g-logics

Remedial Investigation Report
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, WA 98168
Ecology Facility/Site No.: 2551
Agreed Order No.: DE-10947

Prepared on behalf of:

Boeing Field Chevron
c/o Mr. Andrew Zabel
Houlihan Law
100 N. 35th Street
Seattle, WA 98103

Chevron Environmental Management Co.
Mr. James Kiernan
6001 Bollinger Canyon Road
San Ramon, CA 94583

Prepared by: G-Logics, Inc.
40 2nd Avenue SE
Issaquah, WA 98027
Telephone: (425) 391-6874
Facsimile: (425) 313-3074

October 7, 2020

G-Logics Project 01-0410-M
Copyright 2020 G-Logics, Inc.
All Rights Reserved

G-Logics has prepared this document only for our client's use, only for the purposes stated herein, and subject to any stated limitations. Use of this document by regulatory agencies is regarded as a "fair use" and is not a violation of our copyright. Regulatory agencies also may make additional copies of this document for their internal and public use, as required by law. All other copies or uses of this document must acknowledge our copyright and indicate that permission to copy/use has been received from G-Logics and our Client.

October 7, 2020
G-Logics Project 01-0410-M

Washington State Department of Ecology, NW Region
Mr. Dale Myers
3190 160th Avenue SE
Bellevue, WA 98008

Subject: Remedial Investigation Report
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, WA 98168
Ecology Facility/Site No.: 2551
Agreed Order No.: DE-10947

Dear Mr. Myers:

G-Logics is pleased to present this Remedial Investigation (RI) report for the subject property. This report documents the purpose, approach, and results of subsurface exploration efforts conducted to assess the nature and extent of soil, groundwater, and soil-gas impacts beneath the Property and Site. G-Logics requests that Ecology review this document and confirm that the presented information is sufficient to prepare a Feasibility Study, in accordance with the Site's existing Agreed Order.

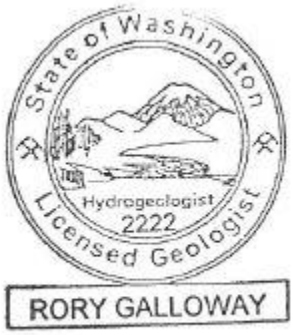
We appreciate the opportunity to provide our services on this project and trust the information presented in this report meets your needs at this time.

G-Logics, Inc.
40 2nd Avenue
Issaquah, WA 98027
T: 425-391-6874
F: 425-313-3074

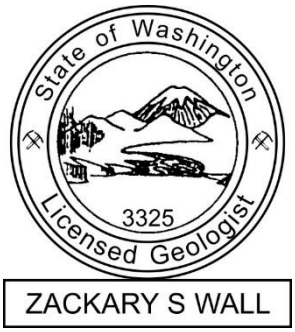
Should you require additional information or have any questions, please contact us at your convenience. Thank you again for this opportunity to be of service.

Sincerely,
G-Logics, Inc.

Rory L. Galloway, LG, LHG
Principal



Zackary S. Wall, LG
Project Geologist



Copyright 2020 G-Logics, Inc.

TABLE OF CONTENTS

Copyright 2020 G-Logics, Inc.

Copyright 2020 G-Logics, Inc.

FIGURES

Copyright 2020 G-Logics, Inc.

REMEDIAL INVESTIGATION TABLES

REMEDIAL INVESTIGATION GRAPHS

Copyright 2020 G-Logics, Inc.

HISTORICAL AERIAL PHOTOGRAPHS

APPENDICES

ATTACHMENTS

Copyright 2020 G-Logics, Inc.

ACRONYMS AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
BTEX	Benzene, Toluene, Ethylbenzene, and total Xylenes
COC	Contaminant/Chemical of Concern
CSM	Conceptual Site Model
DPE	Dual-Phase Extraction
DRO	Diesel-Range Organics
Ecology	Washington State Department of Ecology
EDB	1,2-Dibromoethane (Ethylene Dibromide)
EDC	1,2-Dichloroethane (Ethylene Dichloride)
EFR	Enhanced Fluid Recovery
FS	Feasibility Study
FPR	Free Product Recovery
GRO	Gasoline-Range Organics
LDW	Lower Duwamish Waterway
LNAPL	Light Non-Aqueous Phase Liquid
MTBE	Methyl Tertiary Butyl Ether
MTCA	Model Toxics Control Act
ORO	Oil-Range Organics
PCS	Petroleum-Contaminated Soil
PID	Photoionization Detector
PLPs	Potentially Liable Parties
PSCAA	Puget Sound Clean Air Agency
PVA	Petroleum Vapor-Intrusion Assessment
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
RI	Remedial Investigation
SAP	Sampling and Analysis Plan
TEE	Terrestrial Ecological Evaluation
TIB	Tukwila International Boulevard
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank
WAC	Washington State Administrative Code
WSDOT	Washington State Department of Transportation

Copyright 2020 G-Logics, Inc.

EXECUTIVE SUMMARY

This report presents the findings of the Remedial Investigation (RI) performed at the Boeing Field Chevron Site located at 10805 E Marginal Way, Tukwila, Washington. The RI work has been conducted to assess the nature and extent of impacts due to releases from historical and current petroleum service-station operations on the Property.

Service-station operations have been conducted on, or adjacent to, the Boeing Field Chevron property since at least 1941. During this period, the Site has been impacted by at least three separate releases of petroleum products, which are documented in Ecology files for the Site. The first two of these consisted of unquantified releases of petroleum products associated with service-station operations through approximately 1984 (reported in 1990) and a minor release in 1996 of unspecified petroleum product discovered during the removal of an underground storage tank (UST). The most recent release of gasoline product was associated with a fuel-supply line leak, first reported to Ecology in 2003.

Three general phases of environmental assessment and remediation efforts have been conducted at the Site since 1990. The first phase of work was performed in association with releases reported in 1990 and 1996, and a second phase was performed as an initial response to the 2003 release. Following the execution of an Agreed Order, a third phase of activities were initiated for the Site (this RI).

The RI activities pursuant to the Agreed Order included the following tasks.

- Drilling a total of nineteen soil borings,
- the installation of sixteen monitoring wells,
- groundwater sampling for eight quarters,
- video assessment of all accessible on-Property subsurface utilities,
- collection and analysis of stormwater and catch-basin solids samples,
- assessment of existing groundwater-monitoring wells and decommissioning of those wells found to be damaged or improperly constructed,
- completion of two tidal-influence studies,
- completion of an upper saturated zone drawdown test, and
- one air sparge and soil-vapor extraction (AS/SVE) pilot test.

Copyright 2020 G-Logics, Inc.

Based on the completed work, petroleum impacts (primarily Gasoline-Range Organics (GRO) and related benzene, toluene, ethylbenzene, and xylene (BTEX) compounds) remain present in soil and groundwater at the Site at concentrations exceeding Ecology's Model Toxics Control Act (MTCA) Method A cleanup levels. Separate-phase petroleum product also remains present intermittently in at least one of the monitoring wells at the Site (IP-7). Based on compiled data, the impacts to soil and groundwater extend from a depth of 8 feet to 25 feet below the ground surface. Impacts appear to be greatest in the immediate vicinity of the western dispenser islands, which is consistent with the location of the 2003 release. Soil-gas samples detected petroleum hydrocarbons at concentrations less than MTCA sub-slab screening levels near the southern property boundary. Accordingly, the soil-vapor to indoor air pathway for buildings located on the south-adjacent property is not considered to be complete.

Groundwater has been observed within two distinct saturated zones at the Site, the lower of which is tidally influenced. Petroleum contaminants have been found to exceed cleanup levels in both saturated zones. Groundwater sampling data, compiled from 2004 through 2019, indicate that groundwater contaminants are not migrating, and that concentrations are largely stable.

GRO and BTEX concentrations have been detected above cleanup levels in soil and groundwater within the Lower Saturated Zone to the west of the Property. However, based on groundwater sampling data from borings and monitoring wells completed within Tukwila International Boulevard (TIB), these impacts do not appear to extend beyond TIB.

Stormwater and catch-basin solids sampling indicate that Site contaminants are not migrating within the property-adjacent storm drain system. Site contaminants have not been detected within the backfill of the utility corridors along TIB.

Based on the findings of the RI Site-characterization efforts, several complementary remedial technologies have been identified for potential implementation and will be discussed and evaluated in the forthcoming Feasibility Study (FS) report.

Copyright 2020 G-Logics, Inc.

1.0 INTRODUCTION

This Remedial Investigation (RI) was performed for the Boeing Field Chevron facility located at 10805 East Marginal Way South in Tukwila, WA (Site). Currently the Site is managed under Agreed Order No. DE 10947 with the Washington State Department of Ecology (Ecology) pursuant to the Model Toxics Control Act (MTCA). Specifically, the parties to the Agreed Order are Mr. Rajbir Sandhu, Ms. Pradeep Sandhu, RPNP Corporation (RPNP), and Chevron Environmental Management Company (Chevron), collectively identified as the Parties.

This RI report has been completed following Ecology approval of the RI work plan prepared by Terracon, dated May 24, 2016, (Terracon, 2016) and the requirements of MTCA, including Washington Administrative Code (WAC) 173-340-350. This report also was completed in accordance with Ecology's guidance for remedial investigations and vapor assessments (Ecology, 2016a and 2016b).

1.1 Purpose and Objective

This report is intended to document the nature and extent of petroleum-contaminants resulting from the fuel releases that have occurred on the Site.

1.2 Report Organization

This report is organized per Ecology's *Remedial Investigation Checklist* guidance document (Ecology, 2016a). Primary sections of this report are listed below.

Section 1.0 introduces and describes the purpose of the RI.

Section 2.0 provides background information concerning the Site, including its history, location, description, land uses, and environmental actions at the Property and in the surrounding area.

Section 3.0 discusses the RI activities and findings for the Site.

Section 4.0 presents a discussion regarding the nature and extent of contamination and exposure pathways.

Section 5.0 presents the proposed cleanup levels and points of compliance for the Site.

Section 6.0 presents our conclusions and recommendations, based on the completed work.

Section 7.0 presents our limitations regarding this report.

Copyright 2020 G-Logics, Inc.

Section 8.0 presents references used to prepare the report.

2.0 PROPERTY AND SITE DESCRIPTION

This section provides background information for the Site. For the purposes of this document, the following terminology applies:

- "Property," as defined below in Section 2.1 and as shown on Figure 1-1, refers to the legal parcel owned by RPNP (dba Boeing Field Chevron) located at 10805 East Marginal Way South in Tukwila, WA.
- "Site" refers to areas where petroleum contaminants, released at the Property, have come to be located. A Site may include both on-Property and off-Property areas.

2.1 Site/Property Information

The Parties entered into an Agreed Order with the Ecology with the following description of the Site and Property:

Site Name: Boeing Field Chevron

Site Address: 10805 East Marginal Way South, Tukwila, WA

Agreed Order No.: DE 10947

Property Legal Description: PORTION OF GOV LOT 10 IN SE 1/4 OF SECTION 04-23-04 & OF THE W 1/2 OF SW 1/4 OF SECTION 03-23-04 LY BETWEEN WLY MARGIN OF E MARGINAL WAY & ELY MARGIN OF PACIFIC HIGHWAY SOUTH - BAAP ON WLY MARGIN OF E MARGINAL WAY, BEING N 17-20-00 W 1155.44 FT MEASURED ALONG SAID MARGIN, FROM SOUTH LINE OF SECTION 3 TH S 84-43-30 W 30.68 FT TO POINT OF BEGINNING TH N 17-20-00 W 243.58 FT TH N 82-24-36 W 31 FT TH S 18-27-00 W 267.74 FT TH N 84-43-30 E 188.83 FT TO POB LESS PORTION FOR ROAD UNDER WARRANTY DEED RECORDING NO 9604180862

King County Property Tax Parcel: 032304-9064

Property Quadrant Coordinates: Section 3 Township 23 Range 04 Quarter SW

Property Zoning Designation: The Property and surrounding area is zoned as "Manufacturing Industrial Center/Heavy Industrial" by the City of Tukwila, WA.

Copyright 2020 G-Logics, Inc.

2.2 Site Contact Information

Contact information for the Site's environmental consultant and the Property's ownership is listed below.

Project Consultant Contact Information:

G-Logics Inc.
40 2nd Avenue SE
Issaquah, WA 98027
Telephone: 425-391-6874
Contact Person: Mr. Zackary Wall, zackaryw@G-Logics.com

Property Owner's Contact Information:

RPNP
c/o Andrew Zabel
Houlihan Law PC
100 N 35th Street
Seattle, WA 98103
Telephone: 206-547-5052
Contact Person: Mr. Rajbir Sandhu (Mr. Andrew Zabel c/o Houlihan Law)

2.3 Site History

This section summarizes information from a review of historical aerial photographs and King County tax records (obtained from the Puget Sound Regional Archives). The aerial photographs were obtained from Environmental Data Resources, NETR Historic Aerials, University of Washington Map Library (US Army Corps of Engineers), and Washington State Department of Transportation (annotated copies attached). Reviewed tax records are attached as Appendix A. The following sub-sections detail the results from this review, which are summarized in Section 2.3.7.

The number of USTs currently present at the Site is discussed in Section 2.4. The number of historical USTs, as well as their locations, size, and capacity (if known), are discussed in the following sections and summarized in Section 2.8. Please note that the actual number and locations of historical USTs is unknown.

2.3.1 1930 Records

According to historical King County tax records, the Property was developed as a restaurant in 1931. This is the oldest documented use of the Property. A photograph in the tax records

Copyright 2020 G-Logics, Inc.

dated “1-10-41” shows a building with the word “Eat” on top of a pillar-shaped structure, which the tax record indicates was built in 1931 (Page 1 of Tax Records). Based on aerial photographs in these tax records, it appears that the restaurant structure existed on the Property from 1931 until at least 1941.

A tax record (page 3) dated 1938 includes a photograph of a building with a sign reading “Ben’s Fog Horn”. The building is described as a tavern. The 1938 tax record includes a handwritten notation “void / burned” on a photograph of the building, but the photograph and notation dates are not indicated. The 1938 tax record indicates the tavern building was built in 1931, and apparently burned down sometime after 1938. The restaurant and the tavern appear to be the only commercial structures listed in King County tax records prior to 1941.

2.3.2 1940 Records

An aerial photograph from 1940 (Photo 1) shows three structures to the north of the current Property. Based on geographical references in the 1940 aerial photograph and 1953 aerial photograph (Historical Aerial Photo 2), it appears the tax parcel associated with the current Property extended further north prior to roadway (Boeing Field Access Road) construction. The current Property boundary, based on the PLS, Inc. topographic survey, dated November 30, 2016, included in Appendix B, has been superimposed on the aerial photographs.

An undated tax record (page 9), believed to be from approximately 1941, states that an automobile fueling and service station was constructed (north of the current Property boundary) but no construction date was listed. A photograph dated January 1, 1941 included with the tax record shows a gasoline fueling island branded “Standard Stations Inc.” The photograph shows three pumps, a service-station office, and a large structure in the background, believed to be the 1931 restaurant building. These structures appear to be the same as those seen in the 1940 aerial photograph and, based on the 1940 and 1953 aerial photographs, appear to be located to the north of the current Property boundary. However, it is not conclusive that the service station listed in the tax record is the same as the structure indicated on the 1940 aerial photograph. Figure 2-1 shows the estimated location of the structures relative to the current boundaries of the Property. Although the exact location cannot be verified, the three structures appear to be located near the current intersection of TIB, East Marginal Way South, and the Boeing Field Access Road.

Copyright 2020 G-Logics, Inc.

The tax record believed to be from 1941 lists other features including a "grease room," a "hydraulic lift," three fuel pumps, and three USTs, including one 1,000-gallon and two 550-gallon USTs. However, the exact location of these USTs is unknown.

A 1942 note on a split-valuation (page 2) indicates at least one of the buildings (Building #2 – believed to be north of the current Property line) was "operational" as a "cabin camp" with four individual apartments. Based on the split-valuation, this building was remodeled in 1947 (page 2). Nothing on the split valuation record indicates the use of Building #1; however, it is assumed that Building #1 is the gas station discussed in the undated tax record with the 1941 photograph. It appears that a third building (Building #3 on the tax record) was constructed in 1947 although a photograph from 1944 indicates that "Building #3" is present at that time.

2.3.3 1950 Records

A 1953 aerial photograph (Historical Aerial Photo 2) shows the Boeing Field Access Road and adjoining intersection of East Marginal Way South and TIB. In this photograph, two structures interpreted to be the apartments that were constructed in 1942 and 1947 are located on the southern portion of the Property. In 1953 there were two main structures on the north end of the Property, which are understood to be a service station and fueling island (Figure 2-1). The configuration and location of the service station and fueling island are different than the station observed in the 1940 aerial photograph, discussed above.

This configuration is interpreted to be the second fueling station in this area, and the first to be located within the current boundaries of the Property. G-Logics believes the 1940s-vintage gas station was removed with the construction of the Boeing Access Road in the early 1950s. The 1950s-vintage station was then constructed within the Property boundaries. This interpretation is based on the 1940 and 1953 aerial photographs where the building locations changed and tax-assessor records indicating that a gas station operated on the Property between at least 1941 and 1956. Specifically, one of the tax-assessor records includes a note stating "void this sheet-Imp-torn down 7-56" indicates that the service station building and facilities described and depicted in the 1941 tax record were torn down sometime prior to July 1956 for construction of a new station (1955) described in the following paragraph.

A tax record from 1955 (page 10) includes a photograph dated "7-6-56" that shows a large canopy covering two fueling islands. The canopy is attached to what appears to be the service-station building. The station is noted as being heated by oil. The service station is

Copyright 2020 G-Logics, Inc.

branded as “Standard.” The tax sheet indicates that the station was built in 1955 and though partially obstructed by the photo, lists one UST of an unknown size, one 5,500-gallon UST, one 500-gallon waste-oil UST, and one 500-gallon fuel-oil UST.

2.3.4 1960 and 1970 Records

Tax records from 1963 show that the service station constructed in 1955 was remodeled and relocated in 1963 with two pump island canopies, an expanded service station building (heated by an oil burner and including a lube room), and four USTs. A note in the tax records dated August 1963 indicates that the service station was “moved back from original location and remodeled.” The tax records also indicate that the two apartment buildings located on the southern portion of the Property were removed in the early 1960s, based on a 2-1-1962 entry on the split-valuation form indicating that two improvements were torn down. Tax records include a petition for tax exemption (Page 22) indicating an apartment was torn down in December 1961.

The 1963 tax record lists four USTs: one 500-gallon, one 2,000-gallon, one 5,000-gallon, and one 7,000-gallon UST (Appendix A). On the 1963 tax record there is a note stating that a 16-by-25-foot addition was added to the gas-station building (Figure 2-1).

The 1969 aerial photograph shows the station at its “new” location after it was moved from its previous location in 1963 (Historical Aerial Photo 3). The 1969 aerial photograph also confirms that the apartment buildings were no longer present. The 1976 aerial photograph (Historical Aerial Photo 4) shows a similar station configuration to the 1969 aerial photograph.

2.3.5 1980 Records

An aerial photograph dated 1985 (Photo 5) shows that the aboveground features associated with the station have been removed when compared to the 1976 aerial photograph (Photo 4), and the Property appears to be vacant. Tax sheets understood to be updated in 1986 note that the gas station and facilities were removed in December 1984 (see Tax Records, 1986, page 25).

2.3.6 1990 Records

Tax records from King County indicate that the Property was owned and sold by a Jessie May Zielsdorf on February 8, 1995 to Philip W. Usher. Subsequently, the Property was sold to Pradeep Sandhu on February 15, 1995 and later transferred into the names of Rajbir and Pradeep Sandhu on March 29, 1996. G-Logics understands that the current fueling station

Copyright 2020 G-Logics, Inc.

was built for RPNP in 1995/1996. In the 1995 aerial photograph, there appears to be areas of disturbed land, possibly from previous excavations and tank removals on the Property. See Section 3.1 for additional historical information regarding environmental activities conducted on the Property. Tax records and other historical public records dated after 1996 were not reviewed.

2.3.7 Site History Summary

Tax parcel records indicate that the Property was originally occupied by a pub and restaurant, then developed with an automobile fueling and service station from at least 1953, possibly as early as 1941. Another fueling station possibly was located to the north at this time.

A new station was constructed in 1955 replacing this previous station. The 1955 configuration was remodeled and relocated in 1963 after the demolition of apartment buildings (constructed in 1942 and 1947). The relocated 1955 gas station was demolished in 1984. The current station on the Property was constructed in 1995/1996.

2.4 Site Location Description

The Property is located in the Northern Industrial District of the City of Tukwila, WA. This area is zoned as Manufacturing Industrial Center/Heavy Industrial according to the City of Tukwila's Comprehensive Plan and Zoning Map (City of Tukwila, 2015). The surrounding area consists primarily of retail, commercial, and industrial businesses.

The Property is located at the southern corner of the intersection of South Boeing Access Road, East Marginal Way South, and TIB (also referred to as Pacific Highway South). The Duwamish River is located approximately 275 feet to the west of the Property's western boundary. The Property currently is operated as an independent Chevron-branded gasoline service station with six dispenser islands, an automatic car wash, and three USTs, as described below.

- One 15,000-gallon, dual-compartment, steel-clad composite tank with a capacity for storing 7,500 gallons of regular unleaded gasoline and 7,500 gallons of diesel fuel.
- One 15,000-gallon, single-compartment, steel-clad composite tank storing unleaded gasoline.
- One 10,000-gallon, single-compartment, steel-clad composite tank storing unleaded gasoline.

Copyright 2020 G-Logics, Inc.

The location of the tanks is shown on Figure 2-5.

2.4.1 Physiography/Topography

The Site is located within the Duwamish River valley at an approximate elevation of 20 feet above mean sea level. The Site topography is generally characterized as flat-lying. A topographic survey performed in November 2016 is included in Appendix B.

2.4.2 Geology

Based on the 2005 United States Geological Survey (USGS) regional geologic map (Troost et al.), the surface in the vicinity of the Site is underlain by alluvium (Qal). Bedrock of the Tertiary Tukwila Formation is exposed nearby to the east, southeast, and southwest of the Site. Alluvial deposits typically consist mostly of unconsolidated silt, sand, and gravel valley fill with some clay and include low-level terrace, marsh, peat, imported fill, and glacial deposits. Qal deposits are associated with stream beds and river valleys. The Duwamish/Green watershed also has been significantly modified by volcanic mudflows, (Booth et al., 2003).

Geologic conditions at the Site were initially characterized during previous investigations and remedial actions, as summarized in the RI Work Plan. Based on the boring logs and other information provided in the RI Work Plan, four generalized lithologic units have been described at the Site. The findings of G-Logics 2016 through 2019 RI field activities, as discussed in Section 3.5 of this report, are generally consistent with geology descriptions provided in the RI Work Plan. The Site geology is described below, beginning at the ground surface and continuing to the explored depths.

- **Ground Surface to approximately 9 feet, Fill Materials.** This unit includes fill installed prior to initial development of the Site area. These fill soils also include backfill associated with environmental excavations and buildings, as well as bedding for utility lines and USTs. Fill materials found at the Site typically include a mixture of sand, silt, and gravel (including cobbles), and occasionally pea gravel, quarry spalls, and/or brick and concrete debris. Based on a review of previous studies, the typical depth range for the fill material at the Site is not clear, but may range from depths of 3 to 14 feet. As described in Section 3.5 of this report, G-Logics' 2016 borings typically encountered loose fill to depths of 3 to 10 feet on the Property, with depths extending 14 to 20 feet within the subsurface utility

Copyright 2020 G-Logics, Inc.

corridor located within the TIB right of way west of the Property. For purposes of this report, soils within the vadose zone are typically identified as fill.

- **9 feet to approximately 12 feet, Shallow Silty Sands.** This unit is composed primarily of brown, medium-grained, silty sands, fine-to-medium-grained sand lenses, and thinly (1cm) interbedded silt and sand. Borings typically encountered this unit from the bottom of fill materials to an approximate depth of 12 feet. The soils that make up this unit most likely represent the native materials present prior to area development and/or excavations. Soils located in this depth range generally make up the Upper Saturated Zone (further discussed in Section 2.4.3).

- **12 feet to 18 feet, Fine-Grained Soils**. This unit includes silty clay, sandy silt, silty sand, and organic materials described in previous boring logs as peat. The top of the finer-grained sequence typically is encountered below fill materials and silty sand, at between 12 and 18 feet below the ground surface. The character of this unit varies across the Site, with the unit predominantly composed of sandy silt at the northern end of the property and silty clay in the south. Interbedded- clay, silty clay, and clayey silt are present in the western portion of the Site. These soils are identified as the confining layer in Section 2.4.3.

- **18 feet to Explored Depths, Lower Sand Unit.** The top of this unit is typically encountered at depths of approximately 18 to 20 feet, but shallower sand lenses have been observed at some locations. The sand unit extends to at least 35 feet in depth, the maximum depth explored. Soils in this sequence are generally described as dark gray, poorly-sorted to moderately-sorted, and coarse-grained to very coarse-grained sand with occasional silt. The contact between this lower sand unit and the overlying silt and clay appears to vary from abrupt to gradational. The thick sequence of dark-gray, coarse sands at the Site likely originated from the reworking of volcanic-mudflow material described by Booth et al. (2003). Soils located in this depth range generally make up the Lower Saturated Zone (also discussed in Section 2.4.3).

2.4.3 General Hydrogeology

Previous studies, as well as the results of our recent RI field activities, indicate that two separate water-bearing zones underlie the Site. These two zones are identified as an upper, laterally-discontinuous, perched zone (Upper Saturated Zone) and a lower, semi-confined

Copyright 2020 G-Logics, Inc.

aquifer (Lower Saturated Zone). The Upper Saturated Zone occurs within the fill materials described above and also within the shallow silty sands. The Lower Saturated Zone appears to occur within the lower sand unit and is tidally influenced. In general, groundwater in both saturated zones flows toward the Duwamish River.

Boring logs indicate that the two saturated zones are typically separated by a 2 to 6-foot thick layer of clayey silt and organic material. This fine-grained unit appears to act as a confining layer between the Upper and Lower Saturated Zones in most areas within the Site. However, the confining layer appears to thin toward the central portion of the Site, where it is interlayered with sandy lenses. Additionally, during an air-sparge pilot test at the Site (G-Logics, 2019), air introduced into the Lower Saturated Zone (well AS-2) produced bubbling in a nearby well that was screened in the Upper Saturated Zone (well IP-4). This suggests that the confining layer separating the two saturated zones may be semi-permeable, or possibly discontinuous in this area. In other areas, it also is possible that previous remedial excavations and/or excavations for the utility-corridor trench (along TIB) may have disturbed the confining layer. Additional hydrogeology information is discussed Section 3.3 below.

2.4.4 Surface Waters

The Duwamish River is located approximately 275 feet to the west of the Property (Figures 1-1, 1-2, and 1-3). The Duwamish River empties into Elliot Bay approximately 6.5 miles north of the Site. As discussed in Section 4.4, this remedial investigation has shown no communication between Site contaminants and the Duwamish River.

2.5 Surrounding Property and Site Land Use

Information regarding surrounding properties is discussed below.

2.5.1 Surrounding Property Land Use

The property to the immediate south of Boeing Field Chevron is occupied by a mixed-use building containing office spaces and a food-manufacturing facility (Mighty-O Donuts). Currently, G-Logics understands that the office spaces in the building are vacant. The property to the east currently is occupied by a bulk propane distributor (Blue Star Gas). To the west (across TIB) are several commercial properties, including auto repair and storage lots and a neon-sign manufacturer.

Copyright 2020 G-Logics, Inc.

2.5.2 Neighboring Property Historical Land Use

G-Logics reviewed the historical tax assessor records for the neighboring properties to the west of East Marginal Way South (see Figure 1-4). Tax records for neighboring properties are included as Appendix A. Details regarding these records are discussed below.

- **Parcel #042304-9158:** A tax record, dated 12-8-1959, indicates that the parcel was occupied by a service station that was constructed in 1960. The fee owner is listed as Signal Oil Co. Inventory details for the parcel indicate that a hydraulic hoist, one 3,000-gallon tank, two 2,000-gallon tanks, and one 250-gallon tank occupied the property. A photograph of the parcel, dated 9-31-1960, shows the fueling canopy and a service garage with two bays.
- **Parcel #042304-9159:** Tax records for this parcel indicate that it was occupied by a home and storage buildings. The storage building was constructed in 1964 (5-5-1964 tax record) and the fee owner was listed as Packaged Homes. Another building listed at the property was constructed in 1979 but few details are given regarding the building use, though a photograph, dated 5-10-1979 shows a storage shed with a propane tank in front of it.
- **Parcel #042304-9169:** Buildings listed for this parcel included a storage building (building #4) that was constructed in 1945 and moved in 1964 (undated tax record). A record dated 11-29-1962 details a Quonset-style office/storage building that was remodeled (and "moved in") in 1962. The fee owner is listed as "Petrolane Liq Gas Corp." Another warehouse was listed on the property in 1962, question marks are located in the date-built field (tax record dated 9-4-1962). The fee owner for this additional warehouse also is listed as the Petrolane Liq Gas Corp. Photographs included on this tax record (dated 12-5-1962 and 9-4-1952) show large propane tanks.
- **Parcel #042304-9083:** An undated tax record discusses a building that was constructed in 1941. A photograph dated 9-30-1941, shows the building occupied by Safeway. The use is described as "machine shop" below a description that was crossed off reading Pacific Salvage Co. A later copy of the tax record has both these uses crossed off and Quality Billiard Manufacturing Company listed. Another photograph included with this record dated 10-1-1952 shows a building occupied by the Pacific Salvage Co. The side of the building is painted with a label saying "Rags, Steel, Tires, Tools, Clothing, Tanks."

  An office constructed in 1955/1956 was listed on a tax record dated (12-8-1955). A later copy of this tax record lists a used car lot as the fee owner.

Copyright 2020 G-Logics, Inc.

A tax record dated 2-10-1960 was included in the file for a warehouse that was constructed in 1959/1960. The fee owner for the warehouse was listed as the Pacific Propeller Co.

A tax record dated 12-3-1956 shows an office building that was constructed at an unknown date and moved by April of 1960 (handwritten notation on tax record). The building was occupied by Atlas Glass Heat. A photograph dated 6-9-1958 shows the building with a sign saying "CLEAN GAS OIL HEAT" and "GLASS HEAT". A carpenter shop was constructed on this parcel in 1963 (undated tax record). The fee owner was listed as Pacific Propeller Co. A tax record dated 6-4-1987 has a comment that states the property is occupied by Skagen Marine and that all the buildings are used for a distribution warehouse.

2.6 Environmental Actions on Surrounding Properties

Site-review efforts have identified that several nearby properties are known to have been impacted by petroleum-hydrocarbon contamination. These properties and their status are listed below, and their locations are shown on Figure 1-5.

Site Name	FSID	Address	Site Status	Confirmed Petroleum Impacts
North Winds Weir Intertidal Restoration	5584231	2724 S 112TH St	Cleanup Started	Soil
Husky Truck Center	72897374	11222 E Marginal Way S	No Further Action	Soil
Triad Machinery Inc. Tukwila	86248197	11210 Tukwila International Blvd	Awaiting Cleanup	Groundwater
Northwest Auto Wrecking	2287	10230 E Marginal Way S	Cleanup Started	Soil, Sediment
UPS Freight	2359	11231 E Marginal Way S	No Further Action	Soil
Pape Material Handling	2595	9892 40TH Ave S	No Further Action	Soil
Unified Grocers Norfolk	73338176	3301 S Norfolk St	Cleanup Started	Soil, Groundwater
Pony Express	16492554	11004 E Marginal Way S	No Further Action	Soil
Horizon Ford	23285988	11000 Tukwila International Blvd	No Further Action	Soil
Farwest Taxi	57492659	11180 E Marginal Way	No Further Action	Soil
McConkey Property	97268417	10710 E Marginal S & 10650 27th S	Cleanup Started	Soil

Copyright 2020 G-Logics, Inc.

Ecology's *Lower Duwamish Waterway Superfund Site: Pollution Source Control fact sheet*, dated October 2004 (Ecology, 2004) identifies the boundaries of the active sediment remediation within the Lower Duwamish Waterway (LDW) Superfund Site. Based on this information, the Boeing Field Chevron Site is located outside the defined boundaries. Additionally, according to Ecology's *Lower Duwamish Waterway Source Control Areas map* (Ecology, 2017), the Site also is south of the southern-most LDW Source Control Area, the Norfolk storm-drain system. However, Ecology has previously indicated that they consider the Site to be within Ecology's pollution source-control area for the LDW. In an email from Richard Thomas, dated January 16, 2019 (attached), Ecology acknowledged that the Boeing Field Chevron surface flow is not part of the Norfolk basin, but nevertheless, the Site would remain a "potential source" to the LDW Superfund Site due to its proximity to the waterway.

2.7 Historical Environmental Actions at the Site, 1990 to 2012

Information and data from previous environmental assessments conducted from 1990 to 2015 are summarized below. This represents a summary of all documented work completed prior to the development of the RI Work Plan. Copies of these reports are attached in Appendix C (on CD). Exploration and remedial excavation locations are shown on Figures 2-2 and 2-3. Historical explorations also are summarized on Table 1.

2.7.1 Geotech Consultants 1990 Preliminary Environmental Study

In February 1990, Geotech Consultants, Inc. (Geotech), working for a prospective purchaser of the Property, completed a preliminary environmental assessment of soil and groundwater conditions at the Property. According to the Geotech report (Geotech, 1990), documents that were provided by Chevron indicated that the former service station included two pump islands, three fuel USTs, one used oil UST, and a service station building that had previously been removed in December 1984. The information provided by Chevron did not identify the contractor that removed the fueling facilities. Geotech also stated that based on its review of correspondence from Chevron, it was unclear which fuel-distribution lines or USTs had previously been removed. Geotech also stated that the "number, size, and contents of the USTs" was unclear. According to Geotech, the documents supplied by Chevron stated that "there was no evidence of contamination in the tank excavation, that the condition of the removed tanks and piping was described and (sic) 'good' and that there was no reported groundwater contamination."

Copyright 2020 G-Logics, Inc.

During its 1990 site characterization efforts, Geotech drilled four borings (B-1 through B-4, Figure 2-3) to depths ranging from 10 to 22.5 feet below the ground surface. According to the report, Geotech analyzed several selected soil samples using EPA method 418.1 for total petroleum hydrocarbons and EPA method 8020 for benzene, toluene, ethylbenzene, and xylene (BTEX). Petroleum contaminant concentrations exceeded then-applicable soil cleanup level of 200 parts per million (ppm) in boring B-1. Boring B-1 was located at the northwest corner of the Property (Figure 2-3). Geotech reported hydrocarbon odors to a depth of 14 feet in this boring. Also, according to the report, petroleum contaminants were present, but at concentrations below 200 ppm, in "near-surface soils" in borings B-2, B-3, and B-4. However, analytical results were not included in the copy of the report made available to G-Logics.

According to the report text, "petroleum" and "trace xylene" were detected in a groundwater sample from boring B-1. According to Geotech, "… groundwater quality beneath the subject Site has been generally unaffected by activities relating to former retail station operations." Though the locations of any remaining USTs or fuel supply lines were unknown, Geotech recommended the removal of any remaining USTs and fuel-delivery lines.

2.7.2 Rittenhouse-Zeman & Associates 1990 Environmental Actions

Based on the conclusions in the 1990 Geotech report, Rittenhouse-Zeman & Associates (RZA, 1990a) was retained by Chevron to observe the removal of the northern pump island foundation and the excavation of petroleum contaminated soils (PCS) in March of 1990. During this effort, a previously unknown 5,000-gallon UST was discovered. In April 1990, RZA supervised the excavation of the 5,000-gallon UST. Results for soil samples analyzed during these remedial efforts are summarized in Table 4-1. Excavation-sample locations are shown on Figure 2-2.

During the 1990 excavation/removal of the 5,000-gallon UST, two more USTs were discovered: one 1,000-gallon and one 2,000-gallon (Figure 2-1). These two additional tanks were removed, and all three tanks were disposed off-site in April 1990. As discussed in Section 2.3.4, the 1963 tax records listed four USTs: one 500-gallon, one 2,000-gallon, one 5,000-gallon, and one 7,000-gallon USTs. Accordingly, it is unclear if the three USTs removed in April 1990 are three of the four listed on the 1963 tax record or from older station configurations. Additionally, RZA's reports (1990a and 1990b) contain figures showing a cluster of former USTs, referred to as the "former known tank field". The source

Copyright 2020 G-Logics, Inc.

of the historical UST locations shown in RZA's reports is unclear and it does not provide any other information. This depiction has been carried forward through subsequent reports even though no reference for the tank information is provided.

After the USTs were removed, RZA conducted exploratory excavations to assess the extent of the PCS. Chevron directed RZA to stop the excavation efforts in May 1990. No off-site disposal of the excavated soils from the exploratory efforts is documented in RZA's report (1990a). A subsequent report by RZA (1990b, described below) states that approximately 300 cubic yards of soil were removed during this initial excavation.

In June 1990, RZA conducted additional environmental exploration work. This work is documented in a report titled *Subsurface Environmental Site Characterization and Remediation*, dated August 28, 1990 (RZA, 1990b), and included the drilling of borings B-1 through B-16 (Figure 2-3). RZA completed seven of the borings as monitoring wells, MW-1 through MW-7 (Figure 2-3).

Additional remedial excavations were conducted as part of this work in two areas, the former western pump island and where USTs were discovered during removal of the northern pump islands (Figure 2-1). Approximately 600 cubic yards of additional PCS were removed from the area of the USTs and approximately 900 cubic yards of PCS were removed from the former western pump-island (RZA, 1990b). The excavations generally varied in depth from 3 to 12 feet, with one soil sample collected from a depth of 15 feet.

After excavating soils from these two areas, RZA collected soil confirmation samples and reported that soils containing petroleum hydrocarbon concentrations above cleanup levels remained on the Property but were bounded by borings B-2, B-7, and B-11 through B-15. Groundwater analytical data in RZA's report (1990b) also indicated that wells MW-2, MW-3, MW-4, and MW-6 contained petroleum hydrocarbons at concentrations above cleanup levels. Results for analyzed soil and groundwater samples are summarized in Tables 4-1, 5-1, and 5-2. RZA reported that groundwater levels measured during sampling events indicated that a lower groundwater table and a perched-groundwater table were present on the Property, consistent with the Upper and Lower Saturated Zones previously discussed.

2.7.3 Hart Crowser 1990 to 1994 Environmental Actions

In August 1990, Chevron contracted with Hart Crowser to conduct additional site assessments near the eastern pump-island and in the areas identified by RZA as containing concentrations of petroleum in soil and groundwater above cleanup levels (HC, 1990). Hart

Copyright 2020 G-Logics, Inc.

Crowser conducted groundwater sampling, observed the removal of the concrete slabs from the former service station building and the east pump-island, and observed the excavation of test pits in the area of the east pump island and a former service-bay sump (Figures 2-1 and 2-2). Approximately 350 cubic yards of PCS were excavated from the east pump island and service bay sump areas and disposed off-site.

In September 1992, Hart Crowser (HC, 1992) observed the excavation and removal of a 550-gallon used-oil UST and a 550-gallon diesel-oil UST from two areas of the Property (Figure 2-1). Soil samples collected from the bottom and sidewalls of the used-oil UST excavation reported concentrations of petroleum below MTCA Method A cleanup levels. Soil samples collected from the bottom and sidewalls of the diesel-oil UST excavation also reported concentrations of petroleum below MTCA Method A cleanup levels (Table 4-1). Excavation-sample locations are shown on Figure 2-2.

Hart Crowser produced two reports dated March 2, 1993 (HC, 1993a and b) that summarized the work performed from July 1992 through January 1993. The first (HC 1993a) was a Site Assessment Summary Report that summarized efforts to remove soils that were suspected to contain petroleum contamination, which was understood to be affecting groundwater conditions near monitoring well MW-4. The report discussed how "approximately 1,500 cubic yards of PCS were excavated, segregated, and stockpiled or land-farmed" on the Property. The report states that approximately 1,100 cubic yards of soil containing diesel-range organics (DRO), 250 cubic yards of soil containing gasoline-range organics (GRO), and 150 cubic yards of concrete rubble were excavated and disposed off-site. The reported locations of these remedial excavations are shown on Figure 2-1. The Hart Crowser 1993a report does not discuss whether all PCS above cleanup levels was removed from or remediated on the Property.

The second Hart Crowser report dated March 2, 1993 (HC, 1993b) was an addendum to the November 30, 1992 UST report (HC, 1992) and documented the disposal of UST-derived wastes that were generated during the removal of the two 550-gallon USTs.

Another report produced by Hart Crowser dated April 7, 1993 (HC, 1993c) documented groundwater monitoring well installation and sampling efforts conducted in the spring of 1993. Hart Crowser replaced monitoring wells destroyed during the excavation work performed in 1992 (MW-2, MW-3, MW-4, and MW-5). These replacement wells were designated as MW-2R, MW-3R, and MW-4R. In addition to these replacement wells, Hart Crowser also installed monitoring wells MW-8, MW-8A, MW-9, and MW-9A. Based on

Copyright 2020 G-Logics, Inc.

G-Logics current understanding of groundwater conditions and the screened intervals provided in the Hart Crowser report, wells MW-8 and MW-9 were installed in the Lower Saturated Zone and wells MW-8A and MW-9A were installed in the Upper Saturated Zone. Results of the Hart Crowser groundwater sampling indicated that petroleum contaminants in the upper unit were below then applicable cleanup levels (Table 5-2). However, petroleum contaminants were present above Method A cleanup levels in groundwater samples collected from the lower unit, specifically in monitoring wells MW-2R, MW-3R, and MW-4R.

In a subsequent Hart Crowser report dated November 29, 1994 (HC 1994), Hart Crowser requested a No Further Action (NFA) opinion letter from Ecology. In the executive summary of this report, Hart Crowser stated that 10 USTs and approximately 2,000 cubic yards of PCS were removed from the Property. However, the reports reviewed by G-Logics document the removal of only five USTs (three by RZA and two by Hart Crowser) and a portion of the 2,000 cubic yards of PCS soil, as reported by Hart Crowser.

In the 1994 report, Hart Crowser also stated that with the exception of monitoring well MW-4R, groundwater quality on the Property met MTCA cleanup levels. Hart Crowser reported that groundwater collected and analyzed from MW-4R periodically exceeded cleanup levels for benzene. Ecology did not issue an NFA opinion in response to Hart Crowser's request.

2.7.4 Pacific Environmental Group 1996/1997 Environmental Actions

According to available King County tax records, the Property was purchased by Pradeep Sandhu in 1995 (Sandhu), who then commissioned the construction of the current gas station in 1996. An aerial photograph from 1995 (Photo 6) shows that the Property as undeveloped, but with several rectangular objects (possibly trailers, sheds, or vehicles).

During the construction of the gas station in July 1996, an excavation contractor uncovered an unknown UST (see Figure 2-1) and caused a release of petroleum product to the environment (reported to Ecology on March 4, 1997). As a result of the UST discovery and release, Chevron retained Pacific Environmental Group, Inc. (PEG) in 1996 to sample and analyze groundwater from several monitoring wells on the Property (PEG 1996a). The analytical results from this sampling showed concentrations of benzene in wells MW-3R and MW-4R exceeded cleanup levels.

Copyright 2020 G-Logics, Inc.

The discovered UST was approximately 280 gallons and was excavated and disposed off-site. PEG documented that the UST appeared to be in fair condition with slight to moderate pitting and no observed holes other than those created by the excavator. The PEG report (PEG 1997a) presumed that the UST stored either heating or used oil. The PEG report also notes that although petroleum product may have entered a catch basin on the Property during the discovery and excavation of the UST, that product was promptly removed from the catch basin by vacuum truck.

Soil samples collected from the sidewalls and bottom of the 1996 UST excavation had concentrations of GRO, DRO, and oil-range organics (ORO) above Method A cleanup levels (see Table 4-1). The PEG (1997a) report stated that these petroleum-contaminated soils were left in place due to the structural concerns that a remedial excavation would present for the new building and concrete pavement, understood to be the existing carwash structure.

In September 1997, PEG performed additional environmental investigation work on the Property, installing groundwater monitoring wells MW-10, MW-11, and MW-12 (PEG 1997b). Soil and groundwater samples were collected and analyzed from each of the newly installed wells. Concentrations of petroleum were detected in the soil and groundwater samples collected from well MW-12, and in groundwater samples collected from MW-11, but at concentrations below cleanup levels.

2.7.5 Gettler-Ryan 2003 Environmental Actions

On behalf of Chevron, groundwater monitoring events were conducted by Gettler-Ryan Inc. (GRI) in May and November 2003 (GRI 2003). According to the groundwater analytical table in the GRI 2003 report, concentrations of GRO, benzene, and methyl tert butyl ether (MTBE) in excess of cleanup levels began to appear in monitoring wells MW-10, MW-11, and MW-12 in 1997 and 1998. Increasing concentrations of GRO and benzene in groundwater were reported in 1999 and again in 2003. During groundwater sampling conducted in May and November 2003, 3 to 4 feet of Light Non-Aqueous Phase Liquid (LNAPL) was encountered in MW-11. This was the first occurrence of LNAPL in a monitoring well at the Site.

With the discovery of this LNAPL, a release was reported to Ecology on May 30, 2003. The release was reported by Science Applications International Corporation (SAIC) for Chevron.

Copyright 2020 G-Logics, Inc.

2.7.6 PNE Construction 2003/2004 Environmental Actions

In 2003 and 2004, Sandhu contracted with Pacific Northern Environmental Construction (PNE) to perform environmental characterization and remediation work on the Property, in response to the newly discovered gasoline release. G-Logics understands that the work performed by PNE, and the results of those efforts, were not formally documented. Accordingly, the following discussion of PNE's efforts is based on comments made in a subsequent report prepared by Environmental Resolutions, Inc. (ERI), dated March 12, 2004 (ERI, 2004a). Information regarding PNE's efforts also was corroborated in a 2008 conversation that G-Logics had with the equipment operator that performed the work for PNE in 2004. Due to the lack of documentation, G-Logics does not know the initial extent of this release or the extent to which it was excavated.

The report prepared by ERI (ERI 2004a), states that PNE conducted investigations to assess the free-phase product encountered in MW-11. Ecology records indicate that a leaking fuel-supply line to the western pump island was found in 2004, near the middle dispenser (of the western pump island). Upon notification, G-Logics also understands that Ecology ordered the western pump island to be closed until repairs were made, and that the western pump island was closed so that excavations could occur to repair the line and remove petroleum-impacted soil and free product.

Following the discovery of the leaking fuel-supply line, we understand that Sandhu commissioned PNE in January 2004 to excavate approximately 195 tons of PCS from the area surrounding the western pump island. Based on the conversation G-Logics had with the equipment operator in 2008, G-Logics understands that PCS was not excavated from the western edge of the Property (near the sidewalk adjacent to TIB). Figure 2-4 illustrates the approximate areas of the 2004 excavations based on the locations of newer concrete surface patches observed by G-Logics on the Property in 2006.

2.7.7 Environmental Resolutions 2004/2005 Environmental Actions

On behalf of Sandhu, ERI performed a soil and groundwater investigation in February 2004 that included the completion of 10 soil borings (ERI, 2004a). Soil sampling results indicated the presence of GRO and benzene in excess of cleanup levels along the western Property boundary. In July 2004, ERI installed two additional groundwater monitoring wells (MW-13 and MW-14) and collected soil and groundwater samples (ERI 2004b). These samples also indicated the presence of GRO and benzene on the western side of the

Copyright 2020 G-Logics, Inc.

Property at concentrations greater than cleanup levels (Tables 4-1 and 5-2). Groundwater analytical results for samples collected in 2004 and 2005 are summarized on Figure 6-1.

ERI produced a report dated December 6, 2004 (ERI 2004c) that included a historical review of releases dating back to 1990. G-Logics reviewed this report and found it to be generally consistent with the information provided in this RI. In this report, ERI also evaluated more recent releases, including the leaking fuel-supply line on the western pump-island discussed above.

In March of 2005, ERI advanced one boring, B-11, west of the Property, in the median strip on TIB (ERI 2005a, Figure 2-4). Neither GRO nor benzene were identified in soil or groundwater in this new boring. DRO was reported in the groundwater at a concentration of 500 µg/L (at the Method A cleanup level).

Free-product petroleum (apparently gasoline) was found by ERI in well MW-14 in July 2005, measured at a thickness of 0.15 feet. At this time, MW-11 was found to no longer contain free-product (ERI 2005b).

In August and November 2005, ERI installed three additional groundwater monitoring wells at the Site, specifically MW-15, MW-16, and MW-17 (ERI 2005c). ERI again found free-product in MW-14 and also in MW-15 in August and November 2005. Product thicknesses in the wells typically ranged from 0.15 to 2.5 feet in MW-14, and 0.5 to 3.5 feet in MW-15. ERI removed approximately 1.69 gallons of product by bailer from the affected wells between October 18 and November 30, 2005. In a March 3, 2006 meeting, Ecology communicated to Sandhu and G-Logics that periodic bailing of product was not productive. Ecology also stated that a more effective method of product removal was needed.

Results from this work indicate that GRO and benzene in soil and groundwater were present on the west side of the Property, and in the adjacent right-of-way west of the Property, at concentrations greater than Method A cleanup levels (Figure 6-1).

2.7.8 G-Logics 2006 Enhanced Fluid Recovery

In response to Ecology's request for free-phase product removal, G-Logics began working on behalf of Sandhu in January 2006 (G-Logics 2006a, 2006b, and 2006c). G-Logics coordinated an enhanced fluid recovery (EFR) effort designed to remove LNAPL. The EFR involved a truck-mounted vacuum pump with a "stinger" recovery tube. The stinger was systematically lowered into various monitoring wells approximately four feet below the

Copyright 2020 G-Logics, Inc.

initial groundwater level with the intent of creating a "cone of depression" in the vicinity of the monitoring well.

On January 26, 2006, an Emerald Services vacuum truck removed approximately 3,000 gallons of groundwater from monitoring wells MW-14 and MW-15. The extraction was conducted over a four-hour period using an initial vacuum of approximately 20-inches of mercury. Based on low vacuum readings in surrounding wells (0 to 0.06 inches of mercury), and a lack of groundwater level change in the adjacent extraction wells (groundwater in well EX-S, located 12 feet from MW-15, only fell by 0.03 feet), the vacuum in wells MW-14 and MW-15 did not appear to create a significant radius of influence or cone of depression. Approximately 300 gallons of groundwater were removed in the first 15 minutes of operation. The truck vacuum was lowered to approximately 15 inches of mercury, and the suction tip was positioned several feet above the groundwater level, creating a subsequent "slurping" action for product/groundwater removal. The suction continued over a four-hour period, at which time the truck tank had filled. The water in the tank appeared light brown and contained a strong gasoline odor. However, LNAPL was not observed in the tank after allowing it to sit for three days. G-Logics returned to the Site on January 31 and measured 0.01 feet and 0.86 feet of LNAPL in MW-14 and MW-15, respectively.

Based on the EFR results, G-Logics concluded the product observed in MW-14 and MW-15 was the result of migration in the saturated smear zone via capillary action into the well casings. The EFR results did not indicate a readily-recoverable layer of free-floating product beneath the Site. This conclusion was based on the following:

- The measured thickness of LNAPL in wells after a significant volume of fluid was extracted from the wells. (See Table 6 for product-level measurements).
- LNAPL was not observed in the vacuum truck.
- LNAPL was not observed in nearby extraction wells.

2.7.9 G-Logics 2006 to 2008 Additional Exploration and ISCO

To further assess the extent of Site contamination and presence of free product, G-Logics conducted an environmental exploration in April 2006. G-Logics installed borings P-1 through P-8 in the area of MW-14 and MW-15. GRO was detected in soil samples collected

Copyright 2020 G-Logics, Inc.

from borings P-4, P-6, and P-8 above Method A Cleanup Levels. Soil-sampling results are summarized in Table 4-1.

G-Logics also installed several injection points/monitoring wells (denoted with the prefix "IP"). These wells were constructed with stainless steel casing materials, to enable the application of chemical oxidants into the subsurface. Well IP-4 was screened in the Upper Saturated Zone from 8 to 14 feet, and IP-3 and IP-5 were screened in the Lower Saturated Zone at 18 to 24 feet. IP-6 and IP-7 were installed to a depth of 23 feet and screened in the Lower Saturated Zone (approximately 17 to 23 feet deep). LNAPL was observed in both of these wells.

Between May and June 2006, G-Logics injected 660 gallons of Fenton's reagent (17% hydrogen peroxide) into wells MW-15, IP-3, IP-4, and IP-5. Prior to the injections, MW-15 consistently contained 2 to 3 feet of gasoline product. After the injections, during two subsequent sampling events on May 8, 2006 and June 19, 2006, MW-15 did not contain LNAPL. However, G-Logics observed approximately 0.10 feet of product in MW-15 approximately one month after the first Fenton's injection. The efforts performed are described in the G-Logics report (G-Logics 2006b). Product-level thickness measurements are summarized in Table 6.

G-Logics observed an additional injection of Fenton's reagent again in August 2006. This work was documented in G-Logics *November 2006 Status Report* (G-Logics 2006c). Approximately 660 gallons of 17% hydrogen peroxide was injected into IP-6 and IP-7 with 330 gallons of 17% peroxide injected into wells IP-3 and IP-4. According to the report, during this injection event a strong reaction to the Fenton's reagent was noted in the form of carbon dioxide emissions, heat, pressure, and foaming in nearby wells, though the report does not specify which wells.

Before the Fenton's reagent injections, MW-14 consistently contained 0.3 to 2.3 feet of product. In the weeks following Fenton's treatment, MW-14 contained 0.02 feet of product. However, when measured again in October 2006, MW-14 contained 1.89 feet of product, IP-7 contained 2.42 feet of product, and IP-6 contained 0.18 feet of product. It should be noted that IP-6 and IP-7 were screened in the Lower Saturated Zone. Currently, it is unknown how free product came to be present at these depths). However, it is possible that the released volume was sufficient to drive LNAPL to the Lower Saturated Zone.

Copyright 2020 G-Logics, Inc.

In December 2006 and February 2007, G-Logics conducted two more Fenton's reagent injection events. Approximately 1,320 gallons of 17% peroxide were injected in IP-3, IP-4, IP-5, IP-6, and IP-7 in December 2006. Approximately 660 gallons of 11% peroxide were injected in IP-6 and IP-7 in February 2007.

Following the February 2007 injection, product was not detected in MW-14 or MW-15. However, in October 2007, 2.3 feet of product was recorded in MW-14 and 1.4 feet of product was recorded in MW-15 (as measured with an oil-water interface probe).

In February 2008, G-Logics used an oil-water interface probe, as well as a transparent bailer, to evaluate the presence of free product in the wells. Mr. Arthur Buchan from Ecology was present to observe the test. G-Logics noted that a layer of oily product coated the probe when it passed through a thin petroleum layer, carrying it into the water layer. For comparison purposes, the probe was slowly lowered into and through the product layer and the product thickness was measured using the transparent bailer. Using the slow probe method, MW-14 was measured as containing 1.9 feet of product. However, using a bailer, 0.2 feet of product was measured (G-Logics 2008). Both measurement methods indicated the presence of LNAPL, although the two methods measured significantly different thicknesses of LNAPL.

2.7.10 G-Logics 2008 to 2012 FPR Installation and Operation

Subsequent to the treatment attempts, Ecology issued a Notice of Non-compliance in February 2008. The Notice stated that WAC 173-340-450(4) requires owners and operators of UST systems to take immediate interim measures to recover free product. The Notice also stated that a free-product removal schedule needed to be prepared, submitted, and agreed to by Ms. Carrie Pederson of Ecology by March 5, 2008. The Notice schedule also called for the completion of free product recovery by January 31, 2009.

To address the Notice from Ecology, G-Logics drilled nine borings in March 2008 and completed the borings as product-extraction wells. These wells were identified as EW-1 through EW-9 (Figure 2-4). G-Logics constructed the wells to be used for future groundwater sampling, product extraction (if necessary), and/or soil vapor extraction. Boring locations were selected based on proximity to existing wells that contained product (MW-14, MW-15, IP-6, and IP-7). These wells were positioned near the western Property line, considering convenience for product recovery and soil-vapor extraction lines. GRO and/or BTEX were detected above MTCA Method A cleanup levels in soil samples

Copyright 2020 G-Logics, Inc.

collected from all of the borings with the exception of EW-7. Contaminant concentrations appeared to be highest in samples collected from depths below 15 feet.

In addition to the extraction wells, G-Logics drilled four borings in April 2008 on the west side of TIB and completed them as groundwater monitoring wells MW-18 through MW-21 (Figure 2-4). The borings were located approximately 100 feet west of the Property on a public right-of-way, and positioned to evaluate potential impacts on down gradient areas (G-Logics 2008). GRO and BTEX were not detected in any of the analyzed soil samples from these four borings.

Construction of an automated free-product pumping/recovery (FPR) system (using skimmer pumps) began in March 2008. While the FPR system was being installed, G-Logics used absorbent socks to immediately address the free product. The construction of the FPR system required demolition of existing pavements, installation of below-grade conduit, and placement of skimmers in the newly installed recovery wells. The installation of the FPR system was completed in February 2009 and included spill-sensing equipment for the product-recovery collection tank. However, the FPR system was prone to failures and required significant management and monitoring to keep it operating (G-Logics 2009a and 2009b).

G-Logics continued to operate the skimmer pumps and use absorbent socks in multiple wells until May 2010, when product recovery by the skimmer pumps was negligible (G-Logics 2010a, 2010b, 2011). G-Logics continued to collect and replace absorbent socks in multiple wells until March 2012. Approximately 74 gallons of petroleum product was removed from the groundwater with the skimmer pumps and absorbent socks from 2008 to 2012, as summarized in G-Logics report dated April 2, 2012 (G-Logics 2012).

2.8 Summary of UST History

Information regarding historical and current USTs is summarized in the following sections.

2.8.1 Documentation of Historical USTs, 1941-1984

The table below provides a summary of historical USTs at the Site, which is based on review of available tax records, as well as historical UST records obtained from Ecology's UST database. Unfortunately, the documentation of USTs in the mid-20th century was not highly regulated. As such, there are unknowns regarding installation dates, years of service, and possible removal and/or decommissioning dates for many of the tanks listed. Based on our review of the tax records, G-Logics believes that as many as 11 different

Copyright 2020 G-Logics, Inc.

USTs may have been utilized at the Site prior to Chevron decommissioning the service station in 1984 (Section 2.7.1).

Records available regarding the 1984 service station decommissioning activities by Chevron do not document the number of USTs that were removed from the Site at that time. Geotech's 1990 report references 1962 station plans furnished by Chevron showing four USTs. Although the closure records are not available, it is likely that the 1984 station decommissioning activities would have included removal of at least the four USTs shown on the 1962 station plans. However, sufficient documentation is not available to determine the exact number of USTs that were present at the Site prior to, or after, the 1984 service station decommissioning activities.

Tax Records/Ecology Summary List of Historical USTs at Boeing Field Chevron				
Year	Quantity	Size (gallons)	Contents	Decommission/Removal Date
1941 (Tax Record)				
	1	1,000	Unknown	Unknown
	2	500	Unknown	Unknown
1955 (Tax Record)				
	1	Unknown	Unknown	Unknown
	1	5,500	Unknown	Unknown
	1	500	Used Oil	Unknown
	1	500	Fuel Oil	Unknown
1963 (Tax Record)				
	1	500	Unknown	Unknown
	1	2,000	Unknown	Unknown
	1	5,000	Unknown	Unknown
	1	7,000	Unknown	Unknown
1971 (Ecology UST Summary)				
	1	111-1,100	Unknown	Unknown
	1	111-1,100	Unknown	Unknown

2.8.2 Documented UST-Decommissioning Activities, 1990-1996

The table below provides a summary of documented decommissioning activities completed for six USTs removed from the Site between 1990 and 1996. Note that Hart Crowser's 1994 *Independent Remedial Action Report Summary* discussed the removal of a total of 10

Copyright 2020 G-Logics, Inc.

USTs from the Property; however, supporting documentation for this number was not provided in the report. Based on our review of this and other historical investigation reports, as well as the available UST closure records for the Site, it is unclear whether this was an error by Hart Crowser, or whether this number may have also included the USTs previously reported to have been removed by Chevron in 1984. In either case, G-Logics has not been able to find documentation supporting the removal of 10 USTs from the Site.

USTs Removed from Boeing Field Chevron			
Year/Reference	Quantity	Size (gallons)	Contents
1990			
RZA, 1990a, 1990b	1	1,000	Unknown
	1	2,000	Unknown
	1	5,000	Unknown
1992			
Hart Crowser, 1992	1	550	Used Oil
	1	550	Diesel
1996			
PEG, 1997a	1	280	Used Oil/Diesel
Total	6		

2.8.3 UST Status, 1996-Present

The table below provides a summary of the current UST network at the Site, which was installed in 1996. This information also is discussed in Section 2.4.

Current UST System at Boeing Field Chevron				
Year	Quantity	Size (gallons)	Contents	Construction
1996				
	1	10,000	Premium Unleaded Gasoline	Single compartment, steel clad
	1	15,000	Regular Unleaded Gasoline	Single compartment, steel clad
	1	15,000	7,500 Regular Unleaded 7,500 Diesel	Dual-compartment, steel clad
Total	3			

Copyright 2020 G-Logics, Inc.

3.0 REMEDIAL INVESTIGATION

This section summarizes RI activities performed to satisfy the requirements of Agreed Order DE-10947, which was executed by Ecology on July 13, 2015. Terracon, then G-Logics, were retained by the Parties to perform explorations to further characterize the Site. The activities and findings of the RI explorations are presented in the following sections.

3.1 Remedial Investigation Activities

RI exploration locations are shown on Figure 2-5. Soil and groundwater analytical information is summarized on Tables 4-1, 4-2, 4-3, 4-4, 5-1, and 5-2, with the laboratory data reports and validation reports attached in Appendix D. The completed activities are summarized below.

3.1.1 Terracon 2015 Well Inspection and Sampling, and Workplan Preparation

In July 2015, Terracon performed an initial monitoring-well inspection and sampled the existing wells at the Site. Using this initial data, Terracon Consultants prepared an RI Work Plan for the Site, which Ecology approved on June 1, 2016.

In September 2016, G-Logics replaced Terracon Consultants. G-Logics used the Work Plan to guide the RI activities completed for this report with the July 2015 groundwater-sampling results included in Tables 5-1 and 5-2 of this report. GRO and benzene concentration contours from the results of the 2015 groundwater sampling also are shown on Figure 6-3.

3.1.2 2016 Utility Survey

Stormwater at the Property collects in several on-Property catch basins (Figure 4-2). The two catch basins adjacent to the pump-island canopy appear to drain into the Property's oil-water separator, located to the south of the canopy. Other catch basins at the Property appear to discharge collected surface runoff into a bio-swale at the northeast corner of the Property. Runoff enters at the southern end of the swale before entering Tukwila's municipal storm-drain system at the swale's northern end. Based on the outfall elevations, G-Logics estimates that on-Property drain lines are buried at a depth of approximately 3 feet below the ground surface.

Adjacent to the Property, surface-water runoff is collected in several catch basins located along East Marginal Way South and TIB (Figure 3-1). Stormwater collected in these catch

Copyright 2020 G-Logics, Inc.

basins eventually drains toward catch basin CB-1003, which discharges into a line crossing TIB toward the southwest (shown on Figures 3-1, 3-2, and 3-3). Based on the catch-basin invert elevations on the survey completed for the RI, G-Logics understands that off-Property municipal storm-drain lines are buried at a depth of approximately 4 to 10 feet below the ground surface.

Using a video camera, G-Logics viewed sanitary sewer and storm drain lines on the Property and surrounding municipal storm drains adjacent to the Property. This work was performed on September 29 and 30, 2016. The recorded videos are included on an attached compact disc (Appendix K). A brief narrative for each video recording is presented in Appendix J. Locations corresponding to each video are included on Figure 4-2.

Based on a review of the recorded video, the viewed subsurface piping appeared to be in good condition. However, several blockages were encountered in shallow, small-diameter cleanout lines on the Property, where debris halted progress of the video survey. The approximate locations of these blockages are shown on Figure 4-2 and noted with a red "x" symbol. Municipal storm drains along East Marginal Way South and TIB appeared to be clear of obstructions, cracks, root infiltration, and other visible damage. Based on the results of the video survey and catch-basin sampling (described in Section 3.3 below), additional work was not recommended or conducted to further assess the drain lines on the Site.

3.1.3 2016 Monitoring Well Assessment

In September 2016, G-Logics assessed accessible groundwater-monitoring, injection, and extraction wells associated with the Site. The results of the well assessment were tabulated and are presented on Table 2-1. Recommendations for repairs or decommissioning are summarized in Table 2-1. Well-decommissioning dates also are included on Table 2-1.

During the monitoring-well assessment, G-Logics noted that two wells (EX-N and EX-S, reportedly constructed by PNE) appeared to be screened from the ground surface to the bottom of the well (14-15 feet below the ground surface). Well logs for EX-N and EX-S could not be found. However, G-Logics understands through previous conversations with PNE (no report was prepared) that these wells were installed in excavation-backfill materials.

Copyright 2020 G-Logics, Inc.

3.1.4 2016 and 2017 Catch-Basin Solids and Stormwater Sampling

To provide information on possible petroleum contaminants within the municipal stormwater system adjacent to the Property, G-Logics collected representative samples of catch-basin solids (where possible) and stormwater from selected catch basins. As specified in the RI Work Plan, stormwater samples were collected following significant rain events. Selected catch-basin locations are presented in Figures 3-2 and 3-3. In total, G-Logics attempted to collect catch-basin solids and stormwater samples after three different rain events. The sampling events are discussed below. Results of conducted analyses are summarized in Section 3.3.1.

3.1.4.1 October 3, 2016 Sampling Event

On Monday, October 3, 2016, G-Logics attempted to sample catch-basin solids along the eastern curb of TIB, which forms the western boundary of the Property. The basins were found to contain approximately 1 foot of standing water with abundant leaf and garbage debris. Catch-basin solids were not encountered in sufficient quantities to sample.

3.1.4.2 October 27, 2016 Sampling Event

G-Logics returned to the Property on October 27, 2016 for a second attempt to sample catch-basin solids and stormwater. A very small amount of solids were present in catch basins CB-1002 and CB-1068 and G-Logics was only able to collect enough material for limited analyses. No other catch basins contained sufficient quantities of solids to sample. The locations of the sampled catch basins are shown on Figures 3-2 and 3-3. Catch basin solids and stormwater sampling methods and sample analyses are described below in greater detail.

The attempted sampling, identified above, followed within 24 hours of a storm event, which occurred on October 26, 2016. According to online records, 1.46 inches of precipitation were recorded at Boeing Field/King County International Airport on October 26. Sampling methods are discussed in Appendix F.

During the October 27 sampling effort, G-Logics also was able to obtain stormwater samples from catch basins CB-1001, CB-1002, CB-5, and CH-1068. G-Logics collected stormwater samples in accordance with the RI Work Plan. Specifically, the Work Plan references the Environmental Protection Agency's Industrial Stormwater Monitoring and Sampling Guide (EPA 2009). Stormwater sampling occurred within 24 hours following the October 26 storm event. Samples were collected by gently lowering a clean disposable bailer into the standing water of the basin allowing it to fill with water. The bailer was then

Copyright 2020 G-Logics, Inc.

retrieved and emptied into laboratory-provided sample bottles. A new bailer was used at each sampling location.

The collected stormwater and catch basin-solid samples were submitted to Fremont Analytical Laboratory and analyzed for petroleum hydrocarbons by methods NWTPH-Gx (GRO) and NWTPH-Dx (DRO and ORO). Other analyses were not performed on catch basin solids samples due to insufficient sample quantity. Results of the stormwater analyses are presented in Table 3-1. Results for the collected solids samples are presented in Table 3-2. Analytical-laboratory reports for the analyzed catch-basin solids and stormwater samples are attached in Appendix D.

3.1.4.3 February 10, 2017 Sampling Event

On February 10, 2017, G-Logics sampled stormwater from four catch basins. G-Logics attempted to collect solids samples from the catch basins as well. However, solid quantities were not sufficient for sampling.

The stormwater samples were submitted to Fremont Analytical Laboratory and analyzed for GRO, DRO, and ORO as well as BTEX, MTBE, 1,2-dichloroethane (EDC), ethylene dibromide (EDB), hexane, naphthalene, and total and dissolved lead.

3.1.5 October 2016 Soil Exploration

On October 21, 2016, G-Logics began efforts to drill 16 soil borings, GLB-1 through GLB-16, as shown on Figure 2-5. All boring locations were air-knifed and vacuum-extracted to a depth of at least 5 feet, for protection of possible underground utilities. Soil samples were collected at a depth of 3 feet using a hand-auger before advancing further, except for borings GLB-1, 2, 3, and 4 (located west of the Property, in the median of TIB). All borings were completed using direct-push drilling methods. The borings extended to a depth of 25 to 35 feet. During drilling, continuous-core soil samples were collected for soil classification, field screening for contamination, and possible chemical analysis.

To provide soil-gas data pending the initial results of the Site exploration, G-Logics installed two permanent soil-gas monitoring points (GLVP-1 and GLVP-2) along the southern Property boundary. These points are located near the off-Property buildings that could be at risk for vapor intrusion. The points are screened at a depth of 7 feet below the ground surface. Additional information regarding soil-gas monitoring point construction and installation methods is included in Appendix F.

Copyright 2020 G-Logics, Inc.

Soil samples collected in this initial effort were delivered to Fremont Analytical. Select samples were submitted for rush analysis by NWTPH-Gx and NWTPH-Dx methods. The selection of samples was determined based on visual and olfactory observations of the soil conditions and the noted PID readings. Initially, only analysis for GRO, DRO, and ORO were requested, as these were considered to be the primary contaminants at the Site. Additional analysis for MTBE, EDB, EDC, BTEX, hexane, carcinogenic polyaromatic hydrocarbons (cPAHs), and volatile-petroleum hydrocarbons (VPHs) were requested based on the findings of the reported concentrations of GRO, DRO, or ORO. Results of the soil-sample analyses are discussed in Section 3.3.2.

3.1.6 November 2016 Exploration and Monitoring Well Installation

With the information collected from the initial 2016 exploration, G-Logics planned and coordinated a second drilling exploration at the Site. The findings of the initial exploration and the planned efforts for the second exploration were documented in a memo prepared by G-Logics dated November 9, 2016 (G-Logics 2016a). The memo provided the findings of the initial exploration and reasoning for the second exploration.

For the second exploration effort, three additional soil borings (GLB-17, GLB-18, and GLB-19) were drilled and ten additional groundwater monitoring wells (MW-22 through MW-28) were installed at the Site. Again, all boring locations were air-knifed and vacuumed to a depth of 5 feet, for protection of possible underground utilities. All borings were completed using direct-push drilling methods.

As shown on Figure 2-5, GLB-17 was drilled between MW-27 and MW-28 and was intended to provide information on the southeast extent of the contamination. Borings GLB-18 and GLB-19 were drilled in TIB to provide information regarding the potential presence of contaminants west of the Property. Monitoring wells MW-22 through MW-25 were intended to monitor conditions in the utility corridors to the west of the Property on the east side of TIB.

G-Logics installed several “paired” wells to provide information from the Upper and Lower Saturated Zones at the same physical locations. At each of these locations, two wells were installed approximately 3 to 4 feet apart (Figure 2-5), with one screened in the Upper and one screened in the Lower Saturated Zone. These wells are identified as MW-26S, MW-26-D, MW-27S, MW-27D, MW-28S, and MW-28D. The “S” represents the Upper (i.e., shallow) Saturated Zone and the “D” represents the Lower (i.e., deep) Saturated Zone.

Copyright 2020 G-Logics, Inc.

Well-construction information for these monitoring wells is summarized in Table 2-2 and shown on boring logs (Appendix E).

3.1.7 December 2016 Monitoring Well Decommissioning

Based on the information obtained during the two initial rounds of RI field activities (see Sections 3.1.5 and 3.1.6), G-Logics verified the presence of a confining layer separating the Upper and Lower Saturated Zones. The well-assessment efforts discussed above in Section 3.1.3 identified 19 wells that were screened across the confining layer. (i.e., within both saturated zones), creating potential migration pathways between the two saturated zones. Based on these findings and the regulations that govern the construction of groundwater monitoring wells (*Minimum Standards for Constructing and Maintenance of Wells, WAC 173-160*), these 19 monitoring wells were decommissioned in December 2016, as shown on Figure 4-3. Specifically, G-Logics decommissioned extraction wells EW-1 through EW-9, monitoring wells MW-10 through MW-17, and the wells previously identified as EX-N and EX-S. Decommissioning reports are attached in Appendix G.

The wells were decommissioned by ESN Northwest (ESN). As recorded on the decommissioning reports in Appendix G, 17 two-inch wells were decommissioned by over-drilling using an 8-inch auger. Over-drilling methods were used as a best practice to provide a seal through the confining layer.

Well logs for EX-N and EX-S could not be found. However, G-Logics understands through previous conversations with PNE that these wells were installed in excavation-backfill materials. Additionally, the well casings were too large to be drilled out (6-inch and 4-inch diameter well casings, respectively). Per ESN and the above-referenced Ecology standards, well EX-N had to be pressure grouted because the casing diameter was too large to over-drill. Well EX-S also was too large to over-drill with ESN's equipment. However, because it appeared to be screened to the surface, this well could not be pressure grouted and instead was filled with bentonite chips. ESN stated that all three methods of decommissioning (over drilling, pressure grouting, and backfilling with bentonite) are industry standard and approved by Ecology.

3.1.8 January 2018 Exploration and Monitoring Well Installation

After reviewing data collected in 2016, additional information was requested by Ecology regarding vapor-intrusion risks to nearby structures, extent of soil and groundwater contamination near the northern and western boundaries of the Site, and tidal influence at the Site. To address the identified data gaps, G-Logics planned and coordinated soil-gas

Copyright 2020 G-Logics, Inc.

sampling, additional drilling, and monitoring-well installations at the Site. These activities are described below.

3.1.8.1 Soil-Gas Sampling

As part of our soil-vapor intrusion assessment (discussed in Section 3.3.5), G-Logics collected soil-gas samples from the permanent monitoring points installed in 2016 (see Section 3.1.5). Samples were collected from an approximate depth of 7 feet below the ground surface using a 1 Liter Summa® canister. Samples were submitted to Fremont Analytical Laboratory for APH fraction, naphthalene, and BTEX analysis.

3.1.8.2 Drilling and Well Installations

Four additional groundwater monitoring wells were installed at the Site (MW-24D, MW-29S, MW-29D, and MW-30). As with the two previous explorations, all boring locations were air-knifed and vacuumed to a depth of at least 5 feet for protection of possible underground utilities. The borings were completed using direct-push drilling methods.

As shown on Figure 2-5, MW-24D and MW-30 were advanced in the median of TIB and were intended to provide information on the western extent of contaminants in the Lower Saturated Zone. Wells 29S and 29D were installed to provide information regarding contaminants at the north end of the Site. As discussed in Section 3.1.6, well MW-29S was screened in the Upper Saturated Zone and well MW-29D was screened in the Lower Saturated Zone. Well-construction information for these monitoring wells is summarized in Table 2-2 and shown on boring logs (Appendix E).

Soil samples were collected and delivered to Fremont Analytical. Based on the findings of the previous RI explorations, select soil samples were analyzed for GRO, DRO, ORO, and BTEX compounds. Results of the analyses are discussed in Section 3.3 and summarized on the attached Tables 4-1 through 4-4. Analytical laboratory reports and chain-of custody forms are attached in Appendix D.

3.1.9 2016 and 2018 Tidal-Influence Studies

Tidal fluctuations in the Duwamish River can influence near-shore groundwater elevations, which in turn may affect the movement of groundwater and Site contaminants. To calculate mean groundwater elevations and hydraulic gradients (vertical and lateral), two tidal-influence studies have been conducted at the Site. These studies are further described below.

Copyright 2020 G-Logics, Inc.

3.1.9.1 2016 Tidal-Influence Study

On October 12, 2016, water-level transducers were placed in eight wells across the Site (Figure 8-1). Measurements were recorded at two-minute intervals over a period of one week. This information is included in Appendix I. Wells were chosen for transducer placement based on their screened intervals and their location at the Site, as discussed below.

- **Upper Saturated Zone Wells:** Wells IP-4 and MW-18. IP-4 is located in the central-western portion of the Property, on the east side of TIB and the utility corridor (located in TIB). MW-18 is located west of TIB, directly west of IP-4. These two locations provided an assessment of the Upper Saturated Zone independent of influence from the Lower Saturated Zone.
- **Lower Saturated Zone Wells:** Wells IP-3, MW-19, and MW-21, were screened in the Lower Saturated Zone. IP-3 is located in the central-western portion of the property, on the east side of TIB and the utility corridor (located in TIB). MW-19 and MW-21 are located on the west side of TIB, west of IP-3. These three locations provided an assessment of the Lower Saturated Zone.
- **Wells Screened Across the Confining Layer:** The remaining wells MW-12, 13, and 14 were screened across both the Upper and Lower Saturated Zones. These wells are generally located in the central and western portion of the Property. Note, these wells were decommissioned in December 2016 (see Section 3.1.7).

3.1.9.2 2018 Tidal-Influence Study

For the 2018 tidal study, pressure transducers were placed in several paired wells (MW-27S, MW-27D, MW-28S, MW-28D, MW-29S and MW-29D). Each well pair consists of two adjacent wells, with one well screened in the Lower Saturated Zone (labeled "D") and one well screened in the Upper Saturated Zone (labeled "S"). Transducers also were placed in existing wells screened within the Upper Saturated Zone (IP-4, MW-18) and the Lower Saturated Zone (IP-3, MW-19 and MW-21). The locations of these wells are shown on Figure 8-2. As with the 2016 study described above, wells were chosen based on their screened intervals and their location at the Site relative to likely tidal influence. Measurements were recorded at fifteen-minute intervals over a period of one week. This information is included in Appendix I.

3.1.10 2016 to 2018 Groundwater Monitoring

G-Logics collected quarterly groundwater samples from Site monitoring wells from November 2016 to November 2018. At least four consecutive quarters of groundwater

Copyright 2020 G-Logics, Inc.

samples were collected from each well, using low-flow techniques. The collected groundwater samples were submitted to Fremont Analytical and analyzed for GRO, DRO, ORO, total and dissolved lead, and several petroleum-related VOCs. Methods for low-flow groundwater sampling are provided in Appendix F. Water-quality parameters recorded during sampling are included in Table 7 and in Appendix M. Groundwater-monitoring results are discussed in Section 3.3.3 and summarized on Tables 5-1 and 5-2.

3.1.11 2019 Pilot-Test Well Installation and Sampling

In April 2019, G-Logics conducted an air sparge/soil-vapor extraction Feasibility Study Pilot Test at the Site. As part of this work, G-Logics advanced six soil borings, completing two as air sparge/ groundwater-monitoring wells (AS-1 and AS-2), one as a soil-vapor extraction well (SVE-1), and three as vadose-zone observation points (TW-1, TW-2, and TW-3. Locations for these six borings are shown on Figure 2-5. Soil sampling results for each boring are presented in Table 4-1 and groundwater sampling results for AS-1 and AS-2 are presented in Table 5-1. Additional findings of the pilot test were documented in our report, dated August 14, 2019.

3.2 Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) during G-Logics exploration efforts included procedures for sample collection, storage, tracking, documentation, and analysis in accordance with the Terracon Quality Assurance Project Plan (QAPP), prepared as part of the RI Work Plan. G-Logics also completed chain-of-custody documentation during the exploration efforts.

3.3 Site Characterization Findings

The findings of G-Logics RI efforts are described below. Exploration locations are shown on Figure 2-5. GRO and benzene concentrations at the Site are presented on Figures 5-1 through 5-4. Figures 6-1 through 6-5 and 7-1 through 7-4 present groundwater-contaminant concentrations over time. Vertical interpretations of the geological and contaminant conditions are provided on cross-sections A-A’ and B-B’ (Figures 10-1 and 10-2, respectively). Summary analytical data is presented in Tables 3-1 and 3-2 (catch-basin samples), 4-1 through 4-4 (soil samples), 5-1 and 5-2 (groundwater samples), and 8 (soil-gas samples). For soil and groundwater samples, historical and recently collected data are included in the tables, along with data-reference sources (e.g. RZA, 1990).

Copyright 2020 G-Logics, Inc.

Laboratory reports and chain-of-custody forms are attached as Appendix D. Boring logs from the Site exploration work are attached as Appendix E. G-Logics field sampling methods are described in Appendix F.

3.3.1 Catch-Basin Solids and Stormwater Sampling Results

Our findings concerning the potential presence of petroleum contaminants originating from the Site in catch basin solids and stormwater are presented below.

- Findings from the survey videos, previously discussed in Section 3.2.1, indicate that the storm-drain system is intact and no obvious signs of damaged lines were observed.
- Evidence of immiscible petroleum product, sheens, or strong odors was not noted during sampling of catch basins.
- Only limited amounts of solids, in most cases insufficient for sampling, were found in the catch basins, which we understand are routinely cleaned.
- As would be expected in road-side catch basins, low concentrations of petroleum contaminants (GRO and/or ORO) were found in the solids samples collected from catch-basins both upstream and downstream of the subject Property.
- Concentrations of GRO and related contaminants were not detected above laboratory reporting limits in the analyzed stormwater samples.
- DRO and ORO were detected at concentrations slightly above laboratory-reporting limits in stormwater samples collected from catch basins CB-1002, CB-1003, and CB-1004, but below MTCA cleanup levels.

Based on these findings, it is G-Logics' opinion that petroleum contaminants are not likely to be entering the municipal storm-drain system from the subsurface releases originating from the Site. Accordingly, additional storm-drain system sampling is not planned.

3.3.2 Soil-Boring Findings

Soil borings encountered well-graded silty, gravelly sands to a depth of approximately 12 feet, over a layer of silt with abundant reeds/grasses (confining layer) to approximately 18 feet. Borings advanced to greater depths typically encountered fine-to-coarse-grained dark gray/black sand from 18 feet to the explore depths (lower saturated zone). Groundwater was encountered during drilling in all borings at depths ranging from 9 to 12 feet. The observed subsurface soil conditions generally are consistent with the descriptions provided in Section 2.4.2.

Copyright 2020 G-Logics, Inc.

Borings completed in the areas of the utility corridor, UST removals, and remedial excavations generally encountered fill soils, including sands and gravels with occasional wood and concrete overlying native soils such as the fine-grained unit and/or lower sand unit. Additionally, sample recovery was poor in borings advanced within the utility corridor, possibly indicating the corridor was backfilled with aggregate.

Summarized below are G-Logics findings regarding soil contaminants at the Site. Analytical results for the collected soil samples are summarized on Tables 4-1 through 4-4.

- Selected soil samples were analyzed for GRO, DRO, ORO, gasoline related VOCs (BTEX, EDB, EDC, MTBE, and lead), cPAHs, Naphthalene, and/or VPHs (see Tables 4-1 through 4-4).
- Concentrations of GRO were detected in soil samples collected from seven borings, specifically, GLB-7, 9, 10, 12, 14, 15, and 16, as well as from AS-2, SVE-1, and TW-3. However, only six samples (collected from beneath the dispenser-island canopy) contained concentrations above the Method A cleanup level.
    - Specifically, a sample from GLB-14, collected at a depth of 17 feet, reported a concentration of GRO at 215 mg/kg. Three samples collected from GLB-15, collected at depths of 9, 12, and 18 feet, reported concentrations of GRO at 70.8, 37.2, and 3,510 mg/kg, respectively (Table 4-1).
    - GRO was detected at a concentration of 928 mg/kg in one soil sample collected from AS-2 (19 foot depth), 3,560 mg/kg in a sample collected from SVE-1 (9 foot depth), and 153 mg/kg in a sample from TW-3 (9 foot depth).
- GRO and BTEX compounds were not detected in soil samples collected from depths shallower than 9 feet.
- Benzene was detected above the Method A cleanup level, in soil samples collected from borings GLB-7, GLB-9, GLB-10, GLB-14, GLB-15, GLB-16, GLB-19, and MW-23, AS-2 and TW-3.
- Benzene was the only contaminant above Method A cleanup levels reported in soil west of the Property, specifically in four borings, GLB-7, GLB-9, GLB-19, and MW-23.
- Ethylbenzene, toluene, and/or xylenes were reported above Method A cleanup levels in samples from borings GLB-14, GLB-15, AS-2, TW-3, and SVE-1.
- N-Hexane was detected but below Method B cleanup levels (non-cancer, direct contact) in 15 of the samples collected from borings GLB-7, GLB-10, GLB-12, GLB-14, GLB-15, GLB-16, and GLB-18 (Table 4-1).

Copyright 2020 G-Logics, Inc.

- DRO was not detected in any of the analyzed soil samples collected during the RI efforts. Two samples, specifically in GLB-9 and GLB-18, at depths of 10 and 14 feet respectively, contained ORO at concentrations below the MTCA Method A cleanup level (Table 4-1).
- A total of 69 soil samples were analyzed for naphthalene, 1-methylnaphthalene and 2-methylnaphthalene but only five (from borings GLB-7, GLB-14, and GLB-15) reported detectable concentrations and all were below MTCA cleanup levels (Tables 4-2 and 4-3).
- In addition to the samples analyzed for naphthalene, a total of 26 soil samples were analyzed for cPAHs by EPA Method 8270 (SIM, low-detection). The 26 analyzed samples were selected based on the detected concentration of GRO in the initial sample, as well as being collected from areas identified for this analysis in the Work Plan (*Table A-3, Section 2.3*). With the exception of one analyzed sample containing a detectable concentration of benzo(a)pyrene, none of the analyzed samples reported detectable concentrations of cPAHs. The sample from boring GLB-12, at a depth of 10 feet, reported a detectable concentration of benzo(a)pyrene at 71.5 µg/kg (Tables 4-2 and 4-3). This concentration is below the Method A Cleanup Level of 100 µg/kg for benzo(a)pyrene.
- MTBE, EDB, and EDC were not detected in analyzed soil samples at the Site. While concentrations were not detected, the laboratory-reporting limits for EDB and MTBE were above the MTCA Method A CULs in several samples.
- Lead was detected in the analyzed samples at concentrations ranging from approximately 1 to 14 mg/kg, below the Method A cleanup level (Table 4-1).
- Four soil samples were analyzed for VPHs (Table 4-4). Three of the four samples reported detectable concentrations of VPHs, however, due to the presence of benzene at concentrations above the MTCA Method A soil cleanup level, further calculations were not performed to develop Method B cleanup levels.
- No analytes were detected at concentrations above laboratory reporting limits in soil samples collected in the median strip on TIB west of the Property.

3.3.3 Groundwater Sampling Findings

G-Logics installed monitoring wells MW-22 through MW-30 to provide additional information regarding soil and groundwater impacts and groundwater elevations. Groundwater samples have also been collected from monitoring wells AS-1 and AS-2, which were installed in association with pilot test activities conducted at the Site in April

Copyright 2020 G-Logics, Inc.

2019. Per the RI Work Plan, the collected groundwater samples were analyzed for GRO, DRO, ORO, lead, BTEX, MTBE, EDB, EDC, hexane, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. The findings of the analyzed groundwater samples are summarized below and included in Tables 5-1 and 5-2.

- GRO and other petroleum-related contaminants were consistently detected above MTCA Method A cleanup levels in wells located near the western pump islands. These wells include IP-3, IP-4, IP-5, AS-1, and AS-2.
- GRO and other petroleum contaminants also consistently exceeded cleanup levels in several wells that were historically located in this area, but are now decommissioned (see Section 3.1.7). These wells include MW-10, MW-11, MW-14, and MW-15, EW-1, EW-2, EW-7, EW-8, and EW-9.
- LNAPL has historically been observed in several wells across the Site, as shown on Figures 6-1 through 6-3 and in Table 6. The extent of LNAPL at the Site has diminished over time.
- LNAPL has remained intermittently present in monitoring well IP-7 (an on-Property well). Observed LNAPL thickness has ranged from trace to 6.00 feet. LNAPL has not been observed at any other monitoring wells at the Site from 2016 through 2019.
- EDB was detected in groundwater samples collected in 2015, but was not detected in subsequent samples collected from 2016 through 2019. Analytical results for samples collected during March of 2018 showed elevated detection limits, which were above cleanup levels (Table 5-1).
- GRO and other petroleum-related contaminants were not detected above cleanup levels in wells located across TIB to the west (MW-18, MW-19, MW-20, MW-21), with the exception of MW-21, where benzene was detected at 2.61 µg/L.
- In December 2016, benzene and GRO were detected above cleanup levels in samples collected from well MW-23. Contaminants were not detected above laboratory reporting limits in subsequent samples collected from this well (Table 5-1 and Figures 7-1 and 7-2).
- In November 2018, GRO and benzene contaminants were not detected above cleanup levels in wells MW-23, MW-24, MW-25, and MW-29S, located within the TIB utility corridor (Figure 6-4). However, naphthalene was detected slightly above cleanup levels in samples collected from well MW-29S.
- GRO and benzene were not detected above cleanup levels in groundwater samples collected from MW-24, which is located in the median of TIB and screened in the Upper Saturated Zone.

Copyright 2020 G-Logics, Inc.

- For Lower Saturated Zone wells located in the median of TIB (MW-24D, and MW-30), GRO and/or benzene have been detected above cleanup levels (Figure 6-5).
- During the August 2018 quarterly sampling, GRO and ORO were detected in well MW-27D (located on the eastern side of the Property) at concentrations slightly above cleanup levels.

3.3.4 Tidal-Study Findings

The findings of G-Logics 2016 and 2018 tidal-influence studies indicated tidal fluctuations were minimal to non-existent in wells screened in the Upper Saturated Zone. Additionally, tidal fluctuations were minimal to non-existent in well MW-12 (decommissioned in 2016). MW-12 was screened across both saturated zones and was located the farthest from the Duwamish River (approximately 320 feet from the east shore of the river).

Tidal fluctuations were observed in all other wells that were either screened in the Lower Saturated Zone or in both Upper and Lower Saturated Zones. As anticipated, the greatest groundwater elevation fluctuations occurred in the wells closest to the Duwamish River, such as MW-19 and MW-21. Transducer locations and a summary of the tidal-study results are shown on Figures 8-1 and 8-2. Graph 1 shows groundwater-elevations at the Site compared to Duwamish River tidal stages during the weeks of October 12, 2016 and January 25, 2018.

Daily mean high-tide and low-tide groundwater elevations were calculated for each well (January 17, 2018 through January 23, 2018). These values were used to obtain a 7-day average of mean high tide and low tide groundwater elevations for the week that the study was performed. These average elevations and interpreted contours are presented on Figure 9-2.

As shown on Figure 9-2, at high tide the interpreted groundwater-flow direction on the Property is towards the Duwamish, while the interpreted direction west of the Property (within TIB) is away from the Duwamish. This temporary gradient reversal on the western half of the Site indicates that during periods of high tide, water levels are more tidally-influenced to the west, closer to the river, and less so to the east.

Based on the results of the tidal-influence studies, the following conclusions regarding mean-groundwater elevations, tidal fluctuations, hydraulic gradients, and tidal influence of the Duwamish River on the Property are presented below.

Copyright 2020 G-Logics, Inc.

- Mean groundwater elevations were calculated using the Serfes Method over a 72-hour period (Serfes, 1991). Mean groundwater elevations on the Property ranged from 6.61 to 7.84 feet. Mean groundwater-flow directions in shallow-zone wells were to the west and southwest (Figure 9-3).
- In monitoring wells screened within the Lower Saturated Zone, groundwater exhibited tidally-influenced elevation fluctuations ranging from 2.23 feet (low-low tide, MW-21) to 10.69 feet (high-high tide, MW-27). The magnitude of elevation changes was greatest near the shoreline and decreased with distance inland, as shown on Figures 8-1, 8-2, and 9-1 through 9-3.
- The lag time of water-level changes was shortest near the Duwamish and increased with distance inland. Water-level elevations closely follow tide stages. Average lag times ranged from 60 minutes (well MW-21) to 135 minutes (MW-27D).
- Mean vertical-hydraulic gradients were calculated for three well pairs: a mean downward gradient of 0.66 ft/ft in MW-27S/27D, 0.60 ft/ft in MW-28S/28D, and 0.64 ft/ft in IP-4/3.
- A net horizontal hydraulic gradient of 0.0054 ft/ft was calculated across the Site based on mean groundwater elevations. Lateral gradient flows generally to the southwest and west, in the direction of the Duwamish River. Interpreted horizontal-gradient directions are presented on Figures 9-1, 9-2, and 9-3.
- As shown on Figure 9-2, a horizontal-gradient reversal was observed beyond the western property boundary. As expected, during high tide, the horizontal gradient west of the Property boundary appears to be toward the Property. At low tide, this apparent gradient reverses, toward the Duwamish River.

3.3.5 Petroleum Vapor-Intrusion Assessment Findings

Given the presence of petroleum contamination at the Site and based on Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State*, dated October 2009, revised February 2016 (Ecology 2016b), G-Logics performed an initial vapor-intrusion assessment for the Site.

For this assessment, soil and groundwater analytical results from GLB-17, MW-27S, MW-27D, MW-28S, and MW-28D were compared to the lateral and vertical separation distances presented in Step 6 and Step 7 of the *Implementation Memorandum No. 14* guidance document (Ecology 2016c). Based on the analytical results, the nearest surrounding structures (the convenience store on the Property and a building on the adjoining southern property) are outside of the lateral-separation distance of 30 feet.

Copyright 2020 G-Logics, Inc.

Based on the guidance documents and the possibility for soil-vapor preferential pathways at the Site, G-Logics collected soil-gas samples from the two soil-gas probes installed at the Site in October 2016 (GLVP-1 and GLVP-2, shown on Figure 2-5). Collected soil-gas samples were analyzed for petroleum constituents, specifically APH fractionation, BTEX compounds and naphthalene. Soil-gas samples were compared to screening levels in accordance with Ecology guidance *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings, Implementation Memorandum No. 18* (Ecology 2018). The applicable screening levels were not exceeded in either of the two analyzed samples (see Table 8).

3.4 Contaminants of Concern

DRO, GRO, ORO, BTEX, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and MTBE were found to be present at the Site at concentrations exceeding MTCA cleanup levels, in either soil or groundwater. Accordingly, these compounds have been retained as possible contaminants of concern (COCs) for the Site.

Several contaminants have been shown to occur in close association with GRO and benzene, therefore remedial efforts directed toward a cleanup of GRO and benzene likely would result in the reduction of related contaminant concentrations. Based on the data presented in this report, GRO and benzene are considered the primary contaminants of concern (indicator chemicals) for the Site, as discussed in more detail below.

3.4.1 Contaminant Findings, GRO

In the Upper Saturated Zone, GRO is present in soil and groundwater at concentrations above Method A cleanup levels in the central and western portions of the Property. Based on historical analytical data and recent exploration findings, as described in this report, GRO in excess of cleanup levels does not extend significantly beyond the western boundary of the Property. Specifically, as shown on Figures 5-2, 5-3, 6-4, 7-1, and 7-2, GRO was not detected in the vadose and Upper Saturated Zones beyond the north-bound turning lane of TIB.

In the Lower Saturated Zone, GRO is present in soil and groundwater at concentrations above Method A cleanup levels in the central and western portions of the Property, as well as beneath TIB, as shown on Figures 5-4, 6-5, 7-3, and 7-4. GRO also has been detected in well MW-20 west of TIB (August and November 2018), but at concentrations below Method A cleanup levels.

Copyright 2020 G-Logics, Inc.

3.4.2 Contaminant Findings, Benzene

In vadose soils and Upper Saturated Zone soil and groundwater, benzene is present at concentrations that exceed Method A cleanup levels in the central and western portions of the Property, but does not appear to extend significantly beyond the western boundary of the Property (Figures 5-2, 5-3, 6-4, 7-1, and 7-2). In Lower Saturated Zone soils and groundwater, benzene has been detected at concentrations above Method A cleanup levels in the central and western portions of the property, as well as beneath TIB (Figures 5-4, 6-5, 7-3, and 7-4). Benzene was detected at a concentration of 2.6 µg/L in one groundwater sample collected from well MW-21 (November 2016). Benzene has not been detected in subsequent groundwater samples collected from this well. Additionally, benzene has not been detected in other wells west of TIB.

4.0 CONCEPTUAL SITE MODEL

This section summarizes our Conceptual Site Model (CSM) including the nature and extent of Site contaminants, media of concern, and potential exposure pathways based on historical data as well as data generated by the exploration efforts discussed above. This Conceptual Site Model will provide the basis for a review of cleanup-action alternatives and for the selection of appropriate cleanup actions. Visual representations of the CSM are presented on Figures 11-1 and 11-2.

4.1 Contaminant Release

As described above in Section 2.0, three historical releases of petroleum hydrocarbons have been identified on the Property. The first documented release was reported to Ecology in 1990, and was associated with historical service-station operations that occurred on the Property prior to 1984. For this release, historical environmental reports identified DRO and GRO in subsurface soil and groundwater samples.

The second documented release (unspecified petroleum product), reported in 1996, was associated with a UST discovered during the construction of the current station. The most recent release (GRO) was reported in 2003, after a fuel line leaked gasoline in the vicinity of the western pump island.

Historical reports documenting past releases, assessments, and cleanup efforts that occurred from 1990 to 2012 are presented in Appendix C. The findings of previous reports and the

Copyright 2020 G-Logics, Inc.

analytical data obtained during recent RI Site characterization activities indicate that the primary COCs for the Site are GRO and benzene (see Section 3.4).

4.2 Fate and Transport

As discussed in Section 2.4.3, two distinct groundwater-bearing zones are present at the Site. Both the Upper and Lower Saturated Zones appear to be impacted by petroleum contaminants. Recently (sampling in 2017, 2018, and 2019), only well IP-7 (screened in the Lower Saturated Zone) has been found to contain LNAPL. Prior to Fenton's Reagent treatment in 2006 (see Section 2.7), LNAPL was found in as many as five wells.

Site contaminants have been transported from the source area on the Property by leaching and groundwater flow and have been distributed primarily by dispersive (solution) and advective (movement) transport mechanisms within the saturated zones. These mechanisms are affected by factors such as tidal fluctuation (Lower Saturated Zone), soil-grain size, soil permeability, soil porosity, sorption/retardation characteristics of the soil, the volume of the release, and biodegradation of the contaminants.

Beyond the western boundary of the Property, Site contaminant concentrations appear to decrease significantly. Based on soil and groundwater samples collected from within TIB and within the utility corridor west of the Property boundary, it does not appear that contaminants are being transported in the backfill of the utility corridor. Specifically, several borings were advanced within or adjacent to the utility corridor (GLB-6, 7, 8, 9, 11, 18, 19, MW-23, and MW-25). Site contaminants were not detected in soil samples collected from these borings to depths of 15 feet. While shallow (less than 15 feet bgs) soil samples were not able to be collected from all boring locations within the utility corridor (e.g. MW-23), available soil samples and field screening data do not indicate that the utility corridor is a preferential pathway for contaminant migration.

Within the Lower Saturated Zone, Site contaminants were detected in soil samples collected at depths of 18 feet and deeper. These results indicate that contaminants within the Lower Saturated Zone also are not impacting the utility corridor, but instead have extended beneath it.

4.2.1 Soil-Gas Fate and Transport

For soil vapors located above the water table, the primary transport mechanisms are diffusion and advection (assuming subsurface-pressure differences). Possible receptors are discussed in Section 4.4.3 below.

Copyright 2020 G-Logics, Inc.

4.2.2 Summary: Nature and Extent of Contamination

Based on the existing sampling data, the extent of soil contamination at the Site is shown on Figure 5-1. The interpreted extent of groundwater contamination is shown on Figures 6-4, 6-5, and 7-1 through 7-4. Two cross-sections are provided as Figures 10-1 and 10-2, showing the interpreted vertical extent of contamination in both soil and groundwater at the Site. A schematic representation of the general conceptual Site model is shown on Figure 11-1.

Based on compiled data, petroleum impacts (resulting from fueling-system leaks) currently are greatest in the immediate vicinity of the western-dispenser islands, which is the reported location of the 2003 release. Contaminants remain present at concentrations exceeding MTCA Method A cleanup levels in soil and groundwater (both saturated zones). Residual contaminants are present, but at much lower concentrations, in the vadose soils at the Site. LNAPL also remains present in at least one of the monitoring wells, which is screened within the Lower Saturated Zone.

As shown on Figures 6-1 through 6-5, Site contaminants do not appear to be migrating laterally over time. These figures also indicate that the extent of LNAPL at the Site has substantially diminished over time.

GRO and benzene impacts to soil and groundwater have been found to extend off the Property into the right-of-way for TIB. However, based on soil and groundwater-sampling data from borings and monitoring wells completed in the right-of-way (wells MW-18 through MW-21, MW-24), these impacts do not appear to extend to the west, beyond TIB.

Samples collected from stormwater and catch-basin solids, as well as subsurface-soil and groundwater sampling within the backfill of the TIB municipal-utility corridor, indicate that Site contaminants are not migrating within the storm drains or within the utility corridor backfill.

4.3 Potential Receptors

Given the information presented in Sections 4.1 and 4.2, and the current land use at the Site, potential receptors of soil, groundwater, and soil-gas contaminants include construction and utility-maintenance workers. Based on the TEE (presented in Section 5.2), terrestrial biota also are considered to be potential receptors. Potential receptors to Site contaminants are shown on Figure 11-2.

Copyright 2020 G-Logics, Inc.

4.4 Potential Pathways of Exposure

Potential exposure pathways for the different Site media are described below.

4.4.1 Soil Pathway

Contaminated soils typically present a potential impact to human health and the environment through possible ingestion and direct contact, as well as diffusion into subsurface groundwater. If contaminated soils are exposed, inhalation of particulates may present a potential for exposure. In addition, contaminants volatilizing from contaminated soils may also present a potential for exposure through vapor intrusion. Contaminated soils at this Site are not currently present at the ground surface and are predominantly covered by paved surfaces or buildings. However, direct contact with these contaminated soils by workers could occur during future redevelopment excavations and/or utility maintenance activities.

Based on the results of a simplified Terrestrial Ecological Evaluation (TEE) that was performed, terrestrial plants, soil biota, and wildlife are considered as potential receptors to contaminants in soil at the Site. Further discussion of the TEE is presented in Section 5.2, and the TEE is included in Appendix L.

4.4.2 Groundwater Pathway

Based on the current (and probable) future use of the Site, ingestion and dermal contact with contaminated groundwater by on-site employees, customers, or visitors is not expected to occur; however, direct contact or ingestion of groundwater by workers could occur during future redevelopment excavations and/or utility maintenance activities.

Specifically, the Site and surrounding areas are served by municipal water. According to the Washington Department of Natural Resources and Ecology well-log databases, drinking-water supply wells are not located within the Site or in downgradient locations (Appendix H).

Groundwater beneath the Site is hydrogeologically connected to the Duwamish River, which is located down-gradient from the Site (approximately 275 feet west of the western boundary of the Property). While groundwater is ultimately in communication with the Duwamish, recent explorations indicate Site contaminants (soil and groundwater) are not present at concentrations above detection levels beyond the median of TIB.

Copyright 2020 G-Logics, Inc.

Based on stormwater and catch-basin solids samples, as well as subsurface-soil and groundwater samples collected within the backfill of utilities along TIB (wells MW-23, 24, 25, and 29S), Site contaminants are not migrating within or along the Tukwila municipal utility corridor.

4.4.3 Soil-Vapor Pathway

Soil-vapor contaminants present a potential risk to human health through possible inhalation. Potential pathways for soil-vapor exposure are discussed below.

4.4.3.1 Vapor Intrusion, On-Property Structures

A potential exposure pathway exists for volatile contaminants to migrate into indoor air via vapor intrusion. However, the nearest occupied structures are outside of the lateral and/or vertical separation distances from the boundary of Site contamination, as presented in Ecology's *Implementation Memorandum No. 14*, dated March 31, 2016 (Ecology 2016).

Subsurface utilities are present at the Property. While the backfill for subsurface utilities can present a preferential pathway for soil vapor to enter occupied buildings, the entire property is underlain by various generations of backfilled material. Therefore, backfill used in utility installations likely would not introduce a preferential pathway for soil-gas migration.

Furthermore, soil-sampling data indicate that GRO and petroleum-related VOC concentrations are generally below Method A cleanup levels in vadose soils (shallower than 9 feet below the ground surface, Figure 5-2) throughout most of the Site. Soil gas samples indicate a limited amount of petroleum-related contaminants in soil-gas at the Site. Finally, given the Site's current use as an active gas station, petroleum vapors likely are already present in the Property structures. Accordingly, the exposure pathway for vapor intrusion into on-Property buildings is not considered to be complete.

4.4.3.2 Vapor Intrusion, Off-Property Structures

Petroleum contaminants were detected at concentrations less than MTCA Method B sub-slab screening levels in soil-gas samples collected near the southern property boundary. Accordingly, the soil-vapor pathway to buildings located on the south-adjacent property is not considered to be complete.

Copyright 2020 G-Logics, Inc.

4.4.3.3 Vapor Intrusion, Site Construction Activities

Inhalation exposure to particulates and/or vapors could occur for construction workers performing invasive work at the Site or utility repair or maintenance activities. Although the use of ventilation and protective equipment (respirators and protective garments) would mitigate potential exposures, the exposure pathway is considered to be complete.

4.4.4 Surface-Water Pathway

Surface-water runoff at the Site is collected by catch basins, conveyed to the City of Tukwila's municipal stormwater system, and ultimately discharged to the Duwamish River (outfall location is unknown). The surrounding area is mostly paved (other than the on-property drainage swale and landscaped median in TIB) or covered by buildings. As such, impacted soil and groundwater do not come in direct contact with surface water runoff. Groundwater samples from downgradient monitoring wells and wells located within the utility corridor indicate that the high-permeability soils located within the utility corridor backfill are not acting as a preferential pathway for Site contaminants to impact surface water. Therefore, at this time, impacts to surface water are not considered to be a complete exposure pathway.

5.0 PROPOSED CLEANUP STANDARDS

MTCA "establishes administrative processes and standards to identify, investigate, and cleanup facilities where hazardous substances have come to be located" (WAC 173-340-100). Soil and groundwater cleanup levels promulgated under MTCA when combined with the applicable point of compliance are the standards that determine when additional investigation or cleanup is necessary. Additional information regarding cleanup levels and points of compliance are discussed below.

5.1 Primary Contaminants of Concern

As described in Section 3.4 above, GRO and benzene have been identified as the indicator chemicals for cleanup. Further review of these contaminants is discussed in the following Sections.

5.2 Terrestrial Ecological Evaluation

Under certain circumstances, a TEE is required to establish soil cleanup levels that are protective of the environment. The regulation establishes a tiered process for evaluating potential risks to terrestrial ecological receptors. This process is set forth in MTCA in WAC

Copyright 2020 G-Logics, Inc.

173-340-7490 through 173-340-7494. WAC 173-340-7491 identifies conditions that cause a Site to be excluded from the TEE requirements.

5.2.1 Conditions Requiring a TEE

Site conditions that are required for a TEE exemption are:

- Contamination is below 15 feet without institutional controls, or below 6 feet with institutional controls.
- Contamination is (or will be) covered by buildings or pavement (future development or paving shall include a completion date acceptable to Ecology for such action).
- Concentrations are below natural background.
- Insufficient contiguous undeveloped land (for petroleum contamination, less than 1.5 acres existing on the Property, or within 500 feet of the Property).

If a Site is not exempt, a TEE (either Site-specific or Simplified) must be performed. A Site-specific TEE must be performed under the following conditions:

- The contamination is located on or directly adjacent to an area where management or land use plans maintain native or semi-native vegetation.
- The area of contamination is used by threatened or endangered species.
- The Property contains 10 acres of native vegetation within 500 feet of contamination.

If none of the conditions requiring a Site-specific TEE apply, a Simplified TEE can be conducted. The Simplified TEE process is intended to identify those Sites which do not have a substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors, and thus may be removed from further ecological consideration during cleanup. No further TEE is required at a Site where conditions include any of the following:

- Land use at the Site and surrounding area makes substantial wildlife exposure unlikely (Table 749-1 in WAC 173-340 is used to make this evaluation).
- If the contaminant concentrations are below those given in Table 749-2 (WAC 173-340) within the point of compliance (15 feet with no institutional controls, 6 feet with institutional controls).
- Area of soil contamination is less than 350 square feet.

Copyright 2020 G-Logics, Inc.

5.2.2 Conclusion Regarding Applicability of a TEE

Based on the above criteria, the Site cannot be considered exempt from TEE requirements. G-Logics therefore conducted a Simplified TEE for the Site (Appendix L.), and concluded that ecological receptors should be considered at this Site regarding the establishment of soil cleanup levels.

5.3 Cleanup Levels

Proposed cleanup levels for the Site COCs are listed below.

5.3.1 Proposed Soil Cleanup Levels

Based on the completed Simplified TEE, soil cleanup levels are either those listed in Table 749-2 (WAC 173-340) or the Method A cleanup levels, whichever is most conservative. These cleanup levels address all the potential soil exposure pathways (i.e., direct contact, protection of groundwater, and vapor intrusion). If a soil contaminant does not have a published concentration in Table 749-2, then the Method A or the most conservative Method B cleanup level (CUL) will be used.

Soil CULs (mg/kg)

Analyte	Method A Unrestricted Land Use	Table 749-2 Unrestricted Land Use(a)	Most Conservative Method B	Proposed Cleanup Level
TPH-G	30	200	--	30
TPH-D	2,000	460	--	460
Benzene	0.03	--	18	0.03
Toluene	7	--	6,400	7
Ethylbenzene	6	--	8,000	6
Xylenes	9	--	16,000	9
cPAH (b)	0.1	300	--	0.1
Naphthalene	5	--	1,600	5
1-Methylnaphthalene	--	--	34	34
2-Methylnaphthalene	--	--	320	320

(a) Soil CUL for unrestricted land use as per Table 749-2 WAC 173-340.

(b) Method A CUL for benzo(a)pyrene.

5.3.2 Proposed Groundwater Cleanup Levels

Because of the Site's proximity to the Duwamish River and its inclusion in the Upper Reach Source Control Area (Ecology, 2017), groundwater-contaminant cleanup levels at

Copyright 2020 G-Logics, Inc.

the Site are required by Ecology to be based on protection of surface-water, as summarized below. Method A cleanup levels for the protection of drinking water also are listed below.

Groundwater CULs (µg/L)

Analyte	Protection of Drinking Water	Protection of Surface Water	Proposed Cleanup Level
TPH-G	800	800 (a)	800
TPH-D	500	500 (a)	500
Benzene	5	1.6	1.6
Toluene	640	130	130
Ethylbenzene	700	31	31
Xylenes	1,600	--	--
cPAH TEQ	0.2	0.000016	0.000016
Naphthalene	160	1.4	1.4
1-Methylnaphthalene	1.5	--	1.5
2-Methylnaphthalene	32	--	32

(a) Method A groundwater CULs used as surface water CULs per WAC 173-340-730(3)(b)(iii)(C).

If, during the course of Site cleanup, these cleanup levels become impracticable to achieve (e.g., cost versus benefit considerations), land use restrictions and/or alternative cleanup levels may be considered (such as remediation levels).

5.3.3 Proposed Soil-Gas Screening Levels

Proposed soil-gas screening levels are based on Ecology guidance *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings, Implementation Memorandum No. 18* (Ecology 2018). Per the guidance and per Ecology's Cleanup Levels and Risk Calculation (CLARC) tables (as of June 2020), soil-gas screening levels for air-phase hydrocarbon petroleum fractions have been replaced with a generic Method B total petroleum hydrocarbon (TPH) screening level. Proposed screening levels are listed below.

Air Cleanup/Screening Levels (µg/m^3)

Analyte	Indoor Air	Sub-Slab Soil Gas
TPH	140	4,700
Naphthalene	0.0735	2.5
Benzene	0.321	11
Toluene	2,290	76,000
Ethylbenzene	457	15,000
Xylenes	45.7	1,500

Copyright 2020 G-Logics, Inc.

5.4 Remediation Levels

When it is not practicable (cost-effective) to restore a Site to the cleanup standards, MTCA allows use of "remediation levels" (WAC 173-340-355). Remediation levels are concentrations that help to guide the selection of different cleanup actions and, by definition, exceed cleanup-level concentrations. Remediation levels will be discussed in the forthcoming FS.

5.5 Points of Compliance

Points of compliance are the locations at a Site where cleanup levels must be met (173-340-700). MTCA establishes standard points of compliance but site-specific points of compliance can be established for a particular media and remedy. For example, if the cleanup action involves containment of hazardous substances, the soil cleanup levels will typically not be met at the standard points of compliance but the cleanup action will include additional measures (e.g., institutional controls) to protect human health and the environment (173-340-740(6)(f)).

5.5.1 Points of Compliance, Soil

For protection of groundwater, the standard soil point of compliance is all soils throughout the Site.

5.5.2 Points of Compliance, Groundwater

The standard groundwater point of compliance is the uppermost level of the saturated zone extending vertically to the lowest depth where Site contaminants exceed cleanup levels (throughout the plume of contaminated groundwater).

5.5.3 Points of Compliance, Soil Gas

As stated above, the building on the Property is a convenience store for an active gas station. Because of this, petroleum and petroleum-related VOC concentrations in indoor-air inside the building are likely to be elevated due to normal business operations at the Property. Indoor air samples collected inside the building likely would be biased high due to the contribution of ambient-air sources (active fueling operations). As such, G-Logics recommends that sub-slab soil gas beneath the store building be the point of compliance for the Site and sub-slab screening levels be used to compare analytical results.

Copyright 2020 G-Logics, Inc.

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Based on the completed RI work at the Site, G-Logics has concluded that petroleum impacts remain present in vadose-zone soil, and in soil and groundwater in both saturated zones at concentrations exceeding MTCA Method A cleanup levels. LNAPL also remains present in at least one of the monitoring wells screened within the Lower Saturated Zone (IP-7). Additionally, LNAPL also may be present in the Upper Saturated Zone, given the high GRO concentrations detected in well IP-4. Contaminant impacts are greatest in the immediate vicinity of the western-dispenser islands, which is the confirmed location of the 2003 release.

Site contaminants appear to be limited in vertical and lateral extent and significant off-property migration does not appear to be occurring. Specifically, GRO and benzene impacts to soil and groundwater extend into the TIB right-of-way. However, based on soil and groundwater sampling data from borings and monitoring wells MW-18 through MW-21, these impacts do not appear to extend to the west, beyond TIB. Contaminant attenuation appears to be occurring over this lateral distance. The identified concentrations are not indicative of source migration or other mass movement. Furthermore, Site contaminants are not migrating within or along the Tukwila municipal utility corridor, as indicated by stormwater, catch-basin solids, subsurface-soil, and groundwater sampling within the backfill of utilities along TIB (wells MW-23, 24, 25, and 29S).

Contaminant impacts are lowest in the vadose soils (depths ranging from 0-9 feet) throughout the Site. This is likely due to previous remedial excavations (2004, undocumented) in the area of the 2003 release. Based on comparison of the contaminant concentrations detected in vadose-zone soil and soil-gas samples with applicable screening levels, vapor-intrusion is not considered to be a risk for nearby occupied structures.

This Site presents geological and land-use complications that may limit the selection of a single cleanup action alternative. Accordingly, several complementary technologies should be considered in the Feasibility Study (FS). Based on the evaluation of the current data set for this Site, the nature and extent of hazardous substances at the Site has been sufficiently characterized to initiate the FS process.

7.0 LIMITATIONS

The performed scope of services was intended to provide an assessment of contamination in soil, groundwater, and soil vapor at the Boeing Field Chevron Site. However, this effort

Copyright 2020 G-Logics, Inc.

may not identify all potential concerns or to eliminate all risk associated with the Site. The scope of work on this project was presented in the identified work plans and limited to those items specifically identified. Other activities not specifically included in the presented scope of work (in work plans, correspondence, or this report) are excluded and are therefore not part of our services.

This report is prepared for the sole use of the report addressees, as well as the Washington Department of Ecology. The scope of services performed may not be appropriate for the needs of other users. Re-use of this document or the findings, conclusions, or recommendations presented herein, are at the sole risk of said user(s). Any party other than our client who would like to use this report shall notify G-Logics of such intended use by executing the "Permission and Conditions for Use and Copying" contained in this document. Based on the intended use of the report, G-Logics may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements will release G-Logics from any liability resulting from the use of this report by any unauthorized party.

Land use, site conditions (both on-site and off-site), and other factors will change over time. Since site activities and regulations beyond our control could change after the completion of this report, our observations, findings, and opinions can be considered valid only as of the date of this report.

No warranty, express or implied, is made.

Copyright 2020 G-Logics, Inc.

8.0 REFERENCES

(City of Tukwila, 2015), *Comprehensive Plan and Zoning Map*, prepared by the City of Tukwila, publication 16-09-006, dated December, 2015

(Ecology, 2015), *Agreed Order No. DE 10947*, prepared by the Washington Department of Ecology, effective date July 13, 2015

(Ecology, 2016a), *Remedial Investigation Checklist*, prepared by the Washington Department of Ecology, publication 16-09-006, dated May, 2016

(Ecology, 2016b), *Guidance for Evaluating Soil Vapor Intrusion in Washington State*, prepared by the Washington Department of Ecology, dated October 2009, revised February 2016

(Ecology, 2016c), *Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusions, Implementation Memorandum No. 14*, prepared by the Washington Department of Ecology, publication 16-09-046, dated March, 2016.

(Ecology, 2017), *Lower Duwamish Cleanup Sites Update*, prepared by the Washington Department of Ecology, publication 17-09-260, dated January, 2017.

(Ecology, 2018), *Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings, Implementation Memorandum No. 18*, prepared by the Washington Department of Ecology, publication 17-09-043, dated January 10, 2018.

(ERI, 2004a) Environmental Resolutions 2004, *Soil Probe Investigation*, report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated March 12, 2004

(ERI, 2004b) Environmental Resolutions 2004, *Groundwater Monitoring Well Installation*, report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated October 19, 2004

(ERI, 2004c) Environmental Resolutions 2004, *Historical Site Summary, New Release Evaluation, and Lifecycle Cost Estimate*, report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated December 6, 2004

(ERI, 2005a) Environmental Resolutions 2005, *Soil Probe Investigation*, report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated April 11, 2005

(ERI, 2005b) Environmental Resolutions 2005, *Groundwater Monitoring Report*, report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated December 8, 2005

(ERI, 2005c) Environmental Resolutions 2005, *Groundwater Monitoring Well Installation*¸ report prepared by Environmental Resolutions, Inc. for Boeing Field Chevron, report dated December 28, 2005

(Geotech, 1990) Geotech Consultants, Inc. 1990, *Preliminary Environmental Study*, report prepared by Geotech Consultants, Inc. for Chevron U.S.A. Inc., report dated February 21, 1990

Copyright 2020 G-Logics, Inc.

(G-Logics, 2006a), *Status Report for Fenton's Reagent Injection*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated May 18, 2006

(G-Logics, 2006b), *July 2006 Status Report, Fenton's Reagent Injection,* report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated July 24, 2006

(G-Logics, 2006c), *November 2006 Status Report, Fenton's Reagent Injection,* report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated November 30, 2006

(G-Logics, 2008), *Subsurface Site Characterization*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated May 19, 2008

(G-Logics, 2009a), *Status Memo for Free-Product Recovery*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated January 29, 2009

(G-Logics, 2009b), *Status Memo for Free-Product Recovery, February through July, 2009*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated September 15, 2009

(G-Logics, 2010a), *January 2010 Free-Product Recovery Update*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated January 29, 2010

(G-Logics, 2010b), *May 2010 Free-Product Recovery Update (Draft)*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated June 28, 2010

(G-Logics, 2011a), *March 2011 Free-Product Recovery Update*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated March 30, 2011

(G-Logics, 2011b), *September 2011 Free-Product Recovery Update*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated September 27, 2011

(G-Logics, 2012), *April 2012 Free-Product Recovery Update*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated April 2, 2012

(G-Logics, 2016a), *Findings of the Initial Exploration Effort and Proposed Additional Explorations*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated November 9, 2016

(G-Logics, 2016b), *Well Closure Recommendations*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated November 21, 2016

(G-Logics, 2019), *Feasibility Study Pilot Test Report, Air Sparge/Soil Vapor Extraction*, report prepared by G-Logics, Inc. for Boeing Field Chevron, report dated August 14, 2019.

(GRI, 2003) Gettler-Ryan 2003, *Groundwater Monitoring and Sampling Report*, report prepared by Gettler-Ryan, Inc. for Chevron Products Company, report dated December 16, 2003

Copyright 2020 G-Logics, Inc.

(HC, 1990) Hart Crowser 1990, *Summary of Work to Date*, report prepared by Hart Crowser, Inc. for Chevron U.S.A., Inc., report dated December 27, 1990

(HC, 1992) Hart Crowser 1992, *Soil Sampling and Analysis Results, Underground Storage Tank (UST) Removal and Closure*, report prepared by Hart Crowser, Inc. for Chevron U.S.A., Inc., report dated November 30, 1992

(HC, 1993a) Hart Crowser 1993, *Site Assessment and Remediation Report – Soils*, report prepared by Hart Crowser, Inc. for Chevron U.S.A., Inc., report dated March 2, 1993

(HC, 1993b) Hart Crowser 1993, *Addendum to Tank Closure Report (November 30, 1992)*, report prepared by Hart Crowser, Inc. for Chevron U.S.A., Inc., report dated March 2, 1993

(HC, 1993c) Hart Crowser 1993, *Site Assessment and Remediation Report – Groundwater*, report prepared by Hart Crowser, Inc. for Chevron U.S.A., Inc., report dated April 7, 1993

(HC, 1994) Hart Crowser 1994, *Independent Remedial Action Report Summary*, report prepared by Hart Crowser Inc. for Chevron U.S.A., Inc., report dated November 29. 1994

(PEG, 1996) Pacific Environmental Group 1996, *Groundwater Monitoring and Sampling Activities*, report prepared by Pacific Environmental Group, Inc. for Chevron U.S.A., Inc., report dated April 24, 1996

(PEG, 1997a) Pacific Environmental Group 1997, *Environmental Investigation – Undocumented Storage Tank*, report prepared by Pacific Environmental Group, Inc. for Chevron U.S.A., Inc., report dated March 4, 1997

(PEG, 1997b) Pacific Environmental Group 1997, *Environmental Assessment*, report prepared by Pacific Environmental Group, Inc. for Chevron U.S.A., Inc., report dated December 4, 1997

(RZA, 1990a) Rittenhouse-Zeman & Associates 1990, *Summary of Remedial Activities*, report prepared by Rittenhouse-Zeman & Associates, Inc. for Chevron U.S.A. Inc., report dated May 23, 1990

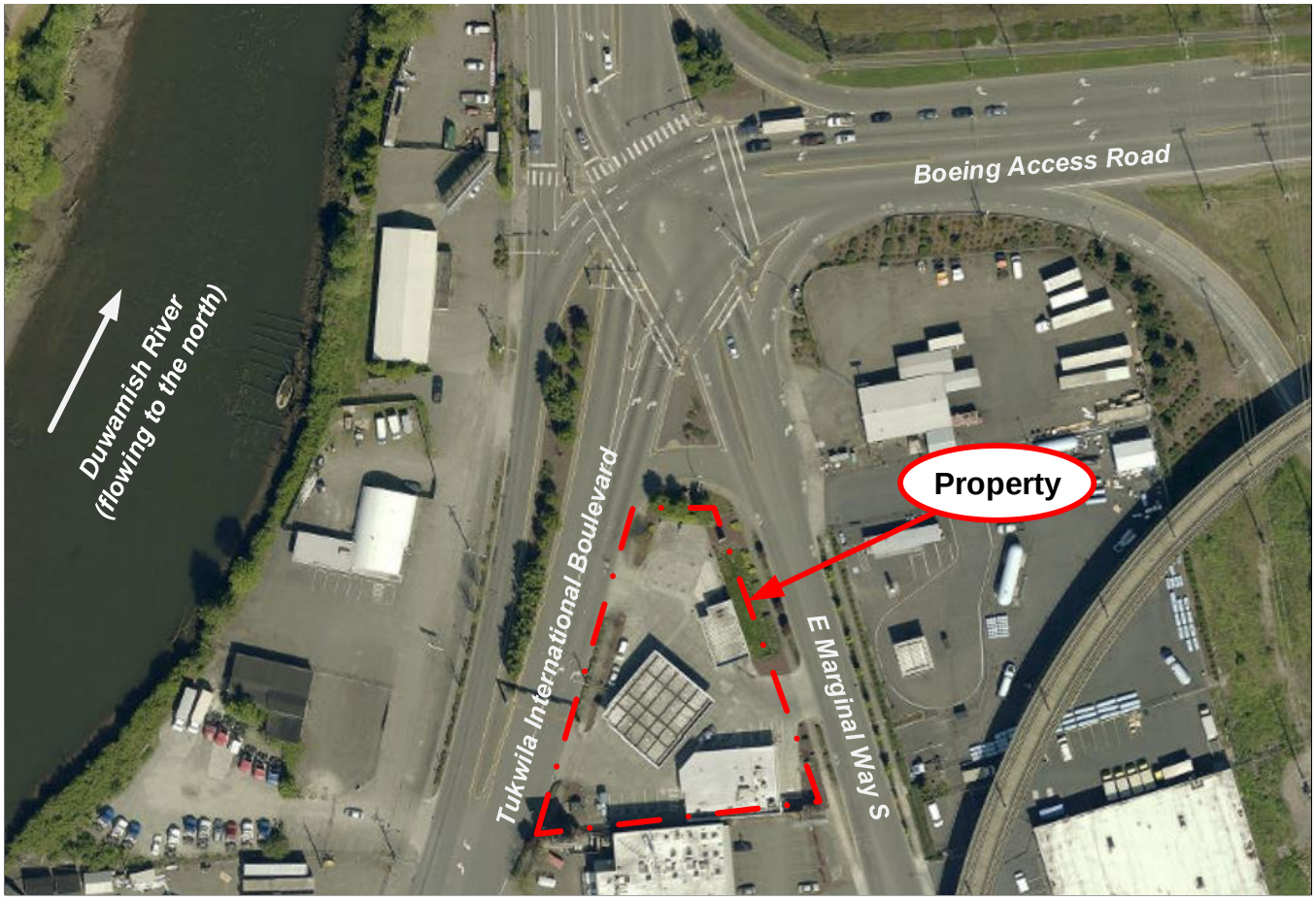
(RZA, 1990b) Rittenhouse-Zeman & Associates 1990, *Subsurface Environmental Site Characterization and Remediation*, report prepared by Rittenhouse-Zeman & Associates, Inc. for Chevron U.S.A. Inc., report dated August 31, 1990

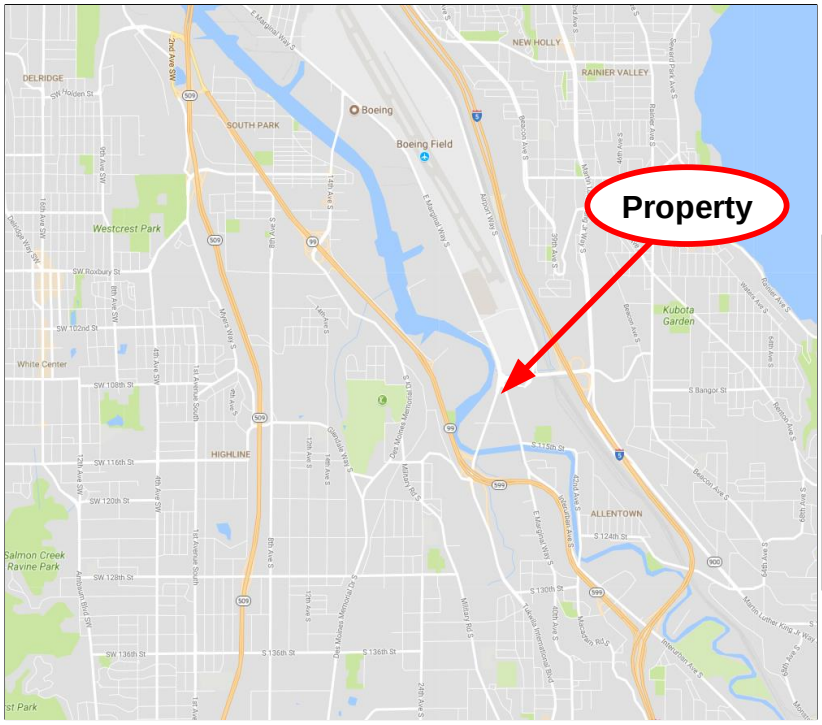
(Serfes, 1991), *Determining the Mean Hydraulic Gradient of Ground Water Affected by Tidal Fluctuations.* GROUND WATER, Vol. 29, No. 4, July-August 1991.

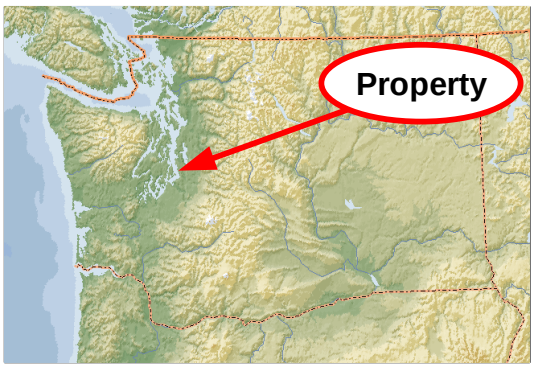
(Terracon, 2016), *Remedial Investigation Work Plan*, prepared by Terracon Consultants, Inc. for Boeing Field Chevron, Ecology-approved work plan dated May 24, 2016

Copyright 2020 G-Logics, Inc.

FIGURES







N

Project File: 01-0410-M F1-1.vsdx

g-logics

Site Location Maps

Boeing Field Chevron

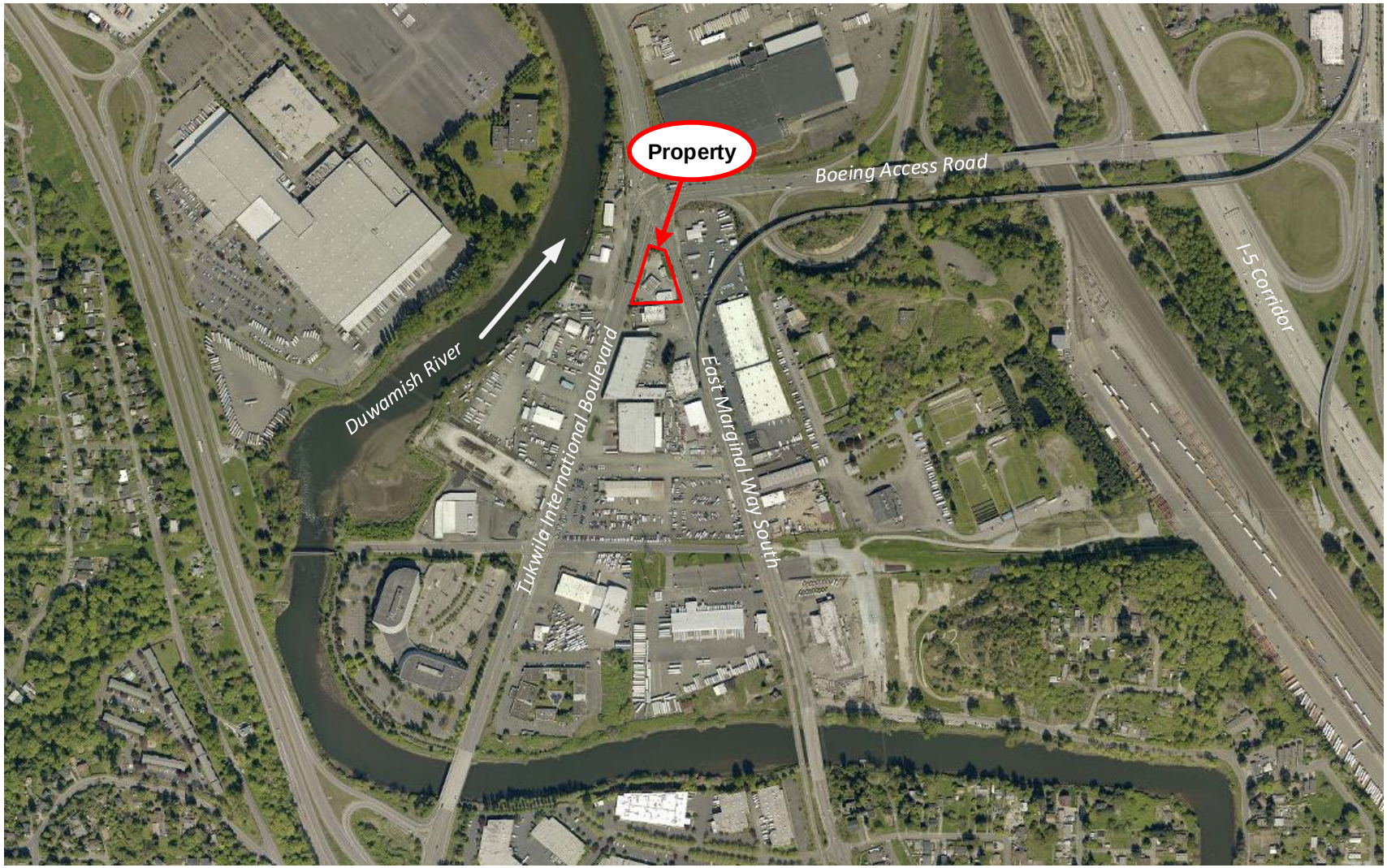
10805 East Marginal Way South

Tukwila, Washington

Figure

1-1

Mapping Reference: Delorme, King County iMap, and Google Maps



Project File: 01-0410-M F1-2.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Site Aerial Photo Map
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure
1-2

Mapping Reference: King County iMap 2015

Project File: 01-0410-M F1-3.vsdx

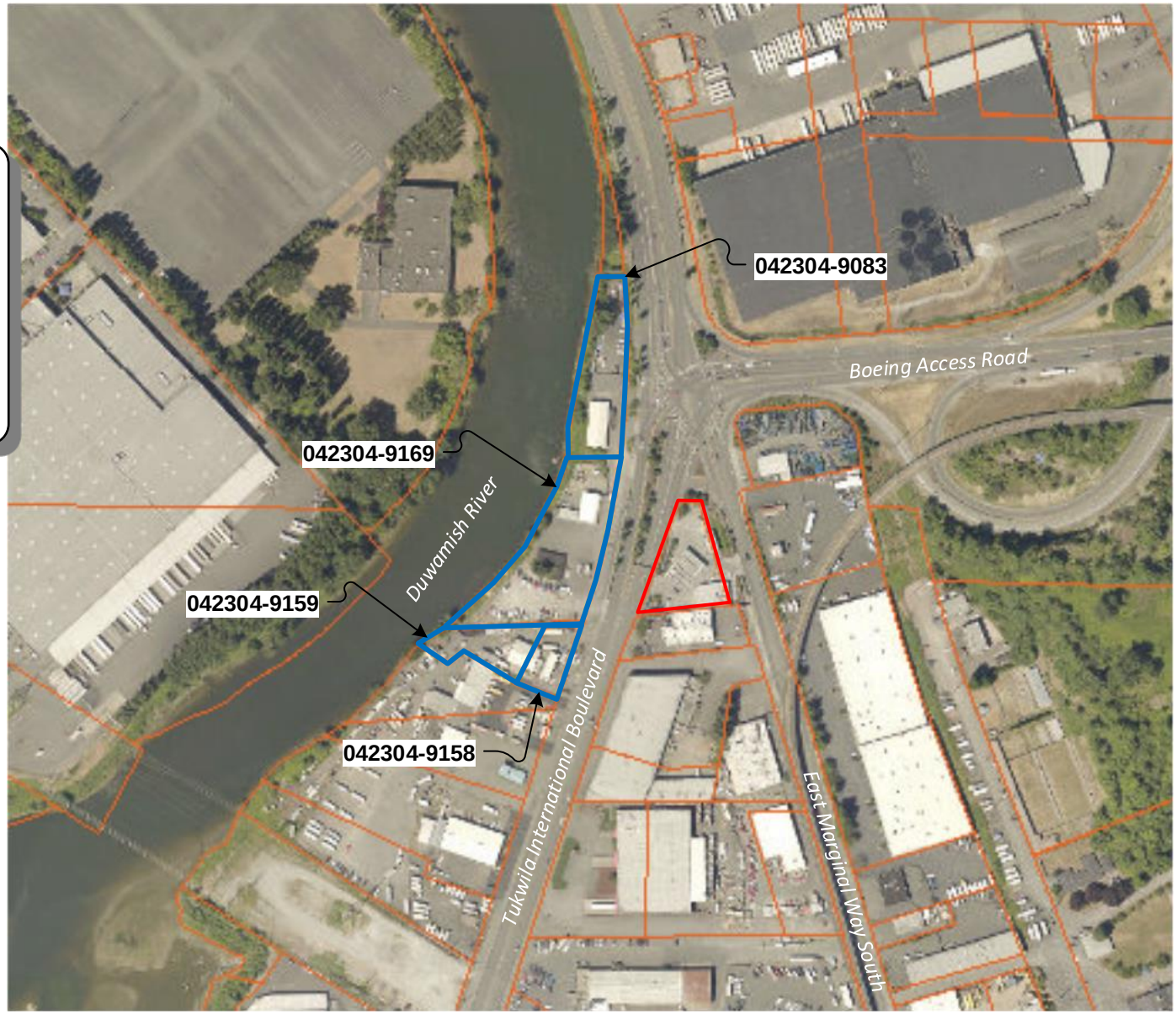
g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Site Aerial Photo, Oblique View
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure
1-3

Mapping Reference: Google Maps



Project File: 01-0410-M F1-4 Neighboring Properties.vsdx

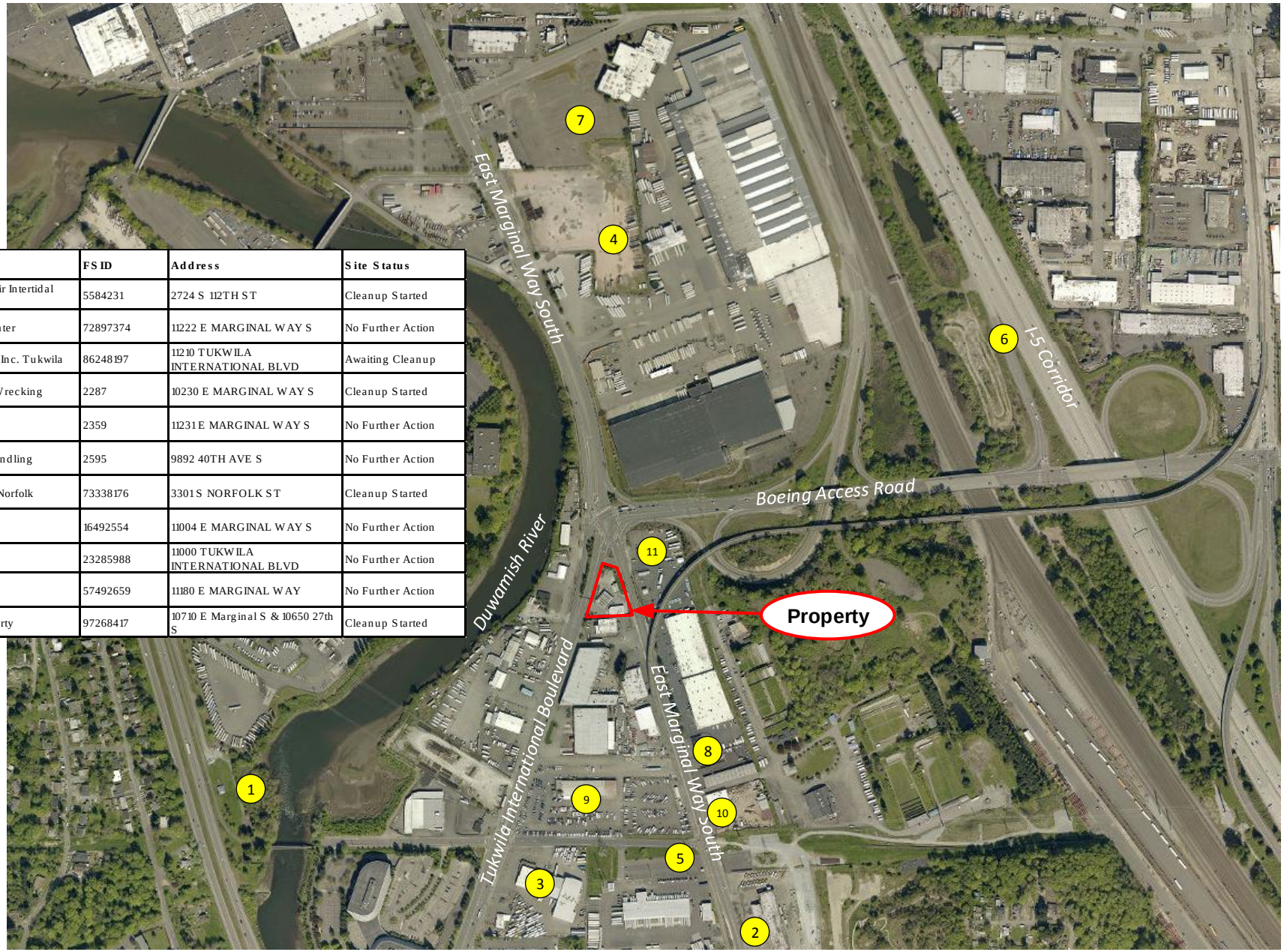
g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Downgradient Neighboring Properties
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure
1-4

Mapping Reference: King County iMap 2015, Department of Ecology "What's In My Neighborhood" 2016 Database



	Site Name	FS ID	Address	Site Status
1	North Winds Weir Intertidal Restoration	5584231	2724 S 112TH ST	Cleanup Started
2	Husky Truck Center	72897374	11222 E MARGINAL WAY S	No Further Action
3	Triad Machinery Inc. Tukwila	86248197	11210 TUKWILA INTERNATIONAL BLVD	Awaiting Cleanup
4	Northwest Auto Wrecking	2287	10230 E MARGINAL WAY S	Cleanup Started
5	UPS Freight	2359	11231 E MARGINAL WAY S	No Further Action
6	Pape Material Handling	2595	9892 40TH AVE S	No Further Action
7	Unified Grocers Norfolk	73338176	3301 S NORFOLK ST	Cleanup Started
8	Pony Express	16492554	11004 E MARGINAL WAY S	No Further Action
9	Horizon Ford	23285988	11000 TUKWILA INTERNATIONAL BLVD	No Further Action
10	Farwest Taxi	57492659	11180 E MARGINAL WAY	No Further Action
11	McConkey Property	97268417	10710 E Marginal S & 10650 27th S	Cleanup Started

Project File: 01-0410-M F1-5 Area Cleanups.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Surrounding Area Cleanup Properties
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 1-5

Mapping Reference: King County iMap 2015, Department of Ecology "What's In My Neighborhood" 2016 Database

Legend

- Structures observed in 1940 aerial photo
- Structures observed in 1953 aerial photo
- Understood Location of 1963 to 1986 Station
- Understood Area of Former "Waste Oil" and/or Heating Oil USTs
- Understood Area of Former Fuel USTs
- Approximate RZA Excavation Areas (1990)
- Approximate Hart Crowser Excavation Areas (1990 and 1992)
- Property Boundary

East Marginal Way South

Understood to be a Service Station (A)
Likely removed prior to construction of
Expanded Roadways

Understood Location of 1953 Station
and Pump Islands (B, C, & D)

Pump Island (C & D)

Understood to be the Pump Island (A)
Likely removed prior to construction of
Expanded Roadways

Understood to be the apartment building (A)
Likely removed prior to construction of
Boeing Access Road

USTs Removed 1990 (D)
(The source of the historical UST locations
shown have not been verified)

Pump Island (C & D)

UST Removed 1992 (E)

Structure from 1953 aerial,
understood to be an
apartment (A & B)

UST Removed 1996 (F)

UST Removed
1992 (E)

Former
Service
Station
Building (C)

Pump Island (C & D)

Structure from 1953 aerial,
understood to be an apartment (A & B)

Current Road Feature (typical)

Tukwila International Boulevard

Reference Sources:

A = 1940 Aerial Photo, 1941 and 1942 Tax Records (Standard Oil).
B = 1953 Aerial Photo, 1955 and 1942 Tax Records (Standard Oil).
C = 1963 Tax Records and 1969 Aerial Photo (Standard Oil).
D = RZA 1990a and 1990b
E = HartCrowser 1992
F = Pacific Environmental Group 1997

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Former Site Features & Historical Excavation Areas
Boeing Field Chevron
10805 East Marginal Way South
Seattle, Washington

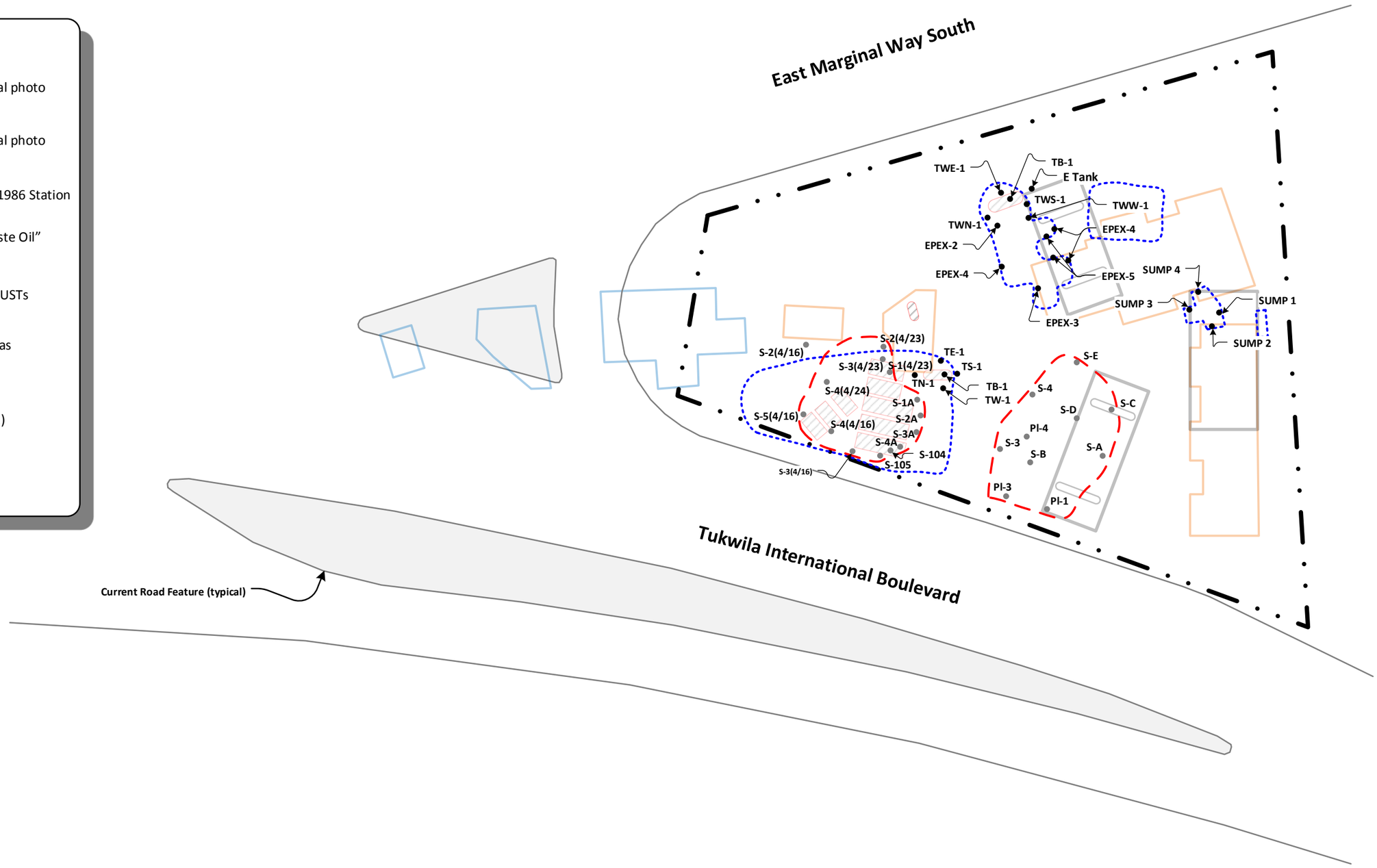
Figure
2-1

Project File: 01-0410-M F2-1 Former Features & Excavations.vsdx

Mapping References: Historical Aerial Photos (see listed sources), RZA 1990, Hart Crowser 1993, PLS Survey 2016.

Legend

- Structures observed in 1940 aerial photo
- Structures observed in 1953 aerial photo
- Understood Location of 1963 to 1986 Station
- Understood Area of Former "Waste Oil" and/or Heating Oil USTs
- Understood Area of Former Fuel USTs
- S-3 — Approximate RZA Excavation Areas and Confirmation Sample (1990)
- TWS-1 — Approximate Hart Crowser Excavation Areas (1990 and 1992)
- Property Boundary



Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Historical Remedial Excavation Sample Locations
Boeing Field Chevron
10805 East Marginal Way South
Seattle, Washington

Figure 2-2

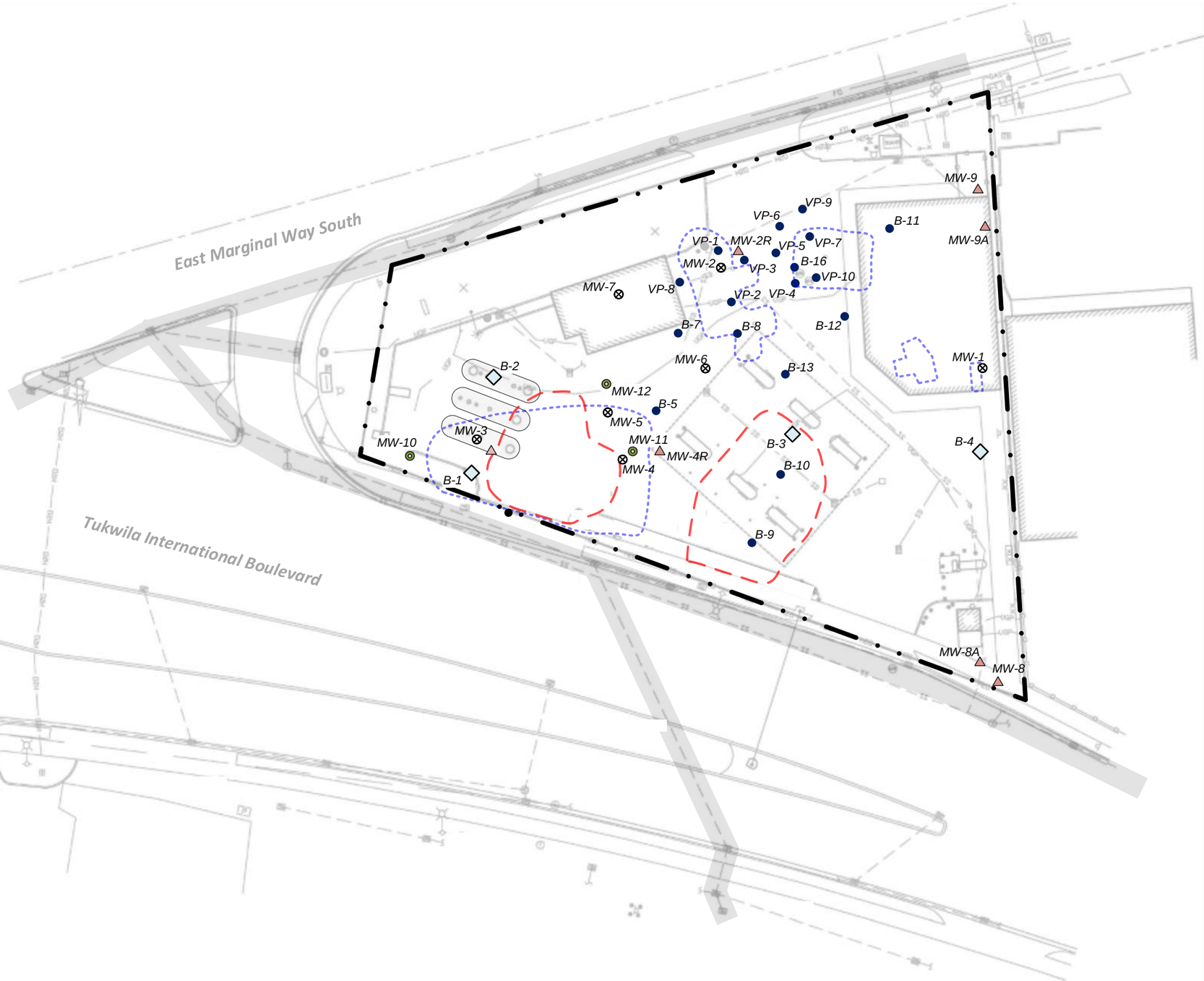
Project File: 01-0410-M 2-2 Excavation Samples.vsdx

Mapping References: Historical Aerial Photos (see Report Photos), RZA 1990, Hart Crowser 1993, PLS Survey 2016, G-Logics site measurements.

Legend

- B-1 — Soil Boring (Geotech, 1990)
- VP-2/B-7 — Soil Boring/ Vapor Probe (RZA, 1990b)
- MW-7 — Monitoring Well (RZA, 1990b)
- MW-4R — Monitoring Well (HCI, 1993)
- MW-10 — Monitoring Well (PEG, 1997)
- Current UST Location (Approximate)
- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Approximate Hart Crowser Excavation Areas (1990 and 1992)
- Approximate RZA Excavation Areas (1990)

Note: Background Image (grayed areas) indicates current station and site features



Project File: 01-0410-M F2-3 Exploration Locations, 1990-2003.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

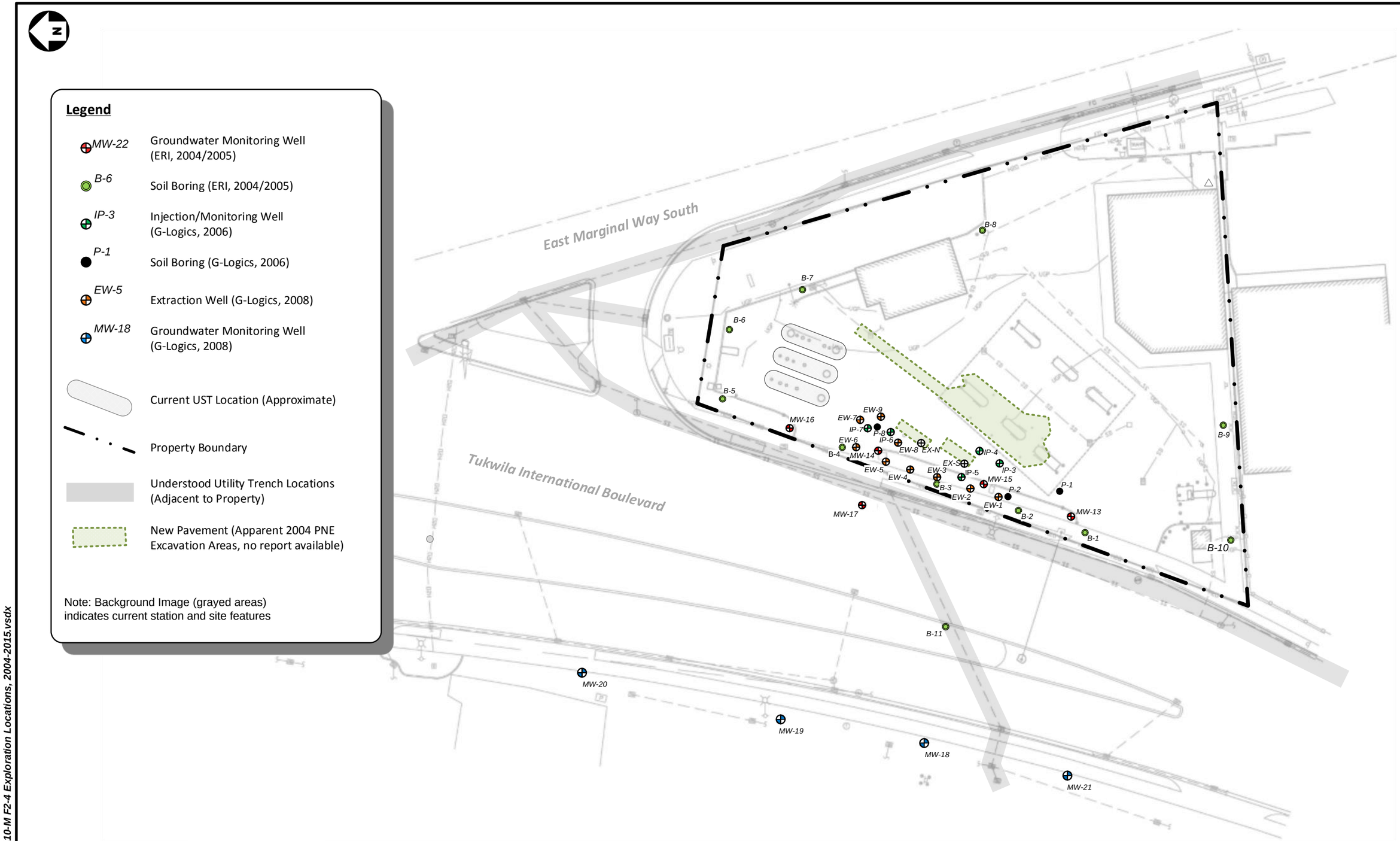
Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site Exploration Locations, 1990-2003
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 2-3

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements.



Legend

- MW-22 — Groundwater Monitoring Well (ERI, 2004/2005)
- B-6 — Soil Boring (ERI, 2004/2005)
- IP-3 — Injection/Monitoring Well (G-Logics, 2006)
- P-1 — Soil Boring (G-Logics, 2006)
- EW-5 — Extraction Well (G-Logics, 2008)
- MW-18 — Groundwater Monitoring Well (G-Logics, 2008)
- Current UST Location (Approximate)
- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- New Pavement (Apparent 2004 PNE Excavation Areas, no report available)

Note: Background Image (grayed areas) indicates current station and site features

Project File: 01-0410-M F2-4 Exploration Locations, 2004-2015.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site Exploration Locations, 2004-2015

Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 2-4

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements.

Legend

- MW-22 — Groundwater Monitoring Well (G-Logics, 2016-2018)
- GLB-1 — Soil Boring (G-Logics, 2016)
- SVE-1 — Pilot Test AS/SVE/Observation Wells (G-Logics, 2019)
- 15k Gasoline — Current UST Capacity (in gallons), Contents, and Approximate Location.
- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)

Note: Background Image (grayed areas) indicates current station and site features

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Remedial Investigation Exploration Locations, 2016-2019
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

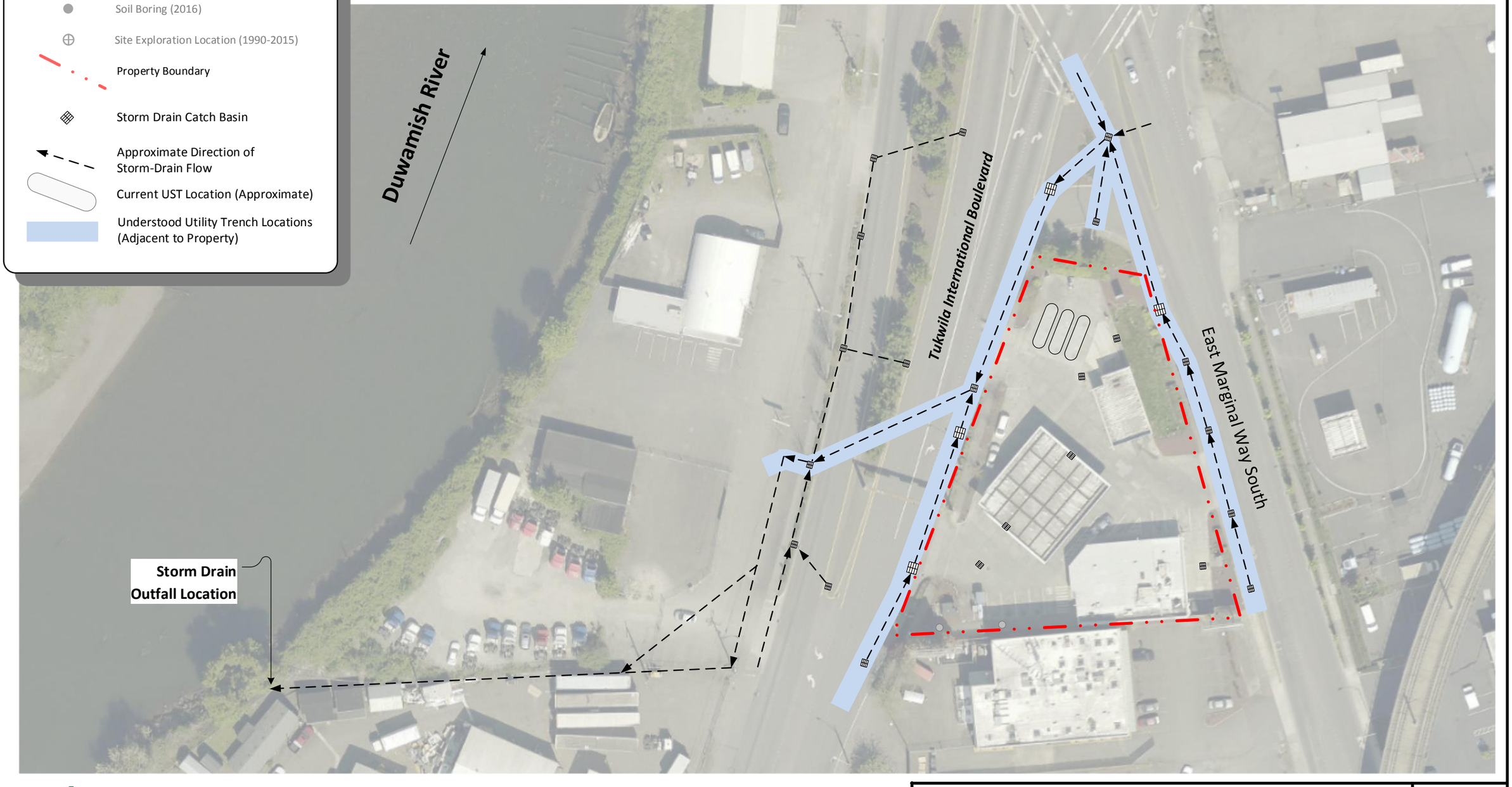
Figure 2-5

Project File: 01-0410-M F2-5 RI Locations, 2016-2019.vsdx

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements.

Legend

- Monitoring Well (Installed 2016)
- Soil Boring (2016)
- Site Exploration Location (1990-2015)
- Property Boundary
- Storm Drain Catch Basin
- Approximate Direction of Storm-Drain Flow
- Current UST Location (Approximate)
- Understood Utility Trench Locations (Adjacent to Property)



Project File: 01-0410-M F3-1 Catch Basins.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

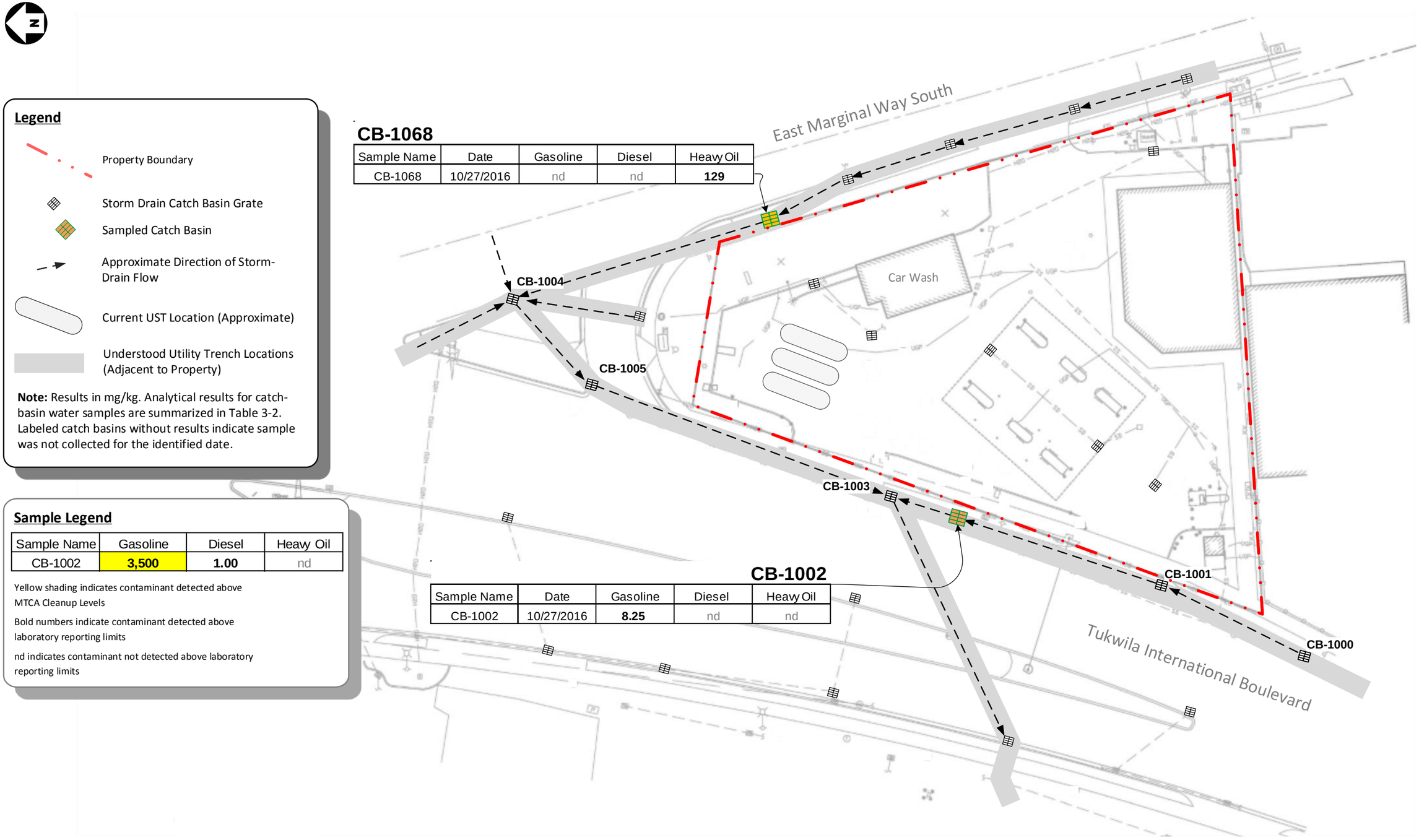
Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Catch Basin Locations, Site Proximity
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 3-1

Mapping References: PLS Survey 2016, G-Logics Site Measurements, City of Tukwila Public Utility Records.



Legend

- Property Boundary
- Storm Drain Catch Basin Grate
- Sampled Catch Basin
- Approximate Direction of Storm-Drain Flow
- Current UST Location (Approximate)
- Understood Utility Trench Locations (Adjacent to Property)

Note: Results in mg/kg. Analytical results for catch-basin water samples are summarized in Table 3-2. Labeled catch basins without results indicate sample was not collected for the identified date.

Sample Legend

Sample Name	Gasoline	Diesel	Heavy Oil
CB-1002	**3,500**	**1.00**	nd

Yellow shading indicates contaminant detected above MTCA Cleanup Levels

Bold numbers indicate contaminant detected above laboratory reporting limits

nd indicates contaminant not detected above laboratory reporting limits

CB-1068

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1068	10/27/2016	nd	nd	**129**

CB-1002

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1002	10/27/2016	**8.25**	nd	nd

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

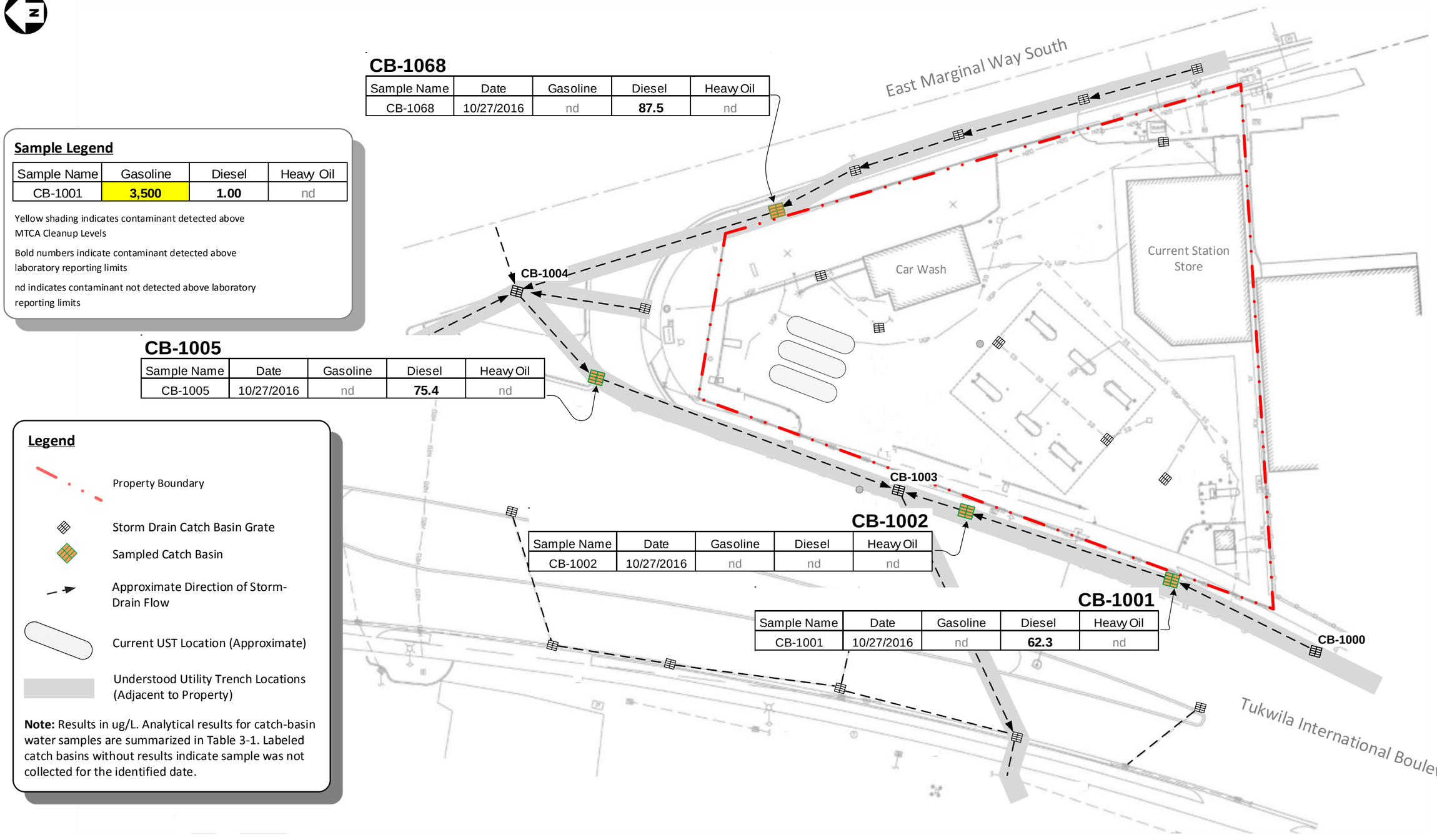
0 ft. 24 ft. 40 ft. 80 ft.

2016 Catch Basin Solids Sampling
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 3-2

Project File: 01-0410-M F3-2 Catch Basin Solids 2016.vsdx

Mapping References: PLS Survey 2016, G-Logics Site Measurements, Tukwila Public Utilities.



CB-1068

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1068	10/27/2016	nd	**87.5**	nd

CB-1005

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1005	10/27/2016	nd	**75.4**	nd

CB-1002

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1002	10/27/2016	nd	nd	nd

CB-1001

Sample Name	Date	Gasoline	Diesel	Heavy Oil
CB-1001	10/27/2016	nd	**62.3**	nd

Sample Legend

Sample Name	Gasoline	Diesel	Heavy Oil
CB-1001	**3,500**	**1.00**	nd

Yellow shading indicates contaminant detected above MTCA Cleanup Levels

Bold numbers indicate contaminant detected above laboratory reporting limits

nd indicates contaminant not detected above laboratory reporting limits

Legend

- Property Boundary
- Storm Drain Catch Basin Grate
- Sampled Catch Basin
- Approximate Direction of Storm-Drain Flow
- Current UST Location (Approximate)
- Understood Utility Trench Locations (Adjacent to Property)

Note: Results in ug/L. Analytical results for catch-basin water samples are summarized in Table 3-1. Labeled catch basins without results indicate sample was not collected for the identified date.

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

2016 Catch Basin Stormwater Sampling

Boeing Field Chevron

10805 East Marginal Way South

Tukwila, Washington

Figure 3-3

Project File: 01-0410-M F3-3 Catch Basin Water 2016.vsdx

Mapping References: PLS Survey 2016, G-Logics Site Measurements, Tukwila Public Utilities.

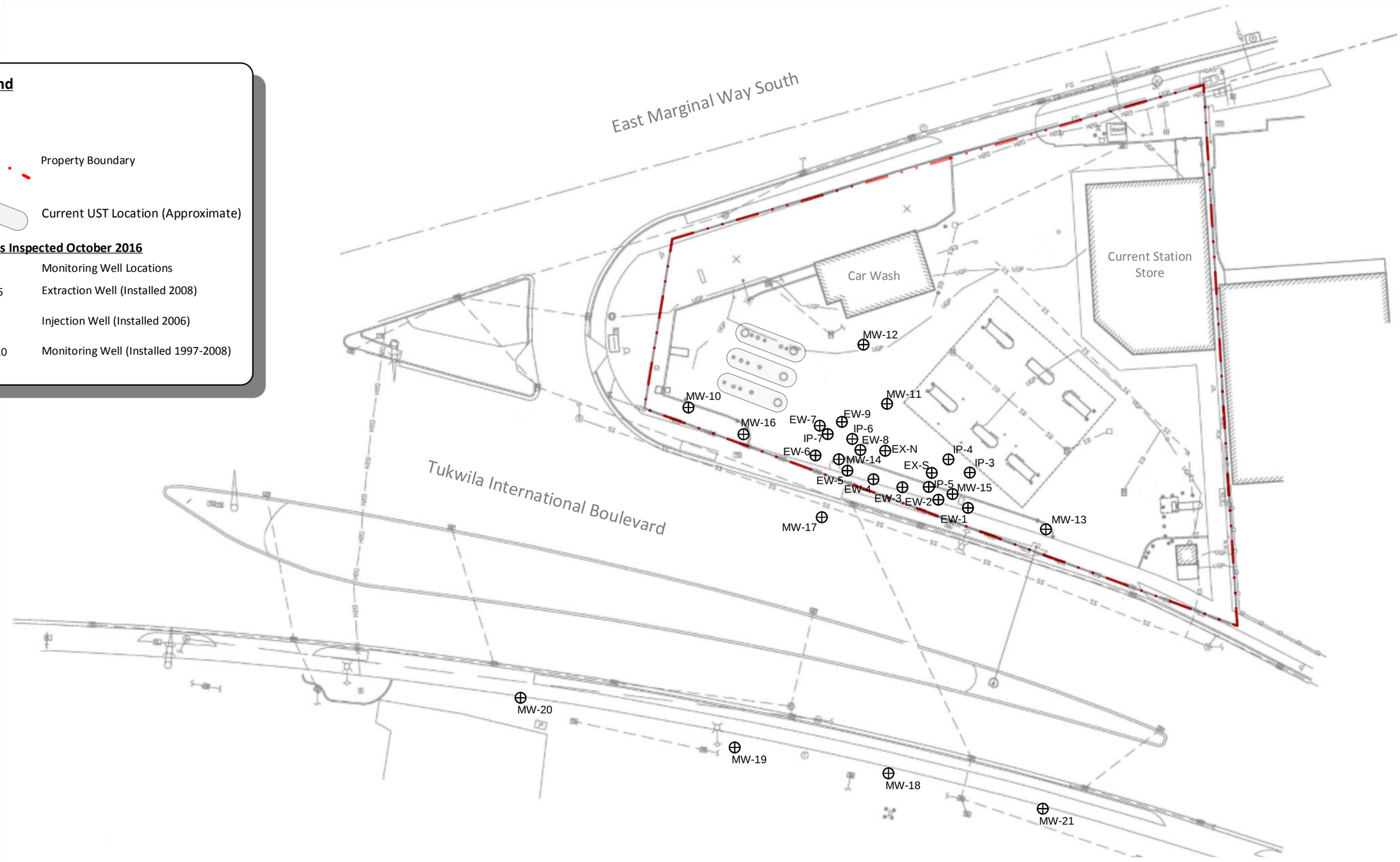
Legend

Property Boundary

Current UST Location (Approximate)

Wells Inspected October 2016

⊕	Monitoring Well Locations
EW-5	Extraction Well (Installed 2008)
IP-7	Injection Well (Installed 2006)
MW-10	Monitoring Well (Installed 1997-2008)



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

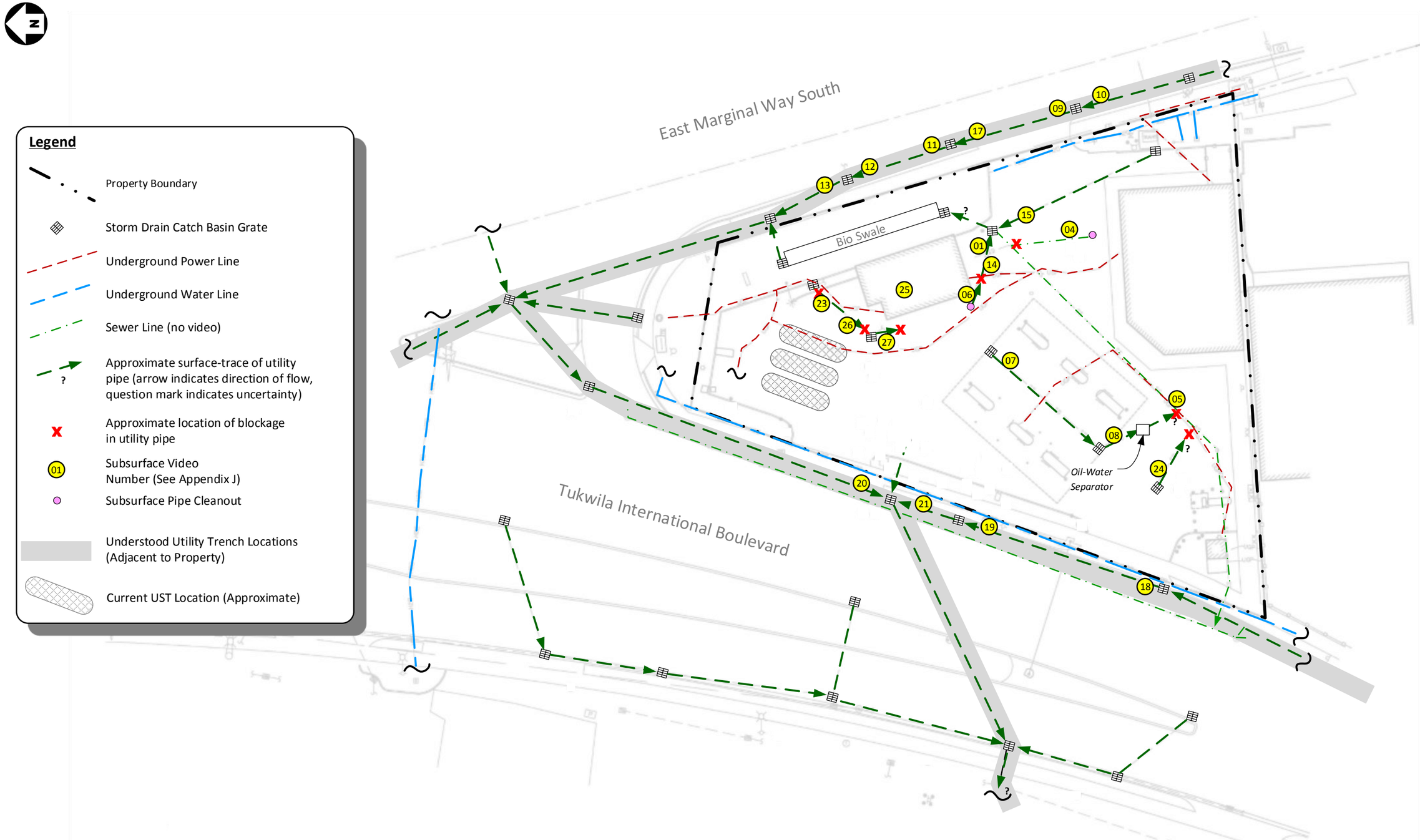
0 ft. 24 ft. 40 ft. 80 ft.

Inspected Monitoring Wells, 2016
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 4-1

Project File: 01-0410-M F4-1 2016 Monitoring Well Inspections.mxd

Mapping References: PLS Survey 2016, G-Logics site measurements, Hart Crowser 1993, RZA 1990.



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

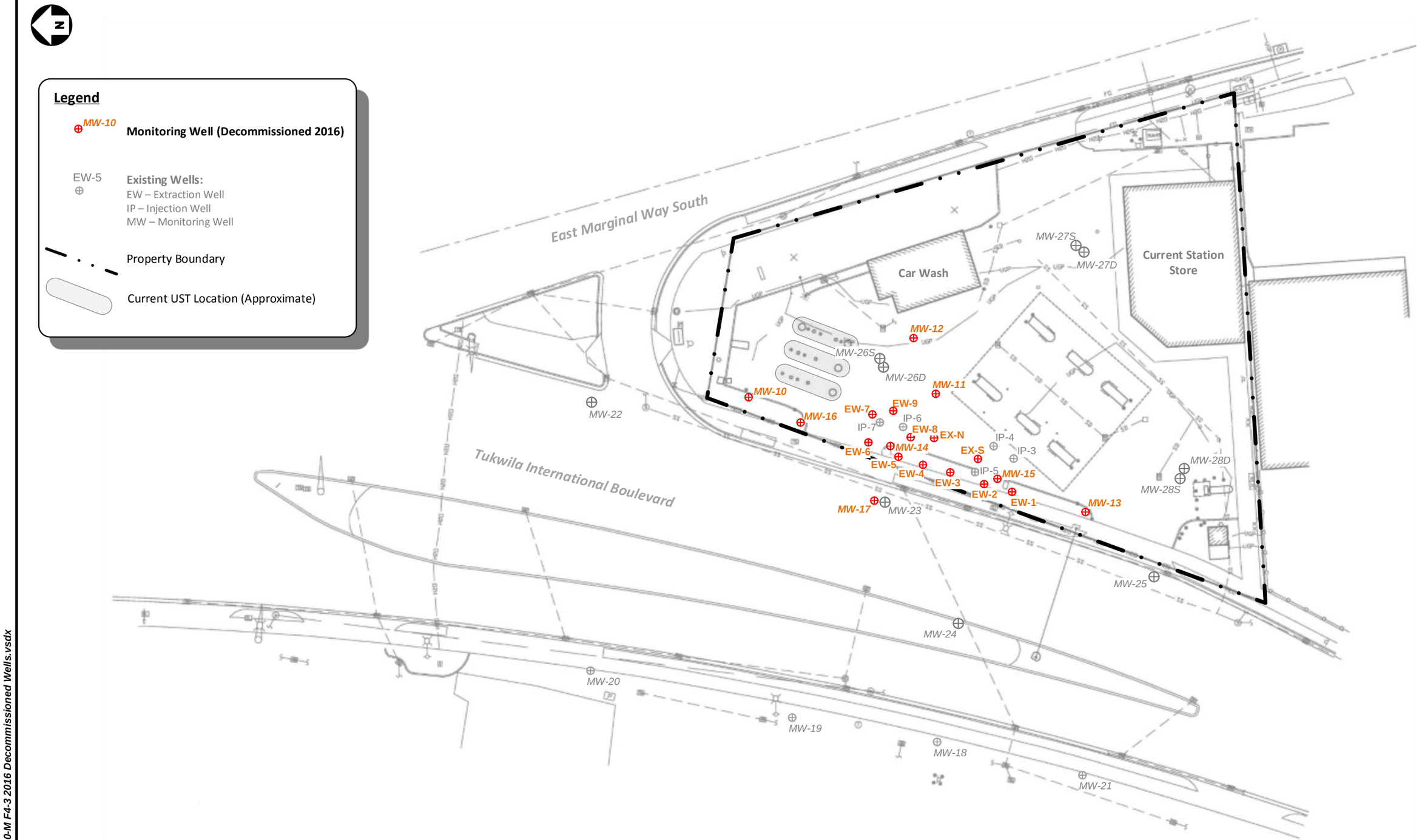
0 ft. 24 ft. 40 ft. 80 ft.

Subsurface Utility Inspections, 2016
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 4-2

Project File: 01-0410-M F4-2 2016 Subsurface Utility Inspections.vsdx

Mapping References: PLS Survey 2016, G-Logics site measurements, Tukwila Public Utilities



Project File: 01-0410-M F4-3 2016 Decommissioned Wells.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Decommissioned Wells, 2016
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 4-3

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements, Previous Site Report Figures.

Legend

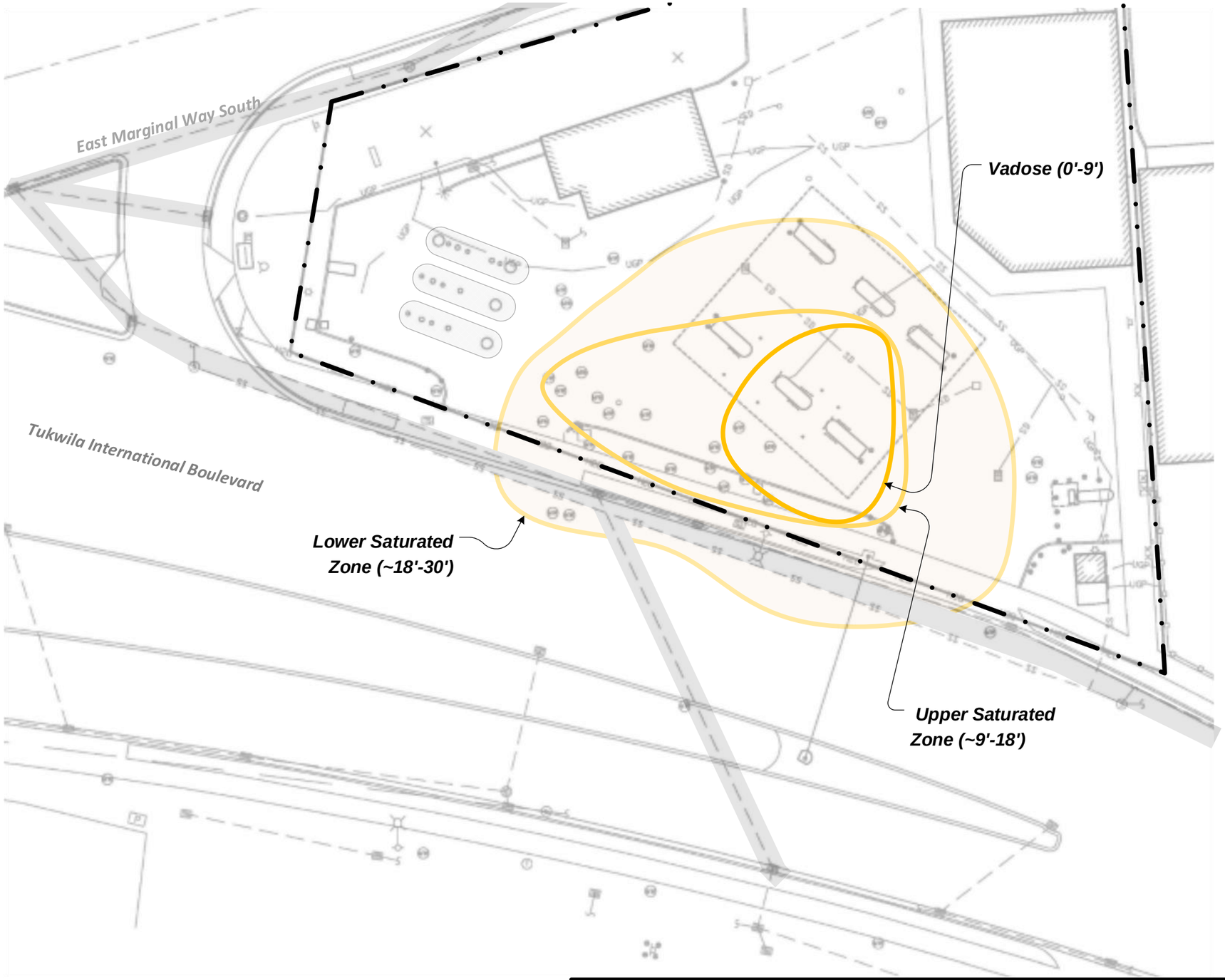
GRO/Benzene Detected Greater than MTCA Method A Cleanup Levels (30/0.03 mg/kg)

Property Boundary

Current UST Location (Approximate)

Approximate Utility Trench Locations (Adjacent to Property)

Note:
Interpreted shapes are based on available analytical data for soil samples collected between 2008 and 2019, see Figures 5-2, 5-3, and 5-4 for additional information.



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 30'

0 ft. 18 ft. 30 ft. 60 ft.

Summary, COCs Above Soil Cleanup Levels
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 5-1

Project File: 01-0410-M F5-1 COC Concentrations in Soil.vsdx

Mapping References: PLS Survey 2016, Tukwila Public Utility Documents, G-Logics Field Measurements, Previous Site Reports and Collected Analytical Data.

Legend

MW-22 — Monitoring Well (Installed 2016-2019)

GLB-5 — Soil Boring (2016-2019)

EW-5 — Extraction Well (Installed 2008)

IP-5 — Injection Well (Installed 2006)

IP-5 — Soil Analytical Data Not Available/Not Used

EW-8
928 (g)
nd (b)

- Boring Identification
- GRO (g) and/or Benzene (b) Concentration, red text indicates sample result exceeds cleanup level
- Contaminant not-detected above laboratory reporting limits

GRO/Benzene Detected Greater than MTCA Method A Cleanup Levels (30/0.03 mg/kg)

GRO/Benzene Detected Greater than 300/0.3 mg/kg

Area of LNAPL

Property Boundary

Current UST Location (Approximate)

Approximate Utility Trench Locations (Adjacent to Property)

Note: Interpreted contours are based on available analytical data for soil samples collected between 2008 and 2019.

Soil analytical data for each boring correspond to the highest-concentration sample collected within the approximate depth interval indicated.

N

Car Wash

Current Station Store

MW-27S
MW-27D nd
GLB-13 nd
GLB-14 nd
MW-26S
GLB-12 nd
MW-26D nd
GLB-17 nd
TW-2 nd
EW-7 nd
EW-9 nd
EW-8
97 (g)
0.24 (b)
IP-6
IP-7
TW-1 nd
SVE-1 nd
GLB-15
70.8 (g)
nd (b)
MW-29S nd
GLB-8 nd
EW-6 nd
GLB-6 nd
AS-2 nd
AS-1
IP-4
IP-3
EW-5 nd
EW-4 nd
EW-3 nd
IP-5
EW-1
10 (g)
0.32 (b)
EW-2 nd
GLB-16 nd
MW-28D nd
MW-28S
TW-3
9.09 (g)
0.094 (b)
GLVP-2 nd
GLB-7 nd
GLB-18 nd
MW-23
GLB-9 nd
GLB-10 nd
GLVP-1 nd
Tukwila International Boulevard
GLB-19 nd
GLB-2 nd
MW-30
GLB-3 nd
MW-25
GLB-11 nd
MW-24
MW-24D

g-logics

Approximate Drawing Scale: 1" = 20'

0.0 in. 12 ft. 20 ft. 40 ft.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Soil Contaminant Concentrations, Vadose Soils (0'-9')
Boeing Field Chevron
10805 E Marginal Way S
Tukwila, WA

Figure
5-2

Project File: 01-0410-M F5-2 COC Soil Vadose.vsdx

Mapping References: PLS Survey 2016, Tukwila Public Utility Documents, G-Logics Field Measurements, Previous Site Reports and Collected Analytical Data.

Legend

- **MW-22** — Monitoring Well (Installed 2016-2019)
- **GLB-5** — Soil Boring (2016-2019)
- EW-5 — Extraction Well (Installed 2008)
- IP-5 — Injection Well (Installed 2006)
- IP-5 — Soil Analytical Data Not Available/Not Used
- EW-8 / *928 (g)* / *nd (b)* — Boring Identification; GRO (g) and/or Benzene (b) Concentration, red text indicates sample result exceeds cleanup level; Contaminant not-detected above laboratory reporting limits
- GRO/Benzene Detected Greater than MTCA Method A Cleanup Levels (30/0.03 mg/kg)
- GRO/Benzene Detected Greater than 300/0.3 mg/kg
- Area of Possible LNAPL
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Car Wash

Current Station Store

Tukwila International Boulevard

MW-27S
MW-27D nd
GLB-13 nd
GLB-14 nd
MW-26S
GLB-12 nd
MW-26D nd
EW-9 4,320 (g) 37.4 (b)
SVE-1 3,560 (g) nd (b)
GLB-15 37.2 (g) 0.074 (b)
GLB-17 nd
EW-7 nd
EW-8 293 (g) 1.23 (b)
IP-6
IP-7
TW-2
TW-1 nd
MW-29S nd
GLB-6 nd
GLB-8 nd
EW-6 nd
EW-5 nd
EW-4 nd
AS-1
IP-4
IP-3
IP-5
EW-2 nd
GLB-7 nd
GLB-18 nd
MW-23 nd
AS-2 12.9 (g) 0.044 (b)
GLB-9 nd
EW-3 10 (g) 0.35 (b)
EW-1 10 (g) 0.32 (b)
TW-3 153 (g) 5.35 (b)
GLB-16 nd
MW-28D nd
MW-28S
GLB-10 nd
GLVP-2
GLVP-1
GLB-19 nd
GLB-2 nd
GLB-3 nd
MW-30 nd
MW-25 nd
GLB-11
MW-24 nd
MW-24D nd

Shape outline reflects approximate extent of previous remedial excavations.

Note: Interpreted contours are based on available analytical data for soil samples collected between 2008 and 2019.

Soil analytical data for each boring correspond to the highest-concentration sample collected within the approximate depth interval indicated.

g-logics

Approximate Drawing Scale: 1" = 20'

0.0 in. 12 ft. 20 ft. 40 ft.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Soil Contaminant Concentrations in Upper Saturated Zone (~9'-18')

Boeing Field Chevron, 10805 E Marginal Way S
Tukwila, WA

Figure 5-3

Project File: 01-0410-M F5-3 COC Soil Shallow.vsdx

Mapping References: PLS Survey 2016, Tukwila Public Utility Documents, G-Logics Field Measurements, Previous Site Reports and Collected Analytical Data.

Legend

- MW-22 — Monitoring Well (Installed 2016-2019)
- GLB-5 — Soil Boring (2016-2019)
- EW-5 — Extraction Well (Installed 2008)
- IP-5 — Injection Well (Installed 2006)
- IP-5 — Soil Analytical Data Not Available/Not Used
- EW-8 — Boring Identification
- 928 (g) — GRO (g) and/or Benzene (b) Concentration, red text indicates sample result exceeds CUL
- nd (b) — Contaminant not-detected above laboratory reporting limits
- GRO/Benzene Detected Greater than MTCA Method A Cleanup Levels (30/0.03 mg/kg)
- GRO/Benzene Detected Greater than 300/0.3 mg/kg
- Area of LNAPL
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Car Wash

Current Station Store

MW-27S nd

MW-27D nd

GLB-13 nd

EW-8 14 (g) 0.22 (b)

MW-26S

GLB-12 nd

MW-26D nd

GLB-14 216 (g) 3.01 (b)

GLB-17 nd

EW-9 379 (g) 2.41 (b)

TW-2

GLB-15 3,510 (g) 32.5 (b)

EW-7 nd

EW-6 37 (g) 1.14 (b)

IP-7 LNAPL

IP-6

TW-1

AS-2 928 (g) 10.2 (b)

SVE-1

IP-4

GLVP-2

MW-29S

GLB-6 nd

GLB-8 nd

AS-1

IP-3

IP-5

EW-1 15 (g) 1.34 (b)

GLB-16 26.5 (g) 1.87 (b)

MW-28D nd

MW-28S

TW-3

GLB-10 17.1 (g) 1.06 (b)

EW-5 34 (g) 0.70 (b)

GLB-18 nd

GLB-7 7.51 (g) 0.97 (b)

MW-23 nd (g) 0.334 (b)

EW-4 21 (g) 0.63 (b)

GLB-9 9.05 (g) 0.432 (b)

GLVP-1

EW-2 13 (g) 0.80 (b)

GLB-2 nd

EW-3 31 (g) 1.66 (b)

GLB-19 nd (g) 0.355 (b)

MW-25

GLB-11

MW-30 nd

GLB-3 nd

Tukwila International Boulevard

MW-24

MW-24D nd

Note: Interpreted contours are based on available analytical data for soil samples collected between 2008 and 2019.

Soil analytical data for each boring correspond to the highest-concentration sample collected within the approximate depth interval indicated.

g-logics

Approximate Drawing Scale: 1" = 20'

0.0 in. 12 ft. 20 ft. 40 ft.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Soil Contaminant Concentrations in Lower Saturated Zone (~18'-30')

Boeing Field Chevron, 10805 E Marginal Way S

Tukwila, WA

Figure 5-4

Project File: 01-0410-M F5-4 COC Soil Deep.vsdx

Mapping References: PLS Survey 2016, Tukwila Public Utility Documents, G-Logics Field Measurements, Previous Site Reports and Collected Analytical Data.

Legend

- ⊕ 2004/2005 Monitoring Well Location
- ● 2005 ERI Geoprobe Location

Sample Legend

Date	Gasoline	Benzene
8/16/04	175,000	8,820
11/30/05	LNAPL - 0.26'	---

Groundwater Sample Result (ug/L)

LNAPL measured thickness (ft)

- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- GRO/Benzene Detected Greater than 8,000/50 µg/L
- Area of LNAPL
- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Current UST Location (Approximate)

Note: Interpreted contours are based on available analytical data for groundwater samples collected between 2004 and 2005, no distinction between upper and lower saturated zones.

East Marginal Way South

Tukwila International Blvd

Car Wash

Current Station Store

MW-12

Date	Gasoline	Benzene
8/16/04	<50.0	<0.50
11/16/05	<50.0	<0.50

MW-11

Date	Gasoline	Benzene
8/16/04	79,000	3,340
11/16/05	61,800	1,710

MW-10

Date	Gasoline	Benzene
8/6/04	6,710	191

MW-16

Date	Gasoline	Benzene
11/6/05	<50.0	0.7

MW-14

Date	Gasoline	Benzene
8/16/04	175,000	8,820
11/30/05	LNAPL - 0.26'	---

MW-13

Date	Gasoline	Benzene
8/16/04	14,400	3,850
11/16/05	12,600	3,360

MW-17

Date	Gasoline	Benzene
11/16/05	<50.0	1.5

MW-15

Date	Gasoline	Benzene
11/30/05	LNAPL - 3.05'	---

B-11

Date	Gasoline	Benzene
3/1/05	<50	<0.50

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site COC Concentrations in Groundwater, 2004-2005

Boeing Field Chevron

10805 East Marginal Way South

Tukwila, Washington

Figure 6-1

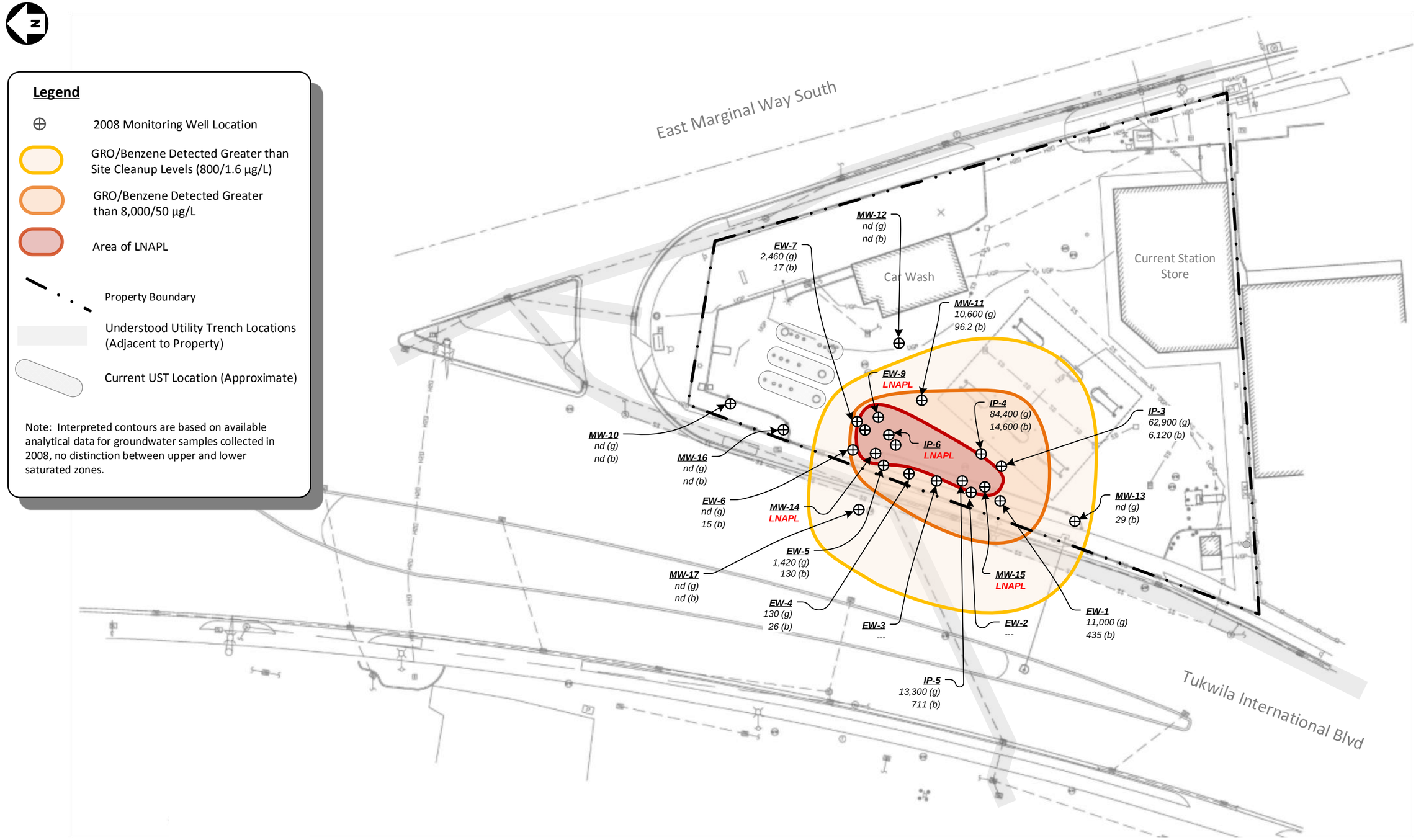
Project File: 01-0410-M F6-1 COCs Groundwater, 2004-2005.vsdx

Mapping References: PLS Survey 2016 and Collected Analytical Data.

Legend

- 2008 Monitoring Well Location
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- GRO/Benzene Detected Greater than 8,000/50 µg/L
- Area of LNAPL
- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Current UST Location (Approximate)

Note: Interpreted contours are based on available analytical data for groundwater samples collected in 2008, no distinction between upper and lower saturated zones.



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site COC Concentrations in Groundwater, 2008

Boeing Field Chevron

10805 East Marginal Way South

Tukwila, Washington

Figure 6-2

Project File: 01-0410-M F6-2 COCs Groundwater, 2008.vsdx

Mapping References: PLS Survey 2016, Collected Analytical Data.

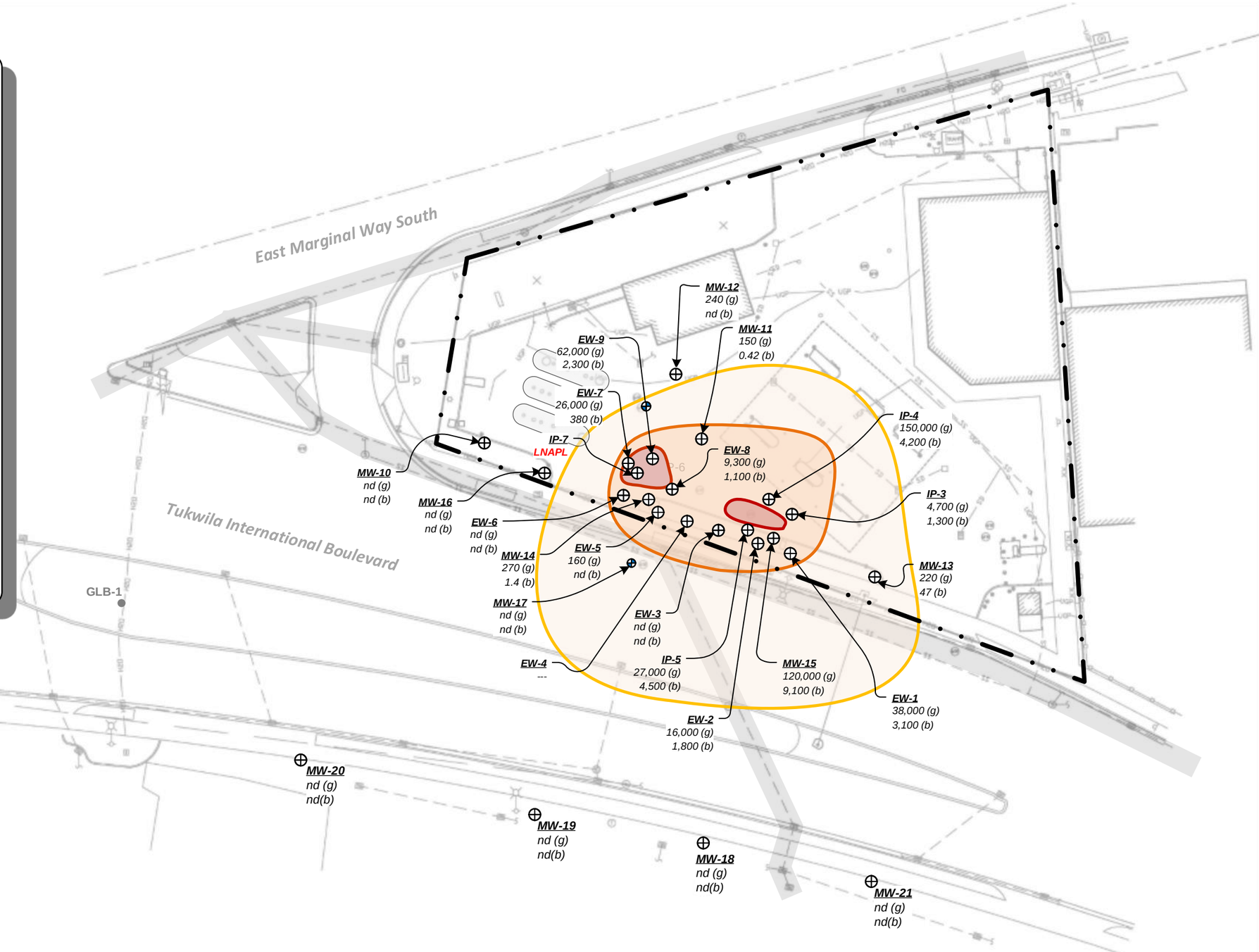
Legend

- 2015 Monitoring Well Location
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- GRO/Benzene Detected Greater than 8,000/50 µg/L
- Area of LNAPL

Note: Interpretations are based on analytical results from July 2015, summarized in Tables 5-1 and 5-2.

- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Current UST Location (Approximate)

Note: Interpreted contours are based on available analytical data for groundwater samples collected in 2015, no distinction between upper and lower saturated zones.



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site COC Concentrations in Groundwater, 2015

Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 6-3

Project File: 01-0410-M F6-3 COCs Groundwater, 2015.vsdx

Mapping References: PLS Survey 2016, G-Logics Field Measurements, Previous Site Report Figures.

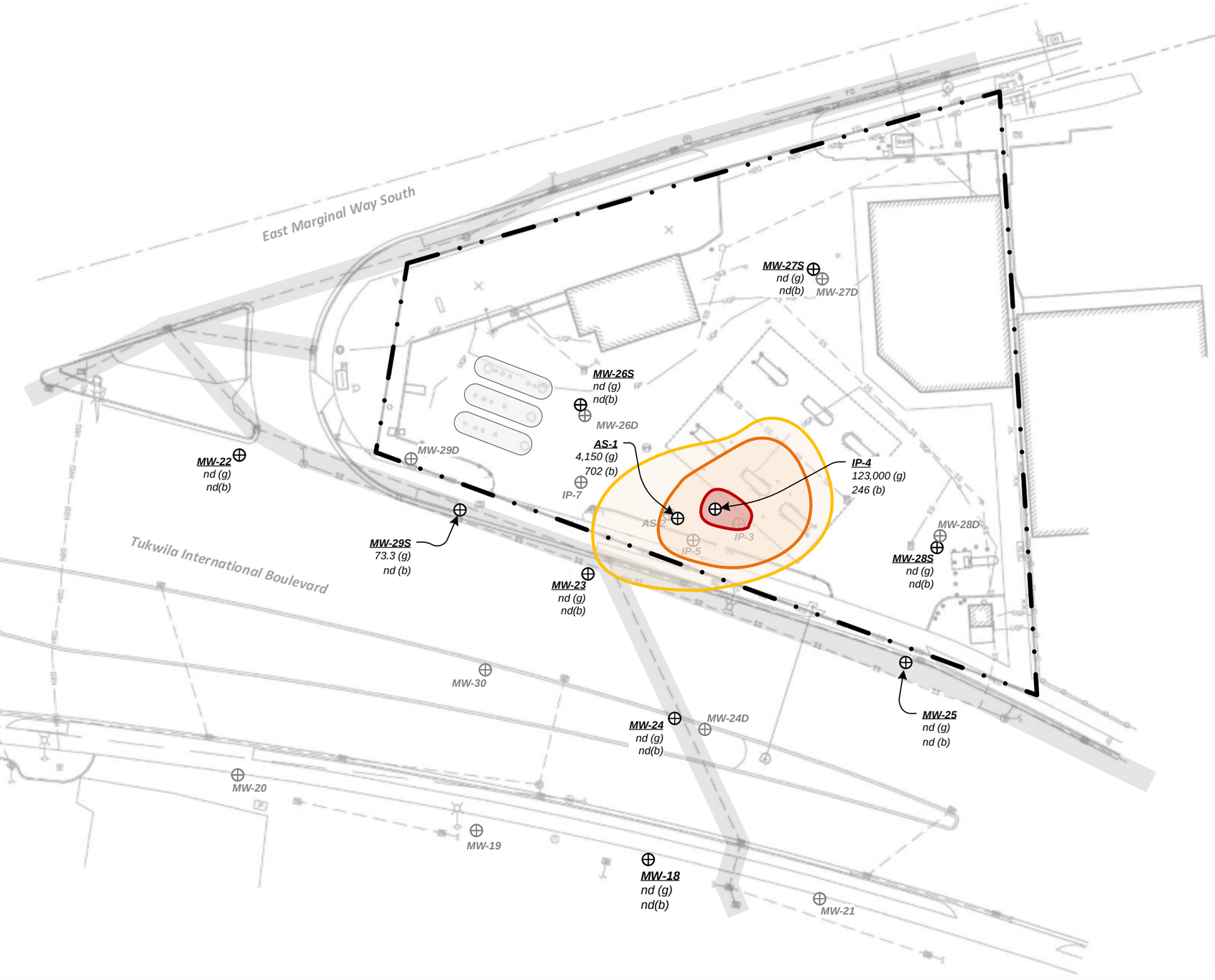
Legend

- 2018-2019 Monitoring Well
- Monitoring Well (Screened in Lower Saturated Zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- GRO/Benzene Detected Greater than 8,000/50 µg/L
- Area of Possible LNAPL

Note: Interpretations are based on analytical results from July 2015, summarized in Tables 5-1 and 5-2.

- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Current UST Location (Approximate)

Note: Interpreted contours are based on available analytical data for groundwater samples collected in November 2018 and April 2019.



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site COC Concentrations in Groundwater, Upper Saturated Zone, 2018-2019
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 6-4

Project File: 01-0410-M F6-4 COCs USZ 2018-2019.vsdx

Mapping References: PLS Survey 2016, G-Logics Field Measurements, Previous Site Report Figures.

Legend

- 2018-2019 Monitoring Well
- Monitoring Well (Screened in Upper Saturated Zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- GRO/Benzene Detected Greater than 8,000/50 µg/L
- Area of Possible LNAPL

Note: Interpreted contours are based on available analytical data for groundwater samples collected in November 2018 and April 2019.

- Property Boundary
- Understood Utility Trench Locations (Adjacent to Property)
- Current UST Location (Approximate)

East Marginal Way South

Tukwila International Boulevard

MW-22

MW-29D
nd (g)
nd (b)

MW-29S

MW-26D
nd (g)
nd (b)

MW-26S

MW-27S

MW-27D
425 (g)
nd(b)

AS-2
1,560 (g)
20.8 (b)

AS-1

IP-4

IP-3
3,710 (g)
865 (b)

MW-28D
nd (g)
nd(b)

MW-28S

IP-7
LNAPL

MW-23

MW-30
150 (g)
1.90 (b)

IP-5
16,500 (g)
2,590 (b)

MW-25

MW-24

MW-24D
nd (g)
nd(b)

MW-20
94.6 (g)
nd (b)

MW-19
nd (g)
nd (b)

MW-18

MW-21
nd (g)
nd (b)

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

Site COC Concentrations in Groundwater, Lower Saturated Zone, 2018-2019

Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 6-5

Project File: 01-0410-M F6-5 COCs LSZ 2018-2019.vsdx

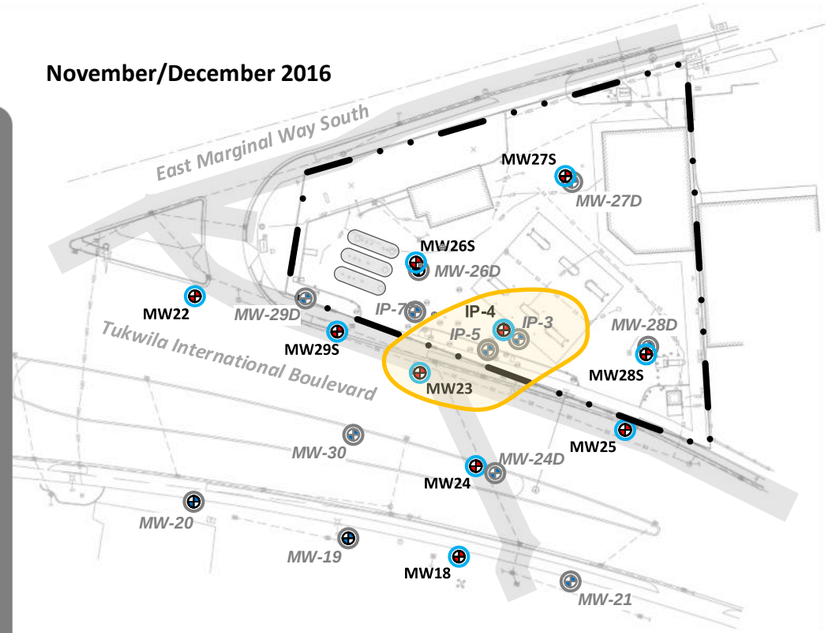
Mapping References: PLS Survey 2016, G-Logics Field Measurements, Previous Site Report Figures.

Legend

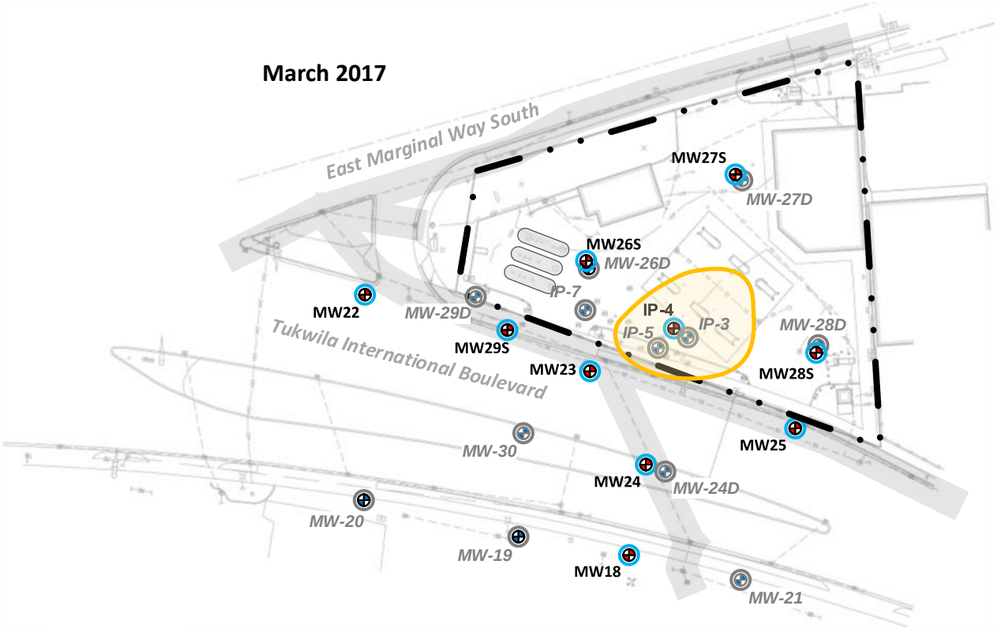
- MW-29D — Monitoring Well (screened in the lower saturated zone)
- MW-22 — Monitoring Well (Sampled) (screened in the upper saturated zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Note: Interpretations are based on analytical results , summarized in Tables 5-1 and 5-2.

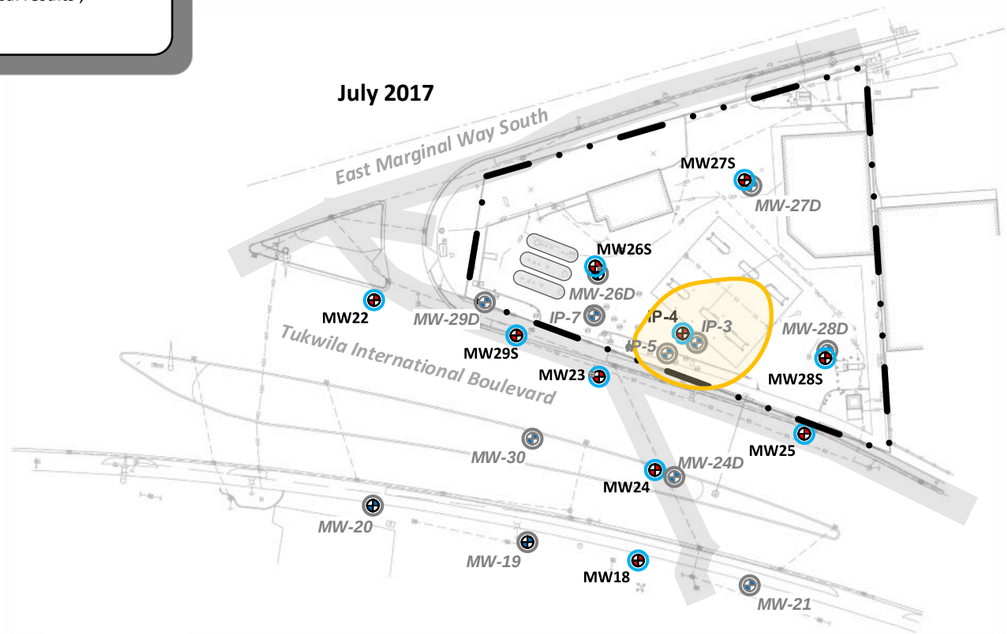
November/December 2016



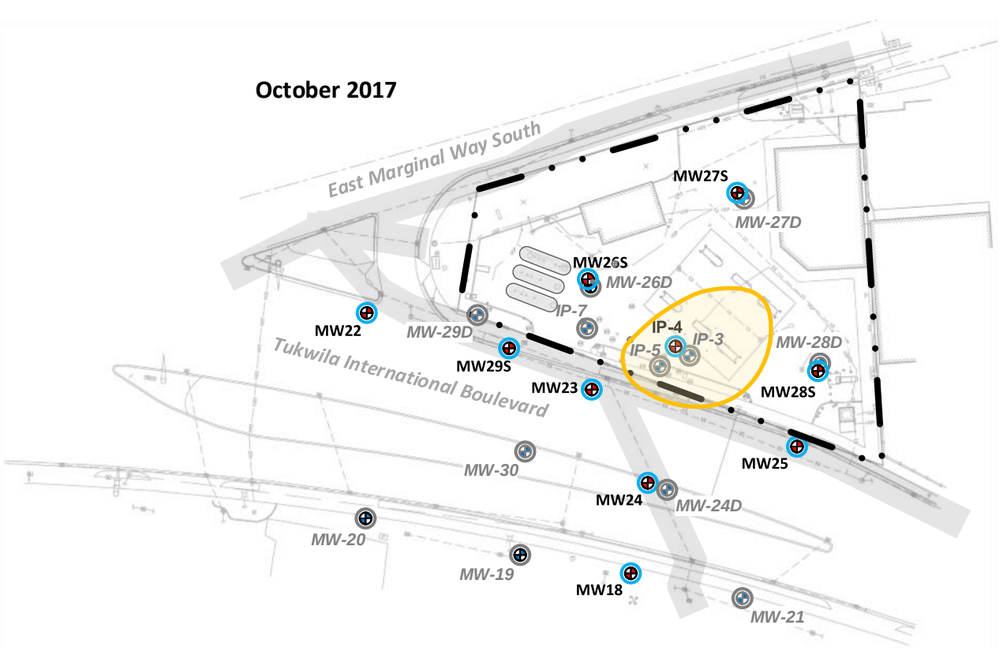
March 2017



July 2017



October 2017



Project File: 01-0410-M F7-1 Upper COCs Groundwater, 2016-2017.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Drawing not to Standard Scale

Upper Saturated Zone, Groundwater Samples, 2016-2017
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

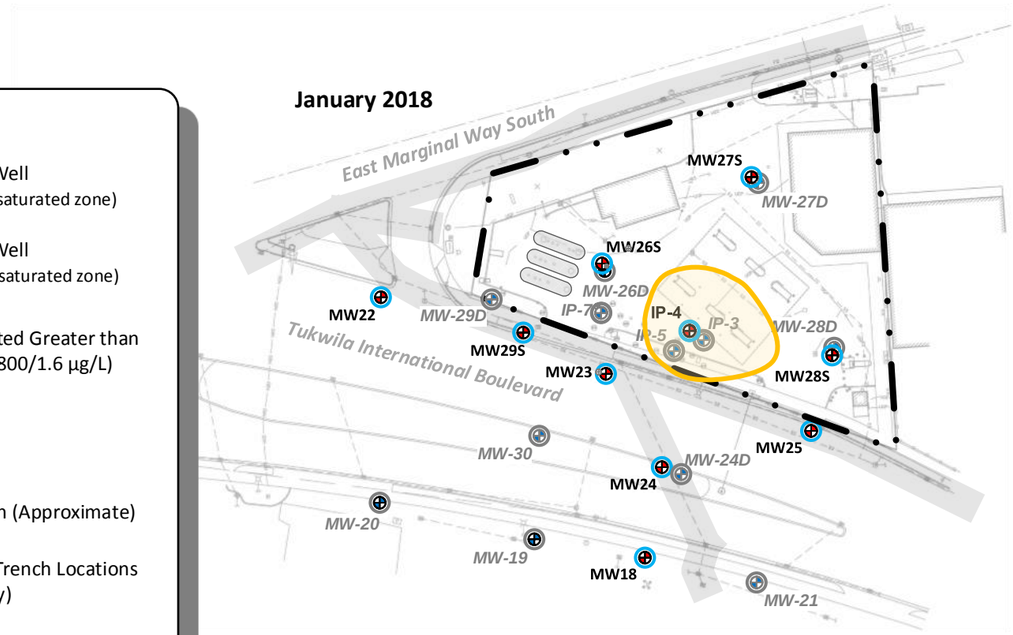
Figure 7-1

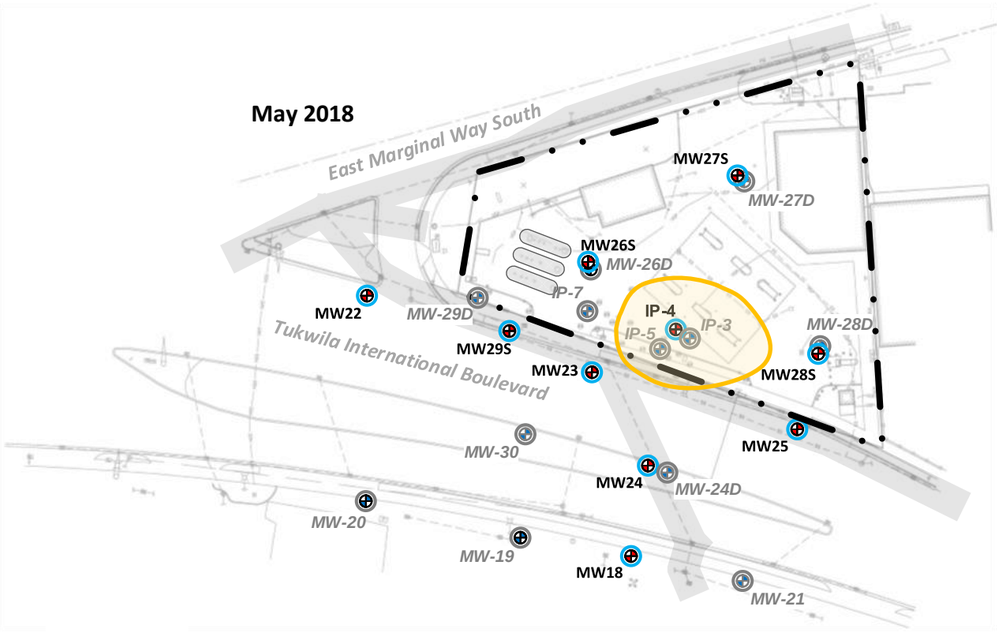
Mapping References: PLS Survey 2016 and Collected Analytical Data.

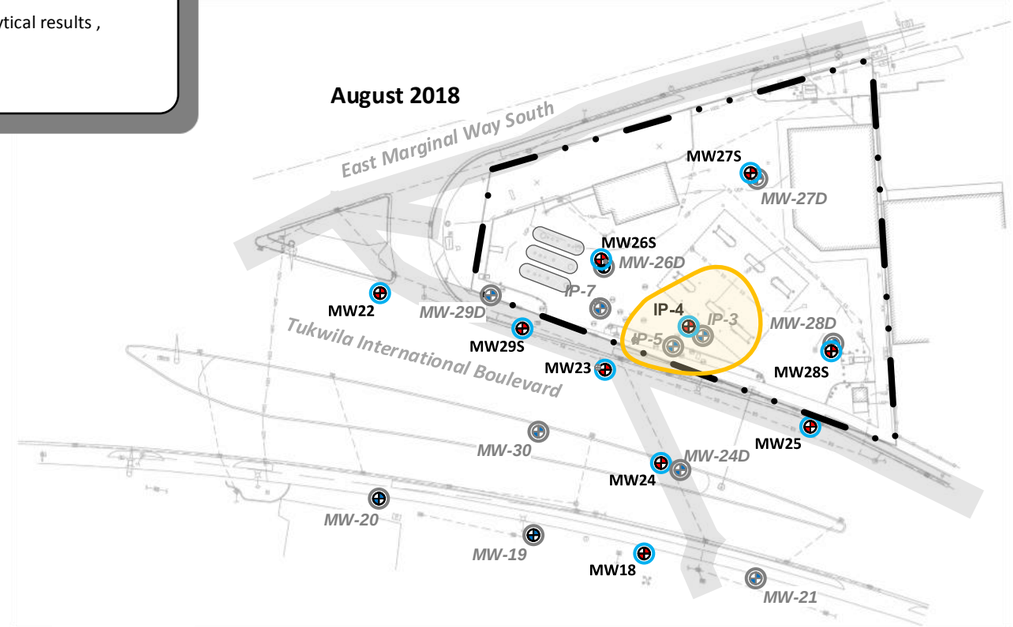
Legend

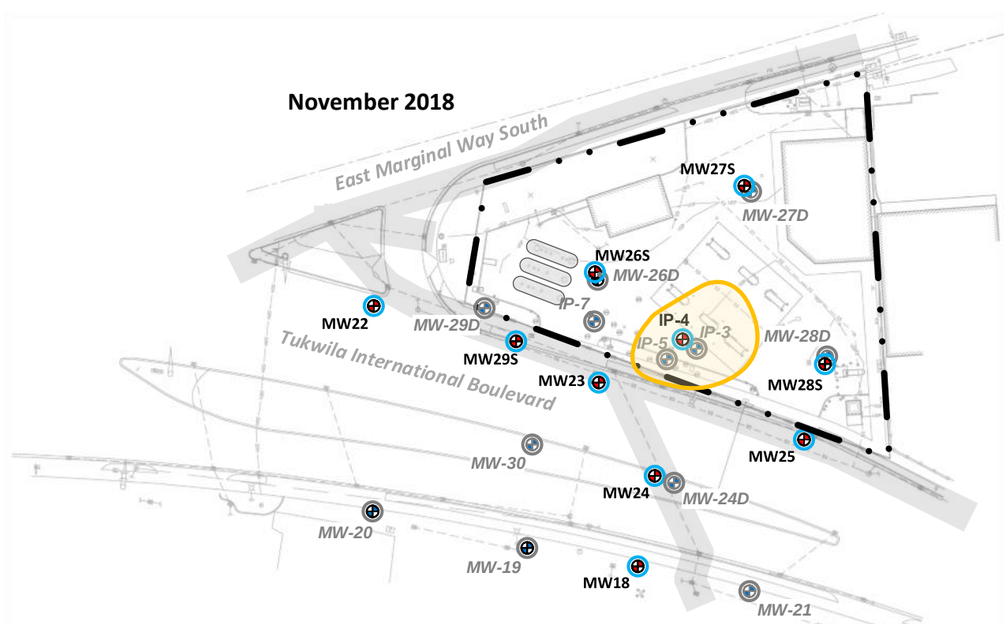
- MW-22 — Existing Monitoring Well (screened in the lower saturated zone)
- **MW-22** — Existing Monitoring Well (screened in the upper saturated zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Note: Interpretations are based on analytical results , summarized in Tables 5-1 and 5-2.









Project File: 01-0410-M F7-2 Upper COCs Groundwater, 2018.vsdx

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Drawing not to Standard Scale

Upper Saturated Zone, Groundwater Samples, 2018
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 7-2

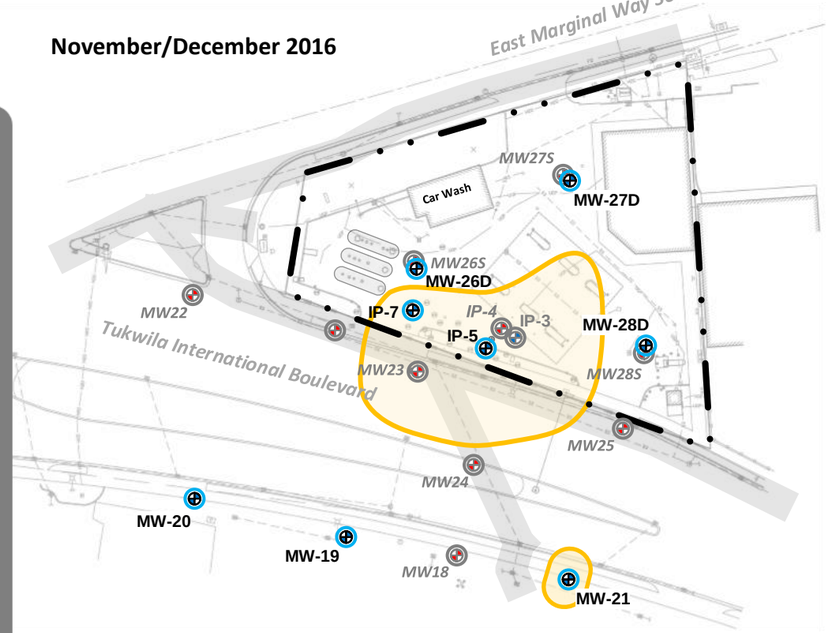
Mapping References: PLS Survey 2016 and Collected Analytical Data.

Legend

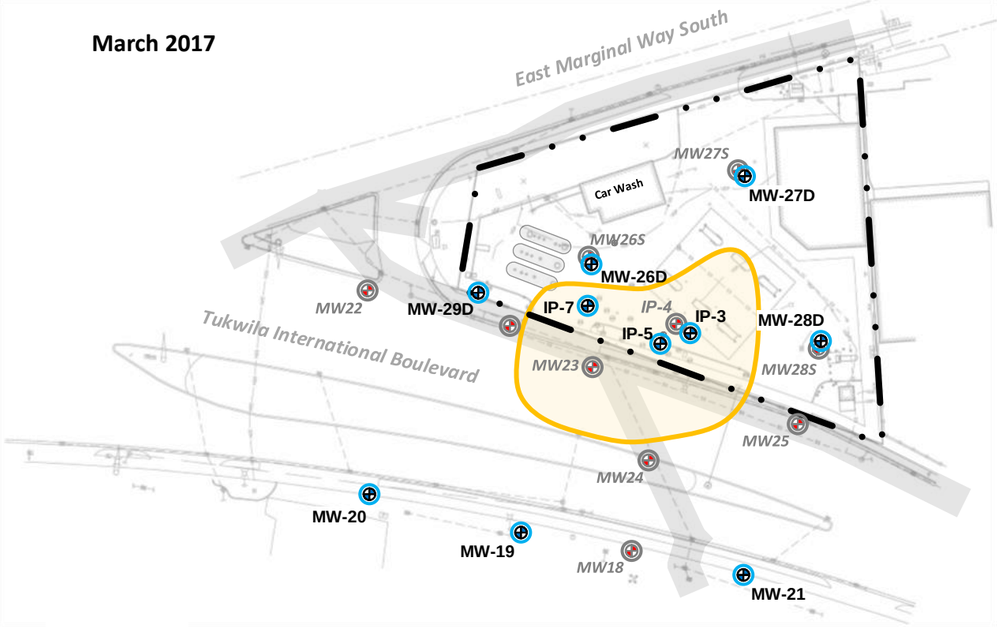
- **MW-28D** — Existing Monitoring Well (screened in the lower saturated zone)
- **MW-22** — Existing Monitoring Well (screened in the upper saturated zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Note: Interpretations are based on analytical results , summarized in Tables 5-1 and 5-2.

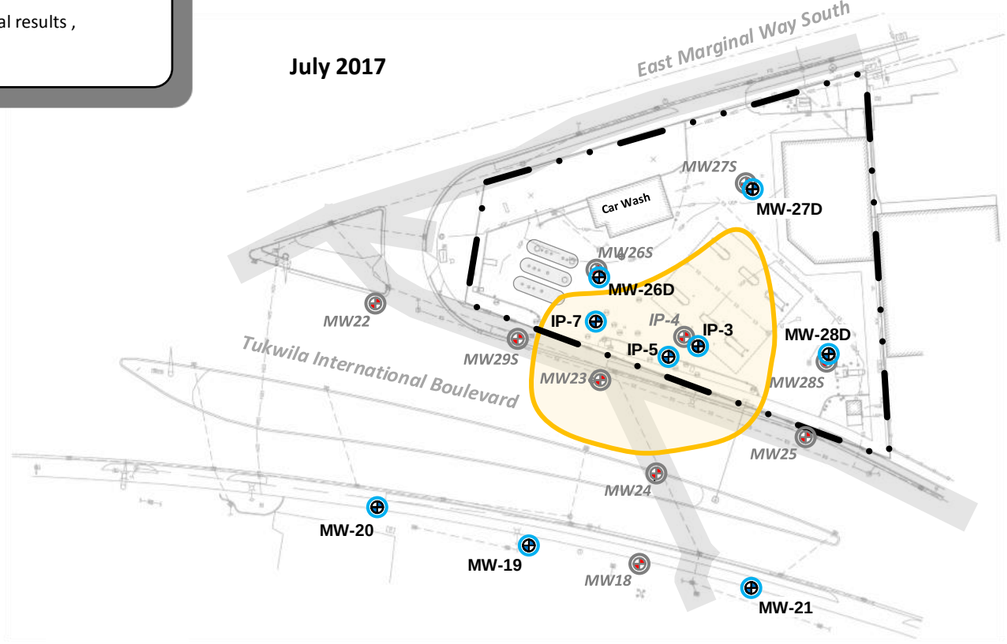
November/December 2016



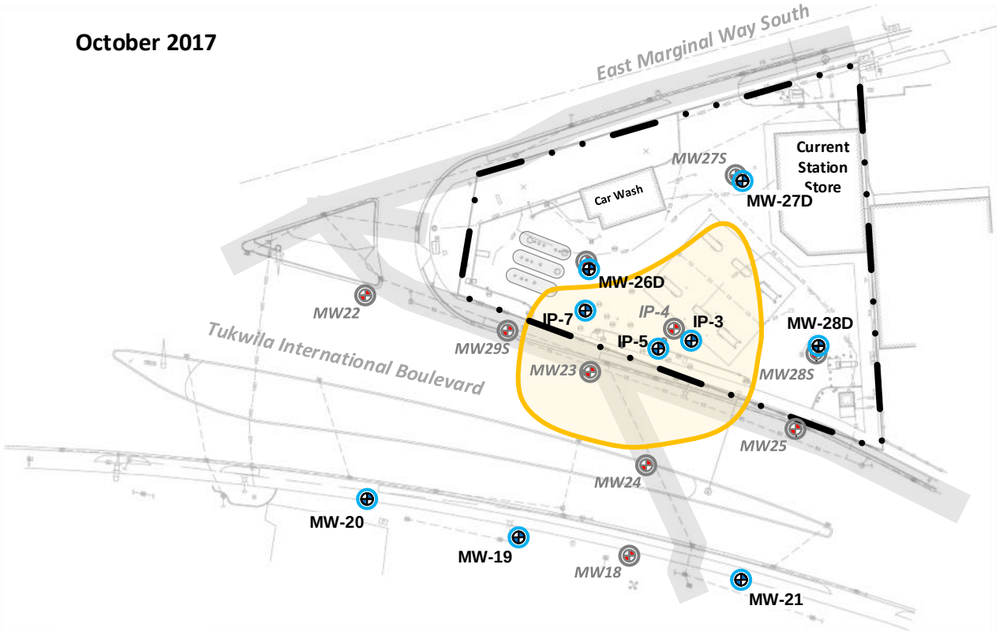
March 2017



July 2017



October 2017



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Drawing not to Standard Scale

Lower Saturated Zone, Groundwater Samples, 2016-2017
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 7-3

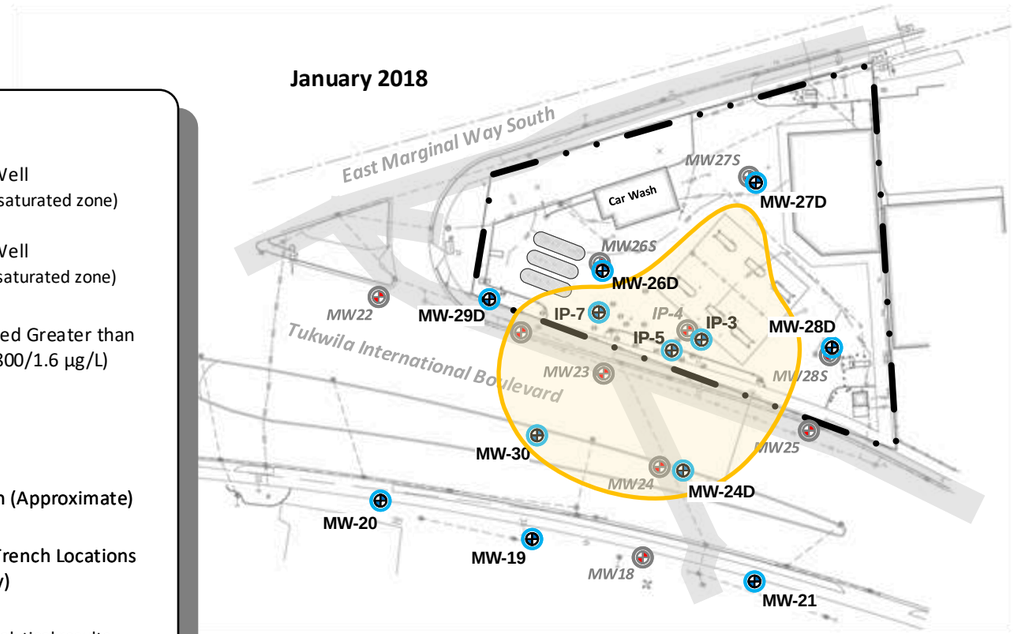
Project File: 01-0410-M F7-3 Lower COCs Groundwater, 2016-2017.vsdx

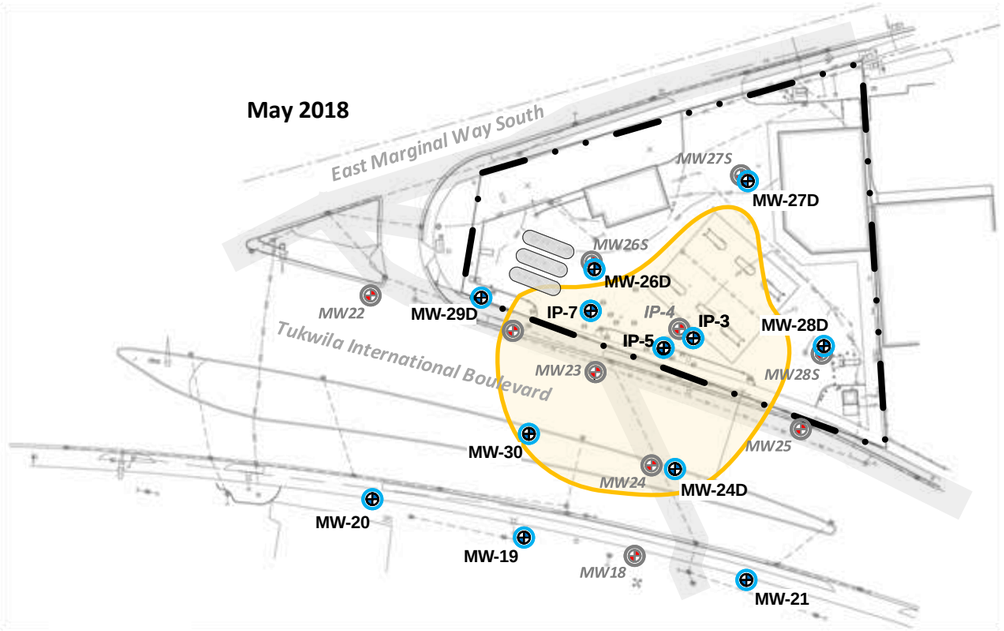
Mapping References: PLS Survey 2016 and Collected Analytical Data.

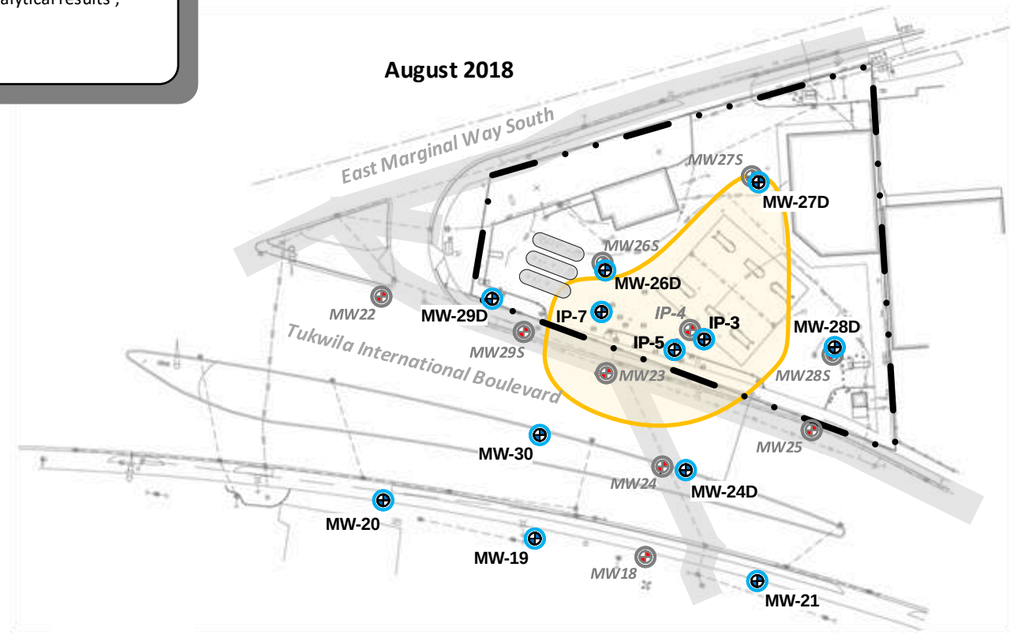
Legend

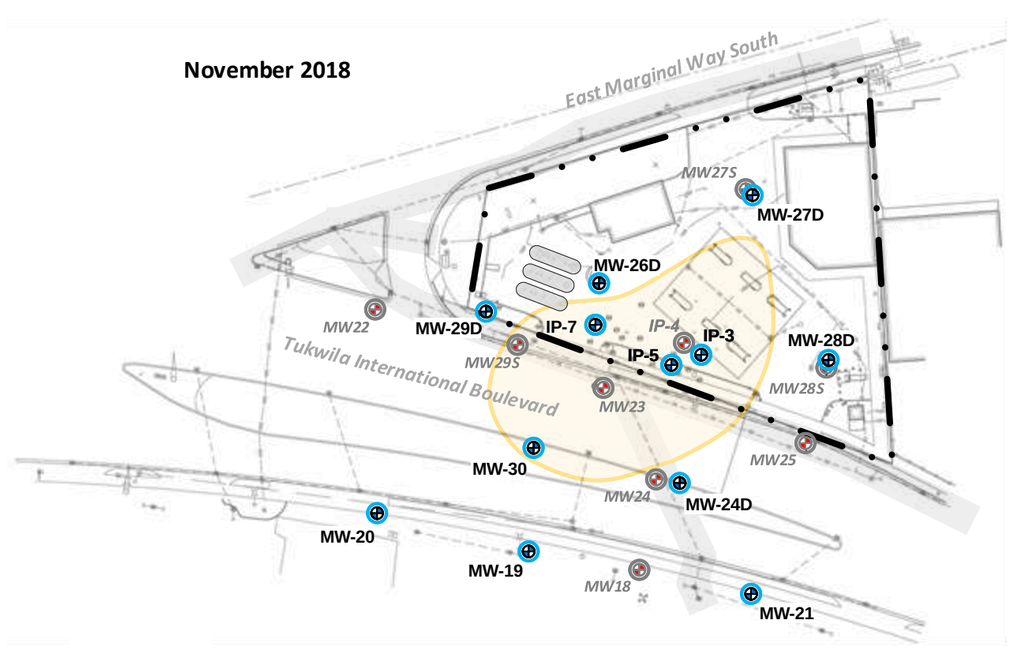
- MW-22 — Existing Monitoring Well (screened in the upper saturated zone)
- **MW-22** — Existing Monitoring Well (screened in the lower saturated zone)
- GRO/Benzene Detected Greater than Site Cleanup Levels (800/1.6 µg/L)
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)

Note: Interpretations are based on analytical results , summarized in Tables 5-1 and 5-2.









Project File: 01-0410-M F7-4 Lower COCs Groundwater, 2018.vsdx

g-logics

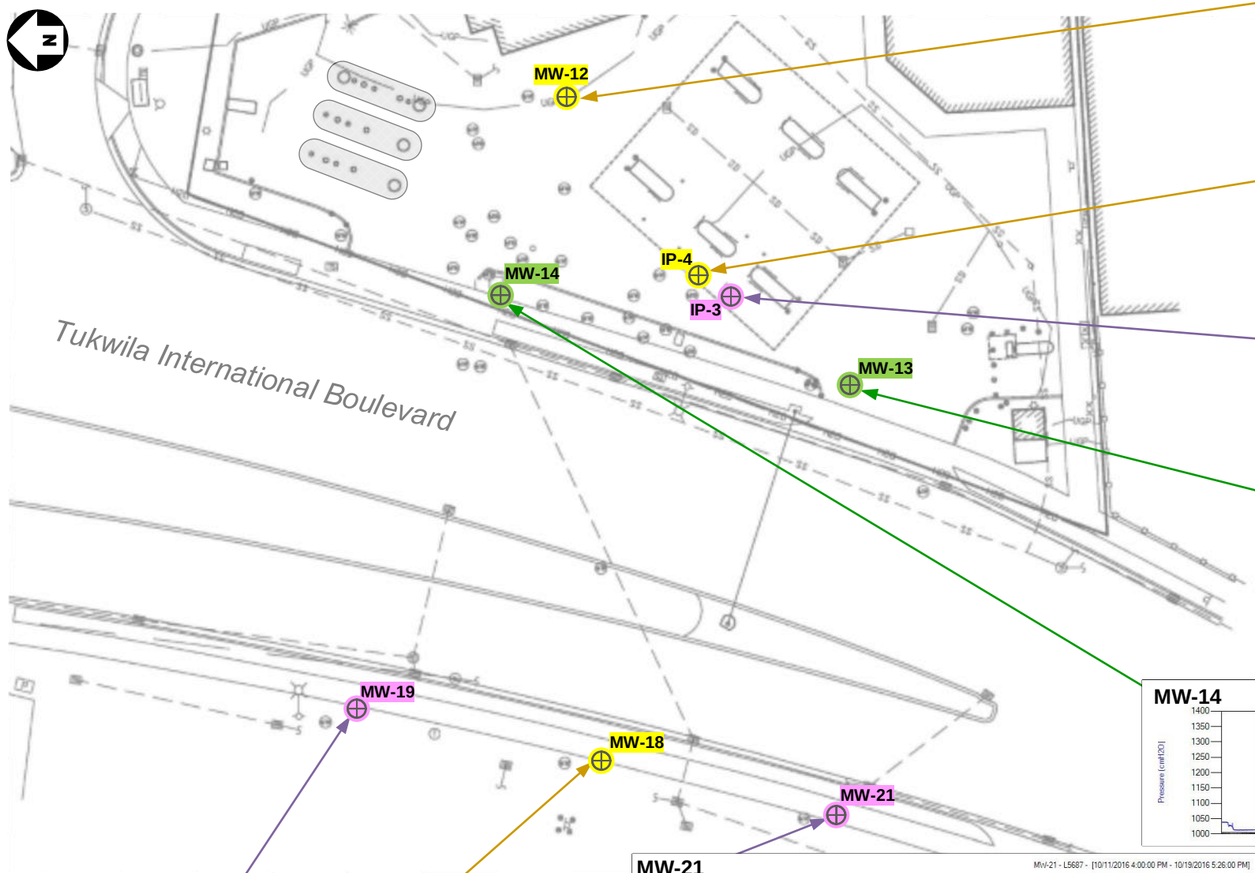
Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

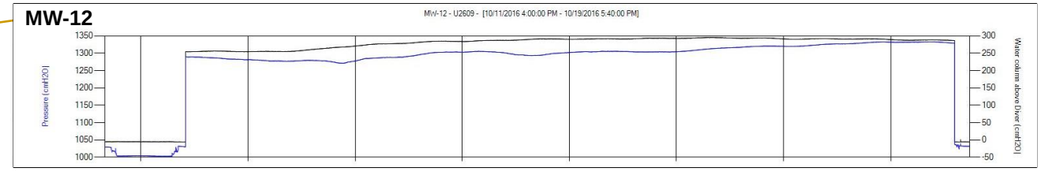
Drawing not to Standard Scale

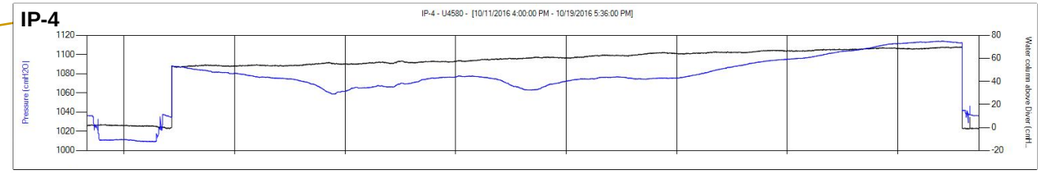
Lower Saturated Zone, Groundwater Samples, 2018
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

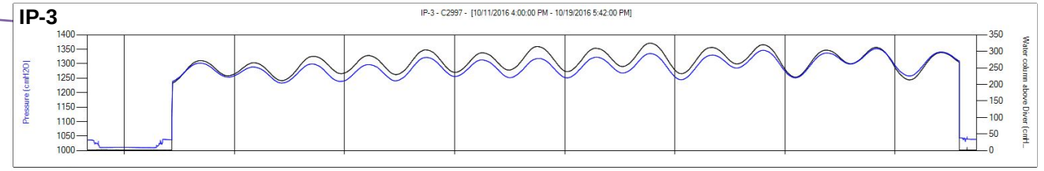
Figure 7-4

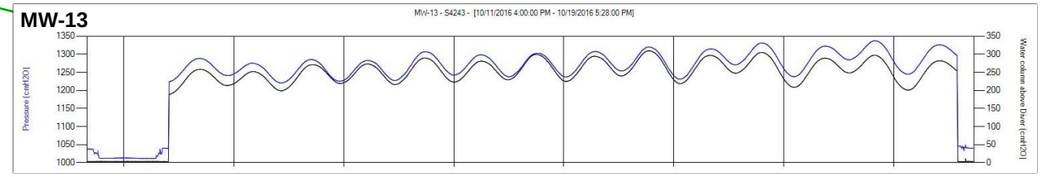
Mapping References: PLS Survey 2016 and Collected Analytical Data.

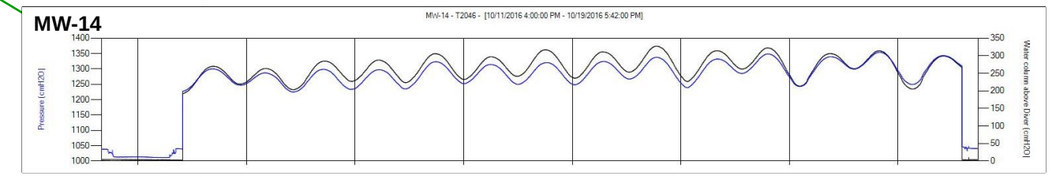


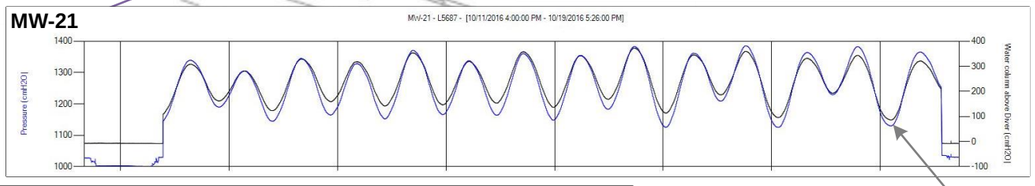


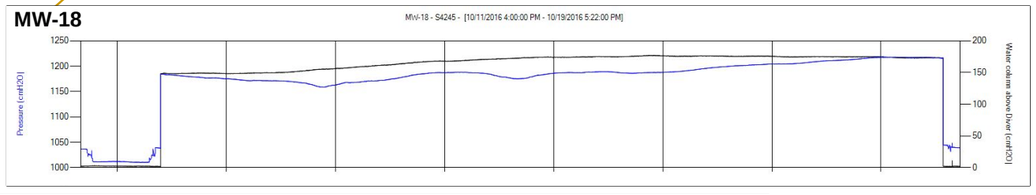


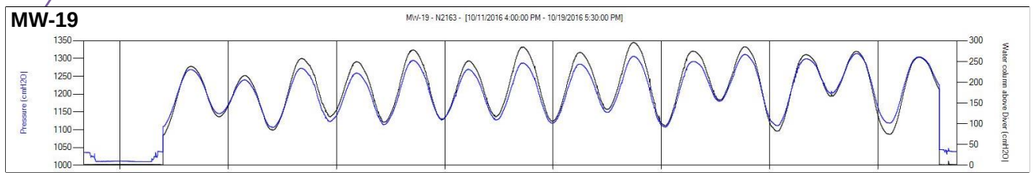












Blue Lines Show Total Pressure of Water Column Above Transducer for the Week of 10/11/2016 through 10/19/2016.

Black Lines Show Water Level Above Transducer (compensated for atmospheric pressure).

Legend

- **MW-18** — Yellow shading indicates well screened above confining layer (**Upper Saturated Zone**).
- **MW-21** — Pink shading indicates monitoring well screened below the confining layer (**Lower Saturated Zone**).
- **MW-13** — Green shading indicates well screened across both upper and lower water-bearing units.

Project File: 01-0410-M F8-1 Tidal Study Wells, 2016.vsdx

g-logics

Mapping References: PLS Survey 2016, G-Logics site measurements.

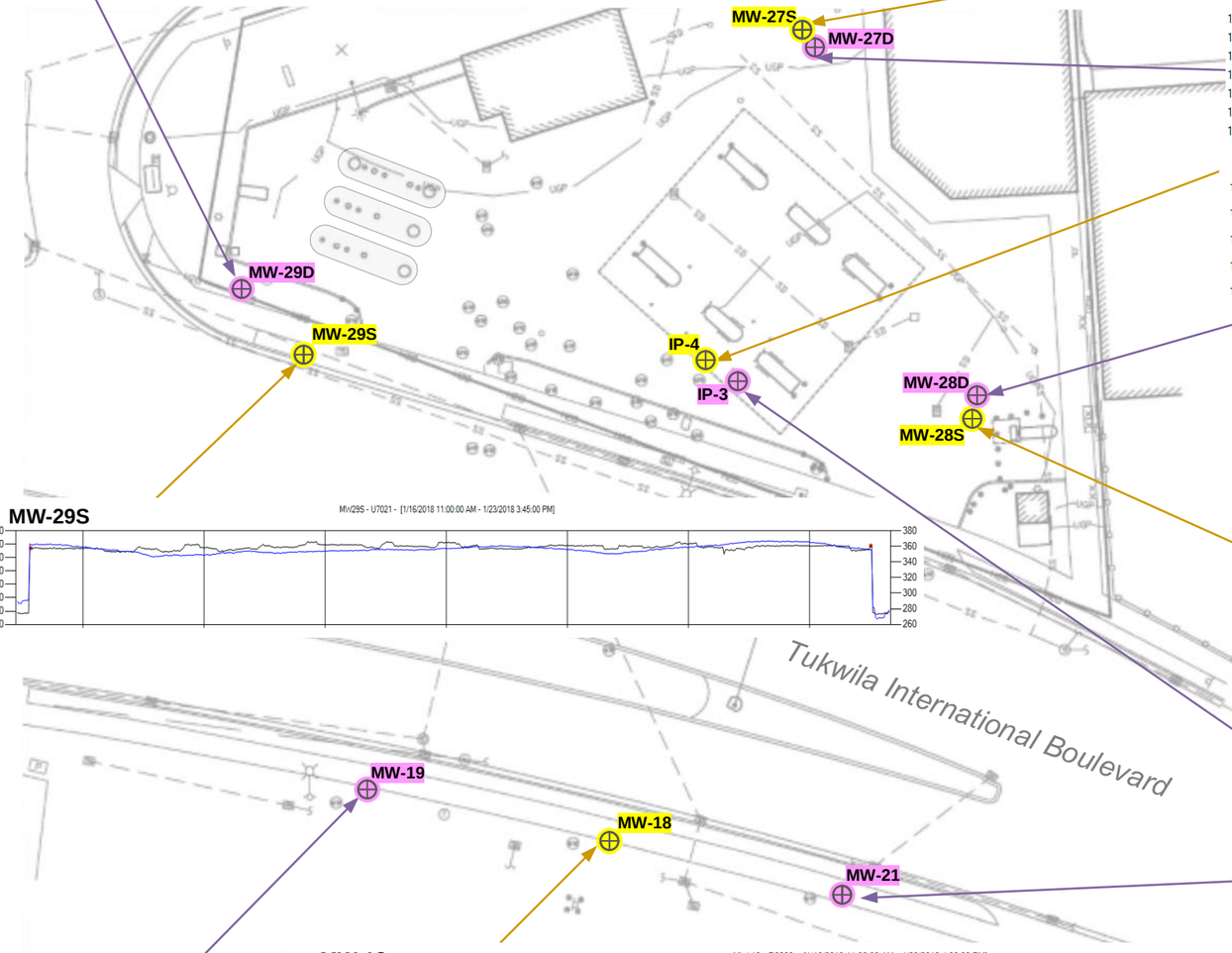
Important Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 40'

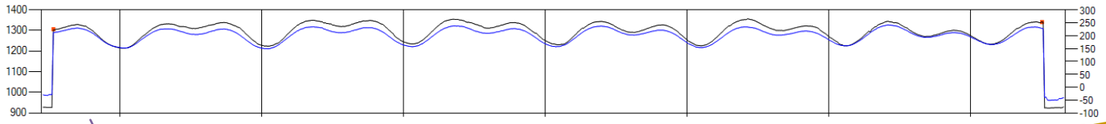
0 ft. 24 ft. 40 ft. 80 ft.

2016 Tidal Study Water Levels
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

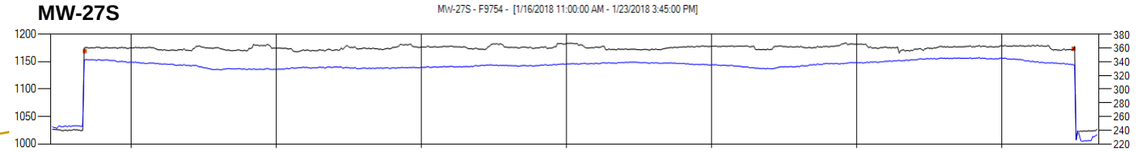
Figure 8-1



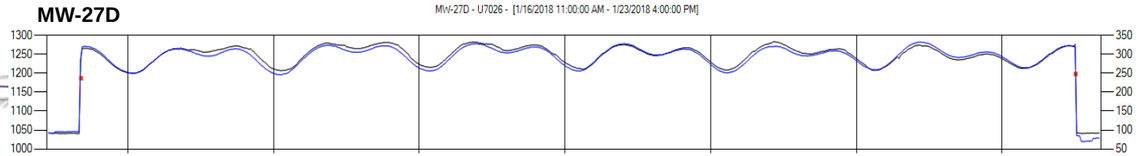
MW-29D



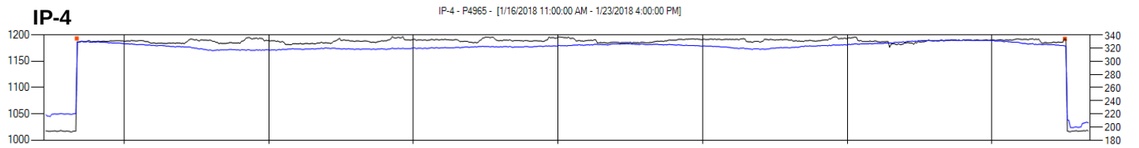
MW-27S



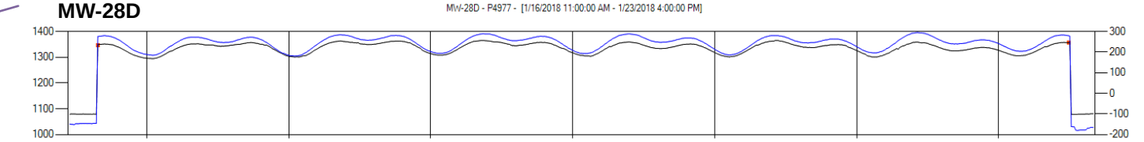
MW-27D



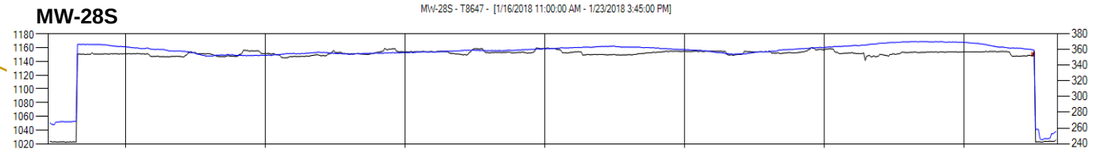
IP-4



MW-28D

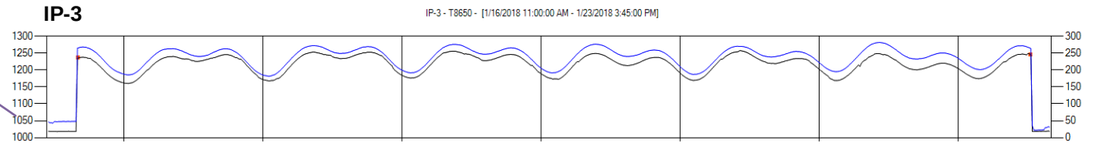


MW-28S

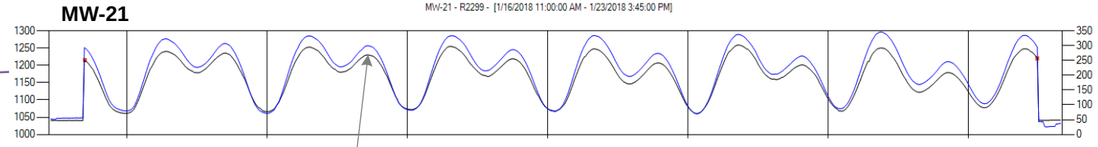


MW-29S

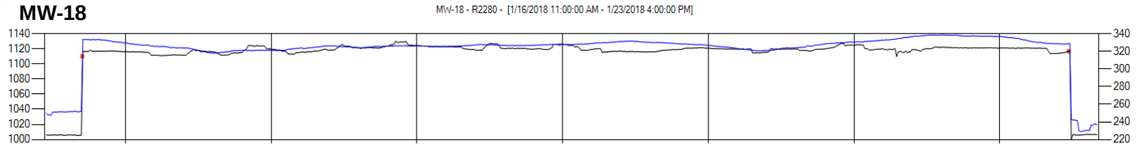
IP-3



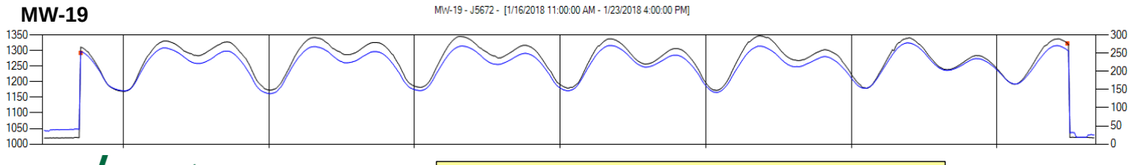
MW-21



MW-18



MW-19



Blue Lines Show Total Pressure of Water Column Above Transducer for the Week of 1/16/2018 through 1/23/2018.

Black Lines Show Water Level Above Transducer (compensated for atmospheric pressure).

Legend

- MW-18 — Yellow shading indicates well screened above confining layer (**Upper Saturated Zone**).
- MW-21 — Pink shading indicates monitoring well screened below the confining layer (**Lower Saturated Zone**).

Approximate Drawing Scale: 1" = 40'

0 ft. 24 ft. 40 ft. 80 ft.

g-logics

Important Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

2018 Tidal Study Well Locations
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 8-2

Project File: 01-0410-M F8-2 Tidal Study Wells, 2018.vsdx

Mapping References: PLS Survey 2016, G-Logics site measurements.

East Marginal Way South

Tukwila International Boulevard

To Duwamish Waterway

MW-14

IP-3

MW-13

MW-19

MW-21

8

8.5

9

4.0'

3.0'

2.0'

1.0'

High Tide

Low Tide

Legend

Property Boundary

MW-19 — Transducer Well (screened below 15' depth)

Low tide groundwater elevation contour* with interpreted flow direction

High tide groundwater elevation contour* with interpreted flow direction

Groundwater elevations measured in feet above mean sea level. *Measured during tidal study on October 18-19, 2016. Elevation measurements are summarized in report appendices.

g-logics

Important Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 30'

0 ft. 18 ft. 30 ft. 60 ft.

Groundwater Elevation Contours, Lower Saturated Zone High and Low tide, 2016

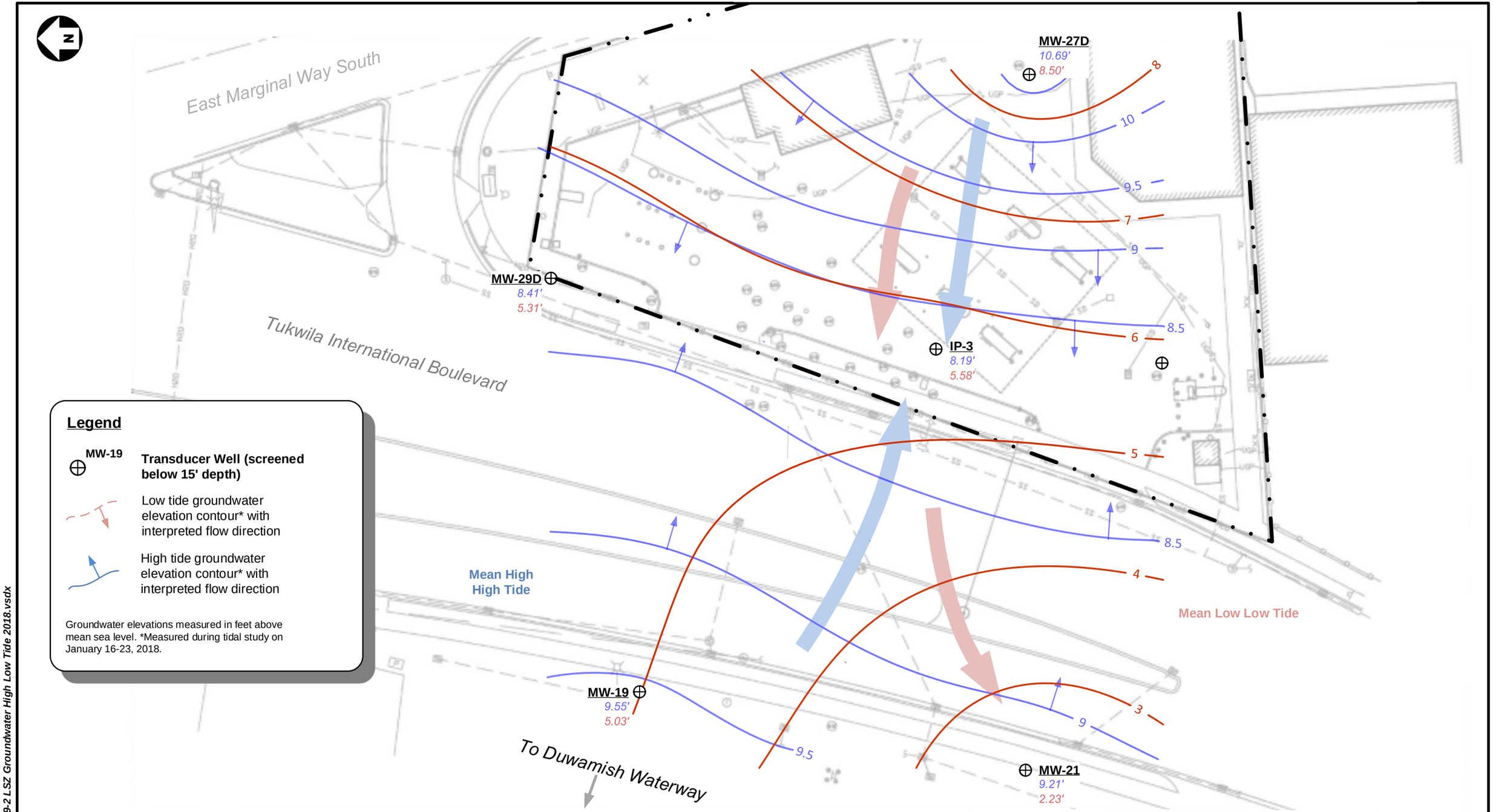
Boeing Field Chevron

10805 East Marginal Way South, Tukwila, Washington

Figure 9-1

Project File: 01-0410-M F9-1 LSZ Groundwater High Low Tide 2016.vsdx

Mapping References: PLS Survey 2016, G-Logics Field Measurements.



Legend

MW-19 ⊕ **Transducer Well (screened below 15' depth)**

Low tide groundwater elevation contour* with interpreted flow direction

High tide groundwater elevation contour* with interpreted flow direction

Groundwater elevations measured in feet above mean sea level. *Measured during tidal study on January 16-23, 2018.

g-logics

Important Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 30'

0.0 in. 216.0 in 360.0 in. 720.0 in.

Lower Saturated Zone Groundwater Elevation Contours, High and Low tide, 2018
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 9-2

Project File: 01-0410-M F9-2 LSZ Groundwater High Low Tide 2018.vsdx

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements.

East Marginal Way South

Tukwila International Boulevard

To Duwamish Waterway

MW-27D
7.84'

MW-29D
7.01'

IP-3
6.99'

MW-28D
7.03'

MW-19
7.11'

MW-21
6.61'

7.75

7.5

7.25

7

6.75

Legend

MW-19 — **Transducer Well (screened below 15' depth)**

Mean groundwater elevation contour* with interpreted flow direction.

Principal Contour Interval: 0.25 ft

Groundwater elevations measured in feet above mean sea level. *Measured during tidal study on January 16-23, 2018. Mean elevations calculated using Serfe's Method for information collected from January 17-20, 2018, see text for discussion. Interpreted contours may change with additional information.

g-logics

Important Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Drawing Scale: 1" = 30'

0 ft. 18 ft. 30 ft. 60 ft.

Lower Saturated Zone Groundwater Elevation Contours, Mean Elevations, 2018
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 9-3

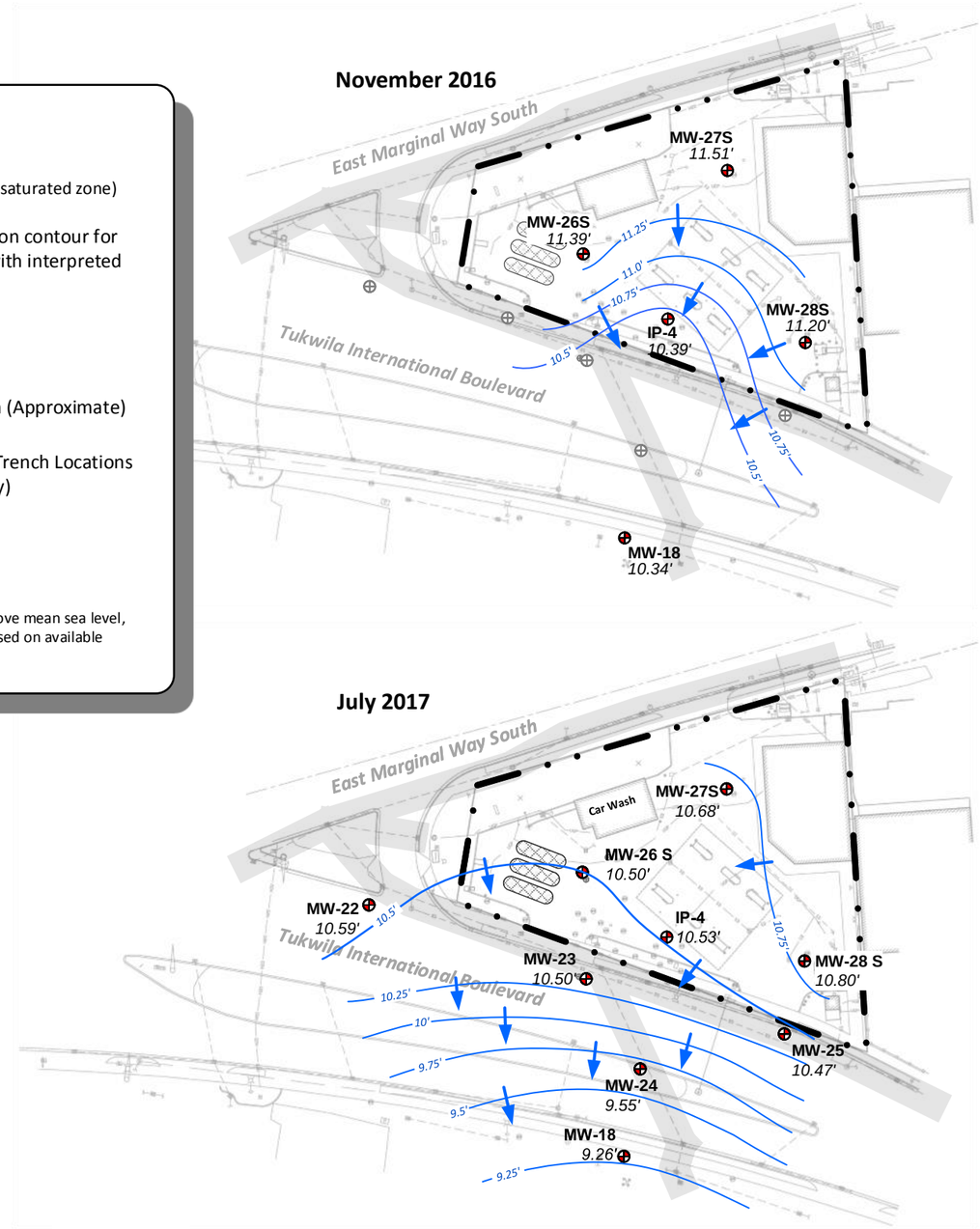
Project File: 01-0410-M F9-3 LSZ SERFES Mean.vsdx

Mapping References: Historical RZA, HartCrowser, PEG, and ERI Reports, PLS Survey 2016, G-Logics Field Measurements.

Legend

- **MW-22** — Monitoring Well (screened in the upper saturated zone)
- Groundwater elevation contour for water-bearing unit with interpreted flow direction
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)
- MW-29S — Not Measured

Groundwater elevations measured in feet above mean sea level, Data presented in Table 2. Interpretations based on available information for referenced date..



g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Drawing not to Standard Scale

Groundwater Elevations Contours, Upper Saturated Zone 2016-2017

Boeing Field Chevron

10805 East Marginal Way South, Tukwila, Washington

Figure 9-4

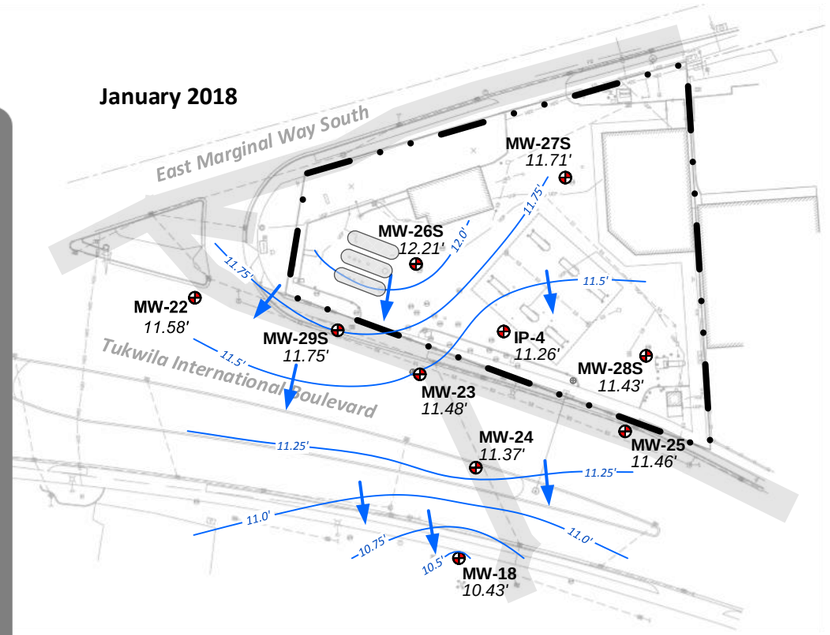
Project File: 01-0410-M F9-4 Upper GW Contours 2016-2017.vsdx

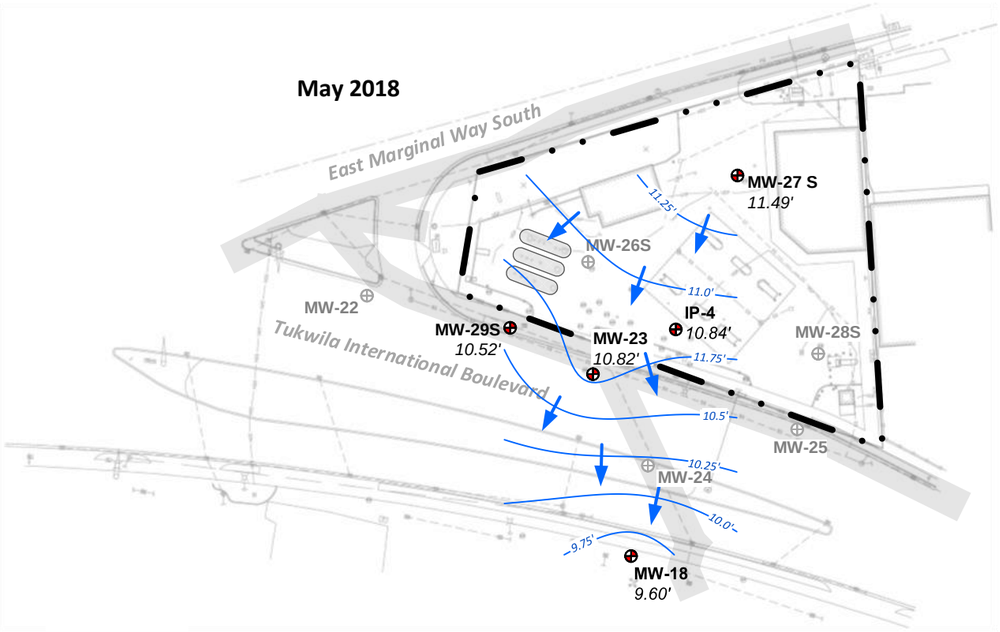
Mapping References: PLS Survey 2016, G-Logics Field Measurements.

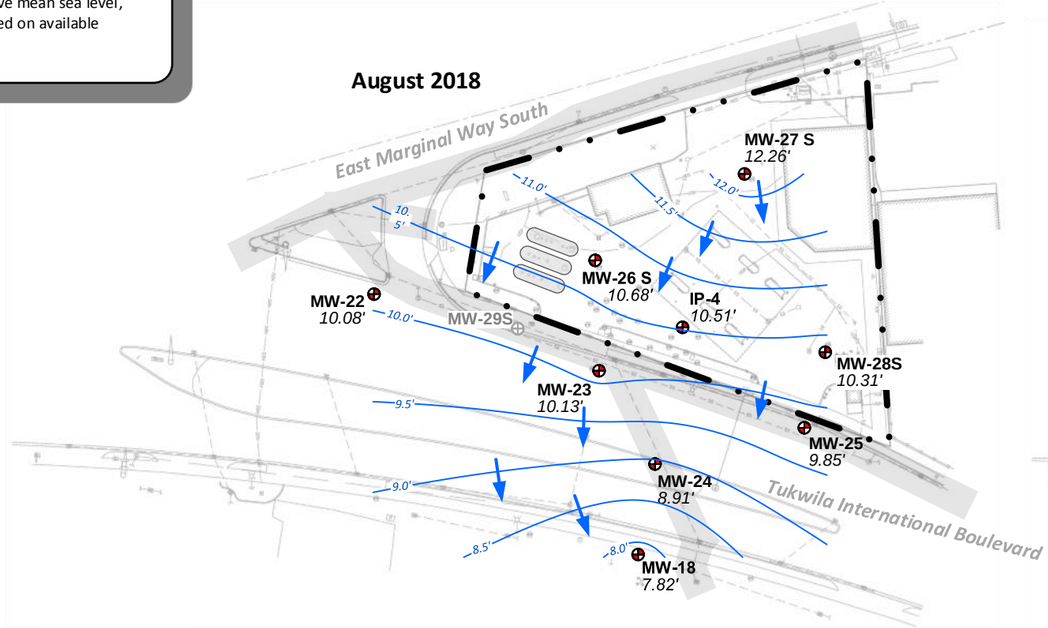
Legend

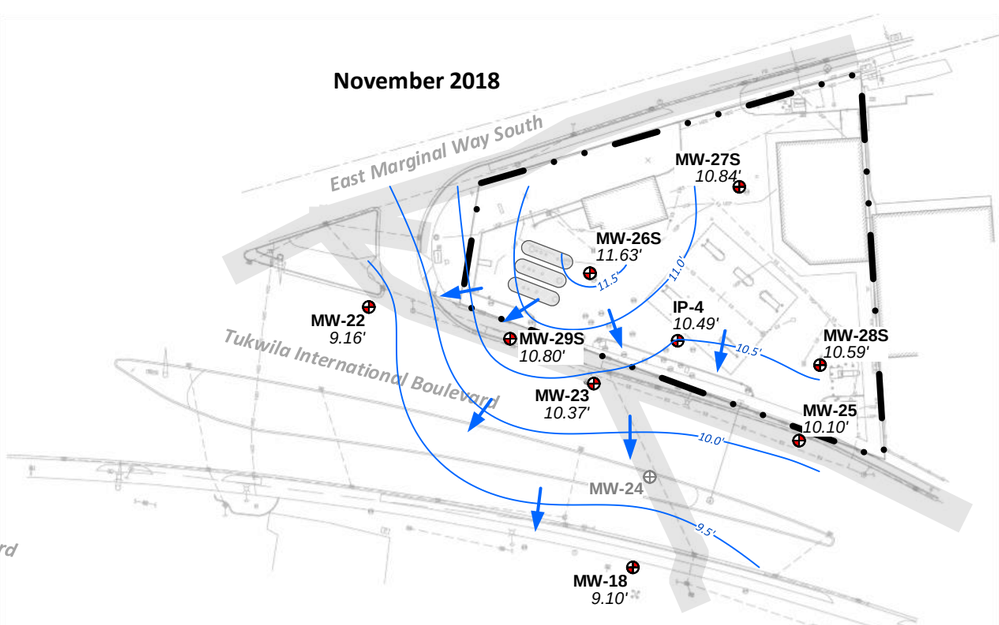
- **MW-22** — Measured Monitoring Well (screened in the upper saturated zone)
- Groundwater elevation contour for water-bearing unit with interpreted flow direction
- Property Boundary
- Current UST Location (Approximate)
- Approximate Utility Trench Locations (Adjacent to Property)
- MW-29S — Not Measured

Groundwater elevations measured in feet above mean sea level, Data presented in Table 2. Interpretations based on available information for referenced date..









g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Drawing not to Standard Scale

Groundwater Elevation Contours, Upper Saturated Zone, 2018
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 9-5

Project File: 01-0410-M F9-5 Upper GW Contours 2018.vsdx

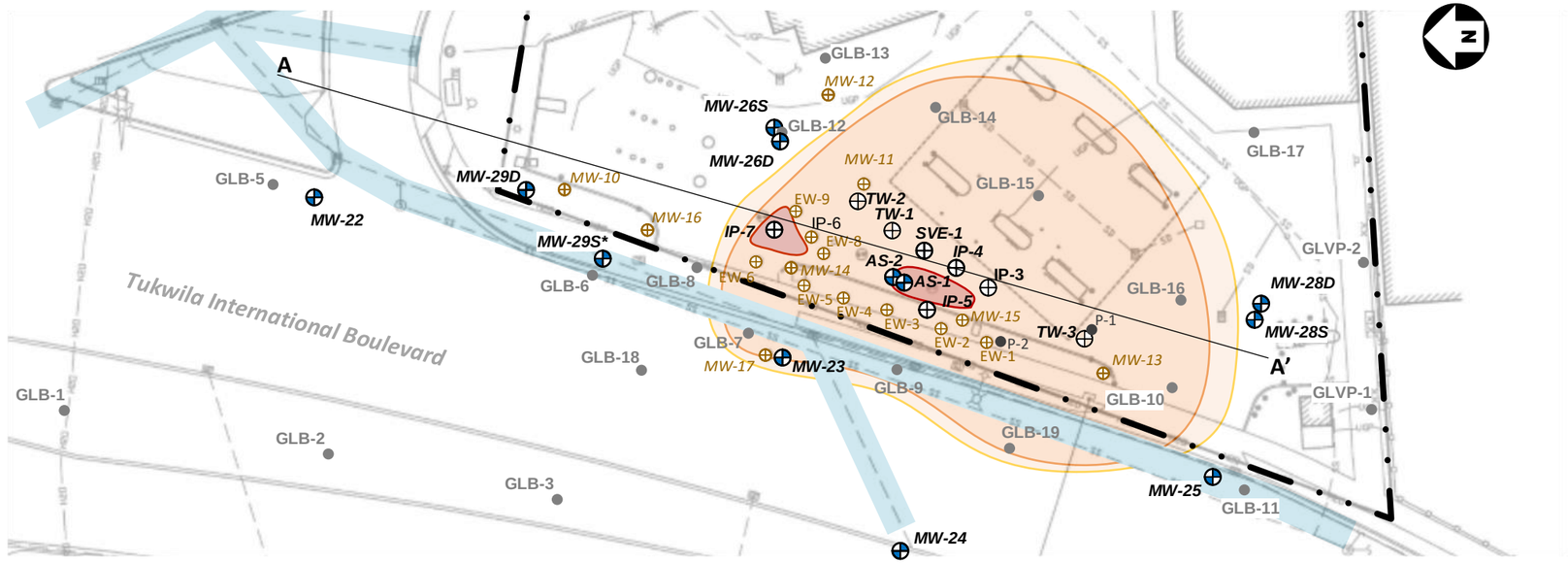
Mapping References: PLS Survey 2016, G-Logics Field Measurements.

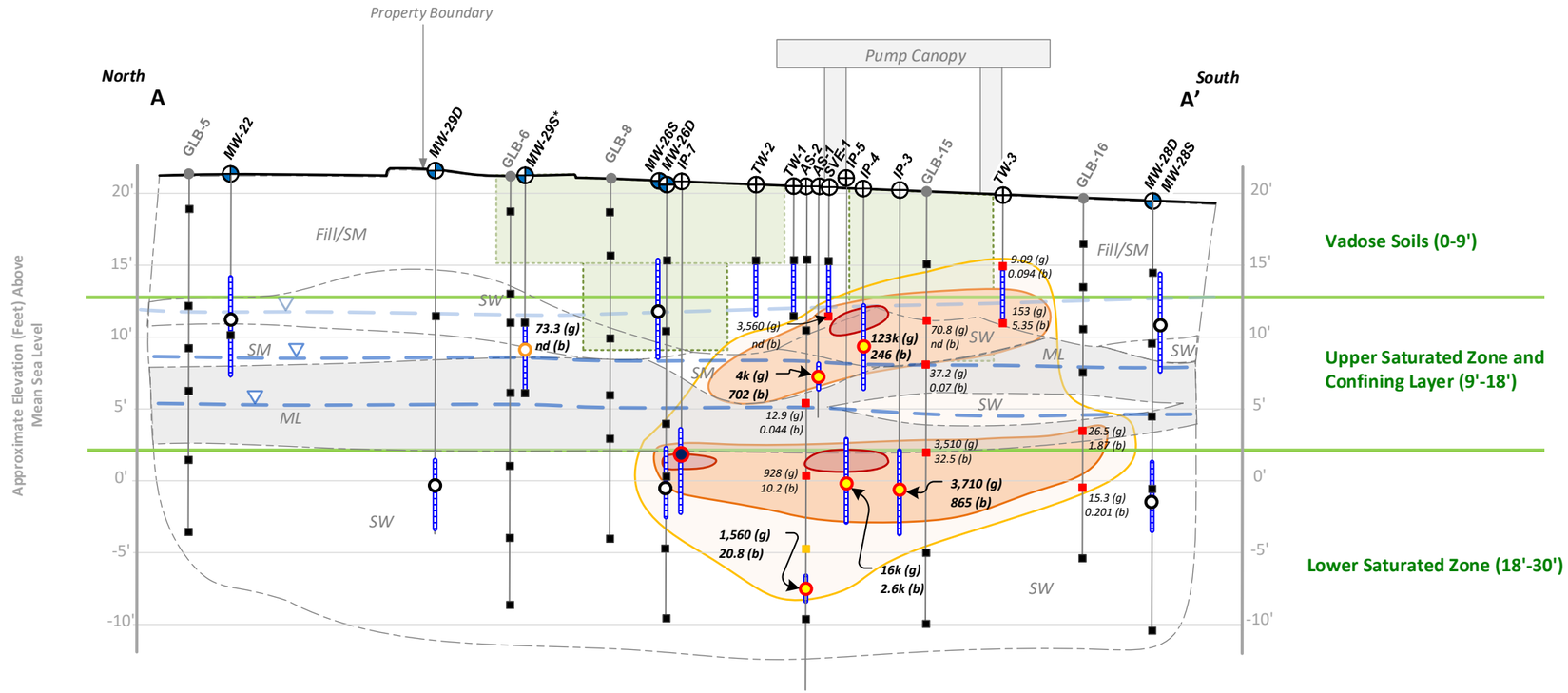
Legend

- **MW-22** — Monitoring Well (Installed 2016-2019)
- EW-2 — Monitoring Well (Decommissioned 2016)
- **EW-5** — Existing Site Exploration Location
- GLB-5 — Soil Boring (2016)
- GRO/Benzene Detected in Soil Greater than 30/0.03 mg/kg
- GRO/Benzene Detected in Soil Greater than 300/0.3 mg/kg
- Area of LNAPL, Understood
- Potentiometric Surface of Upper Water-Bearing Unit (Approximate)
- Potentiometric Surface of Lower Water-Bearing Unit (Approximate, shown at high and low tide)
- Property Boundary
- Approximate Extent of Historical Remedial Excavations/Fill (see Figures 2 and 3)
- 12.9 (g) / 0.044 (b) — Soil Sample, GRO/benzene not detected
- Detected GRO (g) and benzene (b) concentrations in soil (mg/kg) above cleanup levels
- Groundwater Sample, GRO/benzene not detected
- Groundwater Sample, GRO/benzene concentrations present but less than cleanup levels
- 1,560 (g) / 20.8 (b) — Groundwater Sample, GRO/benzene concentrations above MTCA cleanup levels
- Free product present in well
- Well Screen Interval

Note: Interpreted contours are based on available analytical data for soil samples collected between 2008 and 2019.

Groundwater analytical results from samples collected November 2018 and April 2019.





Note: Analytical results are summarized in Tables 4 and 5. Interpreted contaminant contours are based on available analytical data.

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

Approximate Vertical Drawing Scale: 1" = 10'
4X Vertical Exaggeration

Approximate Horizontal Drawing Scale: 1" = 40'
0 ft. 24 ft. 40 ft. 80 ft.

Cross-section A-A'

Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 10-1

Project File: 01-0410-M F10-1 A-A.vsd

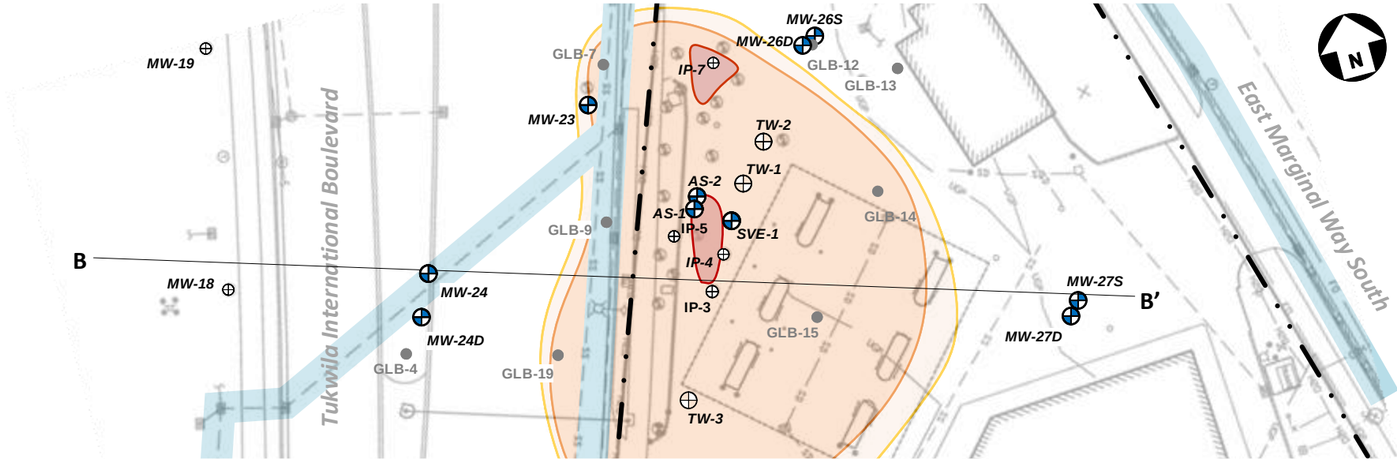
Mapping References: PLS Survey 2016, G-Logics Field Measurements, Compiled Data.

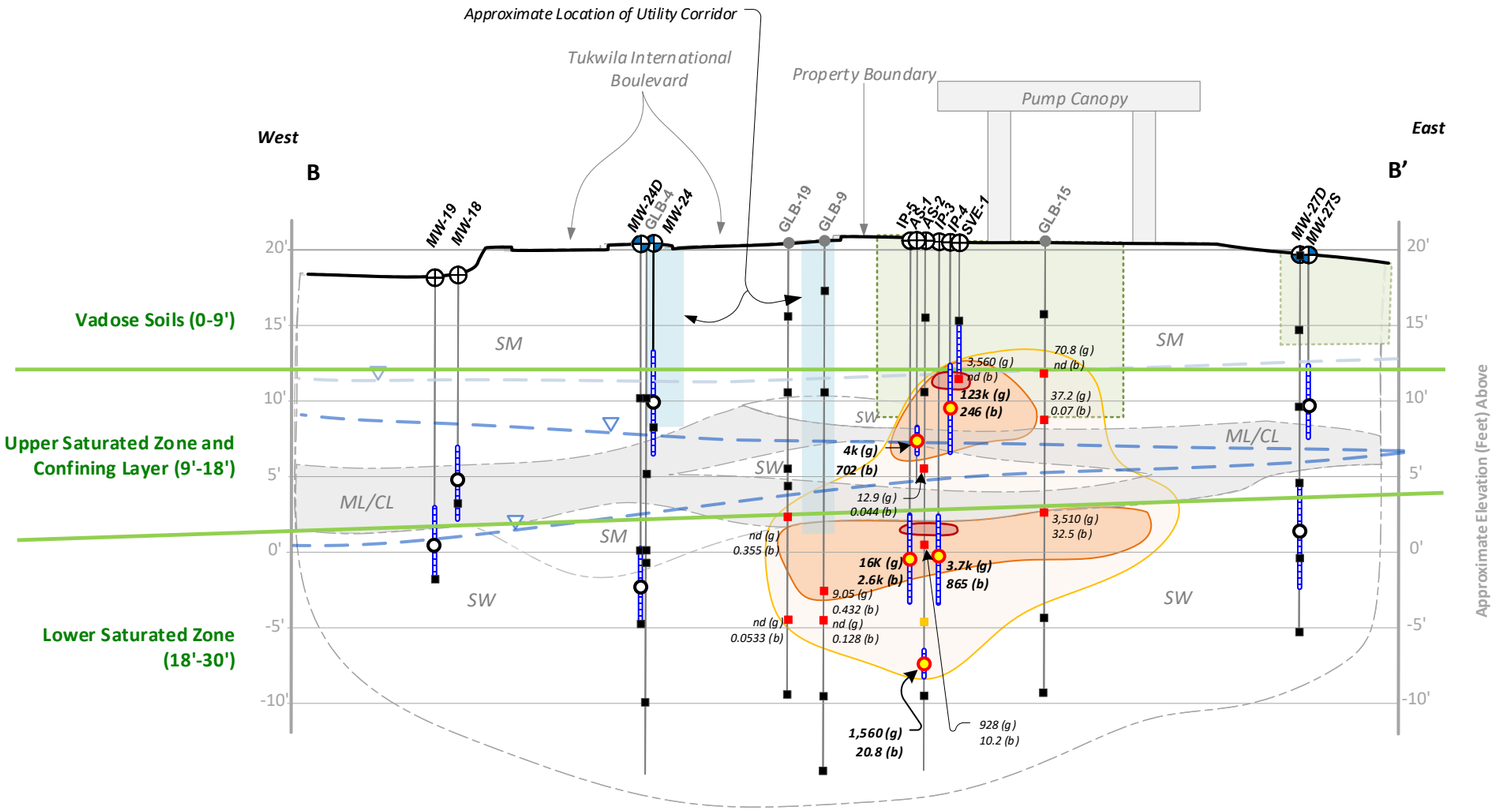
Legend

- **MW-22** — Monitoring Well (Installed 2016-2019)
- EW-2 — Monitoring Well (Decommissioned 2016)
- **EW-5** — Existing Site Exploration Location
- GLB-5 — Soil Boring (2016)
- GRO/Benzene Detected in Soil Greater than 30/0.03 mg/kg
- GRO/Benzene Detected in Soil Greater than 300/0.3 mg/kg
- Area of LNAPL, Understood
- Potentiometric Surface of Upper Water-Bearing Unit (Approximate)
- Potentiometric Surface of Lower Water-Bearing Unit (Approximate, shown at high and low tide)
- Property Boundary
- Approximate Extent of Historical Remedial Excavations/Fill (see Figures 2 and 3)
- Soil Sample, GRO/benzene not detected
- 12.9 (g) / 0.044 (b) — Detected GRO (g) and benzene (b) concentrations in soil (mg/kg) above cleanup levels
- Groundwater Sample, GRO/benzene not detected
- Groundwater Sample, GRO/benzene concentrations present but less than cleanup levels
- 1,560 (g) / 20.8 (b) — Groundwater Sample, GRO/benzene concentrations above MTCA cleanup levels
- Free product present in well
- Well Screen Interval

Note: Interpreted contours are based on available analytical data for soil samples collected between 2008 and 2019.

Groundwater analytical results from samples collected November 2018 and April 2019.





Note: Analytical results are summarized in Tables 4 and 5. Interpreted contaminant contours are based on available analytical data.

Approximate Vertical Drawing Scale: 1" = 10'
4X Vertical Exaggeration

Approximate Horizontal Drawing Scale: 1" = 40'
0 ft. 24 ft. 40 ft. 80 ft.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

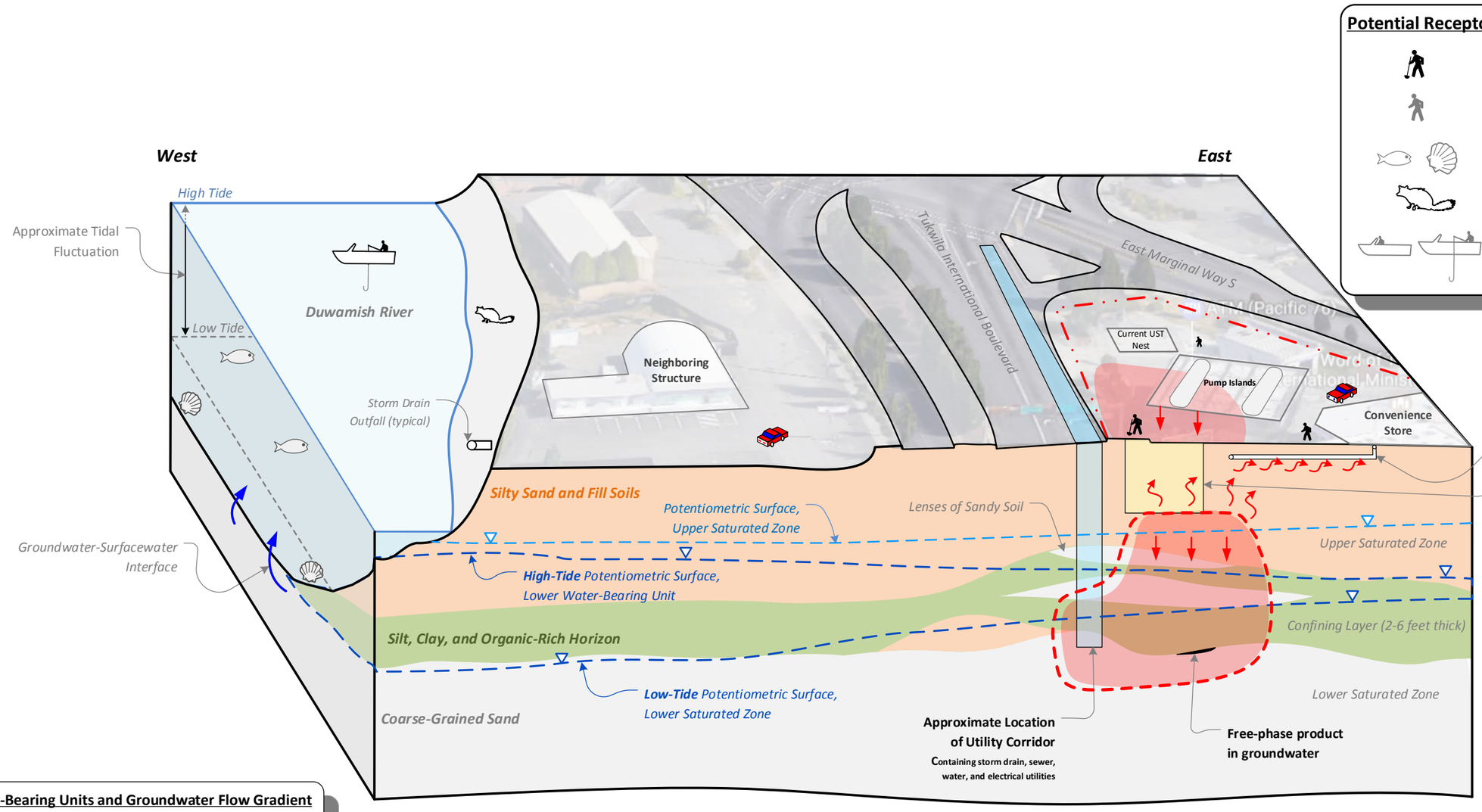
Cross Section B-B'

Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 10-2

Project File: 01-0410-M F10-2 B-B.vsdx

Mapping References: PLS Survey 2016, G-Logics Field Measurements, Compiled Data.



Potential Receptors

- Construction/Utility Maintenance Workers
- Onsite Employees/Visitors
- Aquatic Wildlife
- Terrestrial Wildlife
- Recreational Users, Commercial Fishing

Water-Bearing Units and Groundwater Flow Gradient

Upper Water-Bearing Zone

- Shallow groundwater
- No evidence of tidal influence
- Gradient to the west, toward Duwamish River

Lower Water-Bearing Zone

- Tidally influenced
- Net gradient to Duwamish River
- High-tide gradient to the east-southeast
- Low-tide gradient to the west-southwest.

Contaminant Pathways

- Vapor Phase Transport
- Release to Soil, Soil to Groundwater
- Approximate Extent of Impacted Soil
- Approximate Extent of Impacted Groundwater

g-logics

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

This Figure is a Conceptual Representation of Site Conditions, Site Features are not Drawn to Scale.

Conceptual Site Model

Boeing Field Chevron

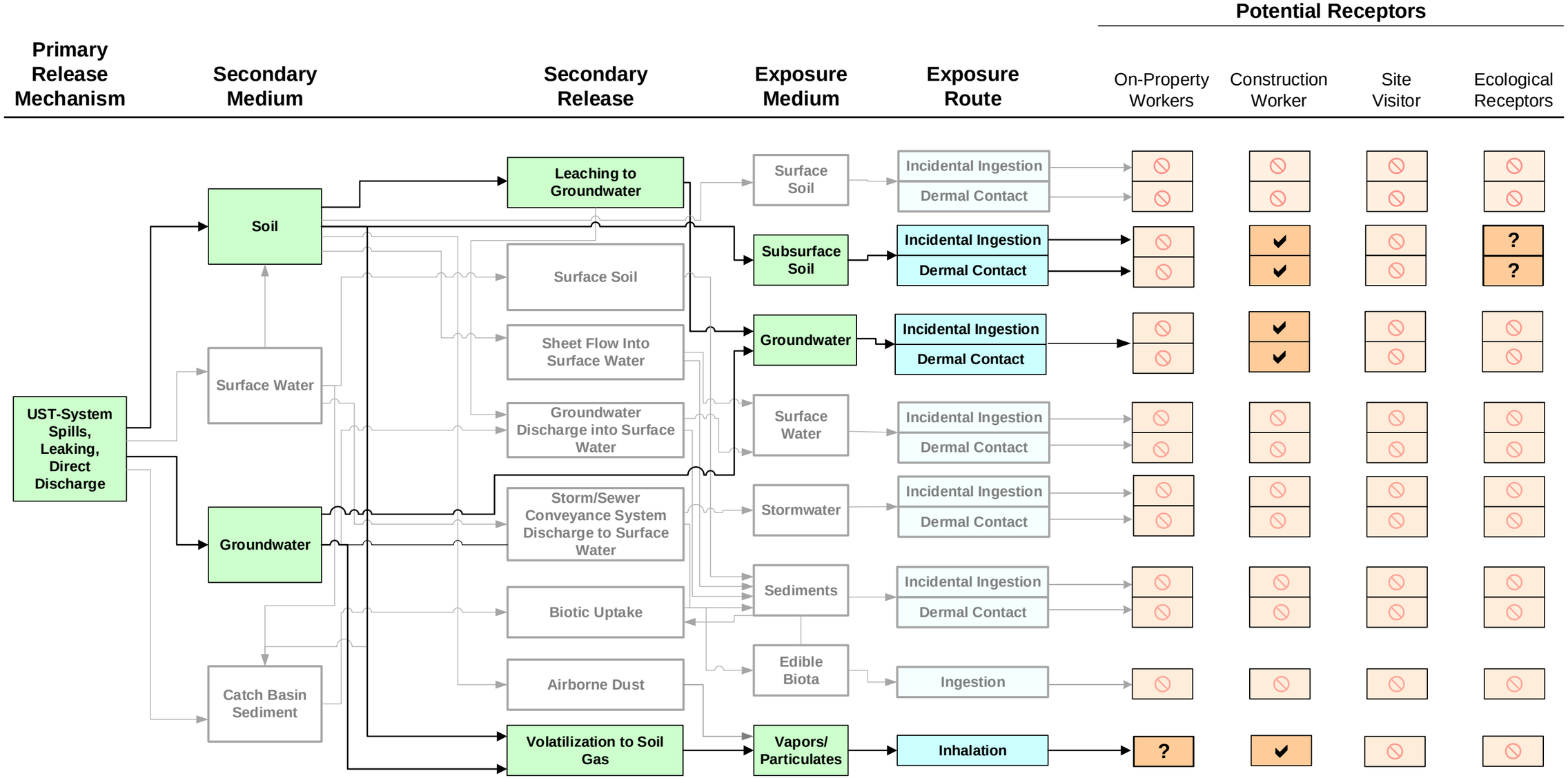
10805 East Marginal Way South

Tukwila, Washington

Figure 11-1

Project File: 01-0410-M F11-1 CSM Diagram.vsdx

Mapping References: Google Earth Imagery, G-Logics Field Measurements, Available Soil and Groundwater Data.



✔ Complete exposure pathway

⃠ Incomplete exposure pathway

? Exposure pathway could be complete, but the potential receptor is unlikely

Project File: 01-0410-M F11-2 CSM Chart.vsdx

g-logics

Note: This figures contains information in color. Black & white photocopies may not be suitable for review.

Conceptual Site Model Organizational Chart
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, Washington

Figure 11-2

TABLES

TABLE 1
Compiled Site Explorations
Boeing Field Chevron
Tukwila, Washington

Consultant/ Report Reference	Exploration Location (1)	Date Completed	Drilling/Sampling Method	Boring Diameter (in)	Surface Elevation (ft.)*	Total Depth (ft.)	Bottom Elevation (ft.)	Well Installed?	Well Screened Interval	Well Decommissioning Date	Boring Logs Reference (Appendix E)
Rittenhouse-Zeman & Associates											
RZA, 1990a	S-1	4/6/90	Excavation	---	---	3	---	N	---	---	---
	S-2	4/6/90	Excavation	---	---	3	---	N	---	---	---
	S-3	4/6/90	Excavation	---	---	8	---	N	---	---	---
	S-4	4/6/90	Excavation	---	---	10	---	N	---	---	---
	S-5	4/6/90	Excavation	---	---	9	---	N	---	---	---
	S-2	4/23/90	Excavation	---	---	9	---	N	---	---	---
	S-3	4/23/90	Excavation	---	---	9	---	N	---	---	---
	S-1	4/24/90	Excavation	---	---	13-15	---	N	---	---	---
	S-4	4/24/90	Excavation	---	---	12	---	N	---	---	---
	S-104	5/2/90	Excavation	---	---	11-12	---	N	---	---	---
	S-105	5/2/90	Excavation	---	---	11-12	---	N	---	---	---
	S-A	5/2/90	Excavation	---	---	3	---	N	---	---	---
RZA, 1990b	B-1/ MW-1	6/7/90	HSA	---	---	20	---	**Y**	5 ft - 20 ft	1997	pp. 78 - 93
	B-2/ MW-2	6/7/90	HSA	---	---	20	---	**Y**	5 ft - 20 ft	1990	pp. 78 - 93
	B-3/ MW-3	6/7/90	HSA	---	---	20	---	**Y**	5 ft - 20 ft	2/4/1993	pp. 78 - 93
	B-4/ MW-4	6/7/90	HSA	---	---	15	---	**Y**	5 ft - 15 ft	2/4/1993	pp. 78 - 93
	B-5	6/7/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-6/ MW-5	6/7/90	HSA	---	---	15	---	**Y**	5 ft - 15 ft	1992	pp. 78 - 93
	B-7	6/7/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-8	6/7/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-9	6/7/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-10	6/7/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-11	7/26/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-12	7/26/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-13	7/26/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	B-14/ MW-6	7/26/90	HSA	---	---	20	---	**Y**	5 ft - 20 ft	1992	pp. 78 - 93
	B-15/ MW-7	7/26/90	HSA	---	---	20	---	**Y**	5 ft - 20 ft	1994	pp. 78 - 93
	B-16	7/26/90	HSA	---	---	14	---	N	---	---	pp. 78 - 93
	S-1A	6/13/90	Excavation	---	---	8		N		---	---
	S-2A	6/13/90	Excavation	---	---	8	---	N	---	---	---
	S-3A	6/13/90	Excavation	---	---	8	---	N	---	---	---
	S-4A	6/13/90	Excavation	---	---	8	---	N	---	---	---
	S-3	6/18/90	Excavation	---	---	10	---	N	---	---	---
	S-4	6/18/90	Excavation	---	---	10	---	N	---	---	---
	S-A	6/18/90	Excavation	---	---	10	---	N	---	---	---
	S-B	6/18/90	Excavation	---	---	11	---	N	---	---	---
	S-C	6/18/90	Excavation	---	---	10	---	N	---	---	---
	S-D	6/18/90	Excavation	---	---	12	---	N	---	---	---
	S-E	6/18/90	Excavation	---	---	10	---	N	---	---	---
	P1-1	6/25/90	Excavation	---	---	11	---	N	---	---	---
	P1-3	6/25/90	Excavation	---	---	11	---	N	---	---	---
	P1-4	6/25/90	Excavation	---	---	12	---	N	---	---	---

TABLE 1
Compiled Site Explorations
Boeing Field Chevron
Tukwila, Washington

Consultant/ Report Reference	Exploration Location (1)	Date Completed	Drilling/Sampling Method	Boring Diameter (in)	Surface Elevation (ft.)*	Total Depth (ft.)	Bottom Elevation (ft.)	Well Installed?	Well Screened Interval	Well Decommissioning Date	Boring Logs Reference (Appendix E)
Hart Crowser											
Hart Crowser, 1990	TP-1	8/27/90	Test Pit	---	---	12	---	N	---	---	---
	TP-5	8/27/90	Test Pit	---	---	10.5	---	N	---	---	---
	TP-7	8/27/90	Test Pit	---	---	10.5	---	N	---	---	---
	TP-8	8/27/90	Test Pit	---	---	11	---	N	---	---	---
	TP-9	8/27/90	Test Pit	---	---	9	---	N	---	---	---
	TP-10	8/27/90	Test Pit	---	---	5.5	---	N	---	---	---
Hart Crowser, 1992	TW-1	9/4/92	Excavation	---	---	2-6	---	N	---	---	---
	TS-1	9/4/92	Excavation	---	---	2-6	---	N	---	---	---
	TN-1	9/4/92	Excavation	---	---	2-6	---	N	---	---	---
	TE-1	9/4/92	Excavation	---	---	2-6	---	N	---	---	---
	TB-1	9/4/92	Excavation	---	---	2-6	---	N	---	---	---
	TWN-1	9/18/92	Excavation	---	---	8	---	N	---	---	---
	TWW-1	9/18/92	Excavation	---	---	5-6	---	N	---	---	---
	TB-1	9/18/92	Excavation	---	---	8	---	N	---	---	---
	E Tank	9/23/92	Excavation	---	---	---	---	N	---	---	---
Hart Crowser, 1993c	MW-2R	2/5/93	HSA	8	17.7	20	-2.3	**Y**	15 ft - 20 ft	1994	pp. 73-77
	MW-3R	2/4/93	HSA	8	17.9	20	-2.1	**Y**	10 ft - 20 ft	1996	pp. 73-77
	MW-4R	2/9/93	HSA	8	18.4	20	-1.6	**Y**	10 ft - 20 ft	1996	pp. 73-77
	MW-8	2/5/93	HSA	8	17	22	-5.0	**Y**	17 ft - 22 ft	1994	pp. 73-77
	MW-8a	2/5/93	HSA	8	17	14	3.0	**Y**	9 ft - 14 ft	1994	pp. 73-77
	MW-9	2/5/93	HSA	8	16.9	21	-4.1	**Y**	16 ft - 21 ft	1994	pp. 73-77
	MW-9a	2/5/93	HSA	8	16.9	14	2.9	**Y**	9 ft - 14 ft	1994	pp. 73-77
Pacific Environmental Group, Inc.											
PEG, 1997a	WOB-4.5	7/26/96	Excavation	---	---	4.5	---	N	---	---	---
	NSW-3	7/26/96	Excavation	---	---	3	---	N	---	---	---
	SSW-3	7/26/96	Excavation	---	---	3	---	N	---	---	---
PEG, 1997b	MW10	9/3/97	HSA	8	21.60	21.5	0.10	**Y**	8.5 ft - 20.5 ft	12/13/16	pp. 65 - 67
	MW11	9/3/97	HSA	8	20.43	21.5	-1.07	**Y**	8 ft - 20 ft	12/13/16	pp. 65 - 67
	MW12	9/3/97	HSA	8	19.74	21.5	-1.76	**Y**	8 ft - 18 ft	12/13/16	pp. 65 - 67
Environmental Resolutions Inc.											
ERI, 2004a	B1	2/27/04	DP	2	---	15	---	N	---	---	---
	B2	2/27/04	DP	2	---	15	---	N	---	---	---
	B3	2/27/04	DP	2	---	14	---	N	---	---	---
	B4	2/27/04	DP	2	---	15	---	N	---	---	---
	B5	2/27/04	DP	2	---	15	---	N	---	---	---
	B6	2/27/04	DP	2	---	10	---	N	---	---	---
	B7	2/27/04	DP	2	---	11	---	N	---	---	---
	B8	2/27/04	DP	2	---	10	---	N	---	---	---
	B9	2/27/04	DP	2	---	10	---	N	---	---	---
	B10	2/27/04	DP	2	---	10	---	N	---	---	---

TABLE 1
Compiled Site Explorations
Boeing Field Chevron
Tukwila, Washington

Consultant/ Report Reference	Exploration Location (1)	Date Completed	Drilling/Sampling Method	Boring Diameter (in)	Surface Elevation (ft.)*	Total Depth (ft.)	Bottom Elevation (ft.)	Well Installed?	Well Screened Interval	Well Decommissioning Date	Boring Logs Reference (Appendix E)
ERI, 2004b	MW13	7/16/04	HSA	8	20.70	24	-3.3	**Y**	4 ft - 24 ft	12/14/16	pp. 68 - 69
	MW14	7/16/04	HSA	8	21.22	24	-2.8	**Y**	4 ft - 24 ft	12/13/16	pp. 68 - 69
ERI, 2005a	B11	3/1/05	DP	2	---	14	---	N	---	---	---
ERI, 2005c	MW15	8/26/05	HSA	10	20.99	25	-4.0	**Y**	10 ft - 25 ft	12/13/16	pp. 70 - 72
	MW16	8/26/05	HSA	10	21.50	25	-3.5	**Y**	9.5 ft - 24.5 ft	12/14/16	pp. 70 - 72
	MW17	8/26/05	HSA	10	21.35	25	-3.7	**Y**	9.5 ft - 24.5 ft	12/12/16	pp. 70 - 72
Pacific Northern Environmental Construction											
(no report available)	EX-N	---	---	---	20.86	14	6.9	**Y**	3.5 ft -14 ft	12/14/16	---
	EX-S	---	---	---	20.81	15	5.8	**Y**	0 ft - 15 ft	12/14/16	---
G-Logics, Inc.											
G-Logics, 2008	P-1	4/18/06	HSA	8	---	24	---	N	---	---	pp. 43 - 64
	P-2	4/18/06	HSA	8	---	24	---	N	---	---	pp. 43 - 64
	P-3/IP-3	4/25/06	HSA	8	20.62	26	-5.4	**Y**	18 ft - 24 ft	---	pp. 43 - 64
	P-4/IP-4	4/25/06	HSA	8	20.63	24	-3.4	**Y**	8 ft - 14 ft	---	pp. 43 - 64
	P-5/IP-5	4/25/06	HSA	8	21.33	26	-4.7	**Y**	18 ft - 24 ft	---	pp. 43 - 64
	P-5**	4/18/06	HSA	8	---	24	---	N	---	---	pp. 43 - 64
	P-6**	---	---	---	---	>19	---	N	---	---	pp. 43 - 64
	P-7**	---	---	---	---	---	---	N	---	---	---
	P-8	4/18/06	HSA	8	---	24	---	N	---	---	pp. 43 - 64
	IP-6	8/4/06	HSA	8	20.82	24	-3.2	**Y**	17 ft - 23 ft	---	pp. 43 - 64
	IP-7	8/4/06	HSA	8	20.90	24.5	-3.6	**Y**	17 ft - 23 ft	---	pp. 43 - 64
	EW-1	3/17/08	HSA	8	21.26	24	-2.7	**Y**	8 ft - 24 ft	12/12/16	pp. 43 - 64
	EW-2	3/17/08	HSA	8	21.44	24.5	-3.1	**Y**	8 ft - 24 ft	12/8/16	pp. 43 - 64
	EW-3	3/17/08	HSA	8	21.21	23	-1.8	**Y**	8 ft - 23 ft	12/8/16	pp. 43 - 64
	EW-4	3/17/08	HSA	8	21.24	23	-1.8	**Y**	8 ft - 23 ft	12/8/16	pp. 43 - 64
	EW-5	3/17/08	HSA	8	21.09	23	-1.9	**Y**	8 ft - 23 ft	12/8/16	pp. 43 - 64
	EW-6	3/18/08	HSA	8	21.13	25	-3.4	**Y**	8 ft - 24 ft	12/12/16	pp. 43 - 64
	EW-7	3/18/08	HSA	8	20.87	25	-4.1	**Y**	8 ft - 22 ft	12/12/16	pp. 43 - 64
	EW-8	3/18/08	HSA	8	20.90	25	-4.1	**Y**	8 ft - 24 ft	12/12/16	pp. 43 - 64
	EW-9	3/18/08	HSA	8	20.75	26	-4.8	**Y**	8 ft - 23 ft	12/12/16	pp. 43 - 64
	MW-18	4/16/08	DP	2	18.58	20	-1.4	**Y**	11 ft - 16 ft	---	pp. 43 - 64
	MW-19	4/16/08	DP	2	18.37	20	-1.6	**Y**	15 ft - 20 ft	---	pp. 43 - 64
	MW-20	4/16/08	DP	2	19.08	20	-0.9	**Y**	15 ft - 20 ft	---	pp. 43 - 64
	MW-21	4/16/08	DP	2	18.58	22	-3.4	**Y**	17 ft - 22 ft	---	pp. 43 - 64
G-Logics, 2019	AS-1	4/10/19	DP	4	20.83	16	4.8	**Y**	12 ft - 14 ft	---	pp. 2 - 7
	AS-2	4/10/19	HSA	5	20.84	35	-14.2	**Y**	28 ft - 30 ft	---	pp. 2 - 7
	SVE-1	4/10/19	Air Knife	8	20.68	9	11.7	**Y**	5 ft - 9 ft	---	pp. 2 - 7
	TW-1	4/10/19	Air Knife	8	20.59	9	11.6	**Y**	5 ft - 9 ft	---	pp. 2 - 7
	TW-2	4/11/19	Air Knife	8	20.52	5	15.5	**Y**	5 ft - 9 ft	---	pp. 2 - 7
	TW-3	4/11/19	Air Knife	8	20.38	9	11.4	**Y**	5 ft - 9 ft	---	pp. 2 - 7

TABLE 1
Compiled Site Explorations
Boeing Field Chevron
Tukwila, Washington

Consultant/ Report Reference	Exploration Location (1)	Date Completed	Drilling/Sampling Method	Boring Diameter (in)	Surface Elevation (ft.)*	Total Depth (ft.)	Bottom Elevation (ft.)	Well Installed?	Well Screened Interval	Well Decommissioning Date	Boring Logs Reference (Appendix E)
Current Report	GLB-1	10/25/16	DP	2	20.80	30	-9.2	N	---	---	pp. 8 - 42
	GLB-2	10/25/16	DP	2	20.90	30	-9.1	N	---	---	pp. 8 - 42
	GLB-3	10/25/16	DP	2	21.20	35	-13.8	N	---	---	pp. 8 - 42
	GLB-4	10/25/16	DP	2	20.50	35	-14.5	N	---	---	pp. 8 - 42
	GLB-5	10/24/16	DP	2	20.70	25	-4.3	N	---	---	pp. 8 - 42
	GLB-6	10/24/16	DP	2	21.40	30	-8.6	N	---	---	pp. 8 - 42
	GLB-7	10/24/16	DP	2	21.00	35	-14.0	N	---	---	pp. 8 - 42
	GLB-8	10/21/16	DP	2	21.00	25	-4.0	N	---	---	pp. 8 - 42
	GLB-9	10/24/16	DP	2	20.80	35	-14.2	N	---	---	pp. 8 - 42
	GLB-10	10/21/16	DP	2	19.70	30	-10.3	N	---	---	pp. 8 - 42
	GLB-11	10/24/16	DP	2	20.00	30	-10.0	N	---	---	pp. 8 - 42
	GLB-12	10/21/16	DP	2	19.80	30	-10.2	N	---	---	pp. 8 - 42
	GLB-13	10/21/16	DP	2	19.90	30	-10.1	N	---	---	pp. 8 - 42
	GLB-14	10/21/16	DP	2	20.10	35	-14.9	N	---	---	pp. 8 - 42
	GLB-15	10/24/16	DP	2	20.10	30	-9.9	N	---	---	pp. 8 - 42
	GLB-16	10/24/16	DP	2	20.00	25	-5.0	N	---	---	pp. 8 - 42
	GLB-17	11/21/16	DP	2	19.90	30	-10.1	N	---	---	pp. 8 - 42
	GLB-18	11/18/16	DP	2	21.00	35	-14.0	N	---	---	pp. 8 - 42
	GLB-19	11/18/16	DP	2	20.80	30	-9.2	N	---	---	pp. 8 - 42
	MW-22	11/17/16	DP	3.5	21.40	14	7.4	**Y**	7 ft - 14 ft	---	pp. 8 - 42
	MW-23	11/17/16	HSA	8	21.32	20	1.3	**Y**	5.5 ft - 15.5 ft	---	pp. 8 - 42
	MW-24	11/21/16	DP	3.5	20.61	14	6.6	**Y**	8.65 ft - 13.65 ft	---	pp. 8 - 42
	MW-25	11/18/16	DP	3.5	20.19	14	6.2	**Y**	9 ft - 14 ft	---	pp. 8 - 42
	MW-26S	11/21/16	DP	4.5	19.98	12	8.0	**Y**	7 ft - 12 ft	---	pp. 8 - 42
	MW-26D	11/17/16	HSA	8	20.12	30	-9.9	**Y**	18 ft - 23 ft	---	pp. 8 - 42
	MW-27S	11/21/16	DP	4.5	20.12	12	8.1	**Y**	7 ft - 12 ft	---	pp. 8 - 42
	MW-27D	11/21/16	HSA	8	20.18	30	-9.8	**Y**	14.5 ft -21.5 ft	---	pp. 8 - 42
	MW-28S	11/18/16	DP	4.5	19.82	12	7.8	**Y**	5 ft - 12 ft	---	pp. 8 - 42
	MW-28D	11/18/16	HSA	8	19.85	30	-10.2	**Y**	18 ft - 23 ft	---	pp. 8 - 42
	GLVP-1	10/24/16	Hand Auger	4	19.70	7	12.7	N	---	---	pp. 8 - 42
	GLVP-2	10/24/16	Hand Auger	4	19.90	8	12.4	N	---	---	pp. 8 - 42
	MW-24D	1/11/18	DP	2	20.46	25	-4.5	**Y**	20 ft - 25 ft	---	pp. 8 - 42
	MW-29S	1/11/18	DP	2	21.87	15	6.9	**Y**	10 ft - 15 ft	---	pp. 8 - 42
	MW-29D	1/11/18	DP	2	21.84	25	-3.2	**Y**	20 ft - 25 ft	---	pp. 8 - 42
	MW-30	1/11/18	DP	2	21.38	25	-3.6	**Y**	20 ft - 25 ft	---	pp. 8 - 42

Notes:

(1) Refer to site diagram(s) for sampling locations and report text for additional discussion.

* Surface elevations defined on PLS, Inc. Topographic Survey (12/5/2016, updated 5/7/2019). Elevation Based on NAVD 88. Surface elevations for wells MW-2R, MW-3R, MW-4R, MW-8, MW-8a, MW-9, and MW-9a based on information provided in Hart Crowser, 1993c report.

** Historical Site diagrams indicate that borings P-5, P-6, and P-7 were installed as stand-alone exploration locations. However, limited/conflicting information is available regarding the details of their construction.

HSA Hollow-Stem Auger

DP Direct Push Soil Probe

--- Information not available / not applicable.

Table 2-1

Well Inspection (September 2016) and Status (June 2020)
Boeing Field Chevron
10805 East Marginal Way South
Seattle, Washington

Well Identification (1)	Installation Date	Decommission Date	Current Status (June 2020)	Monument Diameter	Casing Diameter	Well Screen Depth*	Parts Needed: Expansion Cap	Parts Needed: Bolts	Parts Needed: Gasket	Well Tag Present	Ecology Well Log	Comments	Recommendations	Blockage/ Sediment
MW-10***	9/3/97	12/2016	Decommissioned	8"	2" PVC	8.5'-18.5' 21.5'	--	3	1	No	Yes R036366	Well depth does not match log		3' **
MW-11***	9/3/97	12/2016	Decommissioned	8"	2" PVC	8'-20' 21.5'	--	3	1	No	Yes R036366	Monument bolt wings missing	Replace monument	No
MW-12***	9/3/97	12/2016	Decommissioned	8"	2" PVC	8'-18' 21.5'	--	NA	NA	No	Yes R036366	Monument bolt wings missing Well depth does not match log	Replace monument	4.5' **
MW-13***	7/16/04	12/2016	Decommissioned	8"	2" PVC	4'-24' 24'	2"	3	1	AKN-782	Yes R066307			1.5' **
MW-14***	7/16/04	12/2016	Decommissioned	8"	2" PVC	4'-24' 24'	2"	3	1	Missing AKN-783	Yes R066307	Concrete broken around monument	Replace monument	0.5'
MW-15***	8/26/05	12/2016	Decommissioned	8"	2" PVC	10'-25' 25'	2"	3	1	Missing APM-449	Yes R066693			1' **
MW-16***	8/26/05	12/2016	Decommissioned	8"	2" PVC	9.5'-24.5' 25'	--	2	--	APM-450	Yes R066693			7' **
MW-17***	8/26/05	12/2016	Decommissioned	8"	2" PVC	9.5'-24.5' 25'	--	3	1	AKT-104	Yes R067255			No
MW-18	4/16/08	N/A	Active	5"	1" PVC	11'-16' 20'	--	--	--	AJP-300	Yes RE02237	No camera verification, well diameter too small		No
MW-19	4/16/08	N/A	Active	5"	1" PVC	15'-20' 20'	--	--	1	AJP-299	Yes RE02237	No camera verification, well diameter too small		0.2'
MW-20	4/16/08	N/A	Active	5"	1" PVC	15'-20' 20'	--	--	--	AJP-297	Yes RE02237	No camera verification, well diameter too small		0.5'
MW-21	4/16/08	N/A	Active	5"	1" PVC	17'-22' 22'	--	--	--	AJP-298	Yes RE02237	No camera verification, well diameter too small		0.3'

Table 2-1

Well Inspection (September 2016) and Status (June 2020)
Boeing Field Chevron
10805 East Marginal Way South
Seattle, Washington

Well Identification (1)	Installation Date	Decommission Date	Current Status (June 2020)	Monument Diameter	Casing Diameter	Well Screen Depth*	Parts Needed: Expansion Cap	Parts Needed: Bolts	Parts Needed: Gasket	Well Tag Present	Ecology Well Log	Comments	Recommendations	Blockage/ Sediment
IP-3	4/19/06	N/A	Active	8"	2" Stainless Steel	18'-24' 26'	2"	3	1	APK-234	No			No
IP-4	4/19/06	N/A	Active	8"	3" Stainless Steel	8'-16' 15'	2"	3	1	APK-219	No	Well depth does not match log		No
IP-5	4/26/06	N/A	Active	8"	2" Stainless Steel	18'-24' 26'	--	--	--	Yes	No	Can not read tag number		No
IP-6	8/4/06	N/A	Inactive	12"	2" Stainless Steel	18'-24' 24'	2"	--	1	APL-600	Yes R069371	Obstruction @ 5.2' Product pump stuck in well	Remove Obstruction or Decommission	5'
IP-7	8/4/06	N/A	Active	12"	2" Stainless Steel	17'-23' 24.5'		3	1	APL-599	Yes R069371	Monument bolt wings missing Approximately two feet of product	Replace monument	No
EW-1	3/17/08	12/2016	Decommissioned	Plastic Vault	2" PVC	8.5'-23.5' 24.5'	--	NA	NA	Missing BAK-423	Yes R073548	Utility vault: Plastic, no seal	Replace monument or Obtain a variance	2' **
EW-2	3/17/08	12/2016	Decommissioned	Plastic Vault	2" PVC	8.5'-23.5' 24.5'	2"	NA	NA	Missing BAK-424	Yes R073548	Utility vault: Plastic, no seal	Replace monument or Obtain a variance	1.5' **
EW-3	3/17/08	12/2016	Decommissioned	Plastic Vault	2" PVC	8'-23' 23'	2"	NA	NA	Missing BAK-425	Yes R073548	Utility vault: Plastic, no seal	Replace monument or Obtain a variance	7.5' **
EW-4	3/17/08	12/2016	Decommissioned	Plastic Vault	2" PVC	8'-23' 23'	2"	NA	NA	Missing BAK-426	Yes R073548	Utility vault: Plastic, no seal	Replace monument or Obtain a variance	10.5' **
EW-5	3/17/08	12/2016	Decommissioned	Plastic Vault	2" PVC	7.5'-22.5' 23'	2"	NA	NA	Missing BAK-427	Yes R073548	Utility vault: Plastic, no seal	Replace monument or Obtain a variance	1' **
EW-6	3/18/08	12/2016	Decommissioned	Steel Vault	2" PVC	8'-23' 24.5'	2"	NA	NA	Missing BAK-428	Yes R073548	Utility vault: Metal, no seal	Replace monument or Obtain a variance	5' **

Table 2-1

Well Inspection (September 2016) and Status (June 2020)
Boeing Field Chevron
10805 East Marginal Way South
Seattle, Washington

Well Identification (1)	Installation Date	Decommission Date	Current Status (June 2020)	Monument Diameter	Casing Diameter	Well Screen Depth*	Parts Needed: Expansion Cap	Parts Needed: Bolts	Parts Needed: Gasket	Well Tag Present	Ecology Well Log	Comments	Recommendations	Blockage/ Sediment
EW-7	3/18/08	12/2016	Decommissioned	Steel Vault	2" PVC	8'-23' 25.5'	2"	NA	NA	Missing BAK-429	Yes R073548	Utility vault: Metal, no seal Approximately two feet of product	Replace monument or Obtain a variance	1' **
EW-8	3/18/08	12/2016	Decommissioned	Steel Vault	2" PVC	8.5'-23.5' 23'	--	NA	NA	Missing BAK-430	Yes R073548	Utility vault: Metal, no seal	Replace monument or Obtain a variance	0.5'
EW-9	3/18/08	12/2016	Decommissioned	Steel Vault	2" PVC	8.5'-23.5' 25.5'	2"	NA	NA	Missing BAK-434	Yes R073548	Non boltable utility monument	Replace monument or Obtain a variance	1' **
EX-N***	Unknown	12/2016	Decommissioned	12"	6" PVC	3.5'-14'	--	--	--	No	No	No record of construction found	Decommission	No
EX-S***	Unknown	12/2016	Decommissioned	12"	4" PVC	0'-15'	--	--	--	No	No	No record of construction found	Decommission	No

Notes:

(1)	Refer to site diagrams for sample locations. Refer to laboratory reports for analytical methods.
*	Well depths measured in the field. Used camera to verify screen interval on all wells greater than 1" diameter, with the exception of IP-7, product level was above the screen interval.
**	Blockage or sediment removed during well redevelopment 9/29 -10/3, 2016
***	Decomissioned 2016
NA	Not Applicable
--	No Parts Needed
20'	Total well depth recorded on well log

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-10* **	9/3/97	12/13/2016	20.99	8.5	18.5	2	12/12/2016	12.33	8.66
MW-11* **	9/3/97	12/13/2016	19.99	8	20	2	11/26/2016	10.41	9.58
MW-12* **	9/3/97	12/13/2016	19.36	8	18	2	11/26/2016	7.91*	19.36
MW-13* **	7/16/04	12/14/2016	20.13	4	24	2	11/29/2016	12.43	7.70
MW-14* **	7/16/04	12/13/2016	20.94	4	24	2	11/29/2016	13.69	7.25
MW-15* **	8/26/05	12/13/2016	20.52	10	25	2	---	---	---
MW-16* **	8/26/05	12/14/2016	21.19	9.5	24.5	2	11/29/2016	13.35	7.84
MW-17* **	8/26/05	12/12/2016	20.89	9.5	24.5	2	12/6/2016	12.73	8.16
MW-18	4/16/08	Active	18.22	11	16	1	11/30/2016	7.88	10.34
							3/23/2017	6.96	11.26
							7/27/2017	8.96	9.26
							10/5/2017	9.80	8.42
							1/16/2018	7.79	10.43
							5/25/2018	8.62	9.60
							8/23/2018	10.40	7.82
							11/27/2018	9.12	9.10

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-19	4/16/08	Active	18.04	15	20	1	11/30/2016	11.50	6.54
							3/23/2017	10.31	7.73
							7/27/2017	10.64	7.40
							10/5/2017	13.58	4.46
							1/16/2018	---	---
							5/25/2018	---	---
							8/23/2018	15.80	2.24
							11/27/2018	8.50	9.54
MW-20	4/16/08	Active	18.71	15	20	1	11/30/2016	11.43	7.28
							3/23/2017	11.89	6.82
							7/27/2017	12.35	6.36
							10/5/2017	14.16	4.55
							1/16/2018	---	---
							5/25/2018	---	---
							8/23/2018	15.53	3.18
							11/27/2018	10.21	8.50
MW-21	4/16/08	Active	18.58	17	22	1	11/30/2016	12.00	6.58
							3/23/2017	12.67	5.91
							7/27/2017	12.35	6.23
							10/5/2017	13.65	4.93
							1/16/2018	11.80	6.78
							5/25/2018	14.04	4.54
							8/23/2018	17.48	1.10
							11/27/2018	8.52	10.06

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-22	11/17/16	Active	21.14	7	14	1	12/6/2016	7.09	14.05
							3/23/2017	8.92	12.22
							7/26/2017	10.55	10.59
							10/5/2017	11.16	9.98
							1/12/2018	9.56	11.58
							5/25/2018	---	---
							8/23/2018	11.06	10.08
							11/27/2018	11.98	9.16
MW-23	11/17/16	Active	20.86	5.5	15.5	2	12/6/2016	10.30	10.56
							3/23/2017	8.63	12.23
							7/26/2017	10.36	10.50
							10/5/2017	11.08	9.78
							1/12/2018	9.38	11.48
							5/25/2018	10.04	10.82
							8/23/2018	10.73	10.13
							11/27/2018	10.49	10.37
MW-24	11/24/16	Active	20.26	8.65	13.65	1	12/6/2016	10.34	9.92
							3/23/2017	8.73	11.53
							7/26/2017	10.36	9.90
							10/5/2017	11.69	8.57
							1/11/2018	8.89	11.37
							5/25/2018	---	---
							8/23/2018	11.35	8.91
							11/27/2018	9.19	11.07

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-24D	1/11/18	Active	20.14	20	25	1	1/12/2018	12.08	8.06
							5/25/2018	15.56	4.58
							8/23/2018	15.97	4.17
							11/27/2018	12.20	6.02
MW-25	11/19/16	Active	19.78	9	14	1	12/6/2016	8.94	10.84
							3/23/2017	7.38	12.40
							7/26/2017	9.31	10.47
							10/5/2017	10.33	9.45
							1/12/2018	8.32	11.46
							5/25/2018	---	---
							8/23/2018	9.93	9.85
							11/27/2018	9.68	10.10
MW-26D	11/17/16	Active	19.69	18	23	2	11/30/2016	12.19	7.50
							3/23/2017	12.24	7.45
							7/26/2017	13.49	6.20
							10/5/2017	14.66	5.03
							1/11/2018	11.46	8.23
							5/25/2018	---	---
							8/23/2018	15.65	4.04
							11/27/2018	11.92	7.77

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-26S	11/21/16	Active	19.48	7	12	2	11/30/2016	8.09	11.39
							3/23/2017	6.92	12.56
							7/26/2017	8.98	10.50
							10/5/2017	9.57	9.91
							1/11/2018	7.27	12.21
							5/25/2018	---	---
							8/23/2018	8.80	10.68
							11/27/2018	7.85	11.63
MW-27D	11/21/16	Active	19.53	14.5	21.5	2	11/28/2016	11.48	8.05
							3/23/2017	11.94	7.59
							7/26/2017	13.44	6.09
							10/5/2017	15.39	4.14
							1/16/2018	12.04	7.49
							5/25/2018	13.98	5.55
							8/23/2018	16.12	3.41
							11/27/2018	12.07	7.46
MW-27S	11/21/16	Active	19.76	7	12	2	11/28/2016	8.25	11.51
							3/23/2017	7.23	12.53
							7/26/2017	9.08	10.68
							10/5/2017	9.68	10.08
							1/16/2018	8.05	11.71
							5/25/2018	8.27	11.49
							8/23/2018	7.50	12.26
							11/27/2018	8.92	10.84

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-28D	11/18/16	Active	19.45	18	23	2	11/28/2016	12.00	7.45
							3/23/2017	11.93	7.52
							7/26/2017	13.34	6.11
							10/5/2017	15.44	4.01
							1/11/2018	12.29	7.16
							5/25/2018	---	---
							8/23/2018	15.05	4.40
							11/27/2018	11.96	7.49
MW-28S	11/18/16	Active	19.34	5	12	2	11/28/2016	8.14	11.20
							3/23/2017	6.66	12.68
							7/26/2017	8.54	10.80
							10/5/2017	9.51	9.83
							1/11/2018	7.91	11.43
							5/25/2018	---	---
							8/23/2018	9.03	10.31
							11/27/2018	8.75	10.59
MW-29S	1/11/18	Active	21.53	10	15	1	1/16/2018	9.78	11.75
							5/29/2018	11.01	10.52
							8/23/2018	---	---
							11/27/2018	10.73	10.80
MW-29D	1/11/18	Active	21.59	20	25	1	1/12/2018	13.42	8.17
							5/29/2018	16.12	5.47
							8/23/2018	17.85	3.74
							11/27/2018	13.54	8.05

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
MW-30	1/11/18	Active	21.20	20	25	1	1/12/2018	13.09	8.11
							5/25/2018	16.89	4.31
							8/23/2018	17.31	3.89
							11/27/2018	13.06	8.14
IP-3	4/19/06	Active	20.28	18	24	2	---	---	---
							3/23/2017	12.96	7.32
							7/27/2017	14.16	6.12
							10/5/2017	15.32	4.96
							1/12/2018	12.01	8.27
							5/29/2018	14.55	5.73
							8/23/2018	16.23	4.05
							11/27/2018	12.53	7.75
IP-4	4/19/06	Active	20.49	8	16	3	11/30/2016	10.10	10.39
							3/23/2017	8.01	12.48
							7/27/2017	9.96	10.53
							10/5/2017	10.75	9.74
							1/12/2018	9.23	11.26
							5/29/2018	9.65	10.84
							8/23/2018	9.98	10.51
							11/27/2018	10.00	10.49

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
IP-5	4/26/06	Active	21.08	18	24	2	11/30/2016	13.00	8.08
							3/23/2017	13.80	7.28
							7/27/2017	13.76	7.32
							10/5/2017	16.17	4.91
							1/12/2018	13.42	7.66
							5/29/2018	16.82	4.26
							8/23/2018	17.08	4.00
							11/27/2018	13.29	7.79
IP-6	8/4/06	Inactive	20.26	18	24	2	---	---	---
IP-7	8/4/06	Active	20.31	17	23	2	9/29/2016	16.30	4.01
							11/30/2016	13.38	6.93
							3/23/2017	15.12	5.19
							11/27/2018	14.90	5.41
EW-1* **	3/17/08	12/14/2016	20.99	8.5	23.5	2	---	---	---
EW-2* **	3/17/08	12/8/2016	21.22	8.5	23.5	2	---	---	---
EW-3* **	3/17/08	12/8/2016	20.86	8	23	2	---	---	---
EW-4* **	3/17/08	12/8/2016	20.87	8	23	2	---	---	---
EW-5* **	3/17/08	12/8/2016	20.88	7.5	22.5	2	---	---	---
EW-6* **	3/17/08	12/12/2016	20.89	8	23	2	---	---	---
EW-7* **	3/18/08	12/12/2016	20.54	8	23	2	9/29/2016	16.80	3.74
EW-8* **	3/18/08	12/12/2016	20.65	8.5	23.5	2	---	---	---

Copyright G-Logics

TABLE 2-2

Well Construction and Groundwater Elevation Measurements

Boeing Field Chevron

Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)
EW-9* **	3/18/08	12/12/2016	20.44	8.5	23.5	2	---	---	---
EX-N* **	Unknown	12/14/2016	20.38	3.5	14	6	---	---	---
EX-S* **	Unknown	12/13/2016	20.81	0	15	4	---	---	---

Notes:

(1) Refer to site diagrams for well locations.

* Tidal Survey Data, depth taken from pressure transducer

** Data from PLS Inc. Topographic Survey

*** Well Decommissioned 2016

--- Well Not Measured During 2016 Field Activities

TABLE 3-1
Stormwater Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-MethylNAphthalene	1-MethylNAphthalene	Lead (Total)	Lead (Dissolved)	pH	Turbidity (NTU)
WA WQC Marine, Chronic (2)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.1**	**8.1**	NA	NA
WA WQC Marine, Acute (3)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**210**	**210**	NA	NA
NTR WQC, HHO (4)			NA	NA	NA	**1.6**	**410**	**270**	NA	NA	NA	**120**	NA	NA	NA	NA	NA	NA	NA	NA
NR WQC, HHO (5)			NA	NA	NA	**0.44**	**180**	**200**	NA	NA	NA	**9.3**	NA	NA	NA	NA	NA	NA	NA	NA
WA WQC Aquatic Life pH Criteria (6)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.5-8.5**	NA
(units are µg/L)																				
CB-1000	CB-1000-W	2/10/17	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00988	<1.00	<1.00	<0.101	<0.101	<0.101	**1.34**	---	**7.71**	**13.0**
CB-1001	CB-1001-W	10/27/16	<50.0	**62.3**	<99.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CB-1002	CB-1002-W	10/27/16	<50.0	<49.8	<99.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	CB-1002	2/10/17	<50.0	**69.5**	**802**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00996	<1.00	<1.00	<0.101	<0.101	<0.101	**3.96**	---	**7.59**	**52.3**
CB-1003	CB-1003	2/10/17	<50.0	**116**	**389**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00961	<1.00	<1.00	<0.101	<0.101	<0.101	**3.35**	---	**7.12**	**15.0**
CB-1004	CB-1004	2/10/17	<50.0	**96.8**	**244**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00979	<1.00	<1.00	<0.101	<0.101	<0.101	**2.53**	---	**7.40**	**18.9**
CB-1005	CB-5-W	10/27/16	<50.0	**75.4**	<99.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
CB-1068	CB-1068-W	10/27/16	<50.0	**87.5**	<99.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes:

(1) Refer to site diagrams for sample locations. Refer to laboratory reports for analytical methods.
(2) Washington State Water Quality Criteria, Marine Chronic Exposure
(3) Washington State Water Quality Criteria, Marine Acute Exposure
(4) National Toxics Rule Water Quality Criteria, Human Health - Consumption of Organisms Only
(5) National Recommended Water Quality Criteria, Human Health - Consumption of Organisms Only
(6) Washington State Water Quality Criteria, WAC 173-201A-200, Table 200 (1) (g)
--- Sample not analyzed.
NA Not Available
<50.0 Sample concentration below laboratory reporting limit.
27 Bold number(s) indicates contaminant detected, below water quality criteria.

TABLE 3-2
Catch-Basin Solids Analyses
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane
MTCA Method A Cleanup (2)			100(a)/30(b)	2,000	2,000	0.03	7	6	9	0.1	11	0.005	4,800
(units are mg/kg)													
CB-1002	CB-1002	10/27/16	**8.25**	<18.4	<46.0	---	---	---	---	---	---	---	---
CB-1068	CB-1068	10/27/16	<4.84	<17.4	**129**	---	---	---	---	---	---	---	---

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

(2) Available Method A Cleanup Levels for Unrestricted Land Uses, MTCA, revised 2013. Exceeding Cleanup Levels does not necessarily trigger requirements for Cleanup Actions under MTCA.

(a) Soil Cleanup Level for gasoline with no detectable benzene in the soil.

(b) Soil Cleanup Level for gasoline with detectable benzene in the soil.

--- Sample not analyzed.

NA Not Applicable

<50.0 Sample concentration below laboratory reporting limit.

27 Bold Number(s) Indicates Contaminant Detected.

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
Units in mg/kg, (3)																			
RZA (1990)																			
S-1 (4-6-90)	**	4/6/90	S-1	3	**	---	---	---	---	**54.3**/<10	**0.05**	**0.10**	<0.005	**0.07**	---	---	---	---	---
S-2 (4-6-90)	**	4/6/90	S-2	3	**	---	---	---	---	**47.4**/<10	**0.06**	**0.17**	<0.005	**0.07**	---	---	---	---	---
S-3 (4-6-90)	**	4/6/90	S-3	8	**	---	---	---	---	**29.1**/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-4 (4-6-90)	**	4/6/90	S-4	10	**	---	---	---	---	**65.6**/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-5 (4-6-90)	**	4/6/90	S-5	9	**	---	---	---	---	**8.2**/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-2 (4-23-90)	**	4/23/90	S-2	9	**	---	---	---	---	**7.6**/<10	<0.005	**0.29**	**0.08**	**0.28**	---	---	---	---	---
S-3 (4-23-90)	**	4/23/90	S-3	9	**	---	---	---	---	**7.9**/<10	**0.07**	**0.19**	**0.47**	**0.66**	---	---	---	---	---
S-1 (4-24-90)	**	4/24/90	S-1	13-15	**	---	---	---	---	**34.9**/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-4 (4-24-90)	**	4/24/90	S-4	12	**	---	---	---	---	**69.8/10.0**	**0.13**	**0.17**	**0.07**	**0.20**	---	---	---	---	---
S-104 (5-20-90)	**	5/2/90	S-104	11-12	**	---	---	---	---	**70.0/390.0**	**0.04**	**0.20**	<0.005	**0.28**	---	---	---	---	---
S-105 (5-20-90)	**	5/2/90	S-105	11-12	**	---	---	---	---	**9.0**/<10	<0.005	<0.005	**0.04**	**0.07**	---	---	---	---	---
S-A (5-2-90)	**	5/2/90	S-A	3	**	---	---	---	---	**290.0/30.0**	<0.005	<0.005	<0.005	**0.15**	---	---	---	---	---
S-1A (6-13-90)	**	6/13/90	S-1A	3-8	**	---	---	---	---	---/**16.00**	<0.005	<0.005	**0.15**	**1.20**	---	---	---	---	---
S-2A (6-13-90)	**	6/13/90	S-2A	3-8	**	---	---	---	---	---/<10	<0.005	<0.005	**0.08**	**0.16**	---	---	---	---	---
S-3A (6-13-90)	**	6/13/90	S-3A	3-8	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	**0.08**	---	---	---	---	---
S-4A (6-13-90)	**	6/13/90	S-4A	3-8	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-3 (6-18-90)	**	6/18/90	S-3	10	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-4 (6-18-90)	**	6/18/90	S-4	10	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-A (6-18-90)	**	6/18/90	S-A	7-10	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	**0.09**	---	---	---	---	---
S-B (6-18-90)	**	6/18/90	S-B	11	**	---	---	---	---	---/<10	<0.005	**0.06**	<0.005	**2.32**	---	---	---	---	---
S-C (6-18-90)	**	6/18/90	S-C	7-10	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
S-D (6-18-90)	**	6/18/90	S-D	12	**	---	---	---	---	---/<10	**0.05**	<0.005	**0.39**	**2.91**	---	---	---	---	---
S-E (6-18-90)	**	6/18/90	S-E	7-10	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	**0.76**	---	---	---	---	---
P1-1 (6-25-90)	**	6/25/90	P1-1	11	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
P1-3 (6-25-90)	**	6/25/90	P1-3	11	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
P1-4 (6-25-90)	**	6/25/90	P1-4	12	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
B-1/ MW-1	**	6/7/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	6/7/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-2/ MW-2	**	6/7/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	6/7/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-3/ MW-3	**	6/7/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	6/7/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-4/ MW-4	**	6/7/90	S-1	2.5-4.0	**	---	---	---	---	---/**21**	<0.005	**0.06**	**0.24**	**2.86**	---	---	---	---	---
	**	6/7/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-6/ MW-5	**	6/7/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	---	**0.06**	---	**0.05**	---	---	---	---	---
	**	6/7/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-7	**	6/7/90	B-7/S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	6/7/90	B-7/S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-8	**	6/7/90	B-8/S-1	2.5-4.0	**	---	---	---	---	---/**40**	<0.005	<0.005	**0.12**	**0.93**	---	---	---	---	---
	**	6/7/90	B-8/S-2	7.5-9.0	**	---	---	---	---	---/**74**	**0.05**	**0.11**	**4.25**	**38.5**	---	---	---	---	---
B-9	**	6/7/90	B-9/S-2	7.5-9.0	**	---	---	---	---	---/**1,097**	<0.005	<0.005	**0.32**	**2.85**	---	---	---	---	---
	**	6/7/90	B-9/S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	**0.08**	**0.06**	**1.34**	---	---	---	---	---
B-10	**	6/7/90	B-10/S-2	7.5-9.0	**	---	---	---	---	---/**516**	<0.005	<0.005	**0.68**	**7.56**	---	---	---	---	---
	**	6/7/90	B-10/S-3	12.5-14.0	**	---	---	---	---	---/<10	**0.11**	<0.005	<0.005	**1.23**	---	---	---	---	---
B-11	**	7/26/90	B-11/S-2	7.5-9.0	**	---	---	---	---	---/**21**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	B-11/S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-12	**	7/26/90	B-12/S-1	2.5-4.0	**	---	---	---	---	---/**19**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	B-12/S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-13	**	7/26/90	B-12/S-1	2.5-4.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	B-12/S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-14/ MW-6	**	7/26/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-15/ MW-7	**	7/26/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	S-3	12.5-14.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B-16	**	7/26/90	S-1	2.5-4.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	**	7/26/90	S-2	7.5-9.0	**	---	---	---	---	---/<10	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
Hart Crowser (1990)																			
TP-1	**	8/27/90	TP-1 S-1	12	**	<1	<5	<5	---	---/---	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
	**	8/27/90	TP-1 S-2	11	**	<1	<5	<5	---	---/---	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
TP-5	**	8/27/90	TP-5 S-1	1.5	**	140	**2,500**	**270**	---	---/---	**0.150**	<0.025	<0.025	**1.50**	---	---	---	---	---
	**	8/27/90	TP-5 S-2	9	**	40	<5	<5	---	---/---	<0.025	<0.025	<0.025	**0.170**	---	---	---	---	---
	**	8/27/90	TP-5 S-3	10.5	**	2	<5	<5	---	---/---	<0.036	<0.036	<0.036	<0.036	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
TP-7	**	8/27/90	TP-7 S-1	1.5	**	<1	<5	<5	---	---/**280**	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
	**	8/27/90	TP-7 S-2	9	**	<1	<5	<5	---	---/---	<0.025	<0.025	<0.025	**0.048**	---	---	---	---	---
	**	8/27/90	TP-7 S-3	10.5	**	<1	<5	<5	---	---/---	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
TP-8	**	8/27/90	TP-8 S-1	8.5	**	<1	<5	<5	---	---/**14**	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
	**	8/27/90	TP-8 S-2	11	**	<1	<5	<5	---	---/---	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
TP-9	**	8/27/90	TP-9 S-1	9	**	<1	<5	**370**	---	---/---	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
TP-10	**	8/27/90	TP-10 S-1	2	**	15	**54**	**66**	---	---/**1,100**	<0.025	<0.025	<0.025	**0.230**	---	---	---	---	---
	**	8/27/90	TP-10 S-2	5.5	**	<1	<5	<5	---	---/**36**	<0.025	<0.025	<0.025	<0.025	---	---	---	---	---
Hart Crowser (1992)																			
TW-1	**	9/4/92	TW-1	**	**		<10	<10	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	**26**
TS-1	**	9/4/92	TS-1	**	**	---	<10	**12**	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	**24**
TN-1	**	9/4/92	TN-1	**	**	---	<10	**12**	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	**47**
TE-1	**	9/4/92	TE-1	**	**	---	<10	<10	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	<10
TB-1	**	9/4/92	TB-1	**	**	---	<10	<10	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	**13**
TWN-1	**	9/18/92	TWN-1	6	**	---	---	<10	---	---/---	---	---	---	---	---	---	---	---	---
TWE-1	**	9/18/92	TWE-1	6-8	**	---	---	<10	---	---/---	---	---	---	---	---	---	---	---	---
TWW-1	**	9/18/92	TWN-1	5-6	**	---	---	**17**	---	---/---	---	---	---	---	---	---	---	---	---
TB-1	**	9/18/92	TB-1	8	**	---	---	<10	---	---/---	---	---	---	---	---	---	---	---	---
E Tank	**	9/23/92	E Tank	**	**	---	<10	<10	---	---/---	<'0.008	<'0.008	<'0.008	<0.015	---	---	---	---	<10
Hart Crowser (1993)																			
MW-8	**	2/9/93	MW8 #3	**	**	---	<6	---	---	---/---	<0.0032	<0.0032	<0.0032	<0.0032	---	---	---	---	**3.0**
MW-9	**	2/9/93	MW9 #3	**	**	---	<7	---	---	---/---	<0.035	<0.035	<0.035	<0.035	---	---	---	---	**3.4**
Pacific Environmental Group, Inc. (1997)																			
WOB-4.5	**	7/26/96	WOB-4.5	4.5	**	---	**30.8**	**1,360**	**7,600**	---/---	<0.0500	<0.0500	<0.0500	<0.100	---	---	---	---	---
NSW-3	**	7/26/96	NSW-3	3	**	---	**139**	**5,210**	**23,800**	---/---	<0.200	<0.200	<0.200	<0.400	---	---	---	---	---
SSW-3	**	7/26/96	SSW-3	3	**	---	**543**	**6,390**	**28,700**	---/---	<1.00	**1.63**	**1.56**	**15.5**	---	---	---	---	---
MW10	**	9/3/97	MW-10-13	13	**	---	<5.0	<10.0	---	---/---	<0.05	<0.050	<0.050	<0.10	---	---	---	---	---
MW11	**	9/3/97	MW-11-6	6	**	---	<5.0	<10.0	---	---/---	<0.05	<0.050	<0.050	<0.10	---	---	---	---	---
MW12	**	9/3/97	MW-12-6	6	**	---	<5.0	<10.0	<25.0	---/---	<0.05	<0.050	<0.050	<0.10	---	---	---	---	---
	**	9/3/97	MW-12-11	11	**	---	<5.0	<10.0	**35.1**	---/---	<0.05	<0.050	<0.050	<0.10	---	---	---	---	<10.0
Environmental Resolutions Inc. (2004)																			
B1	**	2/27/04	S-B1-15	15	**	---	<5.00	---	---	---/---	**0.181**	**0.0587**	**0.0717**	**0.286**	---	---	---	---	---
B2	**	2/27/04	S-B2-15	15	**	---	**38.4**	---	---	---/---	**3.830**	**5.25**	**1.49**	**5.67**	---	---	---	---	---
B3	**	2/27/04	S-B3-14	14	**	---	**101**	---	---	---/---	**0.046**	<0.0500	**0.508**	**0.439**	---	---	---	---	---
B4	**	2/27/04	S-B4-15	15	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
B5	**	2/27/04	S-B5-15	15	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
B6	**	2/27/04	S-B6-10	10	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
B7	**	2/27/04	S-B7-11	11	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
B8	**	2/27/04	S-B8-10	10	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
B9	**	2/27/04	S-B9-10	10	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
B10	**	2/27/04	S-B10-10	10	**	---	<5.00	---	---	---/---	<0.0300	<0.0500	<0.0500	<0.100	---	---	---	---	---
MW13	**	7/16/04	S-B1-5	5	**	---	<5.00	---	---	---/---	<0.0300	**0.0576**	<0.0500	**0.100**	---	---	---	---	---
MW14	**	7/16/04	S-B2-10	10	**	---	**510**	---	---	---/---	**0.179**	**0.616**	**3.480**	**3.280**	---	---	---	---	---
Environmental Resolutions, Inc. (2005)																			
B11	**	3/1/05	S-10-B11	10	**	---	<3.83	<10	<25	---/---	<0.023	<0.0383	<0.0383	<0.0766	---	---	---	---	---
MW15	**	8/26/05	S-10-B1	10	**	---	**37**	---	---	---/---	**0.493**	**0.117**	**0.374**	**0.297**	---	---	---	---	---
	**	8/26/05	S-15-B1	15	**	---	**29**	---	---	---/---	**1.76**	**0.25**	**2.04**	**8.02**	---	---	---	---	---
MW16	**	8/26/05	S-10-B2	10	**	---	<5	---	---	---/---	<0.03	<0.05	<0.05	<0.1	---	---	---	---	---
	**	8/26/05	S-15-B2	15	**	---	<5	---	---	---/---	<0.03	<0.05	<0.05	<0.1	---	---	---	---	---
MW17	**	11/4/05	S-20-B12	20	**	---	**5.98**	---	---	---/---	**0.963**	**0.467**	**0.181**	**0.947**	---	---	---	---	---
	**	11/4/05	S-25-B12	25	**	---	**27.7**	---	---	---/---	**3.28**	**5.56**	**0.696**	**3.6**	---	---	---	---	---
G-Logics (2006)																			
P-1	**	4/25/06	P-1	**	**	---	---	---	---	---/---	---	---	---	---	---	---	---	---	---
P-2	**	4/25/06	P-2	**	**	---	---	---	---	---/---	---	---	---	---	---	---	---	---	---
P-3	**	4/25/06	P-3	**	**	---	---	---	---	---/---	---	---	---	---	---	---	---	---	---
P-4	**	4/25/06	P4 12.5-13	12.5-13	**	---	**2,500**	---	---	---/---	---	---	---	---	---	---	---	---	---
P-5	**	4/25/06	P-5	**	**	---	---	---	---	---/---	---	---	---	---	---	---	---	---	---
P-6	**	4/25/06	P6 11.5-12	11.5-12	**	---	**5**	---	---	---/---	---	---	---	---	---	---	---	---	---
	**	4/25/06	P6 18.5-19	18.5-19	**	---	**370**	---	---	---/---	---	---	---	---	---	---	---	---	---
P-7	**	4/25/06	P-7	**	**	---	---	---	---	---/---	---	---	---	---	---	---	---	---	---
P-8	**	4/25/06	P8 18.5-19	18.5-19	**	---	**2,800**	---	---	---/---	---	---	---	---	---	---	---	---	---
G-Logics (2008)																			
EW-1*	21.26	3/17/08	EW1-10	10	11.26	---	**10**	---	---	---/---	**0.32**	**0.12**	**0.33**	**0.75**	---	---	---	---	---
	21.26	3/17/08	EW1-15	15	6.26	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.26	3/17/08	EW1-20	20	1.26	---	<10	---	---	---/---	**1.06**	**0.62**	**0.16**	**0.76**	---	---	---	---	---
	21.26	3/17/08	EW1-24	24	-2.74	---	**15**	---	---	---/---	**1.34**	**1.28**	**0.31**	**1.86**	---	---	---	---	---
EW-2*	21.44	3/17/08	EW-2-10	10	11.44	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.44	3/17/08	EW2-14	14	7.44	---	<10	---	---	---/---	<0.02	<0.10	**0.059**	**0.26**	---	---	---	---	---
	21.44	3/17/08	EW2-20	20	1.44	---	**19**	---	---	---/---	**0.51**	**0.88**	**0.50**	**2.51**	---	---	---	---	---
	21.44	3/17/08	EW2-24	24	-2.56	---	**13**	---	---	---/---	**0.80**	**1.32**	**0.31**	**1.36**	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
EW-3*	21.21	3/17/08	EW-3-10	10	11.21	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.21	3/17/08	EW3-15	15	6.21	---	<10	---	---	---/---	**0.31**	**0.14**	**0.38**	**1.33**	---	---	---	---	---
	21.21	3/17/08	EW3-15(Dup)	15	6.21	---	**10**	---	---	---/---	**0.35**	**0.084**	**0.47**	**1.31**	---	---	---	---	---
	21.21	3/17/08	EW3-20	20	1.21	---	**31**	---	---	---/---	**1.66**	**3.76**	**0.55**	**3.27**	---	---	---	---	---
EW-4*	21.24	3/17/08	EW-4-10	10	11.24	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.24	3/17/08	EW4-15	15	6.24	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.24	3/17/08	EW4-20	20	1.24	---	**21**	---	---	---/---	**0.63**	**2.39**	**0.44**	**2.19**	---	---	---	---	---
EW-5*	21.09	3/17/08	EW-5-15	15	6.09	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.09	3/17/08	EW5-20	20	1.09	---	**14**	---	---	---/---	**1.01**	**1.04**	**0.34**	**1.12**	---	---	---	---	---
	21.09	3/17/08	EW5-23	23	-1.91	---	**33**	---	---	---/---	**0.70**	**2.18**	**0.81**	**3.83**	---	---	---	---	---
	21.09	3/17/08	EW5-23(Dup)	23	-1.91	---	**34**	---	---	---/---	**0.70**	**2.26**	**0.85**	**4.02**	---	---	---	---	---
EW-6*	21.13	3/18/08	EW-6-10	10	11.13	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.13	3/18/08	EW6-15	15	6.13	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	21.13	3/18/08	EW6-20	20	1.13	---	**37**	---	---	---/---	**1.14**	**3.42**	**5.03**	**2.43**	---	---	---	---	---
	21.13	3/18/08	EW6-23	23	-1.87	---	<10	---	---	---/---	**0.11**	**0.20**	**0.092**	**0.25**	---	---	---	---	---
EW-7*	20.87	3/18/08	EW-7-10	10	10.87	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	20.87	3/18/08	EW7-15	15	5.87	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	20.87	3/18/08	EW7-15(Dup)	15	5.87	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	20.87	3/18/08	EW7-20	20	0.87	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	20.87	3/18/08	EW7-25	25	-4.13	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
EW-8*	20.90	3/18/08	EW-8-10	10	20.9	---	**97**	---	---	---/---	**0.24**	**1.00**	**1.29**	**2.02**	---	---	---	---	---
	20.90	3/18/08	EW8-15	15	20.9	---	**293**	---	---	---/---	**1.23**	**2.61**	**4.37**	**3.21**	---	---	---	---	---
	20.90	3/18/08	EW8-20	20	20.9	---	**14**	---	---	---/---	**0.22**	**1.47**	**0.46**	**1.37**	---	---	---	---	---
	20.90	3/18/08	EW8-25	25	20.9	---	<10	---	---	---/---	**0.092**	**0.54**	**0.23**	**0.84**	---	---	---	---	---
EW-9*	20.75	3/18/08	EW-9-10	10	10.75	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	20.75	3/18/08	EW-9-15	15	5.75	---	**4,320**	---	---	---/---	**37.4**	**201**	**100**	**317**	---	---	---	---	---
	20.75	3/18/08	EW-9-20	20	0.75	---	**379**	---	---	---/---	**2.41**	**17.4**	**9.16**	**28.5**	---	---	---	---	---
	20.75	3/18/08	EW-9-25	25	-4.25	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
MW-18*	18.58	4/16/08	MW-18-15	15	3.58	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
MW-19*	18.37	4/16/08	MW19-20	20	-1.63	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
MW-20*	19.08	4/16/08	MW-20-20	20	-0.92	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
MW-21*	18.58	4/16/08	MW-21-17	17	1.58	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---
	18.58	4/18/08	MW-21-17(DUP)	17	1.58	---	<10	---	---	---/---	<0.02	<0.10	<0.05	<0.15	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
G-Logics 2016																			
GLB-1†	20.8	10/25/16	GLB-1-102516-10	10	10.8	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-13.5	13.5	7.3	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-20	20	0.8	0.0	<6.89	<21.2	<53.1	---/---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-25	25	-4.2	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-30	30	-9.2	0.0	<6.81	<22.5	<56.3	---/---	---	---	---	---	---	---	---	---	---
GLB-2†	20.9	10/25/16	GLB-2-102516-10	10	10.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-15	15	5.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-20	20	0.9	0.1	<6.10	<22.8	<57.1	---/---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-25	25	-4.1	0.0	<6.79	<22.0	<55.0	---/---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-30	30	-9.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
GLB-3†	21.2	10/25/16	GLB-3-20161025-10	10	11.2	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-15	15	6.2	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-20	20	1.2	0.4	<7.12	<21.9	<54.7	---/---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-25	25	-3.8	3.4	<6.18	<22.5	<56.2	---/---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-30	30	-8.8	0.3	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-35	35	-13.8	0.0	<6.24	<20.0	<49.9	---/---	---	---	---	---	---	---	---	---	---
GLB-4†	20.5	10/25/16	GLB-4-102516-10	10	10.5	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-15	15	5.5	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-20	20	0.5	0.0	<6.90	<25.6	<64.0	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-21	21	-0.5	2.1	<6.30	<23.8	<59.4	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-25	25	-4.5	2.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-30	30	-9.5	0.0	<6.01	<22.9	<57.2	---/---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-35	35	-14.5	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
GLB-5†	20.7	10/24/16	GLB-5-102416-3	3	17.7	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-9	9	11.7	0.1	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-12	12	8.7	0.2	<6.52	<26.6	<66.4	---/---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-15	15	5.7	0.2	<8.98	<31.8	<79.5	---/---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-20	20	0.7	0.2	<6.22	<21.7	<54.3	---/---	<0.0249	<0.0249	<0.0373	<0.0249	<0.0622	<0.0373	<0.00622	---	---
	20.7	10/27/16	GLB-5-25	25	-4.3	0.2	<7.10	<24.2	<60.5	---/---	<0.0284	<0.0284	<0.0426	<0.0284	<0.0710	<0.0426	<0.00710	---	---
GLB-6†	21.4	10/24/16	GLB-6-102416-3	3	18.4	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-8	8	13.4	0.2	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-10	10	11.4	35.4	<6.92	<24.0	<60.1	---/---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-15	15	6.4	0.3	<7.78	<32.8	<82.0	---/---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-20	20	1.4	0.2	<6.76	<23.2	<58.0	---/---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-25	25	-3.6	0.1	<6.18	<24.6	<61.5	---/---	<0.0247	<0.0247	<0.0371	<0.0247	<0.0618	<0.0371	<0.00618	---	---
	21.4	10/27/16	GLB-6-30	30	-8.6	0.0	<5.52	<23.2	<58.0	---/---	<0.0221	<0.0221	<0.0331	<0.0221	<0.0552	<0.0331	<0.00552	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
GLB-7†	21	10/24/16	GLB-7-102416-3	3	18	0.0	<4.62	<20.4	<51.0	---/---	<0.0185	<0.0185	<0.0277	<0.0185	<0.0462	<0.0277Q	<0.00462	<0.0185Q	**4.90**
	21	10/26/16	GLB-7-102616-20	20	1	12.2	**7.51**	<25.4	<63.5	---/---	**0.970**	**0.0510**	<0.0387	**0.170**	<0.0645	<0.0387	<0.00645	**0.0804**	**1.12**
	21	10/26/16	GLB-7-102616-22	22	-1	23.8	<6.48	<24.5	<61.2	---/---	**0.424**	<0.0259	<0.0389	**0.0561**	<0.0648	<0.0389	<0.00648	**0.0536**	---
	21	10/26/16	GLB-7-102616-30	30	-9	1.9	<6.84	<21.7	<54.3	---/---	<0.0274	<0.0274	<0.0411	**0.0355**	<0.0684	<0.0411	<0.00684	**0.0464**	---
	21	10/26/16	GLB-7-102616-35	35	-14	0.0	<5.10	<21.4	<53.5	---/---	<0.0204	<0.0204	<0.0306	**0.0290**	<0.0510	<0.0306	<0.00510	<0.0204	---
GLB-8†	21	10/21/16	GLB-8-20161021-3	3	18	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21	10/21/16	GLB-8-20161021-6	6	15	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-11	11	10	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-15	15	6	0.1	<6.62	<27.8	<69.6	---/---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-18	18	3	0.1	<6.78	<24.2	<60.6	---/---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-25	25	-4	0.0	<6.49	<25.2	<63.0	---/---	<0.0259	<0.0259	<0.0389	<0.0259	<0.0649	<0.0389	<0.00649	---	---
GLB-9†	20.8	10/24/16	GLB-9-102416-3	3	17.8	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-10	10	10.8	0.0	<5.45	<21.6	**441**	---/---	<0.0218	<0.0218	<0.0327	<0.0218	<0.0545	---	---	<0.0218	**14.1**
	20.8	10/26/16	GLB-9-102616-23	23	-2.2	25.6	**9.05**	<23.5	<58.7	---/---	**0.432**	**0.0519**	**0.242**	**0.390**	<0.0683	---	---	<0.0273	**1.07**
	20.8	10/26/16	GLB-9-102616-25	25	-4.2	8.2	<6.51	<21.5	<53.8	---/---	**0.128**	<0.0261	**0.0749**	**0.169**	<0.0651	---	---	<0.0261	**0.959**
	20.8	10/26/16	GLB-9-102616-30	30	-9.2	0.1	<6.14	<21.3	<53.3	---/---	<0.0246	<0.0246	<0.0368	<0.0246	<0.0614	---	---	<0.0246	---
	20.8	10/26/16	GLB-9-102616-35	35	-14.2	0.0	<6.57	<22.5	<56.3	---/---	<0.0263	<0.0263	<0.0394	**0.0467**	<0.0657	---	---	<0.0263	---
GLB-10†	19.7	10/21/16	GLB-10-20161021-3	3	16.7	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-12	12	7.7	0.0	<5.33	<23.4	<58.5	---/---	<0.0213	<0.213	<0.0320	<0.0213	<0.0533	<0.0320Q	<0.00533	<0.0213Q	**3.77**
	19.7	10/24/16	GLB-10-20161024-20	20	-0.3	5.8	**17.1**	<23.8	<59.5	---/---	**1.06**	**0.106**	**0.596**	**3.5122**	<0.0536	<0.0322	<0.00536	**0.0852**	**1.12**
	19.7	10/24/16	GLB-10-20161024-25	25	-5.3	0.0	<6.79	<22.2	<55.5	---/---	<0.0272	<0.0272	<0.0407	**0.0294**	<0.0679	<0.0407	<0.00679	<0.0272	---
	19.7	10/24/16	GLB-10-20161024-30	30	-10.3	0.0	---	---	---	---/---	<0.0214	<0.0214	<0.0321	<0.0214	<0.0535	<0.0321	<0.00535	<0.0214	---
GLB-11†	20	10/24/16	GLB-11-102416-3	3	17	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-7	7	13	0.2	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-15	15	5	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-18	18	2	0.0	<6.20	<23.0	<57.4	---/---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-23	23	-3	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-30	30	-10	0.0	<6.03	<23.1	<57.7	---/---	---	---	---	---	---	---	---	---	---
GLB-12†	19.8	10/21/16	GLB-12-20161021-3	3	16.8	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.8	10/21/16	GLB-12-20161021-6	6	13.8	0.0	<5.07	<20.5	<51.1	---/---	<0.0203	<0.0203	<0.0304	<0.0203	<0.0507	<0.0304Q	<0.00507	<0.0203Q	**5.70**
	19.8	10/24/16	GLB-12-20161024-10	10	9.8	4.5	**3.43**	<23.7	<59.2	---/---	<0.0121	<0.0121	<0.0182	**0.0164**	<0.0303	<0.0182	<0.00303	**0.0527**	**11.1**
	19.8	10/24/16	GLB-12-20161024-14	14	5.8	0.3	<6.92	<26.1	<65.2	---/---	<0.0277	<0.0277	<0.0415	**0.0303**	<0.0692	<0.0415	<0.00692	<0.0277	---
	19.8	10/24/16	GLB-12-20161024-18	18	1.8	0.2	<6.01	<25.5	<63.8	---/---	<0.0241	<0.0241	<0.0361	<0.0241	<0.0601	<0.0361	<0.00601	<0.0241	---
	19.8	10/24/16	GLB-12-20161024-25	25	-5.2	0.1	<5.95	<24.6	<61.5	---/---	<0.0238	<0.0238	<0.0357	<0.0238	<0.0595	<0.0357	<0.00595	<0.0238	---
	19.8	10/24/16	GLB-12-20161024-30	30	-10.2	0.0	---	---	---	---/---	<0.0208	<0.0208	<0.0312	<0.0208	<0.0519	<0.0312	<0.00519	<0.0208	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
GLB-13†	19.9	10/21/16	GLB-13-20161021-3	3	16.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.9	10/21/16	GLB-13-20161021-6	6	13.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-11	11	8.9	0.1	<6.72	<25.6	<64.1	---/---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-15	15	4.9	0.3	<11.8	<32.2	<80.4	---/---	<0.0473	<0.0473	<0.0710	<0.0473	<0.118	<0.0710	<0.0118	---	---
	19.9	10/25/16	GLB-13-102516-20	20	-0.1	0.1	<6.49	<22.4	<55.9	---/---	<0.0259	<0.0259	<0.0389	<0.0259	<0.0649	<0.0389	<0.00649	---	---
	19.9	10/25/16	GLB-13-102516-25	25	-5.1	0.0	<6.18	<24.7	<61.7	---/---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-30	30	-10.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
GLB-14†	20.1	10/21/16	GLB-14-20161024-3	3	17.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/21/16	GLB-14-20161024-6	6	14.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-10	10	10.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-12.5	12.5	7.6	0.0	<10.0	<27.0	<67.4	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-17	17	3.1	250	**216**	<27.9	<69.8	---/---	**3.01**	**12.5**	**5.76**	**31.65**	<0.0620	<0.0372	<0.00620	**2.12**	**2.09**
	20.1	10/24/16	GLB-14-20161024-22	22	-1.9	2.8	<5.39	<25.1	<62.8	---/---	<0.0216	<0.0216	<0.0323	<0.0216	<0.0539	<0.0323	<0.00539	<0.0216	**0.985**
	20.1	10/24/16	GLB-14-20161024-25	25	-4.9	0.0	<7.96	<21.3	**125**	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-30	30	-9.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
GLB-15†	20.1	10/24/16	GLB-15-20161024-5	5	15.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-9	9	11.1	25	**70.8**	<21.8	<54.4	---/---	<0.0276	**0.207**	**1.38**	**6.03**	<0.0689	<0.0413	<0.00689	**0.124Q**	**1.67**
	20.1	10/24/16	GLB-15-20161024-12	12	8.1	7.8	**37.2**	<28.8	<72.1	---/---	**0.0735**	**0.106**	**0.673**	**1.863**	<0.0660	<0.0396	<0.00660	**0.510**	**3.19**
	20.1	10/24/16	GLB-15-20161024-18	18	2.1	38.7	**3,510**	<28.0	<69.9	---/---	**32.5**	**312**	**59.1**	**327**	<0.0612	<0.0367	<0.00612	**68.6**	**2.51**
	20.1	10/24/16	GLB-15-20161024-25	25	-4.9	3.1	<6.53	<22.5	<56.3	---/---	<0.0261	**0.0613**	**0.0640**	**0.2723**	<0.0653	---	---	**0.079Q**	**0.898**
	20.1	10/24/16	GLB-15-20161024-30	30	-9.9	0.1	<5.69	<22.8	<56.9	---/---	---	**---**	---	---	---	---	---	---	---
GLB-16†	20	10/24/16	GLB-16-102416-3	3	17	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-6	6	14	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-9	9	11	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-12	12	8	0.0	<6.44	<25.3	<63.3	---/---	<0.0258	<0.0258	<0.0387	<0.0258	<0.0644	---	---	<0.0258Q	**3.33**
	20	10/24/16	GLB-16-20161024-16	16	4	17.2	**10.8**	<31.3	<78.3	---/---	**1.49**	**0.182**	**0.234**	**0.967**	<0.0769	---	---	**0.0910**	**4.06**
	20	10/24/16	GLB-FD-20161024-1	16	4	17.2	**26.5**	<30.1	<75.4	---/---	**1.87**	**0.268**	**1.22**	**5.99**	<0.0740	---	---	**0.259**	**3.12**
	20	10/24/16	GLB-16-20161024-20	20	0	20.3	**15.3**	<22.0	<55.0	---/---	**0.201**	**0.0680**	**0.174**	**1.6258**	<0.0597	---	---	**0.0901Q**	**0.942**
	20	10/24/16	GLB-16-20161024-25	25	-5	0.0	<5.26	<24.1	<60.3	---/---	<0.0210	**0.0537**	<0.0316	**0.1155**	<0.0526	---	---	**0.0916**	---
GLB-17†	19.9	11/21/16	GLB-17-5	5	14.9	0.0	<6.26	---	---	---/---	<0.0251	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-10	10	9.9	0.0	<6.06	<21.4	<53.6	---/---	<0.0242	<0.0242	<0.0363	<0.0242	<0.0606	---	---	<0.0242	---
	19.9	11/21/16	GLB-17-15	15	4.9	0.0	<6.79	<24.7	<61.8	---/---	<0.0272	<0.0272	<0.0408	<0.0272	<0.0679	---	---	<0.0272	---
	19.9	11/21/16	GLB-17-18	18	1.9	0.0	<6.89	<22.6	<56.5	---/---	<0.0276	<0.0276	<0.0414	<0.0276	<0.0689	---	---	<0.0276	---
	19.9	11/21/16	GLB-17-23	23	-3.1	0.0	<6.12	<22.7	<56.8	---/---	<0.0245	<0.0245	<0.0367	<0.0245	<0.0612	---	---	<0.0245	---
	19.9	11/21/16	GLB-17-23 Dup (MW-W)	23	-3.1	0.0	<6.11	<21.5	<53.7	---/---	<0.0245	<0.0245	<0.0367	<0.0245	<0.0611	---	---	<0.0245	---
	19.9	11/21/16	GLB-17-28	28	-8.1	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
GLB-18†	21	11/18/16	GLB-18-5	5	16	13.3	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-10	10	11	22.5	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-14	14	7	17.3	<7.74	<30.3	**743**	---/---	<0.0310	<0.0310	<0.0464	<0.0310	<0.0774	---	---	<0.0310	---
	21	11/18/16	GLB-18-17	17	4	20.5	<5.83	<21.1	<52.7	---/---	<0.0233	<0.0233	<0.0350	**0.0467**	<0.0583	---	---	<0.0233	---
	21	11/18/16	GLB-18-22	22	-1	18.5	<6.82	<22.6	<56.5	---/---	<0.0273	<0.0273	<0.0409	**0.0594**	<0.0682	---	---	**0.0488**	---
	21	11/18/16	GLB-18-30	30	-9	33.9	<6.47	<23.5	<58.7	---/---	<0.0259	<0.0259	<0.0388	**0.101**	<0.0647	---	---	<0.0259	---
	21	11/18/16	GLB-18-35	35	-14	16.9	<5.67	<21.6	<53.9	---/---	<0.0227	<0.0227	<0.0340	<0.0227	<0.0567	---	---	<0.0227	---
GLB-19†	20.8	11/18/16	GLB-19-5	5	15.8	4.7	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-10	10	10.8	26.3	<5.85	<25.4	<63.5	---/---	<0.0234	<0.0234	<0.0351	<0.0234	<0.0585	---	---	<0.0234	---
	20.8	11/18/16	GLB-19-15	15	5.8	5.7	<6.56	<24.1	<60.3	---/---	<0.0263	<0.0263	<0.0394	<0.0263	<0.0656	---	---	<0.0263	---
	20.8	11/18/16	GLB-19-16	16	4.8	16.5	<10.3	<30.3	<75.6	---/---	<0.0414	<0.0414	<0.0621	<0.0414	<0.103	---	---	<0.0414	---
	20.8	11/18/16	GLB-19-18	18	2.8	35.8	<6.16	<22.9	<57.3	---/---	<0.0246	<0.0246	<0.0370	<0.0246	<0.0616	---	---	<0.0246	---
	20.8	11/18/16	GLB-19-18 Dup (GLB-X)	18	2.8	35.8	<6.08	<24.0	<60.1	---/---	**0.355**	<0.0243	<0.0365	<0.0243	<0.0608	---	---	<0.0243	---
	20.8	11/18/16	GLB-19-25	25	-4.2	38.4	<6.04	<22.7	<56.7	---/---	**0.0533**	<0.0242	<0.0363	<0.0242	<0.0604	---	---	<0.0242	---
	20.8	11/18/16	GLB-19-30	30	-9.2	12.8	<6.62	---	---	---/---	<0.0265	<0.0265	<0.0397	<0.0265	<0.0662	---	---	<0.0265	---
MW-22*	21.40	11/17/16	MW-22-11	11	10.4	---	<6.43	<22.4	<56.1	---/---	<0.0257	<0.0257	<0.0386	<0.0257	<0.0643	---	---	<0.0257	---
MW-23*	21.32	11/17/16	MW-23-16	16	5.32	0.0	<6.11	<25.2	<62.9	---/---	<0.0244	<0.0244	<0.0366	<0.0244	<0.0611	<0.0366	<0.00611	<0.0244	**2.04**
	21.32	11/17/16	MW-23-20	20	1.32	74.0	<6.54	<23.0	<57.4	---/---	**0.334**	**0.0661**	**0.0955**	**0.602**	<0.0654	<0.0392	<0.00654	<0.0262	**2.12**
MW-24*	20.61	11/21/16	MW-24-12	12	8.61	0.0	<5.98	<23.8	<59.5	---/---	<0.0239	<0.0239	<0.0359	<0.0239	<0.0598	---	---	<0.0239	---
MW-25*	20.19	11/18/16	MW-25-11	11	9.19	5.2	<6.13	<26.7	<66.8	---/---	<0.0245	<0.0245	<0.0368	<0.0245	<0.0613	---	---	<0.0245	---
MW-26D*	20.12	11/17/16	MW-26-5	5	15.12	0.0	<5.35	<19.8	<49.5	---/---	<0.0214	<0.0214	<0.0321	<0.0214	<0.0535	<0.0321	<0.00535	<0.0214	**2.05**
	20.12	11/17/16	MW-26-10	10	10.12	0.0	<6.67	<24.5	<61.3	---/---	<0.0267	<0.0267	<0.0400	**0.0527**	<0.0667	<0.0400	<0.00667	<0.0267	**2.39**
	20.12	11/17/16	MW-26-16 Dup (MW-Z-16)	16.5	3.62	0.0	<6.64	<24.5	<61.1	---/---	<0.0265	<0.0265	<0.0398	<0.0265	<0.0664	<0.0398	<0.00664	<0.0265	**2.92**
	20.12	11/17/16	MW-26-16.5	16.5	3.62	0.0	<7.10	<24.7	<61.7	---/---	<0.0284	<0.0284	<0.0426	<0.0284	<0.0710	<0.0426	<0.00710	<0.0284	**2.01**
	20.12	11/17/16	MW-26-20	20	0.12	0.0	<5.95	<23.2	<58.0	---/---	<0.0238	<0.0238	<0.0357	<0.0238	<0.0595	<0.0357	<0.00595	<0.0238	**2.13**
	20.12	11/17/16	MW-26-25	25	-4.88	0.0	<6.33	<22.1	<55.2	---/---	<0.0253	<0.0253	<0.0380	<0.0253	<0.0633	<0.0380	<0.00633	<0.0253	**2.20**
	20.12	11/17/16	MW-26-30	30	-9.88	0.0	<6.78	<24.5	<61.3	---/---	<0.0271	<0.0271	<0.0407	<0.0271	<0.0678	<0.0407	<0.00678	<0.0271	**8.32**
MW-27D*	20.18	11/21/16	MW-27-5	5	15.18	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-10	10	10.18	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-15	15	5.18	0.0	<6.86	<23.6	<59.0	---/---	<0.0275	<0.0275	<0.0412	<0.0275	<0.0686	<0.0412	<0.00686	<0.0275	**0.803**
	20.18	11/21/16	MW-27-20	20	0.18	0.0	<6.41	<22.8	<56.9	---/---	<0.0256	<0.0256	<0.0385	<0.0256	<0.0641	<0.0385	<0.00641	<0.0256	**0.824**
	20.18	11/21/16	MW-27-20 Dup (MW-V)	20	0.18	0.0	<6.41	<23.7	<59.2	---/---	<0.0257	<0.0257	<0.0385	<0.0257	<0.0641	<0.0385	<0.00641	<0.0257	**0.815**
	20.18	11/21/16	MW-27-25	25	-4.82	0.0	<5.38	<21.4	<53.5	---/---	<0.0215	<0.0215	<0.0323	<0.0215	<0.0538	<0.0323	<0.00538	<0.0215	**0.887**

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
MW-28D*	19.85	11/18/16	MW-28-5	5	14.85	0.7	<7.32	---	---	---/---	<0.0298	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-10	10	9.85	3.9	<6.11	<24.5	<61.3	---/---	<0.0244	<0.0244	<0.0367	<0.0244	<0.0611	---	---	<0.0244	---
	19.85	11/18/16	MW-28-15	15	4.85	2.9	<7.36	<24.4	<60.9	---/---	<0.0294	<0.0294	<0.0442	<0.0294	<0.0736	---	---	<0.0294	---
	19.85	11/18/16	MW-28-20	20	-0.15	2.9	<7.02	<23.0	<57.6	---/---	<0.0281	<0.0281	<0.0421	<0.0281	<0.0702	---	---	<0.0281	---
	19.85	11/18/16	MW-28-20 Dup (MW-Y)	20	-0.15	7.5	<6.53	<25.3	<63.2	---/---	<0.0261	<0.0261	<0.0392	<0.0261	<0.0653	---	---	<0.0261	---
	19.85	11/18/16	MW-28-30	30	-10.15	3.7	<6.66	<22.4	<56.0	---/---	<0.0266	<0.0266	<0.0400	<0.0266	<0.0666	---	---	<0.0266	---
GLVP-1†	19.7	10/24/16	GLVP-1-102416-3	3	16.7	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.7	10/26/16	GLVP-1-102616-7	7	12.7	0.0	<6.82	<20.0	<49.9	---/---	---	---	---	---	---	---	---	---	---
GLVP-2†	19.9	10/24/16	GLVP-2-102416-3	3	16.9	0.0	---	---	---	---/---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLVP-2-102516-7.5	7.5	12.4	0.0	<5.74	<21.8	<54.5	---/---	---	---	---	---	---	---	---	---	---
G-Logics (2018)																			
MW-24D	20.14	1/11/18	MW-24D-10	10	10.14	12	---	---	---	---/---	---	---	---	---	---	---	---	---	---
		1/11/18	MW-24D-20	20	0.14	13	<8.52	<23.9	<59.8	---/---	<0.0338	<0.0338	<0.0442	<0.0845	---	---	---	---	---
		1/11/18	MW-24D-25	25	-4.86	27	<6.58	<23.4	<58.5	---/---	<0.0263	<0.0263	<0.0329	<0.0658	---	---	---	---	---
MW-29S	21.53	1/11/18	MW-29S-10	10	11.53	---	<8.47	<24.4	<60.6	---/---	<0.0339	<0.0339	<0.0423	**0.228**	---	---	---	---	---
		1/11/18	MW-29S-15	15	6.53	---	<7.96	<28.0	<70.1	---/---	<0.0319	<0.0319	<0.0398	<0.0796	---	---	---	---	---
MW-29D	21.59	1/11/18	MW-29D-10	10	11.59	---	<8.48	<24.9	<62.1	---/---	<0.0339	<0.0339	<0.0424	<0.0848	---	---	---	---	---
MW-30	21.2	1/11/18	MW-30-10	10	11.2	0.5	---	---	---	---/---	---	---	---	---	---	---	---	---	---
		1/11/18	MW-30-15	15	6.2	0.6	<6.92	<25.7	<64.2	---/---	<0.0277	<0.0277	<0.0346	<0.0692	---	---	---	---	---
		1/11/18	MW-30-20	20	1.2	9.4	<8.51	<21.7	<54.3	---/---	<0.0340	<0.0340	<0.0426	<0.0851	---	---	---	---	---
		1/11/18	MW-30-25	25	-3.8	7.0	<6.53	<22.3	<55.8	---/---	<0.0261	<0.0261	<0.0327	<0.0653	---	---	---	---	---
G-Logics (2019)																			
AS-1		4/10/19	AS-1-5	5			---	---	---	---/---	---	---	---	---	---	---	---	---	---
AS-2		4/10/19	AS-2-5	5			<4.07	<21.1	<52.6	---/---	<0.0163	<0.0163	<0.0203	<0.0407	---	---	---	---	---
		4/10/19	AS-2-10	10			<5.16	<23.4	<58.6	---/---	<0.0207	<0.0207	<0.0258	<0.0258	---	---	---	---	---
		4/10/19	AS-2-15	15			**12.9**	<25.8	<64.4	---/---	**0.044**	**0.186**	<0.0332	<0.0664	---	---	---	---	---
		4/10/19	AS-2-19	19			**928**	<22.3	<55.7	---/---	**10.2**	**73.6**	**15.1**	**83.2**	<1.13	<0.450	<0.113	**14.6**	**1.38**
		4/10/19	AS-2-25	25			**24.1**	<24.3	<60.9	---/---	<0.0296	**0.0625**	**1.28**	**0.419**	---	---	---	---	---
		4/10/19	AS-2-30	30			<5.44	<23.2	<58.0	---/---	<0.0218	**0.0230**	<0.0272	<0.0544	---	---	---	---	---
		4/10/19	AS-2-35	35			---	---	---	---/---	---	---	---	---	---	---	---	---	---
SVE-1		4/10/19	SVE-1-5	5			<5.44	<19.6	**106**	---/---	<0.0218	<0.0218	<0.0272	<0.0544	---	---	---	---	---
		4/10/19	SVE-1-9	9			**3,560**	<21.7	<54.2	---/---	<0.458	**16.8D**	**62.2D**	**407D**	<1.14	**<0.458**	<0.114	<1.14	**4.51**
TW-1		4/10/19	TW-1-5	5			<4.61	<19.4	**113**	---/---	<0.0184	**0.0307**	<0.0231	<0.0461	---	---	---	---	---
		4/11/19	TW-1-9	9			<5.48	<18.6	<46.5	---/---	<0.0219	<0.0219	<0.0274	<0.0548	---	---	---	---	---

TABLE 4-1
Soil Sample Analyses (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Total Petroleum Hydrocarbon Method 418.1 / 8015	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert Butyl Ether (MTBE)	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	hexane; n-	Lead
MTCA Method A Cleanup (2)						NA	100(a)/30(b)	2,000	2,000	NA	0.03	7	6	9	0.1	11	0.005	4,800	250
TW-2		4/11/19	TW-2-5	5			<5.56	<19.6	<49.0	---/---	<0.0222	<0.0222	<0.0278	<0.0556	---	---	---	---	---
TW-3		4/11/19	TW-3-5	5			**9.09**	<18.6	<46.5	---/---	**0.094**	**0.241**	**0.299**	**1.092**	---	---	---	---	---
		4/11/19	TW-3-9	9			**153**	<19.7	<49.2	---/---	**5.35**	**0.867**	**7.43**	**17.52**	<0.0455	<0.0182	<0.00455	**2.52**	**11.3**

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.
(2) Available Method A Cleanup Levels for Unrestricted Land Uses, MTCA, revised 2013. Exceeding Cleanup Levels does not necessarily trigger requirements for Cleanup Actions under MTCA.
(3) Diesel and Heavy Oil Analysis by NWTPH-Dx/Dx Ext., Gas by NWTPH-Gx, Total Metals by EPA Method 6020, VOC by 8260C
(a) Soil Cleanup Level for gasoline with no detectable benzene in the soil.
(b) Soil Cleanup Level for gasoline with detectable benzene in the soil.
* Surface elevations defined on PLS, Inc. Topographic Survey (12/5/2016). Elevation Based on NAVD 88.
** No data / Not researched.
Dup Duplicate sample for QA/QC.
--- Sample not analyzed.
ND Sample concentration below method detection limit. Method detection limit not specified
<50.0 Sample concentration below listed laboratory-reporting limit.
27 Bold Number(s) Indicates Contaminant Detected.
160 Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.
Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, >20% Drift or minimum RRF)
<1.0 Laboratory reporting limit is higher than referenced Cleanup Levels.
NA Not Applicable

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
G-Logics 2016																	
GLB-1†	20.8	10/25/16	GLB-1-102516-10	10	10.8	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-13.5	13.5	7.3	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-20	20	0.8	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-25	25	-4.2	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-30	30	-9.2	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-2†	20.9	10/25/16	GLB-2-102516-10	10	10.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-15	15	5.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-20	20	0.9	0.1	---	---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-25	25	-4.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-30	30	-9.1	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-3†	21.2	10/25/16	GLB-3-20161025-10	10	11.2	0.0	---	---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-15	15	6.2	0.0	---	---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-20	20	1.2	0.4	---	---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-25	25	-3.8	3.4	---	---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-30	30	-8.8	0.3	---	---	---	---	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-35	35	-13.8	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-4†	20.5	10/25/16	GLB-4-102516-10	10	10.5	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-15	15	5.5	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-20	20	0.5	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-21	21	-0.5	2.1	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-25	25	-4.5	2.0	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-30	30	-9.5	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-35	35	-14.5	0.0	---	---	---	---	---	---	---	---	---	---	---

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
GLB-5†	20.7	10/24/16	GLB-5-102416-3	3	17.7	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-9	9	11.7	0.1	---	---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-12	12	8.7	0.2	---	---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-15	15	5.7	0.2	---	---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-20	20	0.7	0.2	---	---	---	---	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-25	25	-4.3	0.2	---	---	---	---	---	---	---	---	---	---	---
GLB-6†	21.4	10/24/16	GLB-6-102416-3	3	18.4	0.0	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-8	8	13.4	0.2	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-10	10	11.4	35.4	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-15	15	6.4	0.3	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-20	20	1.4	0.2	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-25	25	-3.6	0.1	---	---	---	---	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-30	30	-8.6	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-7†	21	10/24/16	GLB-7-102416-3	3	18	0.0	<38.5	<38.5	<38.5	<38.5	<38.5	<38.5	<38.5	<38.5	<38.5	<38.5	<29.1
	21	10/26/16	GLB-7-102616-20	20	1	12.2	**82.5**	**117**	**94.8**	---	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-22	22	-1	23.8	<49.9	<49.9	<49.9	---	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-30	30	-9	1.9	<45.6	<45.6	<45.6	---	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-35	35	-14	0.0	<45.8	<45.8	<45.8	---	---	---	---	---	---	---	---
GLB-8†	21	10/21/16	GLB-8-20161021-3	3	18	0.0	---	---	---	---	---	---	---	---	---	---	---
	21	10/21/16	GLB-8-20161021-6	6	15	0.0	---	---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-11	11	10	0.0	---	---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-15	15	6	0.1	---	---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-18	18	3	0.1	---	---	---	---	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-25	25	-4	0.0	---	---	---	---	---	---	---	---	---	---	---

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
GLB-9†	20.8	10/24/16	GLB-9-102416-3	3	17.8	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-10	10	10.8	0.0	<49.0	<49.0	<49.0	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-23	23	-2.2	25.6	<52.7	<52.7	<52.7	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-25	25	-4.2	8.2	<45.5	<45.5	<45.5	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-30	30	-9.2	0.1	<46.3	<46.3	<46.3	---	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-35	35	-14.2	0.0	<45.3	<45.3	<45.3	---	---	---	---	---	---	---	---
GLB-10†	19.7	10/21/16	GLB-10-20161021-3	3	16.7	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-12	12	7.7	0.0	<48.3	<48.3	<48.3	<48.3	<48.3	<48.3	<48.3	<48.3	<48.3	<48.3	<36.5
	19.7	10/24/16	GLB-10-20161024-20	20	-0.3	5.8	<47.8	<47.8	<47.8	<47.8	<47.8	<47.8	<47.8	<47.8	<47.8	<47.8	<36.1
	19.7	10/24/16	GLB-10-20161024-25	25	-5.3	0.0	<46.3	<46.3	<46.3	<46.3	<46.3	<46.3	<46.3	<46.3	<46.3	<46.3	<35.0
	19.7	10/24/16	GLB-10-20161024-30	30	-10.3	0.0	<40.4	<40.4	<40.4	<40.4	<40.4	<40.4	<40.4	<40.4	<40.4	<40.4	<30.5
GLB-11†	20	10/24/16	GLB-11-102416-3	3	17	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-7	7	13	0.2	---	---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-15	15	5	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-18	18	2	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-23	23	-3	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-30	30	-10	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-12†	19.8	10/21/16	GLB-12-20161021-3	3	16.8	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.8	10/21/16	GLB-12-20161021-6	6	13.8	0.0	<41.5	<41.5	<41.5	<41.5	<41.5	<41.5	<41.5	<41.5	<41.5	<41.5	<31.3
	19.8	10/24/16	GLB-12-20161024-10	10	9.8	4.5	<45.8	<45.8	<45.8	<45.8	<45.8	<45.8	**71.5**	<45.8	<45.8	<45.8	**83.2**
	19.8	10/24/16	GLB-12-20161024-14	14	5.8	0.3	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<37.1
	19.8	10/24/16	GLB-12-20161024-18	18	1.8	0.2	<44.8	<44.8	<44.8	<44.8	<44.8	<44.8	<44.8	<44.8	<44.8	<44.8	<33.8
	19.8	10/24/16	GLB-12-20161024-25	25	-5.2	0.1	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<33.2
	19.8	10/24/16	GLB-12-20161024-30	30	-10.2	0.0	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<32.8

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
GLB-13†	19.9	10/21/16	GLB-13-20161021-3	3	16.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/21/16	GLB-13-20161021-6	6	13.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-11	11	8.9	0.1	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-15	15	4.9	0.3	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-20	20	-0.1	0.1	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-25	25	-5.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-30	30	-10.1	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-14†	20.1	10/21/16	GLB-14-20161024-3	3	17.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/21/16	GLB-14-20161024-6	6	14.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-10	10	10.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-12.5	12.5	7.6	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-17	17	3.1	250	**471**	**213**	**94.9**	<51.4	<51.4	<51.4	<51.4	<51.4	<51.4	<51.4	<38.8
	20.1	10/24/16	GLB-14-20161024-22	22	-1.9	2.8	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<49.2	<37.1
	20.1	10/24/16	GLB-14-20161024-25	25	-4.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-30	30	-9.9	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-15†	20.1	10/24/16	GLB-15-20161024-5	5	15.1	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-9	9	11.1	25	**210**	**418**	**178**	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-12	12	8.1	7.8	**408**	**298**	**126**	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-18	18	2.1	38.7	**3,080**	**2,160**	**904**	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-25	25	-4.9	3.1	<48.8	<48.8	<48.8	---	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-30	30	-9.9	0.1	---	---	---	---	---	---	---	---	---	---	---
GLB-16†	20	10/24/16	GLB-16-102416-3	3	17	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-6	6	14	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-9	9	11	0.0	---	---	---	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-12	12	8	0.0	<50.9	<50.9	<50.9	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-16	16	4	17.2	<58.2	<58.2	<58.2	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-FD-20161024-1	16	4	17.2	<60.9	<60.9	<60.9	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-20	20	0	20.3	<50.6	<50.6	<50.6	---	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-25	25	-5	0.0	<47.5	<47.5	<47.5	---	---	---	---	---	---	---	---

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
GLB-17†	19.9	11/21/16	GLB-17-5	5	14.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-10	10	9.9	0.0	<46.4	<46.4	<46.4	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-15	15	4.9	0.0	<49.2	<49.2	<49.2	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-18	18	1.9	0.0	<46.5	<46.5	<46.5	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-23	23	-3.1	0.0	<44.5	<44.5	<44.5	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-23 Dup (MW-W)	23	-3.1	0.0	<42.3	<42.3	<42.3	---	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-28	28	-8.1	0.0	---	---	---	---	---	---	---	---	---	---	---
GLB-18†	21	11/18/16	GLB-18-5	5	16	13.3	---	---	---	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-10	10	11	22.5	---	---	---	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-14	14	7	17.3	<55.6	<55.6	<55.6	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-17	17	4	20.5	<40.7	<40.7	<40.7	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-22	22	-1	18.5	<44.5	<44.5	<44.5	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-30	30	-9	33.9	<45.1	<45.1	<45.1	---	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-35	35	-14	16.9	<44.8	<44.8	<44.8	---	---	---	---	---	---	---	---
GLB-19†	20.8	11/18/16	GLB-19-5	5	15.8	4.7	---	---	---	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-10	10	10.8	26.3	<44.4	<44.4	<44.4	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-15	15	5.8	5.7	<49.5	<49.5	<49.5	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-16	16	4.8	16.5	<59.7	<59.7	<59.7	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-18	18	2.8	35.8	<44.2	<44.2	<44.2	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-18 Dup (GLB-X)	18	2.8	35.8	<44.8	<44.8	<44.8	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-25	25	-4.2	38.4	<49.8	<49.8	<49.8	---	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-30	30	-9.2	12.8	---	---	---	---	---	---	---	---	---	---	---
MW-22*	21.40	11/17/16	MW-22-11	11	10.4	---	<50.0	<50.0	<50.0	---	---	---	---	---	---	---	---

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
MW-23*	21.32	11/17/16	MW-23-16	16	5.32	0.0	<49.0	<49.0	<49.0	<49.0	<49.0	<49.0	<49.0	<49.0	<49.0	<49.0	<37.0
	21.32	11/17/16	MW-23-20	20	1.32	74.0	<43.3	<43.3	<43.3	<43.3	<43.3	<43.3	<43.3	<43.3	<43.3	<43.3	<32.7
MW-24*	20.61	11/21/16	MW-24-12	12	8.61	0.0	<50.0	<50.0	<50.0	---	---	---	---	---	---	---	---
MW-25*	20.19	11/18/16	MW-25-11	11	9.19	5.2	<49.9	<49.9	<49.9	---	---	---	---	---	---	---	---
MW-26D*	20.12	11/17/16	MW-26-5	5	15.12	0.0	<40.8	<40.8	<40.8	<40.8	<40.8	<40.8	<40.8	<40.8	<40.8	<40.8	<30.8
	20.12	11/17/16	MW-26-10	10	10.12	0.0	<52.8	<52.8	<52.8	<52.8	<52.8	<52.8	<52.8	<52.8	<52.8	<52.8	<39.9
	20.12	11/17/16	MW-26-16 Dup (MW-Z-16)	16	4.12	0.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<44.0	<33.2
	20.12	11/17/16	MW-26-16.5	16.5	3.62	0.0	<48.8	<48.8	<48.8	<48.8	<48.8	<48.8	<48.8	<48.8	<48.8	<48.8	<36.8
	20.12	11/17/16	MW-26-20	20	0.12	0.0	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<33.4
	20.12	11/17/16	MW-26-25	25	-4.88	0.0	<42.8	<42.8	<42.8	<42.8	<42.8	<42.8	<42.8	<42.8	<42.8	<42.8	<32.3
	20.12	11/17/16	MW-26-30	30	-9.88	0.0	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<44.2	<33.4
MW-27D*	20.18	11/21/16	MW-27-5	5	15.18	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-10	10	10.18	0.0	---	---	---	---	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-15	15	5.18	0.0	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<32.8
	20.18	11/21/16	MW-27-20	20	0.18	0.0	<50.6	<50.6	<50.6	<50.6	<50.6	<50.6	<50.6	<50.6	<50.6	<50.6	<38.2
	20.18	11/21/16	MW-27-20 Dup (MW-V)	20	0.18	0.0	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<43.5	<32.8
	20.18	11/21/16	MW-27-25	25	-4.82	0.0	<38.1	<38.1	<38.1	<38.1	<38.1	<38.1	<38.1	<38.1	<38.1	<38.1	<28.8
	20.18	11/21/16	MW-27-30	30	-9.82	0.0	---	---	---	---	---	---	---	---	---	---	---

TABLE 4-2
Soil Sample Analyses, Polyaromatic Hydrocarbons (cPAH) (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft.)	Sample Date	Sample Number	Sample Depth (ft.)	Sample Elevation (ft.)	PID Reading (ppmv)	Naphthalene**	2-Methylnaphthalene	1-Methylnaphthalene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Total cPAHs, 3
MTCA Cleanup Level (2, 3)							5,000	320,000**	34500**	1,370**	1,370**	13,700**	100	137,000**	137**	1,370**	1,000
(units in µg/kg)																	
MW-28D*	19.85	11/18/16	MW-28-5	5	14.85	0.7	---	---	---	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-10	10	9.85	3.9	<47.5	<47.5	<47.5	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-15	15	4.85	2.9	<48.5	<48.5	<48.5	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-20	20	-0.15	7.5	<47.2	<47.2	<47.2	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-20 Dup (MW-Y)	20	-0.15	7.5	<44.9	<44.9	<44.9	---	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-30	30	-10.15	3.7	<41.7	<41.7	<41.7	---	---	---	---	---	---	---	---
GLVP-1†	19.7	10/24/16	GLVP-1-102416-3	3	16.7	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.7	10/26/16	GLVP-1-102616-7	7	12.7	0.0	---	---	---	---	---	---	---	---	---	---	---
GLVP-2†	19.9	10/24/16	GLVP-2-102416-3	3	16.9	0.0	---	---	---	---	---	---	---	---	---	---	---
	19.9	10/25/16	GLVP-2-102516-7.5	7.5	12.4	0.0	---	---	---	---	---	---	---	---	---	---	---
							---	---	---	---	---	---	---	---	---	---	---

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

(2) Available Method A Cleanup Levels or Most Conservative Method B Cleanup Levels for Unrestricted Land Uses, MTCA, revised 2013. Exceeding Cleanup Levels does not necessarily trigger requirements for Cleanup Actions under MTCA.

(3) cPAH Analyses by Method EPA 8270 (SIM)

† Surface elevations are estimated based on PLS, Inc. Topographic Survey (12/5/2016). Elevation Based on NAVD 88.

* Surface elevations are defined on PLS, Inc. Topographic Survey (12/5/2016). Elevation Based on NAVD 88.

** Most conservative Method B Cleanup Level.

Dup Duplicate sample for QA/QC.

--- Sample not analyzed.

<50.0 Sample concentration below listed laboratory-reporting limit.

27 Bold Number(s) Indicates Contaminant Detected.

160 Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.

<1.0 Laboratory reporting limit is higher than referenced Cleanup Levels.

Table 4-3
Soil Sample Analyses, cPAH Toxicity Equivalency Quotient Calculations
Boeing Field Chevron
Tukwila, Washington

Date Sampled	Sample Number	Sample Depth	Benzo(a)anthracene**	Benzo(b)fluoranthene**	Benzo(k)fluoranthene**	Benzo(a)pyrene**	Chrysene**	Dibenzo(a,h)anthracene**	Indeno(1,2,3-cd)pyrene**	Total cPAH* (Calculated using TEQs)
Toxicity Equivalency Quotient (TEQ)			**0.1**	**0.1**	**0.1**	**1**	**0.01**	**0.1**	**0.1**	
(units in µg/kg)										
10/24/16	GLB-7-102416-3	3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	29.1
10/24/16	GLB-10-20161024-12	12	24.2	24.2	24.2	24.2	24.2	24.2	24.2	36.5
10/24/16	GLB-10-20161024-20	20	23.9	23.9	23.9	23.9	23.9	23.9	23.9	36.1
10/24/16	GLB-10-20161024-25	25	23.2	23.2	23.2	23.2	23.2	23.2	23.2	35.0
10/24/16	GLB-10-20161024-30	30	20.2	20.2	20.2	20.2	20.2	20.2	20.2	30.5
10/21/16	GLB-12-20161021-6	6	20.8	20.8	20.8	20.8	20.8	20.8	20.8	31.3
10/24/16	GLB-12-20161024-10	10	22.90	22.90	22.90	**71.5**	22.90	22.90	22.90	**83.2**
10/24/16	GLB-12-20161024-14	14	24.6	24.6	24.6	24.6	24.6	24.6	24.6	37.1
10/24/16	GLB-12-20161024-18	18	22.4	22.4	22.4	22.4	22.4	22.4	22.4	33.8
10/24/16	GLB-12-20161024-25	25	22.0	22.0	22.0	22.0	22.0	22.0	22.0	33.2
10/24/16	GLB-12-20161024-30	30	21.8	21.8	21.8	21.8	21.8	21.8	21.8	32.8
10/24/16	GLB-14-20161024-17	17	25.7	25.7	25.7	25.7	25.7	25.7	25.7	38.8
10/24/16	GLB-14-20161024-22	22	24.6	24.6	24.6	24.6	24.6	24.6	24.6	37.1
11/17/16	MW-23-16	16	24.5	24.5	24.5	24.5	24.5	24.5	24.5	37.0
11/17/16	MW-23-20	20	21.7	21.7	21.7	21.7	21.7	21.7	21.7	32.7
11/17/16	MW-26-5	5	20.4	20.4	20.4	20.4	20.4	20.4	20.4	30.8
11/17/16	MW-26-10	10	26.4	26.4	26.4	26.4	26.4	26.4	26.4	39.9
11/17/16	MW-26-16 Dup (MW-Z-16)	16	22.0	22.0	22.0	22.0	22.0	22.0	22.0	33.2
11/17/16	MW-26-16.5	16.5	24.4	24.4	24.4	24.4	24.4	24.4	24.4	36.8
11/17/16	MW-26-20	20	22.1	22.1	22.1	22.1	22.1	22.1	22.1	33.4
11/17/16	MW-26-25	25	21.4	21.4	21.4	21.4	21.4	21.4	21.4	32.3
11/17/16	MW-26-30	30	22.1	22.1	22.1	22.1	22.1	22.1	22.1	33.4
11/21/16	MW-27-15	15	21.8	21.8	21.8	21.8	21.8	21.8	21.8	32.8
11/21/16	MW-27-20	20	25.3	25.3	25.3	25.3	25.3	25.3	25.3	38.2
11/21/16	MW-27-20 Dup (MW-V)	20	21.8	21.8	21.8	21.8	21.8	21.8	21.8	32.8
11/21/16	MW-27-25	25	19.1	19.1	19.1	19.1	19.1	19.1	19.1	28.8

Notes:

* If the analyte was not detected, half of the reporting limit was used for the TEQ calculation.

** Carcinogenic Polycyclic Aromatic Hydrocarbon (cPAH).

83.2 Bold number(s) indicates analyte was detected.

TABLE 4-4
Soil Sample Analyses, Volatile Petroleum Hydrocarbons (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft)	Sample Date	Sample Number	Sample Depth (ft)	Sample Elevation (ft)	PID Reading (ppmv)	Volatile Petroleum Hydrocarbons (Aliphatic C5-C6)	Volatile Petroleum Hydrocarbons (Aliphatic C6-C8)	Volatile Petroleum Hydrocarbons (Aliphatic C8-C10)	Volatile Petroleum Hydrocarbons (Aliphatic C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C8-C10)	Volatile Petroleum Hydrocarbons Aromatic (C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C12-C13)
(units in mg/kg)													
G-Logics 2016													
GLB-1†	20.8	10/25/16	GLB-1-102516-10	10	10.8	0.0	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-13.5	13.5	7.3	0.0	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-20	20	0.8	0.0	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-25	25	-4.2	0.0	---	---	---	---	---	---	---
	20.8	10/25/16	GLB-1-102516-30	30	-9.2	0.0	---	---	---	---	---	---	---
GLB-2†	20.9	10/25/16	GLB-2-102516-10	10	10.9	0.0	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-15	15	5.9	0.0	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-20	20	0.9	0.1	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-25	25	-4.1	0.0	---	---	---	---	---	---	---
	20.9	10/25/16	GLB-2-102516-30	30	-9.1	0.0	---	---	---	---	---	---	---
GLB-3†	21.2	10/25/16	GLB-3-20161025-10	10	11.2	0.0	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-15	15	6.2	0.0	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-20	20	1.2	0.4	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-25	25	-3.8	3.4	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-30	30	-8.8	0.3	---	---	---	---	---	---	---
	21.2	10/25/16	GLB-3-20161025-35	35	-13.8	0.0	---	---	---	---	---	---	---
GLB-4†	20.5	10/25/16	GLB-4-102516-10	10	10.5	0.0	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-15	15	5.5	0.0	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-20	20	0.5	0.0	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-21	21	-0.5	2.1	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-25	25	-4.5	2.0	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-30	30	-9.5	0.0	---	---	---	---	---	---	---
	20.5	10/25/16	GLB-4-102516-35	35	-14.5	0.0	---	---	---	---	---	---	---
GLB-5†	20.7	10/24/16	GLB-5-102416-3	3	17.7	0.0	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-9	9	11.7	0.1	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-12	12	8.7	0.2	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-15	15	5.7	0.2	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-20	20	0.7	0.2	---	---	---	---	---	---	---
	20.7	10/27/16	GLB-5-25	25	-4.3	0.2	---	---	---	---	---	---	---
GLB-6†	21.4	10/24/16	GLB-6-102416-3	3	18.4	0.0	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-8	8	13.4	0.2	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-10	10	11.4	35.4	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-15	15	6.4	0.3	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-20	20	1.4	0.2	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-25	25	-3.6	0.1	---	---	---	---	---	---	---
	21.4	10/27/16	GLB-6-30	30	-8.6	0.0	---	---	---	---	---	---	---
GLB-7†	21	10/24/16	GLB-7-102416-3	3	18	0.0	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-20	20	1	12.2	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-22	22	-1	23.8	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-30	30	-9	1.9	---	---	---	---	---	---	---
	21	10/26/16	GLB-7-102616-35	35	-14	0.0	---	---	---	---	---	---	---
GLB-8†	21	10/21/16	GLB-8-20161021-3	3	18	0.0	---	---	---	---	---	---	---
	21	10/21/16	GLB-8-20161021-6	6	15	0.0	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-11	11	10	0.0	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-15	15	6	0.1	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-18	18	3	0.1	---	---	---	---	---	---	---
	21	10/24/16	GLB-8-20161024-25	25	-4	0.0	---	---	---	---	---	---	---
GLB-9†	20.8	10/24/16	GLB-9-102416-3	3	17.8	0.0	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-10	10	10.8	0.0	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-23	23	-2.2	25.6	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-25	25	-4.2	8.2	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-30	30	-9.2	0.1	---	---	---	---	---	---	---
	20.8	10/26/16	GLB-9-102616-35	35	-14.2	0.0	---	---	---	---	---	---	---
GLB-10†	19.7	10/21/16	GLB-10-20161021-3	3	16.7	0.0	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-12	12	7.7	0.0	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-20	20	-0.3	5.8	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-25	25	-5.3	0.0	---	---	---	---	---	---	---
	19.7	10/24/16	GLB-10-20161024-30	30	-10.3	0.0	---	---	---	---	---	---	---
GLB-11†	20	10/24/16	GLB-11-102416-3	3	17	0.0	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-7	7	13	0.2	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-15	15	5	0.0	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-18	18	2	0.0	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-23	23	-3	0.0	---	---	---	---	---	---	---
	20	10/26/16	GLB-11-102616-30	30	-10	0.0	---	---	---	---	---	---	---
GLB-12†	19.8	10/21/16	GLB-12-20161021-3	3	16.8	0.0	---	---	---	---	---	---	---
	19.8	10/21/16	GLB-12-20161021-6	6	13.8	0.0	---	---	---	---	---	---	---
	19.8	10/24/16	GLB-12-20161024-10	10	9.8	4.5	---	---	---	---	---	---	---
	19.8	10/24/16	GLB-12-20161024-14	14	5.8	0.3	---	---	---	---	---	---	---
	19.8	10/24/16	GLB-12-20161024-18	18	1.8	0.2	---	---	---	---	---	---	---
	19.8	10/24/16	GLB-12-20161024-25	25	-5.2	0.1	---	---	---	---	---	---	---
	19.8	10/24/16	GLB-12-20161024-30	30	-10.2	0.0	---	---	---	---	---	---	---

TABLE 4-4
Soil Sample Analyses, Volatile Petroleum Hydrocarbons (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft)	Sample Date	Sample Number	Sample Depth (ft)	Sample Elevation (ft)	PID Reading (ppmv)	Volatile Petroleum Hydrocarbons (Aliphatic C5-C6)	Volatile Petroleum Hydrocarbons (Aliphatic C6-C8)	Volatile Petroleum Hydrocarbons (Aliphatic C8-C10)	Volatile Petroleum Hydrocarbons (Aliphatic C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C8-C10)	Volatile Petroleum Hydrocarbons Aromatic (C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C12-C13)
(units in mg/kg)													
GLB-13†	19.9	10/21/16	GLB-13-20161021-3	3	16.9	0.0	---	---	---	---	---	---	---
	19.9	10/21/16	GLB-13-20161021-6	6	13.9	0.0	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-11	11	8.9	0.1	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-15	15	4.9	0.3	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-20	20	-0.1	0.1	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-25	25	-5.1	0.0	---	---	---	---	---	---	---
	19.9	10/25/16	GLB-13-102516-30	30	-10.1	0.0	---	---	---	---	---	---	---
GLB-14†	20.1	10/21/16	GLB-14-20161024-3	3	17.1	0.0	---	---	---	---	---	---	---
	20.1	10/21/16	GLB-14-20161024-6	6	14.1	0.0	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-10	10	10.1	0.0	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-12.5	12.5	7.6	0.0	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-17	17	3.1	250	**31.6**	**42.0**	**23.5**	**16.6**	**88.6**	**27.4**	**6.12**
	20.1	10/24/16	GLB-14-20161024-22	22	-1.9	2.8	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-25	25	-4.9	0.0	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-14-20161024-30	30	-9.9	0.0	---	---	---	---	---	---	---
GLB-15†	20.1	10/24/16	GLB-15-20161024-5	5	15.1	0.0	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-9	9	11.1	25	<2.97	**3.47**	**5.10**	**5.11**	**13.4**	**11.0**	**3.93**
	20.1	10/24/16	GLB-15-20161024-12	12	8.1	7.8	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-18	18	2.1	38.7	**102**	**222**	**100**	**102**	**526**	**197**	**32.6**
	20.1	10/24/16	GLB-15-20161024-25	25	-4.9	3.1	---	---	---	---	---	---	---
	20.1	10/24/16	GLB-15-20161024-30	30	-9.9	0.1	---	---	---	---	---	---	---
GLB-16†	20	10/24/16	GLB-16-102416-3	3	17	0.0	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-6	6	14	0.0	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-9	9	11	0.0	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-12	12	8	0.0	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-16	16	4	17.2	<2.98	<2.98	<2.98	<2.98	<2.98	<2.98	<2.98
	20	10/24/16	GLB-FD-20161024-1	16	4	17.2	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-20	20	0	20.3	---	---	---	---	---	---	---
	20	10/24/16	GLB-16-20161024-25	25	-5	0.0	---	---	---	---	---	---	---
GLB-17†	19.9	11/21/16	GLB-17-5	5	14.9	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-10	10	9.9	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-15	15	4.9	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-18	18	1.9	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-23	23	-3.1	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-23 Dup (MW-W)	23	-3.1	0.0	---	---	---	---	---	---	---
	19.9	11/21/16	GLB-17-28	28	-8.1	0.0	---	---	---	---	---	---	---
GLB-18†	21	11/18/16	GLB-18-5	5	16	13.3	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-10	10	11	22.5	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-14	14	7	17.3	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-17	17	4	20.5	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-22	22	-1	18.5	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-30	30	-9	33.9	---	---	---	---	---	---	---
	21	11/18/16	GLB-18-35	35	-14	16.9	---	---	---	---	---	---	---
GLB-19†	20.8	11/18/16	GLB-19-5	5	15.8	4.7	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-10	10	10.8	26.3	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-15	15	5.8	5.7	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-16	16	4.8	16.5	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-18	18	2.8	35.8	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-18 Dup (GLB-X)	18	2.8	35.8	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-25	25	-4.2	38.4	---	---	---	---	---	---	---
	20.8	11/18/16	GLB-19-30	30	-9.2	12.8	---	---	---	---	---	---	---
MW-22*	21.40	11/17/16	MW-22-11	11	10.4	---	---	---	---	---	---	---	---
MW-23*	21.32	11/17/16	MW-23-16	16	5.32	0.0	---	---	---	---	---	---	---
	21.32	11/17/16	MW-23-20	20	1.32	74.0	---	---	---	---	---	---	---
MW-24*	20.61	11/21/16	MW-24-12	12	8.61	0.0	---	---	---	---	---	---	---
MW-25*	20.19	11/18/16	MW-25-11	11	9.19	5.2	---	---	---	---	---	---	---
MW-26D*	20.12	11/17/16	MW-26-5	5	15.12	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	MW-26-10	10	10.12	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	vIW-26-16 Dup (MW-Z-16	16	4.12	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	MW-26-16.5	16.5	3.62	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	MW-26-20	20	0.12	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	MW-26-25	25	-4.88	0.0	---	---	---	---	---	---	---
	20.12	11/17/16	MW-26-30	30	-9.88	0.0	---	---	---	---	---	---	---
MW-27D*	20.18	11/21/16	MW-27-5	5	15.18	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-10	10	10.18	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-15	15	5.18	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-20	20	0.18	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-20 Dup (MW-V)	20	0.18	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-25	25	-4.82	0.0	---	---	---	---	---	---	---
	20.18	11/21/16	MW-27-30	30	-9.82	0.0	---	---	---	---	---	---	---

TABLE 4-4
Soil Sample Analyses, Volatile Petroleum Hydrocarbons (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Surface Elevation (ft)	Sample Date	Sample Number	Sample Depth (ft)	Sample Elevation (ft)	PID Reading (ppmv)	Volatile Petroleum Hydrocarbons (Aliphatic C5-C6)	Volatile Petroleum Hydrocarbons (Aliphatic C6-C8)	Volatile Petroleum Hydrocarbons (Aliphatic C8-C10)	Volatile Petroleum Hydrocarbons (Aliphatic C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C8-C10)	Volatile Petroleum Hydrocarbons Aromatic (C10-C12)	Volatile Petroleum Hydrocarbons Aromatic (C12-C13)
(units in mg/kg)													
MW-28D*	19.85	11/18/16	MW-28-5	5	14.85	0.7	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-10	10	9.85	3.9	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-15	15	4.85	2.9	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-20	20	-0.15	7.5	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-20 Dup (MW-Y)	20	-0.15	7.5	---	---	---	---	---	---	---
	19.85	11/18/16	MW-28-30	30	-10.15	3.7	---	---	---	---	---	---	---
GLVP-1†	19.7	10/24/16	GLVP-1-102416-3	3	16.7	0.0	---	---	---	---	---	---	---
	19.7	10/26/16	GLVP-1-102616-7	7	12.7	0.0	---	---	---	---	---	---	---
GLVP-2†	19.9	10/24/16	GLVP-2-102416-3	3	16.9	0.0	---	---	---	---	---	---	---
	19.9	10/25/16	GLVP-2-102516-7.5	7.5	12.4	0.0	---	---	---	---	---	---	---
							---	---	---	---	---	---	---

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

† Surface elevations are estimated based on PLS, Inc Topographic Survey (12/5/2016). Elevation Based on NAVD 88.

* Surface elevations defined on PLS, Inc. Topographic Survey (12/5/2016). Elevation Based on NAVD 88.

Dup Duplicate sample for QA/QC.

--- Sample not analyzed.

<50.0 Sample concentration below listed laboratory-reporting limit.

27 Bold Number(s) Indicates Contaminant Detected.

160 Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.

<1.0 Laboratory reporting limit is higher than referenced Cleanup Levels.

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
ACTIVE WELLS																			
IP-3	IP-3	5/8/2006	NR**	**28**	---	---	**1,800**	**13,000**	**1,400**	**8,300**	---	---	---	---	---	---	---	---	---
	IP-3	3/27/2008	NR**	**62,900**	---	---	**6,120**	**8,850**	**968**	**4,420**	---	---	---	---	---	---	---	---	---
	IP-3 GW-L	7/17/2015	17.44	**4,200**	**460 X**	<250	**1,200**	**11**	**70**	**38.5**	**1.2**	**0.10**	<1	**38**	**28**	**13**	**8.7**	<1	<1
	IP-3 GW-H	7/23/2015	14.97	**4,700**	**510 X**	<250	**1,300**	**13**	**71**	**41.0**	<10	**0.04**	<5	**35**	**3.1**	**7.7**	**5.5**	<1	<1
	IP-3-3232017	3/23/2017	12.96	**4,840 D**	<49.9	<99.8	**783 D**	**105 D**	**127 D**	**139 D**	<1.00	<0.00976	<1.00	---	**2.52**	**6.09**	**3.30**	<0.500	<0.500
	IP-3-7272017	7/27/2017	14.16	**5,800 D**	<50.2	<100	**862 D**	**20.5**	**136 D**	**61.6 D**	<1.00	<0.00952	<1.00		**0.789**	**6.10**	**3.56**	<0.500	<0.500
	IP-3-1042017	10/4/2017	15.32	**3,740 D**	<50.3	<101	**1,270 D**	**80.7**	**214 D**	**458.3 D**	<1.00	<0.0100	<1.00	**72.7 D**	**1.37**	**6.5**	**4.13**	<0.500	<0.500
	DUP	1/12/2018	12.01	**4,980 D**	**77.7**	<99.9	**950 D**	**45.7 D**	**100 D**	**91.62 D**	<1.00	<0.250	<1.00	---	**8.77**	---	---	---	<0.500
	IP-3	1/12/2018	12.01	**4,610 D**	**74.3**	<99.6	**895 D**	**42.9 D**	**94.3 D**	**88.93 D**	<1.00	<0.250	<1.00	---	**15.7**	---	---	---	---
	MW-B (dup)	5/29/2018	14.55	**4,520 D**	<49.8	<99.6	**832 D**	**31.4 D**	**101 D**	**114.21 D**	---	<0.00981	---	---	**2.56**	**9.79**	**5.38**	---	---
	IP-3	5/29/2018	14.55	**4,870 D**	<49.9	<99.8	**971 D**	**34.5 D**	**106 D**	**107.29 D**	---	<0.00984	---	---	**2.37**	**9.85 D**	**5.57**	---	---
	IP-3	8/24/2018	16.23	**6,160 D**	**111**	**101**	**1,390 D**	**27.1**	**125 D**	**141.33 D**	---	<0.00987	---	---	**8.19 Q**	---	---	<0.500	---
	MW-A	8/24/2018	16.23	**5,750 D**	**113**	<99.9	**1,300 D**	**29.4**	**129 D**	**154.98 D**	---	<0.00979	---	---	**6.70**	---	---	**0.551**	---
	IP-3	11/28/2018	12.53	**3,710 D**	**63.9**	<99.7	**865 D**	**18.8**	**53.0 D**	**52.4**	---	<0.00997	---	---	**1.95**	---	---	**1.92**	---
IP-4	IP-4	5/8/2006	NR**	**110**	---	---	**15,000**	**48,000**	**3,700**	**23,000**	---	---	---	---	---	---	---	---	---
	IP-4	3/27/2008	NR**	**84,400**	---	---	**14,600**	**22,100**	**4,920**	**17,600**	---	---	---	---	---	---	---	---	---
	IP-4 GW-L	7/17/2015	11.41	**170,000**	**6,800 X**	<250	**4,100**	**29,000**	**4,800**	**26,900**	**1.4**	**0.12**	<1	**87**	**550**	**96**	**56**	<1	<1
	IP-4 GW-H	7/24/2015	11.46	**150,000**	**8,700 X**	<250	**4,200**	**27,000**	**4,300**	**24,400**	<10	**0.04**	<5	**64**	**440**	**82**	**47**	<1	<1
	IP-4	11/30/2016	10.10	**93,400D**	**1,410**	<99.6	**1,070 D**	**15,600 D**	**3,300 D**	**19,950 D**	<1.00	<0.00986	<1.00	**127 EQ**	**504 D**	**85.2 D**	**47.3 D**	**0.974**	<0.500
	IP-4-3232017	3/23/2017	8.01	**209,000 D**	**1,570**	<99.6	**1,360 D**	**16,200 D**	**5,090 D**	**30,440 D**	<1.00	<0.00953	<1.00	---	**757 D**	**119 D**	**66.6 D**	<0.500	<0.500
	IP-4-7272017	7/27/2017	9.96	**213,000 D**	**1,180**	<99.4	**1,170 D**	**19,600 D**	**5,500 D**	**19,200 D**	<1.00	<0.00971	<1.00	---	**447 D**	**80.8 D**	**37.6 D**	<0.500	<0.500
	IP-4-1042017	10/4/2017	10.75	**212,000 D**	**1,110**	<101	**2,030 D**	**18,400 D**	**5,320 D**	**25,190 D**	<1.00	<0.00960	<1.00	**48.0**	**604 D**	**89.9 D**	**71.3 D**	**0.546**	<0.500
	IP-4	1/12/2018	9.23	**162,000 D**	**1,250**	<99.9	**939 D**	**18,600 D**	**5,180 D**	**27,980 D**	<1.00	<0.250	<1.00	---	**1,150 D**	---	---	---	---
	IP-4	5/29/2018	9.67	**199,000 D**	**1,250**	**138**	**687 D**	**17,200 D**	**6,090 D**	**32,200 D**	---	<0.00998	---	---	**661 D**	**101 D**	<0.0999	---	---
	IP-4	8/24/2018	9.98	**131,000 D**	**584**	<99.9	**421 D**	**11,400 D**	**5,550 D**	**29,340 D**	---	---	---	---	**748 D**	---	---	---	---
	IP-4	11/28/2018	10.00	**123,000 D**	**471**	<99.9	**246 D**	**7,380 D**	**5,170 D**	**27,120 D**	---	<0.00962	---	---	**867 D**	---	---	<0.500	---

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
IP-5	IP-5	5/9/2006	NR**	**48**	---	---	**2,100**	**18,000**	**3,500**	**20,000**	---	---	---	---	---	---	---	---	---
	IP-5	3/27/2008	NR**	**13,300**	---	---	**711**	**1,260**	**363**	**1,370**	---	---	---	---	---	---	---	---	---
	IP-5 GW-L	7/20/2015	16.58	**35,000**	**3,900 X**	<250	**5,200**	**1,400**	**2,400**	**2,800**	<10	**0.32**	<5	**160**	**90**	**15**	**15.0**	**1.02**	<1
	IP-5 GW-H	7/24/2015	15.50	**27,000**	**2,700 X**	<250	**4,500**	**1,100**	**2,200**	**2,580**	<10	**0.24**	<5	**170**	**86**	**18**	**13.0**	<1	<1
	IP-5	11/30/2016	13.00	**15,200 D**	**321**	<99.1	**3,450 DE**	**212 D**	**774 D**	**1,789 D**	<1.00	<0.00987	<1.00	**57.1 DQ**	**108 D**	**33.7 D**	**19.5 D**	<0.500	<0.500
	MW-B (IP-5 Dup)	11/30/2016	13.00	**15,400 D**	**313**	<99.1	**3,440 DE**	**256 D**	**795 D**	**1,824 D**	<1.00	<0.00996	<1.00	**63.1 DQ**	**104 D**	**31.6 D**	**18.4 D**	<0.500	<0.500
	IP-5-3232017	3/23/2017	13.80	**18,400 D**	**209**	<99.2	**1,740 D**	**141 D**	**665 D**	**1,637 D**	<1.00	<0.00980	<1.00	---	**60.4 D**	**25.1 D**	**15.1 D**	<0.500	<0.500
	FD-1 (IP-5 Dup)	3/23/2017	13.80	**15,700 D**	**273**	<99.9	**1,420 D**	**136 D**	**670 D**	**1,634 D**	<1.00	<0.00981	<1.00	---	**73.4 D**	**27.6 D**	**18.4 D**	**0.785**	<0.500
	IP5-7272017	7/27/2017	13.76	**15,800 D**	**102**	<99.9	**1,660 D**	**164 D**	**491 D**	**936 D**	<1.00	<0.00993	<1.00	---	**38.0 D**	**28.4 D**	**12.0 D**	<0.500	<0.500
	FD-2-7272017	7/27/2017	13.76	**11,900**	**207**	<99.9	**1,610 D**	**148 D**	**499 D**	**1032 D**	<1.00	<0.00984	<1.00	---	**36.9 D**	**27.2 D**	**9.25 D**	**0.660**	<0.500
	IP-5-1042017	10/4/2017	16.17	**30,700 D**	**175**	<100	**4,360 D**	**583 D**	**1,060 D**	**2,792 D**	<1.00	<0.00971	<1.00	**137**	**81.4 D**	**20.7 D**	**31.2 D**	<0.500	<0.500
	IP-5	1/12/2018	13.42	**13,000 D**	**222**	<100	**1,500 D**	**240 D**	**462 D**	**1,195 D**	<1.00	<0.250	<1.00	---	**61.1 D**	---	---	---	---
	IP-5	5/29/2018	16.82	**10,900 D**	**161**	<100	**1,270 D**	**149 D**	**415 D**	**806.6 D**	---	<0.00981	---	---	**31.6 D**	**20.3 D**	**4.57**	---	---
	IP-5	8/24/2018	17.08	**36,200 D**	**471**	<99.9	**5,670 D**	**2,200 D**	**1,190 D**	**2,773 D**	---	---	---	---	**74.4 DQ**	---	---	---	---
	IP-5	11/28/2018	13.29	**16,500 D**	**251**	<101	**2,590 D**	**490 D**	**633 D**	**1,105 D**	---	<0.00994	---	---	**48.1 JD**	---	---	<0.500	---
MW-18	MW-18	4/18/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-18 GW-L	7/15/2015	12.38	<100	<50	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.05	<0.05	<0.05	<1	<1
	MW-18 GW-H	7/21/2015	12.57	<100	**66 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-18	11/30/2016	7.88	<50.0	<49.6	<99.3	**1.01**	<1.00	**1.19**	<1.00	<1.00	<0.00970	<1.00	<1.00	<0.0994	<0.0994	<0.0994	<0.500	<0.500
	MW-18-3232017	3/23/2017	6.96	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00979	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-18-7272017	7/27/2017	8.96	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00955	<1.00	---	<0.0999	<0.0999	<0.0999	**0.501**	<0.500
	MW-18-1052017	10/5/2017	9.80	<50.0	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00950	<1.00	<1.00	<0.0997	<0.0997	<0.0997	<0.500	<0.500
	MW-18	1/16/2018	7.79	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-18	5/25/2018	8.62	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	<0.00975	---	---	---	---	---	---	---
	MW-18	8/23/2018	10.40	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-18	11/28/2018	9.12	<50.0	<49.9	**138**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	**0.656**	---
MW-19	MW-19	4/18/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-19 GW-L	7/15/2015	17.95	<100	**74 X**	<350	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	**2.31**	<1
	MW-19 GW-H	7/21/2015	12.57	<100	**74 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-19	11/30/2016	11.50	<50.0	<49.9	<99.7	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00983	<1.00	<1.00	<0.0994	<0.0994	<0.0994	<0.500	<0.500
	MW-19-3232017	3/23/2017	10.31	<50.0	<49.6	<99.2	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00961	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-19-7272017	7/27/2017	10.64	<50.0	<50.1	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00977	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-19-1052017	10/5/2017	13.58	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00985	<1.00	<1.00	<0.0988	<0.0988	<0.0988	**1.33**	<0.500
	MW-19	8/23/2018	15.80	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-19	11/27/2018	8.50	<50.0	<50.2	**111**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---
MW-20	MW-20	4/18/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-20 GW-L	7/15/2015	18.36	<100	<50	<250	<0.35	<1	<1	<3	**1.4**	<0.01	<1	<1	<0.05	<0.05	<0.05	<1	<1
	MW-20 GW-H	7/21/2015	14.88	<100	**92 X**	<250	<0.35	<1	<1	<3	**1.6**	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
	MW-20	11/30/2016	11.43	<50.0	<49.8	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00973	<1.00	<1.00	<0.0995	<0.0995	<0.0995	<0.500	<0.500
	MW-20-3232017	3/23/2017	11.89	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00969	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-20-7272017	7/27/2017	12.35	<50.0	<50.1	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-20-1042017	10/4/2017	14.16	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00991	<1.00	<1.00	**0.119**	<0.0998	<0.0998	<0.500	<0.500
	MW-20	8/23/2018	15.53	**117**	---	---	<1.00	<1.00	**3.6**	**10.4**	---	---	---	---	<1.00 Q	---	---	---	---
	MW-20	11/27/2018	10.21	**94.6**	<49.9	<99.8	<1.00	<1.00	**5.18**	**16.1**	---	---	---	---	---	---	---	<0.500	---
MW-21	MW-21	4/18/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-21 Dup	4/18/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-21 GW-L	7/15/2015	21.27	<100	**220 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.05	<0.05	<0.05	<1	<1
	MW-21 GW-H	7/21/2015	14.47	<100	**260 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	**1.14**	<1
	MW-21 GW-H Dup	7/21/2015	14.47	<100	**260 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-21	11/30/2016	12.00	<50.0	<49.8	**210**	**2.61**	<1.00	<1.00	<1.00	<1.00	0.00973	<1.00	<1.00	<0.0992	<0.0992	<0.0992	**0.986**	<0.500
	MW-21-3232017	3/23/2017	12.67	<50.0	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00980	<1.00	---	<0.0996	<0.0996	<0.0996	**4.96**	<0.500
	MW-21-7272017	7/27/2017	12.35	<50.0	<50.1	**331**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00983	<1.00	---	<1.00	<1.00	<1.00	<0.500	<0.500
	MW-21-1052017	10/5/2017	13.65	<50.0	<49.3	<98.7	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	<1.00	<0.0993	<0.0993	<0.0993	<0.500	<0.500
	MW-21	1/16/2018	11.80	<50.0	<49.8	<99.7	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-21	5/25/2018	14.04	<50.0	<49.5	<98.9	<1.00	<1.00	<1.00	<1.00	---	<0.00993	---	---	---	---	---	---	---
	MW-21	8/23/2018	17.48	<50.0	<49.9	**228**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-21	11/28/2018	8.52	<50.0	<49.9	**316**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---
MW-22	MW-22	12/6/2016	7.09	<50.0	<50.4	**197**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00981	<1.00	<1.00	<0.0996	<0.0996	<0.0996	<0.500	<0.500
	MW-22-3232017	3/23/2017	8.92	<50.0	<49.8	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0100	<1.00	---	<0.0996	<0.0996	<0.0996	<0.500	<0.500
	MW-22-7262017	7/26/2017	10.55	<50.0	<50.2	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00978	<1.00	---	<0.0997	<0.0997	<0.0997	**0.761**	<0.500
	MW-22-1052017	10/5/2017	11.16	<50.0	<49.6	<99.3	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00983	<1.00	<1.00	<0.0986	<0.0986	<0.0986	<0.500	<0.500
	MW-22	1/12/2018	9.56	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-22	8/23/2018	11.06	<50.0	<49.9	**131**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-22	11/27/2018	11.98	<50.0	**62.7**	**243**	<1.00	**2.26**	**1.39**	**7.02**	---	---	---	---	---	---	---	**0.515**	---
MW-23	MW-23	12/6/2016	10.30	**848**	**94.2**	<100	**19.8**	<1.00	<1.00	**133.5 D**	<1.00	<0.00999	<1.00	<1.00	**30.6 E**	**0.615 Q**	**0.653**	<0.500	<0.500
	MW-C (MW-23 Dup)	12/6/2016	10.30	**1,080**	**87.3**	<100	**25.1**	<1.00	<1.00	**165.8 D**	<1.00	<0.00979	<1.00	<1.00	**27.1 E**	**0.531 Q**	**0.564**	<0.500	<0.500
	MW-23-3232017	3/23/2017	8.63	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00983	<1.00	---	<0.0999	<0.0999	<0.0999	<0.500	<0.500
	MW-23-7262017	7/26/2017	10.36	<50.0	<49.7	<99.5	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00995	<1.00	---	<0.0996	<0.0996	<0.0996	**0.686**	<0.500
	MW-23-1052017	10/5/2017	11.08	<50.0	**<49.5 FLAG**	<99.0	<1.00	<1.00	<1.00	**1.27**	<1.00	<0.00997	<1.00	<1.00	**0.169**	<0.0997	<0.0997	<0.500	<0.500
	MW-23	1/12/2018	9.38	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.250	<1.00	---	<1.00	---	---	---	<0.500
	MW-23	5/25/2018	10.04	<50.0	<50.0	<99.9	<1.00	<1.00	<1.00	<1.00	---	<0.00970	---	---	<0.0991	<0.0991	<0.0991	**0.688**	<0.500
	MW-23	8/23/2018	10.73	<50.0	<49.7	<99.5	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00	---	---	**0.964**	---
	MW-23	11/27/2018	10.49	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	**5.69**	---
MW-24	MW-24	12/6/2016	10.34	<50.0	<50.2	**328**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	<1.00	<0.0996	<0.0996	<0.0996	**0.606**	<0.500
	MW-24-3232017	3/23/2017	8.73	<50.0	<49.7	**307**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00965	<1.00	---	<0.0999	<0.0999	<0.0999	**0.956**	<0.500
	MW-24-7272017	7/27/2017	10.71	<50.0	**73.6**	**313**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00986	<1.00	---	---	---	---	**2.55**	<0.500

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
	MW-24-1052017	10/5/2017	11.69	<50.0	**63.6 FLAG**	<122	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00945	<1.00	<1.00	<0.100	<0.100	<0.100	---	---
	MW-24	1/11/2018	8.89	<50.0	<49.9	**117**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.250	<1.00	---	<0.100	---	---	---	---
	MW-24	5/25/2018	11.99	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	<0.00995	---	---	---	---	---	---	---
	MW-24	8/23/2018	11.35	---	**57.4**	**324**	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-24	11/27/2018	9.19	<50.0	<50.3	**306**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
MW-24D	MW-24D	1/12/2018	10.34	**841**	<50.0	<99.9	**9.29**	**1.37**	<1.00	**6.15**	<1.00	<0.250	<1.00	---	**1.42**	---	---	<0.500	---
	MW-24D	5/25/2018	15.15	**481**	<50.0	<99.9	**33.5**	**1.38**	<1.00	**4.22**	---	<0.00991	---	---	<0.0998	<0.0998	**0.110**	<0.500	<0.500
	MW-24D	8/23/2018	15.97	**97.2**	<50.4	<101	<1.00	<1.00	<1.00	**1.17**	---	---	---	---	<0.100	---	---	**0.930**	---
	MW-24D	11/27/2018	12.20	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	---	<0.0100	---	---	<0.100	---	---	<0.500	---
MW-25	MW-25	12/6/2016	8.94	<50.0	<49.8	**128**	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00984	<1.00	<1.00	<0.0994	<0.0944	<0.0944	**2.21**	<0.500
	MW-25-3232017	3/23/2017	7.38	<50.0	<49.9	<99.7	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00967	<1.00	---	<0.0998	<0.0998	<0.0998	**0.568**	<0.500
	MW-25-7262017	7/26/2017	9.31	<50.0	<50.3	<101	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	---	<0.0999	<0.0999	<0.0999	**0.573**	<0.500
	MW-25-1052017	10/5/2017	10.33	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.009987	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-25	1/12/2018	8.32	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-25	8/23/2018	9.93	<50.0	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-25	11/27/2018	9.68	<50.0	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---
MW-26S	MW-26	11/30/2016	8.09	<50.0	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00996	<1.00	<1.00	<0.0993	<0.0993	<0.0993	**2.15**	<0.500
	MW-26S-3242017	3/24/2017	6.92	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00989	<1.00	---	<0.0995	<0.0995	<0.0995	**1.48**	<0.500
	MW-26S-7262017	7/26/2017	8.98	<50.0	<50.2	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00976	<1.00	---	<0.0997	<0.0997	<0.0997	**0.800**	<0.500
	MW-26S-1042017	10/4/2017	9.57	<50.0	<49.6	<99.2	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00971	<1.00	<1.00	<0.0999	<0.0999	<0.0999	<0.500	<0.500
	MW-26S	1/11/2018	7.27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-26S	8/24/2018	8.80	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00 Q	---	---	---	---
	MW-26S	11/28/2018	7.85	<50.0	<50.1	<100	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---
MW-26D	MW-26D	11/30/2016	12.19	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00997	<1.00	<1.00	<0.0997	<0.0997	<0.0997	**0.0633**	<0.500
	MW-26D-3242017	3/24/2017	12.24	<50.0	<49.6	<99.1	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00952	<1.00	---	<0.0998	<0.0998	<0.0998	**4.48**	<0.500
	MW-26D-7262017	7/26/2017	13.49	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00976	<1.00	---	<0.0997	<0.0997	<0.0997	**0.800**	<0.500
	MW-26D-1042017	10/4/2017	14.66	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0100	<1.00	<1.00	<0.0989	<0.0989	<0.0989	**0.729**	<0.500
	MW-26D	1/11/2018	11.46	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-26D	8/24/2018	15.65	<50.0	<49.7	<99.5	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00 Q	---	---	---	---
	MW-26D	11/28/2018	12.07	<50.0	<49.8	<99.7	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	**0.785**	---
MW-27S	MW-27S	11/28/2016	8.25	<50.0	<50.1	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00987	<1.00	<1.00	<0.0997	<0.0997	<0.0997	<0.500	<0.500
	MW-27S-3242017	3/24/2017	7.23	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00994	<1.00	---	<0.0996	<0.0996	<0.0996	**10.4**	<0.500
	MW-27S-7262017	7/26/2017	9.08	<50.0	<50.2	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00971	<1.00	---	<0.0993	<0.0993	<0.0993	**0.535**	<0.500
	MW-27S-1042017	10/4/2017	9.68	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00997	<1.00	<1.00	<0.0995	<0.0995	<0.0995	**1.38**	<0.500
	MW-27S	1/16/2018	8.05	<50.0	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-27S	5/25/2018	8.27	<50.0	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	---	<0.00989	---	---	---	---	---	---	---
	MW-27S	8/23/2018	7.50	<50.0	<49.7	<99.5	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-27S	11/28/2018	8.92	<50.0	<49.6	<99.2	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-27D	MW-27D	11/28/2016	11.48	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00990	<1.00	<1.00	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-27D-3242017	3/24/2017	11.94	**165**	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-27D-7262017	7/26/2017	13.44	**384**	<50.4	<101	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00988	<1.00	---	<0.0993	<0.0993	<0.0993	**0.589**	<0.500
	FD-1-7262017	7/26/2017	13.34	**266**	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00949	<1.00	---	<0.0998	<0.0998	<0.0998	**0.610**	<0.500
	MW-27D-1042017	10/4/2017	15.39	**268**	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00997	<1.00	**32.3**	<0.0985	<0.0985	<0.0985	<0.500	<0.500
	DUP-2	1/16/2018	12.04	**696**	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.250	<1.00	---	<1.00	---	---	---	<0.500
	MW-27D	1/16/2018	12.04	**723**	<49.8	<99.5	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-A (dup)	5/25/2018	13.98	**499**	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	---	<0.00976	---	---	---	---	---	---	---
	MW-27D	5/25/2018	13.98	**663**	<50.0	<100	<1.00	<1.00	<1.00	<1.00	---	<0.00967	---	---	---	---	---	---	---
	MW-27D	8/24/2018	16.12	**1,360**	**441**	**608**	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	---	---
	MW-27D	11/28/2018	12.07	**425**	<49.7	<99.3	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	**0.522**	---
MW-28S	MW-28S	11/28/2016	8.14	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00978	<1.00	<1.00	<0.100	<0.100	<0.100	<0.500	<0.500
	MW-28S-3242017	3/24/2017	6.66	<50.0	<49.9	<99.9	<1.00	<1.00	<1.00	<1.00	<1.00	<0.0100	<1.00	---	<0.0999	<0.0999	<0.0999	<0.500	<0.500
	MW-28S-7262017	7/26/2017	8.54	<50.0	<50.3	<101	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00925	<1.00	---	<0.0999	<0.0999	<0.0999	<0.500	<0.500
	MW-28S-1042017	10/4/2017	9.51	<50.0	<49.3	<98.6	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00997	<1.00	<1.00	<0.0985	<0.0985	<0.0985	<0.500	<0.500
	MW-28S	1/11/2018	7.91	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-28S	8/23/2018	9.03	<50.0	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00 Q	---	---	---	---
	MW-28S	11/27/2018	8.75	<50.0	<49.8	<99.6	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00 Q	---	---	---	---
MW-28D	MW-28D	11/28/2016	12.00	<50.0	<49.5	<99.1	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00995	<1.00	<1.00	<0.100	<0.100	<0.100	<0.500	<0.500
	MW-28D-3242017	3/24/2017	11.93	<50.0	<49.7	<99.4	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00989	<1.00	---	<0.0993	<0.0993	<0.0993	<0.500	<0.500
	FD-2 (MW-28D Dup)	3/24/2017	11.93	<50.0	<49.7	<99.5	<1.00	<1.00	<1.00	**2.19**	<1.00	<0.00984	<1.00	---	<0.0995	<0.0995	<0.0995	<0.500	<0.500
	MW-28D-7262017	7/26/2017	13.34	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00982	<1.00	---	<0.0998	<0.0998	<0.0998	<0.500	<0.500
	MW-28D-1042017	10/4/2017	15.44	<50.0	<49.6	<99.1	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00993	<1.00	<1.00	<0.0996	<0.0996	<0.0996	**0.872**	<0.500
	MW-28D	1/11/2018	12.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-28D	8/23/2018	15.65	<50.0	<49.8	<99.7	<1.00	<1.00	<1.00	<1.00	---	---	---	---	<1.00 Q	---	---	---	---
	MW-28D	11/27/2018	11.96	<50.0	<49.6	<99.1	<1.00	<1.00	<1.00	<1.00	---	---	---	---	---	---	---	<0.500	---
MW-29S	MW-29S	1/16/2018	9.78	**113**	<49.9	<99.8	<1.00	<1.00	<1.00	**13.8**	<1.00	<0.250	<1.00	---	**1.67**	---	---	---	<0.500
	MW-29S	5/29/2018	10.60	**130**	<49.9	<99.7	<1.00	<1.00	<1.00	**8.80**	---	<0.00990	---	---	**0.576**	<0.0996	<0.0996	<0.500	<0.500
	MW-29S	8/24/2018	---	**201**	**106**	<99.6	<1.00	<1.00	<1.00	**15.20**	---	<0.00992	---	---	**1.66**	---	---	**1.02**	---
	MW-29S	11/28/2018	10.73	**73.3**	<50.1	<100	<1.00	<1.00	<1.00	**4.10**	---	<0.00888	---	---	<1.00	---	---	<0.500	---
MW-29D	MW-29D	1/12/2018	13.42	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	<1.00	<0.250	<1.00	---	<1.00	---	---	<0.500	---
	MW-29D	5/29/2018	16.73	<50.0	<50.0	<100	<1.00	<1.00	<1.00	<1.00	---	<0.00992	---	---	<0.0991	<0.0991	<0.0991	**2.48**	<0.500
	MW-DUP2	8/24/2018	17.85	<50.0	---	---	<1.00	<1.00	<1.00	<1.00	---	<0.00985	---	---	<1.00	---	---	**0.781**	---
	MW-29D	8/24/2018	17.85	<50.0	<49.9	<99.8	<1.00	<1.00	<1.00	<1.00	---	<0.0100	---	---	<1.00	---	---	**0.780**	---
	MW-29D	11//28/2018	13.54	<50.0	<49.9	<99.7	<1.00	<1.00	<1.00	<1.00	---	<0.00948	---	---	<1.00	---	---	<0.500	---

TABLE 5-1
Groundwater Sample Analyses, Active Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-30	MW-30	1/12/2018	13.09	**719**	<49.9	<99.9	**53.6**	**1.87**	<1.00	**12.1**	<1.00	<0.250	<1.00	---	<1.00	---	---	<0.500	---
	MW-30	5/25/2018	16.94	**311**	<49.9	<99.7	**55.5 D**	**1.41**	<1.00	**7.53**	---	<0.00999	---	---	<0.0996	<0.0996	<0.0996	**0.687**	<0.500
	MW-30	8/23/2018	17.31	**161**	<49.7	**115**	<1.00	<1.00	<1.00	**4.89**	---	<0.0100	---	---	<1.00	---	---	**0.752**	---
	MW-30	11/27/2018	13.06	**150**	<49.8	<99.6	**1.90**	<1.00	<1.00	**5.13**	---	<0.00988	---	---	<1.00	---	---	**5.71**	---
AS-1	AS-1	4/17/2019	9.60	**4,150**	**270**	<101	**702**	**224**	**138**	**141.9**	<1.00	<0.0100	<1.00	---	---	---	---	<0.500	---
AS-2	AS-2	4/17/2019	15.03	**1,560**	<50.0	<100	**20.8**	**78.4**	**22.4**	**128.4**	<1.00	<0.00994	<1.00	---	---	---	---	**0.804**	<0.500
	DUP	4/17/2019	15.03	**1,500**	<50.0	<99.9	**19.6**	**85.3D**	**22.3**	**130.7D**	<1.00	<0.00989	<1.00	---	---	---	---	<0.500	<0.500

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

(2) Method A groundwater cleanup levels used as surface water cleanup levels per WAC 173-340-730(3)(b)(iii)(C).

(3) Gasoline Analyses by Method NWTPH-Gx, Diesel and Heavy Oil by NWTPH-Dx/Dx Ext., Lead by EPA 200.8, EDB by EPA 8011, PAH by 8270 (SIM), VOCs by 8260C.

a	Benzene present in groundwater/site.
b	Benzene not present in groundwater/site.
*	Method B Cleanup Level.
**	Not researched, no available data.
---	Sample not analyzed.
nd	Not Detected (Data gathered from historical reports, lab analysis reporting limits not available).
NS	Sample not collected (Undefined datum from Terracon's 2015 report).
NA	Not Applicable (Undefined datum from Terracon's 2015 report).
NR**	Water Level not reported, no available data.
Dup	Duplicate Sample for QA/QC.
D	The Sample was diluted. Detection Limits were raised nad surrogate recoveries my not be meaningful.
E	Value above quantitation range.
J	Analyte detected below reporting limit.
Q	Analyte with an initial calibration that does not meet established acceptance criteria.
X	The sample chromatographic pattern does not resemble the fuel standard used for quantification.
<50.0	Sample concentration below laboratory reporting limit.
27	Bold number(s) indicates contaminant detected, below cleanup level.
160	Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.
<250	Reporting limits exceeds cleanup level.
	Peach shading indicates most recent sampling event data.
FLAG	Sample result flagged, see validation report for further information.

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-1	MW-1	6/13/1990	14.65	<10,000	---	---	**6.0**	<1	<1	<1	---	---	---	---	---	---	---	---	---
	MW-1	6/27/1990	13.82	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-1	7/30/1990	14.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-1	8/3/1990	15.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-1	8/15/1990	15.29	<1,000	<1,000	---	**2.8**	<0.5	<0.5	**0.8**	---	---	---	---	---	---	---	---	---
	MW-1	11/16/1990	12.06	<1,000	<1,000	---	**5.0**	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	---	---
	MW-1	1/8/1991	NR**	<1,000	---	---	**3.8**	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-1	3/20/1991	NR**	<1,000	---	---	**2.4**	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-1	3/3/1992	NR**	<1,000	---	---	**5.4**	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-1	6/17/1992	NR**	nd	---	---	**1.2**	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-1	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	**4.4**	---
	MW-1	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**3.5**	nd
	MW-1	6/24/1993	13.3	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-1	9/28/1993	14.3	<50	---	---	**1.6**	**3.0**	<0.5	**2.3**	---	---	---	---	---	---	---	---	---
	MW-1	12/20/1993	12.91	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-1	6/2/1994	12.89	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-1	12/20/1997	10.99	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		
MW-2	MW-2	6/13/1990	9.85	<10,000	---	---	**100**	**4**	**120**	**922**	---	---	---	---	---	---	---	---	---
	MW-2	6/22/1990	NR**	<10,000	---	---	**249**	**2**	**127**	**555**	---	---	---	---	---	---	---	---	---
	MW-2	6/27/1990	10.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-2	7/30/1990	11.41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-2	8/3/1990	12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-2	8/15/1990	---	<1,000	<1,000	---	**81**	**1.9**	**32**	**120**	---	---	---	---	---	---	---	---	---
	MW-2 Dup	8/15/1990	---	**2,000**	---	---	**130**	<0.5	**56**	**180**	---	---	---	---	---	---	---	---	---
	MW-2	11/16/1990	NR**	NS	---	---	---	---	---	---	---	---	---	---	---	---	---	**---**	**---**
	Decommissioned																		
MW-2R	MW-2R	2/9/1993	NR**	<100	<500	---	**19**	<0.5	<0.5	**0.50**	---	---	---	---	---	---	---	**25**	---
	MW-2R Dup	2/9/1993	NR**	<100	<500	---	**19**	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	**25**	---
	MW-2R	4/12/1993	NR**	<50	---	---	**16**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**31**	nd
	MW-2R Dup	4/12/1993	NR**	<50	---	---	**17**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**30**	nd
	MW-2R	6/24/1993	14.33	<50	---	---	**2.6**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-2R	9/28/1993	15.66	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-2R	12/20/1993	13.82	<50	---	---	**3.3**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-2R	6/2/1994	16.08	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-2R	12/20/1994	12.15	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-3	MW-3	6/13/1990	15.25	<10,000	---	---	<1	<1	<1	**6**	---	---	---	---	---	---	---	---	---
	MW-3	6/27/1990	15.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-3	7/30/1990	17.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-3	8/3/1990	18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-3	8/15/1990	NR**	<1,000	<1,000	---	<0.5	<0.5	**0.7**	**0.7**	---	---	---	---	---	---	---	---	---
	MW-3	11/16/1990	NR**	<1,000	<1,000	---	<0.5	**2**	**0.7**	<0.5	---	---	---	---	---	---	---	---	---
	MW-3	1/8/1991	NR**	<1,000	---	---	nd	nd	**1.1**	nd	---	---	---	---	---	---	---	---	---
	MW-3	3/20/1991	NR**	<1,000	---	---	<0.5	<0.5	**3.5**	**1.2**	---	---	---	---	---	---	---	---	---
	MW-3	3/3/1992	NR**	**120**	---	---	<0.5	**0.5**	<0.5	**0.5**	---	---	---	---	---	---	---	---	---
	MW-3	6/17/1992	NR**	**120**	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	Decomissioned 2/4/1993																		
MW-3R	MW-3R	2/9/1993	NR**	**790**	**2,900**	---	<0.5	<0.5	**3.1**	**2**	---	---	---	---	---	---	---	**36**	---
	MW-3R	4/12/1993	NR**	**380**	---	---	<0.5	<0.5	**0.7**	**0.7**	---	---	---	---	---	---	---	**56**	nd
	MW-3R	6/24/1993	14.4	**160**	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-3R	9/28/1993	15.98	<50	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-3R	12/20/1993	13.73	<50	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-3R	6/2/1994	16.43	**160**	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-3R	12/20/1994	12.06	**130**	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-3R	9/28/1995	12.76	<50	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	nd	nd
	MW-3R	12/8/1995	12.6	**260**	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	nd	nd
	MW-3R	3/18/1996	11.53	**940**	---	---	nd	nd	**1.6**	nd	---	---	---	---	---	---	---	**12**	---
	Decomissioned																		
MW-4	MW-4	6/13/1990	9.95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-4	6/27/1990	10.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-4	7/18/1990	NR**	<10,000	---	---	**85**	<1	**3**	**7**	---	---	---	---	---	---	---	---	---
	MW-4	7/30/1990	10.48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-4	8/3/1990	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-4	8/15/1990	---	<1,000	<1,000	---	**190**	<1	**3**	**7**	---	---	---	---	---	---	---	---	---
	MW-4	11/16/1990	---	**22,000**	<1,000	---	<250	**1,600**	**510**	**2,300**	---	---	---	---	---	---	---	---	---
	MW-4	1/8/1991	NR**	**16,000**	---	---	**79**	**160**	**960**	**2,000**	---	---	---	---	---	---	---	---	---
	MW-4	3/20/1991	NR**	**3,000**	---	---	**11**	**5.7**	**170**	**240**	---	---	---	---	---	---	---	---	---
	MW-4	7/23/1991	NR**	**2,400**	---	---	**8.0**	nd	**170**	**130**	---	---	---	---	---	---	---	---	---
	MW-4	3/3/1992	NR**	**12,000**	---	---	**1.2**	**310**	**1,000**	**3,200**	---	---	---	---	---	---	---	---	---
	MW-4	4/23/1992	NR**	---	---	---	nd	**6.7**	**350**	**350**	---	---	---	---	---	---	---	---	---
	MW-4	6/17/1992	NR**	**710**	---	---	nd	nd	**18**	**2**	---	---	---	---	---	---	---	---	---
	MW-4 Dup	6/17/1992	NR**	**620**	---	---	nd	nd	**17**	**1.9**	---	---	---	---	---	---	---	---	---
	Decomissioned 2/4/1993																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-4R	MW-4R	2/9/1993	NR**	<100	<101	---	**39**	<0.5	<0.5	**2.5**	---	---	---	---	---	---	---	**24**	---
	MW-4R	4/12/1993	NR**	<50	---	---	**52**	<0.5	<0.5	**6.6**	---	---	---	---	---	---	---	**53**	nd
	MW-4R Dup	4/12/1993	NR**	<50	---	---	**53**	<0.5	**0.5**	**7.3**	---	---	---	---	---	---	---	---	---
	MW-4R	6/24/1993	14.55	**130**	---	---	**41**	**0.5**	**3.7**	**19**	---	---	---	---	---	---	---	---	---
	MW-4R	9/28/1993	16.34	**200**	---	---	**18**	**0.6**	**3.7**	**24**	---	---	---	---	---	---	---	---	---
	MW-4R Dup	9/28/1993	NR**	**190**	---	---	**16**	**0.7**	**2.9**	**21**	---	---	---	---	---	---	---	---	---
	MW-4R	12/20/1993	14.29	<50	---	---	**16**	<0.5	**0.7**	**11**	---	---	---	---	---	---	---	---	---
	MW-4R Dup	12/20/1993	NR**	<50	---	---	**16**	<0.5	**0.7**	**12**	---	---	---	---	---	---	---	---	---
	MW-4R	6/2/1994	16.64	**160**	---	---	**7**	<0.5	<0.5	**1.9**	---	---	---	---	---	---	---	---	---
	MW-4R Dup	6/2/1994	NR**	**110**	---	---	**7.3**	<0.5	<0.5	**2.1**	---	---	---	---	---	---	---	---	---
	MW-4R	12/20/1994	11.93	<50	---	---	**0.6**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-4R Dup	12/20/1994		**110**	---	---	**0.5**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-4R	9/28/1995	13.61	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	nd	---
	MW-4R	12/8/1995	10.6	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**20**	---
	MW-4R	3/18/1996	10.65	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**4.8**	---
	Decomissioned																		
MW-5	MW-5	6/13/1990	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-5	6/27/1990	10.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-5	7/18/1990	---	<10,000	---	---	**10**	<1	<1	<1	---	---	---	---	---	---	---	---	---
	MW-5	7/30/1990	10.16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-5	8/3/1990	10.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-5	8/15/1990	---	<1,000	<1,000	---	**53**	<0.5	**1.8**	**5.3**	---	---	---	---	---	---	---	---	---
	MW-5	11/16/1990	---	<1,000	<1,000	---	**200**	<0.5	**3.7**	**1**	---	---	---	---	---	---	---	---	---
	MW-5	1/8/1991	NR**	<1,000	---	---	**4.2**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-5	3/20/1991	NR**	<1,000	---	---	**1.2**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-5	7/23/1991	NR**	**46**	---	---	**0.62**	<0.5	**3.4**	**10**	---	---	---	---	---	---	---	---	---
	MW-5	3/3/1992	NR**	**94**	---	---	<0.5	<0.5	<0.5	**0.54**	---	---	---	---	---	---	---	---	---
	MW-5	6/17/1992	NR**	**430**	---	---	<0.5	<0.5	**15**	**48**	---	---	---	---	---	---	---	---	---
	Decomissioned 9/1992																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-6	MW-6	7/30/1990	10.56	<10,000	---	---	**173**	<1	<1	**15**	---	---	---	---	---	---	---	---	---
	MW-6	8/3/1990	10.65	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-6	8/15/1990	NR**	<1,000	<1,000	---	**150**	**0.6**	**1.5**	**17**	---	---	---	---	---	---	---	---	---
	MW-6	11/16/1990	NR**	**5,000**	<1,000	---	**130**	<25	**69**	**500**	---	---	---	---	---	---	---	---	---
	MW-6 Dup	11/16/1990	NR**	**6,000**	---	---	**100**	<25	<25	**440**	---	---	---	---	---	---	---	---	---
	MW-6	1/8/1991	NR**	<1,000	---	---	**41**	<0.5	**3.7**	**11**	---	---	---	---	---	---	---	---	---
	MW-6 Dup	1/8/1991	NR**	<1,000	---	---	**52**	<0.5	**4.6**	**11**	---	---	---	---	---	---	---	---	---
	MW-6	3/20/1991	NR**	<1,000	---	---	**54**	<0.5	**1.2**	<1.5	---	---	---	---	---	---	---	---	---
	MW-6 Dup	3/20/1991	NR**	<1,000	---	---	**58**	<0.5	**1.7**	<1.5	---	---	---	---	---	---	---	---	---
	MW-6	7/23/1991	NR**	**130**	---	---	**35**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-6	3/3/1992	NR**	**60**	---	---	**9.2**	<0.5	**1.5**	**4.4**	---	---	---	---	---	---	---	---	---
	MW-6 Dup	3/3/1992	NR**	**43**	---	---	**9.8**	<0.5	<0.5	**0.6**	---	---	---	---	---	---	---	---	---
	MW-6	6/17/1992	NR**	<50	---	---	**2.4**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		
MW-7	MW-7	7/30/1990	10.51	<10,000	---	---	<1	<1	<1	<1	---	---	---	---	---	---	---	---	---
	MW-7	8/3/1990	10.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-7	8/15/1990	11.29	<1,000	<1,000	---	**0.7**	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	---	---
	MW-7	11/16/1990	10.12	<1,000	<1,000	---	**11**	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	---	---
	MW-7	1/8/1991	NR**	<1,000	---	---	**1.9**	nd	**0.5**	**2.6**	---	---	---	---	---	---	---	---	---
	MW-7	3/20/1991	NR**	<1,000	---	---	**0.5**	nd	**0.6**	nd	---	---	---	---	---	---	---	---	---
	MW-7	7/23/1991	NR**	nd	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-7	3/3/1992	NR**	nd	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-7	6/17/1992	NR**	nd	---	---	nd	nd	nd	nd	---	---	---	---	---	---	---	---	---
	MW-7	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**40**	---
	MW-7	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**27**	**3.9**
	MW-7	6/24/1993	11.93	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-7	9/28/1993	11.8	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-7	12/20/1993	10.43	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-7	6/20/1994	11.09	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-7	12/20/1994	10.08	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-8	MW-8	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	**25**	---
	MW-8	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**33**	nd
	MW-8	6/24/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8	9/28/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8	12/20/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8	6/2/1994	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8	12/20/1994	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		
MW-8A	MW-8A	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	**18**	---
	MW-8A	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**74**	nd
	MW-8A	6/24/1993	9.75	<50	---	---	<0.5	**0.6**	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8A	9/28/1993	10.87	<50	---	---	**3**	**6.1**	**0.7**	**3.3**	---	---	---	---	---	---	---	---	---
	MW-8A	12/20/1993	9.78	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8A	6/2/1994	9.84	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-8A	12/20/1994	9.11	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		
MW-9	MW-9	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	---	**23**	---
	MW-9	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**42**	**3.1**
	MW-9	6/24/1993	9.75	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9	9/28/1993	10.87	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9	12/20/1993	9.78	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9	6/2/1994	9.84	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9	12/20/1994	9.11	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		
MW-9A	MW-9A	2/9/1993	NR**	<100	<500	---	<0.5	<0.5	**0.80**	**0.5**	---	---	---	---	---	---	---	**75**	---
	MW-9A	4/12/1993	NR**	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	**120**	nd
	MW-9A	6/24/1993	9.27	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9A	9/28/1993	10.23	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9A	12/20/1993	8.69	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9A	6/2/1994	9.38	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-9A	12/20/1994	8.3	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	Decomissioned																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-10	MW-10	9/5/1997	15.1	<50	<250	---	<0.5	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---
	MW-10	3/18/1998	15.68	<50	---	---	**3.86**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-10	6/19/1998	15.75	<50	**29.7**	---	**3.88**	<0.5	<0.5	<1.5	**29.70**	---	---	---	---	---	---	**21.2**	---
	MW-10	9/2/1998	16.46	<50	**22.6**	---	<0.5	<0.5	<0.5	<1.5	**22.60**	---	---	---	---	---	---	---	---
	MW-10	11/24/1998	10.49	<50	**8.08**	---	**0.71**	<0.5	<0.5	<1.5	**8.08**	---	---	---	---	---	---	---	---
	MW-10	3/24/1999	10.81	<50	<2.4	---	<0.5	**0.55**	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-10	5/29/1999	13.42	<50	**9.93**	---	**0.84**	<0.5	<0.5	<1.5	**9.93**	---	---	---	---	---	---	---	---
	MW-10	9/4/1999	15.26	<50	**15.9**	---	**2.05**	<0.5	<0.5	<1.5	**15.90**	---	---	---	---	---	---	---	---
	MW-10	11/16/1999	12.1	<50	**19.5**	---	<0.5	<0.5	<0.5	<1.5	**19.5**	---	---	---	---	---	---	---	---
	MW-10	10/2/2000	14.48	<50	**31.7**	---	**37**	**3.25**	<0.5	<1.5	**31.7**	---	---	---	---	---	---	---	---
	MW-10	12/17/2000	13.74	**62.6**	**46.6**	---	**88**	**7.24**	<0.5	**1.67**	**46.6**	---	---	---	---	---	---	---	---
	MW-10	3/25/2001	14.01	<50	**40.6**	---	**80**	**6.72**	<0.5	**5.24**	**40.6**	---	---	---	---	---	---	---	---
	MW-10	6/10/2001	13.35	<50	**39**	---	**73**	**4.7**	<0.5	**4.62**	**36.4**	---	---	---	---	---	---	---	---
	MW-10	9/9/2001	14.58	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-10	11/30/2001	11.48	**254**	**42**	---	**90**	**15.2**	**2.46**	**16.3**	**42.3**	---	---	---	---	---	---	---	---
	MW-10	2/20/2002	13.52	<50	**18**	---	**22**	**3.1**	**0.51**	**3.1**	**18**	---	---	---	---	---	---	---	---
	MW-10	5/22/2002	15.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-10	11/24/2002	14.15	**550**	**27**	---	**180**	**2.3**	**28**	**120**	**27**	---	---	---	---	---	---	---	---
	MW-10	5/7/2003	13.32	**1,300**	<250	<250	**78**	**41**	**43**	**190**	**20**	---	---	---	---	---	---	---	---
	MW-10	11/13/2003	14.08	**1,100**	**250**	<250	**82**	**31**	**38**	**140**	**21**	---	---	---	---	---	---	---	---
	MW-10	8/16/2004	15.8	**6,710**	---	---	**191**	**555**	**130**	**626**	**---**	---	---	---	---	---	---	---	---
	MW-10	3/27/2008	NR**	<100	---	---	<1	<2	<1	<3	**---**	---	---	---	---	---	---	---	---
	MW-10 GW-L	7/16/2015	11.62	<100	<50	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<.1	<1	<1
	MW-10 GW-H	7/22/2015	11.52	<100	**110 X**	<250	<0.35	<1	<1	<3	**1.2**	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-10	12/12/2016	12.33	**1,170**	<49.5	<99.1	**30.6**	**58**	**41.3**	**90.9**	<1	<0.00987	<1	<1	**2.6**	<0.0987	<0.0987	<5	<5
	Decomissioned 12/13/2016																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-11	MW-11	9/5/1997	14.59	**77.2**	**376**	---	<0.5	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---
	MW-11	3/18/1998	11.06	<50	---	---	<0.5	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-11	6/19/1998	13.56	<50	**6.79**	---	<0.5	<0.5	<0.5	<1.5	**6.79**	---	---	---	---	---	---	**2.89**	---
	MW-11	9/2/1998	10.88	<50	**44.3**	---	**31.2**	<0.5	<0.5	<1.5	**44.30**	---	---	---	---	---	---	---	---
	MW-11	11/24/1998	11.93	<50	**16.7**	---	**13.5**	**0.546**	<0.5	**2.91**	**16.70**	---	---	---	---	---	---	---	---
	MW-11	3/24/1999	10.43	<50	**11.2**	---	**3.97**	<0.5	<0.5	<1.5	**11.20**	---	---	---	---	---	---	---	---
	MW-11	5/29/1999	9.92	<50	**32.7**	---	<0.5	<0.5	<0.5	<1.5	**32.70**	---	---	---	---	---	---	---	---
	MW-11	9/4/1999	10.95	<50	**48.2**	---	<0.5	<0.5	<0.5	<1.5	**48.20**	---	---	---	---	---	---	---	---
	MW-11	11/16/1999	8.31	<50	**44.8**	---	<0.5	<0.5	<0.5	<1.5	**44.80**	---	---	---	---	---	---	---	---
	MW-11	10/2/2000	15.05	<50	**35**	---	<0.5	<0.5	<0.5	<1.5	**31.60**	---	---	---	---	---	---	---	---
	MW-11	12/17/2000	12.99	<50	**9.11**	---	<0.5	<0.5	<0.5	<1.5	**9.11**	---	---	---	---	---	---	---	---
	MW-11	3/25/2001	12.16	<50	**5.12**	---	<0.5	**0.64**	<0.5	**1.51**	**5.01**	---	---	---	---	---	---	---	---
	MW-11	6/10/2001	12.11	<50	**7.3**	---	<0.5	<0.5	<0.5	<1	**6.64**	---	---	---	---	---	---	---	---
	MW-11	9/9/2001	14.58	<50	**27.8**	---	<0.5	<0.5	<0.5	<1	**27.80**	---	---	---	---	---	---	---	---
	MW-11	11/30/2001	9.81	<50	<0	---	<0.5	<0.5	<0.5	<1	<1.0	---	---	---	---	---	---	---	---
	MW-11	2/20/2001	9.22	<50	<2.5	---	<0.5	<0.5	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-11	5/22/2002	10.72	**72**	<2.5	---	<0.5	**0.87**	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-11	11/24/2002	13.79	**50**	**29**	---	**0.83**	**0.57**	<0.5	<1.5	**30.00**	---	---	---	---	---	---	---	---
	MW-11	5/7/2003	14.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-11	11/13/2003	16.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	MW-11	8/16/2004	16.15	**79,000**	---	---	**3,340**	**11,600**	**2,010**	**10,600**	---	---	---	---	---	---	---	---	---
	MW-11	11/16/2005	NR**	**61,800**	**20,200**	**5,790**	**1,710**	**10,900**	**1,930**	**9,700**	---	---	---	---	---	---	---	---	---
	MW-11	3/27/2008	NR**	**10,600**	---	---	**96.2**	**97.3**	**167**	**985**	---	---	---	---	---	---	---	---	---
	MW-11	7/16/2015	NR**	**160**	**190**	---	<0.35	<1	<1	<3	---	---	---	---	---	---	---	---	---
	MW-11	7/23/2015	NR**	**150**	**420**	---	**0.42**	<1	<1	<3	---	---	---	---	---	---	---	---	---
	MW-11 GW-L	7/16/2015	15.75	**160**	**190 X**	<350	<0.35	<1	<1	<3	<1	<0.01	<1	<1	**0.24**	**0.15**	**0.62**	<1	<1
	MW-11 GW-H	7/23/2015	14.47	**150**	**420 X**	<250	**0.42**	<1	<1	<3	**1.1**	<0.01	<1	**1.6**	**0.20**	<0.1	**0.37**	<1	<1
	MW-11	11/29/2016	10.41	**1,930**	**87.4**	**102**	**12.7**	**1.15**	**3.69**	**4.33**	<1.00	<0.00995	<1.00	**9.45 Q**	**1.99**	**0.449**	**7.39**	<0.500	<0.500
	Decomissioned 12/13/2016																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-12	MW-12	9/5/1997	13.75	<50	**366**	---	<0.5	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---
	MW-12	3/18/1998	13.4	<50	---	---	**9.52**	<0.5	<0.5	<1.5	---	---	---	---	---	---	---	---	---
	MW-12	6/19/1998	14.09	<50	**47**	---	**11.3**	**0.91**	<0.5	<1.5	**47.0**	---	---	---	---	---	---	**1.53**	---
	MW-12	9/2/1998	14.94	<50	**146**	---	**66.2**	<0.5	<0.5	**1.65**	**146.0**	---	---	---	---	---	---	---	---
	MW-12	11/24/1998	11.29	<50	**22.4**	---	**6.05**	<0.5	<0.5	<1.5	**22.4**	---	---	---	---	---	---	---	---
	MW-12	3/24/1999	11.46	<50	**17.1**	---	**10.3**	**1.2**	<0.5	**1.13**	**17.10**	---	---	---	---	---	---	---	---
	MW-12	5/29/1999	12.8	<50	**51.3**	---	**30.9**	**0.65**	<0.5	**3.69**	**51.3**	---	---	---	---	---	---	---	---
	MW-12	9/4/1999	11.21	<50	**132**	---	**168**	**15.4**	**3.46**	**37.3**	**132.0**	---	---	---	---	---	---	---	---
	MW-12	11/16/1999	7.8	**1,410**	**70.7**	---	**442**	**360**	**6.05**	**123**	**70.1**	---	---	---	---	---	---	---	---
	MW-12	10/2/2000	10.97	**347**	**49.8**	---	**286**	**49.4**	**3.91**	**58.4**	**49.7**	---	---	---	---	---	---	---	---
	MW-12	12/17/2000	9.25	**284**	**26**	---	**190**	**13.9**	**3.43**	**31.3**	**26.0**	---	---	---	---	---	---	---	---
	MW-12	3/25/2001	10.11	**74.1**	**18.2**	---	**24.7**	**0.998**	**0.936**	**5.19**	**15.30**	---	---	---	---	---	---	---	---
	MW-12	6/10/2001	9.73	<50	**17**	---	**24.3**	**5.33**	**0.54**	**4.05**	**16.00**	---	---	---	---	---	---	---	---
	MW-12	9/9/2001	10.03	**78.5**	**15.4**	---	**15.7**	**5.04**	**0.95**	**9.18**	**15.40**	---	---	---	---	---	---	---	---
	MW-12	11/30/2001	8.43	<50	**4.95**	---	**5.11**	<0.5	<0.5	**1.27**	**4.95**	---	---	---	---	---	---	---	---
	MW-12	2/20/2001	8.22	<50	<2.5	---	<0.5	<0.5	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-12	5/22/2002	8.95	**110**	<2.5	---	<0.5	**0.71**	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-12	11/24/2002	9.86	**1,200**	**11**	---	**98**	**5.50**	**47**	**150**	**12.00**	---	---	---	---	---	---	---	---
	MW-12	5/7/2003	8.72	<50	<250	**450**	<0.5	<0.5	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-12	11/13/2003	9.74	<50	<250	<250	<0.5	<0.5	<0.5	<1.5	<2.5	---	---	---	---	---	---	---	---
	MW-12	8/16/2004	9.9	<50	---	---	<0.5	**0.935**	<0.5	**1.89**	---	---	---	---	---	---	---	---	---
	MW-12	11/16/2005	NR**	<50	<248	<495	<0.500	<0.500	<0.500	<1	---	---	---	---	---	---	---	---	---
	MW-12	3/27/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-12 Dup	3/27/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-12 GW-L	7/16/2015	11.31	<100	<50	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-12 GW-H	7/22/2015	11.2	**240**	**430 X**	<250	<0.35	**1.7**	<1	<3	<1	<0.01	<1	**2.0**	**0.15**	**0.31**	**0.34**	**3.15**	<1
	MW-12	11/29/2016	7.91	<50.0	<49.6	<99.3	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00998	<1.00	<1.00	<0.0997	<0.0997	<0.0997	<0.500	<0.500
	Decomissioned 12/13/2016																		
MW-13	MW-13	8/16/2004	16.71	**14,400**	---	---	**3,850**	**138.0**	**332**	**1,150**	---	---	---	---	---	---	---	---	---
	MW-13	11/16/2005	NR**	**12,600**	**1,120**	<495	**3,360**	**302**	**411**	**625**	---	---	---	---	---	---	---	---	---
	MW-13	5/8/2006	NR**	<100	---	---	<1.0	<1.0	<1.0	**3.3**	---	---	---	---	---	---	---	---	---
	MW-13	3/27/2008	NR**	<100	---	---	**28.5**	**3.3**	<1	**3.9**	---	---	---	---	---	---	---	---	---
	MW-13 GW-L	NA	dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	MW-13 GW-H	7/22/2015	14.94	<100	**100 X**	<250	**0.39**	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	**0.22**	<1	<1
	MW-24 GW-H	7/22/2015	14.94	**220**	**130 X**	<250	**47**	<1	<1	<3	<1	<0.01	<1	<1	<0.1	**0.19**	**0.5**	<1	<1
	MW-13	11/29/2016	12.43	**364**	<49.9	<99.8	**82.1 D**	<1.00	<1.00	**1.33**	<1.00	<0.00993	<1.00	**15.1 Q**	<0.0999	**0.335**	**0.321**	<0.500	<0.500
	Decomissioned 12/14/2016																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
MW-14	MW-14	8/16/2004	17.9	**175,000**	---	---	**8,820**	**31,700**	**4,010**	**21,300**	---	---	---	---	---	---	---	---	---
	MW-14 GW-L	7/17/2015	17.30	**270**	**580 X**	<250	**1.4**	**3.6**	<1	**2.6**	<1	**0.21**	<1	**4.2**	<0.1	<0.1	<0.1	<1	<1
	MW-14 GW-H	7/24/2015	15.84	**230**	**510 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	**3.7**	**0.17**	**0.21**	**0.25**	**1.94**	<1
	MW-14	11/29/2016	13.69	**2,220 E**	**102**	<99.0	**25.7**	**14.3**	**3.69**	**5.51**	<1.00	<0.00980	<1.00	**40.5 DQ**	**0.902**	**4.12**	**3.53**	<.0500	<0.500
	MW-A (MW-14 Dup)	11/29/2016	13.69	**3,210 E**	**111**	<99.0	**27.0**	**20.3 JD**	**4.99**	**18.18 JD**	<1.00	<0.00989	<1.00	**90.2 DQ**	**0.980**	**4.38**	**3.73**	<0.500	<0.500
	Decomissioned 12/13/2016																		
B-11	B-11	3/1/2005	NR**	<50	**500**	---	<0.5	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---
MW-15	MW-15	5/8/2006	NR**	**28**	---	---	**1,600**	**7,900**	**1,300**	**7,000**	---	---	---	---	---	---	---	---	---
	MW-15 GW-L	7/20/2015	11.17	**46,000**	**7,200 X**	**390 X**	**5,900**	**2,000**	**2,500**	**6,000**	**1.5**	<0.01	<1	**18**	**220**	**33**	**24**	<1	<1
	MW-24 GW-L	7/20/2015	11.17	**52,000**	**8,500 X**	**520 X**	**6,600**	**1,800**	**2,900**	**7,100**	**1.6**	<0.01	<1	**32**	**340**	**63**	**42**	<1	<1
	MW-15 GW-H	7/24/2015	11.18	**120,000**	**9,600 X**	**350 X**	**9,100**	**13,000**	**4,200**	**19,900**	<10	<0.01	<5	**46**	**450**	**85**	**54**	<1	<1
	Decomissioned 12/13/2016																		
MW-16	MW-16	11/16/2005	NR**	<50	<248	<495	**0.741**	**0.886**	<0.500	**2.05**	---	---	---	---	---	---	---	---	---
	MW-16	3/27/2008	NR**	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-16 GW-L	7/16/2015	11.98	<100	**58 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-22 GW-L	7/16/2015	11.98	<100	**92 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-16 GW-H	7/22/2015	11.56	<100	**110 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-16	11/29/2016	13.35	**17,400 D**	**316**	<99.5	**58.2 D**	**1,530 D**	**664 D**	**3,610 DE**	<1.00	<0.00994	<1.00	**57.8 Q**	**164 D**	**28.9 D**	**18.1 D**	<0.500	<0.500
	Decomissioned 12/14/2016																		
MW-17	MW-17	11/16/2005	NR**	<50	<243	<485	**1.51**	**1.42**	**0.578**	**3.21**	---	---	---	---	---	---	---	---	---
	MW-17	4/11/2008	NR	<100	---	---	<1	<2	<1	<3	---	---	---	---	---	---	---	---	---
	MW-17 GW-L	7/14/2015	14.95	<100	**62 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.05	<0.05	<0.05	<1	<1
	MW-17 GW-H	7/20/2015	14.89	<100	**150 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	MW-17	12/6/2016	12.73	**192**	<50.3	<101	**8.94**	<1.00	**2.05**	**15.65**	<1.00	<0.00997	<1.00	<1.00	**5.53**	**0.113 Q**	<0.0998	<0.500	<0.500
	Decomissioned 12/12/2016																		
EW-1	EW-1	4/4/2008	NR**	**11,000**	---	---	**435**	**493**	**276**	**920**	---	---	---	---	---	---	---	---	---
	EW-1 GW-L	7/17/2015	11.42	**26,000**	**7,400 X**	**300 X**	**2,800**	**360**	**1,300**	**2,660**	**1.1**	<0.01	<1	**20**	**270**	**110**	**76**	<1	<1
	EW-1 GW-H	7/23/2015	11.62	**38,000**	**9,900 X**	**340 X**	**3,100**	**1,300**	**1,900**	**6,100**	<10	<0.01	<5	**26**	**370**	**130**	**85**	<1	<1
	Decomissioned 12/12/2016																		
EW-2	EW-2 GW-L	NA	dry	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	EW-2 GW-H Dup	7/22/2015	11.58	**16,000**	**2,300 X**	<250	**1,600**	**1,500**	**540**	**1,820**	<10	<0.01	<5	<10	**59**	**17**	**15**	<1	<1
	EW-2 GW-H	7/22/2015	11.58	**16,000**	**2,700 X**	<250	**1,800**	**1,700**	**560**	**1,940**	<10	<0.01	<5	<10	**62**	**15**	**16**	<1	<1
	Decomissioned 12/8/2016																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
EW-3	EW-3 GW-L	7/17/2015	11.75	<100	**61 X**	<300	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	EW-3 GW-H	7/22/2015	11.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Decomissioned 12/8/2016																		
EW-4	EW-4	4/4/2008	NR**	**130**	---	---	**26.3**	<2	<1	**5.6**	---	---	---	---	---	---	---	---	---
	EW-4 GW-L	7/16/2015	12.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	EW-4 GW-H	7/21/2015	12.22	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Decomissioned 12/8/2016																		
EW-5	EW-5	4/11/2008	NR**	**1,420**	---	---	**130**	**3.6**	**74**	**173**	---	---	---	---	---	---	---	---	---
	EW-5 Dup	4/11/2008	NR**	**1,420**	---	---	**129**	**3.5**	**83.2**	**166**	---	---	---	---	---	---	---	---	---
	EW-5 GW-L	7/16/2015	13.72	<100	**250 X**	<350	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	**0.30**	**0.24**	<1	<1
	EW-5 GW-H	7/22/2015	13.2	**160**	**420 X**	<250	<0.35	<1	<1	<3	<1	<0.01	<1	<1	<0.1	**0.90**	**0.65**	<1	<1
	Decomissioned 12/8/2016																		
EW-6	EW-6	4/4/2008	NR**	<100	---	---	**14.8**	**2.6**	**1.8**	**7.1**	---	---	---	---	---	---	---	---	---
	EW-6 GW-L	7/16/2015	15.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	EW-6 GW-H	7/23/2015	13.5	<100	**84 X**	<250	<0.35	**1.2**	<1	**3.7**	<1	<0.01	<1	<1	<0.1	<0.1	<0.1	<1	<1
	Decomissioned 12/12/2016																		
EW-7	EW-7	4/4/2008		**2,460**	---	---	**16.8**	**98.8**	<1	**270**	---	---	---	---	---	---	---	---	---
	EW-7 Dup	4/4/2008		**2,510**	---	---	**16.3**	**93.6**	<1	**255**	---	---	---	---	---	---	---	---	---
	EW7 GW-L	7/20/2015	16.63	**24,000**	**1,500 X**	<250	**420**	**2,700**	**750**	**3,710**	<10	<0.05	<5	**150**	**61**	**28**	**17**	<1	<1
	EW-23 GW-L	7/20/2015	16.63	**26,000**	**1,700 X**	<250	**380**	**2,400**	**750**	**3,470**	<10	**0.33**	<5	**160**	**53**	**25**	**14**	<1	<1
	EW-7 GW-H	7/23/2015	14.96	**19,000**	**1,700 X**	<250	**270**	**1,700**	**520**	**2,610**	<10	**0.23**	<5	**160**	**35**	**28**	**15**	<1	<1
	Decomissioned 12/12/2016																		
EW-8	EW-8 GW-L	7/16/2015	17.55	**6,400**	**1,200 X**	<250	**910**	**390**	**170**	**810**	<10	**0.11**	<10	<10	**19**	**4.4**	**5.7**	<1	<1
	EW-8 GW-H	7/21/2015	15	**9,300**	**1,500**	<250	**1100**	**770**	**290**	**1,240**	<10	**0.16**	<5	<10	**29**	**6.3**	**6.4**	<1	<1
	Decomissioned 12/12/2016																		

TABLE 5-2
Groundwater Sample Analyses, Decomissioned Monitoring Wells (1)
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Name	Sample Date	Water Depth (ft)	Gasoline Range Organics	Diesel Range Organics	Heavy Oils	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tert-Butyl Ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Hexane	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Lead (Total)	Lead (Dissolved)
MTCA Cleanup Level (2, 3)				800(a)/1,000(b)	500	500	1.6	130	31	1,000	20	0.01	5	**	1.4	32*	1.51*	15	15
(units in µg/L)																			
EW-9	EW-9 GW-L	7/17/2015	16.38	**62,000**	**710 X**	<250	**4,100**	**13,000**	**1,200**	**6,100**	**2.1**	**0.37**	<1	**180**	**14**	**5.2**	**2.9**	<1	<1
	EW-9 GW-H	7/23/2015	14.89	**35,000**	**590 X**	<250	**2,300**	**7,400**	**700**	**3,410**	<10	**0.84 D**	<5	**220**	**2.2**	**1.6**	**0.90**	<1	<1
	Decomissioned 12/12/2016																		

Notes:

(1) Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.
(2) Method A groundwater cleanup levels used as surface water cleanup levels per WAC 173-340-730(3)(b)(iii)(C).
(3) Gasoline Analyses by Method NWTPH-Gx, Diesel and Heavy Oil by NWTPH-Dx/Dx Ext., Lead by EPA 200.8, EDB by EPA 8011, PAH by 8270 (SIM), VOCs by 8260C.
a Benzene present in groundwater/site.
b Benzene not present in groundwater/site.
* Method B Cleanup Level.
** Not researched, no available data.
--- Sample not analyzed.
nd Not Detected (Data gathered from historical reports, lab analysis reporting limits not available).
NS Sample not collected (Undefined datum from Terracon's 2015 report).
NA Not Applicable (Undefined datum from Terracon's 2015 report).
NR** Water Level not reported, no available data.
Dup Duplicate Sample for QA/QC.
D The Sample was diluted. Detection Limits were raised nad surrogate recoveries my not be meaningful.
E Value above quantitation range.
J Analyte detected below reporting limit.
Q Analyte with an initial calibration that does not meet established acceptance criteria.
X The sample chromatographic pattern does not resemble the fuel standard used for quantification.
<50.0 Sample concentration below laboratory reporting limit.
27 Bold number(s) indicates contaminant detected, below cleanup level.
160 Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.
<250 Reporting limits exceeds cleanup level.
Peach shading indicates most recent sampling event data.

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
MW-10	20.99	8/22/2006	14.90	6.09	np	0.00	
		1/4/2007	11.09	9.90	np	0.00	
		1/25/2007	11.20	9.79	np	0.00	
		3/27/2008	11.88	9.11	np	0.00	
		4/18/2008	11.25	9.74	np	0.00	
		12/12/2016	12.33	8.66	np	0.00	
MW-11	19.99	7/14/2005	13.61	6.38	np	0.00	
		7/19/2005	14.75	5.24	---	0.01	
		1/20/2006	7.6	12.39	np	0.00	
		1/31/2006	8.38	11.61	np	0.00	
		4/3/2006	10.06	9.93	np	0.00	
		5/2/2006	9.86	10.13	np	0.00	
		8/22/2006	15.95	4.04	np	0.00	
		10/13/2006	13.82	6.17	np	0.00	
		1/4/2007	9.51	10.48	np	0.00	
		1/25/2007	11.93	8.06	np	0.00	
		2/22/2007	12.31	7.68	np	0.00	
		3/27/2008	12.75	7.24	np	0.00	
		4/9/2008	15.52	4.47	np	0.00	
		4/18/2008	14.11	5.88	np	0.00	9:12 AM
		4/18/2008	15.24	4.75	np	0.00	12:20 PM
		11/26/2016	10.41	9.58	np	0.00	
MW-12	19.36	8/22/2006	9.91	9.45	np	0.00	
		3/27/2008	8.14	11.22	np	0.00	
		11/26/2016	7.91	11.45	np	0.00	
MW-13	20.13	7/14/2005	15.10	5.03	np	0.00	
		7/19/2005	16.30	3.83	np	0.00	
		1/20/2006	11.10	9.03	np	0.00	
		1/31/2006	11.15	8.98	np	0.00	
		5/2/2006	13.80	6.33	np	0.00	
		5/8/2006	14.91	5.22	np	0.00	
		8/22/2006	16.50	3.63	np	0.00	
		1/4/2007	10.91	9.22	np	0.00	
		1/25/2007	12.93	7.20	np	0.00	
		3/27/2008	13.48	6.65	np	0.00	
		11/29/2016	12.43	7.70	np	0.00	
MW-14	20.94	7/1/2005	18.90	2.04	np	2.45	
		7/14/2005	17.70	3.24	np	2.19	
		7/19/2005	17.00	3.94	np	0.85	
		10/26/2005	16.72	4.22	np	0.82	
		11/9/2005	15.81	5.13	np	0.33	
		11/30/2005	15.04	5.90	np	0.26	
		12/7/2005	14.25	6.69	np	0.31	
		12/14/2005	14.23	6.71	np	0.34	
		1/20/2006	12.30	8.64	np	0.46	
		1/31/2006	12.11	8.83	np	0.01	
		4/3/2006	14.48	6.46	np	2.25	
		5/2/2006	14.80	6.14	np	0.59	
		5/8/2006	16.19	4.75	np	0.56	
		8/22/2006	17.51	3.43	np	0.02	Brown Product, not transparent
		10/13/2006	16.40	4.54	14.51	1.89	
		1/4/2007	12.20	8.74	11.29	0.91	
		1/25/2007	16.59	4.35	13.02	3.57	
		2/22/2007	13.99	6.95	13.95	0.04	
		3/7/2007	15.43	5.51	15.38	0.05	
		5/1/2007	15.07	5.87	np	0.00	
		10/1/2007	16.07	4.87	13.79	2.28	
		10/23/2007	17.17	3.77	14.65	2.52	
		2/20/2008	---	---	14.84	0.20	Interface measurement approximate
		2/21/2008	14.71	6.24	14.70	0.01	Measured after removing absorbent
		2/25/2008	16.43	4.51	16.39	0.04	Measured after removing absorbent
		2/26/2008	14.43	6.51	14.43	0.00	Trace product
		2/28/2008	14.15	6.79	14.15	0.00	Trace product
		3/4/2008	15.10	5.84	14.93	0.17	Measured after removing absorbent
		3/12/2008	16.10	4.84	15.60	0.50	Measured after removing absorbent
		3/13/2008	14.45	6.49	14.32	0.13	Measured after removing absorbent
		3/21/2008	No product measured after removing absorbent				
		3/27/2008	15.55	5.39	np	0.00	Measured after removing absorbent
		4/2/2008	15.33	5.61	15.33	0.00	Trace product
		4/7/2008	17.10	3.84	np	0.00	Measured after removing absorbent

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
		4/9/2008	16.74	4.20	np	0.00	Measured after removing absorbent
		4/11/2008	No product measured after removing absorbent				
		4/15/2008	No product measured after removing absorbent				
		4/18/2008	16.66	4.28	np	0.00	Measured after removing absorbent
		4/22/2008	16.53	4.41	np	0.00	Measured after removing absorbent
		3/24/2011	12.62	8.32	np	0.00	
		6/8/2011	16.27	4.67	np	0.00	
		8/2/2011	16.04	4.90	np	0.00	
		9/26/2011	16.80	4.14	np	0.00	
		11/29/2011	13.62	7.32	np	0.00	
		2/1/2012	12.93	8.01	np	0.00	
		3/28/2012	13.40	7.54	np	0.00	
		11/29/2016	13.69	7.25	np	0.00	
MW-15	20.52	11/30/2005	16.84	3.68	np	3.05	
		12/7/2005	15.91	4.61	np	2.81	
		12/14/2005	16.18	4.34	np	3.22	
		1/20/2006	12.05	8.47	np	0.65	
		1/31/2006	12.41	8.11	np	0.86	
		4/3/2006	17.30	3.22	np	2.70	
		5/2/2006	16.59	3.93	np	3.30	
		5/8/2006	15.60	4.92	np	0.00	
		6/13/2006	16.97	3.55	np	0.10	
		6/19/2006	15.16	5.36	np	0.00	
		8/22/2006	17.22	3.30	np	0.01	
		10/13/2006	15.04	5.48	14.96	0.08	
		1/4/2007	11.51	9.01	11.50	0.01	
		1/25/2007	13.63	6.89	13.60	0.03	
		2/9/2007	13.94	6.58	13.89	0.05	
		2/22/2007	14.01	6.51	14.00	0.01	
		3/7/2007	15.19	5.33	15.07	0.12	
		5/1/2007	15.80	4.72	14.52	1.28	
		10/1/2007	15.33	5.19	13.89	1.44	
		2/20/2008	14.36	6.16	13.90	0.46	
		2/21/2008	neasured after removing absorbent				
		2/25/2008	16.05	4.47	16.02	0.03	Measured after removing absorbent
		2/26/2008	15.02	5.50	15.02	0.00	Trace product
		2/28/2008	13.99	6.53	np	0.00	Measured after removing absorbent
		3/4/2008	14.72	5.80	14.71	0.01	Trace after removing absorbent
		3/12/2008	15.28	5.24	15.28	0.00	Trace after removing absorbent
		3/21/2008	neasured after removing absorbent				
		4/15/2008	neasured after removing absorbent				
		4/18/2008	16.37	4.15	np	0.00	Measured after removing absorbent
		4/22/2008	16.38	4.14	np	0.00	Measured after removing absorbent
		3/24/2011	12.91	7.61	12.89	0.02	
		6/8/2011	---	---	---	---	
		8/2/2011	12.38	8.14	np	0.00	
		9/26/2011	10.20	10.32	np	0.00	
		11/29/2011	10.27	10.25	np	0.00	
		2/1/2012	9.67	10.85	np	0.00	
		3/28/2012	9.32	11.20	np	0.00	

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
MW-16	21.19	1/20/2006	11.93	9.26	np	0.00	
		1/31/2006	12.15	9.04	np	0.00	
		4/3/2006	12.60	8.59	np	0.00	
		8/22/2006	17.74	3.45	np	0.00	
		10/13/2006	14.95	6.24	np	0.00	
		1/4/2007	12.01	9.18	np	0.00	
		1/25/2007	14.37	6.82	np	0.00	
		3/27/2008	9.88	11.31	np	0.00	
		4/18/2008	10.43	10.76	np	0.00	
		11/29/2016	13.35	7.84	np	0.00	
MW-17	20.89	1/20/2006	11.25	9.64	np	0.00	
		4/10/2008	10.37	10.52	np	0.00	
		12/6/2016	12.73	8.16	np	0.00	
MW-18	18.22	11/30/2016	7.88	10.34	np	0.00	
		3/23/2017	6.96	11.26	np	0.00	
		7/27/2017	8.96	9.26	np	0.00	
MW-19	18.04	11/30/2016	11.50	6.72	np	0.00	
		3/23/2017	10.31	7.91	np	0.00	
		7/27/2017	10.64	7.58	np	0.00	
MW-20	18.71	11/30/2016	11.43	7.28	np	0.00	
		3/23/2017	11.89	6.82	np	0.00	
		7/27/2017	12.35	6.36	np	0.00	
MW-21	18.58	11/30/2016	12.00	6.58	np	0.00	
		3/23/2017	12.67	5.91	np	0.00	
		7/27/2017	12.35	6.23	np	0.00	
MW-22	21.14	12/6/2016	7.09	14.05	np	0.00	
		3/23/2017	8.92	12.22	np	0.00	
		7/27/2017	10.55	10.59	np	0.00	
MW-23	20.86	11/17/2016	10.30	10.56	np	0.00	
		3/23/2017	8.63	12.23	np	0.00	
		7/27/2017	10.36	10.50	np	0.00	
MW-24	20.26	12/6/2016	10.34	9.92	np	0.00	
		3/23/2017	8.73	11.53	np	0.00	
		7/27/2017	10.71	9.55	np	0.00	
MW-25	19.78	12/6/2016	8.94	10.84	np	0.00	
		3/23/2017	7.38	12.40	np	0.00	
		7/26/2017	9.31	10.47	np	0.00	
MW-26D	19.69	11/30/2016	12.19	7.50	np	0.00	
		3/23/2017	12.24	7.45	np	0.00	
		7/26/2017	13.49	6.20	np	0.00	
MW-26S	19.48	11/30/2016	8.09	11.39	np	0.00	
		3/23/2017	6.92	12.56	np	0.00	
		7/26/2017	8.98	10.50	np	0.00	
MW-27D	19.53	11/28/2016	11.48	8.05	np	0.00	
		3/23/2017	11.94	7.59	np	0.00	
		7/26/2017	13.44	6.09	np	0.00	
MW-27S	19.76	11/28/2016	8.25	11.51	np	0.00	
		3/23/2017	7.23	12.53	np	0.00	
		7/26/2017	9.08	10.68	np	0.00	
MW-28D	19.45	11/28/2016	12.00	7.45	np	0.00	
		3/23/2017	11.93	7.52	np	0.00	
		7/26/2017	13.34	6.11	np	0.00	
MW-28S	19.34	11/28/2016	8.14	11.20	np	0.00	
		3/23/2017	6.66	12.68	np	0.00	
		7/26/2017	8.54	10.80	np	0.00	

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
IP-3	20.28	5/2/2006	13.74	6.54	np	0.00	
		5/8/2006	15.10	5.18	np	0.00	
		6/13/2006	16.16	4.12	np	0.00	
		6/19/2006	14.65	5.63	np	0.00	
		8/22/2006	16.73	3.55	np	0.00	
		10/13/2006	14.55	5.73	np	0.00	
		1/4/2007	11.11	9.17	np	0.00	
		2/22/2007	13.45	6.83	np	0.00	
		5/1/2007	14.22	6.06	np	0.00	
		10/1/2007	13.82	6.46	np	0.00	
		2/25/2008	15.59	4.69	np	0.00	
		2/26/2008	14.49	5.79	np	0.00	
		2/28/2008	13.63	6.65	np	0.00	
		3/27/2008	13.74	6.54	np	0.00	
		4/18/2008	15.95	4.33	np	0.00	
		4/22/2008	15.96	4.32	np	0.00	
		---	---	---	---	---	
		3/23/2017	12.96	7.32	np	0.00	
		7/27/2017	14.16	6.12	np	0.00	
IP-4	20.49	5/2/2006	10.29	10.20	np	0.07	
		5/8/2006	10.32	10.17	np	0.00	
		6/13/2006	10.35	10.14	np	0.00	
		6/19/2006	10.48	10.01	np	0.00	
		10/13/2006	13.91	6.58	11.69	**2.22**	
		1/4/2007	9.65	10.84	np	0.00	
		1/25/2007	9.97	10.52	np	0.00	
		2/22/2007	10.12	10.37	np	0.00	
		3/7/2007	10.13	10.36	np	0.00	
		5/1/2007	10.71	9.78	np	0.00	
		10/1/2007	11.64	8.85	np	0.00	
		2/25/2008	10.40	10.09	10.40	0.00	Measured less than 0.005' product
		2/26/2008	10.28	10.21	np	0.00	
		2/28/2008	10.27	10.22	np	0.00	
		3/27/2008	10.82	9.67	np	0.00	Measured after removing absorbent
		4/9/2008	10.93	9.56	np	0.00	Measured after removing absorbent
		4/18/2008	10.97	9.52	np	0.00	Measured after removing absorbent
		4/22/2008	11.02	9.47	np	0.00	Absorbent saturated to 2", left in
		11/30/2016	10.10	10.39	np	0.00	
		3/23/2017	8.01	12.48	np	0.00	
		7/27/2017	9.96	10.53	np	0.00	
IP-5	21.08	---	---	---	---	---	NAPL not observed in this well
IP-6	20.26	8/22/2006	16.93	3.33	np	0.16	
		10/13/2006	14.70	5.56	14.52	0.18	
		1/4/2007	11.05	9.21	10.85	0.20	
		1/25/2007	13.36	6.90	13.19	0.17	

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
		2/22/2007	13.47	6.79	np	0.00	
		3/7/2007	14.91	5.35	14.90	0.01	
		5/1/2007	15.12	5.14	14.77	0.35	
		10/1/2007	15.84	4.42	13.31	2.53	
		10/23/2007	16.75	3.51	14.15	2.60	
		2/20/2008	14.61	5.65	14.21	0.40	
		2/21/2008	No product measured after removing absorbent				
		2/25/2008	15.93	4.33	15.92	0.01	Measured after removing absorbent
		2/26/2008	14.41	5.85	np	0.00	Measured after removing absorbent
		2/28/2008	13.75	6.51	np	0.00	Measured after removing absorbent
		3/4/2008	14.59	5.67	14.58	0.01	Measured after removing absorbent
		3/12/2008	No product measured after removing absorbent				
		3/21/2008	No product measured after removing absorbent				
		3/27/2008	15.08	5.18	np	0.00	Measured after removing absorbent
		4/2/2008	14.88	5.38	np	0.00	Measured after removing absorbent
		4/7/2008	16.61	3.65	np	0.00	Measured after removing absorbent
		4/9/2008	16.22	4.04	np	0.00	Measured after removing absorbent
		4/11/2008	No product measured after removing absorbent				
		4/15/2008	No product measured after removing absorbent				
		4/18/2008	15.20	5.06	np	0.00	Measured after removing absorbent
		4/22/2008	15.82	4.44	np	0.00	Measured after removing absorbent
IP-7	20.31	8/22/2006	16.93	3.38	np	0.01	
		10/13/2006	16.51	3.80	14.09	2.42	
		1/4/2007	13.89	6.42	9.98	3.91	
		1/25/2007	16.39	3.92	12.40	3.99	Measured at 13:00. Low tide at 14:48, 0.0 tide
		2/9/2007	15.96	4.35	12.09	3.87	
		2/22/2007	13.48	6.83	13.20	0.28	
		3/7/2007	15.29	5.02	14.62	0.67	
		5/1/2007	15.61	4.70	14.20	1.41	
		10/1/2007	13.87	6.44	13.75	0.12	
		10/23/2007	15.61	4.70	14.20	1.41	
		2/20/2008	14.41	5.90	13.71	0.70	
		2/21/2008	14.10	6.21	14.07	0.03	Measured after removing absorbent
		2/25/2008	15.85	4.46	15.74	0.11	Measured after removing absorbent
		2/26/2008	14.34	5.97	np	0.00	Measured after removing absorbent
		2/28/2008	13.53	6.78	13.53	0.00	Trace product
		3/4/2008	14.72	5.59	14.26	0.46	Measured after removing absorbent
		3/12/2008	15.70	4.61	14.82	0.88	Measured after removing absorbent
		3/13/2008	14.00	6.31	13.52	0.48	Measured after removing absorbent
		3/21/2008	No product measured after removing absorbent			0.00	
		3/27/2008	14.85	5.46	np	0.00	Measured after removing absorbent
		4/2/2008	14.72	5.59	14.72	0.00	Trace product
		4/7/2008	16.42	3.89	np	0.00	Measured after removing absorbent
		4/9/2008	15.95	4.36	np	0.00	Measured after removing absorbent
		4/11/2008	No product measured after removing absorbent			0.00	
		4/15/2008	No product measured after removing absorbent			0.00	
		4/18/2008	16.03	4.28	np	0.00	Measured after removing absorbent
		4/22/2008	15.55	4.76	np	0.00	Measured after removing absorbent
		3/24/2011	14.33	5.98	11.68	**2.65**	
		6/8/2011	15.82	4.49	15.10	**0.72**	
		8/2/2011	16.95	3.36	14.82	**2.13**	
		9/26/2011	17.04	3.27	16.09	**0.95**	
		11/29/2011	14.87	5.44	12.39	**2.48**	
		2/1/2012	14.68	5.63	11.75	**2.93**	
		3/28/2012	14.22	6.09	12.71	**1.51**	
		9/29/2016	16.30	4.01	14.21	**2.09**	
		11/30/2016	13.38	6.93	12.51	**0.87**	
		3/23/2017	15.12	5.19	12.30	**2.82**	
		7/26/2017	14.10	6.21	11.81	**2.29**	
		10/5/2017	---	---	---	---	Not Measured
		1/23/2018	16.70	3.61	10.70	**6.00**	
		5/29/2018	14.72	5.59	14.71	**0.01**	
		6/7/2018	15.20	5.11	14.76	**0.44**	
		8/24/2018	---	---	---	**0.01**	Trace product
		11/27/2018	14.90	5.41	11.62	**3.28**	
		5/3/2019	17.25	3.06	14.57	**2.68**	

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
EX-N*	20.38	1/20/2006	7.92	12.46	np	0.00	
		1/31/2006	8.78	11.60	np	0.00	
		4/3/2006	9.80	10.58	np	0.00	
		5/2/2006	9.90	10.48	np	0.00	
		3/7/2007	10.29	10.09	np	0.00	
		10/23/2007	11.28	9.10	np	0.00	
		2/21/2008	10.21	10.17	np	0.00	
		4/10/2008	10.85	9.53	np	0.00	
EX-S*	20.81	1/20/2006	7.65	13.16	np	0.00	
		1/31/2006	8.00	12.81	np	0.00	
		4/3/2006	8.92	11.89	np	0.00	
		5/2/2006	9.24	11.57	np	0.00	
		10/13/2006	11.53	9.28	11.30	0.23	
		3/7/2007	9.50	11.31	np	0.00	
		10/23/2007	10.63	10.18	np	0.00	
		2/21/2008	9.46	11.35	np	0.00	
		4/10/2008	10.18	10.63	np	0.00	
		4/18/2008	10.30	10.51	np	0.00	
EW-1	20.99	3/27/2008	14.70	6.29	np	0.00	No product present
		4/2/2008	14.88	6.11	np	0.00	No product present
		4/22/2008	16.52	4.47	np	0.00	No product present
		3/24/2011	9.37	11.62	np	0.00	
		6/8/2011	12.23	8.76	np	0.00	
		8/2/2011	11.05	9.94	np	0.00	
		9/26/2011	11.58	9.41	np	0.00	
		11/29/2011	10.68	10.31	np	0.00	
		2/1/2012	10.10	10.89	np	0.00	
		3/28/2012	9.85	11.14	np	0.00	
EW-2	21.22	3/27/2008	15.01	6.21	np	0.00	No product present
		4/2/2008	15.25	5.97	np	0.00	No product present
		4/22/2008	15.25	5.97	15.25	0.00	Possible sheen detected
		3/24/2011	9.51	11.71	---	---	
		6/8/2011	13.01	8.21	---	---	
		8/2/2011	13.33	7.89	---	---	
		9/26/2011	11.69	9.53	---	---	
		11/29/2011	10.76	10.46	---	---	
		2/1/2012	10.40	10.82	---	---	
		3/28/2012	9.89	11.33	---	---	
EW-3	20.86	3/27/2008	15.09	5.77	np	0.00	No product present
		4/2/2008	14.94	5.92	np	0.00	No product present
		4/18/2008	15.52	5.34	np	0.00	No product present
		4/22/2008	16.51	4.35	np	0.00	No product present
EW-4	20.87	3/27/2008	14.88	5.99	np	0.00	No product present
		4/2/2008	14.73	6.14	np	0.00	No product present
		4/22/2008	16.30	4.57	np	0.00	No product present
EW-5	20.88	3/27/2008	15.00	5.88	np	0.00	No product present
		4/2/2008	14.86	6.02	14.86	0.00	Trace product
		4/9/2008	16.82	4.06	np	0.00	No product present
		4/10/2008	14.47	6.41	np	0.00	No product present
		4/11/2008	15.25	5.64	15.25	0.00	Trace, installed absorbent socks
		4/22/2008	16.50	4.38	np	0.00	Bottom sock saturated, replaced
EW-6	20.89	3/27/2008	15.32	5.57	np	0.00	No product present
		4/2/2008	15.27	5.62	np	0.00	No product present
		4/9/2008	16.80	4.09	np	0.00	No product present
		4/11/2008	16.24	4.65	np	0.00	No product present
		4/22/2008	16.13	4.76	np	0.00	No product present
		3/24/2011	9.95	10.94	np	0.00	
		6/8/2011	12.15	8.74	np	0.00	
		8/2/2011	12.45	8.44	np	0.00	
		9/26/2011	11.53	9.36	np	0.00	
		11/29/2011	11.46	9.43	np	0.00	
		2/1/2012	11.97	8.92	np	0.00	

TABLE 6

Product Thickness and Groundwater Measurements
Boeing Field Chevron
Tukwila, Washington

Exploration Location (1)	Elevation Top of PVC Casing (ft.)**	Date Measured	Depth to Water	Groundwater Elevation (ft)	Depth to Product	Product Thickness (ft)	Comments
		3/28/2012	11.34	9.55	np	0.00	
EW-7	20.54	3/27/2008	14.94	5.60	np	0.00	No product present
		4/2/2008	14.90	5.64	np	0.00	No product present
		4/9/2008	16.38	4.16	np	0.00	No product present
		4/11/2008	15.66	4.89	15.66	0.00	Trace, installed absorbent socks
		4/22/2008	15.68	4.86	15.68	0.00	Trace, Sock 1/3 saturated, left in
		3/24/2011	12.41	8.13	np	0.00	
		6/8/2011	16.34	4.20	np	0.00	
		8/2/2011	15.42	5.12	np	0.00	
		9/26/2011	16.51	4.03	np	0.00	
		11/29/2011	13.29	7.25	np	0.00	
		2/1/2012	12.63	7.91	np	0.00	
		3/28/2012	13.12	7.42	np	0.00	
		9/29/2016	16.80	3.74	14.45	2.35	
EW-8	20.65	3/27/2008	15.08	5.57	np	0.00	No product present
		4/9/2008	16.54	4.11	np	0.00	No product present
		4/11/2008	16.15	4.50	np	0.00	No product present
		4/22/2008	15.94	4.71	np	0.00	No product present
EW-9	20.44	3/27/2008	14.82	5.62	np	0.00	No product present
		4/2/2008	14.77	5.67	np	0.00	No product present
		4/9/2008	16.26	4.18	np	0.00	No product present
		4/11/2008	15.64	4.80	np	0.00	No product present
		4/18/2008	14.97	5.47	np	0.00	No product present
		4/22/2008	15.61	4.83	np	0.00	No product present
		3/24/2011	12.32	8.12	np	0.00	
		6/8/2011	16.19	4.25	np	0.00	
		8/2/2011	15.99	4.45	15.25	0.74	
		9/26/2011	17.14	3.30	16.28	0.86	
		11/29/2011	13.98	6.46	13.00	0.98	
		2/1/2012	12.63	7.81	12.53	0.10	
		3/28/2012	13.01	7.43	np	0.00	

Notes:

(1) Refer to site diagrams for sample locations. Refer to laboratory reports for analytical methods.

** Data from PLS Inc. Topographic Survey

Enhanced Fluid Recovery event conducted 1/26/06.

Approximately 3,000 gallons gasoline-impacted water removed from MW-14 and MW-15.

First Peroxide Event conducted near MW-15 (IP-3, IP-4, IP-5, MW-15) on 5/2/06

Second Peroxide Event conducted near MW-15 on 6/13/06 at low tide after product measurements.

Third peroxide event conducted at IP6 & IP7 (330-gal 17% each) and 330-gal split amongst IP3, IP4, and IP5, 8/11/06

Fourth Peroxide event to IP6, IP4, and IP3 (1320 Gallons 17%) on 12/28 and 12/29/06

Fifth Peroxide event 2/9/07 using 11% (1,700 liters into IP-6, 1,000 liters into IP-7, 900L into MW-14)

FPR Extraction Wells EW-1 through EW-9 installed on 3/17/08 and 3/18/08.

* - Extraction well names assigned by G-Logics

Specific Gravity of Gasoline, SG = 0.739

np no product

TABLE 7
Water Quality Parameters During Sampling
Boeing Field Chevron
Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)	Sample Time	pH	Conductivity (mS/cm)	Temperature (C°)	ORP (mV)	Turbidity (NTUs)	Turbidity TDS (g/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Color	Purge Volume (gallons)
MW-10* **	9/3/97	12/13/2016	20.99	8.5	18.5	2	12/12/2016	12.33	8.66	11:40 AM	6.06	0.488	13.5	-106.0	0.00	---	0.00	---	Clear	1.5
MW-11* **	9/3/97	12/13/2016	19.99	8	20	2	11/26/2016	10.41	9.58	2:28 PM	6.33	0.771	14.1	-75.0	6.40	---	0.00	---	Clear	1.5
MW-12* **	9/3/97	12/13/2016	19.36	8	18	2	11/26/2016	7.91 *	11.45	3:55 PM	6.08	0.390	14.7	22.0	6.90	---	0.00	---	Clear	2.5
MW-13* **	7/16/04	12/14/2016	20.13	4	24	2	11/29/2016	12.43	7.70	8:54 AM	6.59	0.373	15.1	-34.0	3.70	---	1.63	---	Clear	5.0
MW-14* **	7/16/04	12/13/2016	20.94	4	24	2	11/29/2016	13.69	7.25	10:50 AM	6.44	0.688	14.9	-133.0	1.70	---	0.00	---	Clear	2.75
MW-15* **	8/26/05	12/13/2016	20.52	10	25	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-16* **	8/26/05	12/14/2016	21.19	9.5	24.5	2	11/29/2016	13.35	7.84	12:57 PM	6.20	0.493	14.0	-57.0	0.00	---	0.00	---	Clear	4.5
MW-17* **	8/26/05	12/12/2016	20.89	9.5	24.5	2	12/6/2016	12.73	8.16	12:45 PM	6.74	0.567	14.6	-6.0	22.00	---	0.05	---	Clear	2.5
MW-18	4/16/08	Active	18.22	11	16	1	11/30/2016	7.88	10.34	11:06 AM	6.18	0.563	14.3	41.0	0.00	---	0.00	---	Clear	1.25
							3/23/2017	6.96	11.26	3:40 PM	6.56	0.509	13.1	97.0	0.00	---	0.00	---	Clear	1.5
							7/27/2017	8.96	9.26	11:35 AM	6.29	0.435	16.8	-40.4	-0.40	---	0.87	---	Clear	1.25
							10/5/2017	9.80	8.42	3:00 PM	6.49	0.263	12.4	42.1	---	---	2.39	---	Clear	0.9
							1/16/2018	7.74	10.48	12:20 PM	6.40	0.477	14.0	48.4	---	---	0.72	6.70	Clear	3.0
							5/25/2018	8.62	9.60	12:20 PM	6.53	0.373	14.5	114.9	---	---	---	6.92	Clear	1.3
							8/23/2018	10.40	7.82	1:00 PM	6.17	0.663	19.5	61.0	1.10	0.425	0.00	---	Clear	0.5
							11/27/2018	9.12	9.10	3:10 PM	---	---	---	---	---	---	---	---	---	---
MW-19	4/16/08	Active	18.04	15	20	1	11/30/2016	11.50	6.54	12:09 PM	6.33	0.653	12.8	-55.0	8.20	---	0.00	---	Clear	1.5
							3/23/2017	10.31	7.73	2:20 PM	6.63	0.508	17.8	-17.0	0.00	---	0.00	---	Clear	1.2
							7/27/2017	10.64	7.40	9:55 AM	6.33	0.558	15.5	-59.4	-12.30	---	0.92	---	Clear	1.5
							10/5/2017	13.58	4.46	1:25 PM	6.58	0.406	11.0	-18.9	---	---	5.47	---	---	0.8
							8/23/2018	15.80	2.24	1:35 PM	6.12	0.443	19.1	5.0	5.60	---	6.30	---	Red/Orange	0.1
							11/27/2018	8.50	9.54	2:25 PM	6.15	0.576	15.8	79.0	9.90	---	0.00	---	Clear	1.5
MW-20	4/16/08	Active	18.71	15	20	1	11/30/2016	11.43	7.28	12:00 PM	6.62	0.497	14.7	-63.0	13.0	---	1.69	---	Clear	2.25
							3/23/2017	11.89	6.82	1:10 PM	6.61	0.432	15.1	-62.0	0.40	---	2.00	---	Clear	2.1
							7/27/2017	12.35	6.36	9:00 AM	6.25	0.380	15.0	-100.2	12.7	---	0.97	---	Clear	1.25
							10/4/2017	---	---	5:30 PM	6.04	0.299	10.2	-26.2	---	---	0.38	---	Clear	1.5
							8/23/2018	15.53	3.18	1:00 PM	6.19	0.460	15.9	-80.0	5.9	---	0.00	---	Clear	1.20
							11/27/2018	10.21	8.50	1:40 PM	6.42	0.464	15.8	-61.0	6.0	---	0.00	---	Clear	1.20
MW-21	4/16/08	Active	18.58	17	22	1	11/30/2016	12.00	6.58	10:58 AM	6.61	0.680	12.2	-57.0	6.40	---	1.98	---	Clear	2.5
							3/23/2017	12.67	5.91	4:40 PM	6.58	0.610	15.9	-67.0	0.00	---	2.16	---	Clear	1.5
							7/27/2017	12.35	6.23	12:50 PM	6.29	0.576	16.1	-100.7	-6.60	---	0.86	---	Clear	1.4
							10/5/2017	12.20	6.38	3:23 PM	6.40	0.460	15.9	-103.1	---	---	0.11	---	Clear	2.5
							1/16/2018	11.98	6.60	11:20 AM	6.45	0.455	14.8	-87.9	---	---	0.26	2.80	Clear	3.5
							5/25/2018	14.04	4.54	1:20 PM	6.64	0.423	15.6	-69.5	---	---	---	1.46	Clear	1.2
							8/23/2018	17.48	1.10	2:30 PM	6.44	0.483	15.6	-112.0	2.20	---	0.00	---	Clear	1.25
							11/28/2018	8.52	10.06	8:55 AM	6.46	0.603	13.3	46.0	4.20	---	0.01	---	Clear	1.3
MW-22	11/17/16	Active	21.14	7	14	1	12/6/2016	9.97	11.17	1:45 PM	7.09	0.342	15.8	-79.0	3.60	---	3.11	---	Clear	---
							3/23/2017	8.92	12.22	11:40 AM	6.88	0.581	12.9	5.0	3.80	---	0.05	---	Clear	1.2
							7/26/2017	10.55	10.59	12:40 PM	6.90	0.550	18.6	41.0	0.00	---	0.90	---	Clear	1.4
							10/5/2017	11.16	9.98	1:18 PM	6.90	0.529	19.6	-23.9	---	---	2.63	---	Clear	0.8
							1/12/2018	10.62	10.52	10:50 AM	6.81	0.211	14.6	-28.7	---	---	0.86	7.9	Clear	2.5
							8/23/2018	11.06	10.08	12:00 PM	6.11	0.527	18.5	-47.0	4.20	---	2.27	---	Clear	0.4
							11/27/2018	11.98	9.16	11:05 AM	6.72	0.275	16.9	55.0	0.60	---	1.99	---	Clear	1.0

Copyright G-Logics

TABLE 7
Water Quality Parameters During Sampling
Boeing Field Chevron
Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)	Sample Time	pH	Conductivity (mS/cm)	Temperature (C°)	ORP (mV)	Turbidity (NTUs)	Turbidity TDS (g/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Color	Purge Volume (gallons)
MW-23	11/17/16	Active	20.86	5.5	15.5	2	11/17/2016	10.30	10.56	11:15 AM	6.76	0.599	14.2	14.0	3.40	---	7.19	---	Clear	2.5
							3/23/2017	8.63	12.23	11:05 AM	6.43	0.658	11.7	15.2	0.00	---	0.00	0.00	Clear	3.5
							7/26/2017	10.36	10.50	12:00 PM	6.28	0.528	18.6	-48.1	24.80	---	0.80	---	Clear	3.75
							10/5/2017	12.60	8.26	12:00 PM	6.47	0.462	19.4	15.0	---	---	0.69	---	Clear	1.75
							1/12/2018	9.50	11.36	9:50 AM	6.49	0.482	12.8	172.2	---	0.313	1.05	10.1	Clear	2.0
							5/25/2018	10.04	10.82	10:25 AM	6.44	0.330	15.1	77.9	---	---	---	2.26	Clear	4.0
							8/23/2018	10.73	10.13	11:00 AM	6.00	0.574	19.4	12.0	3.30	---	0.00	---	Clear	1.2
							11/27/2018	10.49	10.37	10:50 AM	6.60	0.570	14.9	46.0	11.70	---	0.00	---	Clear	1.3
MW-24D	1/11/18	Active	20.14	20	25	2	1/12/2018	12.08	8.06	12:25 PM	6.60	0.410	14.8	-81.0	---	---	0.70	7.0	Clear	2.0
							5/25/2018	15.51	4.63	11:55 AM	6.53	0.548	15.1	-69.7	---	---	0.94	9.4	Clear	1.5
							8/23/2018	15.97	4.17	11:00 AM	6.17	1.100	15.1	-92.0	1.40	---	0.00	---	Clear	1.5
							11/27/2018	12.20	7.94	12:00 PM	6.74	0.640	14.5	-89.0	6.74	---	0.00	---	Clear	2.35
MW-24	11/24/16	Active	20.26	8.65	13.65	1	12/6/2016	10.34	9.92	8:55 AM	7.33	0.876	7.54	-83.0	75.0	---	0.99	---	Clear	0.7
							3/23/2017	8.73	11.53	12:00 PM	6.53	1.29	12.2	0.0	79.3	---	0.00	0.0	Clear	1.25
							7/27/2017	10.71	9.55	2:08 PM	---	---	---	---	---	---	---	---	---	---
							10/5/2017	---	---	---	---	---	---	---	---	---	---	---	---	---
							1/11/2018	11.99	8.27	12:20 PM	6.50	0.684	11.6	2.8	---	---	4.98	47.0	Clear	1.0
							8/23/2018	11.35	8.91	---	---	---	---	---	---	---	---	---	---	---
							11/27/2018	9.19	11.07	1:00 PM	---	---	---	---	---	---	---	---	---	---
MW-25	11/19/16	Active	19.78	9	14	1	12/6/2016	8.94	10.84	10:05 AM	6.84	0.378	12.6	81.0	14.7	---	1.40	---	Clear	0.8
							3/23/2017	7.38	12.40	9:55 AM	7.36	0.474	11.6	130	59.5	---	0.00	0.00	Clear	2.25
							7/26/2017	9.31	10.47	10:50 AM	6.72	0.414	15.7	161	3.80	---	4.14	---	Clear	1.8
							10/5/2017	10.40	9.38	10:30 AM	6.30	0.372	17.0	145	---	---	0.48	---	Clear	1.5
							1/12/2018	9.52	10.26	9:40 AM	6.38	0.331	14.1	98.0	---	---	3.51	33.1	Clear	2.5
							8/23/2018	9.93	9.85	10:10 AM	6.12	0.372	16.4	172.0	3.30	---	1.20	---	Clear	1.4
							11/27/2018	9.68	10.10	10:00 AM	6.51	0.347	15.2	142.0	17.60	---	0.30	---	Clear	1.5
MW-26D	11/17/16	Active	19.69	18	23	2	11/30/2016	12.19	7.50	1:38 PM	6.34	0.47	14.0	-60.0	5.0	---	0.00	---	Clear	5.5
							3/23/2017	12.24	7.45	11:55 AM	6.65	0.436	13.8	19.0	12.00	---	0.00	---	Clear	3.0
							7/26/2017	13.49	6.20	9:15 AM	6.72	0.390	14.2	7.0	3.40	---	0.00	---	Clear	1.6
							10/4/2017	15.74	3.95	11:30 AM	6.41	0.527	15.2	-10.0	0.00	---	0.00	0.00	Clear	2.0
							1/11/2018	11.38	8.31	2:30 PM	6.40	0.304	14.3	-75.0	---	---	0.22	2.20	Clear	3.0
							8/24/2018	15.65	4.04	11:20 AM	6.42	0.369	15.9	-26.0	3.10	---	0.00	---	Clear	1.25
							11/28/2018	11.92	7.77	9:50 AM	6.41	0.398	14.7	121.0	2.50	---	0.00	---	Clear	1.20
MW-26S	11/21/16	Active	19.48	7	12	2	11/30/2016	8.09	11.39	1:17 PM	6.60	0.388	15.3	-36.0	2.0	---	1.69	---	Clear	2.25
							3/23/2017	6.92	12.56	12:10 PM	6.98	0.248	10.1	108	0.60	---	0.00	0.00	Clear	3.5
							7/26/2017	8.98	10.50	10:10 AM	6.70	0.341	17.1	-36.0	3.80	---	0.00	---	Clear	1.4
							10/4/2017	9.57	9.91	10:30 AM	6.15	0.438	17.7	-55.0	9.70	---	0.57	6.00	Clear	2.0
							1/11/2018	7.39	12.09	1:40 PM	6.31	0.267	11.6	-9.6	---	---	1.82	16.5	Clear	2.5
							8/24/2018	8.80	10.68	12:10 PM	6.47	0.329	19.4	-31.0	8.40	---	1.80	---	Clear	1.8
							11/28/2018	7.85	11.63	10:30 AM	6.37	0.458	15.5	210	5.60	---	1.20	---	Clear	1.0
MW-27D	11/21/16	Active	19.53	14.5	21.5	2	11/28/2016	11.48	8.05	3:25 PM	6.51	0.532	14.9	0.58	23.8	---	1.59	---	Clear	3.0
							3/23/2017	11.94	7.59	10:00 AM	6.65	0.372	13.5	-46.0	6.20	---	1.30	---	Clear	3.2
							7/26/2017	13.44	6.09	2:25 PM	6.16	0.431	17.3	-108.4	323.1	---	0.78	---	Clear	3.0
							10/4/2017	15.10	4.43	1:44 PM	6.59	0.377	15.4	-12.0	0.00	---	0.00	---	Clear	5.0
							1/16/2018	12.06	7.47	2:20 PM	6.36	0.340	14.9	-71.0	---	---	0.21	1.90	Clear	3.5
							5/25/2018	13.98	5.55	2:30 PM	6.36	0.428	15.3	-24.6	---	---	0.49	4.90	Clear	2.0
							8/24/2018	16.12	3.41	10:30 AM	6.12	0.438	15.7	-78.0	5.40	---	0.00	---	Clear	1.0
							11/28/2018	12.07	7.46	10:45 AM	6.44	0.223	14.1	-3.0	8.80	---	0.00	---	Clear	3.5
MW-27S	11/21/16	Active	19.76	7	12	2	11/28/2016	8.25	11.51	3:40 PM	6.21	1.11	14.4	129.0	0.0	---	2.98	---	Clear	1.3
							3/23/2017	7.23	12.53	10:50 AM	6.73	0.875	11.8	152.0	0.0	---	0.37	---	Clear	2.0
							7/26/2017	9.08	10.68	1:25 PM	6.26	1.076	19.5	-48.5	2.90	---	1.04	---	Clear	1.5
							10/4/2017	9.72	10.04	11:35 AM	6.50	1.070	18.5	143.0	0.00	---	0.00	---	Clear	3.0
							1/16/2018	8.24	11.52	1:25 PM	6.54	0.898	13.3	116.7	---	---	3.25	30.6	Clear	2.5
							5/25/2018	8.27	11.49	2:50 PM	6.55	0.748	16.2	88.4	---	---	---	2.6	Clear	3.3
							8/23/2018	7.50	12.26	3:20 PM	6.54	0.297	19.7	76.0	0.20	---	1.21	---	Clear	1.5
							11/28/2018	8.92	10.84	11:45 AM	6.52	0.251	15.3	101.0	15.20	---	0.00	---	Clear	2.75

Copyright G-Logics

TABLE 7
Water Quality Parameters During Sampling
Boeing Field Chevron
Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)	Sample Time	pH	Conductivity (mS/cm)	Temperature (C°)	ORP (mV)	Turbidity (NTUs)	Turbidity TDS (g/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Color	Purge Volume (gallons)
MW-28D	11/18/16	Active	19.45	18	23	2	11/28/2016	12.00	7.45	12:53 PM	6.45	0.281	15.1	-75	0.0	---	0.00	---	Clear	2.5
							3/23/2017	11.93	7.52	10:00 AM	6.28	0.175	14.0	41.0	0.90	---	0.00	0.00	Clear	4.5
							7/26/2017	13.34	6.11	3:45 PM	6.65	0.210	14.9	-41.0	0.0	---	0.00	---	Clear	1.4
							10/4/2017	15.44	4.01	1:00 PM	6.45	0.231	15.2	-53.0	0.00	---	0.00	0.00	Clear	2.3
							1/11/2018	12.17	7.28	9:50 AM	6.45	0.172	14.2	-76.8	---	---	0.24	2.30	Clear	2.5
							8/23/2018	15.05	4.40	2:20 PM	5.96	0.338	18.3	-29.0	0.50	0.22	0.00	---	Clear	2.0
							11/27/2018	11.96	7.49	2:00 PM	6.50	0.166	6.0	-7.0	6.00	---	0.00	---	Clear	3.0
MW-28S	11/18/16	Active	19.34	5	12	2	11/28/2016	8.14	11.20	1:35 PM	8.26	0.690	15.4	128	0.0	---	4.32	---	Clear	2.0
							3/23/2017	6.66	12.68	11:10 AM	6.98	0.506	12.1	93.0	0.0	---	0.00	---	Clear	3.5
							7/26/2017	8.54	10.80	2:30 PM	6.72	0.532	18.7	180	5.5	---	1.68	---	Clear	1.6
							10/4/2017	9.51	9.83	1:30 PM	6.40	0.502	17.8	57.0	0.00	---	3.90	42.4	Clear	1.5
							1/11/2018	8.06	11.28	11:00 AM	6.60	0.451	13.6	83.9	---	---	4.15	39.1	Clear	2.0
							8/23/2018	9.03	10.31	3:00 PM	6.14	0.728	19.3	115	1.20	0.474	0.00	---	Clear	2.5
							11/27/2018	8.75	10.59	3:00 PM	6.49	0.525	15.3	131	2.00	---	1.31	---	Clear	3.0
MW-29D	1/11/18	Active	21.59	20	25	2	1/12/2018	13.42	8.17	2:15 PM	6.39	0.242	14.0	-19.9	---	0.199	0.83	8.20	Clear	6.0
							5/29/2018	16.73	4.86	9:50 AM	6.36	0.341	14.3	33.7	---	---	0.57	5.50	Clear	2.3
							8/24/2018	17.85	3.74	1:10 PM	6.51	0.268	15.5	-56.0	2.30	---	0.00	---	Clear	1.0
							11/28/2018	13.54	8.05	9:45 AM	6.42	0.259	13.4	4.0	15.00	---	0.00	---	Clear	3.0
MW-29S	1/11/18	Active	21.53	10	15	2	1/16/2018	9.78	11.75	1:05 PM	6.86	0.542	12.0	1.0	---	0.472	2.46	22.9	Clear	5.5
							5/29/2018	10.60	10.93	10:40 AM	6.52	0.406	14.3	36.6	---	---	0.38	3.7	Clear	2.3
							8/24/2018	---	---	1:30 PM	6.13	0.554	20.0	3.0	0.60	0.35	0.00	---	Clear	1.75
							11/28/2018	10.73	10.80	9:15 AM	6.49	0.587	13.9	14.0	27.70	---	0.56	---	Clear	2.25
MW-30	1/11/18	Active	21.20	20	25	2	1/12/2018	13.10	8.10	12:30 PM	6.60	0.438	14.4	-163.4	---	---	0.24	2.30	Clear	1.5
							5/25/2018	16.94	4.26	10:40 AM	6.55	0.549	14.7	-62.5	---	---	2.34	22.90	Clear	3.3
							8/23/2018	17.31	3.89	11:45 AM	6.19	0.792	16.0	-58.0	4.70	0.50	0.00	---	Clear	1.5
							11/27/2018	13.06	8.14	12:10 PM	6.58	0.579	15.4	33.0	28.8	---	0.23	---	Clear	1.4
IP-3	4/19/06	Active	20.28	18	24	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
							3/23/2017	12.96	7.32	1:40 PM	6.21	0.420	14.3	2.0	0.0	---	0.00	0.0	Clear	2.5
							7/27/2017	14.16	6.12	1:06 PM	6.63	0.457	14.5	-41.0	0.0	---	0.00	---	Clear	1.6
							10/4/2017	14.82	5.46	4:01 PM	6.35	0.307	14.6	-98.1	---	---	0.07	---	Clear	4.0
							1/12/2018	12.04	8.24	2:40 PM	6.42	0.373	14.2	-85.0	---	---	0.22	1.90	Clear	2.5
							5/29/2018	14.55	5.73	9:30 AM	6.55	0.361	14.2	-56.9	---	---	---	1.94	Clear	3.5
							8/24/2018	16.23	4.05	10:45 AM	5.97	0.948	15.0	-63.0	1.10	0.61	0.00	---	Clear	2.5
							11/28/2018	12.53	7.75	11:25 AM	6.36	0.476	14.4	-68.0	18.40	---	0.00	---	Clear	1.0
IP-4	4/19/06	Active	20.49	8	16	3	11/30/2016	10.10	10.39	9:21 AM	6.42	1.25	13.24	-146.0	14.9	---	0.00	---	Clear	2.00
							3/23/2017	8.01	12.48	3:45 PM	6.56	1.01	13.51	-40.0	10.0	---	0.00	0.00	Clear	3.50
							7/27/2017	9.96	10.53	2:07 PM	6.51	1.295	17.00	-149.0	5.80	---	0.76	---	Clear	1.40
							10/4/2017	10.75	9.74	4:23 PM	6.60	0.980	16.5	-118.9	---	---	0.70	---	Clear	4.0
							1/12/2018	9.49	11.00	1:50 PM	6.68	1.177	13.8	-165.0	---	---	0.30	3.00	Clear	3.0
							5/29/2018	9.67	10.82	11:45 AM	6.87	0.704	13.7	-106.9	---	---	---	1.80	Clear	5.0
							8/24/2018	9.98	10.51	11:45 AM	6.27	1.270	17.0	-114.0	6.40	0.81	0.00	---	Clear	2.0
							11/28/2018	10.00	10.49	12:30 PM	---	0.722	14.9	-86.0	53.70	---	0.00	---	Clear	3.0
IP-5	4/26/06	Active	21.08	18	24	2	11/30/2016	13.00	8.08	9:10 AM	6.49	0.576	12.5	-47.0	6.30	---	1.99	---	Clear	2.25
							3/23/2017	13.80	7.28	2:25 PM	6.17	0.510	14.5	7.0	6.20	---	0.00	0.00	Clear	3.0
							7/27/2017	13.76	7.32	11:25 AM	6.60	0.449	14.4	-35.0	4.70	---	0.00	---	Clear	1.4
							10/4/2017	16.17	4.91	3:30 PM	5.88	0.362	9.5	-50.1	---	---	0.37	---	Clear	2.0
							1/12/2018	13.49	7.59	10:50 AM	6.46	0.391	14.1	-48.7	---	0.253	0.65	6.30	Clear	2.0
							5/29/2018	16.82	4.26	11:45 AM	6.30	0.414	14.5	18.5	---	---	0.45	4.40	Clear	2.3
							8/24/2018	17.08	4.00	12:30 PM	6.94	0.923	14.9	-45.0	1.50	0.59	0.00	---	Clear	1.75
							11/28/2018	13.29	7.79	12:35 PM	6.31	0.510	13.5	80.0	6.80	---	0.00	---	Clear	1.20

Copyright G-Logics

TABLE 7
Water Quality Parameters During Sampling
Boeing Field Chevron
Tukwila, Washington

Well Designation (1)	Well Installation Date	Well Decommission Date	Elevation Top of PVC Casing (ft.)**	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated GW Elevations (ft.)	Sample Time	pH	Conductivity (mS/cm)	Temperature (C°)	ORP (mV)	Turbidity (NTUs)	Turbidity TDS (g/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Color	Purge Volume (gallons)
IP-6	8/4/06	Inactive	20.26	18	24	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
IP-7	8/4/06	Active	20.31	17	23	2	9/29/2016	16.30	4.01	---	---	---	---	---	---	---	---	---	---	---
							11/30/2016	13.38	6.93	---	---	---	---	---	---	---	---	---	---	---
							3/23/2017	15.12	5.19	---	---	---	---	---	---	---	---	---	---	---
							5/29/2018	15.75	4.56	---	---	---	---	---	---	---	---	---	---	---
							11/27/2018	14.90	5.41	---	---	---	---	---	---	---	---	---	---	---
AS-1	4/10/19	Active	20.76	12	14	2	4/17/2019	9.60	10.71	2:15 PM	6.49	589.00	13.10	71.10	---	---	0.40	---	Clear	3.00
AS-2	4/10/19	Active	20.43	30	32	2	4/17/2019	15.03	5.28	1:15 PM	6.33	257.10	14.70	18.50	---	---	0.21	---	Clear	7.00

Notes:

(1) Refer to site diagrams for sample locations. Refer to laboratory reports for analytical methods.
* Tidal Survey Data
** Data from PLS Inc. Topographic Survey
*** Well Decommissioned 2016
--- Parameter(s) Not Measured During Field Activities

Copyright G-Logics

TABLE 8
Soil-Gas Sample Analyses, Petroleum Hydrocarbons
Boeing Field Chevron
Tukwila, Washington

Exploration Location	Sample Date	Sample Number	Sample Depth (ft)	Approximate Time Duration (seconds)	APH [EC5-8 aliphatics] Fraction	APH [EC9-12 aliphatics] Fraction	APH [EC9-10 aromatics] Fraction	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total TPH (1)
Sub-Slab Soil-Gas Screening Level Method B, Non cancer (1)					*	*	*	46	460	76,000	15,000	1,500	4,700
Sub-Slab Soil-Gas Screening Level Method B, Cancer (1)					*	*	*	2.5	11	*	*	*	*
(units in ug/m^3)													
GLVP-1	1/16/2018	GLVP-1	7	**30**	**208 H**	**493**	<31.4	<4.70 Q	<0.639	**6.37 I**	**1.57 H**	**8.73 H**	**737.4**
GLVP-2	1/16/2018	GLVP-2	7	**30**	**130 H**	**236**	<31.4	<4.70 Q	<0.639	**0.863 H**	<1.30 I	<0.868 I	**368.3**
	1/16/2018	DUP-1	7	**30**	**41.2 I**	**171**	<31.4	<4.70 Q	<0.639	**1.05 H**	<1.30 I	<0.868 I	**232.7**

Notes:

Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

(1) MTCA Method B Soil-Gas Screening Levels for Samples Collected Below Building Foundations, to depths of 15 feet below ground surface. Provided in the Ecology Cleanup Levels and Risk Calculation (CLARC) Database (August, 2020).

* Not Applicable/ Cleanup/Screening Level Not Established.

Dup Blind Field Duplicate Sample for QA/QC.

<1.07 The analyte was not detected at a concentration above the indicated reporting limit.

12.0 Bold Number(s) indicates contaminant detected.

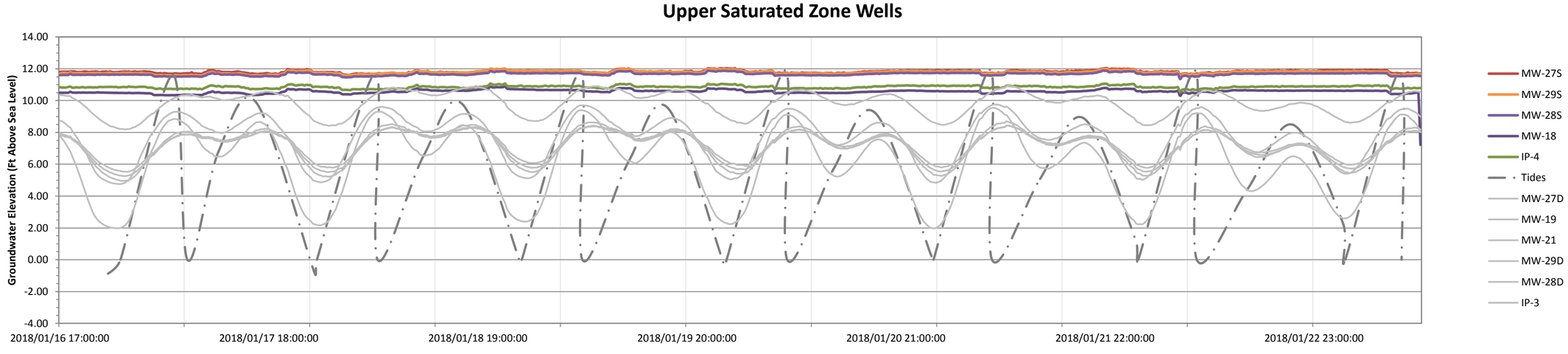
H Holding times for preparation or analysis exceeded.

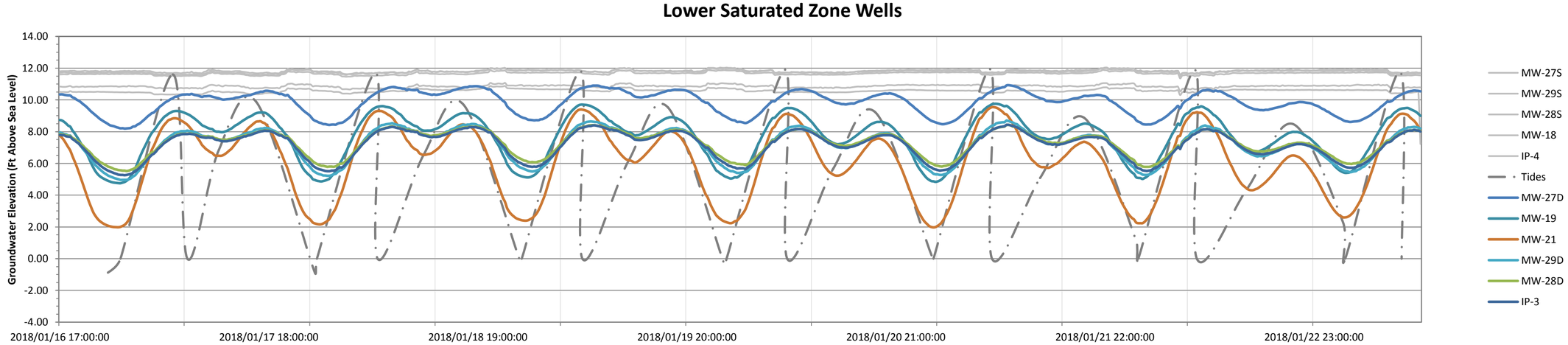
I Analyte with an internal standard that does not meet established acceptance criteria.

Q Analyte with an initial calibration that does not meet established acceptance criteria.

GRAPHS

Graph 1
2018 Groundwater Elevations, Upper Saturated Zone vs Lower Saturated Zone
Boeing Field Chevron
Tukwila, Washington





ATTACHMENT A

Permission and Conditions for Use and Copying Form

Remedial Investigation Report
Boeing Field Chevron
10805 East Marginal Way South
Tukwila, WA 98168

G-Logics Project 01-0410-M
October 7, 2020

G-Logics prepared the above-identified Document only for our Client and/or other user(s), as identified in the Document, for the purposes stated and subject to any identified and contractual limitations. Regulatory agencies may make additional "fair use" copies for internal and public use based on state and federal laws that do not violate copyright laws.

All other Requestors must obtain permission from G-Logics and our Client in order to avoid copyright violations. To request authorization for a copy of the Document, please read our conditions listed below, complete the Requestor section, and fax to G-Logics at 425-313-3074 for approval review.

- I recognize that G-Logics has prepared this Document only for their Client and/or other user(s), only for the purposes stated in the Document and subject to any identified and contractual limitations.
- My intended use of the Document is for general informational purposes only.
- I understand and accept that there may be limitations to the reliability of the Document's findings due to circumstances beyond the control of G-Logics, the limited scope of funding, and/or limitations inherent in the nature of the performed services.
- I agree not to rely on the Document as being comprehensive or inclusive of all possible site hazards and agree to defend, indemnify, and hold G-Logics harmless from and against any and all claims, damages, or liability which arise from or which are alleged to arise from my use of the Document. I also will compensate G-Logics for any time spent or expenses incurred by G-Logics in defense of any such claim.
- I agree not to provide the Document to any other person or organizations without prior authorization from G-Logics and their Client.

Copyright 2020 G-Logics, Inc.

I, the Requestor, have reviewed the above-identified conditions for copying/use of the Document, am familiar with the presented limitations of the provided services, and acknowledge my understanding and concurrence, as indicated by my signature below.

Requestor's Company _____

Mailing Address _____

City, State, Zip Code _____

Contact Name & Title _____

Signature & Date _____

Telephone & Fax Numbers _____

Planned Use of Document _____

_____

_____

_____

With your information and signature above, please fax to G-Logics (425-313-3074) for approval review. G-Logics will share your request with our Client for their approval.

Client Review and Acknowledgment of Use and Copying Request

Per the notification of G-Logics, I, the Client, have reviewed this request for copying/use of this Document, have discussed the request with G-Logics, and grant my consent as indicated by my signature below.

Client Company _____

Client Contact Name & Title _____

Signature & Date _____

Telephone & Fax Numbers _____

G-Logics review and Acknowledgment of Use and Copying Request

Based on your concurrence with the above-presented conditions, approval of our Client, and our review of the information, G-Logics allows the Requestor to copy/use the above referenced Document for purposes stated. Additional fees may apply.

G-Logics Signature _____

Title _____

Date _____

Copyright 2020 G-Logics, Inc.

ATTACHMENT B

From:	Dan Hatch
To:	Thomas, Richard (ECY); Myers, Dale - TCP (ECY)
Cc:	Rory Galloway; Zackary Wall
Subject:	RE: Boeing Field Chevron Webpage Language
Date:	Wednesday, January 16, 2019 12:31:05 PM
Attachments:	image001.png image002.png image003.png

Hi Rick,

Thank you for getting back to me and answering my questions.

Regards,

Dan Hatch | Remediation Manager
253-951-2024| Danh@G-Logics.com

Do justly, love mercifully, walk humbly. This is enough. – John Adams

G-Logics, Inc. | 40 2nd Avenue SE | Issaquah, WA 98027-3452
Office: 425-391-6874 | *Fax*: 425-313-3074 | www.G-Logics.com

Please consider the environment before printing this e-mail and/or attachments.

Important: This e-mail message and contained information are confidential and are to be delivered only to the identified addressee(s). Attorney/client privilege may apply. If the reader of this message is not an intended recipient, please be advised that any reuse, dissemination, distribution, or copying of this message is prohibited. If you have received this message in error, please contact the sender by reply e-mail and destroy all copies of the message. Thank you in advance for your assistance.

From: Thomas, Richard (ECY) [mailto:RITH461@ECY.WA.GOV]
Sent: Wednesday, January 16, 2019 11:15 AM
To: Dan Hatch <danh@g-logics.com>; Myers, Dale - TCP (ECY) <DAMY461@ECY.WA.GOV>
Cc: Rory Galloway <RoryG@g-logics.com>
Subject: RE: Boeing Field Chevron Webpage Language

Mr. Hatch, I have read your request and I do agree that the Boeing Field Chevron surface water flow (Stormwater) is not part of the Norfolk Storm drain system. This will be corrected in future updates to the web page. Minor updates to the web pages are generally low priority; therefore, I cannot give you a date as to when the update will occur. However, the site will remain being described as a potential source to the Lower Duwamish Waterway (LDW) superfund site, if for nothing else, due to its proximity to the waterway. Ecology will update the contents of the web page and will evaluate the potential of the site to contribute contamination to the LDW once the site has a final RI/ FS.

Regarding the second question about future Ecology plans for Lake Union and Salmon Bay. I have no information about Ecology's plans for those water bodies.

Rick Thomas
Lower Duwamish Source Control, Project Lead
Dept. of Ecology
Northwest Regional Office

3190 160th Ave SE
Bellevue, WA 98008
425-649-7208
RITH461@ECY.WA.GOV

From: Dan Hatch [mailto:danh@g-logics.com]
Sent: Monday, January 14, 2019 4:08 PM
To: Thomas, Richard (ECY) <RITH461@ECY.WA.GOV>
Cc: Rory Galloway <RoryG@g-logics.com>
Subject: FW: Boeing Field Chevron Webpage Language

Hi Rick,

I am following up with our request regarding the language stated on the Boeing Field Chevron webpage. Have you had a chance to review our request? Do you have an idea when we may see a response to the request?

I am also hoping you could provide an answer regarding the Lake Union and Salmon Bay water bodies. Specifically, does Ecology have these water bodies on a list for future cleanup considerations, and if so, is there any predicted time frame those efforts would begin?

Thank you.

Dan Hatch | Remediation Manager
253-951-2024| Danh@G-Logics.com

Do justly, love mercifully, walk humbly. This is enough. – John Adams

G-Logics, Inc. | 40 2nd Avenue SE | Issaquah, WA 98027-3452
Office: 425-391-6874 | *Fax*: 425-313-3074 | www.G-Logics.com

Please consider the environment before printing this e-mail and/or attachments.

Important: This e-mail message and contained information are confidential and are to be delivered only to the identified addressee(s). Attorney/client privilege may apply. If the reader of this message is not an intended recipient, please be advised that any reuse, dissemination, distribution, or copying of this message is prohibited. If you have received this message in error, please contact the sender by reply e-mail and destroy all copies of the message. Thank you in advance for your assistance.

From: Myers, Dale - TCP (ECY) [mailto:DAMY461@ECY.WA.GOV]
Sent: Thursday, December 13, 2018 7:24 AM
To: Dan Hatch <danh@g-logics.com>; ehetrick@chevron.com
Cc: Rory Galloway <RoryG@g-logics.com>; RUSSELL.S.SHROPSHIRE@leidos.com; Zackary Wall <ZackaryW@g-logics.com>; Kurt Peterson (kurt.peterson@foster.com) <kurt.peterson@foster.com>; Mary Allen <mary.allen@foster.com>; Manolopoulos, Lynn <lynnmanolopoulos@DWT.com>; Cardona-Marek, Tamara (ECY) <TACA461@ECY.WA.GOV>; Bardy, Louise (ECY) <LBAR461@ECY.WA.GOV>; Thomas, Richard (ECY) <RITH461@ECY.WA.GOV>; Myers, Dale - TCP (ECY) <DAMY461@ECY.WA.GOV>
Subject: RE: Boeing Field Chevron Webpage Language

Dan
I was pleased to have made this correction to the Boeing Field Chevron's Website
The requested change to the Boeing Field Chevron's web page:
https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=7030
From
This site is part of Ecology's Lower Duwamish Waterway source control efforts, because it is contributing pollution to the Lower Duwamish Waterway (LDW) Superfund Site.
To
This site is part of Ecology's Lower Duwamish Waterway source control efforts, because it is within the Lower Duwamish Waterway (LDW) Superfund Site.

That change is within my authority as the Cleanup Site Project Manager.

However it is not within my purview/authority to make the other changes that you are requesting. Therefore I am forwarding your request to the Lower Duwamish Source Control to make that decision.

Respectfully
Dale Myers
Department of Ecology

From: Dan Hatch [mailto:danh@g-logics.com]
Sent: Wednesday, December 12, 2018 8:24 PM
To: Myers, Dale - TCP (ECY) <DAMY461@ECY.WA.GOV>; ehetrick@chevron.com
Cc: Rory Galloway <RoryG@g-logics.com>; RUSSELL.S.SHROPSHIRE@leidos.com; Zackary Wall <ZackaryW@g-logics.com>; Kurt Peterson (kurt.peterson@foster.com) <kurt.peterson@foster.com>; Mary Allen <mary.allen@foster.com>; Manolopoulos, Lynn <lynnmanolopoulos@DWT.com>
Subject: Boeing Field Chevron Webpage Language

Hi Dale,

Attached is a letter requesting that the language on the Boeing Field Chevron website be revised, specifically, to not include language referencing that the site is contributing to, or within the LDW Superfund Site.

Thank you

Dan Hatch | Remediation Manager
253-951-2024| Danh@G-Logics.com

Do justly, love mercifully, walk humbly. This is enough. – John Adams

G-Logics, Inc. | 40 2nd Avenue SE | Issaquah, WA 98027-3452
Office: 425-391-6874 | *Fax*: 425-313-3074 | www.G-Logics.com

Please consider the environment before printing this e-mail and/or attachments.

Important: This e-mail message and contained information are confidential and are to be delivered only to the identified addressee(s). Attorney/client privilege may apply. If the reader of this message is not an intended recipient, please be advised that any reuse, dissemination, distribution, or copying of this message is prohibited. If you have received this message in error, please contact the sender by reply e-mail and destroy all copies of the message. Thank you in advance for your assistance.

From: Myers, Dale - TCP (ECY) [mailto:DAMY461@ECY.WA.GOV]
Sent: Wednesday, December 12, 2018 12:50 PM
To: Dan Hatch <danh@g-logics.com>; ehetrick@chevron.com
Subject: FW: done- here you go

Gentlemen
Ecology has made the requested change to the Boeing Field Chevron's web page
https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=7030
From
This site is part of Ecology's Lower Duwamish Waterway source control efforts, because it is contributing pollution to the Lower Duwamish Waterway (LDW) Superfund Site.
To
This site is part of Ecology's Lower Duwamish Waterway source control efforts, because it is within the Lower Duwamish Waterway (LDW) Superfund Site.

Dan as for those documents you will be sending me, I will forward them to Richard Thomas in the LDW group, as I do not make that decision

Dale Myers
Department of Ecology

From: Lui, Nancy (ECY)
Sent: Wednesday, December 12, 2018 12:44 PM
To: Myers, Dale - TCP (ECY) <DAMY461@ECY.WA.GOV>
Subject: done- here you go

Top of Form

Ecology home > Toxics Cleanup > Sites > Boeing Field Chevron

Boeing Field Chevron
10805 Tukwila International Blvd, Tukwila, WA 98168

SITE INFORMATION
Map

View Electronic Documents

Site Summary Report

Facility Site ID: # 2551

Boeing Field Chevron
CURRENT STATUS
The Feasibility Study (see below) is underway.

In 2015, Ecology entered into an Agreed Order with Potentially Liable Persons or PLPs (Chevron and the current property owner) to investigate and develop a cleanup action plan for the site.

The Agreed Order describes the work that the PLPs agree to perform on the site. Under this legal agreement, the PLPs are required to complete the following:

- **Remedial Investigation (RI).** The purpose of the RI is to define the nature and extent of contamination at the site and to determine if it is contributing to the sediment contamination in the Lower Duwamish Waterway. During the RI, the PLPs will collect data necessary to adequately characterize the contamination in soil, groundwater, stormwater, and sediments.
- **Feasibility Study (FS).** The FS will use the results of the RI to evaluate and choose measures to cleanup contamination and prevent recontamination of the sediment.
- **Draft Cleanup Action Plan (DCAP).** Ecology will identify a preferred cleanup action based on the results of the FS.

To view site reports and fact sheets, click on the "View Electronic Documents" link to the right.

What happens next?

Ecology is working with the PLPs to complete the RI and move forward with the FS. The next opportunity for public comment will be when the Draft Final RI Report is ready for review.

Why this cleanup matters

This site is part of Ecology's Lower Duwamish Waterway source control efforts, because it is within the Lower Duwamish Waterway (LDW) Superfund Site. The 5-mile stretch of the Duwamish River that flows north into Elliot Bay was added to the Superfund National Priorities List by the U.S. Environmental Protection Agency (EPA) in 2001.

The sediments (mud) in the river contain a wide range of contaminants due to decades of industrial activity and runoff from urban areas. EPA is leading efforts to clean

Cleanup Site ID: 7030

Location:
Tukwila, King County

Status: Cleanup Started

Contacts:
Dale R Myers
Site Manager
(425) 649-4446

Amy White
Public Involvement Coordinator
(425) 649-7052

Document Repositories:

Northwest Regional Office
3190 160th Ave SE
Bellevue, 98008-5452
(425)649-7190

up the river sediments.

Ecology is leading efforts to control sources of contamination from the surrounding land area. The long-term goal is to minimize recontamination of the river sediment and restore water quality in the river.

The Boeing Chevron Site is one of several sites that will be cleaned up as part of Ecology's Source Control Strategy – controlling sources of pollution to the river. Contaminants in the soil and groundwater around the river pose a risk to human health and the environment. They can also find their way into the river through storm runoff and other pathways. For more information, visit our Source Control page.

Boeing Field Chevron site map

SITE LOCATION

The Site is located between Pacific Highway South and East Marginal Way, immediately south of the South Boeing Access Road. The Site is located approximately 250 feet east of the Duwamish River and approximately 1/2 mile southwest of Boeing Field.

Final site boundaries will be defined by the extent of contamination determined during the remedial investigation.

The Lower Duwamish Waterway drainage basin is divided into source control areas. This site is located within the Norfolk Combined Sewer Overflow/ Storm Drain Basin Early Action Area source control area along the east bank of the river at river mile 4.9.

SITE BACKGROUND

The Boeing Field Chevron facility has operated as a gasoline station since 1940. Standard Oil and Chevron operated the Site from the late 1960s to the mid 1980s.

The site currently includes underground storage tanks with associated pump islands and dispensers, a car wash and a mini-mart building.

CONTAMINATION
In soil and groundwater:

- Diesel and gasoline-range hydrocarbons
- Light Non-aqueous Phase Liquids (LNAPLs)
- Benzene
- Toluene
- Ethylbenzene
- Xylenes

PREVIOUS CLEANUP WORK
Chevron reported releases of gasoline to Ecology in 1990 and 1996 associated with the former underground storage tanks (USTs). As a result, Chevron removed eleven USTs, three pump islands, the former service station building, and about 2,500 cubic yards of petroleum contaminated soils (PCS) from the site between 1990 and 1996.

Some soil and groundwater with petroleum hydrocarbon concentrations above MTCA cleanup levels remained on the site. In 2003 Chevron reported a new release of gasoline. Some chemicals from the different releases are co-mingled.

RELATED INFORMATION

- Main Lower Duwamish Waterway cleanup website

ADDITIONAL RESOURCES

- Acronyms used by the Toxics Cleanup Program
- Cleanup Process: Major Steps & Definitions
- Data Submittal Requirements for All Cleanup Sites
- Toxics Cleanup publications

Bottom of Form

Copyright © Washington State Department of Ecology. See https://ecology.wa.gov/About-us/Accountability-transparency/Our-website/Copyright-information.

Copyright © Washington State
Department of Ecology
Contact Us | Privacy Notice | Site Info |

Accessibility