very coarse	- 2 1/2" - 2.12" - - 1 1/2" - 1 1/4"	- 2" - 1 1/2"						- 150	bottom
F	30 - 20 -	26.9 22.6 17.0 16.0	-0.63"	S	coarse	- 1.06" - - 3/4" - 5/8"	- 1.05" 742"				- 100 - 90	- 50 - 40	- 100	
3-	-10 -	13.4 11.3 9.52 8.00	- 0.32"	EBBLES	medium	- 1/2" - 7/16" - 3/8" - 5/16"	525" 371"				- 80 - 70	- 30	- 90 - 80	
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0 [1 -	1.41 1.19 1.00 .840	- 1		coarse	- 14 - 16 - 18 - 20	- 12 - 14 - 16 - 20	- 1.2	72	6	- 20 -	- 10 - 9 - 8	- 40	- 50 - 40
1-4.9	5 - 4 -	.707 .545 .500 .420	- 1/2	Q	coarse	- 25 - 30 - 35 - 40	- 24 - 28 - 32 - 35	86 59	- 2.0 - 5.6	- 1.5 - 4.5	10 10 10 10 10 10 10 10 10 10 10 10 10 1	- 7 - 6 - 5	- 30	- 30
2	-	.354 .297 .250 .210	- 1/4	SAND	fine	- 45 - 50 - 60 - 70	- 42 - 48 - 60 - 65	42 30	- 15 - 43 - 120	- 13 - 35 - 91	- 5 - 4 - 3 - 2	- 4 - 3	- 20	- 26
3 -	.1	.177 .149 .125 .105 .088	- 1/8		very	- 80 - 100 - 120 - 140 - 170	- 80 - 100 - 115 - 150 - 170	215 155 115	- 350 - 1000	- 240 - 580	E 1	- 2 - 1.0		num 1,1949)
4-Ę	05	.074 .062 .053 .044	- 1/16	110	fine	- 200 - 230 - 270 - 325	- 200 - 250 - 270 - 325	080	- 2900	- 1700	0.5 0.329	- 0.5	Bu	Ec
552 - 102	04 _ 03 — 02	.037	- 1/32		medium	- 400					- 0.1 - 0.085	(beginni	, and ol
6-	.01	.016	- 1/64	SILT	fine	nings dif n scale	differ by as mm scale	gular to sand		igular to sand	- 0.023 - 0.01	ł = 6 ռ ւղ v	/een the and the	above heasured tors.
7-	005	.008	- 1/128		very fine	eve oper n phi mr	openings differ % trom phi mm	ies to suban ded quartz (in mm)		to suban quartz	-0.0057	Stokes Law (R = 6πrην)	tion betw ansport	ie neigni apo ocity is measi other factors.
(004 — 003	.004	- 1/256	AY	Clay/Silt boundary for mineral analysis	Note: Some sieve openings differ slightly from phi mm scale	Vote: Sieve openings differ much as 2% from phi mm	Note: Applies to subangular subrounded quartz sand (inmm)		Note: Applies to subangular subrounded quartz sand	- 0.0014 - 0.001	Stoke	Note: The relation between the beginning of traction transport and the velocity	the velo
	.001		- 1/512	CLAY		Note: slit	Note: much	Note: sul		Note: sul	-0.00030		Note:	that

US Geological Survey

CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

UNIFIED SOIL CLASSIFICATION SYSTEM







AEF	ROT	CONS		мо	NITOR	ING V	VELL	ID: BORING LOG #: MW-2 Page 1 of 1	
www.Aerotec	hEnvir	ronmen	tal.com	Carta D	ject Na ject Nu			Dentity Contractor.	ch, Bellevu
Borehole	Loca	tion: 5	ft east o	f west fo	ence + 7 fi	from N	E lot c		ess Steel poon Samp
Logged GW End Notes: Notes:	counte 2 inc	ered: \ ch PV	YES C GW M	Monitori ncemen	Boring Static (ng Well in It Bay at (GW Le	vel: 3 fi d - No 1	bgs Approx. Surface Elevation:	ate: Same
Depth (ft)	Groundwater	DIG	Visual or Olfactory Evidence	Blow Counts	Recovery		USCS Classification	Soil Classification/ Description	Well Construction
						1	GP	Gravel Pavement	
1								Air knife to 5.5 ft bgs - Concrete fragment (8 in +) at 2 ft	
2 -			0948		Air Knife		SW	FILL - SAND, very fine to coarse, well graded, with silt, little to trace clay, little small to large subround tosubangular gravel, gray to olive gray,	
4		82		LAB			SW	slightly moist, wet below 5 ft. Moderate gasoline odor. Hand auger sample from beneath air knife hole at 4-4.3 ft	
5 -			1037						
6		38	LAB	2 2 1			ML	SILT, some very fine sand, trace clay, wet. Strong gasoline odor at 5.5 ft.	
8		16.9	1045 LAB	1					
9				1			ML	Same as above. Very moist to wet. Very slight gasoline odor above 9 ft. No foul odor below 9 ft	
10								Silt is generally wet in upper portions; very moist to moist below.	
12								Note 11-12 ft deep tank basin to NE very likely penetrates this generally	
13				1				thinner silt unit. Sand lenses may be present between intervals sampled by split spoon tool. Note: former Gasamet UST basin was situated to SE	
14 -		1.1	1050 LAB	2 3			SP	SAND, very fine to fine, poorly graded trace silt, gray, wet. No foul odor.	-
15									
16								WELL CONSTRUCTION DETAIL: 2 inch Sched 40 PVC - 10 ft No 10 slot PVC screen at 4-14ft bgs	
17								6.5 x 50 lbs bags of No. 10-20 Silica Sand + 1bag grout (3ft thick) Finished with 4 sq ft concrete pad and flush-mount monument	
18								Bottom of borehole at 14.5 feet	
19								Groundwater encountered at 5 ft, rises to 3 ft. Well installed at 14 ft Borehole completed with bentonite chips.	
20								bienole completed with benconte chips.	

Project Name: FIFE RV, Fife, Wa BIS 685 Drilling Information Uniting Contractor: Drive Project Number: 216-8246 Drilling Contractor: Drive Net Of SW corner Tahoma Blug (73 ft to Power Puls) Drilling Contractor: Drive Net Of SW corner Tahoma Blug (73 ft to Power Puls) Drive Tahoma Contractor: Breeners Drive Net Of SW corner Tahoma Blug (73 ft to Power Puls) Drive Tahoma Contractor: Breeners Drive Tahoma Drive Tahoma Contractor: Breeners Drive Tahoma Contractorecols pand and flush-mount monument	19 18 17 1	16 15 14 13	10	9 F 8 Q	4 ru	ω Ν	-	Depth (ft) Groundwater	Logged by: J. McDermo GW Encountered: YES Notes: 2 inch PVC GV Notes: Low tide Com	Borehole Location: 71f Borehole Area (AOC):	www.AerotechEnvironmental.com	ENVIRONMENTAL
Project Number: 216-3246 Dilling Information Dilling Contractor Dilling Contractor Disting Methods Static OV Level: 61 bas Static Diversite OV Level: 70 bit No 10 bas Static Diversite OV Level: 70 bit Static OV Level: 70 bit Stati				1 870 LAB	662	VPH		PID	l. McD lered: ch PV v tide (410 Pa ation: 7 a (AOC	Ironmer	
S 685 Drilling Information Drilling Contractor: Drilling Method: Borehole Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Soil Classification/ Description Soil Classification/		1221 LAB		120m					ermott: YES Commen	cific Hwy 71ft south 5): UST E	tal.com	DNSULTING
S 685 Drilling Information Drilling Contractor: Drilling Contractor: Drilling Method: Borehole Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Soil Classification/ Description		4 ω ω	N -	1 1 2 1 3	LAB			Blow Counts	lonitorii cemen	E, Fife and 10 Basin an	Proj Proj	
S 685 Drilling Information Drilling Contractor: Drilling Method: Borehole Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Soil Classification/ Description Soil Soil PVC screen at 4-4.3 ft						Air Knife		Recovery	Boring Static (ng Well ii t Bay at i	, Wa (Gra fi west of ca	ject Na ject Nu	
S 685 Drilling Information Drilling Contractor: Drilling Contractor: Drilling Method: Borehole Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Soil Classification/ Description									Depth: GW Le nstallec 0700 -	wel lot : SW co	me: F	
S 685 Drilling Information Drilling Contractor: Drilling Contractor: Drilling Method: Borehole Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Soil Classification/ Description		с С		WS WS	SW	SW	GP	USCS Classification	14.5 fe vel: 5ft 1 - No 1 high tid	5 of Tah	: 216	
Drilling Information Drilling Contractor: Drilling Contractor: Sampler Diameter: Sampler Type: Driller: Carlos Gardea Approx. Surface Eleva Start Date: 11-10-16 Start Date: 11-10-16 trace silt, little small to l ive gray, slightly moist, v lor. BASIN AREA- SILT UNI BASIN AREA- SILT UNI BASIN AREA- SILT UNI BASIN AREA- SILT UNI Sh-mount monument to wet. No foul odor.	Softom of borehole at 14.5 feet	very fine to medium, few cc six inches dark brown, very CONSTRUCTION DETAIL	PRESUMED FORMER GASAMET US ABSENT	ILL- SAND, fine to coarse, well gradec subround to subangular gravel, gray 6.9 gasoline odor.	land auger sample from beneath air kr	FILL - SAND, fine to coarse, well grade subround to subangular gravel, gray to below 5 ft. Moderately strong gasoline c	- sbc	Soil Classifi Descript	t ss screen at 4 to 14 ft bgs at 1300 - per NOAA Tables	na Gas and Jack-in-the-Box) na Bldg (73 ft to Power Pole)	Wa BIS	
	PVC screen at 4-14ft bgs d + 1bag grout (3ft thick) lush-mount monument linstalled at 14 ft	3	T BASIN AREA- SILT UNIT	, trace silt, little small to la 3-7.0 ft, wet, strong to very		ace silt, little small to gray, slightly moist,	(8 in +) at 2	ication/ tion		-	Drilling Information Drilling Contractor: Drilling Method:	

1					0					0	-
18 19	15 	12 13 14	9 10 11	8 7 6 0	π 4 ω Ν	-	Depth (ft)	Logged by: J. McDermott: GW Encountered: YES Notes:	Site Location: 3410 Paci Borehole Location: 38 Borehole Area (AOC):	www.AerotechEnvironmental.com	ENVIRONMENTAL
							Groundwater	by: J.	on: 341 : Locat : Area (hEnviro	ENTAL
		0.2	19		16		PID	McDe red: Y	0 Paci ion: 38 AOC);	nmenta	CONSULTING
		1400 LAB	1335 LAB		1310 LAB		Visual or Olfactory Evidence	ES ES	fic Hwy fit sout	l.com	LTING
		4 N N	1 1 N		49 8		Blow Counts		/ E, Fife h of NV	Pro Pro	Į
							Recovery	Boring Depth: Static GW Lev	v, Wa (Grav	ject Nar ject Nur	
							USCS Classification	Boring Depth: 14.5 fee Static GW Level: 5 ft	el lot S of T fenced port	Project Name: FIFE RV, Fife, Project Number: 216-8246	
B G B	2 i	SII	Po tra an (Po	Th Wa inc SO	m itt FI	ត្		feet	ahoma	6-82	
Bottom of borehole at 14.5 feet Groundwater encountered at 5 feet. well screened at 4-1 Borehole completed with bentonite chips.	WELL CONSTRUCTION DETAIL: 2 inch Sched 40 PVC - 10 ft No 10 slot PVC screen at 4-14ft b 5 x 50 lbs bags of No. 10-20 Silica Sand + 1bag grout (3ft thic Finished with 4 sq ft concrete pad and flush-mount monument	SILT, some 1/2" fine sand lenses, and a fragments, light brown, very moist. 1.5" brown fine sand, poorly graded.]	Possible FILL - SAND, very fine to very coarse, well graded, some clay, trace subrounded gravel, heterogeneous mix of colors: dark brown, gray, and light brown, slight odor, very moist. (Possible sluff- no silt present)	This well adjoins the bio-swale area to the west and in wi water is present (perhaps bottom of basin at 8 approx. ft development (post demo of Gasamet Station) test pits in indicated strong petrol odors - suspect extensive excavat soils prior to bio-swale construction, and extending to the 4	FILL - SAND, very fine to coarse, well graded, with silt, little to trace clay, little small to large subround tosubangular gravel, gray to olive gray, moist. Slight gasoline odor.	Gravel Pavement	Soil Classification/ Description		Site Location: 3410 Pacific Hwy E, Fife, Wa (Gravel lot S of Tahoma Gas and Jack-in-the-Box) Borehole Location: 38 ft south of NW corner of fenced portion of lot; 4 ft east of west fence Borehole Area (AOC):	Fife, Wa BIS 686 6	DOWING
screened at 4-14 ft bgs.	VC screen at 4-14ft bgs + 1bag grout (3ft thick) sh-mount monument	few clay lenses, few plant No foul odor[B	coarse, well graded, some clay, mix of colors: dark brown, gray	le area to the west and in which standing ttom of basin at 8 approx. It bgs) - pre- 3asamet Station) test pits in this area - suspect extensive excavation of impacted ruction, and extending to the vicinity of MW-	aded, with silt, little to trace r gravel, gray to olive gray,		ation/ on	Approx. Surface Elevation: Start Date: 11-10-16 Er	ter: ardea (Drilling Information Drilling Contractor: Drilling Method:	inter age
		Bottom	gray,	- - acted MW-	, clay,		Well Construction	on: End Date: Same	Gardea (Wa Lic No 3143)	Boretech, Bellevue H.S.A.	-

AER	OTECH		MON	ITORING	S WE	LL I	D: BORING LOG #	#: MW-5 Page 1 d	of 1
ite Locatio Borehole Borehole		fic Hwy ì north o : SW con	Proje E, Fife, ' f south f	Wa (Gravel	lot S of ft east of SE of t	2 16-8 f Taho of wes	ma Gas and Jack-in-the-Box) t fence - on slope below lot sle	Drilling Method: H Borehole Diameter: 8 Sampler Type: S	tainless Steel plit Spoon Sample a Lic No 3143)
1078140 CONSTRUCT	countered: Y		s down				ft bgs (approx 2 ft below lot level) Basins west of MW-3 at fence		nd Date: Same
Depth (ft)	Groundwater	Visual or Olfactory Evidence	Blow Counts	Recovery		USCS Classification	Soil Class Descri		Well Construction
1	0.1		2 3 3		s	SW	FILL - SAND, fine to coarse, well grac small subrounded gravel, light brown,	led, trace to little organic silt, trading devices the second sec	ace
2 3	Near low t 11-11-16 v = approx 4	water fro	m TOC	: 5.46			No foul odor in cutting 1.5 to 5 ft		
4 -						SP	SAND, very fine, poorly graded, gray,	wet	
- 5 - 6 7	4.1	1514 LAB	2 1 1			ML	SILT, little very fine sand, gray, trace foul odor / possible VER faint gasolin	wood and plant fragments, wet	I. No
8							Silt is wet in upper portions; very moi	st to moist below.	
9 10 11	0.6	1522 LAB	52 J.W.			ML PT ML	SILT, little very fine sand, common w peat layers less than 1/4 - 1/2 inch, w peat layers - approx 10 - 10.5 ft	rood and plant fragments and rery moist to wet.Organic odor i	rare
12 13	0.2	1535 LAB	The second second			СН	CLAY and SILT, trace very fine sand highly plastic,		ay is
14	0.2		2			ML	SILT, little very fine sand, gray, mois WELL CONSTRUCTION DETAIL:	t. No foul odor.	
15 16 17							Excavated a limited terrace on the s 2 inch Sched 40 PVC - 10 ft No 10 s 5 x 50 lbs bags of No. 10-20 Silica S Finished with 2 sq ft concrete 'base' monument protected by four bollard	slot PVC screen at 4-14ft bgs Sand + 1bag grout (3ft thick) and above-ground steel	
18 19							Bottom of borehole at 4.5 feet Groundwater encountered at 4.5 feet Borehole completed with bentonite		

E ENV	AER	ROT	EC	H 📌	мо	NITOR	ING V	VELL	ID: BORING LOG #: MW-6 Page 1	of 1	
			-04		and the second				RV, Fife, Wa BIT 786 Drilling Information		
www.	Aerotec	hEnvir	onment	al.com	Pro	ject Nı	umber	: 216		Boretech, Bellevue	Э
Site	Locatio	on: 34	10 Pac	ific Hwy	E, Fife	e, Wa (Gr	avel lot S	S of Tal	noma Gas and Jack-in-the-Box) Borehole Diameter: 8	NA.5-05-000	
D.		Land		O ME .	CNV		and a second			Stainless Steel	
										Split Spoon Sample	ler
	stenore	Alta	INDE). 24 10	er east (01 WIW-5	- downgi	autent	perimeter of Property. Driller: Carlos Gardea (Wa	a Lic No 3143)	_
Lo	ogged	by: J.	McDe	ermott:		Boring	Depth:	14.5 fe			
G	W Enc	ounte	ered: \	'ES		Static	GW Lev	vel:	Approx. Surface Elevation	12	
N	otes:								Start Date: 11-11-16 E	Ind Date: Same	
	0165.		_		1	1	1	1			_
	Depth (ft)	Groundwater	DIA	Visual or Olfactory Evidence	Blow Counts	Recovery		USCS Classification	Soil Classification/ Description	Well Construction	
	1										
-		-									
- 3	2										
	3							SW	No foul odor in cutting 1.5 to 4 ft	1211	
	3									22	
	4 -	_	0.1	0859	2	Contraction of the		80	FILL - SAND, fine-coarse, well graded, brown, moist. No foul odor.		
	-		0.1	LAB	2	-	12.12	SC SP	FILL - SAND, SILT, little clay, brown. Moist to dry. No foul odor FILL - SAND, fine-coarse, poorly graded, brown, moist. No foul odor.		
+	5 -	-			1	Lesson		01	SILT, with very fine sand, gray, wet. No foul odor.		
	6										
	0										
-	7 -					-		ML	Note base of ditch approx 30 ft south estimated near 5-7 ft bgs as recorded at location of MW-6 (7 - 9 ft bgs relative to gravel lot)		
-								-			
	8								Same as above to 8.7 ft bgs		
	9 -			0910						23 1	
_	-		0.2	LAB	1		1000	PT	PEAT, with silt and clay, gray. Very moist to wet. No foul odor.		
- 1	10 —		0.1	LAB	1	CHAIL.			SILT, with very fine sand, very moist to wet. No foul odor.		
-	-		0.1	0915		-		ML			
	11 —										
	12 -	8									
	_										
- 3	13			0925	4		100.0	SP	SAND, very fine, poorly graded, gray, wet. No foul odor.		
			0.1	LAB	5	162			nerenseneren an den erent trouven til den state for som til sen som til som til som til som til som til som til		
	14 _				6		Porta A				
- 1	15								WELL CONSTRUCTION DETAIL: Excavated a limited terrace on the slope SW of gravel lot		
-	_								2 inch Sched 40 PVC - 10 ft No 10 slot PVC screen at 4-14ft bgs		-
10.3	16								5 x 50 lbs bags of No. 10-20 Silica Sand + 1bag grout (3ft thick)		
	17								Finished with 2 sq ft concrete 'base' and above-ground steel		
12.				1		-			monument protected by four bollards		
-	18								All wellheads were sealed with twist-lock compression caps Bottom of borehole at 14.5 feet		
-									Groundwater encountered at 5 feet. Well installed at14.5 ft bgs.		
	19								Borehole completed with bentonite chips.		
	20										

LABORATORY ANALYTICAL RESULTS AND CHAIN OF CUSTODY DOCUMENTS

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ADVANCED ANALYTICAL

Environmental Testing Laboratory

November 16, 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 *Fife RV 216-8246 (C61111-1)* Project.

Samples were received on *November 11, 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,

1. Ivanov

Val G. Ivanov, Ph.D. Laboratory Manager

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

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Advanced Analytical Laboratory (425) 702-8571

AAL Job Number: Client: Project Manager: Client Project Name: Client Project Number: Date received:

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C61111-1 Aerotech Environmental James McDermott Fife RV 216-8246 11/11/16

AAL Job Number:	C61111-1
Client:	Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Fife RV
Client Project Number:	216-8246
Date received:	11/11/16

Analytical Results

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NWTPH-Gx / BTEX		MTH BLK	LCS	MW-1 (4.5')	MW-1 (10')	MW-2 (4')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	11/14/16 1	1/14/16	11/14/16	11/14/16	11/14/16
Date analyzed	Limits	11/14/16 1	1/14/16	11/14/16	11/14/16	11/14/16
NWTPH-Gx, mg/kg						
Mineral spirits/Stoddard	5.0	nd		nd	nd	nd
Gasoline	5.0	nd		nd	nd	250
<u>ΒΤΕΧ 8021Β, μα/kg</u>						
Benzene	20	nd	101%	nd	nd	530
Toluene	50	nd	102%	nd	nd	540
Ethylbenzene	50	nd		nd	nd	3,800
Xylenes	50	nd		nd	nd	840
Surrogate recoveries:						
Trifluorotoluene		102%	104%	92%	84%	104%
Bromofluorobenzene		96%	104%	99%	97%	105%

Data Qualifiers and Analytical Comments nd - not detected at listed reporting limits na - not analyzed M - matrix interference Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130% Acceptable RPD limit: 30%

AAL Job Number:	C61111-1
Client:	Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Fife RV
Client Project Number:	216-8246
Date received:	11/11/16

Analytical Results

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NWTPH-Gx / BTEX		MW-2 (9')	MW-3 (4.5')	MW-3 (9')	MW-3 (14.5')	MW-4 (5')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	11/14/16	11/14/16	11/14/16	11/14/16	11/14/16
Date analyzed	Limits	11/14/16	11/14/16	11/14/16	11/14/16	11/14/16
NWTPH-Gx. mg/kg						
Mineral spirits/Stoddard	5.0	nd	nd	nd	nd	nd
Gasoline	5.0	24	13,000	51	nd	55
<u>ΒΤΕΧ 8021Β, μα/kg</u>						
Benzene	20	nd	9.300	nd	nd	61
Toluene	50	65	2,600	nd	nd	270
Ethylbenzene	50	600	470,000	270	nd	220
Xylènes	50	160	5,400	96	nd	200
Surrogate recoveries:						
Trifluorotoluene		79%	123%	100%	88%	80%
Bromofluorobenzene		89%	122%	105%	105%	108%

Data Qualifiers and Analytical Comments nd - not detected at listed reporting limits na - not analyzed M - matrix interference Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130% Acceptable RPD limit: 30%

AAL Job Number:	C61111-1
Client:	Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Fife RV
Client Project Number:	216-8246
Date received:	11/11/16

Analytical Results						Dup
NWTPH-Gx / BTEX		MW-4 (10.5')	MW-5 (6')	MW-5 (10')	MW-6 (9')	MW-6 (9')
Matrix	Soil	Soil	Soil	Soil	Soil	Soi
Date extracted	Reporting	11/14/16	11/14/16	11/14/16	11/14/16	11/14/16
Date analyzed	Limits	11/14/16	11/14/16	11/14/16	11/14/16	11/14/16
NWTPH-Gx, mg/kg						
Mineral spirits/Stoddard	5.0	nd	nd	nd	nd	nc
Gasoline	5.0	150	34	nd	nd	nc
BTEX 8021B, μg/kg						
Benzene	20	510	90	nd	nd	nc
Toluene	50	1,200	660	nd	nd	nc
Ethylbenzene	50	1,100	250	nd	nd	nc
Xylenes	50	1,700	310	nd	nd	nc
Surrogate recoveries:						
Trifluorotoluene		95%	97%	88%	92%	94%
Bromofluorobenzene		110%	108%	101%	104%	104%

Data Qualifiers and Analytical Comments nd - not detected at listed reporting limits na - not analyzed M - matrix interference Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130% Acceptable RPD limit: 30%

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AAL Job Number:	C61111-1
Client:	Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Fife RV
Client Project Number:	216-8246
Date received:	11/11/16

Analytical Results

SAUGA N

NWTPH-Gx / BTEX		MS	MSD	RPD	MTH BLK	LCS	MW-4 (14.5')
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	11/14/16 1	1/14/16	11/14/16	11/16/16	11/16/16	11/16/16
Date analyzed	Limits	11/14/16 1	1/14/16	11/14/16	11/16/16	11/16/16	11/16/16
NWTPH-Gx, mg/kg							
Mineral spirits/Stoddard	5.0				nd		nd
Gasoline	5.0				nd		nd
BTEX 8021B, µg/kg							
Benzene	20	93%	74%	23%	nd	84%	nd
Toluene	50	91%	73%	21%	nd	85%	nd
Ethylbenzene	50				nd		nd
Xylenes	50				nd		nd
Surrogate recoveries:							
Trifluorotoluene		120%	103%		114%	129%	116%
Bromofluorobenzene		99%	92%		98%	97%	102%

Data Qualifiers and Analytical Comments nd - not detected at listed reporting limits na - not analyzed M - matrix interference Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130% Acceptable RPD limit: 30%

AAL Job Number: Client:	C61111-1 Aerotech Environmental
Project Manager:	James McDermott
Client Project Name:	Fife RV
Client Project Number:	216-8246
Date received:	11/11/16

Analytical Results

NWTPH-Gx / BTEX		MW-6 (10.5')
Matrix	Soil	Soil
Date extracted	Reporting	11/16/16
Date analyzed	Limits	11/16/16
NWTPH-Gx, mg/kg		
Mineral spirits/Stoddard	5.0	nd
Gasoline	5.0	nd
BTEX 8021B, µg/kg Benzene	20	nd
Toluene	50	nd
Ethylbenzene Xylenes	50 50	nd nd
Surrogate recoveries:		
Trifluorotoluene		107%
Bromofluorobenzene		97%

Data Qualifiers and Analytical Comments nd - not detected at listed reporting limits na - not analyzed M - matrix interference Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130% Acceptable RPD limit: 30%

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L		¥ ANALYI	CI CIA				Lab	orator	у Јођ	#: Č	61	111-0	<u>9</u>	Rø (47	dmonad 5) 497	. WA 9 0110	8052		197-80						
	Clie	INT: AEROTELH ENVIRON	INE	NTA	12							Projec	t Narr	10:	FI	FE	- 4	2V							
	Pro	ject Manager: J- MCDERMG	<i>r7</i>									Projec	l Num	nber:	21	4 -	8Z	76							
	Add	Iress: 13925 Intructor	, A.	ie.																-4	118	en	A	3	
		me: (425)636-0032				•						Date o		clion	. /0	0 1	o	11	Λ'o	, ż	2016	1	500	Ic f † µмя	m+r)
						mainer type	STO VOIR	1.18 JUN	~ ~	NAN PAR	T POP C		7	7	77	/	7					7		of containers	
NCJ	H	Sample 10 MW-1 (4.5')	Time 08 2-4	Matn	14	4.	<u> </u>	\mathbb{Z}	$\frac{\sqrt{2}}{\sqrt{2}}$	441 4	<u>7</u> *	\mathcal{A}		<u>**/</u>	<u>87</u>	4	<u>*/</u>	\leftarrow	\leftarrow	<u>/ No</u>	otes, co	mmei	nis		
ic I	1	$M^{-1}(7^{+})$	0.305	SOIL 1	-	<u>~</u>			4		\vdash	╞╌╂	+	+		+			-						
ļ		Mw-1 (10 1)	0915	╞╌┟╌	-11	-+-			\mathbf{x}^{\dagger}		$\left \right $	╆╼╊			+	+	+								
Ì	 4	MW-1 (14.5)	1235	$\uparrow \uparrow$	-+1				1		<u>†</u>	╞╶┼╴	+	-+-	+		\mathbf{T}	1	+						
	5	MW-2 (41)	0948	$\uparrow\uparrow$		\uparrow			X					+			1-	1	1						
	6	MW-2 (6')	1037			\square					1						1								
	7	MW-2 (9')	1045			Ţ			X																1
	8	MW-2 (14')	1050			Π				Í														•	
	9	MW-3 (4.51)	1118						\ge											* 400 Willi	U SM	MLE . Kií t	SENT STAT O	more	Fiƙ
-	10	MW-3 (5.5 ')	1135																						
	11		1205						X																
V.	12	MW.3 (14.5')	[22]	Y	_ <u>_</u>	1			X																ļ
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	Address: Phone: (425) 686- 0032	Fax:														<u> </u>	ZOIL	(Fr)	
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SUPPORTING DOCUMENTS

Well Records State of Washington Department of Ecology

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RESOURCE PROTECTION WELL REPORT

· -	SOURCE PROTECTION	START CARD NO. <u>£2858</u>
PROJECT NAME: CAPPA P	ROPERTY COUN	
WELL IDENTIFICATION NO. AEE		N: TIERCE
DRILLING METHOD: HSA		
DRILLER: Bient C. Mala		TADDRESS OF WELL:
FIRM: Cascade Drilling	I. Inc. WATE	R LEVEL ELEVATION:
SIGNATURE:	GROU	ND SURFACE ELEVATION:N/A
CONSULTING FIRM: ACLIEN	IR MEMT. INSTA	LLED:
REPRESENTATIVE: STELLE M		OPED: 465
	7546	
	WELL DATA	FORMATION DESCRIPTION
AS-8UILT		
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1 1551 1 1 355	WELL COVER	<u>0 - 2-5ft.</u>
	WELL WELL	0 - 2-SEL. SANOY / GAWEL
া জিন্দ্র কিটে	CONCRETE SURFACE SEAL	
	DEPTH = 1/ft	
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· 88		<u>25-3 ft.</u>
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	1	F I T Y
÷ 🛛 🕅		
	BACKFILL	
1 🔄 🖾	TYPE: BENT CHip	$\frac{3-10 \text{ ft.}}{3-10 \text{ ft.}}$
		SILTY FILE SAND
	PVC SCREEN 4"x 7	SAND
	SLOT SIZE: . 1/0	
1 3)	. PPT DEC
	GRAVEL PACK ft	
	MATERIAL: 2/12	
	MATERIAL: 2/12 LONEIT	
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	WELL DEPTH 10	
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RESOURCE PROTECTION WELL REPORT START CARD NO. <u>R 28584</u> PIERCE PROJECT NAME: CAPPA PROPERTY COUNTY: LOCATION: NEW NEW SOO 11 TWO 20N R 35 WELL IDENTIFICATION NO. _ AEO 212 ORILLING METHOD: HSA STREET ADDRESS OF WELL: 3801.20th St East. Fife. ut DALLER: Brent C. Maloy

FIRM: Cascade Drilling, GROUND SURFACE ELEVATION: 11-7-97 INSTALLED: АĆ EWIR MEMT. UES REPRESENTATIVE: STELLE MARC ZEUSKI DEVELOPED: 7546 FORMATION DESCRIPTION WELL DATA 0 - 3 ft. WELL COVER SANOY / GRAVER CONCRETE SURFACE SEAL DEPTH = 1/ft3-4 ft. **2"**x PVC BLANK OFAR

BACKFILL
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TYPE: NEAR WHP
4 - 10 ft.
FINE NUTY
FINE NUTY
MATERIAL: 212
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WATER LEVEL ELEVATION: N/A

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SIGNATURE:

CONSULTING FIRM:

AS-BUILT

RESOURCE PROTECTION WELL REPORT

PROJECT NAME: <u>CAPPA</u> PROJECT NAME: <u>CAPPA</u> PROJECT NAME: <u>AFR</u>		NEW NEW SOO IL TWO 2010 R 36	
DRILLING METHOD: HSA	STREET AD	DRESS OF WELL:	
DARLER: Brent C. Male	380	DRESS OF WELL:	. .
FIRM: Cascade Drikhing	U. Inc. WATERLEY	/EL ELEVATION:	
SIGNATURE:	GROUND S	VEL ELEVATION:	•
CONSULTING FIRM: ACU FLU	IR MGMT, INSTALLED	11-7-97	-
REPRESENTATIVE: STEVE VI	ARCZEWSKI DEVELOPE	0:461	-
	7546		
V	WELL DATA	FORMATION DESCRIPTION	
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रिन्द्र !! स्ट्रिय	WELL COVER	<u>0 - 3 ft.</u>	i
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	CONCRETE SURFACE SEAL	J/11017 /4406C	1
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· 88		<u>2-3.5ft.</u>	1
! N N	PVC BLANK _2"x 3	PEAr	1
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Please print, sign	and return by mail	to Department of Ecology		
RESOURCE PROTECTION WEL	L REPORT	CURRENT Not	ice of Intent No	. <u>AE03374</u>
Decommission ORIGINAL INSTALLATION Not of Intent Number <u>SE C</u>	1776 p nce 2493	Typ - 10 Property Owner Fred	e of Well (select or Resource Protec Geotech Soil Bo dies Club F	ne) tion ring
Consulting Firm (50)der		Site Address 3410	Raifir Hwy	
Unique Ecology Well ID Tag No		City Fife	County]	Sector One S EWM
WELL CONSTRUCTION CERTIFICATION: 1 cm accept responsibility for construction of this well, and its compli Washington well construction standards. Materials used and the above are true to my best knowledge and belief. Driller Engineer Traince Name (Print)	nstructed and/or iance with all information reported	Location <u>NE</u> 1/4-1/4 <u>ME</u> Lat/Long (s, t, r still REQUIRED) Tax Parcei No Cased or Uncased Dian	[1/4 Sec 1] Tw [at Deg [ong Deg meter 2. <i>B S</i> " }	Lat Min/Sec Long Min/Sec Static Level
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Construction/Design		Vell Data	Forma	tion Description
	2-25" Soil	boring .	0'-3'	mixed gravels sandy silts
	0'- 10 ^{1.} Usi bentonite (ng I bag of Snips	RE	CEIVED JN 1 6 2008

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Decommission ORIGINAL INSTALLATION N	01775 G	тур 3-9 Д	e of Well (<i>select o</i>] Resource Prote & Geotech Soil B	one) ction oring
of Intent Number <u>SEC</u>		Property Owner Fred		
Consulting Firm (Selder	<u></u>	Site Address 3410	Pacific Hwy	
Unique Ecology Well ID Tag No.		City <u>Fife</u>	County	PierCa-
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Construction/Design		Vell Data	Forma	ation Description
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	bentonite (inips		.
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FSOURCE PROTECTION ME		to Department of Ecology		A. A. Adaau
SUBMIT ONE WELL REPORT PER WELL I Construction/Decommission (select one) Construction Decommission ORIGINAL INSTALLATION No of Intent Number <u>SEC</u> Consulting Firm <u>Select</u> Unique Ecology Well ID Tag No. WELL CONSTRUCTION CERTIFICATION: I eco Recept responsibility for construction of this well, and its compl Weshington well construction standards. Materials used and the above are true to my best knowledge and belief Driller Engineer Traince Signature <u>Materials</u> Driller/Engineer /Traince Signature <u>Materials</u>	INSTALLED) 1774 brice 02423 instructed and/or iance with all e information reported TOWN SON	Typ - S Property Owner <u>Fred</u> Site Address <u>34/0</u> City <u>FrSe</u> Location <u>WE</u> 1/4-1/4 <u>M</u> Lat/Long (s, t, r	e of Well (select Resource Prot Geotech Soll E County Elder Club Resign Hay County El/4 Sec 11 T Lat Deg Long Deg	ection Boring Fift <u>PitrCt</u> wn_& R_3 Lat Min/Sec Long Min/Sec
If trainee, licensed driller's		Work/Decommission S	tart Date <u>6-9</u>	·08
Signature and License No.		Work/Decommission C	Completed Date _	6.9.08
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Tag No.		City Fife	County _	Pierce Selen One EWM
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Consulting Firm			Raico Uno	
Unique Ecology Well ID		Site Address 34/0 City Fife	County	Purch
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XESOURCE PROTECTION WE (SUBMIT ONE WELL REPORT PER WELL Construction/Decommission (select one) Construction Construction Decommission ORIGINAL INSTALLATION N of Intent Number _50 Consulting Firm Consulting Firm Consulting Firm Consulting Firm WELL CONSTRUCTION CERTIFICATION: 16 accept responsibility for construction of this well, and its comp Wathington well construction standards. Materials used and to above are true to my best knowledge and belief. Zoriller/Engineer /Traince Signature Driller or Traince License No. If trainee, licensed driller's Signature and License No.	LL REPORT INSTALLED) 1771 Gotice 02493 constructed and/or pliance with all he information reported Tom Son	Ty Property Owner Fifth Site Address <u>34(0</u> City <u>Fifth</u> Location <u>NE</u> 1/4-1/4 <u>N</u> Lat/Long (s, t, r still REQUIRED) Tax Parcel No Cased or Uncased Dia Work/Decommission S	tice of intent N be of Well (select of Resource Prote Geotech Soil B dies Club Pacific Hwy County £1/4 Sec 11 To Lat Deg tong Deg Start Date?	ction oring Fife <u>FifeCE</u> Vn_ <u>AD</u> R_ <u>3</u> Lat Min/Sec Long Min/Sec Static Level
Construction/Design	2.25" soil Cocommis	Vell Data boring sioned from ng bag of ships	0'- 3' 3'-7 '	ation Description Mixed grave Sandy silts
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of Intent Number <u>SEC</u> Consulting Firm <u>Coolder</u>	22483	Property Owner Free		•	
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accept responsibility for construction of this well, and its compli Washington well construction standards. Materials used and the above are true to my best knowledge and belief.	information reported	A REAL PROPERTY AND A REAL PROPERTY A REAL PRO	•	Lat Min/Sec Long Min/Sec
Driller/Engineer /Traince Signature	appl_	Cased or Uncased Dias	meter <u>2.85"</u>	Static Level
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Signature and License No.		Work/Decommission C	Completed Date _	6.9.08
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RESOURCE PROTECTION WELL REPORT	CURRENT Notice of Intent No. SEU 2485
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Tag No	Location <u>NE 1/4-1/4 NE 1/4</u> Sec <u>II</u> Twn <u>20</u> R. <u>3</u>
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief Exbriller Engineer Trainee Ninne (Print)	Lat/Long (s, t, r Lat Deg Lat Min/Sec still REQUIRED) Long Deg Long Min/Sec Tax Parcel No Long Deg Long Min/Sec
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Please print, sign and return b SUBMIT ONE WELL REPORT PER WELL INSTALLED Construction/Decommission (select one) 301743 Construction Decommission ORIGINAL INSTALLATION Notice of Intent Number Consulting Firm <u>Golder</u> Unique Ecology Well ID Tag No. WELL CONSTRUCTION CERTIFICATION: 1 constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction of this well, and its compliance with all Washington well construction of this well, and its compliance with all Washington well construction of this well, and its compliance with all Washington well construction standards. Materials used and the information rep above are true to my best knowledge and belief. Driller/Engineer Traince Signature <u>Materials</u> UNASON Driller/Engineer Traince Signature <u>Materials</u> If trainee, licensed driller's Signature and License No.	Type of Weil (select one) $B-S$ \square Resource Protection \square Geotech Soil Boring \square Property Owner <u>Freddies Club Fife</u> Site Address <u>3410</u> Pacific Hury E City <u>Fife</u> County <u>Pierce</u> Location <u>NE</u> 1/4-1/4 <u>NE</u> 1/4 Sec <u>II</u> Twn <u>20</u> R_3 Still REQUIRED) Long Deg Lat Min/Sec Tax Parcel No. Cased or Uncased Diameter <u>2.25</u> " Static Level Work/Decommission Start Date
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Unique Ecology Well ID		City $F_{i}F_{k}$	County Pi	wret.
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Consulting Firm	Site Address 3410	Pacific Hum E
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Construction/Design	Well Data	Formation Description
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Decommission ORIGINAL INSTALLATION Not	tice		Geotech Soil B	
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Construction/Design	W	ell Data	Form	ation Description
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	Constructed	ell Data boring 1 from 0'-8' probe method	3'-8'	sandy silt
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of Intent Number			Idies Club	Fife
Consulting Firm		Site Address 3410	Phailin Hur	F
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Construction	Resource Protection
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174042 of Intert Number	Property Owner FREDDIE'S CIL VB FIFE
Consulting Firm KANE ENVIRONMENT	Site Address 3-110 PAtcific Huid E
Jnique Ecology Well D	City FUTE County: PIERCE
Газ No:	Location NE14 NE 112 Seell Two Zon R_3 ENTErnet
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Signature and License no.	Work Decommission Completed Date 17-13-00
Constructor/Design V/ell Data	· Formation Description
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174042 of Interit Number	Property Owner FREDDLE'S CLUB F.FE
Consulting Firm KANE ENVIRONMENT	Site Address 3410 PATCIFIC HULT E
Jnique Ecology Well ID	City FYEE County: PIERCE
Fag No:	LOCATION NEWA NEWA SHILL TWO R. 3 ENVIR
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Hiller or Trainee License No Z (216	Cased or Uncased Diameter 2" Static Level 4
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f trainee, licensed driller's	Work Dergennission Completed Date 12-13-04
Constructor/Design V/et/Data	Formation Description
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Decommission ORIGINAL INSTALLATION Notice of Intent Number	Resource Protection
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	Property Owner FREDDUE'S CLUB F.FE
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Constructor/Design Well Oata	Formation Description
Orove a retractable stail Orove a retractable stail Screen cown to depth an water sample Esting depth. Screened <u>4-8</u> Removed all rods from backfield with bentinite	

Type of Well ("" in circle) Resource Protection O Geotech Soil Boring Property Owner FREDDIE'S C-L JB F.FE Site Address <u>32410 PAtenfac Huid E</u> Site Address <u>32410 PAtenfac Huid E</u> County: <u>PIERCE</u> County: <u>PIERCE</u>
TOPERTY OWNER FREDRIE'S CILUTS FOFE Site Address <u>32110 PAtenfic Hury E</u> Diry FUE COUNTY: <u>PIERCE</u> Diry FUE COUNTY: <u>PIERCE</u> Direction <u>NEILE NEILE</u> SEELL TU-ZUN R <u>3</u> WWW AND AND (S. U.T. Lat Deg Lat NEWSec
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	RESOURCE PROT (SUBMIT, ONE WELL REPORT PE	ECTION WELI	L REPO	RT CURRENT E 004794 Notice of Intent No.
2	Construction/Decommission ("x" in cit	rcle)		Type of Well ("x" in circle) Resource Protection
Ę	O Decommission ORIGINAL INSTAL			O Geotech Soil Boring
l se l	1460103		Property Ov	When Morning Sun Printing
Ē	Consulting Firm URS Covpov		Site Addres	s 3500 Joth Street E U
5 A A A	Unique Ecology Well ID Tempe Tag No:	orary Wells		County: <u>Pierce</u>
	WELL CONSTRUCTION CERTIFICATION: I c responsibility for construction of this well, and its	compliance with all Washington	Location N Lat/Long (s,	E ₁₄ NE ₁₄ sec_II Two DON $R \xrightarrow{BE}$ with circle www. M^{one} t,r Lat Deg Lat Min/Sec
2	well construction standards. Materials used and the true to, my best knowledge and belief.		still REQUI	RED) Long Deg Long Min/Sec
2	Driller Engineer Traince Name (Pring)	Hodrew Hagan	<u>م</u>	Long Min/Sec
Ĩ	Driller/Engineer/Traince Signature	hoffin	Tax Parcel I	NO. N/A
Ę	Driller or Trainee License No. 2551		Cased or Ut	Trased Diameter <u>8/2</u> Static Level <u>4</u>
Í			Work/Decon	nmission Start Date $10/27/03$
2	If traince, licensed driller's		Work/Decon	nmission Completed Date
5	Construction/Design	Well Data	3621	Formation Description
ž				
8		CONCRETE SURFACE	FAT	0 - 10 ft
ala		CONCRETE SURFACE (brown sand i grarels!
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RESOURCE PROTECTION WELL REPORT CURRENT E 004794

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-	、(SUBMIT ONE WELL REPORT PER	WELL INSTALLED)		Notice of Intent No
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ر	Construction			Resource Protection
<u>Š</u>	O Decommission ORIGINAL INSTALL			O Geotech Soil Boring
Ņ	of Intent Number_		Property Ow	mer Morning Sun Printing
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	Driller/Engineer/Traince Signature		Tax Parcel N	No. N/A
	Driller or Trainee License No. 2551	1"	· · · · ·	cased Diameter <u>8/2</u> Static Level <u>4</u>
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5	Construction/Design	Well Data	3651	Formation Description
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ב המומותיו חוב

וווב הכלמו וווכווו עו בעטועצע מעכא וועו דדמו ומווי

GEOBORING & DEVELOPMENT, INC. 9415 S.R. Resource Protection Project Name MT Lott Well Identification # B · 4 Drilling Method 4 " H.S.A Driller Pat Texpert	
License # 1793 Job # 230	Consulling Firm De De De De De De Consulting
Depth of Soil Log Components	Stick up on Monument Casing Type of Surface Seal Amount
Sitt t Savid	ID of Riser Pipe Type of Riser Pipe Amount Type of Connection Type of Backfill and the ser Rest enite this Amount Diameter of Borehole Screen Size or Type Type of Filter Material Amount
29' 29'	
Remarks:	
	Signature far lens



וווהווומווהוו הוו חווים גופוו וובלההו ר ב המומ מוועועו נווכ עכףמו עווכווו עו בעעועצל מעכט ואעו דדמו ומווון

GEOBORING & DEVELOPMENT, INC. 9415 S.R Resource Protect Project Name MT Lott Well Identification # B - 1 Drilling Method <u>4" H.S.A</u> Driller Pat Iventific	Iden Well Report Date 12 - 6 - 44 County P: cy c VE 1/4 NE 1/4 Section 11 T. 20 N R. 3E Start Card A UUS 21
License # Job # Depth of Soil Log Components of In Feet of	Consulting Firm <u>Groevers</u> Stick up <u>I</u> Aon Monument Casing Type of Surface SealA
Silt t Sand	ID of Riser Pipe Type of Riser Pipe Amount Type of Connection Type of Backfill access Biser Buntchitc Chiff Amount 3a'
30.'	Screen Size or Type
Remarks:	
	Signature (ar Jenne)

וווב הבאמו חוובווו הו היהוהאל מינבי וזה ו זזמו מווי, אב המש מותוהו חוב וווהוווומתהוו הוו חווי זזכוו ואבאהו ה

LOG OF TEST BORING



Washington State Department of Transportation

Sheet <u>3</u> of <u>4</u> Job No. <u>OL 3483</u>

		Methers (m)	Profile	Pe	tenderd netrelion Kowaft 1 30 40	SPT Biowa/8" (N)	Semple Type	Semple No. (Tube No.)	3	Description of Material	Groundwater	Instrument
		- 14				4 10 10 (20)		D-13		Well graded fine to coarse SAND, horizontal bedding, medium dense, reddish gray, molst. Recovered: 1.3 ft.		
	50	- 15				4 8 (14)		D-14		Fine to medium SAND, horizontal bedding, reddlah gray, medium dense, wet. Recovered: 1.5 ft.		
5		17				7 8 (16)	X	D-15		Fine to medium SAND, horizontal bedding, medium dense, reddish gray, wet. Recovered: 1.5 ft.		
2		19				4 8 9 (17)	X	D-18		Graveity SAND with fine to coarse and one mud ball, rotten wood, horizontal bedding, medium dense, reddish gray, molet. Recovered : 1.5 ft.		
501 01,453-1 GPJ 501 601 6118902-4151 AB	;1 1 1 1 1 1 1 1 1 1	10				5 8 8 (16)		D-17	G8	SP-SM Poorly graded SAND with silt, horizontal bedding, reddish gray, međlum dense, moist, homogeneous. Recovered: 1.5 ft.	-	

HOLE №. <u>H-2-99</u>

PROJECT 8R 5 Port of Tacoma Road Interchange

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ה שמע מוועועו הוב וווועוווומועוו עוו חווס דאכוו ווכעעור.

וווב הכלמו מווכוור הו דרהוהלל מהכא וגה ו דדמו מווי

LOG OF TEST BORING



Washington State Department of Transportation

PF	OJECT	SR	S Port of Tacoma Road Inte	rchange)		<u> </u>	Sheet <u>4</u> of <u>4</u> Job No. <u>CL 3463</u>		
Depth (1)	Meders (m)	Profile	Standard Penetration Bioweft 10 20 30 40	SPT Biows/5* (N)	Sample Type	Sample No. (Tube No.)	3 문	Description of Materiel	Groundwater	Instrument
	-22			4 3 4 (7)		D-18	GS	SM SILT with sand and horizontal bedding, laminae elit, 2" sitt in sampler bit, loose, reddish gray, wet. Recovered: 1.1 ft.		
75 -	-23			5 7 9 (16)	X	D-19	-	Sandy SILT, fine sand, horizontal bedding, Interbedded Iaminae, medium dense, dark gray, moist. Recovered: 1.5 ft.		
60 –	-24							End of Test Hole Boring at 76.5 feet below ground elevation. Water table elevation not detarmined. This is a summary Log of Test Boring. Soll/Rock descriptions are derived from visual field identifications and laboratory test data.		
	25									
65 — -	20								- 	
90	-27								- -	
	- 28									
	E 50 -	E (1) (1) (1) (1) (1) (1) (1) (1)	E Solution Solution -22 -22 -22 -23 -24 60 -24 60 -24 60 -21 -22 -23 -24 60 -27 90 -28	E E Similar d Panetrsion Bioweth -22 -0 -22 -1 -22 -1 -22 -1 -22 -1 -23 -1 -24 -1 80 -1 -23 -1 -24 -1 -23 -1 -24 -1 -23 -1 -24 -1 -25 -1 -27 -1 -28 -1 -27 -28	E Standard SPT E S SPT 10 20 30 40 -22 10 20 30 40 -22 10 1 1 4 -22 1 1 4 -22 1 1 1 4 -22 1 1 1 4 -22 1 1 1 4 -23 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -24 1 1 1 1 -25 1 1 1 1 -27 1 1 1 1 -28 1 1 1 1 -28 1 1 1 1		E: I: <	E E B B Sinded Participan SPT Bowers A	PROJECT S.R. Forci of Tacoma Road Interchange Job No. CL: 3463 g	PROJECT SR 6 Fort of Tacoma Road Interchange Job No. D2 3453 E

HOLE No. H-2-99

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כ המומ מווערטו עוב ווווטוווומעטוו טוו עווס דדכוו ואכעטוג.

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DOE

LOG OF TEST BORING

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Washington State Department of Transportation

		Job No. OL 3483
		S.R. <u>5</u>
Offset	CL	C.S. <u>2719</u>
Casing	HQNW-75'	Ground El 0.0 (0.00 m)

Method of Boring wet rotary

Station

Equipment

HOLE No. _H-2-99

PROJECT SR 5 Port of Tacoma Road Interchange

MP 135.53 to 136.09

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כ שמעם מוועושו הוה ווושושושוו שוו שווש

וווכ הכףמו נווכווו טו בעעועצע עעכא ואטו דזמו ומווי

Depth (1)	Meiana (m)	Profile	10	Standar Penctrati Biown/1 20 3	lon	SPT Blows/6° (N)	Sample Type	Semple No. (Tube No.)		Description of Material	Groundwater	
1	-									1 fl.≏0.3048 m.	-	
-	-1					0 1 1 (2)	X	D-1		Silty SAND with grass roots and fibers, loose, dark brown, wet, homogeneous, <u>Recovered: 1.5 ft.</u>		
5-	-2	х х х х х х х				0/18 (0/18")	X	D-2		Organic elestic SILT with organic material, very soft, gray, wet, homogeneous. Recovered: 1.5 ft.		
-	-	х х х х х х				0/18 (0/187)	X	6-3	gs MC	ML, MC=51% Organic SILT, very soft, gray, wet, homogeneous. Recovered: 1.5 ft.		
10	- 3	х х х х х				A B C		U-4		Interbedded SiLT with sand, very loose, gray, wet. Recovered: 1.5 fl.		
-	-•	х х х х х х х				1 1 (2)	X	D-8	gs MC	ML, MC=42% Sandy SILT with some laminating silt, horizontal bedding, vary loose, gray, wet. Recovered: 1.5 ft.	 -	
15-	-5	ж ж ж ж ж		 		0/18 (0/15*)	X	D-8		Organic elastic SILT with fibers of wood, very soft, gray, wet. Recovered: 1.5 ft.		
4		× × × × ×						U-7		No recovery		

LOG OF TEST BORING



Washington State Department of Transportation

2 of OL 3463 2 Sheet 4 Job No.

г	PR	OJECT	SR	5 Port of	Tacon	na Ro	ad int	erchange			 	Sheet 2 of 4 Job No. OL 3463		
	Depth (11)	Mictions (m)	Profile	10	Stande Penetra Blowe 20	ition	40	SPT Biowe/6* (N)	Sample Type	Sample No. (Tube No.)	1 <mark>1</mark>	Description of Material	Groundwater	Instrument
		7	X X X X X X X X X X X X X X X X X X X					S C D		U-8		Sandy SILT, interbedded, very soft, grsy, moist, horizontal bedding.		
	25 –							5 5 (11)	X	D-9	G8	SM Silty SAND, interbedded laminae, horizontal bedding, medium dense, dark gray, wet. <u>Recovered: 1.5 ft.</u>		
	30 —							0/18 {0/187)	X	D-10		Organic elastic SILT, very soft, gray, wet. Recovered: 1.5 ft.		
	35	- 11	4							U-11		Gravelly SAND with rotten wood, loose, derk gray, wet. Recovered: 1.5 ft.		
5011 013469-1.GPJ SOIL.CDT 0178920.43:50 A0	40	- 12						0 1 (2)	X	D-12		Elastic SILT, horizonlał bedding, very soft, gray, wet. Recovered: 1.5 ft.		

כ המנמ מוותיטו נווב וווטווומתטוו טוו חווש דדבוו ואבאטור וווב הבףמוווובוור טו בעטועא מעבא וזעו דדמו ומווי

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HOLE No. H-2-99



2011 ANNUAL GROUNDWATER MONITORING REPORT

SHELL-BRANDED WHOLESALE FACILITY 3251 PACIFIC HIGHWAY EAST FIFE, WASHINGTON

 SAP CODE
 121109

 INCIDENT NO.
 90880165

 AGENCY NO.
 77832375

Jing Song

Brian Richardson

JANUARY 30, 2012 REF. NO. 241801 (11) This report is printed on recycled paper. Prepared by: Conestoga-Rovers & Associates

20818 44th Avenue West, Suite 190 Lynnwood, Washington U.S.A. 98036

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