# Remedial Investigation Report

**DeBock's Main Street Texaco (aka Debock's Auto Repair)**
**100 W., 101 W., and 101 E. Wine Country Road**
**Grandview, WA**
**Facility Site No. 94369212**
**Cleanup Site ID No. 6910**

**Prepared by AECOM for:**
**Resource Environmental, LLC**

**RELLC Project Reference Number WA03**
**AECOM Project No. 60633921**

**February 15, 2022**


David Raubvogel, LHG
Principal Hydrogeologist

Robert Michna
Project Manager

AECOM
1111 3rd Avenue, Suite 1600
Seattle, WA 98101

February 15, 2022

Mr. Kyle Parker
Washington State Department of Ecology
Toxics Cleanup Program
Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

Subject: **Remedial Investigation Report**
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**100 W., 101 W., and 101 E. Wine Country Road**
**Grandview, WA**
**Facility Site No. 94369212; Cleanup Site ID No. 6910**
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Dear Mr. Parker:

On behalf of Resource Environmental, LLC (RELLC), AECOM has prepared this Remedial Investigation Report for the above referenced site. This investigation was performed in general conformance with the Remedial Investigation Work Plan (AECOM, 2021).

Should you have any questions, please contact David Raubvogel (David.Raubvogel@AECOM.com) or Robert Michna (Robert.Michna@AECOM.com).

Sincerely,

**AECOM**

David Raubvogel, LHG
Principal Hydrogeologist

Robert Michna
Project Manager

cc: Mr. Greg Vogelpohl, RELLC, 925 Salida Del Sol Drive, Paso Robles, CA 93446

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# 1.0 INTRODUCTION

Resource Environmental, LLC (RELLC) is a limited liability company owned by Chevron, Phillips 66, ExxonMobil, and Marathon for the express purpose of managing the remediation of multi-member releases where petroleum fuels are present. RELLC allocates financial responsibility internally among the responsible member companies and funds remediation costs according to such allocation, thereby ensuring that appropriate remediation can go forward without delay. Once a site is placed into RELLC, management of that site is contractually surrendered to RELLC with decision-making authority regarding the site as RELLC's contractual responsibility. Accordingly, RELLC is able to efficiently and effectively address regulatory and legal requirements without the potential gridlock and delay that sometimes accompanies multi-party sites.

In April 2020, RELLC was requested to manage a site consisting of multiple properties (100 W., 101 W., and 101 E. Wine Country Road) located at the intersection of Wine Country Road and Division Street in Grandview, Yakima County, Washington, where petroleum hydrocarbons have been detected in the soil and groundwater. The State of Washington Department of Ecology (Ecology) issued letters on November 26, 2019 and March 13, 2020 indicating that Chevron, ExxonMobil, Christensen, Inc. (owner of the 100 W. Wine Country Road property), A.J. Still and Elizabeth Still (owners of the 101 W. Wine Country Road property), and Gorgeous Property LLC (owner of the 101 E. Wine Country Road property) were potentially liable persons (PLPs) for contamination associated with the Debock's Main Street Texaco (aka Debock's Auto Repair) Site (***Appendix A***). Ecology indicated that the releases at 100 W., 101 W., and 101 E. Wine Country Road appear to be commingled, hence Ecology considers them to be one "site" under the Model Toxics Control Act (MTCA). AECOM has been retained by RELLC to provide environmental assessment services for the area where petroleum hydrocarbons have been detected in groundwater and soil, collectively referred to as the "Site". A Site location map is shown on ***Figure 1,*** a Site vicinity map is shown on ***Figure 2***, a Site plan with historical features is shown on ***Figure 3***, and a Site plan with current features is shown on ***Figure 4***.

On behalf of RELLC, AECOM has prepared this Remedial Investigation Report for the Site. The purpose of the investigation was to identify potential sources of petroleum hydrocarbons in soil and groundwater at the 101 W. and 101 E. Wine Country Road properties and based on the findings select investigation locations to further assess the nature and extent of petroleum contamination associated with the Site.

# 2.0 BACKGROUND

## 2.1 Site Description

Descriptions of the three properties that are included in the Site are provided below. The site plan with current site features is depicted on ***Figure 4***.

### 101 W. Wine Country Road

101 W. Wine Country Road is located on the northwest corner of Wine Country Road and Division Street. The property consists of one parcel (Parcel #230923-1255) totaling 0.24 acres developed with two buildings: a 1,474-square-foot wood frame building constructed in 1950, and a utility building constructed in 1979, located in the northern portion of the property. A tortilla bakery (Tortilleria La Milpa) currently operates on the property. A concrete paved parking area is located west of the building. The northern half of the site is partially gravel covered and paved. The property is bounded by Division Street to the east, by a gravel access road and vacant land to the north, by the Grandview Museum/commercial property to the west and by Wine Country Road to the south (***Figure 4***). A stormwater infiltration trench is located beneath the roadway directly adjacent to the southern property boundary.

A geophysical survey conducted in April 2021 identified subsurface anomalies in the northern portion of the property that could potentially be an underground storage tank (UST) or a former tank cavity (see further discussion in Section 3.1). A concrete pad located in this area was noted to have four pipes extending through the pad that may have been associated with UST vents or fueling. The property owner reported that three USTs were removed from this area when the property was purchased in 1978. No UST closure documentation has been located.

### 101 E. Wine Country Road

101 E. Wine Country Road is located on the northeast corner of Wine Country Road and Division Street. The property consists of an 0.11-acre parcel (Parcel #230923-12401) developed with a 1,372-square-foot wood framed building constructed in 1979. Currently, a real estate office (Wine Country Real Estate) occupies the building. The property is bounded to the south by Wine Country Road, to the east by a hardware store, to the west by Division Street, and to the north by the property's asphalt-paved parking lot and a small storage building built in 1920 (105 N. Division St; Parcel #230913-12534). A geophysical survey conducted in April 2021 did not identify potential indicators of an existing or former UST or fuel lines at the property (see further discussion in Section 3.1).

### 100 W. Wine Country Road – Former DeBock's Main Street Texaco

The Former DeBock's Main Street Texaco (DeBock's Texaco) is located at 100 W. Wine Country Road on the southwest corner of the intersection of Wine Country Road and Division Street. The property is bounded on the north by Wine Country Road, on the east by Division Street, on the west by Javi's restaurant, and to the south by El Campestre restaurant and an alley. The 0.19-acre parcel (Parcel # 230923-12463) is developed with a 1,922-square-foot building that was built in 1950 and has been used recently for automotive repair operations. Approximately half of the property is paved with concrete. The parking area to the south of the property building has an

unpaved gravel surface. Areas east of the building on the property and surrounding the adjacent Javi's restaurant are unpaved. A comprehensive summary of prior investigations completed at the 100 W. Wine Country Road property is presented in a Remedial Investigation Report (RI Report, EES, 2020).

## 2.2 Investigation History and Regulatory Status

During UST decommissioning in 1995 at DeBock's Texaco (100 W. Wine Country Road), a gasoline release was confirmed. Investigations that were conducted between 1996 and 2003 identified soil impacts originating at the dispenser island and gasoline affected groundwater that extended across the entire property, including upgradient locations both north and east of the property in the City of Grandview's right-of-way (ROW). Soil excavation was conducted in 2003 to remove gasoline impacted soil in the dispenser island area. The extent of excavation is depicted in ***Figure 3***. Further investigation and cleanup activities did not occur until 2017, when Ecology required an updated Site assessment (Ecology, 2017). EES implemented remedial investigation (RI) activities beginning in 2017 in an effort to identify and resolve investigative data gaps and complete site characterization tasks, such that a cleanup action plan could be developed in accordance with MTCA regulations. In October 2017, EES observed free product/light non-aqueous phase liquid (LNAPL) in existing monitoring well MW-2. In November 2017, 100 W. Wine Country Road was included in Ecology's voluntary cleanup program (VCP) as the Debock's Main Street Texaco (Facility Site ID 94369212; VCP ID CE0488; LUST ID 4570; UST ID 956; and CSID 6910). EES conducted a remedial investigation and submitted an RI Report (EES, 2020), which identified that sources of gasoline hydrocarbons appear to be present in areas hydraulically upgradient (i.e., to the north and to the northeast) of the 100 W. Wine Country Road property. Data from the RI Report and other historical Site investigations are presented in ***Tables 1*** through ***3***.

Ecology issued PLP letters on November 26, 2019 and March 13, 2020 (***Appendix A***) that indicated that releases at the 100 W., 101 W., and 101 E. Wine Country Road properties appeared to be commingled and that Ecology considers them to be one "site" under MTCA.

In January 2021, Ecology issued an opinion letter (***Appendix B***) stating that "…the Remedial Investigation (RI) phase of the project for the area south of Wine Country Road, associated with the release at 100 West Wine Country Road, is sufficiently complete to select preliminary cleanup levels and identify an appropriate cleanup action(s). Additional investigations are needed to characterize the nature and extent of soil and groundwater contamination north of Wine Country Road, associated with the releases from 101 East and 101 West Wine Country Road" (Ecology, 2021a).

Groundwater monitoring has been conducted at this property from 2017 through 2021, and the sampling results are summarized in ***Table 3***.

## 2.3 Operational History of the Site

Historical research to assess the former automotive services and fueling operations at 101 E. and 101 W. Wine Country Road included review of: DeBock's Texaco RI Report (EES, 2020),

Sanborn Fire Insurance Maps; land ownership records/tax files; Yakima County Health Department files; City of Grandview Public Records and Fire Marshal records; and historical aerial photographs. The findings are depicted on ***Figure 5*** and are summarized below.

### *2.3.1 Historical Property Uses*

The 101 W. Wine Country Road historical automotive service and gasoline fueling operations were located in the southern portion of the property in the general area of the existing building (Location ID 1a on ***Figure 5***). This facility operated from at least the early 1940s through the 1980s. The northern half of the property included an oil depot and a fuel loading rack (Location ID 1b on ***Figure 5***). The filling system and loading rack were present near the northeastern corner of this property.

The 101 E. Wine Country Road historical service station and fueling operations (Location ID 4a on ***Figure 5***) were situated in the southwestern portion of this property. These operations were noted between the 1920s and the early 1950s. The office building was constructed in 1979 and appears to cover the majority of the footprint of the historical service station building.

The historical research also revealed other operations in the Site vicinity including automotive servicing (Location IDs 2, 3, and 7 on ***Figure 5***), a dry cleaner (Location ID 5 on ***Figure 5***) and a well pump with a gasoline engine (Location ID 6 on ***Figure 5***, possible gasoline UST).

The DeBock's Texaco RI Report (EES, 2020) indicated a service station operated on the 100 W. Wine Country Road property from the 1920s through 1995. Former features of the historical service station are depicted on ***Figure 3***.

In 1995, three gasoline USTs (8,000, 5,000, and 1,000 gallons) were removed along with the fuel distribution piping and dispensing island located north of the service station building. Diesel fuel was not known to have been dispensed, although diesel heating fuel and oil-range lubricants had been used. A historical fueling system used during the 1920s to 1930s, which included a 550-gallon UST located near the northeast corner of this property, was known to exist. It is not known when this tank or the other historical tanks were removed.

A Time Oil/PetroSun gas station/convenience store is located at 100 E. Wine Country Road, directly across Division Street to the east of 100 W. Wine Country Road. Fueling operations have occurred at this property from at least 1965 (ES Engineering, 2017).

## 2.4 Geologic Setting

### *2.4.1 Regional Geology*

The regional geology is interpreted as a series of stacked 'rhythmites' or 'Touchet beds' deposited during a series of repetitive massive floods in the river valleys in south-central Washington during the last 20,000 years due to a choke-point downstream at Wallula Gap. During each event, the initial flood influx deposited sands at the base of each bed, with silt settling out later in the slackwater conditions as the valley slowly drained.

### *2.4.2 Site Geology*

The Site is underlain by anthropogenic fill material that is generally less than 5 feet thick with the exception of the fill areas within the UST excavations, which are up to 14 feet in depth, on the 100 W. Wine Country Road property. The fill is underlain by interbedded brown to gray silty fine to medium sands with sandy silt to approximately 25 feet below ground surface (bgs) (EES, 2020).

## 2.5 Hydrogeologic Setting

### *2.5.1 Regional Hydrogeology*

Groundwater is encountered in the unconsolidated glacial outburst rhythmite deposits/Touchet beds. The regional groundwater flow direction in the Grandview area is southwesterly.

### *2.5.2 Site Hydrogeology*

Groundwater occurs within the sandy silt and sandier zones and was encountered at depths of 15 to 17 feet bgs during drilling (EES, 2020). The unconfined saturated zone has historically been encountered as shallow as approximately 13 feet bgs. During groundwater monitoring conducted during cleanup of the Time Oil gas station at 100 E. Wine Country Road, shallow groundwater was noted at approximately 12 feet bgs. During groundwater monitoring conducted at the 100 W. Wine Country Road site between 2017 and 2021, static groundwater levels were noted at depths between approximately 18 and 23 feet bgs (***Table 1***).

The groundwater table appears to fluctuate seasonally. Higher groundwater elevations are generally observed during the irrigation season, which is from April through October, and seasonal lows are generally observed in early winter and early spring (EES, 2020). During the wet season, the stormwater infiltration trench located on the north side of Wine Country Road may affect the local groundwater level and gradient in the Site area.

Groundwater flow across the Site is inferred to be southwesterly. This is consistent with information from groundwater monitoring conducted at 100 E. Wine Country Road during cleanup actions (ES Engineering, 2017; EES, 2020). Historical monitoring of up to 22 wells on the Time Oil property and wells within Division Street from 2000 through 2007 indicated that the general groundwater flow was southwesterly.

## 2.6 Soil and Groundwater Contaminant Distribution

The RI performed by EES in 2018 and 2019 for the DeBock's Texaco property included an extensive assessment of 100 W. Wine Country road property and preliminary investigations of the southern areas of the 101 W. and 101 E. Wine Country Road properties (***Figure 6***). A summary of the soil and groundwater contaminant distribution and suspected source areas is provided below.

## 2.7 Contaminant Distribution in Soil

Thirty-five (35) soil borings were completed during multiple phases of investigations at the DeBock's Texaco property. Three borings were completed to assess the southern portion of the 101 W. Wine Country Road property and two borings were completed to assess the southern portion of the 101 E.

Wine Country Road property. Soil analytical data is summarized in ***Table 2***, and petroleum hydrocarbon related impacts are shown on ***Figure 6***.

In general, soil impacts were not identified at depths shallower than 10 feet bgs with the exception of samples collected beneath the Debock's Texaco former fueling island, where elevated gasoline range petroleum hydrocarbons (TPH-g) were present at 8 feet bgs (15,900 mg/kg) in boring SP-2 (***Figure 6***). TPH-g impacted soils exceeding the MTCA Method A cleanup level were generally encountered between 12 to 22 feet bgs, which is within the zone of groundwater fluctuation known as the "smear-zone". The residual TPH-g mass appears to be generally co-located with the groundwater plume, and the smear-zone is a continuing source of dissolved phase groundwater concentrations exceeding MTCA Method A cleanup levels. The vertical extent of petroleum impacts within the saturated zone soils has been evaluated and appears to be shallower than 25 feet in depth.

Based on the distribution of TPH-g in the DeBock's Texaco soils and known release locations, the source areas at this property include the former fueling dispenser island and the former UST locations. Leaks in the former fuel piping are also likely to have occurred.

Elevated concentrations of TPH-g were noted in the soil samples collected within the saturated zone soils near the southern boundaries of both the 101 W. and 101 E. Wine Country Road properties (***Figure 6***).

## 2.8 Contaminant Distribution in Groundwater and LNAPL

The DeBock's Texaco monitoring well network consists of 13 monitoring wells (MW-1 through MW-13); 10 wells are located on the service station property and 3 wells (MW-4, MW-5, and MW-7) are located on the adjacent Javi's restaurant property (110 W. Wine Country Road). During the multiple phases of investigations, grab groundwater samples were also collected on the DeBock's Texaco property and the southern portions of the 101 W. and 101 E. Wine Country Road properties. The groundwater analytical data is summarized in ***Table 3***. Gasoline range petroleum hydrocarbon data for 2019 is shown on the iso-concentration contour map shown in ***Figure 7***.

TPH-g concentrations exceeding the MTCA Method A cleanup level have been detected throughout most of the DeBock's Texaco property (***Figure 7***). The plume extends off-site/downgradient to the west and southwest (beneath the Javi's restaurant property). A portion of the plume also extends to the east beneath the El Campestre restaurant building, which adjoins the DeBock's Texaco service station building.

TPH-g was detected in groundwater grab samples collected from borings that were advanced just south of the upgradient properties located north and northeast of the DeBock's Texaco property at 101 W. and 101 E. Wine Country Road. TPH-g was detected in borings B19, B20, and B21 at concentrations ranging from 1,130 to 4,160 µg/L, which exceed the MTCA Method A cleanup level of 800 µg/L.

Volatile organic compound (VOC) concentrations in the groundwater are generally below the

applicable MTCA Method A cleanup levels (***Table 3***). Based on the low concentrations of aromatic VOCs noted in groundwater, it appears that the gasoline has weathered and is undergoing natural biodegradation/attenuation. Very low concentrations of diesel and polycyclic aromatic hydrocarbons (PAHs) have been detected, which is consistent with weathered gasoline and not indicative of diesel product. Naphthalene and fuel additives/oxygenates were not detected above applicable cleanup levels in groundwater samples from the monitoring wells.

LNAPL has been measured in one monitoring well, well MW-2, which is located west of the service station building (***Figure 7***). LNAPL measurements between 2017 and 2021 have ranged from a film to 1.14 feet in thickness (in April 2021, the LNAPL thickness was 0.08 feet). The extent of the LNAPL to the west and east of well MW-2 is not defined. However, LNAPL was not encountered in borings completed north (boring B6) and south (boring B7) of well MW-2, although a slight sheen was noted in the soil samples from these borings within the capillary fringe above the saturated zone. The LNAPL thickness in well MW-2 has decreased since initiation of periodic LNAPL skimming in early 2018 (EES, 2020).

# 3.0 ADDITIONAL INVESTIGATION

The remedial investigation was performed in general accordance with the Remedial Investigation Work Plan dated July 21, 2021 (AECOM, 2021). The investigation scope of work included a geophysical survey to search for any existing or former USTs and to ensure boring locations were clear of buried utilities prior to advancement of the Ultra-Violet Optical Screening Tool (UVOST®) and Membrane Interface Probe-Hydraulic Profiling Tool (MIHPT).

## 3.1 Geophysical Surveys/ Utility Location

On September 22, 2021, AECOM contacted the Washington Utility Notification Center to have the public utilities marked. In addition, Ground Penetrating Radar Systems, Inc. (GPRS) conducted geophysical and conductive surveys on the 101 W. Wine Country Road and 101 E. Wine Country Road properties on September 21, 2021 at locations identified in ***Figure 4*** to search for the presence of historical UST systems. In addition, GPRS performed utility clearance at each proposed soil boring location. No evidence of USTs was identified on the two properties. Due to interference from rebar within the concrete pad on the 101 W. Wine Country Road property (***Figure 4***), the ground penetrating radar (GPR) and conductive survey results were not conclusive at for the area where the concrete pad is located.

To determine the location and the dimensions of the stormwater infiltration trench in the city ROW south of the 101 W. Wine Country Road property, the overlying area was surveyed and findings are presented on ***Figure 4***. The depth of the feature could not be discerned during the survey. Based on the location of the stormwater infiltration trench, recharge of the groundwater underlying this feature is likely periodically affecting the groundwater gradient and influencing contaminant fate and transport in the site area.

## 3.2 MIHPT/UVOST® Boring Advancement

On September 27-30, 2021, hydraulic push borings were advanced at nine (9) locations (UVOST/MIHPT-1, UVOST-2, UVOST-3, and UVOST/MIHPT-4 through UVOST/MIHPT-9) by Cascade Technical Services using UVOST® tooling. MIHPT tooling was also advanced at seven (7) of the locations (UVOST/MIHPT-1, and UVOST/MIHPT-4 through UVOST/MIHPT-9). The boring locations are shown on ***Figure 4***, and the rationale for selection of each location is presented in ***Table 4***.

UVOST® tooling induces and measures laser-induced fluorescence (LIF) from free-phase hydrocarbons. MIHPT tooling measures dissolved-phase hydrocarbon concentrations in soil using a photoionization detector (PID), flame ionization detector (FID), and halogen specific detector (XSD); measures hydraulic conductivity using a pressure sensor and flow meter; and measures conductivity using an electrical conductivity (EC) array.

Direct-push drilling methods were used to advance the MIHPT and UVOST® tooling to depths of approximately 23 to 27 feet bgs. MIHPT tooling and UVOST® tooling were advanced in separate, adjacent boreholes. Prior to advancing MIHPT and UVOST® tooling, concrete and asphalt paved surfaces were cored and the upper 5 feet of soil was cleared at each boring location using an air

knife/vacuum truck and hand auger. The soil cuttings were field screened by an AECOM geologist using a hand-held PID. A High Resolution Site Characterization Report, presenting LIF and MIHPT logs is provided in ***Appendix C***.

Drilling equipment was decontaminated prior to initiating each boring location. Following the completion of each boring, the borehole was backfilled with bentonite and capped with cement, consistent with Ecology borehole abandonment regulations.

## 3.3 Investigation Derived Waste

Soil cuttings generated by the utility clearance measures were placed into a Department of Transportation (DOT)-approved 55-gallon steel drum pending disposal profiling analyses. The drum was appropriately labeled and was removed from the site on October 27, 2021 by ACT Environmental Services and transported to the US Ecology Landfill in Grand View, Idaho, where it was disposed of as nonhazardous waste.

Miscellaneous waste, including gloves, plastic bags, paper towels, and similar materials used as part of the investigation, were disposed of as regular municipal waste.

## 3.4 Deviations from Work Plan

Based on the geophysical survey findings, a proposed boring location within the city ROW south of the former fueling/automotive facility at 101 E. Wine Country Road was not advanced because buried utilities were present at that location. MIHPT tooling was not advanced at borings UVOST-2 and UVOST-3 because elevated percent relative emitter (%RE) response detected by UVOST at these locations indicated the potential presence of LNAPL, which would have fouled the MIHPT tooling. The total depths of the borings varied depending on the subsurface conditions.

## 4.0 MIHPT and UVOST® FINDINGS

The UVOST® and MIHPT investigation results are discussed in the following sections. LIF responses, generated and measured by UVOST®, were generally at background levels[1] at most depths. LIF and PID data and the extrapolated extent of petroleum hydrocarbons are depicted on ***Figure 8***. ***Figure 9*** shows this data for a southwest to northeast cross section and ***Figure 10*** shows the data for a north to south cross section. LIF and PID data are depicted on geologic fence diagrams presented on ***Figures 11*** and ***12***, respectively. The full UVOST® and MIHPT investigation results are included in ***Appendix C***

### 4.1 101 W. Wine Country Road

A total of five (5) borings were advanced on the 100 W. Wine Country Road property, as shown in ***Figure 4***. LIF and PID data are summarized below:

- Borings UVOST/MIHPT-1 and -4 were located in the southwest portion of the property, west of the former service station. LIF responses were not present in these borings. Low PID responses were evident in MIHPT-4 between 21 and 23.5 feet bgs (View #3 on ***Figure 10***).
- Boring UVOST/MIHPT-5 was advanced within the city ROW southeast of the former service station. LIF responses were not present in these borings. Low PID responses were present between 15 and 21 feet bgs (***Figure 9***).
- Borings UVOST-2 and UVOST-3 were advanced in the north central and northeast portions of the property, in the vicinity of the former fueling rack and former USTs. Maximum LIF responses in borings UVOST-2 and UVOST-3 were 18.8%RE and 30.6%RE, respectively. In boring UVOST-2, located directly south of the former fueling rack, LIF responses were present from approximately 13 to 20.5 feet bgs with a maximum of 18.8%RE at approximately 17.5 feet bgs (***Figure 10***). In boring UVOST-3, located within the footprint of the former fueling rack, LIF responses were present from 12 to 18 feet bgs with a maximum of 30.6 %RE at approximately 15 feet bgs. The LIF responses in these two borings indicate that LNAPL is present within the vadose zone in this area and extends into the saturated zone/smear zone, as depicted on ***Figure 12***. These results suggest that potential leaks or spills in the vicinity of the former fueling rack and former USTs were a source of petroleum impacts to soil and groundwater.

### 4.2 101 E. Wine Country Road

Borings UVOST/MIHPT-6 and -7 were advanced to the north and west, respectively, of the former service station (***Figure 3***). No LIF or PID responses were present above background levels in boring UVOST/MIHPT-6, located north of the former service station (***Figure 9***). In boring UVOST/MIHPT-7, advanced west of the former service station, LIF responses were not present,

[1] Background is considered as 2% reference emitter [%RE]) at most depths. For comparison, the LIF response for weathered gasoline is 82%RE (Dakota Technologies, 2021). LIF responses less than 5%RE are generally indicative of residual product, present as a thin smear or blebs within the soil matrix. LIF responses greater than 5%RE may indicate non-aqueous free-phase liquid.

but PID responses were present between 14 and 23 feet bgs, indicating the presence of dissolved-phase petroleum hydrocarbons at this location (***Figures 9*** and ***11***).

### 4.3 North of 100 W. Wine Country Road – Former DeBock's Main Street Texaco

Borings UVOST/MIHPT-8 and -9 were advanced in the city ROW to the north of the 100 W. Wine Country Road property (***Figure 3***). For boring UVOST/MIHPT-8, LIF and PID responses were not present above background levels. For boring UVOST/MIHPT-9, which was located adjacent to known petroleum-impacted groundwater at the DeBock's Texaco, PID responses between 12.5 and 23 feet bgs indicated dissolved-phase petroleum hydrocarbons were present within the smear zone (***Figure 9*** and ***11***).

### 4.4 Soil Hydraulic Conductivity

MIHPT dissipation testing indicated that the groundwater surface in the borings ranged from approximately 14 to 16.5 feet bgs. Hydraulic conductivity (K) measurements via MIHPT generally confirmed the presence of interbedded higher hydraulic conductivity sands (i.e., floodwater sands) and lower hydraulic conductivity silts (i.e., slackwater silt). Dissolved-phase hydrocarbons appear to be concentrated within shallow, high hydraulic conductivity sands, while LNAPL identified at the 101 W. Wine Country Road property primarily resided within the water table/capillary fringe above the shallowest high hydraulic conductivity unit. Hydraulic conductivity data are provided in ***Figures 9*** and ***10***.

# 5.0 CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Conclusions

Based on the findings of the remedial investigation, AECOM has drawn the following conclusions:

- In the UVOST and MIHPT borings advanced on the 101 W. Wine Country Road property, evidence of LNAPL was identified in the vicinity of the former fueling rack area, which is located in the northern portion of the property (***Figure 8***). In borings UVOST/MIHPT-2 and -3, LNAPL was identified within the vadose zone and extending into the saturated zone (***Figure 10***). The presence of LNAPL in this area is likely associated with releases from the former USTs and/or piping or from spills at the loading rack area. LNAPL was not identified in borings UVOST/MIHPT-1 and -4, which were advanced to the south of borings UVOST/MIHPT-2 and -3. The extent of LNAPL to the north, west and east of this area is presently unknown. LNAPL in this area appears to range from approximately 13 to 20 feet bgs (***Figures 10*** and ***12***). Evidence of dissolved phase petroleum hydrocarbons was identified in borings UVOST/MIHPT-4 and -5, located south of the LNAPL occurrence (***Figure 6***). In boring UVOST/MIHPT-1, located southwest of the former fueling rack, evidence of elevated dissolved phase petroleum hydrocarbons was not detected, which may suggest that there is a more southerly groundwater flow direction beneath this property. Evidence of dissolved-phase petroleum hydrocarbons was identified from approximately 14 to 24 feet bgs in boring UVOST/MIHPT-5, located in the city ROW. Evidence of dissolved phase petroleum hydrocarbons in the same depth interval was also detected in boring UVOST/MIHPT-7, which was completed across Division Street east of boring UVOST/MIHPT-5. Therefore, it is not conclusive that the impacts noted in boring UVOST/MIHPT-5 are solely associated with sources of contamination on the 101 W. Wine County Road property.
- The dissolved-phase hydrocarbons identified in boring UVOST/MIHPT-4 and -5 are consistent with the groundwater sampling results from samples collected at prior boring locations B19 and B20, where TPH-g was detected in groundwater at concentrations of 4,160 µg/L and 1,840 µg/L, respectively (***Table 3***). In boring B19, an elevated concentration of TPH-g was also detected in soil (4,740 mg/kg) at 15 feet bgs. The analytical results from these borings indicate that elevated concentrations of contaminants are present in the saturated zone and smear zone near the former service station at 101 W. Wine Country Road.
- In the borings advanced on the 101 E. Wine Country Road property, no evidence of LNAPL was detected. Petroleum hydrocarbons were identified in boring UVOST/MIHPT-7, and the results are consistent with the TPH-g detections in nearby boring B21 (119 mg/kg in soil at 15 feet bgs and 1,130 µg/L in groundwater). Petroleum hydrocarbons were not evident in boring UVOST/MIHPT-6, which was located on the north side of the existing building. Based on these findings, contamination may be present beneath the existing building, which is within the footprint of the historical service station/automotive facility at this property. The plume originating from this source likely extends to the southwest to boring UVOST/MIHPT-5, but as mentioned above, sources of hydrocarbon impacts associated with the 101 W. Wine Country

Road property may also be contributing to the contamination noted in the area of UVOST/MIHPT-5 and boring B19.

- No evidence of LNAPL was noted in boring UVOST/MIHPT-9, located on the north side of the 100 W. Wine Country Road property. The elevated PID responses in this boring generally coincided with the depth of petroleum hydrocarbon detections in borings UVOST/MIHPT-5 and -7, suggesting that the 101 E. Wine Country Road property may be a potential source. However, given the proximity of boring UVOST/MIHPT-9 to the former UST and pump island on the 100 W. Wine Country Road property, the contamination associated with both properties is likely commingled. The absence of petroleum hydrocarbon detections in boring UVOST/MIHPT-8 suggests that the plume associated with 101 E. Wine Country Road property is limited in width.
- Based on the LIF wave forms noted in borings UVOST-2 and -3, the LNAPL appears to be consistent with a gasoline product existing between approximately 13 to 20 feet bgs.
- The EC and hydraulic conductivity data generally confirmed that the site is underlain by interbedded sands and silt to silty sand. Higher hydraulic conductivity values were evident in the sandier material and contaminant migration rates are suspected to be greater in the sand layers (***Figures 9*** and ***10***). LNAPL identified beneath the 101 W. Wine Country Road property appears to be located within lower hydraulic conductivity siltier material (***Figure 10***).
- The geophysical survey conducted on the 101 W. Wine Country Road property did not identify any anomalies indicating that USTs remained on site. However, disturbed soils were noted in the vicinity of the concrete pad, and rebar in the pad affected the resolution of the GPR survey (***Figure 4***). The property owner reported that three USTs were removed when the property was purchased in 1978, but no closure documentation has been located. Therefore, there is a potential that USTs could be present beneath the concrete pad. No subsurface anomalies were evident in the areas surveyed on the 101 E. Wine Country Road property. The stormwater infiltration trench in the city ROW south of the 101 W. Wine Country Road property is likely periodically affecting the groundwater gradient and influencing contaminant fate and transport in the site area.

## 5.2 Recommendations

Additional site characterization will be necessary to further assess the nature and extent of petroleum hydrocarbons identified at the site during the 2021 remedial investigation. Soil borings and monitoring wells are recommended on the 101 W. and 101 E. Wine Country Road properties and in the adjacent ROWs to further assess the extent of LNAPL, to further identify source areas of contamination, to define the vertical and horizontal extent of petroleum hydrocarbons in soil and dissolved phase constituents in groundwater, and to evaluate groundwater flow conditions for the properties that presently have no groundwater monitoring wells. RELLC and AECOM recommend the following:

- **101 W. Wine Country Road Property:** Install five (5) groundwater monitoring wells at the locations shown in ***Figure 13***. Perform groundwater monitoring at these locations to assess the groundwater quality and establish the groundwater gradient and seasonal flow patterns.

The wells will be installed within the potential source area, upgradient and downgradient of the source area. In addition, it is recommended that four (4) soil borings be advanced at the locations shown in ***Figure 13*** to assess the LNAPL composition and lateral and vertical extent of the petroleum impacts. Soil and groundwaters samples will be collected during monitoring well installation and soil boring advancement and will be analyzed for gasoline and diesel range petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes (BTEX), fuel additives, and naphthalene. ***Table 5*** lists the rationale for the proposed borings and groundwater monitoring wells.

- **101 E. Wine Country Road Property:** Install three (3) groundwater monitoring wells at the locations shown in ***Figure 13***; two downgradient from the potential source of petroleum impacts beneath the building and one upgradient. Advance two (2) angle borings to collect samples from beneath the building. Soil and groundwater samples will be collected during monitoring well installation and soil boring advancement and will be analyzed for gasoline and diesel range petroleum hydrocarbons, BTEX, fuel additives, naphthalene, and lead.
- Perform quarterly groundwater monitoring for the newly installed monitoring wells for a period of one year to assess seasonal variability in the groundwater concentrations and the groundwater flow direction. Groundwater samples will be analyzed for gasoline and diesel range petroleum hydrocarbons, BTEX, fuel additives, naphthalene, and lead. During each monitoring event, the depth to groundwater and LNAPL in the new and existing monitoring well network will also be measured to obtain a site-wide assessment of groundwater flow and the presence of LNAPL.
- Upon approval of the recommended scope of work described above, RELLC will prepare and submit a work plan for the additional site investigation work.

## 6.0 REFERENCES

AECOM, 2021. Remedial Investigation Work Plan, DeBock's Main Street Texaco Site, Grandview, WA. July 21.

Dakota Technologies, 2021. Dakota Technologies UVOST Reference Log. Downloaded from: https://www.dakotatechnologies.com/docs/default-source/technical-documents/reference-log---uvost.pdf?sfvrsn=4. June 2021.

ES Engineering, 2017. Additional Site Assessment Report Site No. 0700; 100 E. Wine Country Road Grandview, WA. February 13.

EES Environmental Consulting, Inc., 2020. Remedial Investigation Report, DeBock's Texaco, 100 W. Wine Country Rd, Grandview, WA. November 23.

Ecology, 2017. *Letter from Ecology to Gary B. Christensen,* Notice of Potential Liability under the Model Toxics Control Act for the Release of Hazardous Substances at the following Site: Site Name: DeBocks Main Street Texaco. September 27.

Ecology, 2021a. *Letter from Ecology to Brandon Christensen,* Further Action at the following Site: Site Name: DeBocks Main Street Texaco. January 20.

Ecology, 2021b. Draft Guidance for Evaluating VI in Washington State. Publication No. 09-09-047. November.

**FIGURES**


*Source: USGS 7.5-minute topographic quadrangles: Grandview, Washington, 2020; and Mabton East, Washington, 2020*

N

0 2,000 4,000

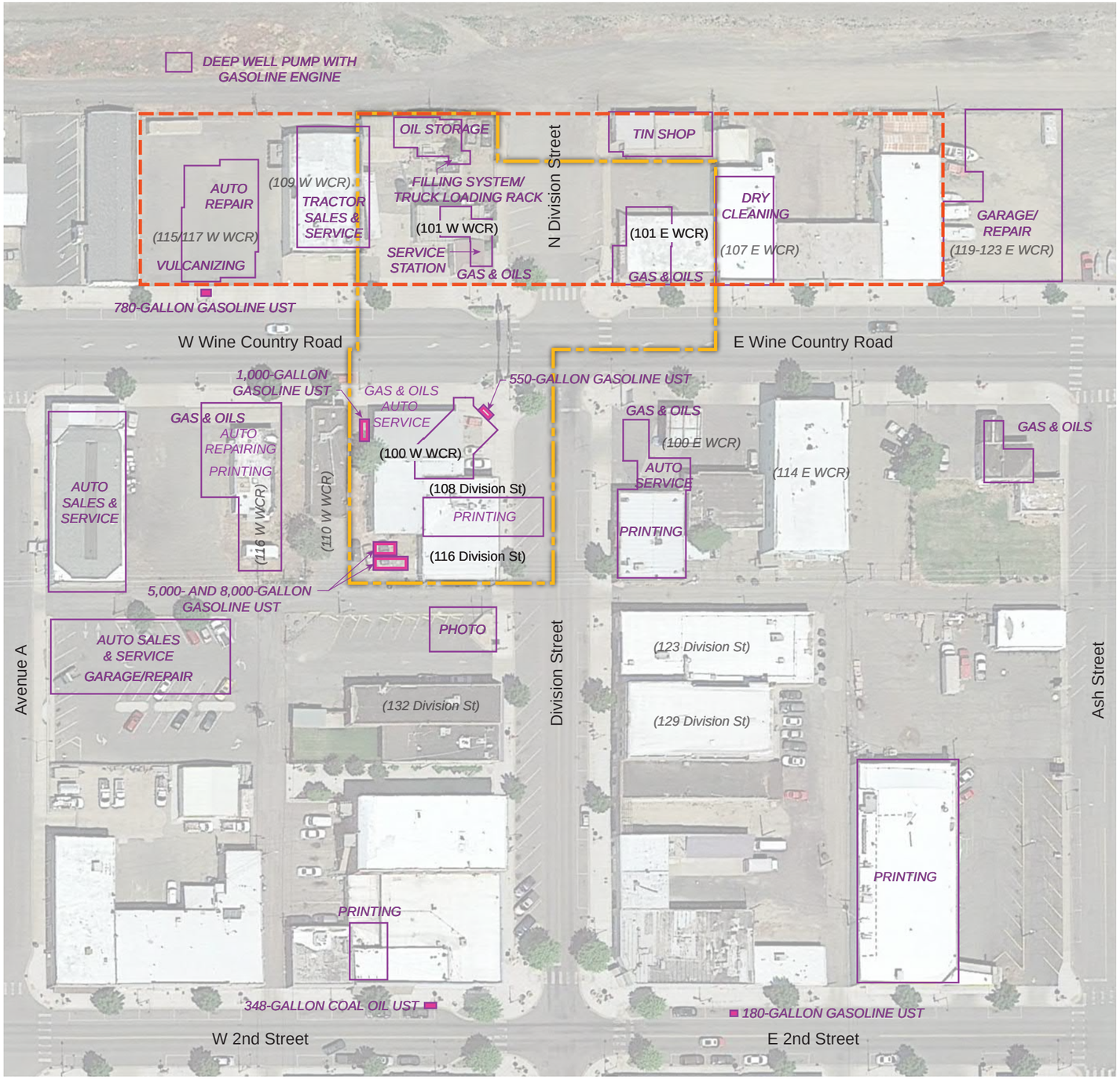
Scale in Feet

Figure 1

## Site Location Map

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




Legend

- Area of Historical Review Boundary
- GAS — Historical Feature (Sanborn 1915-1952)
- Former Underground Storage Tank (UST)
- Site Investigation Area
- WCR — Wine Country Road

N

0 80 160

Approximate Scale in Feet

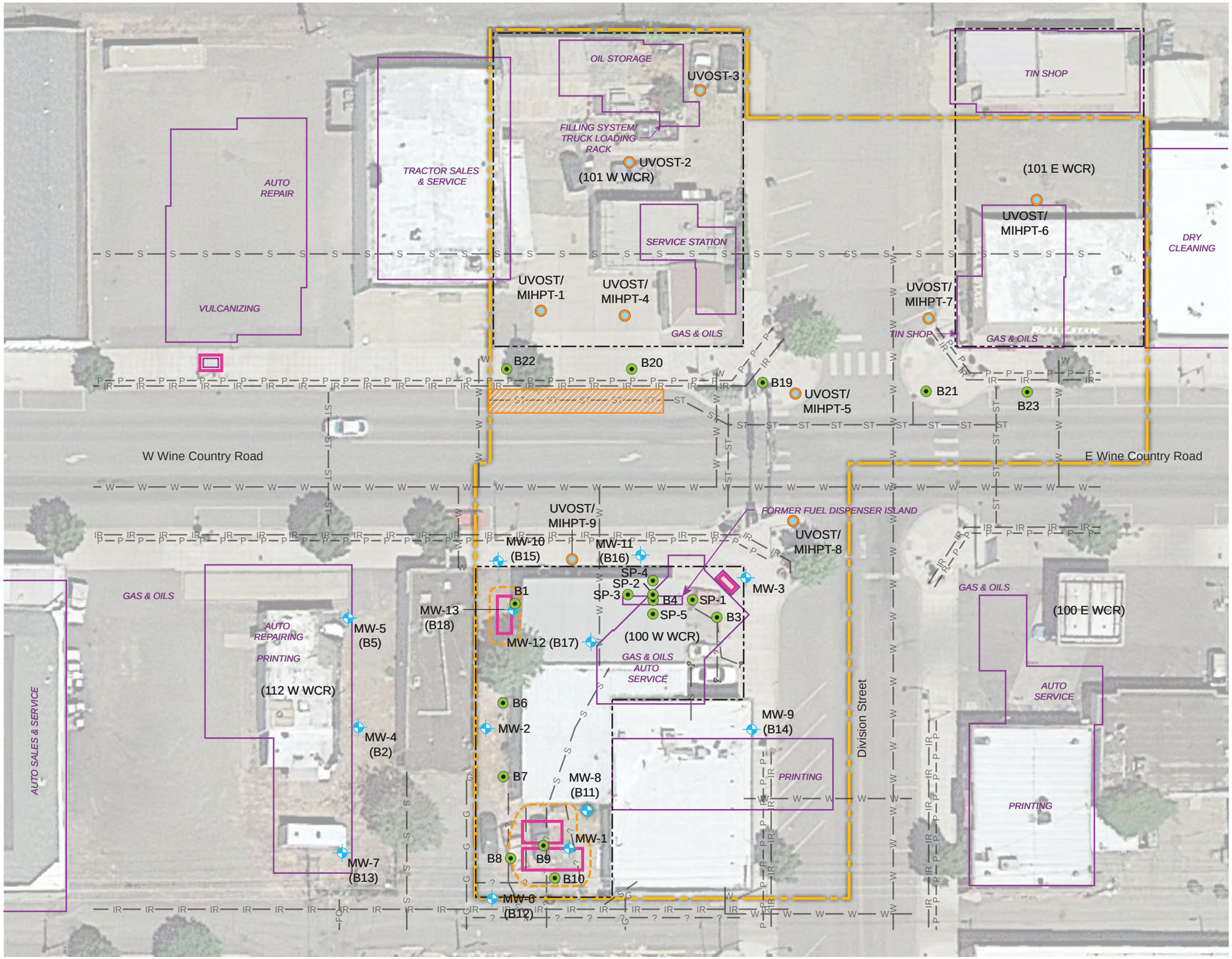
*Source: Google Earth Pro, imagery dated 5/28/17*

Figure 2

**Site Vicinity**

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




## Legend

- Site Investigation Area
- Property Boundary
- GAS — Historical Feature (Sanborn 1920-1952)
- Infiltration Trench
- ST — Storm Sewer
- S — Sanitary Sewer
- W — Water
- G — Gas
- FO — Fiber Optic
- P — Power
- ? — Unknown Utility
- IR — Irrigation
- Former Underground Storage Tank (UST)
- Approximate Limits of Excavation
- Monitoring Well
- Soil Boring
- 2021 UVOST/MIHPT Location

Note:

Monitoring well and soil boring locations obtained from: EES Environmental Consulting, Inc., 2020. Remedial Investigation Report, Former DeBock's Texaco, 100 West Wine Country Road, Grandview, Washington, Washington Department of Ecology Cleanup Site ID 6910, Voluntary Cleanup Program File Number CE0488. November 23.

MIHPT = Membrane Interface Probe-Hyrdaulic Profiling Tool

UVOST© = Ultra-Violet Optical Screening Tool

WCR = Wine Country Road

0 40 80

Approximate Scale in Feet

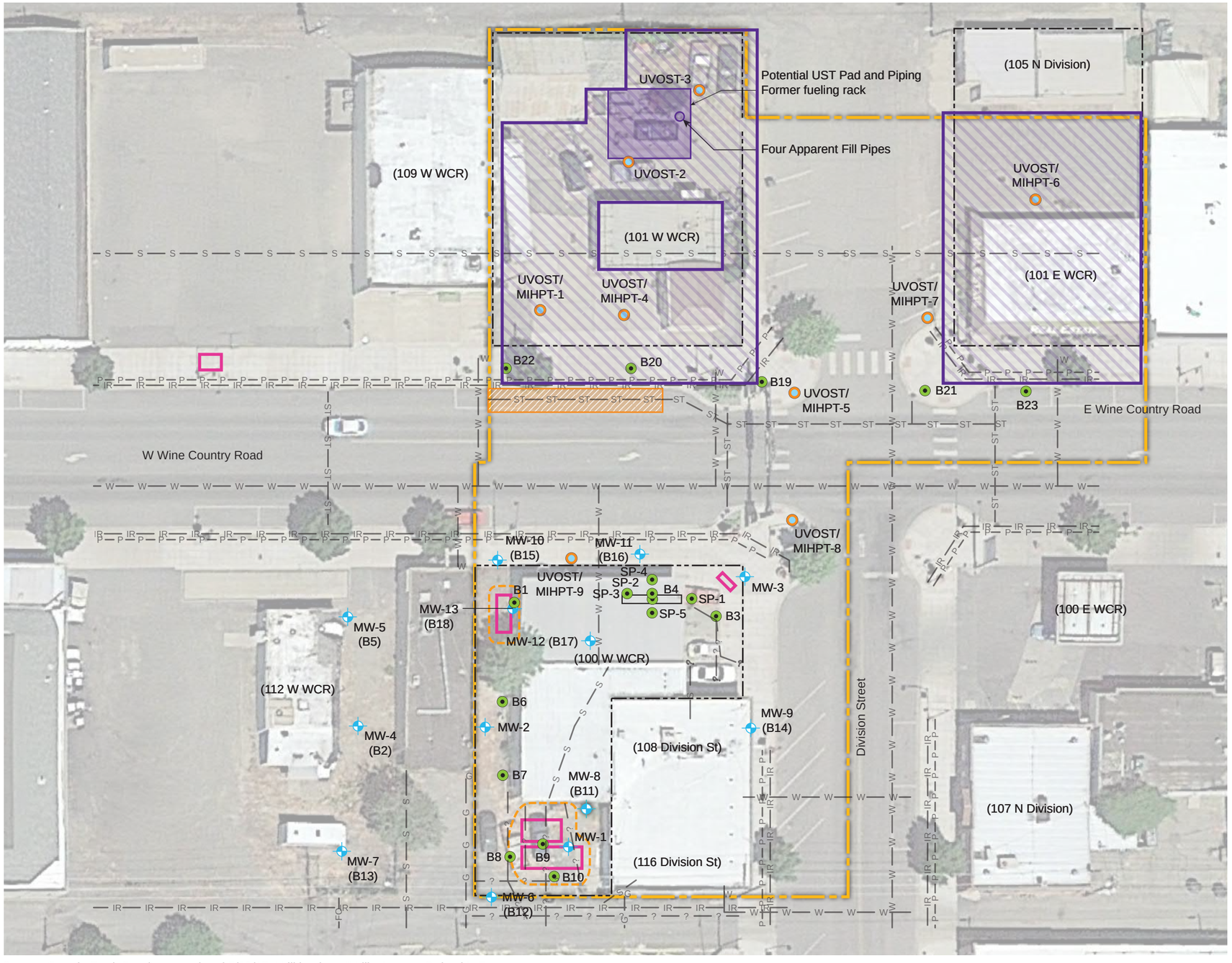
*Source: Google Earth Pro, imagery dated 5/28/17; Utilities from "Utility Layout, Debock's Texaco, 100 West Main Street, Grandview, Washington," EES Environmental Consulting, Inc., 9/19/2019*

Figure 3

## Site Plan with Historical Features

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




*Source: Google Earth Pro, imagery dated 5/28/17; Utilities from "Utility Layout, Debock's Texaco, 100 West Main Street, Grandview, Washington," EES Environmental Consulting, Inc., 9/19/2019*

## Legend

- Site Investigation Area
- Property Boundary
- Infiltration Trench
- ST — Storm Sewer
- S — Sanitary Sewer
- W — Water
- G — Gas
- FO — Fiber Optic
- P — Power
- ? — Unknown Utility
- IR — Irrigation
- Former Underground Storage Tank (UST)
- Approximate Limits of Excavation
- Area Covered in April 2021 Geophysical Survey
- Potential Feature Based on April 2021 Geophysical Survey
- Monitoring Well
- Soil Boring
- 2021 UVOST/MIHPT Location

Note:

Monitoring well and soil boring locations obtained from: EES Environmental Consulting, Inc., 2020. Remedial Investigation Report, Former DeBock's Texaco, 100 West Wine Country Road, Grandview, Washington, Washington Department of Ecology Cleanup Site ID 6910, Voluntary Cleanup Program File Number CE0488. November 23.

MIHPT = Membrane Interface Probe-Hyrdaulic Profiling Tool

UVOST© = Ultra-Violet Optical Screening Tool

WCR = Wine Country Road

0 40 80

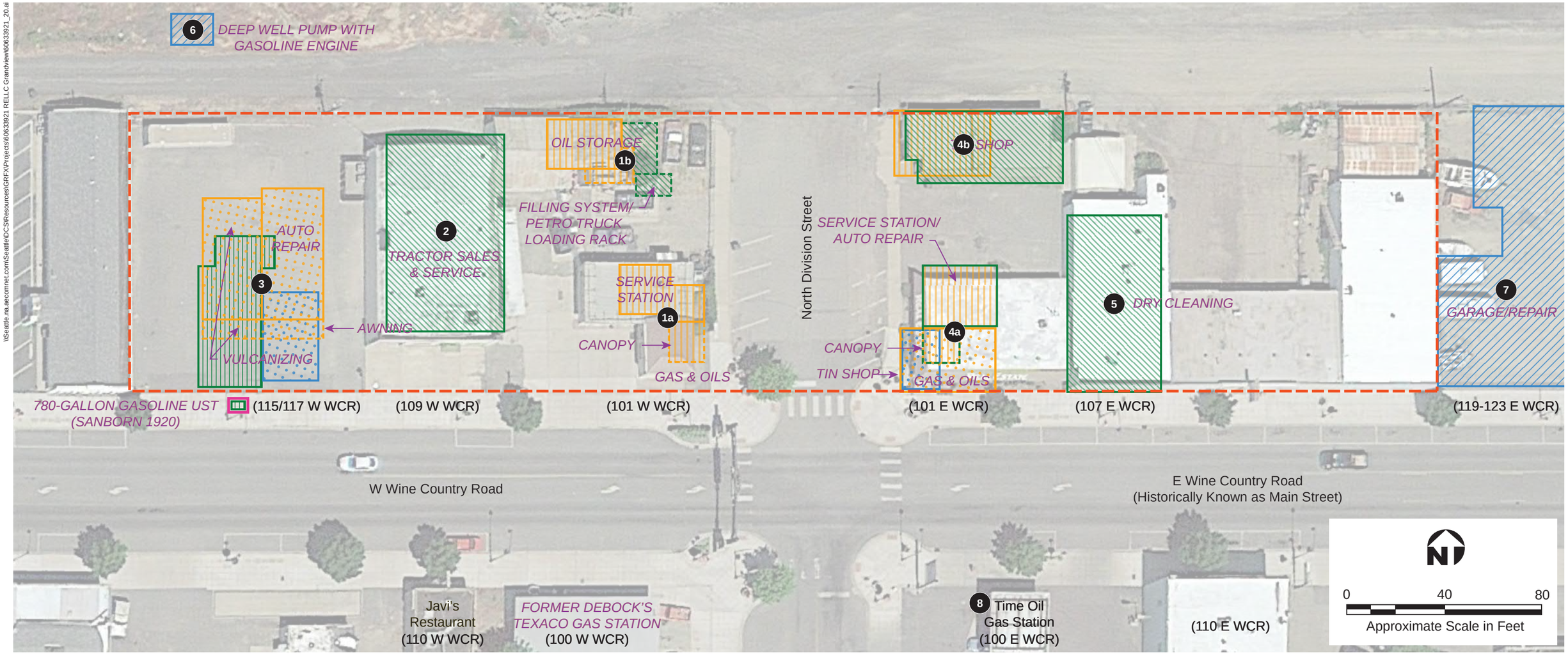
Approximate Scale in Feet

Figure 4

**Site Plan**

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




*Source: Google Earth Pro, imagery dated 5/28/17*

Legend

- Area of Historical Review Boundary
- Historical Feature (Sanborn 1915)
- Historical Feature (Sanborn 1920)
- Historical Feature (Sanborn 1925)
- Historical Feature (Sanborn 1931)
- Historical Feature (Sanborn 1942)
- Historical Feature (Sanborn 1952)
- Underground Storage Tank (UST)
- *GAS* Historical Feature
- WCR Wine Country Road

Historical Features

| Location | Address | Operation | Source and Dates |
|---|---|---|---|
| 1a | 101 W Wine Country Rd | Gas & Oils, Service Station/Auto Repair | Sanborn 1942-1952 |
| 1b | 112 N Division St | Oil Storage | Sanborn 1942-1952 |
| 1b | 112 N Division St | Filling System Petro Truck Loading Rack | Sanborn 1952 Tax Assessor Field Card |
| 2 | 109 W Wine Country Rd | Tractor Sales & Service | Sanborn 1952 |
| 3 | 115/117 W Wine Country Rd | 780-Gal Gasoline UST | Sanborn 1920-1925 |
| 3 | 115/117 W Wine Country Rd | Vulcanizing | Sanborn 1920-1931 |
| 3 | 115/117 W Wine Country Rd | Auto Repair | Sanborn 1931-1952 |
| 4a | 101 E Wine Country Rd | Tin Shop | Sanborn 1925-1931 |
| 4a | 101 E Wine Country Rd | Gas & Oils, Service Station/Auto Repair | Sanborn 1942-1952 |
| 4b | 109 N Division St | Tin Shop | Sanborn 1942-1952 |
| 5 | 107 E Wine Country Rd | Dry Cleaning | Sanborn 1952 |
| 6 | 125½ W Wine Country Rd | Deep Well Pump with Gasoline Engine | Sanborn 1915-1942 |
| 7 | 119-123 E Wine Country Rd | Garage/Repair | Sanborn 1915-1931 |
| 8 | 100 E Wine Country Rd | Fueling | ES Engineering 2017 |

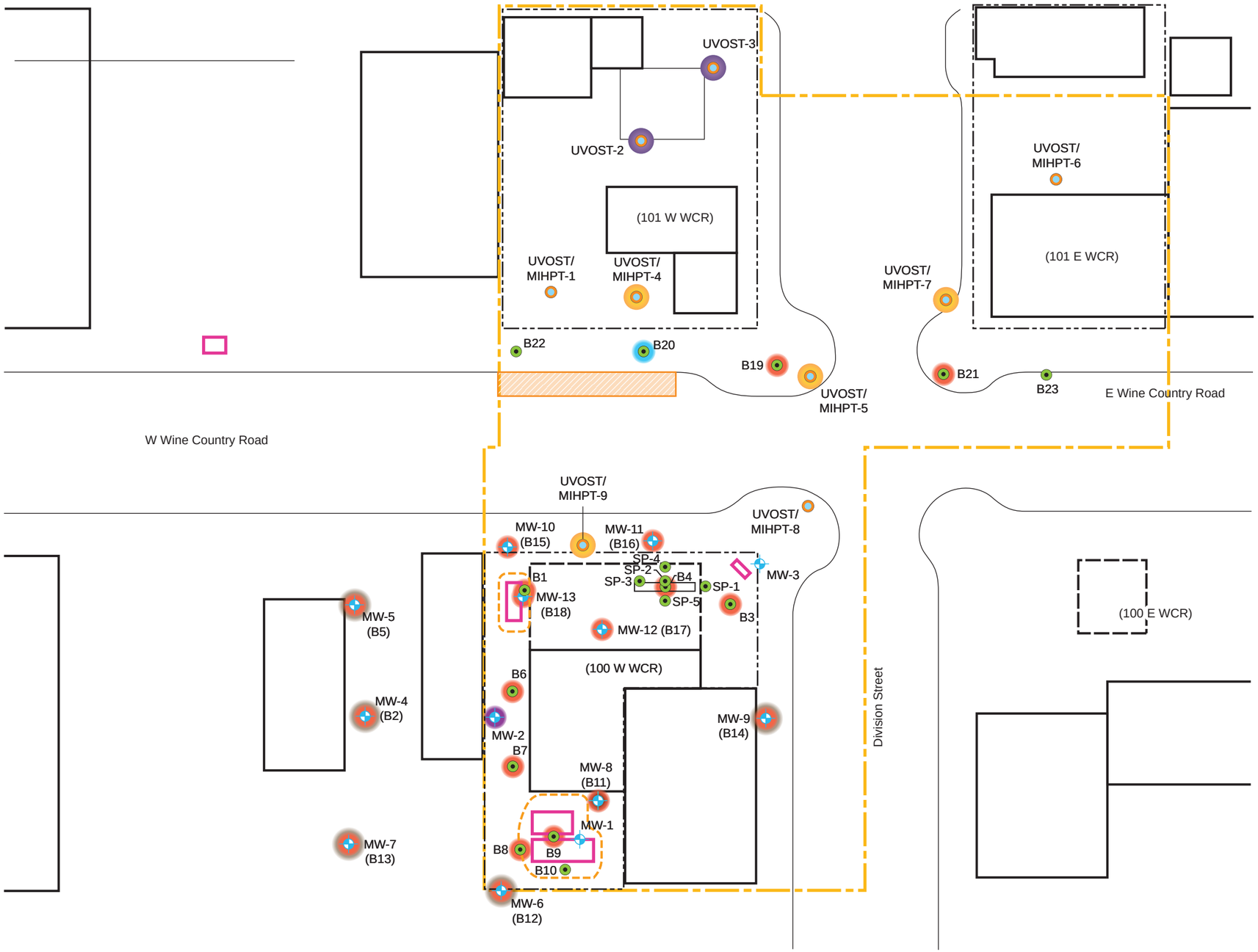
Note: Dates shown are dates of resources reviewed and do not necessarily indicate range of dates that a feature was present.

Figure 5

## 101 W. and 101 E. Wine Country Road Historical Research

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




Legend

- Site Investigation Area
- Property Boundary
- Infiltration Trench
- Former Underground Storage Tank (UST)
- Approximate Limits of Excavation
- Monitoring Well
- Soil Boring
- 2021 UVOST/MIHPT Location
- Concentration Exceeds MTCA CUL (Soil and Groundwater)
- Concentration Exceeds MTCA CUL (Soil Only)
- Concentration Exceeds MTCA CUL (Groundwater Only)
- NAPL present in Well
- Elevated %RE Response (indicating presence of NAPL)
- Elevated PID Response (indicating presence of VOCs)

MIHPT = Membrane Interface Probe-Hyrdaulic Profiling Tool

MTCA CUL = MTCA Method A cleanup level

NAPL = Non-aqueous phase liquid

PID = Photoionization detector

UVOST© = Ultra-Violet Optical Screening Tool

VOC = Volatile organic compound

WCR = Wine Country Road

%RE = Percent of the reference emitter

Notes:

Monitoring well and soil boring locations obtained from: EES Environmental Consulting, Inc., 2020. Remedial Investigation Report, Former DeBock's Texaco, 100 West Wine Country Road, Grandview, Washington, Washington Department of Ecology Cleanup Site ID 6910, Voluntary Cleanup Program File Number CE0488. November 23.

MTCA CUL exceedances reflect most recent data. See Tables 2 and 3 for analytical concentrations.

N

0 40 80

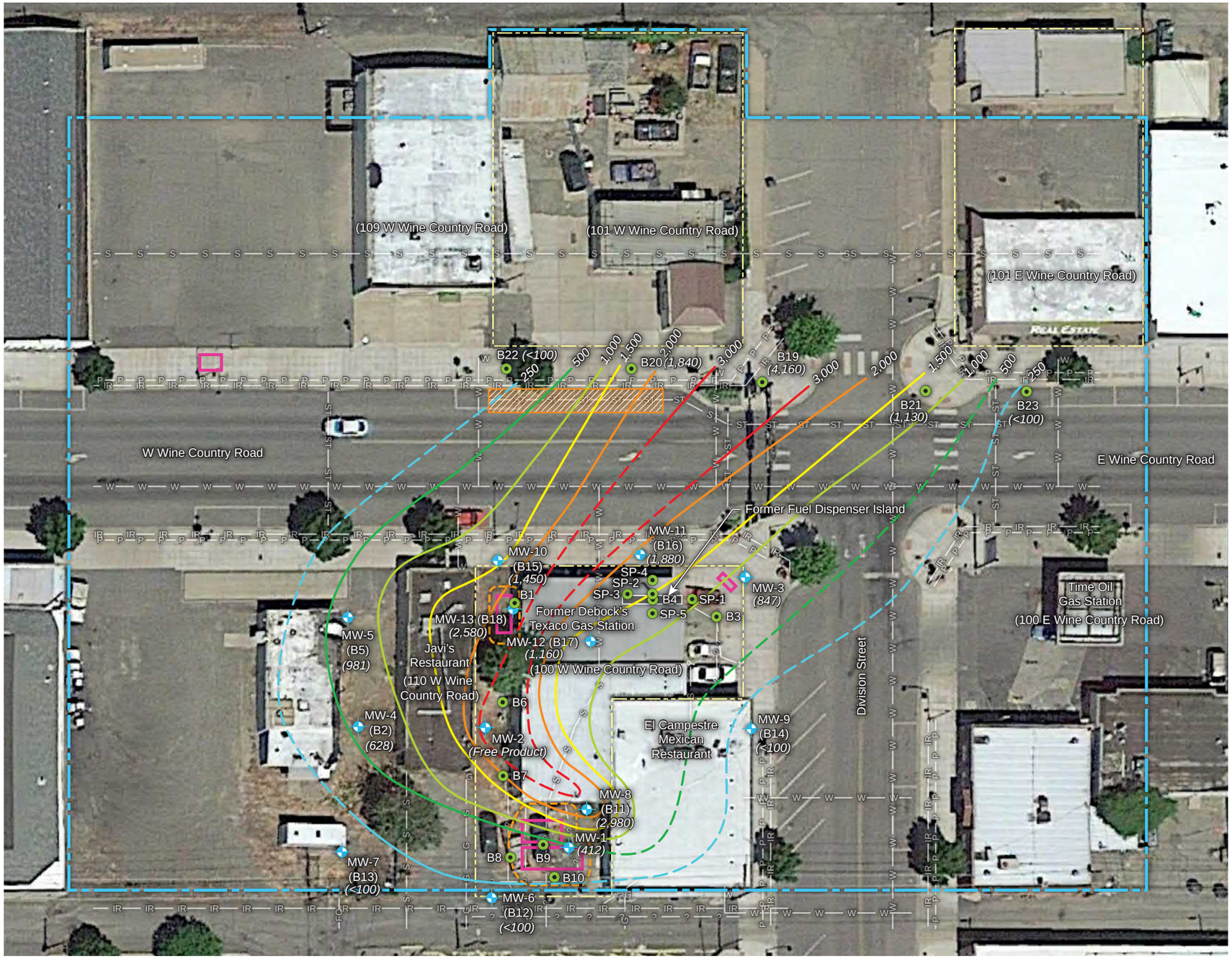
Approximate Scale in Feet

Figure 6

## Distribution of Petroleum-Related Contamination

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington




*Source: Google Earth Pro, imagery dated 5/28/17; Utilities from "Utility Layout, Debock's Texaco, 100 West Main Street, Grandview, Washington," EES Environmental Consulting, Inc., 9/19/2019*

## Legend

- Site investigation area
- Property boundary
- Infiltration trench
- ST — Storm sewer
- S — Sanitary sewer
- W — Water
- G — Gas
- FO — Fiber optic
- P — Power
- ? — Unknown utility
- IR — Irrigation
- Former underground storage tank (UST)
- Approximate limits of excavation
- Monitoring Well
- Soil Boring
- *(412)* — Gasoline-range petroleum hydrocarbon concentration, µg/L
- *500* — Gasoline-range petroleum hydrocarbon concentration contour, dashed where inferred, µg/L

lower concentration — higher concentration

MTCA Method A cleanup level for gasoline-range petroleum hydrocarbon = 800 µg/L

NT

0 40 80

Approximate Scale in Feet

Figure 7

# Groundwater Gasoline-Range Petroleum Hydrocarbon Concentrations (2019)

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington


Notes:

1. UVOST® tooling was advanced at all locations. The displayed UVOST® signal data exceeds 2% RE.
2. MIHPT tooling was advanced at all locations except UVOST-02 and UVOST-03. The displayed PID data exceeds 2,000,000 uV indicating an elevated response.
3. No PID data obtained from UVOST-02 and -03 locations; thus apparent plume connection between UVOST and PID readings were not indicated by the EVS modeling.

*Source: Screenshot of* 3D Model of PID Data and Geologic Fence *(Cascade, October 2021)*

Legend

2021 UVOST/MIHPT Location

MIHPT Data Cross Section Location and Direction of View

**PID Max (uV)**

18,517,096
10,000,000
3,000,000
1,000,000
300,000
100,000
40,437

**LIF Signal (%RE)**

31
10
3.0
1.0
0.30
0.10

LIF = laser-induced fluorescence

MIHPT = Membrane Interface Probe-Hydraulic Profiling Tool

PID = photoionization detector

RE = reference emitter

uV = microvolts

UVOST® = Ultra-Violet Optical Screening Tool

? = queried where uncertain

0 40 80

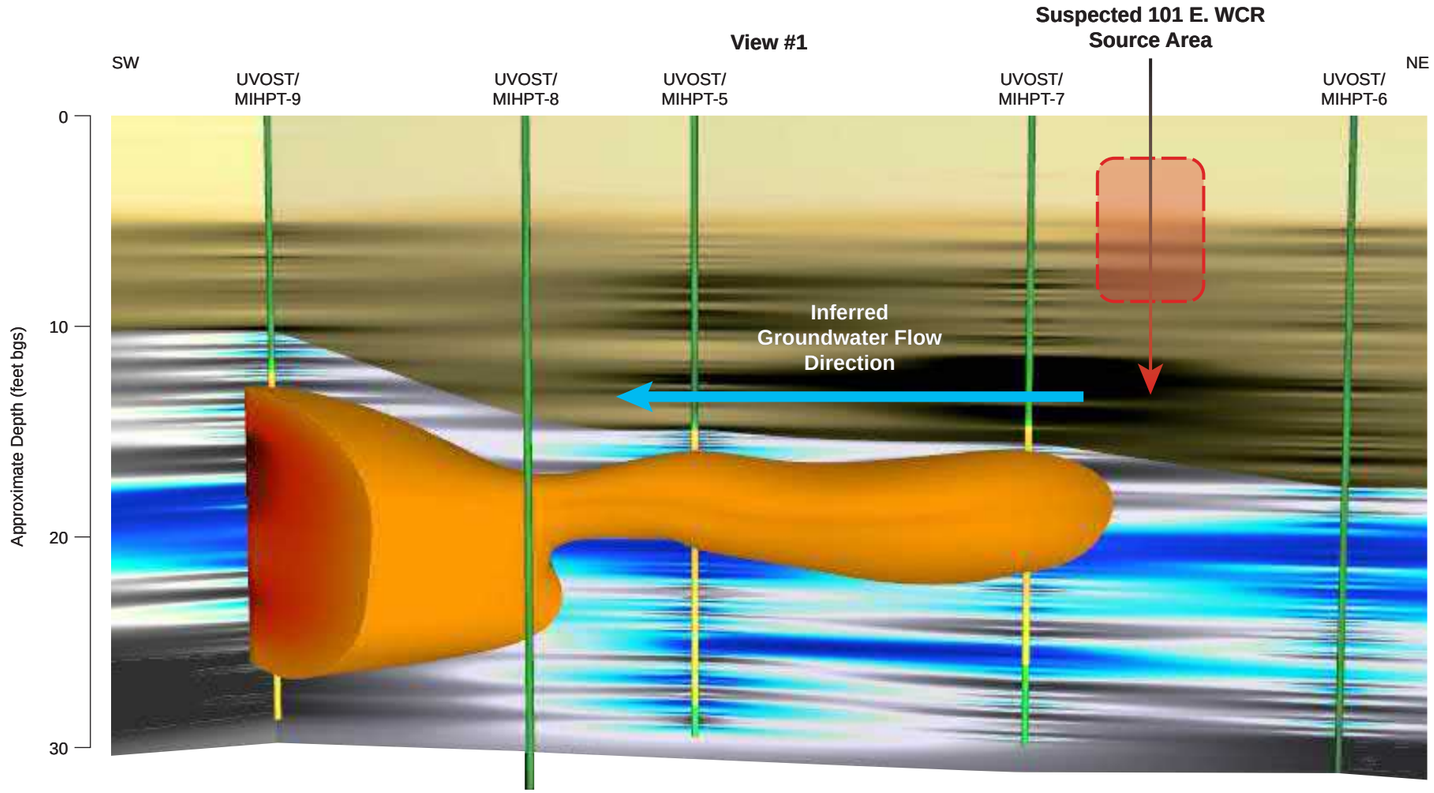
Approximate Scale in Feet

Figure 8

## LIF and PID Responses – Plan View

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington





Legend

| PID Max (uV) | Corr HPT Press (psi) | Est K (ft/day) |
|---|---|---|
| 18,517,096 | 90 | 41 |
| 10,000,000 | 30 | 30 |
| 3,000,000 | 10 | 10 |
| 1,000,000 | 3.0 | 3.0 |
| 300,000 | 1.0 | 1.0 |
| 100,000 | 0.30 | 0.30 |
| 40,437 | 0.10 | 0.10 |
| | 0.030 | |
| | 0.015 | |

bgs = below ground surface

ft/day = feet per day

HPT = hydraulic profiling tool

MIHPT = Membrane Interface Probe-Hydraulic Profiling Tool

PID = photoionization detector

PSI = pounds per square inch

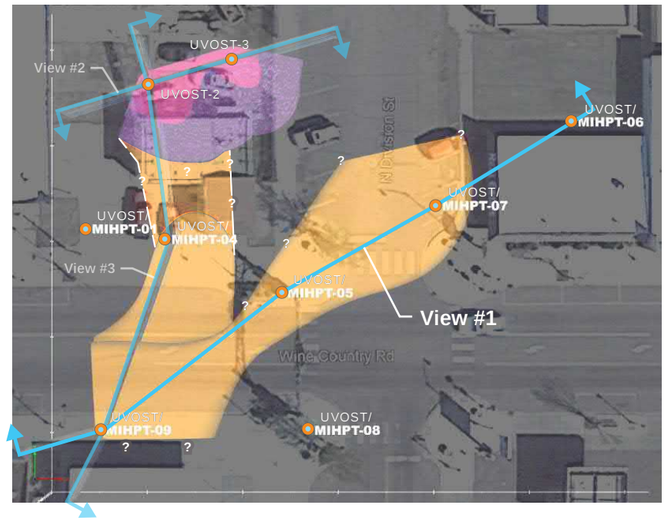
RE = reference emitter

uV = microvolts

UVOST® = Ultra-Violet Optical Screening Tool

WCR = Wine Country Road

? = queried where uncertain



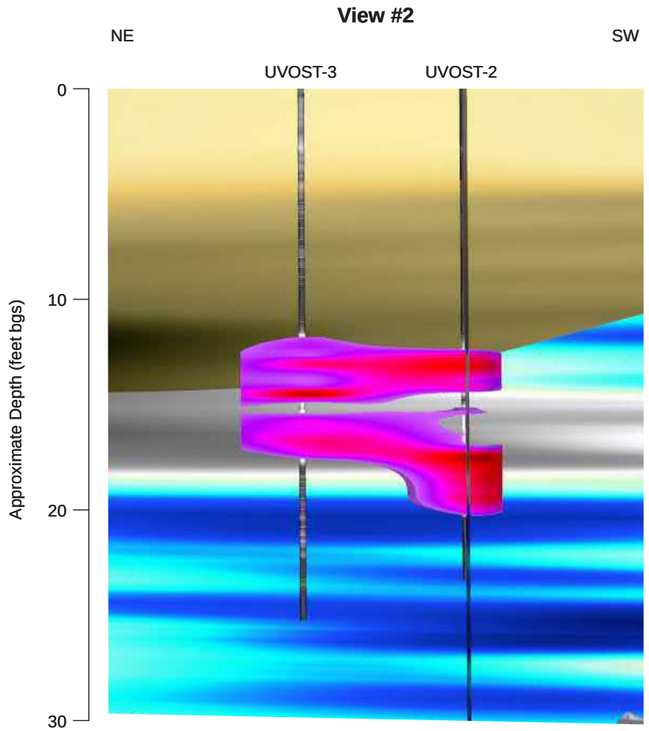

Notes:

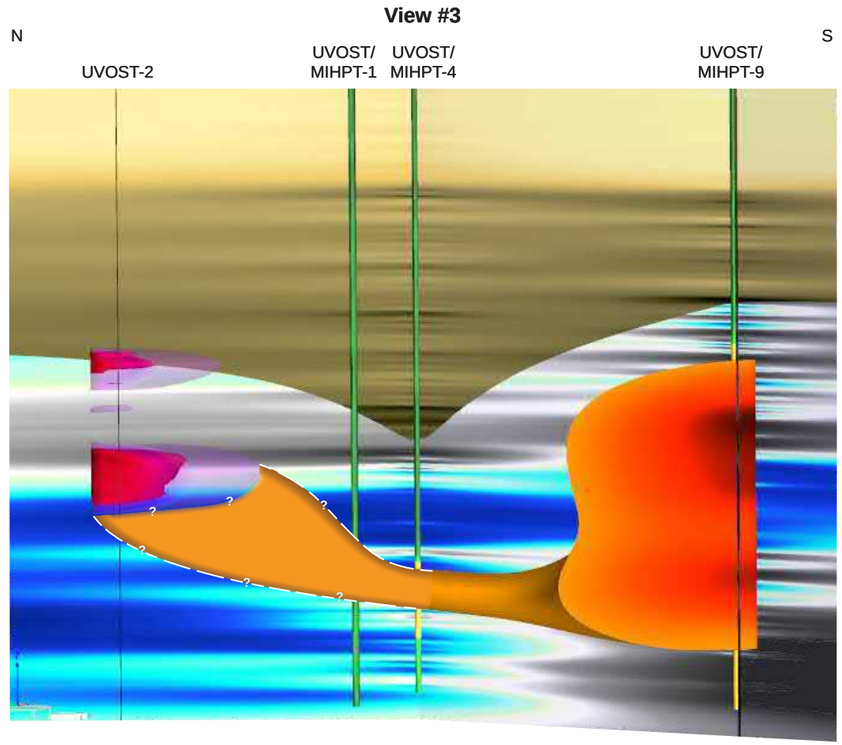
1. The displayed PID data exceeds 2,000,000 uV indicating an elevated response.

*Source: Screenshot of* 3D Model of PID Data and Geologic Fence *(Cascade, October 2021)*

Figure 9

## PID Responses – Cross Section View #1




Legend

| Signal (%RE) | PID Max (uV) | Corr HPT Press (psi) | Est K (ft/day) |
|---|---|---|---|
| 31 | 18,517,096 | 90 | 41 |
| 10 | 10,000,000 | 30 | 30 |
| 3.0 | 3,000,000 | 10 | 10 |
| 1.0 | 1,000,000 | 3.0 | 3.0 |
| 0.30 | 300,000 | 1.0 | 1.0 |
| 0.10 | 100,000 | 0.30 | 0.30 |
| | 40,437 | 0.10<br>0.030<br>0.015 | 0.10 |

bgs = below ground surface

ft/day = feet per day

HPT = hydraulic profiling tool

LIF = laser-induced fluorescence

MIHPT = Membrane Interface Probe-Hydraulic Profiling Tool

PID = photoionization detector

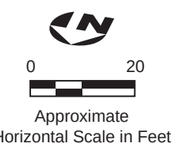
PSI = pounds per square inch

RE = reference emitter

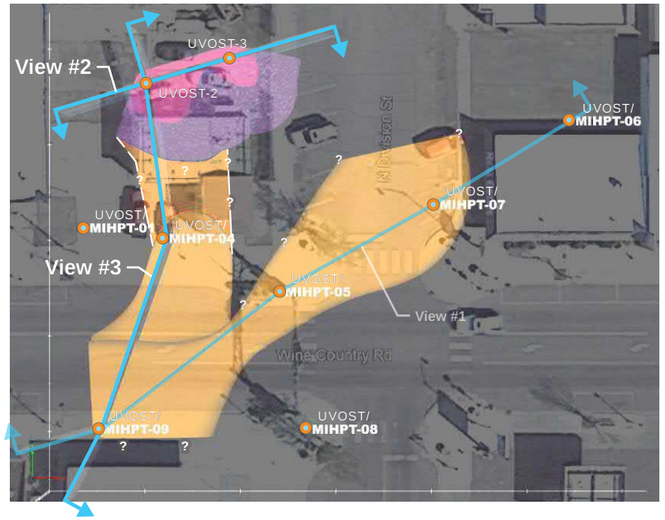
uV = microvolts

UVOST® = Ultra-Violet Optical Screening Tool

? = queried where uncertain








Notes:

1. UVOST® tooling was advanced at all locations. The displayed UVOST® signal data exceeds 2% RE.
2. MIHPT tooling was advanced at all locations except UVOST-02 and UVOST-03. The displayed PID data exceeds 2,000,000 uV indicating an elevated response.
3. No PID data obtained from UVOST-02 and -03 locations; thus apparent plume connection between UVOST and PID readings were not indicated by the EVS modeling.

*Source: Screenshot of* 3D Model of PID Data and Geologic Fence *(Cascade, October 2021)*

Figure 10

**LIF and PID Responses – Cross Section Views #2 and #3**

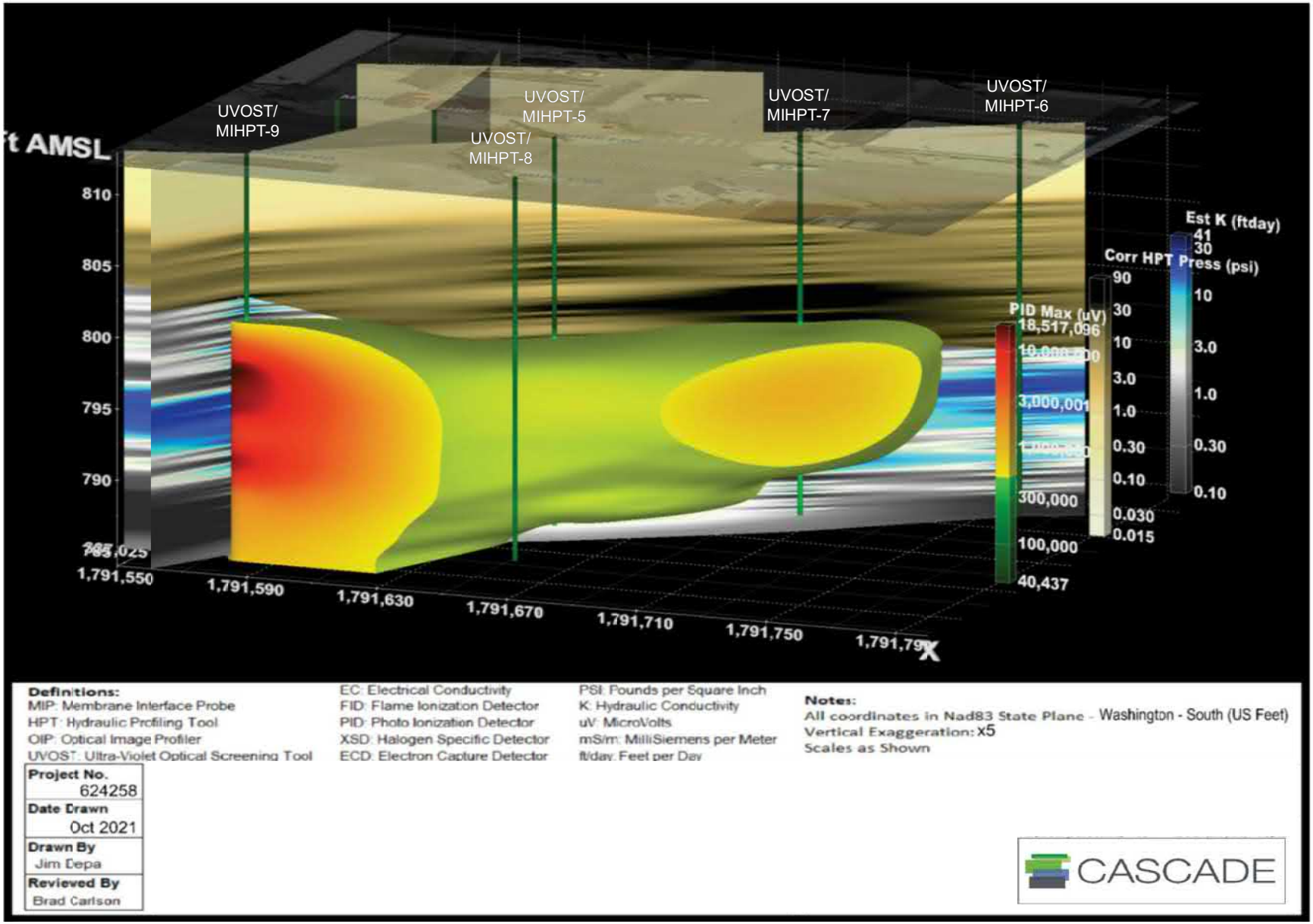



Figure 11

## 3D Model of PID Data and Geologic Fence

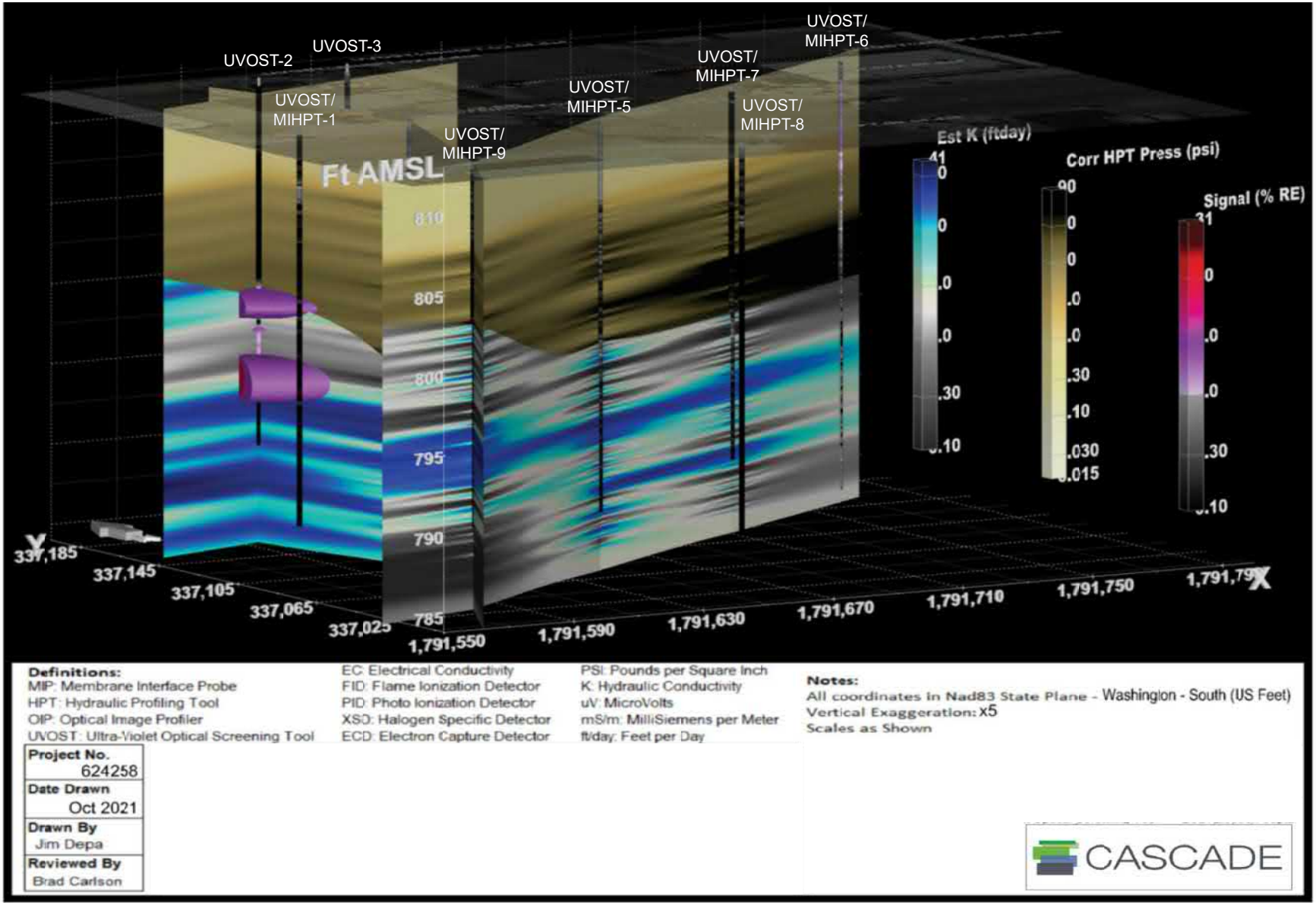
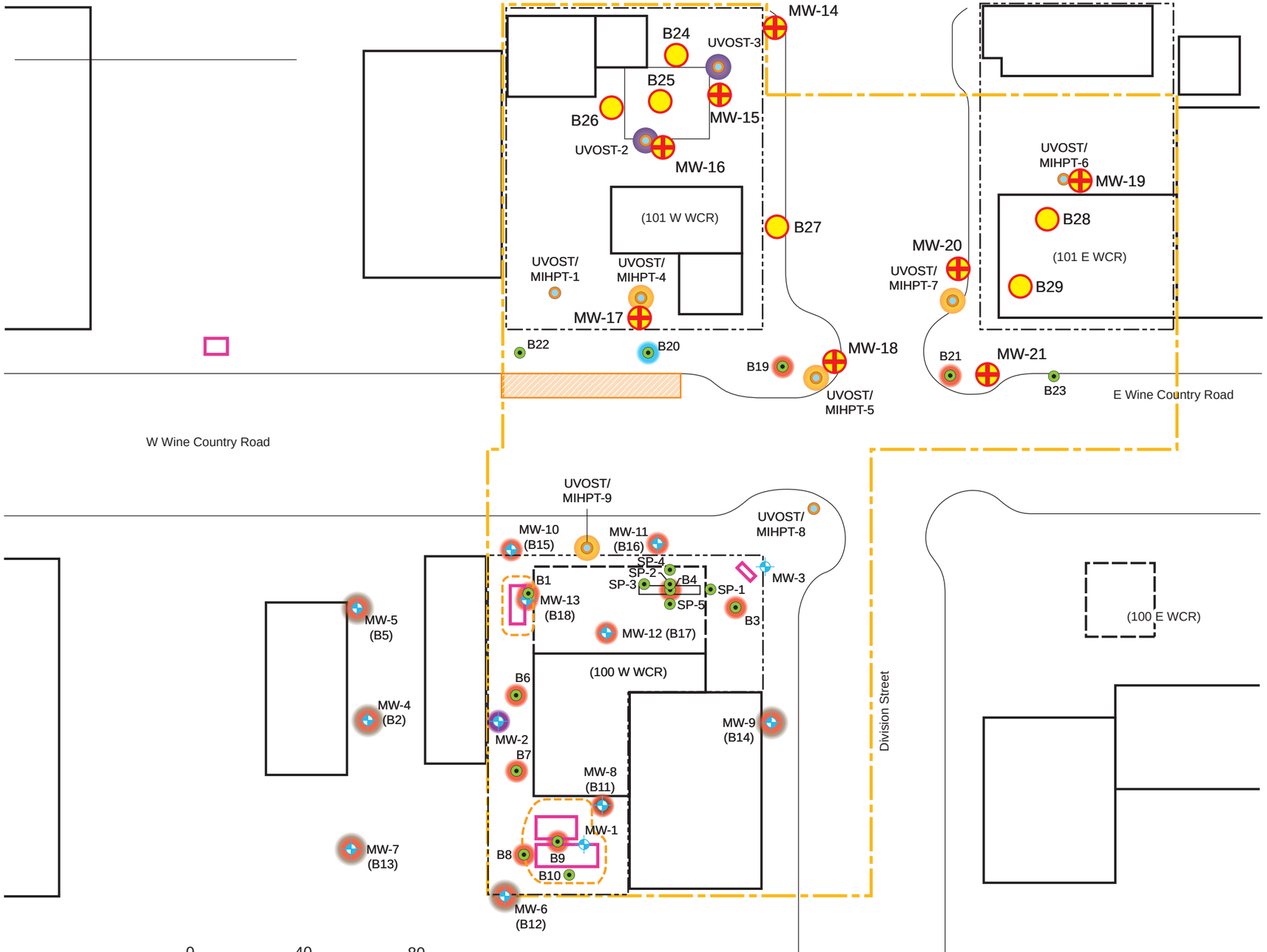



Figure 12

## 3D Model of UVOST Data and Geologic Fence




## Legend

- Site Investigation Area
- Property Boundary
- Infiltration Trench
- Former Underground Storage Tank (UST)
- Approximate Limits of Excavation
- Monitoring Well
- Soil Boring
- 2021 UVOST/MIHPT Location
- Concentration Exceeds MTCA CUL (Soil and Groundwater)
- Concentration Exceeds MTCA CUL (Soil Only)
- Concentration Exceeds MTCA CUL (Groundwater Only)
- NAPL present in Well
- Elevated %RE Response (indicating presence of NAPL)
- Elevated PID Response (indicating presence of VOCs)
- Proposed Boring Location
- Proposed Monitoring Well Location

MIHPT = Membrane Interface Probe-Hyrdaulic Profiling Tool

MTCA CUL = MTCA Method A cleanup level

NAPL = Non-aqueous phase liquid

PID = Photoionization detector

UVOST© = Ultra-Violet Optical Screening Tool

VOC = Volatile organic compound

WCR = Wine Country Road

%RE = Percent of the reference emitter

Notes:

Monitoring well and soil boring locations obtained from: EES Environmental Consulting, Inc., 2020. Remedial Investigation Report, Former DeBock's Texaco, 100 West Wine Country Road, Grandview, Washington, Washington Department of Ecology Cleanup Site ID 6910, Voluntary Cleanup Program File Number CE0488. November 23.

MTCA CUL exceedances reflect most recent data. See Tables 2 and 3 for analytical concentrations.

Figure 13

# Proposed Boring and Well Locations

AECOM

RELLC
100 W, 101 W and 101 E Wine Country Road
Grandview, Washington

# TABLES

**Table 1**
**Well Construction Details, Groundwater Elevation Data, and Product Thickness**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Well ID | TOC Elevation (feet) | Screen Interval (feet bgs) | Well Installation Year | Date Measured | Depth to Water (feet below TOC) | Depth to Product (feet below TOC) | Product Thickness (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 812.37 | NA | 1998 | 4/1/1998 | 17.34 | - | 0 | 795.03 |
| | | | | 9/27/2000 | 14.26 | - | 0 | 798.11 |
| | | | | 10/25/2017 | 18.59 | - | 0 | 793.78 |
| | | | | 11/7/2017 | 18.88 | - | 0 | 793.49 |
| | | | | 2/2/2018 | 20.18 | - | 0 | 792.19 |
| | | | | 3/6/2018 | 20.59 | - | 0 | 791.78 |
| | | | | 3/16/2018 | 20.71 | - | 0 | 791.66 |
| | | | | 4/2/2018 | 20.93 | - | 0 | 791.44 |
| | | | | 4/5/2018 | 20.96 | - | 0 | 791.41 |
| | | | | 4/24/2018 | 21.14 | - | 0 | 791.23 |
| | | | | 7/17/2018 | 20.40 | - | 0 | 791.97 |
| | | | | 10/22/2018 | 19.07 | - | 0 | 793.30 |
| | | | | 1/22/2019 | 20.64 | - | 0 | 791.73 |
| | | | | 8/8/2019 | 19.36 | - | 0 | 793.01 |
| | | | | 10/29/2019 | 18.66 | - | 0 | 793.71 |
| | | | | 1/16/2020 | 20.22 | - | 0 | 792.15 |
| | | | | 2/19/2020 | 20.73 | - | 0 | 791.64 |
| | | | | 4/24/2020 | 21.59 | - | 0 | 790.78 |
| | | | | 7/21/2020 | 20.48 | - | 0 | 791.89 |
| | | | | 4/12/2021 | 21.82 | - | 0 | 790.55 |
| MW-2 | 812.91 | NA | 1998 | 4/1/1998 | 17.93 | - | 0 | 794.98 |
| | | | | 9/27/2000 | 14.66 | - | 0 | 798.25 |
| | | | | 10/25/2017 | 19.91 | 19.05 | 0.86 | 793.65 |
| | | | | 11/7/2017 | 20.13 | 19.22 | 0.91 | 793.46 |
| | | | | 2/1/2018 | 21.81 | 20.67 | 1.14 | 791.96 |
| | | | | 2/2/2018 | 21.31 | 21.18 | 0.13 | 791.70 |
| | | | | 2/3/2018 | 21.14 | 20.89 | 0.25 | 791.96 |
| | | | | 3/6/2018 | 21.61 | 21.22 | 0.39 | 791.58 |
| | | | | 3/16/2018 | 21.73 | 21.32 | 0.41 | 791.48 |
| | | | | 4/2/2018 | 22.03 | 21.53 | 0.50 | 791.24 |
| | | | | 4/5/2018 | 22.03 | 21.56 | 0.47 | 791.22 |
| | | | | 4/24/2018 | 22.32 | 21.73 | 0.59 | 791.01 |
| | | | | 5/4/2018 | 22.42 | 21.83 | 0.59 | 790.91 |
| | | | | 6/5/2018 | 21.80 | 21.67 | 0.13 | 791.20 |
| | | | | 7/17/2018 | 21.00 | - | 0 | 791.91 |
| | | | | 8/17/2018 | 20.53 | 20.40 | 0.13 | 792.47 |
| | | | | 9/10/2018 | 19.86 | 19.78 | 0.08 | 793.11 |
| | | | | 10/22/2018 | 19.73 | 19.63 | 0.10 | 793.25 |
| | | | | 11/13/2018 | 20.13 | 20.06 | 0.07 | 792.83 |
| | | | | 12/11/2018 | 20.65 | 20.57 | 0.08 | 792.32 |
| | | | | 1/22/2019 | 21.32 | 21.26 | 0.06 | 791.63 |
| | | | | 2/19/2019 | 21.62 | 21.56 | 0.06 | 791.33 |
| | | | | 4/23/2019 | 22.08 | 21.60 | 0.48 | 791.18 |
| | | | | 7/23/2019 | 20.21 | 20.20 | 0.01 | 792.71 |
| | | | | 10/29/2019 | 19.38 | - | 0 | 793.53 |
| | | | | 1/16/2020 | 20.97 | - | 0 | 791.94 |
| | | | | 4/24/2020 | 22.59 | 22.40 | 0.19 | 790.46 |
| | | | | 7/21/2020 | 21.23 | - | 0 | 791.68 |
| | | | | 4/12/2021 | 22.63 | 22.55 | 0.08 | 790.34 |

**Table 1**
**Well Construction Details, Groundwater Elevation Data, and Product Thickness**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Well ID | TOC Elevation (feet) | Screen Interval (feet bgs) | Well Installation Year | Date Measured | Depth to Water (feet below TOC) | Depth to Product (feet below TOC) | Product Thickness (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|---|---|---|---|
| MW-3 | 812.74 | NA | 1998 | 4/1/1998 | 16.29 | - | 0 | 796.45 |
| | | | | 9/27/2000 | 13.01 | - | 0 | 799.73 |
| | | | | 10/25/2017 | 17.92 | - | 0 | 794.82 |
| | | | | 11/7/2017 | 18.18 | - | 0 | 794.56 |
| | | | | 2/2/2018 | 19.58 | - | 0 | 793.16 |
| | | | | 3/6/2018 | 19.99 | - | 0 | 792.75 |
| | | | | 3/16/2018 | 21.02 | - | 0 | 791.72 |
| | | | | 4/5/2018 | 20.38 | - | 0 | 792.36 |
| | | | | 4/24/2018 | 20.62 | - | 0 | 792.12 |
| | | | | 7/17/2018 | 19.83 | - | 0 | 792.91 |
| | | | | 10/22/2018 | 18.40 | - | 0 | 794.34 |
| | | | | 1/22/2019 | 20.05 | - | 0 | 792.69 |
| | | | | 8/8/2019 | 18.72 | - | 0 | 794.02 |
| | | | | 10/29/2019 | 17.92 | - | 0 | 794.82 |
| | | | | 1/16/2020 | 19.56 | - | 0 | 793.18 |
| | | | | 2/19/2020 | 20.20 | - | 0 | 792.54 |
| | | | | 4/24/2020 | 19.99 | - | 0 | 792.75 |
| | | | | 7/21/2020 | 19.80 | - | 0 | 792.94 |
| | | | | 4/12/2021 | 21.22 | - | 0 | 791.52 |
| MW-4 | 811.94 | 10-25' | 2018 | 3/16/2018 | 21.04 | - | 0 | 790.9 |
| | | | | 4/2/2018 | 21.27 | - | 0 | 790.67 |
| | | | | 4/5/2018 | 21.30 | - | 0 | 790.64 |
| | | | | 4/24/2018 | 21.48 | - | 0 | 790.46 |
| | | | | 7/17/2018 | 20.66 | - | 0 | 791.28 |
| | | | | 10/22/2018 | 19.27 | - | 0 | 792.67 |
| | | | | 1/22/2019 | 20.90 | - | 0 | 791.04 |
| | | | | 8/8/2019 | 19.59 | - | 0 | 792.35 |
| | | | | 10/29/2019 | 18.90 | - | 0 | 793.04 |
| | | | | 1/16/2020 | 20.27 | - | 0 | 791.67 |
| | | | | 2/19/2020 | 20.96 | - | 0 | 790.98 |
| | | | | 4/24/2020 | 21.89 | - | 0 | 790.05 |
| | | | | 4/12/2021 | Not Accessible in April 2021 | | | |
| MW-5 | 811.64 | 10-25' | 2018 | 4/5/2018 | 20.83 | - | 0 | 790.81 |
| | | | | 4/24/2018 | 20.99 | - | 0 | 790.65 |
| | | | | 7/17/2018 | 19.91 | - | 0 | 791.73 |
| | | | | 10/22/2018 | 18.56 | - | 0 | 793.08 |
| | | | | 1/22/2019 | 20.40 | - | 0 | 791.24 |
| | | | | 8/8/2019 | 18.82 | - | 0 | 792.82 |
| | | | | 10/29/2019 | 18.35 | - | 0 | 793.29 |
| | | | | 1/16/2020 | 19.98 | - | 0 | 791.66 |
| | | | | 2/19/2020 | 20.49 | - | 0 | 791.15 |
| | | | | 4/24/2020 | 21.40 | - | 0 | 790.24 |
| | | | | 4/12/2021 | Not Accessible in April 2021 | | | |

**Table 1**
**Well Construction Details, Groundwater Elevation Data, and Product Thickness**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Well ID | TOC Elevation (feet) | Screen Interval (feet bgs) | Well Installation Year | Date Measured | Depth to Water (feet below TOC) | Depth to Product (feet below TOC) | Product Thickness (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|---|---|---|---|
| MW-6 | 811.99 | 10-25' | 2018 | 4/5/2018 | 20.96 | - | 0 | 791.03 |
| | | | | 4/24/2018 | 21.10 | - | 0 | 790.89 |
| | | | | 7/17/2018 | 20.34 | - | 0 | 791.65 |
| | | | | 10/22/2018 | 19.02 | - | 0 | 792.97 |
| | | | | 1/22/2019 | 20.60 | - | 0 | 791.39 |
| | | | | 8/8/2019 | 19.31 | - | 0 | 792.68 |
| | | | | 10/29/2019 | 18.62 | - | 0 | 793.37 |
| | | | | 1/16/2020 | 20.15 | - | 0 | 791.84 |
| | | | | 2/19/2020 | 20.63 | - | 0 | 791.36 |
| | | | | 4/24/2020 | 21.51 | - | 0 | 790.48 |
| | | | | 7/21/2020 | 20.42 | - | 0 | 791.57 |
| | | | | 4/12/2021 | 21.73 | - | 0 | 790.26 |
| MW-7 | 811.92 | 10-25' | 2018 | 4/5/2018 | 22.82 | - | 0 | 789.10 |
| | | | | 4/24/2018 | 21.75 | - | 0 | 790.17 |
| | | | | 7/17/2018 | 20.99 | - | 0 | 790.93 |
| | | | | 10/22/2018 | 19.65 | - | 0 | 792.27 |
| | | | | 1/22/2019 | 21.20 | - | 0 | 790.72 |
| | | | | 8/8/2019 | 19.93 | - | 0 | 791.99 |
| | | | | 10/29/2019 | 19.24 | - | 0 | 792.68 |
| | | | | 1/16/2020 | 20.78 | - | 0 | 791.14 |
| | | | | 2/19/2020 | 21.27 | - | 0 | 790.65 |
| | | | | 4/24/2020 | 22.14 | - | 0 | 789.78 |
| | | | | 4/12/2021 | Not Accessible in April 2021 | | | |
| MW-8 | 812.28 | 10-25' | 2018 | 4/5/2018 | 20.77 | - | 0 | 791.51 |
| | | | | 4/24/2018 | 20.94 | - | 0 | 791.34 |
| | | | | 7/17/2018 | 20.20 | - | 0 | 792.08 |
| | | | | 10/22/2018 | 18.84 | - | 0 | 793.44 |
| | | | | 1/22/20019 | 20.41 | - | 0 | 791.87 |
| | | | | 8/8/2019 | 19.15 | - | 0 | 793.13 |
| | | | | 10/29/2019 | 18.42 | - | 0 | 793.86 |
| | | | | 1/16/2020 | 20.01 | - | 0 | 792.27 |
| | | | | 2/19/2020 | 20.49 | - | 0 | 791.79 |
| | | | | 4/24/2020 | 21.38 | - | 0 | 790.90 |
| | | | | 7/21/2020 | 20.26 | - | 0 | 792.02 |
| | | | | 4/12/2021 | 21.60 | - | 0 | 790.68 |
| MW-9 | 812.76 | 10-25' | 2018 | 4/5/2018 | 21.02 | - | 0 | 791.74 |
| | | | | 4/24/2018 | 20.69 | - | 0 | 792.07 |
| | | | | 7/17/2018 | 19.92 | - | 0 | 792.84 |
| | | | | 10/22/2018 | 18.56 | - | 0 | 794.20 |
| | | | | 1/22/2019 | 20.15 | - | 0 | 792.61 |
| | | | | 8/8/2019 | 18.81 | - | 0 | 793.95 |
| | | | | 10/29/2019 | 18.15 | - | 0 | 794.61 |
| | | | | 1/16/2020 | 19.73 | - | 0 | 793.03 |
| | | | | 2/19/2020 | 20.24 | - | 0 | 792.52 |
| | | | | 4/24/2020 | 21.13 | - | 0 | 791.63 |
| | | | | 7/21/2020 | 20.00 | - | 0 | 792.76 |
| | | | | 4/12/2021 | 21.35 | - | 0 | 791.41 |

**Table 1**
**Well Construction Details, Groundwater Elevation Data, and Product Thickness**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Well ID | TOC Elevation (feet) | Screen Interval (feet bgs) | Well Installation Year | Date Measured | Depth to Water (feet below TOC) | Depth to Product (feet below TOC) | Product Thickness (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|---|---|---|---|
| MW-10 | 812.05 | 10-25' | 2018 | 4/5/2018 | 20.91 | - | 0 | 791.14 |
| | | | | 4/24/2018 | 20.70 | - | 0 | 791.35 |
| | | | | 7/17/2018 | 19.79 | - | 0 | 792.26 |
| | | | | 10/22/2018 | 18.38 | - | 0 | 793.67 |
| | | | | 1/22/2019 | 20.10 | - | 0 | 791.95 |
| | | | | 8/8/2019 | 18.70 | - | 0 | 793.35 |
| | | | | 10/29/2019 | 18.02 | - | 0 | 794.03 |
| | | | | 1/16/2020 | 19.71 | - | 0 | 792.34 |
| | | | | 2/19/2020 | 20.21 | - | 0 | 791.84 |
| | | | | 4/24/2020 | 21.13 | - | 0 | 790.92 |
| | | | | 7/21/2020 | 19.85 | - | 0 | 792.20 |
| | | | | 4/12/2021 | 21.33 | - | 0 | 790.72 |
| MW-11 | 812.13 | 10-25' | 2018 | 4/24/2018 | 20.29 | - | 0 | 791.84 |
| | | | | 7/17/2018 | 19.47 | - | 0 | 792.66 |
| | | | | 10/22/2018 | 18.05 | - | 0 | 794.08 |
| | | | | 1/22/2019 | 19.68 | - | 0 | 792.45 |
| | | | | 8/8/2019 | 18.40 | - | 0 | 793.73 |
| | | | | 10/29/2019 | 17.63 | - | 0 | 794.50 |
| | | | | 1/16/2020 | 19.29 | - | 0 | 792.84 |
| | | | | 2/19/2020 | 19.81 | - | 0 | 792.32 |
| | | | | 4/24/2020 | 20.72 | - | 0 | 791.41 |
| | | | | 7/21/2020 | 19.49 | - | 0 | 792.64 |
| | | | | 4/12/2021 | 20.94 | - | 0 | 791.19 |
| MW-12 | 812.81 | 10-25' | 2018 | 4/24/2018 | 21.18 | - | 0 | 791.63 |
| | | | | 7/17/2018 | 20.38 | - | 0 | 792.43 |
| | | | | 10/22/2018 | 18.93 | - | 0 | 793.88 |
| | | | | 1/22/2019 | 20.62 | - | 0 | 792.19 |
| | | | | 8/8/2019 | 19.31 | - | 0 | 793.50 |
| | | | | 1/16/2020 | 20.18 | - | 0 | 792.63 |
| | | | | 2/19/2020 | 20.51 | - | 0 | 792.30 |
| | | | | 4/24/2020 | 21.58 | - | 0 | 791.23 |
| | | | | 7/21/2020 | 20.43 | - | 0 | 792.38 |
| | | | | 4/12/2021 | 21.81 | - | 0 | 791.00 |
| MW-13 | 812.72 | 10-25' | 2019 | 8/8/2019 | 19.40 | - | 0 | 793.32 |
| | | | | 2/19/2020 | 20.85 | - | 0 | 791.87 |
| | | | | 4/24/2020 | 22.17 | - | 0 | 790.55 |
| | | | | 7/21/2020 | 20.55 | - | 0 | 792.17 |
| | | | | 4/12/2021 | 22.00 | - | 0 | 790.72 |

**Notes:**
Well information from Remedial Investigation Status Report (EES, 2018) and Remediation Investigation (EES, 2020).
When LNAPL was present, groundwater elevation was corrected using the following equation: [TOC - DTW + (LNAPLT x 0.75)]. Applies to groundwater elevations calculated by AECOM.

- = Product not present
bgs = below ground surface
NA = Data not available
TOC = Top of casing

**Table 2**
**Summary of Soil Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | Sample Depth (feet bgs) | TPH-g | Benzene | Toluene | Ethyl-benzene | Total Xylenes | Naphthalene |
|---|---|---|---|---|---|---|---|---|
| MTCA Method A Soil Cleanup Level | | | 30 / 100 [a] | 0.03 | 7.0 | 6.0 | 9.0 | 5.0 |
| **101 W. Wine Country Road** | | | | | | | | |
| B19 | 8/7/19 | 15.0 | **4,740** | <0.45 | 2.3 | 3.1 | 4.2 | **36** |
| B20 | 8/7/19 | 15.0 | <5.5 | <0.011 | <0.055 | <0.028 | <0.083 | <0.11 |
| B22 | 8/7/19 | 15.0 | <5.6 | <0.011 | <0.056 | <0.028 | <0.083 | <0.11 |
| **101 E. Wine Country Road** | | | | | | | | |
| B21 | 8/7/19 | 14.0 | **119** | <0.016 | 0.081 | <0.04 | <0.12 | 1.4 |
| B23 | 8/8/19 | 15.0 | <6.1 | <0.012 | <0.061 | <0.03 | <0.091 | <0.12 |
| **100 W. Wine Country Road - Debock's Gasoline Station** | | | | | | | | |
| B1 | 3/15/18 | 3 | <6.5 | <0.013 | <0.065 | <0.032 | <0.097 | <0.13 |
| | | 10 | <7.1 | <0.014 | <0.071 | <0.035 | <0.11 | <0.14 |
| | | 15 | **9,970 J** | <0.23 | <1.2 | **36 J** | **85 J** | **40 J** |
| | | 20 | **44** | 0.026 | <0.054 | <0.027 | <0.08 | 0.34 - |
| | | 25 | <6.4 | <0.013 | <0.064 | <0.032 | <0.096 | <0.13 |
| B2 | 3/15/18 | 10 | <6.3 | <0.013 | <0.063 | <0.032 | <0.095 | <0.13 |
| | | 15 | **648** | <0.025 | <0.12 | 0.8 | 1.3 | 1.9 |
| | | 19 | **1,530** | **0.078** | <0.34 | 1.8 | 1.9 | 1.8 |
| | | 25 | <5.1 | <0.01 | <0.051 | <0.026 | <0.077 | <0.1 |
| B3 | 3/16/18 | 3 | <6.3 | <0.013 | <0.063 | <0.032 | <0.095 | <0.013 |
| | | 10 | <6.4 | <0.013 | <0.064 | <0.032 | <0.096 | <0.013 |
| | | 15 | **10,000 J** | <0.47 | <2.3 | **73 J** | **374 J** | **37 J** |
| | | 20 | 13 | <0.011 | <0.054 | <0.027 | <0.082 | <0.11 |
| | | 25 | <6.9 | <0.014 | <0.069 | <0.035 | <0.1 | <0.14 |
| B4 | 3/16/18 | 15 | **5,600 J** | <0.26 | **7.8** | **40 J** | **342 J** | **29 J** |
| | | 17 | **22,300 J** | <0.52 | **98** | **276 J** | **1870 J** | **126 J** |
| | | 20 | **10,500 J** | <0.5 | **15** | **71 J** | **343 J** | **39 J** |
| | | 25 | <5.8 | <0.012 | <0.058 | <0.029 | <0.086 | <0.012 |
| B5 | 3/15/18 | 5 | <6.2 | <0.012 | <0.062 | <0.031 | <0.093 | <0.012 |
| | | 10 | <5.6 | <0.11 | <0.056 | <0.028 | <0.084 | <0.11 |
| | | 15 | 82 J | <0.11 | <0.057 | <0.029 | <0.086 | 0.19 J |
| | | 20 | **2,300** | <0.012 | 0.088 | **8.1** | 19 | **9.1** |
| | | 25 | <6.8 | <0.014 | <0.068 | <0.034 | <0.10 | <0.14 |
| B6 | 4/2/18 | 3 | <6.5 | <0.013 | <0.065 | <0.032 | <0.097 | <0.13 |
| | | 15 | **631** | <0.015 | <0.073 | 1.1 | 6.6 | 2.7 |
| | | 17 | **206** | 0.026 | 0.077 | 1.5 | 6 | 0.86 |
| | | 20 | **1,110** | **0.054** | <0.23 | 5.4 | **12** | 2.7 |
| | | 25 | <6.1 | <0.012 | <0.061 | <0.031 | <0.092 | <0.12 |
| B7 | 4/2/18 | 3 | <6.8 | <0.014 | <0.068 | <0.034 | <0.1 | <0.14 |
| | | 15 | **4,190** | <0.045 | <0.23 | 2.5 | 5.2 | **7.6** |
| | | 20 | 9.5 | <0.011 | <0.056 | <0.028 | <0.084 | <0.11 |

**Table 2**
**Summary of Soil Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | Sample Depth (feet bgs) | TPH-g | Benzene | Toluene | Ethyl-benzene | Total Xylenes | Naphthalene |
|---|---|---|---|---|---|---|---|---|
| MTCA Method A Soil Cleanup Level | | | 30 / 100 [a] | 0.03 | 7.0 | 6.0 | 9.0 | 5.0 |
| B8 | 4/2/18 | 3 | <6.9 | <0.014 | <0.069 | <0.035 | <0.1 | <0.14 |
| | | 15 | **141** | <0.013 | <0.067 | <0.033 | <0.1 | 0.23 |
| | | 20 | **367** | <0.013 | <0.065 | 1.2 | 2.9 | 0.6 |
| | | 25 | <5.8 | <0.012 | <0.058 | <0.029 | <0.087 | <0.12 |
| B9 | 4/2/18 | 16.5 | **6,360** | <0.14 | <0.7 | **15** | **61** | **11** |
| | | 20 | <5.4 | <0.011 | <0.054 | 0.041 | <0.082 | <0.11 |
| B10 | 4/3/18 | 3 | <7.1 | <0.014 | <0.071 | <0.035 | <0.11 | <0.14 |
| | | 15 | <6.4 | <0.013 | <0.064 | <0.032 | <0.096 | <0.13 |
| | | 20 | <6.4 | <0.013 | <0.064 | <0.032 | <0.096 | <0.13 |
| B11 | 4/3/18 | 3 | <6 | <0.012 | <0.06 | <0.03 | <0.091 | <0.12 |
| | | 16 | **53** | <0.014 | <0.07 | 0.11 | 0.61 | 0.34 |
| | | 20 | 15 | <0.012 | <0.061 | 0.36 | 1.5 | 0.13 |
| B12 | 4/3/18 | 3 | <6.2 | <0.012 | <0.062 | <0.031 | <0.093 | <0.12 |
| | | 10 | <6.5 | <0.013 | <0.065 | <0.033 | <0.098 | <0.13 |
| | | 16 | **915** | <0.026 | <0.129 | 0.39 | <0.19 | 1.8 |
| | | 20 | <5.9 | <0.012 | <0.059 | <0.03 | <0.089 | <0.12 |
| B13 | 4/3/18 | 15 | <6.4 | <0.013 | <0.064 | <0.032 | <0.095 | <0.13 |
| | | 20 | **4,530** | <0.24 | <1.2 | 3.8 | 6.1 | 2.5 |
| | | 25 | <6.3 | <0.013 | <0.063 | <0.032 | <0.095 | <0.13 |
| B14 | 4/4/18 | 3 | <6.4 | <0.013 | <0.064 | <0.032 | <0.096 | <0.13 |
| | | 16 | **108** | <0.014 | <0.071 | <0.035 | <0.11 | <0.14 |
| B15 | 4/4/18 | 3 | <7.6 | <0.015 | <0.076 | <0.038 | <0.11 | <0.15 |
| | | 15 | **7,840** | <0.24 | <1.2 | **16** | **39** | **24** |
| | | 20 | **318** | <0.025 | <0.12 | <0.061 | <0.18 | <0.25 |
| B16 | 4/5/18 | 3 | <7 | <0.014 | <0.07 | <0.035 | <0.1 | <0.14 |
| | | 14 | **441** | <0.025 | <0.13 | 1.1 | 3.4 | 1.8 |
| | | 20 | 34 | <0.016 | <0.079 | <0.04 | <0.12 | <0.16 |
| B17 | 4/5/18 | 3 | <7.6 | <0.015 | <0.076 | <0.038 | <0.11 | <0.15 |
| | | 16.5 | **670** | **0.065** | 1.2 | 5.5 | **26** | 2 |
| | | 20 | <7.9 | <0.016 | <0.079 | <0.04 | <0.12 | <0.16 |
| B18 | 8/6/2018 (MW-13) | 10 | <7 | <0.014 | <0.078 | <0.035 | <0.11 | <0.14 |
| | | 15 | **1,600** | <0.013 | 0.072[b] | 4 | 8.8 | **7.3** |
| | | 20 | **1,210** | **0.031** | 0.078[b] | 0.078[b] | 0.22[c] | 3.8 - |
| | | 25 | <6.2 | <0.012 | <0.062 | <0.031 | <0.093 | <0.12 |

**Table 2**
**Summary of Soil Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | Sample Depth (feet bgs) | TPH-g | Benzene | Toluene | Ethyl-benzene | Total Xylenes | Naphthalene |
|---|---|---|---|---|---|---|---|---|
| MTCA Method A Soil Cleanup Level | | | 30 / 100 [a] | 0.03 | 7.0 | 6.0 | 9.0 | 5.0 |
| **Historical Soil Data (pre-2001) 100 W. Wine Country Road - Debock's Gasoline Station** | | | | | | | | |
| SB-3 | 10/20/95 | 10 | <20 | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| | | 15 | **1,800** | <0.1 | <0.1 | 1.7 | 4.1 | NA |
| SB-4 | 10/20/95 | 10 | **255 AG** | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| SB-5 | 10/20/95 | 10 | **117 AG** | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| SB-6 | 10/23/95 | 10 | <20 | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| SB-7 | 10/23/95 | 10 | <20 | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| | | 12 | **426 AG** | <0.1 | <0.1 | <0.3 | <0.1 | NA |
| GP-1 | 2/20/98 | 15 | **1,280** | **1.3** | 1 | **8.7** | **40** | NA |
| GP-2 | 2/20/98 | 15 | <5 | <0.05 | <0.05 | <0.05 | <0.1 | NA |
| GP-3 | 2/20/98 | 15 | **154** | <0.25 | <0.25 | 0.58 | 0.8 | NA |
| GP-4 | 2/20/98 | 15 | **299** | <0.5 | <0.05 | 0.97 | 1.1 | NA |
| GP-5 | 2/20/98 | 15 | **5,910** | <2.5 | <2.5 | **14** | **54** | NA |
| | | 20 | <5 | <0.05 | <0.05 | <0.05 | <0.1 | NA |
| SS-2 | 3/26/98 | 15 | **886** | <0.5 | <0.05 | <10 | <20 | NA |
| SS-3 | 3/26/98 | 15 | **306** | **0.19** | 0.29 | 1 | 3.5 | NA |
| SP-1 | 9/26/00 | 8 | **641** | <0.25 | 0.35 | 0.59 | **12** | NA |
| SP-2 | 9/26/00 | 8 | **15,900** | **2.7** | **7.8** | **20** | **1,090** | NA |
| SP-2 | 9/26/00 | 8 | **32,500** | **10** | **346** | **280** | **1,900** | NA |
| SP-3 | 9/26/00 | 12 | **30** | <0.05 | 0.054 | <0.05 | 1.3 | NA |
| SP-4 | 9/26/00 | 8 | 15 | <0.05 | 0.05 | <0.05 | 0.28 | NA |
| SP-5 | 9/26/00 | 8 | 26 | <0.05 | <0.05 | <0.05 | 0.31 | NA |

**Notes:**
Values in **bold** font indicate that the result reported meets or exceeds the selected MTCA CUL.
Concentrations reported in milligrams per kilogram (mg/kg).
a The MTCA Method A soil cleanup level is 100 mg/kg if benzene is not present and the total of ethylbenzene, toluene, and xylenes is less than 1% of the gasoline mixture. The MTCA Method A cleanup level for all other gasoline mixtures is 30 mg/kg.
b Due to matrix interference this analyte cannot be accurately quantified, may contain a high bias.
c Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- = Low bias detection
< = Compound was analyzed for but not detected above the reporting limit
AG = Analyzed sample time beyond holding time
bgs = below ground surface
CUL = MTCA Method A soil cleanup levels (WAC 173-340-900, Table 745-1)
ID = Identification
J = estimated value
NA = Not analyzed

**Table 3**
**Summary of Groundwater Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | TPH-g | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | Naphthalene | EDB | EDC |
|---|---|---|---|---|---|---|---|---|---|---|
| MTCA Method A Cleanup Level | | 800 / 1,000 [a] | 5 | 1,000 | 700 | 1,000 | 20 | 160 | 0.01 | 5 |
| MW-1 | 2/2/18 | 928 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.033 | <0.5 |
| | 4/24/18 | 725 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.02 | <0.5 |
| | 7/18/18 | 364 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | 250 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/23/19 | 412 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/12/21 | 310 | <0.20 | <0.20 | <0.20 | <0.50 | <0.30 | <1.0 | - | - |
| MW-2 | 7/18/18 | **14,500** | **12** | 34 | 441 | 936 | <10 | **193** | <5.0 | <5.0 |
| MW-3 | 2/2/18 | 121 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 4/24/18 | 821 | <0.2 | <1.0 | 5 | 13 | <1.0 | <2.0 | <0.02 | <0.5 |
| | 7/18/18 | 715 | <0.2 | <1.0 | 12 | 20 | - | <2.0 | - | - |
| | 10/23/18 | 564 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | 847 | <0.2 | <1.0 | 4.7 | 13 | - | <2.0 | - | - |
| | 4/12/21 | <250 | <0.20 | <0.20 | 0.35 | <0.50 | <0.30 | <1.0 | - | - |
| MW-4 | 4/25/18 | 521 | 0.53 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 7/19/18 | 121 | 0.21 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | 653 | 1.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | 628 | 0.37 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/12/21 | Not Accessible in April 2021 | | | | | | | | |
| MW-5 | 4/25/18 | 390 | 0.24 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 7/19/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | 767 | 0.33 | <1.0 | 1.3 J | 2.2 J | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | 981 | 0.32 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 8/8/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 2/19/20 | 771 | 0.30 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/12/21 | Not Accessible in April 2021 | | | | | | | | |
| MW-6 | 4/25/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 7/18/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/13/21 | <250 | <0.20 | <0.20 | <0.20 | <0.50 | <0.30 | <1.0 | - | - |
| MW-7 | 4/25/18 | <100 | <0.2 | <1.0 | 0.74 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 7/19/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/24/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/12/21 | Not Accessible in April 2021 | | | | | | | | |

**Table 3**
**Summary of Groundwater Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | TPH-g | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | Naphthalene | EDB | EDC |
|---|---|---|---|---|---|---|---|---|---|---|
| MTCA Method A Cleanup Level | | 800 / 1,000 [a] | 5 | 1,000 | 700 | 1,000 | 20 | 160 | 0.01 | 5 |
| MW-8 | 4/25/18 | **5,860** | <0.2 | 3.9 | 75 | 299 | <1.0 | 58 | <0.02 | <0.5 |
| | 7/18/18 | **1,590 [1,410]** | <0.2 [<0.2] | <1.0 [<1.0] | 8.9 [8.9] | 18 [16] | - | 22 [17] | - | - |
| | 10/24/18 | **2,390 [2,170]** | <0.2 [<0.2] | 5.2 [4.9] | 121 J [112 J] | 206 J [190 J] | <1.0 [<1.0] | 35 J [32 J] | <0.5 [<0.5] | <0.5 [<0.5] |
| | 1/23/19 | **2,980 [2,920]** | 0.22 [0.24] | <1.0 [<1.0] | 64 [72] | 10 [11] | - | 59 [62] | - | - |
| | 4/12/21 | 480 [450] | <0.20 [<0.20 UJ] | 0.25 [<0.20 UJ] | 0.47 [<0.20 UJ] | <0.50 [<0.50 UJ] | <0.30 [<0.30 UJ] | <1.0 [<1.0 UJ] | - | - |
| MW-9 | 4/24/18 | <100 | <0.2 | <1.0 | 0.74 | <1.5 | <1.0 | <2.0 | <0.01 | <0.5 |
| | 7/18/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/22/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 4/13/21 | <250 | <0.20 | <0.20 | <0.20 | <0.50 | <0.30 | <1.0 | - | - |
| MW-10 | 4/24/18 | **1,210 [779]** | 2.5 [2.1] | <1.0 [<1.0] | 9.2 [3.8] | 13 [5.1] | <1.0 [<1.0] | <2.0 [<2.0] | <0.02 [<0.02] | <0.5 [<0.5] |
| | 7/18/18 | 466 | 1.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/23/18 | **1,910** | 3.5 | <1.0 | 2.3 J | 3 J | <1.0 | <2.0 | <0.5 | <0.5 |
| | 1/23/19 | **1,450** | 3 | <1.0 | 0.51 | <1.5 | - | <2.0 | - | - |
| | 8/8/19 | **115** | 0.47 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 2/19/20 | **1,930** | 2.9 | <1.0 | 2.1 | <1.5 | - | <2.0 | - | - |
| | 4/13/21 | 550 | 0.82 | <0.20 | <0.20 | <0.50 | <0.30 | <1.0 | - | - |
| MW-11 | 4/24/18 | **2,060** | 0.73 | 1.5 | 1.6 | 16 | <1.0 | <2.0 | <0.02 | <0.5 |
| | 7/18/18 | **834** | 0.31 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 10/24/18 | **2,180** | 0.72 | <1.0 | 4.8 J | 3.2 J | <1.0 | 9.4 J | <0.5 | <0.5 |
| | 1/23/19 | **1,880** | 0.66 | <1.0 | 0.73 | 1.7 | - | <2.0 | - | - |
| | 8/8/19 | 600 | 0.29 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| | 2/19/20 | **1,720** | 0.58 | <1.0 | 0.67 | <1.5 | - | <2.0 | - | - |
| | 4/13/21 | 440 | <0.20 | <0.20 | <0.20 | <0.50 | <0.30 | <1.0 | - | - |
| MW-12 | 4/24/18 | **3,780** | **5.8** | 50 | 92 | 596 | <1.0 | 6 | <0.02 | <0.5 |
| | 7/19/18 | **2,070** | 2.3 | <10 | 15 | 281 | - | <20 | - | - |
| | 10/24/18 | **2,060** | **5.1** | 2.5 | 17 | 59 | <1.0 | 6.9 | <0.5 | <0.5 |
| | 1/23/19 | **1,160** | 1.9 | <1.0 | 0.95 | 4.1 | - | 2.4 | - | - |
| | 8/8/19 | 272 | 0.43 | <1.0 | <0.5 | 1.8 | - | <2.0 | - | - |
| | 2/19/20 | **1,090 [1,270]** | 1.8 | <1.0 | 1.1 [1.2] | 3.6 [4.1] | - | <2.0 | - | - |
| | 4/12/21 | 390 | <0.20 | <0.20 | 0.95 | 6.72 | <0.30 | <1.0 | - | - |
| MW-13 | 8/8/19 | **2,580** | **8.1** | 1.5 | 13 | 25 | - | 30 | - | - |
| | 2/19/20 | **8,560** | **16** | 4.4 | 114 | 86 | - | 104 | - | - |
| | 4/12/21 | **4,600 J** | **6.0 J** | 2.6 J | 49 J | 53.1 J | <0.30 UJ | 15 J | - | - |

**Table 3**
**Summary of Groundwater Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | TPH-g | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | Naphthalene | EDB | EDC |
|---|---|---|---|---|---|---|---|---|---|---|
| MTCA Method A Cleanup Level | | 800 / 1,000 [a] | 5 | 1,000 | 700 | 1,000 | 20 | 160 | 0.01 | 5 |
| **Grab Groundwater Samples - 100 W. Wine Country Road - Debock's Main Street Texaco Station** | | | | | | | | | | |
| B1-W | 3/15/18 | **7,240** | **31** | 6.9 | 98 | 195 | <5.0 | **162** | <2.5 | <2.5 |
| B3-W | 3/16/18 | **1,440** | <0.2 | <1.0 | 9.9 | 35 | <1.0 | <2.0 | <0.5 | <0.5 |
| B4-W | 3/16/18 | **5,250** | 1.3 | 66 | 92 | 588 | <5.0 | 21 | <2.5 | <2.5 |
| B6-W | 4/3/18 | **1,280** | **6.1** | 5.2 | 36 | 125 | <1.0 | 4.3 | <0.5 | <0.5 |
| B7-W | 4/3/18 | **1,270** | <0.2 | 1.4 | 28 | 40 | <1.0 | 6.2 | <0.5 | <0.5 |
| B8-W | 4/3/18 | **1,290** | 0.26 | 13 | 39 | 68 | <1.0 | 5.2 | <0.5 | <0.5 |
| B9-W | 4/3/18 | 725 | <0.2 | 2.3 | 18 | 39 | <1.0 | <2.0 | <0.5 | <0.5 |
| B10-W | 4/4/18 | 449 | <0.2 | 3.9 | <0.5 | <1.5 | <1.0 | <2.0 | <0.5 | <0.5 |
| **Grab Groundwater Samples - 101 W. Wine Country Road** | | | | | | | | | | |
| B19-W | 8/7/19 | **4,160** | <0.2 | <1.0 | 4.9 | 6.7 | - | 15 | - | - |
| B20-W | 8/7/19 | **1,840** | 0.22 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| B22-W | 8/7/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| **Grab Groudwater Samples - 101 E. Wine Country Road** | | | | | | | | | | |
| B21-W | 8/7/19 | **1,130** | <0.2 | <1.0 | <0.5 | <1.5 | - | 3.4 | - | - |
| B23-W | 8/8/19 | <100 | <0.2 | <1.0 | <0.5 | <1.5 | - | <2.0 | - | - |
| **Historical Groundwater Data (pre-2001) 100 W. Wine Country Road - Debock's Main Street Texaco Station** | | | | | | | | | | |
| SB3-16 | 10/20/95 | 67 | 4.2 | <1.2 | 1.6 | 3.4 | -- | -- | -- | -- |
| SB4-16 | 10/20/95 | 53 | 0.16 | 0.83 | 1.3 | 5.8 | -- | -- | -- | -- |
| SB5-16 | 10/20/95 | 56 | <0.05 | 0.34 | 1.4 | 4.9 | -- | -- | -- | -- |
| SB6-16 | 10/23/95 | 185 | 3.5 | 1.9 | 2.4 | 5.7 | -- | -- | -- | -- |
| SB7-16.5 | 10/23/95 | 111 | 0.14 | 2.1 | 1.5 | 6.9 | -- | -- | -- | -- |
| GP-1-15W | 2/20/98 | **8,400** | **1,910** | <13 | 527 | **1,660** | -- | -- | -- | -- |
| GP-2-15W | 2/20/98 | 78 | **5.3** | 2.5 | 1.8 | 6.6 | -- | -- | -- | -- |
| GP-3-15W | 2/20/98 | 594 | **22** | 1.6 | 17 | 22 | -- | -- | -- | -- |
| GP-4-15W | 2/20/98 | **1,220** | **92** | 3.9 | 72 | 14 | -- | -- | -- | -- |
| GP-5-15W | 2/20/98 | **2,930** | **7.9** | 4.9 | 81 | 113 | -- | -- | -- | -- |
| SP-1-1418 | 9/26/00 | **12,600** | **153** | 100 | 430 | **1,030** | -- | -- | -- | -- |
| SP-2-1418 | 9/26/00 | **281,000** | **2,690** | **31,900** | **8,390** | **55,100** | -- | -- | -- | -- |

**Table 3**
**Summary of Groundwater Analytical Results**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample ID | Sample Date | TPH-g | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | Naphthalene | EDB | EDC |
|---|---|---|---|---|---|---|---|---|---|---|
| MTCA Method A Cleanup Level | | 800 / 1,000 [a] | 5 | 1,000 | 700 | 1,000 | 20 | 160 | 0.01 | 5 |
| SP-3-1418 | 9/26/00 | **26,400** | **365** | **2,090** | **718** | **4,040** | -- | -- | -- | -- |
| SP-4-1418 | 9/26/00 | **6,570** | **37** | 64 | 73 | 154 | -- | -- | -- | -- |
| SP-5-1418 | 9/26/00 | **34,200** | **630** | **2,400** | **1,120** | **6,060** | -- | -- | -- | -- |
| MW-1 | 4/1/98 | **1,370** | 2.2 | 2.9 | 24 | 62 | -- | -- | -- | -- |
| | 9/27/00 | 120 | 0.78 | 0.53 | 1.3 | 3.5 | -- | -- | -- | -- |
| MW-2 | 4/1/98 | **5,970** | **94** | 30 | 217 | 396 | -- | -- | -- | -- |
| | 9/27/00 | **11,700** | **1,040** | 74 | 649 | 710 | -- | -- | -- | -- |
| MW-3 | 4/1/98 | **2,590** | **19** | 3.5 | 61 | 205 | -- | -- | -- | -- |
| | 9/27/00 | **2,270 [1,440]** | **15 [7.1]** | 2.0 [1.1] | 74 [26] | 48 [26] | -- | -- | -- | -- |

**Notes:**

Values in **bold** font indicate that the result reported meets or exceeds the MTCA CUL

Concentrations reported in micrograms per liter (µg/L).

a The groundwater screening level is 1,000 ug/L if benzene is not present and 800 ug/L when benzene is detected.

- = not analyzed

[ ] = duplicate sample value

< = Compound was analyzed for but not detected above the reporting limit

CUL = MTCA Method A groundwater CUL (WAC 173-340-900, Table 720-1)

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

J = estimated value

MTBE = methyl tertiary-butyl ether

TPH-g = gasoline-range total petroleum hydrocarbons

UJ = non-detect with approximate quantitation limit

**Table 4**

**UVOST®/MIHPT Locations and Rationale**

**DeBock's Main Street Texaco**

**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Sample Location | Location - Former Feature | Rationale |
|---|---|---|
| UVOST/MIHPT-1 | West of former fueling/service station on 101 W. WCR and boring MIHPT-4. Upgradient of boring B-22. | Assess if any contamination is evident and evaluate potential source area. |
| UVOST-2 | 101 W. WCR. South of former oil storage depot and filling system/gasoline truck loading rack. | Assess the downgradient groundwater quality from former oil storage and filling system/gasoline truck loading rack. |
| UVOST-3 | 101 W. WCR. Within the footprint of the former filling system and truck loading rack area. | Assess if contamination evident within filling system footprint and evaluate potential source area. |
| UVOST/MIHPT-4 | 101 W. WCR. West of former service station and possible UST locations. | Assess if contamination is evident and evaluate potential source area. |
| UVOST/MIHPT-5 | Within city ROW. Southeast of former service station. | Assess if contamination is evident and evaluate potential source area. |
| UVOST/MIHPT-6 | 101 E. WCR. North of former fueling/ automotive facility. | Assess if contamination is evident and evaluate potential source area. |
| UVOST/MIHPT-7 | Within city ROW. West of former fueling/automotive facility. | Assess if contamination is evident and evaluate potential source area. |
| UVOST/MIHPT-8 | Within city ROW. Northeast of MW-3 and former UST. | Provides data directly upgradient of known source area, allows for development of conceptual site model from southwest to northeast. |
| UVOST/MIHPT-9 | Within city ROW. West of MW-11 and north of former auto service station. | Assess downgradient groundwater quality from former operations on 101 W. WCR. |

**Notes:**

MIHPT = Membrane interface hydraulic profiling tool
ROW = Right-of-way
UST = Underground storage tank
UVOST = Ultra-violet optical screening tool
WCR = Wine Country Road

**Table 5**
**Rationale for Proposed Borings and Wells**
**DeBock's Main Street Texaco**
**100 W., 101 W., and 101 E. Wine Country Road, Grandview, WA**

| Boring/Well ID | Location - Former Feature | Rationale | Media | Analyses |
|---|---|---|---|---|
| MW-14 | Northeast of 101 W site, within city ROW. | Assess upgradient soil and groundwater quality northeast of 101 W site. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-15 | East of former USTs on 101 W site. | Assess the soil and groundwater quality on the 101 W site near suspected UST locations. Delineation of the extent of LNAPL and/or dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-16 | South of former USTs on 101 W site. | Assess the soil and groundwater quality on the 101 W site near suspected UST locations. Delineation of the extent of LNAPL and/or dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-17 | South of building on 101 W site. | Assess the downgradient conditions on the south side of the 101 W site. Delineation of the extent of dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-18 | Southeast of 101 W site, southwest of 101 E site, within city ROW. | Assess soil and groundwater quality crossgradient of 101 W site and downgradient of 101 E site. Delineation of the extent of dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-19 | North of building on 101 E site. | Assess soil and groundwater quality north of building and upgradient of potential source area on 101 E site. Delineation of the extent of dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-20 | West of building on 101 E site. | Assess soil and groundwater quality west of building and crossgradient of potential source area on 101 E site. Delineation of the extent of dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| MW-21 | Southwest of building on 101 E site. | Assess soil and groundwater quality southwest of building and downgradient of potential source area on 101 E site. Delineation of the extent of dissolved phase petroleum hydrocarbons. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B24 | North of former USTs on 101 W site. | Delineation of extent of dissolved phase petroleum hydrocarbons in source area. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B25 | Location of former USTs on 101 W site. | Delineation of extent of dissolved phase petroleum hydrocarbons in source area. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B26 | West of former USTs on 101 W site. | Delineation of extent of dissolved phase petroleum hydrocarbons in source area. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B27 | East of 101 W site in City ROW. | Delineation of extent of dissolved phase petroleum hydrocarbons on east side of 101 W site. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B28 | Beneath building on 101 E. site | Assess soil and groundwater quality within the footprint of the former gas station on the 101 E site. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| B29 | Beneath building on 101 E. site | Assess soil and groundwater quality within the footprint of the former gas station on the 101 E site. | Soil | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |
| | | | Groundwater (grab) | NWTPH-Gx/BTEX, fuel additves, NWTPH-Dx, naphthalene, lead |

LNAPL: Light Nonaqueous Phase Liquid
Gx: Gasoline extended petroleum hydrocarbons ; Dx: Diesel extended petroleum hydrocarbons
BTEX: Benzene, toluene, ethylbenzene, and total xylenes
Fuel Oxygenates: EDB, EDC, MTBE, TAME, TBA, DIPE, ETBE
NWTPH- Northwest Total Petroleum Hydrocarbons

# APPENDIX A
# ECOLOGY PLP LETTERS

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
*1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490*

November 26, 2019

Cheryl Cameron
Property Specialist
Chevron Environmental Management Company
6001 Bollinger Canyon Road, C2116
San Ramon, CA 94583

**RE: A Reported Release of Hazardous Substances and Potential Liability for the Release at the following site.**

- **Site Name:** DeBock's Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 W., 101 E., and 101 W. Wine Country Road, Grandview
- **Facility Site No.:** 94369212
- **Cleanup Site ID No:** 6910
- **Parcel No:** 23092312463

Dear Cheryl Cameron:

The Department of Ecology (Ecology) has confirmed that a release of hazardous substances has occurred at the DeBock's Main Street Texaco facility (Site) requiring cleanup under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This determination was based on an Initial Investigation conducted on May 4, 1995. Ecology has received additional information in a report titled "*Technical Memorandum, Supplemental Investigation Tasks (August 2019)*" prepared by EES Environmental Consulting Inc., and dated October 23, 2019. Data presented in this report indicates that in addition to the known gasoline release at 100 W. Wine County Road, gasoline releases also occurred at 101 E. Wine Country Road and 101 W. Wine Country Road. The releases at these three properties appear to be comingled; hence, Ecology considers them to be one "site" under MTCA.

Based on credible evidence, Ecology is proposing to find Chevron liable under MTCA for the release of hazardous substances at the Site. Any person whom Ecology finds, based on credible evidence, to be liable is known under MTCA as a "potentially liable person" or "PLP."

This letter identifies the basis for Ecology's proposed finding and your opportunity to respond to that finding. This letter also describes the scope of your potential liability and next steps in the cleanup process at the Site.

**Proposed Finding of Liability**

Based on credible evidence, Ecology is proposing to find Chevron Corporation (Chevron) liable under RCW 70.105D.040 for the release of hazardous substances at the DeBock's Main Street Texaco facility (Site).

This proposed finding is based on the following evidence:

1. Gasoline range organics (GRO) were detected above MTCA cleanup levels in a groundwater sample collected in the right-of-way adjacent to 101 E. Wine Country Road (at the northeast corner of Wine County Road and Division Street) in August 2019. Groundwater flows to the southwest in the vicinity of the DeBock's Main Street Texaco Site.

2. GRO were detected above MTCA cleanup levels in two groundwater samples collected in the right-of-way adjacent to 101 W. Wine Country Road (at the northwest corner of Wine County Road and Division Street) in August 2019. Groundwater flows to the southwest in the vicinity of the DeBock's Main Street Texaco Site.

3. According to chain of title records, Standard Oil Company of California, a predecessor of Chevron, leased the property located at 101 E. Wine Country Road (parcel 23092312401) from 1937 until at least 1945.

4. According to chain of title records, Standard Oil Company of California, a predecessor of Chevron, owned the property located at 101 W. Wine Country Road (parcel 23092312555) prior to March 29, 1967.

5. The release above MTCA cleanup levels constitutes a threat to human health and the environment.

**Opportunity to Respond to Proposed Finding of Liability**

In response to Ecology's proposed finding of liability, you may either:

1. Accept your status as a PLP without admitting liability and expedite the process through a voluntary waiver of your right to comment. This may be accomplished by signing and returning the enclosed form or by sending a letter containing similar information to Ecology;

2. Challenge your status as a PLP by submitting written comments to Ecology within thirty (30) calendar days of the date you receive this letter; or

3. Choose not to comment on your status as a PLP.

Please submit your waiver or written comments to the following address:

Frank Winslow
Toxics Cleanup Program
Central Regional Office
1250 W Alder Street
Union Gap, WA 98903

After reviewing any comments submitted or after 30 days if no response has been received, Ecology will make a final determination regarding your status as a PLP and provide you with written notice of that determination.

**Identification of Other Potentially Liable Persons**

Ecology has notified the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gary Christensen and Powell Distributing, LLC, DBA R.E. Powell & Seaport

In addition, Ecology will be notifying the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gorgeous Property LLC
2. A.J. Still and Elizabeth M. Still
3. ExxonMobil Corporation

If you are aware of any other persons who may be liable for the release of hazardous substances at the Site, Ecology encourages you to provide us with their identities and the reason you believe they are liable. Ecology also suggests you contact these other persons to discuss how you can jointly work together to most efficiently clean up the Site.

**Responsibility and Scope of Potential Liability**

Please note that Ecology may either conduct, or require PLPs to conduct, remedial actions to investigate and clean up the release of hazardous substances at a site. PLPs are encouraged to initiate discussions and negotiations with Ecology and the Office of the Attorney General that may lead to an agreement on the remedial action to be conducted.

Please also note that each liable person is strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release of hazardous substances at a site. If Ecology incurs remedial action costs in connection with the investigation or cleanup of real property and those costs are not reimbursed, then Ecology has the authority under RCW 70.105D.055 to file a lien against that real property to recover those costs.

**Next Steps in Cleanup Process**

In response to the release of hazardous substances at the Site, Ecology intends to conduct the following actions under MTCA:

- Ecology intends to enter negotiation with the cooperative PLPs to enter into an Agreed Order for this Site.

For a description of the process for cleaning up a site under MTCA, please refer to the enclosed focus sheet.

Ecology's policy is to work cooperatively with PLPs to accomplish the prompt and effective cleanup of contaminated sites. Please note that your cooperation in planning or conducting remedial actions at the Site is not an admission of guilt or liability.

If you have any questions regarding this letter or if you would like additional information regarding the cleanup of contaminated sites, please call me at 509-454-7835. Thank you for your cooperation.

Sincerely,

Frank P. Winslow
Toxics Cleanup Program
Central Regional Office

Enclosures: 2 MTCA Publication #94-129
Voluntary Waiver of Right to Comment Form

By certified mail: 7019 0140 0000 9806 3578

cc: Gary B. Christensen, Powell Distributing, LLC, DBA R.E. Powell & SeaPort
Paul Ecker, EES Environmental Consulting, Inc.
Mark M. Myers, Independent Counsel for ExxonMobil Corporation
Holly Castle, Registered Agent
A.J. Still and Elizabeth Still

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

November 26, 2019

Mark M. Myers
Independent Counsel for ExxonMobil Corporation
Williams, Kastner & Gibbs PLLC
Two Union Square
601 Union Street, Suite 4100
Seattle, WA 98101

**RE: A Reported Release of Hazardous Substances and Potential Liability for the Release at the following site.**

- **Site Name:** DeBock's Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 W., 101 E., and 101 W. Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID No:** 6910
- **Parcel No:** 23092312463

Dear Mark Myers:

The Department of Ecology (Ecology) has confirmed that a release of hazardous substances has occurred at the DeBock's Main Street Texaco facility (Site) requiring cleanup under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This determination was based on an Initial Investigation conducted on May 4, 1995. Ecology has received additional information in a report titled "*Technical Memorandum, Supplemental Investigation Tasks (August 2019)*" prepared by EES Environmental Consulting Inc., and dated October 23, 2019. Data presented in this report indicates that in addition to the known gasoline release at 100 W. Wine County Road, gasoline releases also occurred at 101 E. Wine Country Road and 101 W. Wine Country Road. The releases at these three properties appear to be comingled; hence, Ecology considers them to be one "site" under MTCA.

Based on credible evidence, Ecology is proposing to find ExxonMobil Corporation liable under MTCA for the release of hazardous substances at the Site. Any person whom Ecology finds, based on credible evidence, to be liable is known under MTCA as a "potentially liable person" or "PLP."

This letter identifies the basis for Ecology's proposed finding and your opportunity to respond to that finding. This letter also describes the scope of your potential liability and next steps in the cleanup process at the Site.

**Proposed Finding of Liability**

Based on credible evidence, Ecology is proposing to find ExxonMobil Corporation (Exxon) liable under RCW 70.105D.040 for the release of hazardous substances at the DeBock's Main Street Texaco facility (Site).

This proposed finding is based on the following evidence:

1. Gasoline range organics (GRO) were detected above MTCA cleanup levels in two groundwater samples collected in the right-of-way adjacent to 101 W. Wine Country Road (at the northwest corner of Wine County Road and Division Street) in August 2019. Groundwater flows to the southwest in the vicinity of the DeBock's Main Street Texaco Site.

2. According to chain of title records, Exxon Corporation, owned the property located at 101 W. Wine Country Road (parcel 23092312555) prior to October 10, 1978. Humble Oil and Refining Company, a predecessor of Exxon, acquired the property on March 28, 1967.

3. The release above MTCA cleanup levels constitutes a threat to human health and the environment.

**Opportunity to Respond to Proposed Finding of Liability**

In response to Ecology's proposed finding of liability, you may either:

1. Accept your status as a PLP without admitting liability and expedite the process through a voluntary waiver of your right to comment. This may be accomplished by signing and returning the enclosed form or by sending a letter containing similar information to Ecology;

2. Challenge your status as a PLP by submitting written comments to Ecology within thirty (30) calendar days of the date you receive this letter; or

3. Choose not to comment on your status as a PLP.

Please submit your waiver or written comments to the following address:

Frank Winslow
Toxics Cleanup Program
Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

After reviewing any comments submitted or after 30 days if no response has been received, Ecology will make a final determination regarding your status as a PLP and provide you with written notice of that determination.

**Identification of Other Potentially Liable Persons**

Ecology has notified the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gary Christensen and Powell Distributing, LLC, DBA R.E. Powell & Seaport

In addition, Ecology will be notifying the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gorgeous Property LLC
2. A.J. Still and Elizabeth M. Still
3. Chevron Corporation

If you are aware of any other persons who may be liable for the release of hazardous substances at the Site, Ecology encourages you to provide us with their identities and the reason you believe they are liable. Ecology also suggests you contact these other persons to discuss how you can jointly work together to most efficiently clean up the Site.

**Responsibility and Scope of Potential Liability**

Please note that Ecology may either conduct, or require PLPs to conduct, remedial actions to investigate and clean up the release of hazardous substances at a site. PLPs are encouraged to initiate discussions and negotiations with Ecology and the Office of the Attorney General that may lead to an agreement on the remedial action to be conducted.

Please also note that each liable person is strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release of hazardous substances at a site.

If Ecology incurs remedial action costs in connection with the investigation or cleanup of real property and those costs are not reimbursed, then Ecology has the authority under RCW 70.105D.055 to file a lien against that real property to recover those costs.

**Next Steps in Cleanup Process**

In response to the release of hazardous substances at the Site, Ecology intends to conduct the following actions under MTCA:

- Ecology intends to enter negotiation with the cooperative PLPs to enter into an Agreed Order for this Site.

For a description of the process for cleaning up a site under MTCA, please refer to the enclosed focus sheet.

Ecology's policy is to work cooperatively with PLPs to accomplish the prompt and effective cleanup of contaminated sites. Please note that your cooperation in planning or conducting remedial actions at the Site is not an admission of guilt or liability.

If you have any questions regarding this letter or if you would like additional information regarding the cleanup of contaminated sites, please call me at 509-454-7835. Thank you for your cooperation.

Sincerely,

Frank P. Winslow
Toxics Cleanup Program
Central Regional Office

Enclosures: 2

By certified mail: 7019 0140 0000 9806 3585

cc: Gary B. Christensen, Powell Distributing, LLC, DBA R.E. Powell & SeaPort
Paul Ecker, EES Environmental Consulting, Inc.
Holly Castle, Registered Agent
A.J. Still and Elizabeth Still
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

November 26, 2019

A.J. Still and Elizabeth Still
101 W. Wine Country Road
Grandview, WA 98930

**RE: A Reported Release of Hazardous Substances and Potential Liability for the Release at the following site.**

- **Site Name:** DeBock's Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 W., 101 E., and 101 W. Wine Country Road, Grandview
- **Facility Site No.:** 94369212
- **Cleanup Site ID No:** 6910
- **Parcel No:** 23092312463

Dear A.J. Still and Elizabeth Still:

The Department of Ecology (Ecology) has confirmed that a release of hazardous substances has occurred at the DeBock's Main Street Texaco facility (Site) requiring cleanup under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This determination was based on an Initial Investigation conducted on May 4, 1995. Ecology has received additional information in a report titled "*Technical Memorandum, Supplemental Investigation Tasks (August 2019)*" prepared by EES Environmental Consulting Inc., and dated October 23, 2019. Data presented in this report indicates that in addition to the known gasoline release at 100 W. Wine County Road, gasoline releases also occurred at 101 E. Wine Country Road and 101 W. Wine Country Road. The releases at these three properties appear to be comingled, hence Ecology considers them to be one "site" under MTCA.

Based on credible evidence, Ecology is proposing to find A.J. Still and Elizabeth Still liable under MTCA for the release of hazardous substances at the Site. Any person whom Ecology finds, based on credible evidence, to be liable is known under MTCA as a "potentially liable person" or "PLP."

This letter identifies the basis for Ecology's proposed finding and your opportunity to respond to that finding. This letter also describes the scope of your potential liability and next steps in the cleanup process at the Site.

**Proposed Finding of Liability**

Based on credible evidence, Ecology is proposing to find A.J. Still and Elizabeth Still liable under RCW 70.105D.040 for the release of hazardous substances at the DeBock's Main Street Texaco facility (Site). This proposed finding is based on the following evidence:

1. Gasoline range organics (GRO) were detected above MTCA cleanup levels in two groundwater samples collected in the right-of-way adjacent to 101 W. Wine Country Road (at the northwest corner of Wine County Road and Division Street) in August 2019. Groundwater flows to the southwest in the vicinity of the DeBock's Main Street Texaco Site.

2. According to chain of title records, A.J. Still and Elizabeth Still, have owned the property located at 101 W. Wine Country Road (parcel 23092312555) since October of 1978.

3. The release above MTCA cleanup levels constitutes a threat to human health and the environment.

**Opportunity to Respond to Proposed Finding of Liability**

In response to Ecology's proposed finding of liability, you may either:

1. Accept your status as a PLP without admitting liability and expedite the process through a voluntary waiver of your right to comment. This may be accomplished by signing and returning the enclosed form or by sending a letter containing similar information to Ecology;

2. Challenge your status as a PLP by submitting written comments to Ecology within thirty (30) calendar days of the date you receive this letter; or

3. Choose not to comment on your status as a PLP.

Please submit your waiver or written comments to the following address:

Frank Winslow
Toxics Cleanup Program
Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

After reviewing any comments submitted or after 30 days if no response has been received, Ecology will make a final determination regarding your status as a PLP and provide you with written notice of that determination.

**Identification of Other Potentially Liable Persons**

Ecology has notified the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gary Christensen and Powell Distributing, LLC, DBA R.E. Powell & Seaport

In addition, Ecology will be notifying the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gorgeous Property LLC
2. Chevron Corporation
3. ExxonMobil Corporation

If you are aware of any other persons who may be liable for the release of hazardous substances at the Site, Ecology encourages you to provide us with their identities and the reason you believe they are liable. Ecology also suggests you contact these other persons to discuss how you can jointly work together to most efficiently clean up the Site.

**Responsibility and Scope of Potential Liability**

Please note that Ecology may either conduct, or require PLPs to conduct, remedial actions to investigate and clean up the release of hazardous substances at a site. PLPs are encouraged to initiate discussions and negotiations with Ecology and the Office of the Attorney General that may lead to an agreement on the remedial action to be conducted.

Please also note that each liable person is strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release of hazardous substances at a site. If Ecology incurs remedial action costs in connection with the investigation or cleanup of real property and those costs are not reimbursed, then Ecology has the authority under RCW 70.105D.055 to file a lien against that real property to recover those costs.

**Next Steps in Cleanup Process**

In response to the release of hazardous substances at the Site, Ecology intends to conduct the following actions under MTCA:

- Ecology intends to enter negotiation with the cooperative PLPs to enter into an Agreed Order for this Site.

For a description of the process for cleaning up a site under MTCA, please refer to the enclosed focus sheet.

Ecology's policy is to work cooperatively with PLPs to accomplish the prompt and effective cleanup of contaminated sites. Please note that your cooperation in planning or conducting remedial actions at the Site is not an admission of guilt or liability.

If you have any questions regarding this letter or if you would like additional information regarding the cleanup of contaminated sites, please call me at 509-454-7835. Thank you for your cooperation.

Sincerely,

Frank P. Winslow
Toxics Cleanup Program
Central Regional Office

Enclosures: 2 MTCA Publication #94-129
Voluntary Waiver of Right to Comment Form

By certified mail: 7019 0140 0000 9806 3608

cc: Gary B. Christensen, Powell Distributing, LLC, DBA R.E. Powell & SeaPort
Paul Ecker, EES Environmental Consulting, Inc.
Mark M. Myers, Independent Counsel for ExxonMobil Corporation
Holly Castle, Registered Agent
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

November 26, 2019

Holly Castle
Registered Agent
Gorgeous Property LLC
101 E. Wine Country Road
Grandview, WA 98930

**RE: A Reported Release of Hazardous Substances and Potential Liability for the Release at the following site.**

- **Site Name:** DeBock's Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 W., 101 E., and 101 W. Wine Country Road, Grandview
- **Facility Site No.:** 94369212
- **Cleanup Site ID No:** 6910
- **Parcel No:** 23092312463

Dear Holly Castle:

The Department of Ecology (Ecology) has confirmed that a release of hazardous substances has occurred at the DeBock's Main Street Texaco facility (Site) requiring cleanup under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This determination was based on an Initial Investigation conducted on May 4, 1995. Ecology has received additional information in a report titled "*Technical Memorandum, Supplemental Investigation Tasks (August 2019)*" prepared by EES Environmental Consulting Inc., and dated October 23, 2019. Data presented in this report indicates that in addition to the known gasoline release at 100 W. Wine County Road, gasoline releases also occurred at 101 E. Wine Country Road and 101 W. Wine Country Road. The releases at these three properties appear to be comingled, hence Ecology considers them to be one "site" under MTCA.

Based on credible evidence, Ecology is proposing to find Gorgeous Property LLC liable under MTCA for the release of hazardous substances at the Site. Any person whom Ecology finds, based on credible evidence, to be liable is known under MTCA as a "potentially liable person" or "PLP."

This letter identifies the basis for Ecology's proposed finding and your opportunity to respond to that finding. This letter also describes the scope of your potential liability and next steps in the cleanup process at the Site.

**Proposed Finding of Liability**

Based on credible evidence, Ecology is proposing to find Gorgeous Property LLC liable under RCW 70.105D.040 for the release of hazardous substances at the DeBock's Main Street Texaco facility (Site).
This proposed finding is based on the following evidence:

1. Gasoline range organics (GRO) were detected above MTCA cleanup levels in a groundwater sample collected in the right-of-way adjacent to 101 E. Wine Country Road (at the northeast corner of Wine County Road and Division Street) in August 2019. Groundwater flows to the southwest in the vicinity of the DeBock's Main Street Texaco Site.

2. According to chain of title records, Gorgeous Property LLC has owned the property located at 101 E. Wine Country Road (parcel 23092312401) since May of 2018. Holly Castle, the registered agent for Gorgeous Property LLC, co-owned the property with Kenneth S. Castle from May 2014 to May 2018.

3. The release above MTCA cleanup levels constitutes a threat to human health and the environment.

**Opportunity to Respond to Proposed Finding of Liability**

In response to Ecology's proposed finding of liability, you may either:

1. Accept your status as a PLP without admitting liability and expedite the process through a voluntary waiver of your right to comment. This may be accomplished by signing and returning the enclosed form or by sending a letter containing similar information to Ecology;

2. Challenge your status as a PLP by submitting written comments to Ecology within thirty (30) calendar days of the date you receive this letter; or

3. Choose not to comment on your status as a PLP.

Please submit your waiver or written comments to the following address:

Frank Winslow
Toxics Cleanup Program
Central Regional Office
1250 W. Alder Street
Union Gap, WA 98903

After reviewing any comments submitted or after 30 days if no response has been received, Ecology will make a final determination regarding your status as a PLP and provide you with written notice of that determination.

**Identification of Other Potentially Liable Persons**

Ecology has notified the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Gary Christensen and Powell Distributing, LLC, DBA R.E. Powell & Seaport

In addition, Ecology will be notifying the following additional persons that they are potentially liable for the release of hazardous substances at the Site:

1. Chevron Corporation
2. A.J. Still and Elizabeth M. Still
3. ExxonMobil Corporation

If you are aware of any other persons who may be liable for the release of hazardous substances at the Site, Ecology encourages you to provide us with their identities and the reason you believe they are liable. Ecology also suggests you contact these other persons to discuss how you can jointly work together to most efficiently clean up the Site.

**Responsibility and Scope of Potential Liability**

Please note that Ecology may either conduct, or require PLPs to conduct, remedial actions to investigate and clean up the release of hazardous substances at a site. PLPs are encouraged to initiate discussions and negotiations with Ecology and the Office of the Attorney General that may lead to an agreement on the remedial action to be conducted.

Please also note that each liable person is strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release of hazardous substances at a site. If Ecology incurs remedial action costs in connection with the investigation or cleanup of real property and those costs are not reimbursed, then Ecology has the authority under RCW 70.105D.055 to file a lien against that real property to recover those costs.

**Next Steps in Cleanup Process**

In response to the release of hazardous substances at the Site, Ecology intends to conduct the following actions under MTCA:

- Ecology intends to enter negotiation with the cooperative PLPs to enter into an Agreed Order for this Site.

For a description of the process for cleaning up a site under MTCA, please refer to the enclosed focus sheet.

Ecology's policy is to work cooperatively with PLPs to accomplish the prompt and effective cleanup of contaminated sites. Please note that your cooperation in planning or conducting remedial actions at the Site is not an admission of guilt or liability.

If you have any questions regarding this letter or if you would like additional information regarding the cleanup of contaminated sites, please call me at 509-454-7835. Thank you for your cooperation.

Sincerely,

Frank P. Winslow
Toxics Cleanup Program
Central Regional Office

Enclosures: 2 MTCA Publication # 94-129
Voluntary Waiver of Right to Comment Form

By certified mail: 7019 0140 0000 9806 3592

cc: Gary B. Christensen, Powell Distributing, LLC, DBA R.E. Powell & SeaPort
Paul Ecker, EES Environmental Consulting, Inc.
Mark M. Myers, Independent Counsel for ExxonMobil Corporation
A.J. Still and Elizabeth Still
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
*1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490*



March 13, 2020

Robert C. Goodman
Rogers Joseph O'Donnell
Representing Chevron Environmental Management Company
311 California Street, 10th Floor
San Francisco, CA 94104

**RE: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:**

- **Site Name:** DeBocks Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 West, 101 East, and 101 West Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID:** 6910
- **Parcel Nos:** 23092312463 - 100 West Wine Country Road, Grandview
  23092312555 - 101 West Wine Country Road, Grandview
  23092312401 - 101 East Wine Country Road, Grandview

Dear Robert Goodman:

This correspondence is the official notice by the Department of Ecology (Ecology) of our determination of your client's status as a potentially liable person (PLP) for the Debocks Main Street Texaco site (Site).

On November 26, 2019, Ecology sent Chevron Environmental Management Company (CEMC) a written notice of our preliminary determination that Chevron Corporation is a potentially liable person (PLP) for a release of hazardous substances at the Site. We have received and evaluated your comments provided in a letter dated February 6, 2020.

Based on the information available to date, Ecology finds that credible evidence exists which supports the status of Chevron USA (CUSA) as a potentially liable person for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that CUSA is a PLP with regard to the Site. We understand that CEMC will be responding on behalf of USA.

Ecology notes that separate contamination releases have appeared to have taken place at 100 West, 101 East, and 101 West Wine Country Road in Grandview. These separate releases are being managed under one site, under the name of "DeBocks Main Street Texaco," because groundwater contamination from these releases is co-mingled.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released. Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statue and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site.

Ecology will contact you regarding the actions necessary for CUSA to bring about the prompt and thorough cleanup of hazardous substances at the Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to $25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Frank Winslow will contact you with information about how Ecology intends to proceed with the cleanup.

If you have any questions regarding this notice, please contact Frank Winslow at (509) 454-7835 or frank.winslow@ecy.wa.gov.

Sincerely,

Valerie Bound

Valerie Bound
Section Manager
Toxics Cleanup Program
Central Region Office

By Certified Mail: 7014 3490 0001 5526 4588

cc: Holly Castle, Registered Agent, Gorgeous Property LLC
A.J. Still and Elizabeth Still
Anthony B. Christensen, President & CEO, Christensen
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company
Mark Myers, Williams Kastner, Representing ExxonMobil
Joel Glaze, ExxonMobil Environmental and Property Solutions Company
Brandon Christensen, Powell Distributing, LLC, DBA Christensen

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 13, 2020

Brandon Christensen
Powell Distributing, LLC, DBA Christensen
1060 Jadwin Avenue
Richland, WA 99352

**RE: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:**

- **Site Name:** DeBocks Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 West, 101 East, and 101 West Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID:** 6910
- **Parcel Nos:** 23092312463 - 100 West Wine Country Road, Grandview
  23092312555 - 101 West Wine Country Road, Grandview
  23092312401 - 101 East Wine Country Road, Grandview

Dear Brandon Christensen:

This correspondence is the official notice by the Department of Ecology (Ecology) of our determination of your client's status as a potentially liable person (PLP) for the DeBocks Main Street Texaco site (Site).

On September 27, 2017, Ecology sent Powell Distributing a written notice of our preliminary determination that Powell Distributing is a potentially liable person (PLP) for a release of hazardous substances at the Site. We have received and evaluated your comments.

Based on the information available to date, Ecology finds that credible evidence exists which supports the status of Powell Distributing, LLC as a potentially liable person for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that Powell Distributing, LLC is a PLP with regard to the Site.

Since Ecology sent the preliminary PLP letter on September 27, 2017, Powell Distributing, LLC, DBA Christensen and their consultant have been performing remedial investigations at the Site under the Voluntary Cleanup Program. During the course of those remedial investigations, additional apparent sources of contamination have been identified at the 101 West and 101 East Wine Country Road facilities. Ecology previously sent preliminary PLP letters for those properties and is now sending final PLP letters concurrent with this letter.

Ecology notes that the three separate releases are being managed under one site, under the name of "DeBocks Main Street Texaco," because groundwater contamination from these releases is co-mingled.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released. Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statue and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site.

Ecology will contact you regarding the actions necessary for Christensen to bring about the prompt and thorough cleanup of hazardous substances at the Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to $25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Frank Winslow will contact you with information about how Ecology intends to proceed with the cleanup.

If you have any questions regarding this notice, please contact Frank Winslow at (509) 454-7835 or frank.winslow@ecy.wa.gov.

Sincerely,

Valerie Bound

Valerie Bound
Section Manager
Toxics Cleanup Program
Central Region Office

By Certified Mail: 7014 3490 0001 5526 4595

cc: Holly Castle, Registered Agent, Gorgeous Property LLC
A.J. Still and Elizabeth Still
Anthony B. Christensen, President & CEO, Christensen
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company
Mark Myers, Williams Kastner, Representing ExxonMobil
Joel Glaze, ExxonMobil Environmental and Property Solutions Company
Robert C. Goodman, Rogers Joseph O'Donnell, Representing Chevron Environmental Management Company

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 13, 2020

Mark Myers
Williams Kastner
Two Union Square
601 Union Street, Suite 4100
Seattle, WA 98101

**RE: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:**

- **Site Name:** DeBocks Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 West, 101 East, and 101 West Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID:** 6910
- **Parcel Nos:** 23092312463 - 100 West Wine Country Road, Grandview
  23092312555 - 101 West Wine Country Road, Grandview
  23092312401 - 101 East Wine Country Road, Grandview

Dear Mark Myers:

This correspondence is the official notice by the Department of Ecology (Ecology) of our determination of your client's status as a potentially liable person (PLP) for the DeBocks Main Street Texaco site (Site).

On November 26, 2019, Ecology sent ExxonMobil Corporation a written notice of our preliminary determination that ExxonMobil Corporation is a potentially liable person (PLP) for a release of hazardous substances at the Site. We have received and evaluated your comments provided in a letter dated February 28, 2020.

Based on the information available to date, Ecology finds that credible evidence exists which supports the status of ExxonMobil Corporation as a potentially liable person for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that ExxonMobil Corporation is a PLP with regard to the Site. We understand that ExxonMobil Environmental and Property Solutions Company will be responding on behalf of ExxonMobil Corporation.

Ecology notes that separate contamination releases have appeared to have taken place at 100 West, 101 East, and 101 West Wine Country Road.

These separate releases are being managed under one site, under the name of "DeBocks Main Street Texaco," because groundwater contamination from these releases is co-mingled.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released. Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statue and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site.

Ecology will contact you regarding the actions necessary for ExxonMobil Corporation to bring about the prompt and thorough cleanup of hazardous substances at the Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to $25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Frank Winslow will contact you with information about how Ecology intends to proceed with the cleanup.

If you have any questions regarding this notice, please contact Frank Winslow at (509) 454-7835 or frank.winslow@ecy.wa.gov.

Sincerely,

Valerie Bound

Valerie Bound
Section Manager
Toxics Cleanup Program
Central Region Office

By Certified Mail: 7014 3490 0001 5526 4601

cc: Holly Castle, Registered Agent, Gorgeous Property LLC
A.J. Still and Elizabeth Still
Anthony B. Christensen, President & CEO, Christensen
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company
Joel Glaze, ExxonMobil Environmental and Property Solutions Company
Robert C. Goodman, Rogers Joseph O'Donnell, Representing Chevron Environmental Management Company
Brandon Christensen, Powell Distributing, LLC, DBA Christensen

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 13, 2020

Holly Castle
Registered Agent
Gorgeous Property LLC
101 East Wine Country Road
Grandview, WA 98930

**RE: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:**

- **Site Name:** DeBocks Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 West, 101 East, and 101 West Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID:** 6910
- **Parcel Nos:** 23092312463 - 100 West Wine Country Road, Grandview
  23092312555 - 101 West Wine Country Road, Grandview
  23092312401 - 101 East Wine Country Road, Grandview

Dear Holly Castle:

This correspondence is the official notice by the Department of Ecology (Ecology) of our determination of your client's status as a potentially liable person (PLP) for the DeBocks Main Street Texaco site (Site).

On November 26, 2019, Ecology sent you a written notice of our preliminary determination that Gorgeous Property, LLC is a potentially liable person (PLP) for a release of hazardous substances at the Site. We have received and evaluated your comments.

Based on the information available to date, Ecology finds that credible evidence exists which supports the status of Gorgeous Property, LLC as a potentially liable person for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that Gorgeous Property, LLC is a PLP with regard to the Site.

Ecology notes that separate contamination releases have appeared to have taken place at 100 West, 101 East, and 101 West Wine Country Road. These separate releases are being managed under one site, under the name of "DeBocks Main Street Texaco," because groundwater contamination from these releases is co-mingled.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released. Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statue and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site.

Ecology will contact you regarding the actions necessary for Gorgeous Property, LLC to bring about the prompt and thorough cleanup of hazardous substances at the Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to $25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Frank Winslow will contact you with information about how Ecology intends to proceed with the cleanup.

If you have any questions regarding this notice, please contact Frank Winslow at (509) 454-7835 or frank.winslow@ecy.wa.gov.

Sincerely,

Valerie Bound

Valerie Bound
Section Manager
Toxics Cleanup Program
Central Region Office

By Certified Mail: 7014 3490 0001 5526 4618

cc: A.J. Still and Elizabeth Still
Anthony B. Christensen, President & CEO, Christensen
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company
Joel Glaze, ExxonMobil Environmental and Property Solutions Company
Robert C. Goodman, Rogers Joseph O'Donnell, Representing Chevron Environmental Management Company
Brandon Christensen, Powell Distributing, LLC, DBA Christensen
Mark Myers, Williams Kastner, Representing ExxonMobil

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 13, 2020

A.J. Still and Elizabeth Still
101 West Wine Country Road
Grandview, WA 98930

**RE: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:**

- **Site Name:** DeBocks Main Street Texaco (aka Debock's Auto Repair)
- **Site Address:** 100 West, 101 East, and 101 West Wine Country Road, Grandview
- **Facility/Site No.:** 94369212
- **Cleanup Site ID:** 6910
- **Parcel Nos:** 23092312463 - 100 West Wine Country Road, Grandview
  23092312555 - 101 West Wine Country Road, Grandview
  23092312401 - 101 East Wine Country Road, Grandview

Dear A.J. Still and Elizabeth Still:

This correspondence is the official notice by the Department of Ecology (Ecology) of our determination of your client's status as a potentially liable person (PLP) for the DeBocks Main Street Texaco site (Site).

On November 26, 2019, Ecology sent A.J. Still and Elizabeth Still a written notice of our preliminary determination that A.J. Still and Elizabeth Still is a potentially liable person (PLP) for a release of hazardous substances at the Site. We have received and evaluated your comments.

Based on the information available to date, Ecology finds that credible evidence exists which supports the status of A.J. Still and Elizabeth Still as a potentially liable person for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that A.J. Still and Elizabeth Still is a PLP with regard to the Site.

Ecology notes that separate contamination releases have appeared to have taken place at 100 West, 101 East, and 101 West Wine Country Road. These separate releases are being managed under one site, under the name of "DeBocks Main Street Texaco," because groundwater contamination from these releases is co-mingled.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released.

Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statue and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site.

Ecology will contact you regarding the actions necessary for A.J. Still and Elizabeth Still to bring about the prompt and thorough cleanup of hazardous substances at the Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to $25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Frank Winslow will contact you with information about how Ecology intends to proceed with the cleanup.

If you have any questions regarding this notice, please contact Frank Winslow at (509) 454-7835 or frank.winslow@ecy.wa.gov.

Sincerely,

Valerie Bound

Valerie Bound
Section Manager
Toxics Cleanup Program
Central Region Office

By Certified Mail: 7014 3490 0001 5526 4625

cc: Holly Castle, Registered Agent, Gorgeous Property LLC
Anthony B. Christensen, President & CEO, Christensen
Cheryl Cameron, Property Specialist, Chevron Environmental Management Company
Joel Glaze, ExxonMobil Environmental and Property Solutions Company
Robert C. Goodman, Rogers Joseph O'Donnell, Representing Chevron Environmental Management Company
Brandon Christensen, Powell Distributing, LLC, DBA Christensen
Mark Myers, Williams Kastner, Representing ExxonMobil

**APPENDIX B**
**JANUARY 20, 2021 ECOLOGY FURTHER ACTION OPINION LETTER**

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

January 20, 2021

Brandon Christensen
Christensen Inc.
1060 Jadwin Avenue Suite 225
Richland, WA 99352

**RE: Further Action at the following Site:**

- **Site Name:** DeBocks Main Street Texaco
- **Site Address:** 100 West, 101 East, & 101 West Wine Country Road, Grandview
- **Facility Site ID No.:** 94369212
- **Cleanup Site ID No.:** 6910
- **VCP Project No.:** CE0488

Dear Brandon Christensen:

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

## Issue Presented and Opinion

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

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

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

## Summary of Opinion

The Site consists of contamination resulting from releases of petroleum (gasoline) to soil and groundwater at three locations in the vicinity of the intersection of Division Street and Wine Country Road in Grandview. These include properties at 100 West, 101 East, and 101 West Wine Country Road, located at the southwest, northeast, and northwest corners of the intersection, respectively.

Ecology has determined that the Remedial Investigation (RI) phase of the project for the area south of Wine Country Road, associated with the release at 100 West Wine Country Road, is sufficiently complete to select preliminary cleanup levels and identify an appropriate cleanup action(s). Additional investigations are needed to characterize the nature and extent of soil and groundwater contamination north of Wine Country Road, associated with the releases from 101 East and 101 West Wine Country Road.

## *Description of the Site*

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

- Petroleum hydrocarbons (gasoline) into soil and groundwater.

**Enclosure A** includes Site maps and a cross section showing results for gasoline in soil and groundwater.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcels associated with DeBocks Main Street Texaco Site are affected by additional sites.

## Basis for the Opinion

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

| Report Title | Prepared by | Date |
|---|---|---|
| Remedial Investigation Report, Former DeBock's Texaco, 100 West Wine Country Road, Grandview, Washington | EES Environmental Consulting, Inc. | November 23, 2020 |

This document is kept at the Central Regional Office of Ecology (CRO) for review by appointment only. You can make an appointment by calling the CRO public records coordinator at 509-454-7658 or emailing CROPublicRequest@ecy.wa.gov.

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

## Analysis of the Cleanup

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

1. **Characterization of the Site**

   Ecology has determined your characterization of the Site **is** sufficient to establish preliminary cleanup standards and select a cleanup action for the area south of Wine Country Road; however, the characterization of the Site north of Wine Country Road **is not** sufficient to establish cleanup standards and select a cleanup action.

   Previous remedial investigation (RI) activities included the collection of 113 soil samples from 64 locations over the course of 8 investigations conducted between 1995 and 2019. The RI also include the collection of 87 groundwater samples from 41 locations over the same timeframe, and the collection of 9 soil gas samples in 2018.

2. **Establishment of cleanup standards.**

   The 2020 RI report compared soil sampling results with the following cleanup levels:

| Contaminant | Maximum Detection in Soil (mg/kg) | Soil Method B Cleanup Level (mg/kg)* | Maximum Detection in Groundwater (µg/L) | Groundwater Method A Cleanup Level (µg/L) |
|---|---|---|---|---|
| Gasoline Range Organics (GRO) | **22,300** | 2,450 | **14,500** | 800 |
| Benzene | **0.078** | 0.027 | **31** | 5 |
| Toluene | **98** | 4.5 | 66 | 1,000 |
| Ethylbenzene | **276** | 5.9 | 441 | 700 |
| Xylenes | **1,870** | 14 | 936 | 1,000 |
| Naphthalenes | **126** | 4.5 | **193**** | 160** |

**Bold** text indicates a maximum detection concentration in excess of the proposed preliminary cleanup level.

* Method B cleanup levels for soil are based on the most restrictive pathway (soil protective of groundwater for BTEX and Naphthalene, and Ecology's Workbook Tool for Calculating Soil and Groundwater Cleanup Levels (2007) for GRO. Alternatively, Method B direct contact-based cleanup levels may be proposed if MTCA requirements for Empirical Demonstration under WAC 173-340-747 (3)(f) have been met.

** Method A cleanup level for total Naphthalenes. Maximum detection for Naphthalene only.

Ecology has determined that the above cleanup levels (in addition to no measureable free product) appear to meet the substantive requirements of MTCA. Ecology notes that the calculation of the Method B cleanup level for gasoline range organics (GRO) in soil has not yet been verified by Ecology. That is, the approach appears to be consistent with MTCA requirements; however, the calculation remains to be checked. Ecology anticipates checking this calculation after a draft Corrective Action Plan has been submitted.

Ecology notes that if groundwater is cleaned up to below Method A cleanup levels and a lack of further contribution from contaminated soil to groundwater is demonstrated to Ecology's satisfaction [Empirical Demonstration under WAC 173-340-747 (3)(f)], then there is potential to apply Method B direct contact-based cleanup levels for soil rather than the above values based on the soil to groundwater pathway.

Application of a standard point of compliance (throughout the Site) is anticipated for the Site.

Terrestrial Ecological Evaluation (TEE) Table 749-1 has been submitted. The Site is in an urbanized area within the City of Grandview, and the Site qualifies for exclusion from further TEE work.

**3. Cleanup.**

No final cleanup action plans have yet been developed for the Site. Some cleanup work had been previously completed at the former Texaco property located at 100 West Wine Country Road. An excavation was conducted in 2003 and approximately 50 tons of petroleum contaminated soil was reportedly disposed of at an offsite landfill.

Free product or light non-aqueous phase liquids (LNAPL) has been measured in one monitoring well (MW-2) in recent years. Product recovery efforts from well MW-2 included eight total fluid recovery events conducted between February 2018 and January 2019. Between February 2019 and July 2020, approximately 1.6 gallons of floating free product was removed from MW-2 via passive recovery using absorbent socks. The most recent product measurement in this well was 0.19 feet in April 2020. No product was found in this well in July 2020.

It is anticipated that a cleanup action plan will be developed after the nature and extent of contamination north of Wine Country Road has been characterized, since independent cleanup South of Wine Country Road could result in recontamination of groundwater migrating from the north.

## Limitations of the Opinion

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

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

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

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

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

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

**3. State is immune from liability.**

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

## Contact Information

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

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at (509) 424-0543 or e-mail at Frank.Winslow@ecy.wa.gov.

Sincerely,

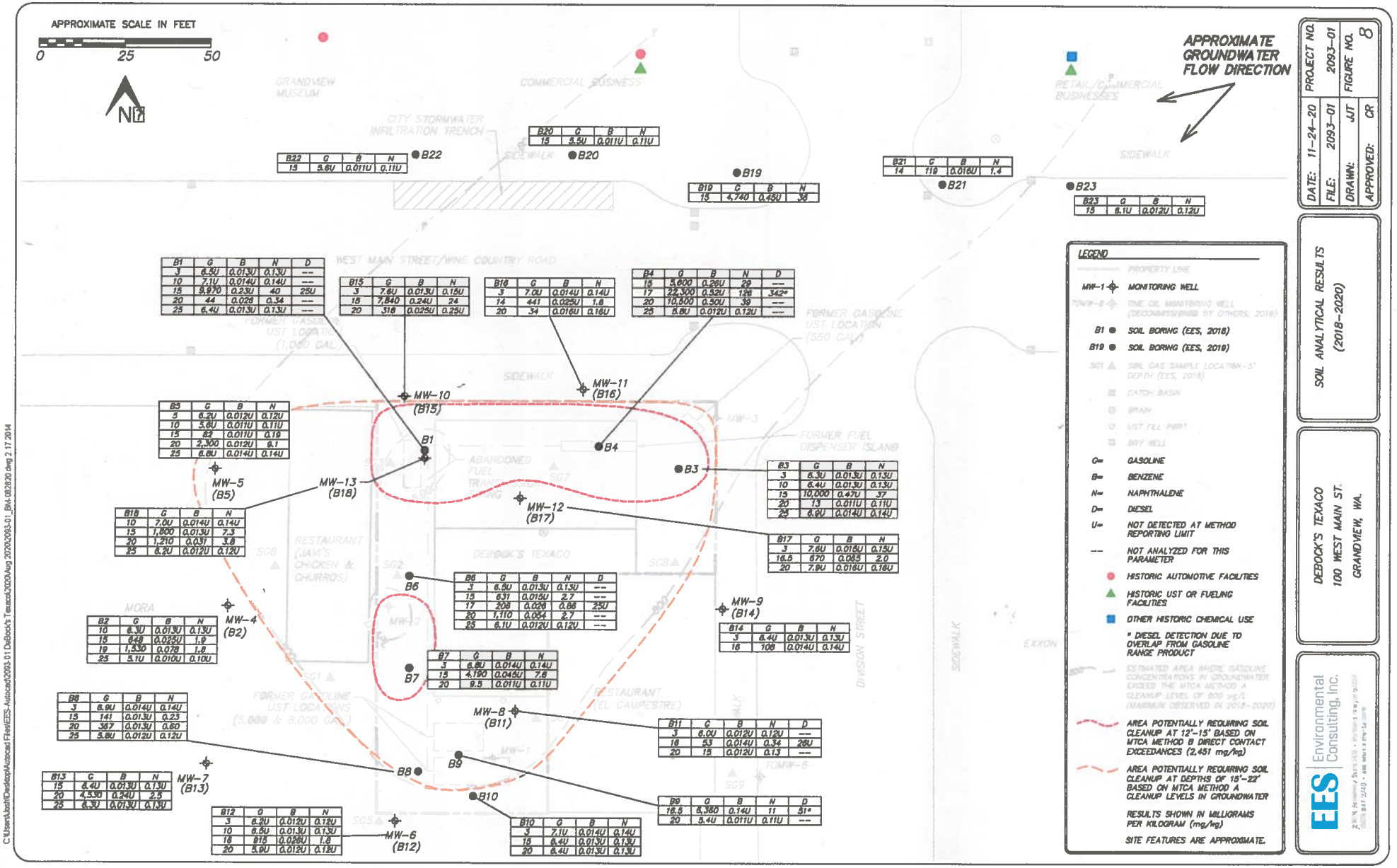
Frank P. Winslow, LHG
Toxics Cleanup Program
Central Regional Office

Enclosure: A – Site Diagrams

cc: Paul Ecker, EES Environmental Consulting
Robert Michna, AECOM
Greg A. Vogelpohl, Resource Environmental LLC

# Enclosure A

# Site Diagrams



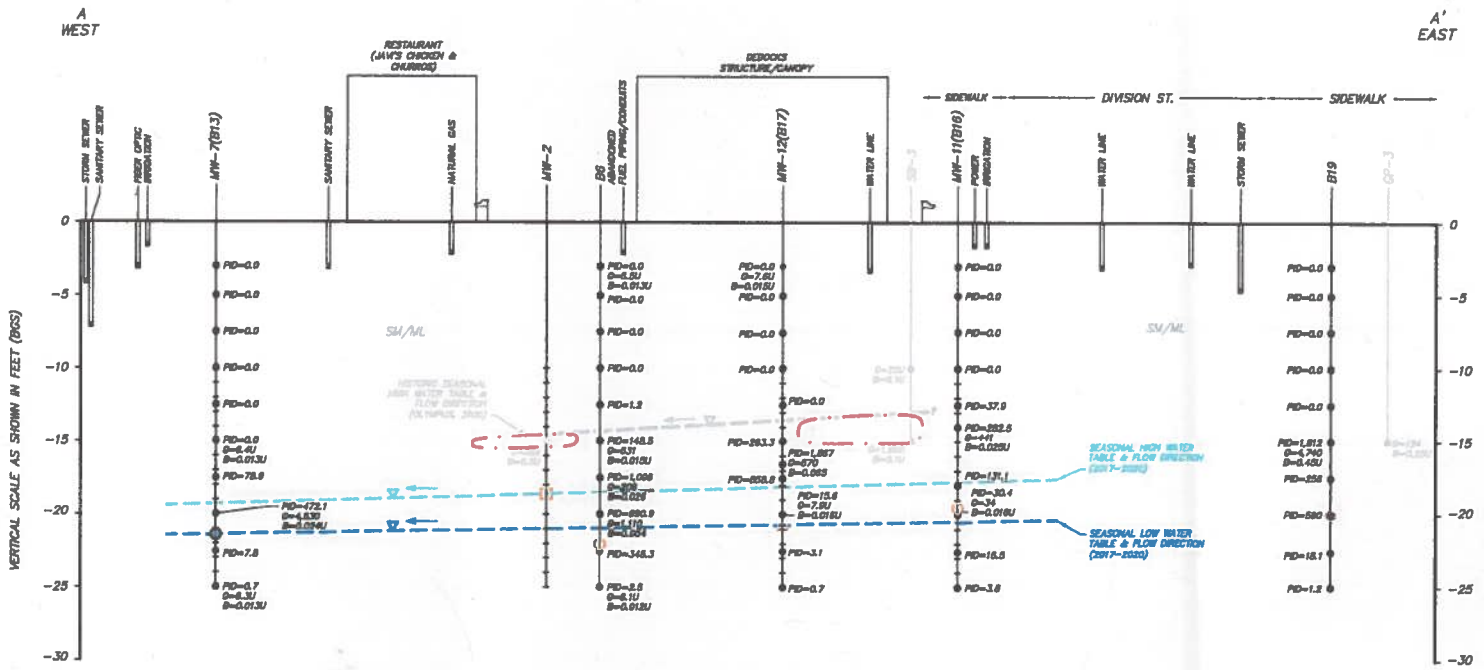

SOIL ANALYTICAL RESULTS (2018-2020)

DEBOCK'S TEXACO
100 WEST MAIN ST.
GRANDVIEW, WA.

| | |
|---|---|
| DATE: | 11-24-20 |
| FILE: | 2093-01 |
| DRAWN: | JJT |
| APPROVED: | CR |
| PROJECT NO. | 2093-01 |
| FIGURE NO. | 8 |

EES Environmental Consulting, Inc.

C:\Users\Josh\Desktop\Autocad Files\EES-Autocad\2093-01 DeBock's Texaco\2000Aug 2020\2093-01_BH-082820.dwg 2.17.2014




## LEGEND

- SOIL SAMPLE (EES, 2018–2019)
- HISTORIC SOIL SAMPLE (BY OTHERS, 1995–2000)
- PROPERTY LINE
- SOIL RESULTS SHOWN IN MILLIGRAMS PER KILOGRAM (mg/kg)
- APPROXIMATE EXTENT OF GASOLINE CONTAMINATION IN SOIL GREATER THAN THE MTCA METHOD B CLEANUP LEVEL FOR DIRECT CONTACT (2,451 mg/kg BETWEEN GROUND SURFACE & 15' DEPTH)

- G = GASOLINE
- B = BENZENE
- U = CONCENTRATION NOT DETECTED ABOVE METHOD REPORTING LIMIT
- PID = VOLATILE ORGANIC COMPOUNDS MEASURED WITH PHOTOIONIZATION DETECTOR. RESULTS SHOWN IN PARTS PER MILLION BY VOLUME (ppmv)

- GROUNDWATER SAMPLE BELOW MTCA METHOD A (<800 ug/L GASOLINE) IN 2018–2020
- GROUNDWATER SAMPLE EXCEEDING MTCA METHOD A (<800 ug/L GASOLINE) IN 2018–2020
- GASOLINE FLOATING FREE PRODUCT OBSERVED IN 2017–2020

GROUNDWATER SAMPLES SHOWN AT WATER TABLE DEPTH DURING MAXIMUM OBSERVED GASOLINE CONCENTRATION IN 2018–2020

APPROXIMATE SCALE IN FEET

0 25 50

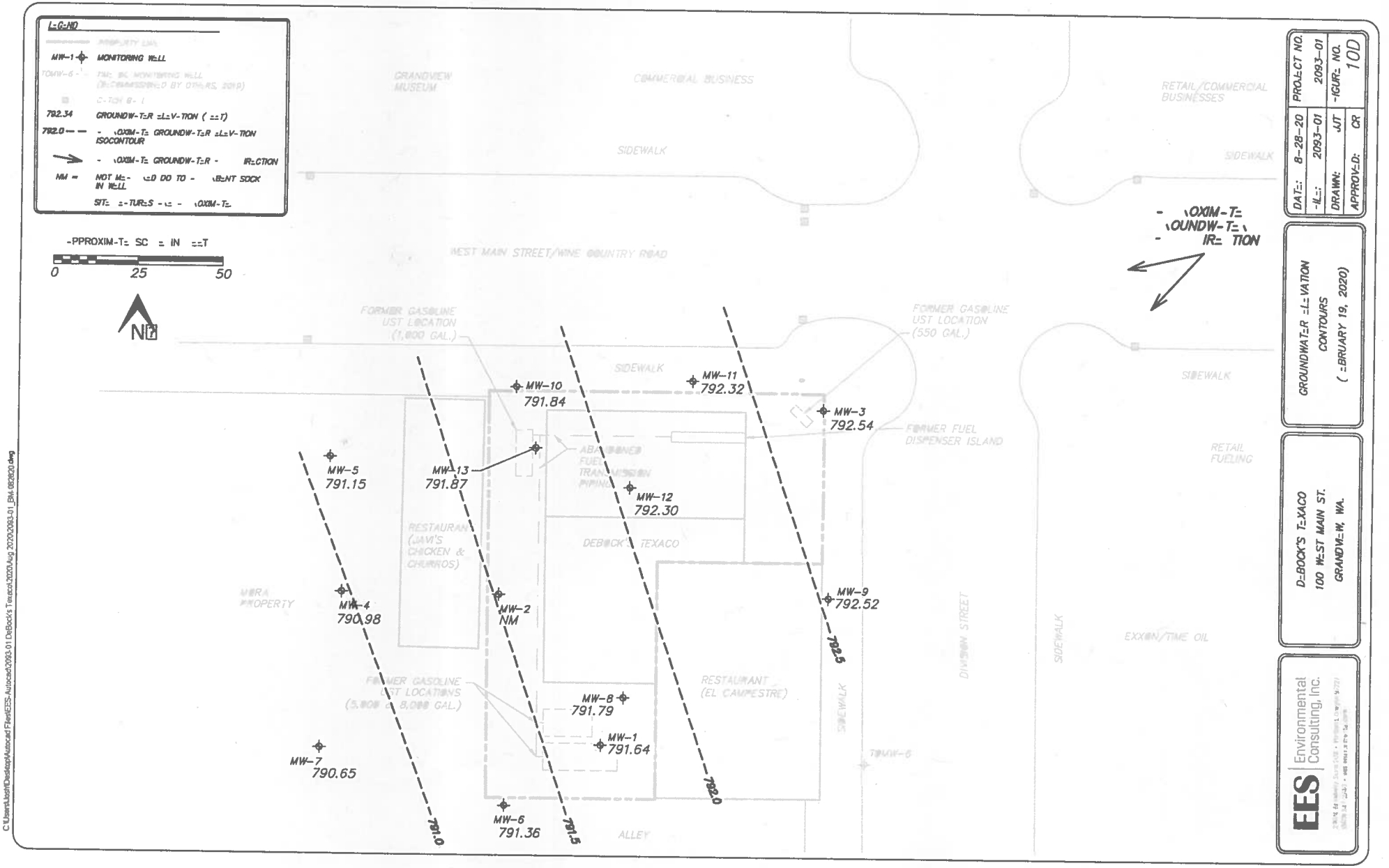
| | |
|---|---|
| DATE: | 8-28-20 |
| FILE: | 2093-01 |
| DRAWN: | JJT |
| APPROVED: | CR |
| PROJECT NO. | 2093-01 |
| FIGURE NO. | 9B |

CROSS SECTION A-A'

DEBOCK'S TEXACO
100 WEST MAIN ST.
GRANDVIEW, WA.

EES Environmental Consulting, Inc.

C:\Users\Josh\Desktop\Autocad Files\EES-Autocad\2093-01 DeBock's Texaco\2020\Aug 2020\2093-01_BW-082620.dwg

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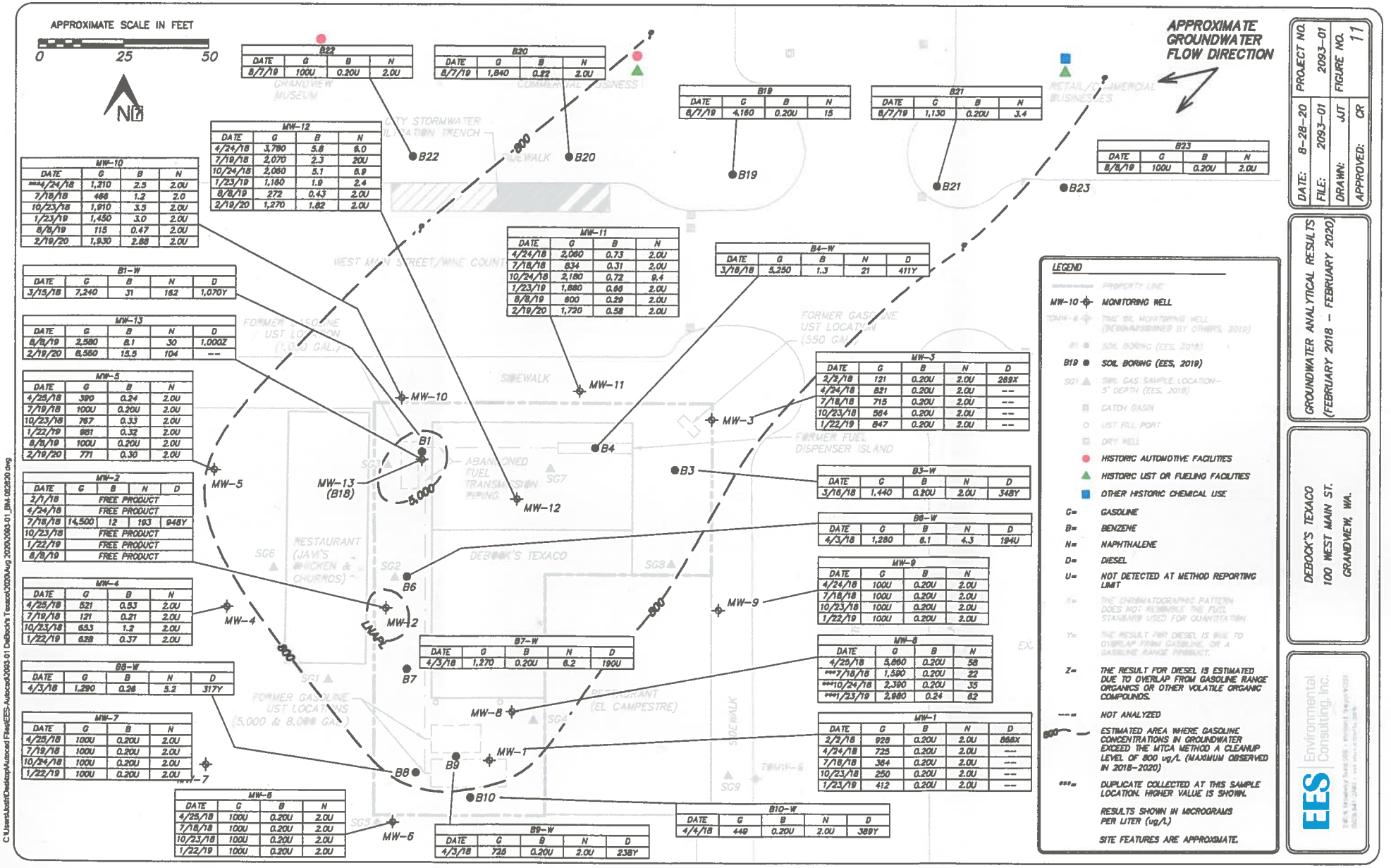



| B22 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 8/7/19 | 100U | 0.20U | 2.0U |

| B20 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 8/7/19 | 1,840 | 0.22 | 2.0U |

| B19 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 8/7/19 | 4,160 | 0.20U | 15 |

| B21 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 8/7/19 | 1,130 | 0.20U | 3.4 |

| B23 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 8/8/19 | 100U | 0.20U | 2.0U |

| MW-12 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/24/18 | 3,780 | 5.8 | 6.0 |
| 7/18/18 | 2,070 | 2.3 | 20U |
| 10/24/18 | 2,060 | 5.1 | 8.9 |
| 1/23/19 | 1,160 | 1.9 | 2.4 |
| 8/8/19 | 272 | 0.43 | 2.0U |
| 2/19/20 | 1,270 | 1.82 | 2.0U |

| MW-10 | | | |
|---|---|---|---|
| DATE | G | B | N |
| ***4/24/18 | 1,210 | 2.5 | 2.0U |
| 7/18/18 | 466 | 1.2 | 2.0 |
| 10/23/18 | 1,910 | 3.5 | 2.0U |
| 1/23/19 | 1,450 | 3.0 | 2.0U |
| 8/8/19 | 115 | 0.47 | 2.0U |
| 2/19/20 | 1,930 | 2.88 | 2.0U |

| MW-11 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/24/18 | 2,080 | 0.73 | 2.0U |
| 7/18/18 | 834 | 0.31 | 2.0U |
| 10/24/18 | 2,180 | 0.72 | 9.4 |
| 1/23/19 | 1,880 | 0.66 | 2.0U |
| 8/8/19 | 600 | 0.29 | 2.0U |
| 2/19/20 | 1,720 | 0.58 | 2.0U |

| B4-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 3/16/18 | 5,250 | 1.3 | 21 | 411Y |

| B1-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 3/15/18 | 7,240 | J1 | 162 | 1,070Y |

| MW-13 | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 8/8/19 | 2,590 | 8.1 | 30 | 1,000Z |
| 2/19/20 | 8,560 | 15.5 | 104 | -- |

| MW-3 | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 2/3/18 | 121 | 0.20U | 2.0U | 269X |
| 4/24/18 | 821 | 0.20U | 2.0U | -- |
| 7/18/18 | 715 | 0.20U | 2.0U | -- |
| 10/23/18 | 564 | 0.20U | 2.0U | -- |
| 1/22/19 | 847 | 0.20U | 2.0U | -- |

| MW-5 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/25/18 | 390 | 0.24 | 2.0U |
| 7/19/18 | 100U | 0.20U | 2.0U |
| 10/23/18 | 767 | 0.33 | 2.0U |
| 1/22/19 | 881 | 0.32 | 2.0U |
| 8/8/19 | 100U | 0.20U | 2.0U |
| 2/19/20 | 771 | 0.30 | 2.0U |

| B3-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 3/16/18 | 1,440 | 0.20U | 2.0U | 348Y |

| MW-2 | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 2/1/18 | FREE PRODUCT | | | |
| 4/24/18 | FREE PRODUCT | | | |
| 7/18/18 | 14,500 | 12 | 193 | 948Y |
| 10/23/18 | FREE PRODUCT | | | |
| 1/22/19 | FREE PRODUCT | | | |
| 8/8/19 | FREE PRODUCT | | | |

| B6-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 4/3/18 | 1,280 | 6.1 | 4.3 | 194U |

| MW-9 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/24/18 | 100U | 0.20U | 2.0U |
| 7/18/18 | 100U | 0.20U | 2.0U |
| 10/23/18 | 100U | 0.20U | 2.0U |
| 1/22/19 | 100U | 0.20U | 2.0U |

| MW-4 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/25/18 | 521 | 0.53 | 2.0U |
| 7/19/18 | 121 | 0.21 | 2.0U |
| 10/23/18 | 653 | 1.2 | 2.0U |
| 1/22/19 | 628 | 0.37 | 2.0U |

| B7-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 4/3/18 | 1,270 | 0.20U | 6.2 | 190U |

| MW-8 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/25/18 | 5,860 | 0.20U | 58 |
| ***7/18/18 | 1,590 | 0.20U | 22 |
| ***10/24/18 | 2,390 | 0.20U | 35 |
| ***1/23/19 | 2,980 | 0.24 | 62 |

| B8-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 4/3/18 | 1,290 | 0.26 | 5.2 | 317Y |

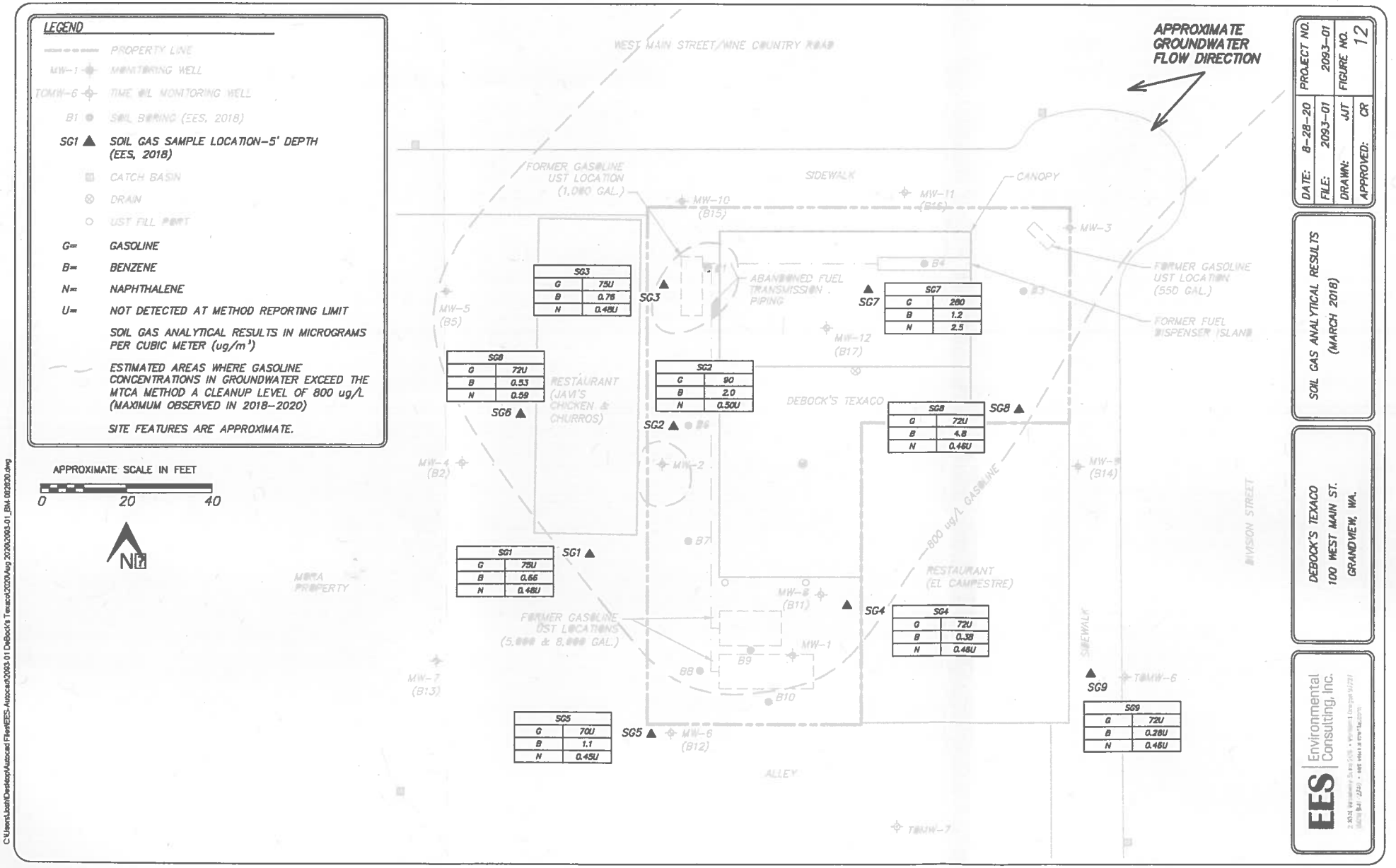
| MW-1 | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 2/2/18 | 928 | 0.20U | 2.0U | 868X |
| 4/24/18 | 725 | 0.20U | 2.0U | -- |
| 7/18/18 | 364 | 0.20U | 2.0U | -- |
| 10/23/18 | 250 | 0.20U | 2.0U | -- |
| 1/23/19 | 412 | 0.20U | 2.0U | -- |

| MW-7 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/25/18 | 100U | 0.20U | 2.0U |
| 7/19/18 | 100U | 0.20U | 2.0U |
| 10/24/18 | 100U | 0.20U | 2.0U |
| 1/22/19 | 100U | 0.20U | 2.0U |

| MW-6 | | | |
|---|---|---|---|
| DATE | G | B | N |
| 4/25/18 | 100U | 0.20U | 2.0U |
| 7/18/18 | 100U | 0.20U | 2.0U |
| 10/23/18 | 100U | 0.20U | 2.0U |
| 1/22/19 | 100U | 0.20U | 2.0U |

| B9-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 4/3/18 | 726 | 0.20U | 2.0U | 238Y |

| B10-W | | | | |
|---|---|---|---|---|
| DATE | G | B | N | D |
| 4/4/18 | 449 | 0.20U | 2.0U | 389Y |

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# APPENDIX C
# HIGH RESOLUTION SITE CHARACTERIZATION REPORT

CASCADE
DRILLING | TECHNICAL SERVICES

10/07/2021

# FINAL DATA REPORT

## High Resolution Site Characterization

## MIHPT and UVOST

RELLC Site
Grandview, Washington
306211092

**Prepared for:**
AECOM
David Raubvogel
1111 3rd Ave, Suite 1600
Seattle, Washington 98101

# TABLE OF CONTENTS

# PROGRAM NARRATIVE

Cascade Technical Services (Cascade) is pleased to present this final data report to AECOM for the MIHPT and UVOST services conducted from September 28th to 30th, 2021 at the RELLC site in Grandview, Washington.

In total, Cascade advanced 9 MIHPT and 9 UVOST investigation borings to depths up to approximately 27 feet below ground surface (bgs). The locations are shown on Figure 1. For each of these locations, Cascade generated a continuous log of the electrical conductivity (EC), relative permeability ("estimated K"), and relative (semi-quantitative) concentration of volatile organic compounds versus depth. Those logs are attached to this report.

Field work, including the operation of the MIP, HPT, UVOST and EC probes, was conducted by trained professionals and quality assurance/quality control (QA/QC) measurements associated with these data were found to be within the tolerances set forth in the standard operating procedures (SOPs) with the no exceptions.

Additional information regarding the MIP, HPT, UVOST and EC systems is provided in the reference material included in this report.

I certify that the data package is in compliance with the terms and conditions of the contract and meets Cascade's data quality standards, with the exceptions detailed above (if any). Release of the data contained in this package has been authorized by the data manager or his/her designee, as verified by the following signature.

Brad Carlson
Regional Manager, Site Characterization

# QA/QC SUMMARY TABLE

Provided below is a summary of QA/QC information and any deviations from the SOPs that occurred during the field activities.

| Location | Date | Time | Total Depth (ft bgs) | Response Test | Comments / Deviations |
|---|---|---|---|---|---|
| MIHPT-01 | September 30, 2021 | 09:13:03 | 26.75 | Pass | None |
| MIHPT-04 | September 30, 2021 | 11:29:23 | 26.60 | Pass | None |
| MIHPT-05 | September 29, 2021 | 17:51:49 | 27.15 | Pass | None |
| MIHPT-06 | September 30, 2021 | 13:51:54 | 27.45 | Pass | None |
| MIHPT-07 | September 29, 2021 | 10:05:46 | 26.85 | Pass | None |
| MIHPT-08 | September 29, 2021 | 11:57:54 | 26.85 | Pass | None |
| MIHPT-09 | September 29, 2021 | 14:14:42 | 26.75 | Pass | None |
| UVOST@MIHPT-01 | September 28, 2021 | 16:50:46 | 25.12 | Pass | None |
| UVOST@MIHPT-02 | September 30, 2021 | 14:16:33 | 22.89 | Pass | None |
| UVOST@MIHPT-03 | September 30, 2021 | 15:00:26 | 24.92 | Pass | None |
| UVOST@MIHPT-04 | September 30, 2021 | 15:51:36 | 24.82 | Pass | None |
| UVOST@MIHPT-05 | September 28, 2021 | 13:24:23 | 24.91 | Pass | None |
| UVOST@MIHPT-06 | September 28, 2021 | 10:04:06 | 27.18 | Pass | None |
| UVOST@MIHPT-07 | September 28, 2021 | 10:55:58 | 17.5 | Pass | None |
| UVOST@MIHPT-07A | September 28, 2021 | 11:32:48 | 23.62 | Pass | None |
| UVOST@MIHPT-08 | September 28, 2021 | 14:33:11 | 24.79 | Pass | None |
| UVOST@MIHPT-09 | September 28, 2021 | 15:44:45 | 22.85 | Pass | None |

# PROJECT DETAILS

This section provides information regarding the Cascade personnel present at the site during the field activities and the specific equipment used during field activities.

## Cascade Personnel

The following personnel were present during field activities at the site:

- Chuck Terry, HRSC Technician
- Caleb Trusty, Direct-Push Rig Operator

## Cascade Equipment

The following HRSC equipment was utilized during field activities at the Site:

- Geoprobe 78-Series direct push drill rig
- 1.75-inch O.D. MH6534 MIHPT probe
- Geoprobe MP6500 MIP Controller (Nitrogen Flow and Heater)
- Geoprobe K6300 HPT Controller
- Geoprobe FI 6000 Computer
- HP 5890 Gas Chromatograph
- Electron Capture Detector (ECD)
- Halogen Specific Detector (XSD)
- Photoionization Detector (PID) with 10.6 eV Lamp
- Flame Ionization Detector (FID)
- 150-foot MIHPT trunkline
- 1.75-inch O.D. drive rods
- Ultra-high purity nitrogen
- Ultra-high purity hydrogen

# INTERPRETATION AND RECOMMENDATIONS

This section provides a summary of the data collected during this investigation program, Cascade's recommendations for updating the conceptual site model, and suggestions for next steps in the site management process, including remediation, if appropriate.

## Data Interpretation

A detailed, written interpretation of this data set was not included in the contracted scope of work, however, Cascade HRSC experts were in communication with the client team throughout the project. A three-dimensional model of the MIHPT data is under construction and will be submitted to AECOM under separate cover.

## Recommendations

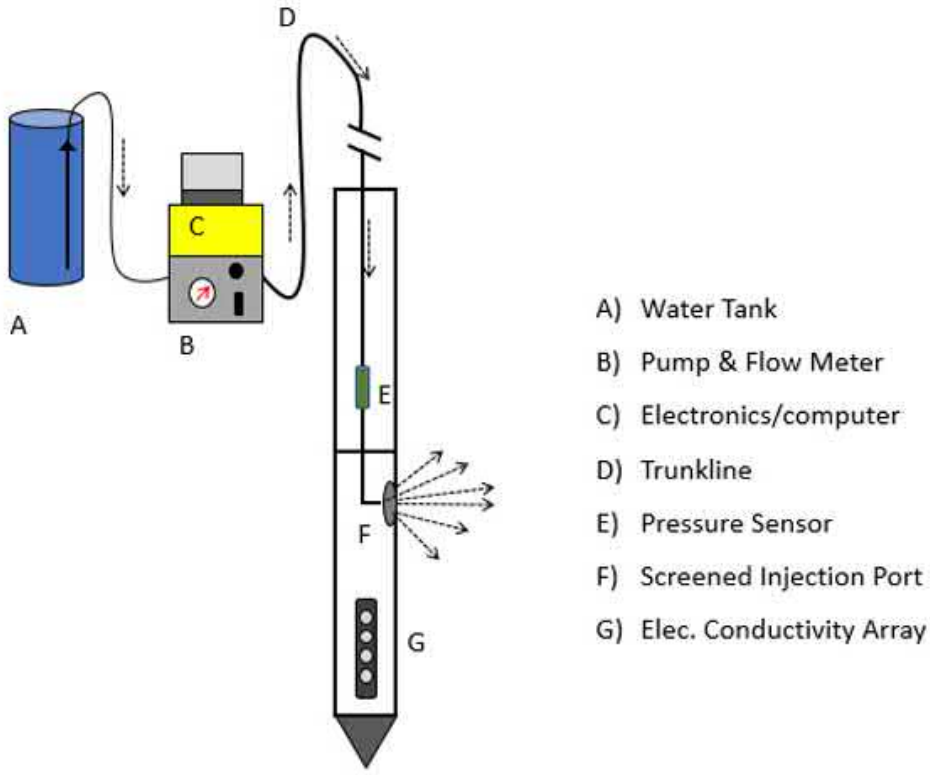
Additional recommendations were not included in this scope of work. Please contact the Cascade Project Manager if you would like to discuss further investigation or remediation alternatives. We would be excited to continue to learn about this site and assist you in meeting your site management goals.

# REFERENCE MATERIAL

This section provides information useful in understanding and interpreting the data logs generated as part of this HRSC investigation.

## HPT System Overview

The hydraulic profiling tool creates a log of the relative formation permeability versus depth in real time as the probe is advanced into the subsurface. It operates by injecting clean water at a constant flow rate from an aboveground reservoir through the direct push rods and out into the surrounding soil via an injection port on the side of the probe. Simultaneously, sensors record the flow rate, the back pressure required by the pump to maintain that flow rate, and the current depth of the probe. These measurements are collected by the onboard software and an estimated hydraulic conductivity (K) value is calculated and plotted alongside the other measurements in real time.




Generalized schematic of the HPT tool. Source: Geoprobe HPT Standard Operating Procedure

### Reference Testing and Dissipation Tests

Reference testing is conducted to ensure that the HPT pressure transducer is working correctly and to evaluate the condition of the HPT injection screen. The HPT reference test also calculates atmospheric pressure which is required to obtain static water level readings and to determine the estimated K values for the log. The reference test utilizes an apparatus consisting of a tube with a valve located 6 inches above the HPT injection screen and the top of the tube located another 6 inches above the valve. When the tube is filled completely with water, the 12 inches of water will supply an additional 0.433 pounds per square inch (psi) of pressure on the injection screen (in addition to atmospheric pressure). When the valve is opened that additional pressure drops to 0.217 psi at the HPT injection screen. The accuracy of the pressure transducer can be assessed by comparing the pressure readings when the tube is filled and when the tube is filled only to the valve; this is done both with and without the pump running. A tolerance of plus or minus 10 percent is applied for a passing test.

Dissipation tests are conducted to determine the hydrostatic pressure of the water column above the transducer during logging. To conduct a dissipation test, advancement of the tooling is stopped, the HPT pump is stopped, and flow drops to zero. The pressure applied to the HPT pressure transducer by the injection of water into the formation begins to dissipate. This pressure should dissipate to a value equal to atmospheric pressure plus the hydrostatic pressure applied by water in the formation. In post-processing of the HPT log, the dissipation value and the atmospheric pressure determined during reference testing can be used to remove the influence of atmospheric and hydrostatic pressures from the values recorded by the transducer. These adjustments result in the corrected HPT pressure log which is a measure of the properties of the subsurface material.

## HPT Data Interpretation

An HPT log typically includes several types of data, many of which are reduced by the software to generate the estimated K values. The dissipation testing results conducted by the operator during the advancement of the tool are used to adjust the HPT back pressure values to account for the hydrostatic pressure of the water column above the probe during advancement. This adjustment results in the corrected HPT pressure data set. Subsequently, the corrected HPT pressure and the HPT flow data sets are used to calculate the estimated K values.

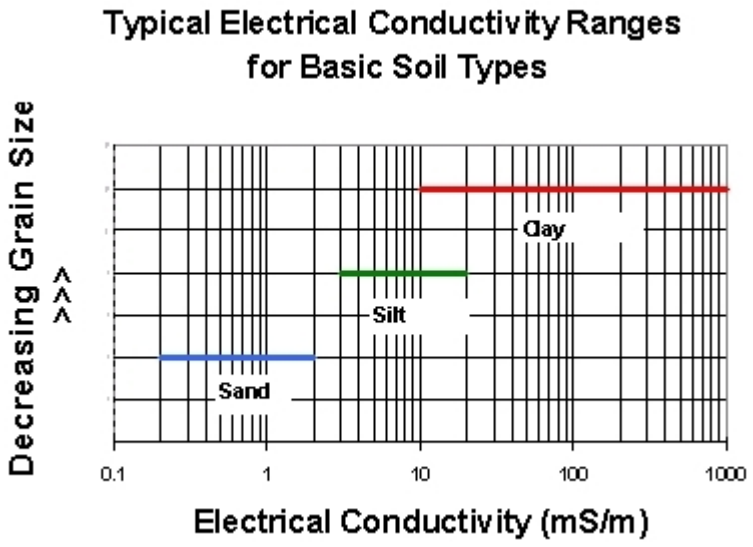
The most useful measurement from the HPT is the estimated K log, which as noted above, is a measure of the relative permeability of the formation versus depth. Despite the fact that these data are presented in units typical of traditional hydraulic conductivity (feet per day), they are not traditional K values and should not be used in many of the applications where a traditional K value would be appropriate. The accuracy of the estimated K values is typically one to two orders of magnitude, which would clearly generate a significant amount of uncertainty if used for any seepage velocity or risk-based calculations. The estimated K values are, however, extremely useful for understanding what zones of the subsurface are exhibiting higher or lower relative permeability.

As a secondary data set from this tool, the HPT back pressure can be helpful in the design of injected remedies. The back pressure is a measure of the level of difficulty faced injecting the

clean water from the HPT system into the formation; this is analogous to level of success an injection may achieve at the same depths.

## EC Data Interpretation

In a general sense, the electrical conductivity of a soil varies with grain size. This correlation can be utilized to gather an understanding of the subsurface from the EC data. The EC measured in the subsurface can also vary based on changes in mineralogy, groundwater geochemistry, and contamination. It is important, then, to confirm the accuracy of the EC data for this use by collecting confirmatory soil borings from your site.




Relationship between electrical conductivity and grain size. Source: Geoprobe Electrical Conductivity System Standard Operating Procedure

## MIP System Overview

The MIP is commonly used for quickly determining the locations of volatile organic compound (VOC) source zones and plumes. The MIP is most valuable in terms of its ability to provide “spatial correspondence”, meaning that where the MIP detector responses show peaks, there is likely to be elevated soil and groundwater concentrations. The MIP can also be used to provide extremely valuable data to streamline subsequent investigative tasks and improve the overall efficiency and accuracy of the site investigation. Vertical profiles, cross-sectional views and three-dimensional images of contaminant distribution can all be produced from the electronic data generated by the MIP logs. The capability of providing reliable, real-time information allows for informed and timely decision making in the field. The MIP works by heating the soils and groundwater adjacent to the probe to 120 degrees Celsius. This volatilizes the VOCs and allows them to transfer through a Teflon membrane via a combination of concentration and pressure gradients. These VOC are then swept into a nitrogen gas loop that carries them to a series of detectors housed at ground surface. Continuous chemical profiles are generated from each hole. The electrical conductivity of the soil is also measured, and these logs can be compared to the chemical logs to better understand the relationship between the lithology and the contaminant distribution. The MIP is also commonly deployed with an integrated Hydraulic Profiling Tool (HPT) which uses an injection

logging system to generate a continuous log of relative formation permeability versus depth. The following section discusses the various detection systems that are commonly used with the MIP system.

An MIHPT probe and trunkline. Source: Geoprobe

### Electron Capture Detector

Responds to halogenated compounds (i.e., chlorinated, fluorinated, brominated) only, and is more sensitive to compounds that a more highly halogenated. This results in a greater response to compounds like tetrachloroethene and trichloroethene versus cis-1,2-dichloroethene and vinyl chloride.

The ECD uses a radioactive beta emitter to ionize some of the carrier gas and produce a current between a biased pair of electrodes. When organic molecules contain electronegative functional groups, such as halogens, phosphorous, and nitro groups pass by the detector, they capture some of the electrons and reduce the current measured between the electrodes.

### Halogen Specific Detector

Responds to halogenated compounds (i.e., chlorinated, fluorinated, brominated) only.

The XSD converts compounds containing halogens to their oxidation products and free halogen atoms by oxidative pyrolysis. These halogen atoms are adsorbed onto the activated platinum surface of the detector probe assembly resulting in an increase thermionic emission. This emission current provides a corresponding voltage that is measured via an electrometer circuit in the detector controller.

### Photoionization Detector

Responds to all VOCs, including chlorinated compounds and petroleum hydrocarbons.

The PID sample stream flows through the detector's reaction chamber where it is continuously irradiated with high energy ultraviolet light. When compounds are present that have a lower ionization potential than that of the irradiation energy (10.6 electron volts with standard lamp), they are ionized. The ions formed are collected in an electrical field, producing an ion current that is proportional to compound concentration. The ion current is amplified and output by the gas chromatograph's electrometer.

### Flame Ionization Detector

Responds to combustible VOCs only (i.e., petroleum hydrocarbons).

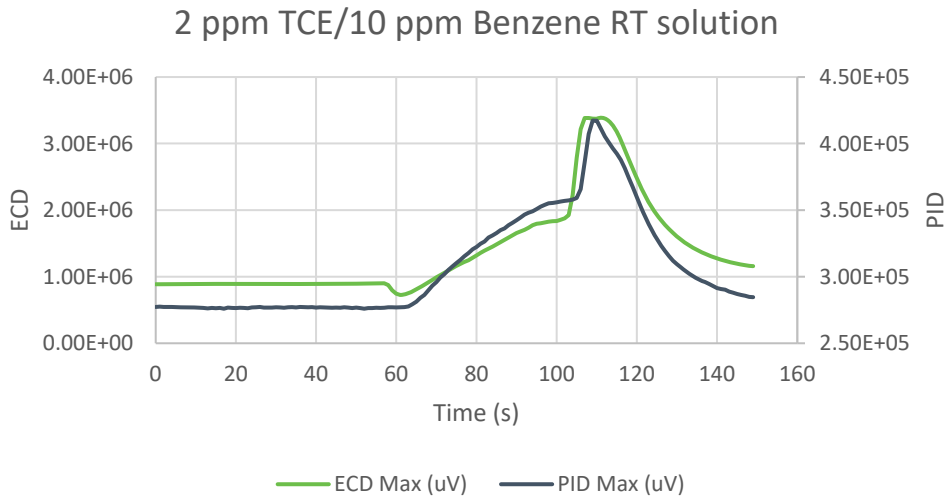
The FID consists of a hydrogen / air flame and a collector plate. The effluent from the gas chromatograph (trunkline) passes through the flame, which breaks down organic molecules and produces ions. The ions are collected on a biased electrode and produce an electric signal.

### Response Testing

Response testing (RT) is an integral part of ensuring the quality of data from the MIP system. Response testing is conducted before and after each log to ensure the validity of the data and the integrity of the system. The RT provides a traceable indication that the MIP system detectors are adequately responding and allows the carrier gas trip time to be calculated on the physical components of the system.

Cascade uses acceptance criteria to evaluate the RTs as described in the manufacturer’s SOP. The acceptable criteria for an RT is defined for specified concentrations of RT solution and a specified carrier gas trunkline flow rate. Documenting the RTs provides a level of quality assurance for each MIP project and allows operators and data reviewers to identify systems in need of maintenance.

The trip time is measured by recording the time between the moment when the testing vial is placed over the membrane and the response of the detectors, as viewed on the MIP data acquisition unit. The baseline and peak response value are also recorded for comparison with other MIP response tests. The trip time is entered manually into the data acquisition system account for the time it takes for compounds in the subsurface to travel the length of the trunkline during the MIP boring, thereby increasing the accuracy of depth measurements.




An example response test for trichloroethene and benzene

## MIP Data Interpretation

Detector responses, measured in microVolts (µV), are a semi-quantitative indication of relative contaminant concentrations. Minimum and maximum detector responses are collected at each depth interval. A comparison of the responses of the four detectors at each interval is necessary to gather the most information about the compounds present. In general, responses on the XSD, ECD, and PID indicate the presence of chlorinated compounds (i.e., no response on the FID). Responses only on the PID and FID indicate that petroleum hydrocarbons are present. In some cases, comparison of the magnitudes of the XSD and ECD responses can indicate whether the mix of chlorinated compounds is more degraded (e.g., lower ECD responses than those on the XSD) or more source-enriched (e.g., higher ECD responses than those on the XSD). Similar comparison can be accomplished with the PID and FID data: higher responses on the FID indicate the presence of a higher percentage of combustible hydrocarbon compounds.

Confirmatory soil borings are recommended following each MIP investigation. The confirmatory program should be designed to include a small number of boring locations advanced in the immediate vicinity of the MIP locations. The design of this confirmatory boring program will be dependent on the goals of the overall investigation and the specific site conditions. Generally, areas with high detector responses should be targeted for soil sample collection, as well as areas on the boundary of the impacted zone where there are important considerations (nearby receptors, property boundaries, important design considerations for future remediation, etc.).

# UVOST System Overview

UVOST is a direct push system that produces semi-quantitative vertical profiles of fuel-related NAPL in the subsurface. Multiple vertical profiles, or borings, may be advanced to develop more complex visual representations of NAPL distribution, such as transects, three dimensional models, and interactive maps. This system provides real-time information which allows users to make timely decisions during the mobilization of equipment.

The UVOST system utilizes an Excimer laser to generate UV light. The UV light is transmitted down a fiber optic cable and reflected into the subsurface through a sapphire window located on the lowermost portion of a direct push rod string. Petroleum hydrocarbons contain significant amounts of naturally fluorescent PAHs. If PAHs are encountered in sufficient quantities, those similar to that found in NAPL, the resulting fluorescence is transmitted to an oscilloscope via a second fiber optic cable. The fluoresced light is processed through four wavelength-based channels. More volatile PAHs will show response on the shorter wavelength channels. Larger and less volatile PAHs will produce response on the longer wavelength channels. The intensity and resonance time, across each channel, and in relation to one another, will provide indication of quantity and type of NAPL that is being detected. Each data depth has a specific waveform which may be called out and reviewed. The vertical UVOST log is composed of the data from the four channels at each data depth. The color of the vertical UVOST log provides an indication of the waveform shape.

Before each boring the UVOST system is calibrated against a reference emitter (RE). The RE is a blend of fuels developed by the manufacturer for standardizing the tool. Because the tool is standardized against the RE before each boring, responses from different borings can be compared with confidence. All UVOST response is displayed in %RE, where the original RE calibration is always 100%. It is common to have a background soil fluorescence between 0.1 and 10%RE. It is also possible to have positive NAPL responses higher than 100%RE.

Additionally, a background %RE is always collected prior to the advancement of each boring. The background %RE is collected with the clean sapphire window exposed to ambient conditions. The background %RE defines background noise from the system and notifies the operator is there are any problems with the system.

CASCADE

DRILLING | TECHNICAL SERVICES

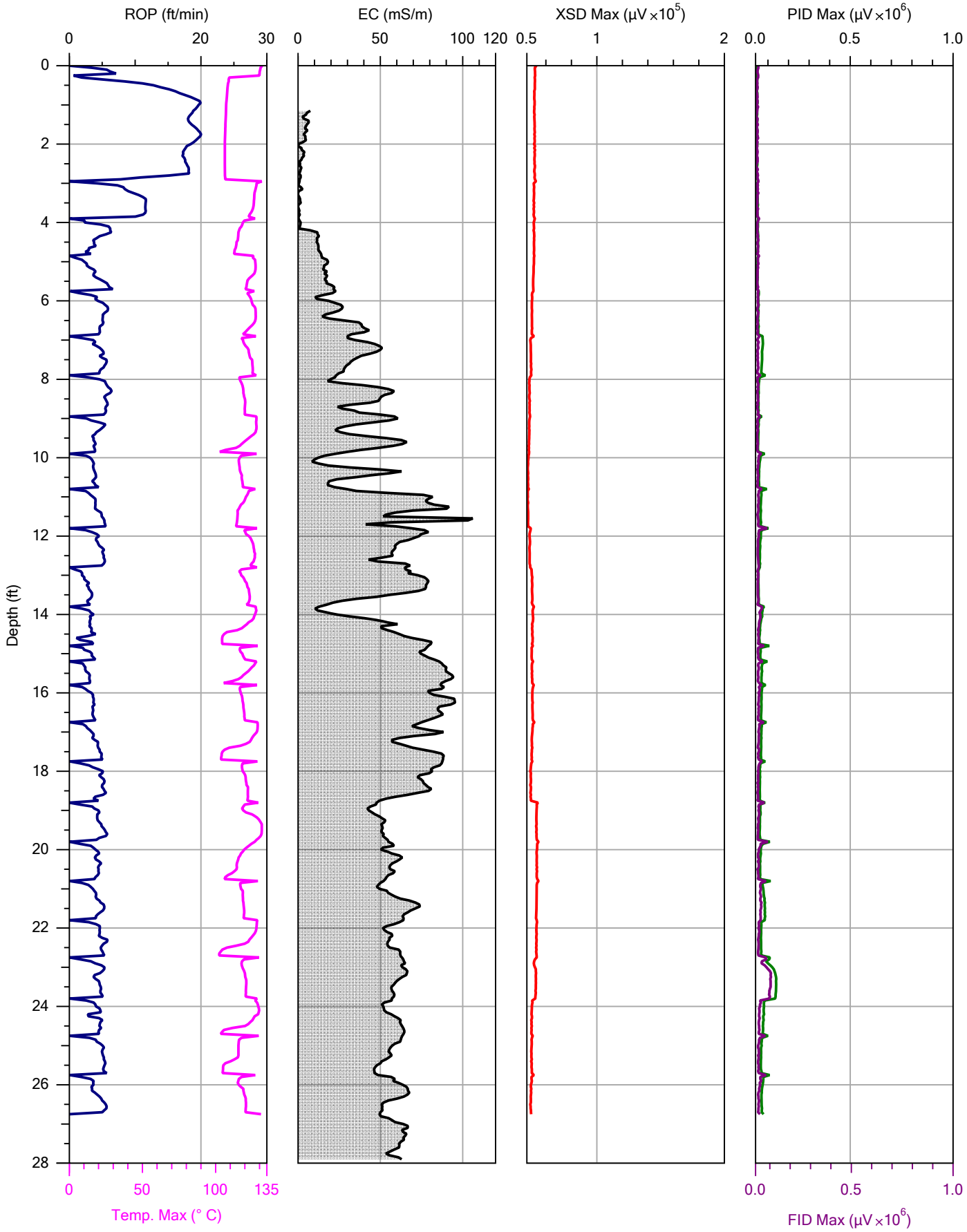
# SITE PLAN


AECOM - RELLC Grandview
UVOST/MIHPT - Grandview, WA
Legend
UVOST/MIHPT Boring
UVOST-03
UVOST-02
UVOST/MIHPT-06
UVOST/MIHPT-07
UVOST/MIHPT-01
UVOST/MIHPT-04
UVOST/MIHPT-05
UVOST/MIHPT-09
UVOST/MIHPT-08
N
100 ft
Google Earth

CASCADE

DRILLING | TECHNICAL SERVICES

# MIHPT INVESTIGATION DATA PLOTS

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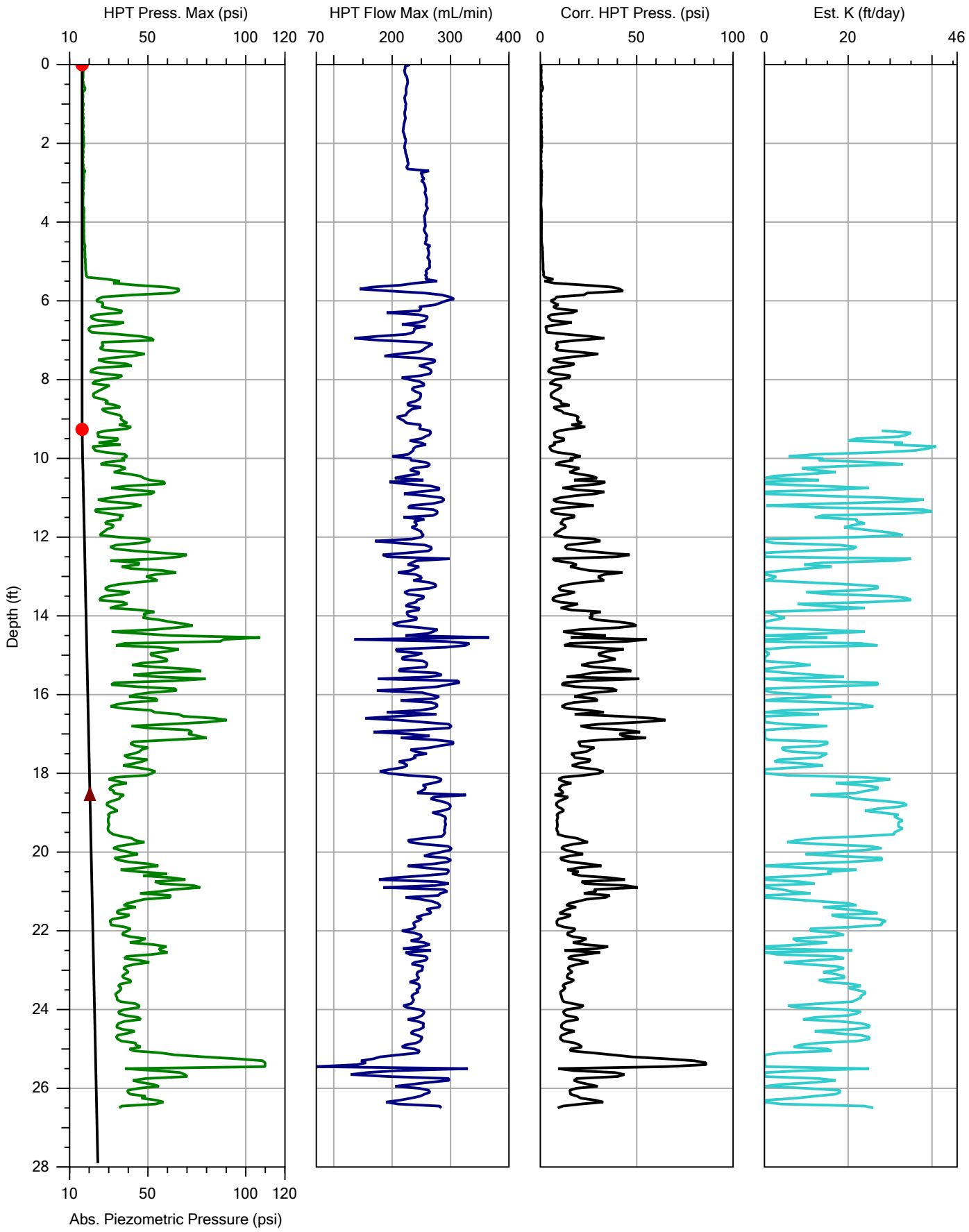
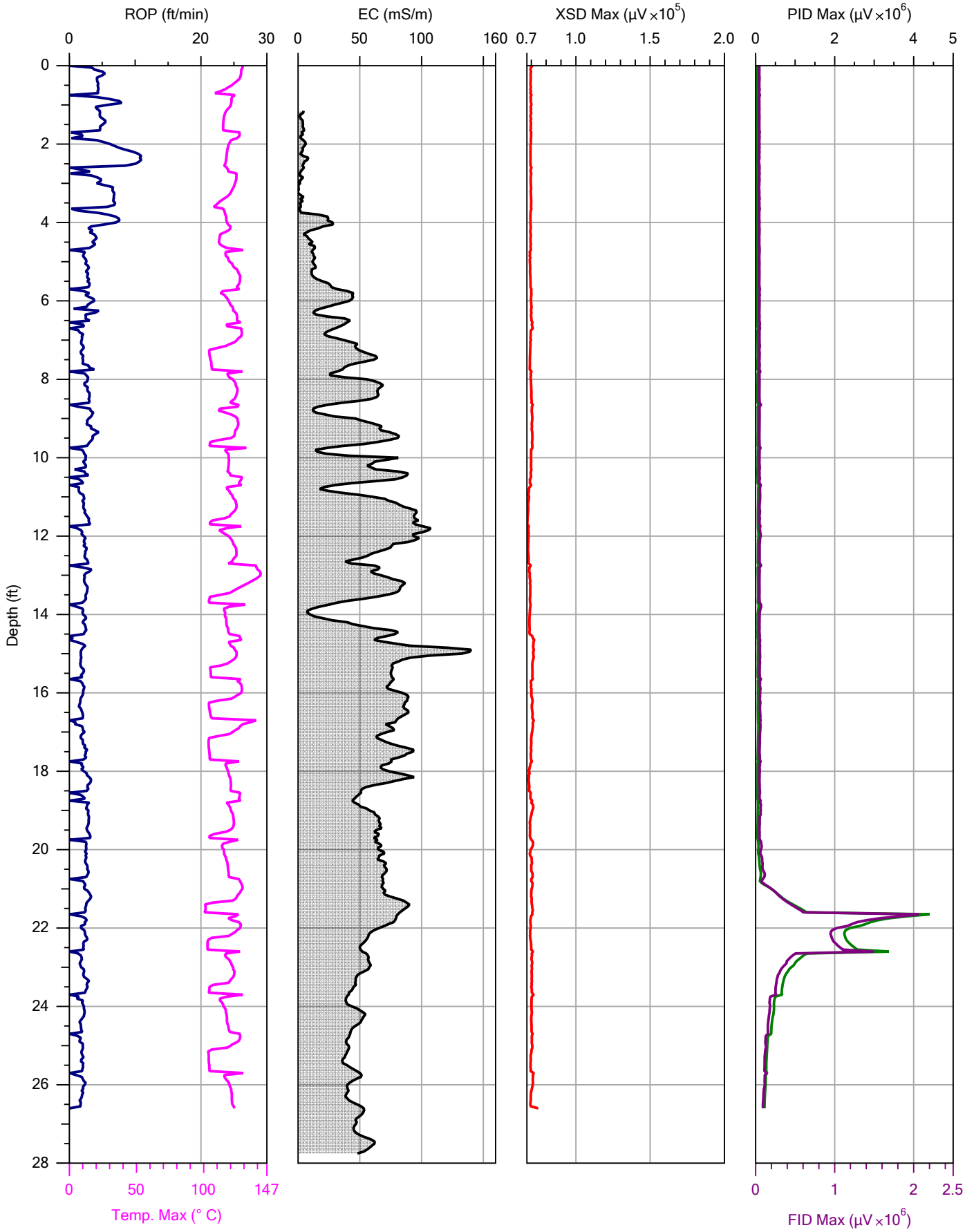
| | | |
|---|---|---|
| | | File: MIHPT-01.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |



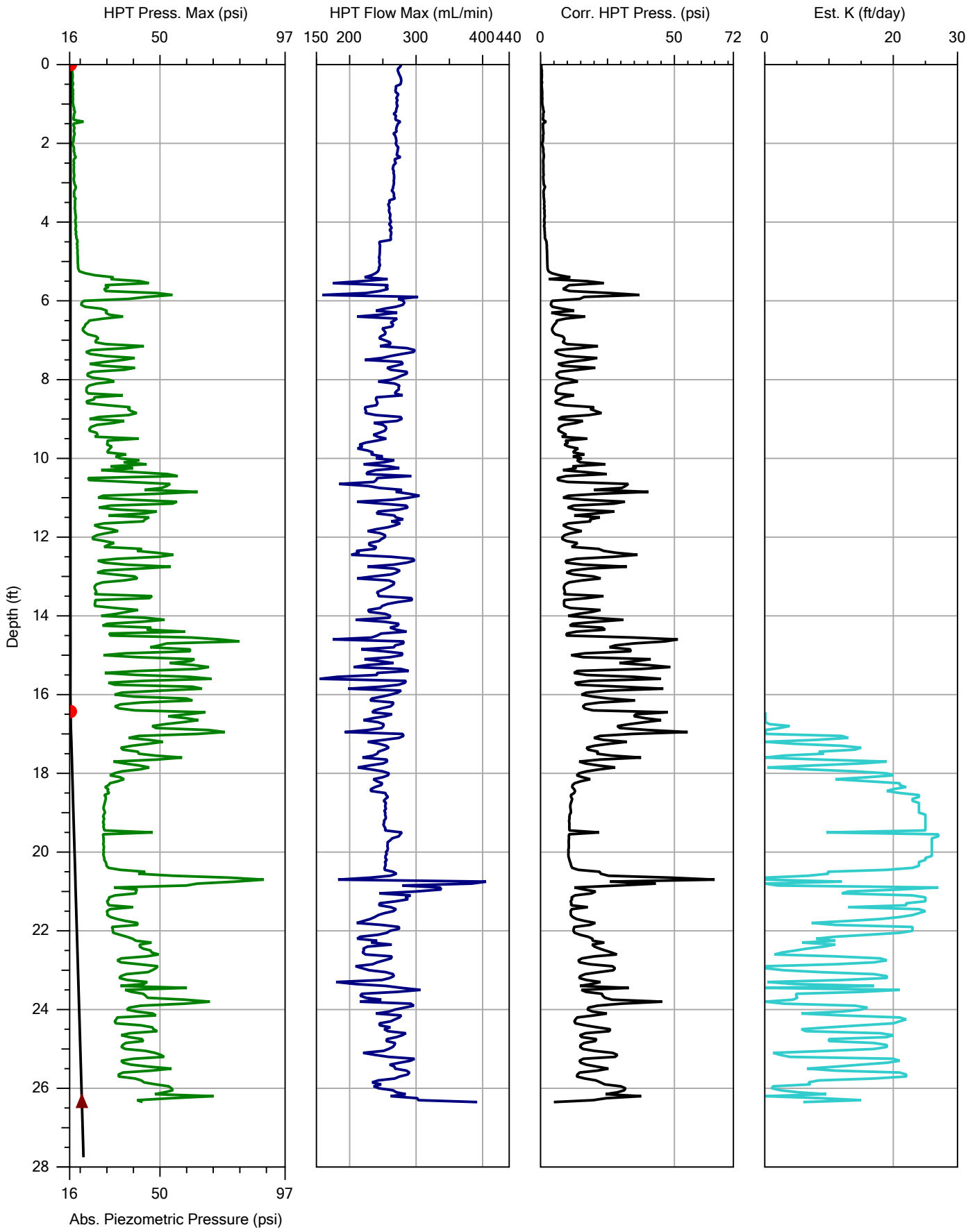

CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-01.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |




CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-04.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |




CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
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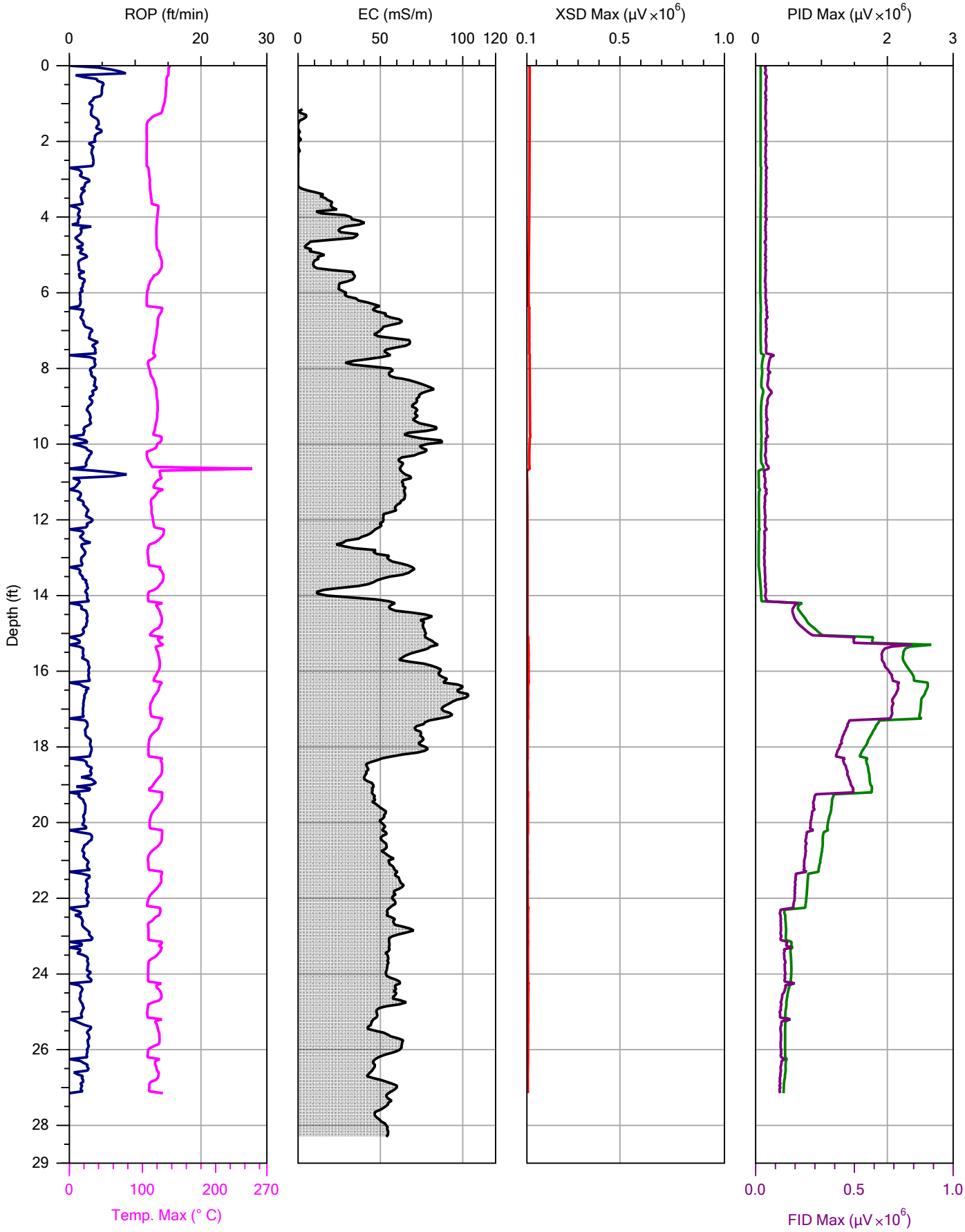
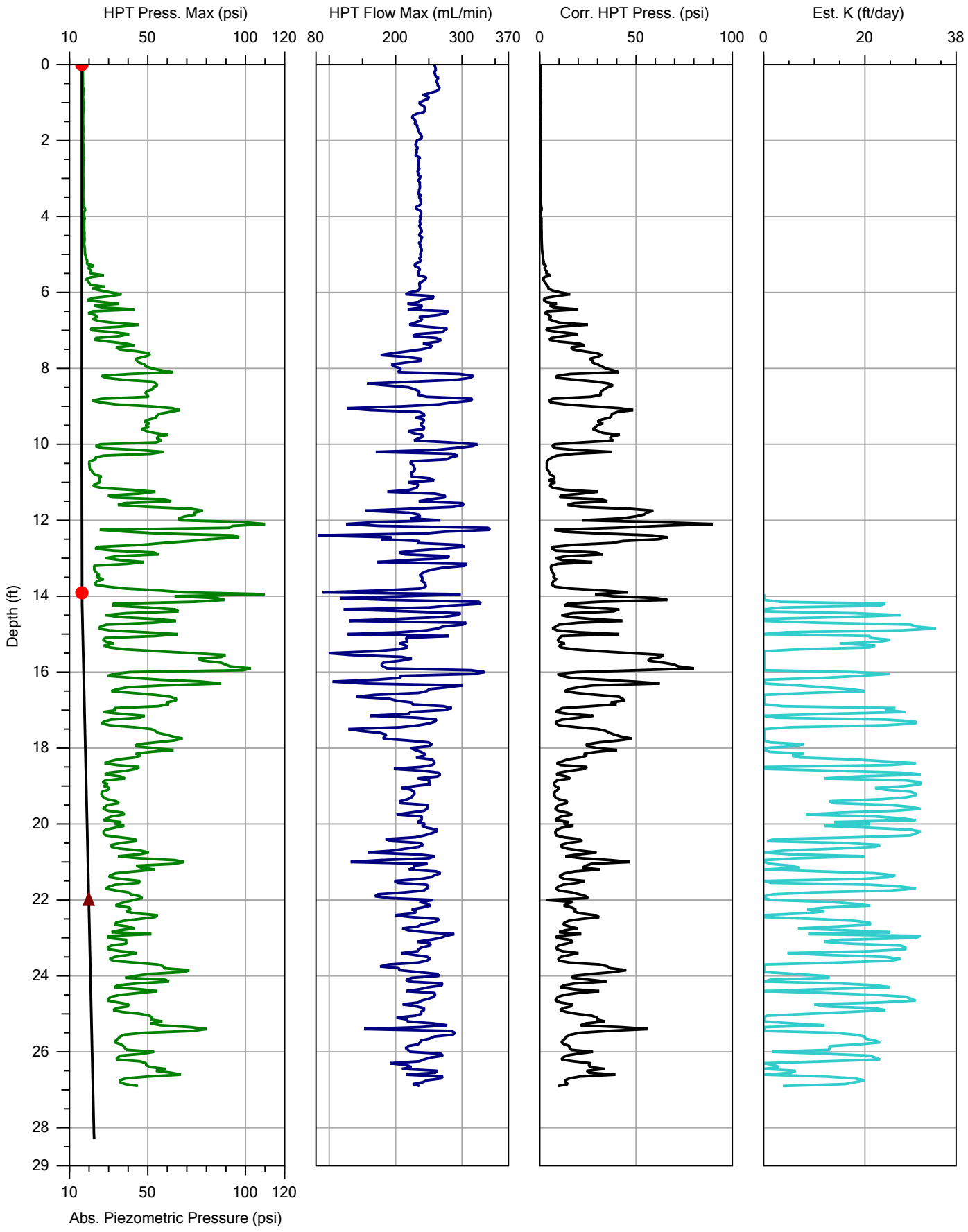
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |



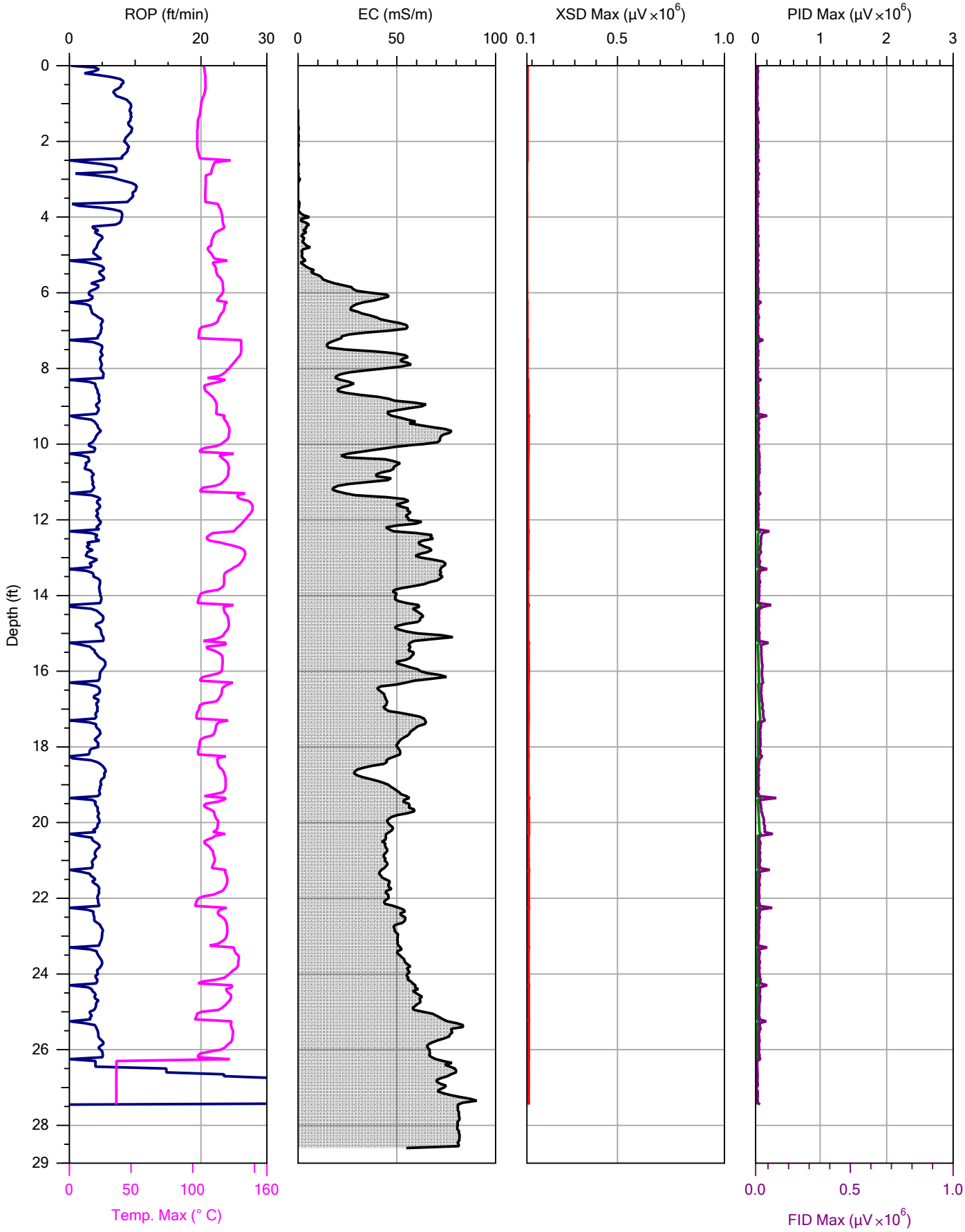

CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-05.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |




CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-05.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |




CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
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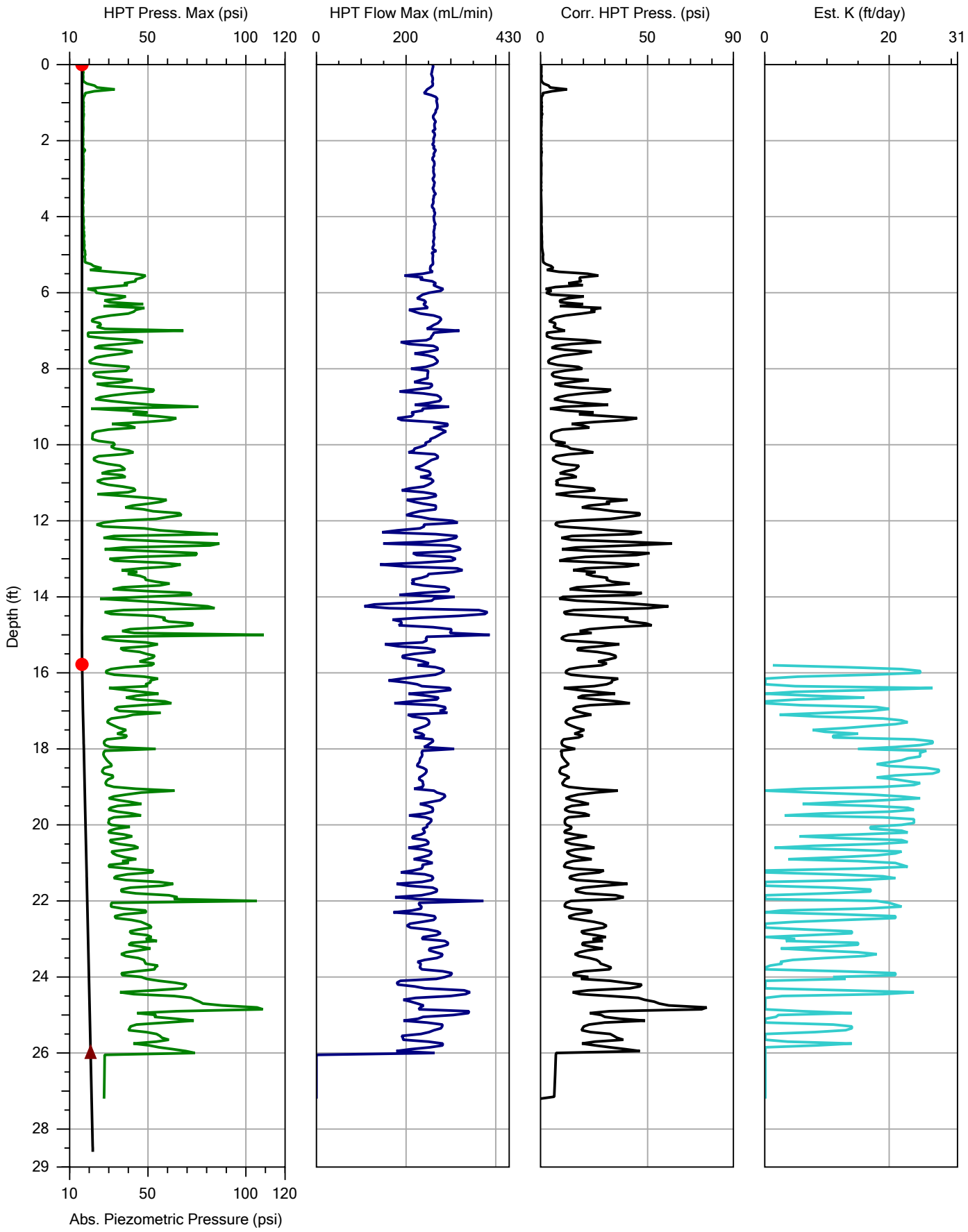
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

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DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
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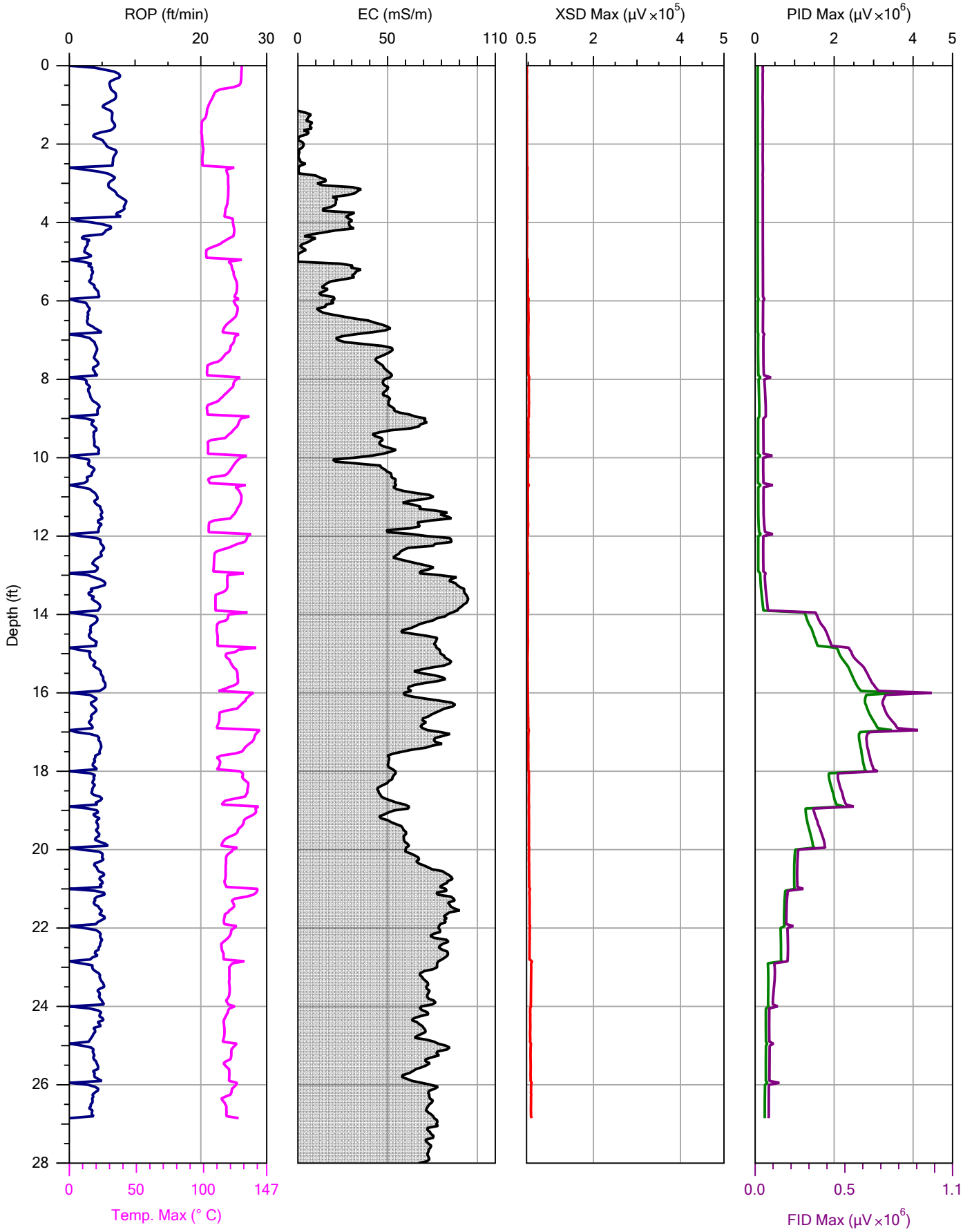
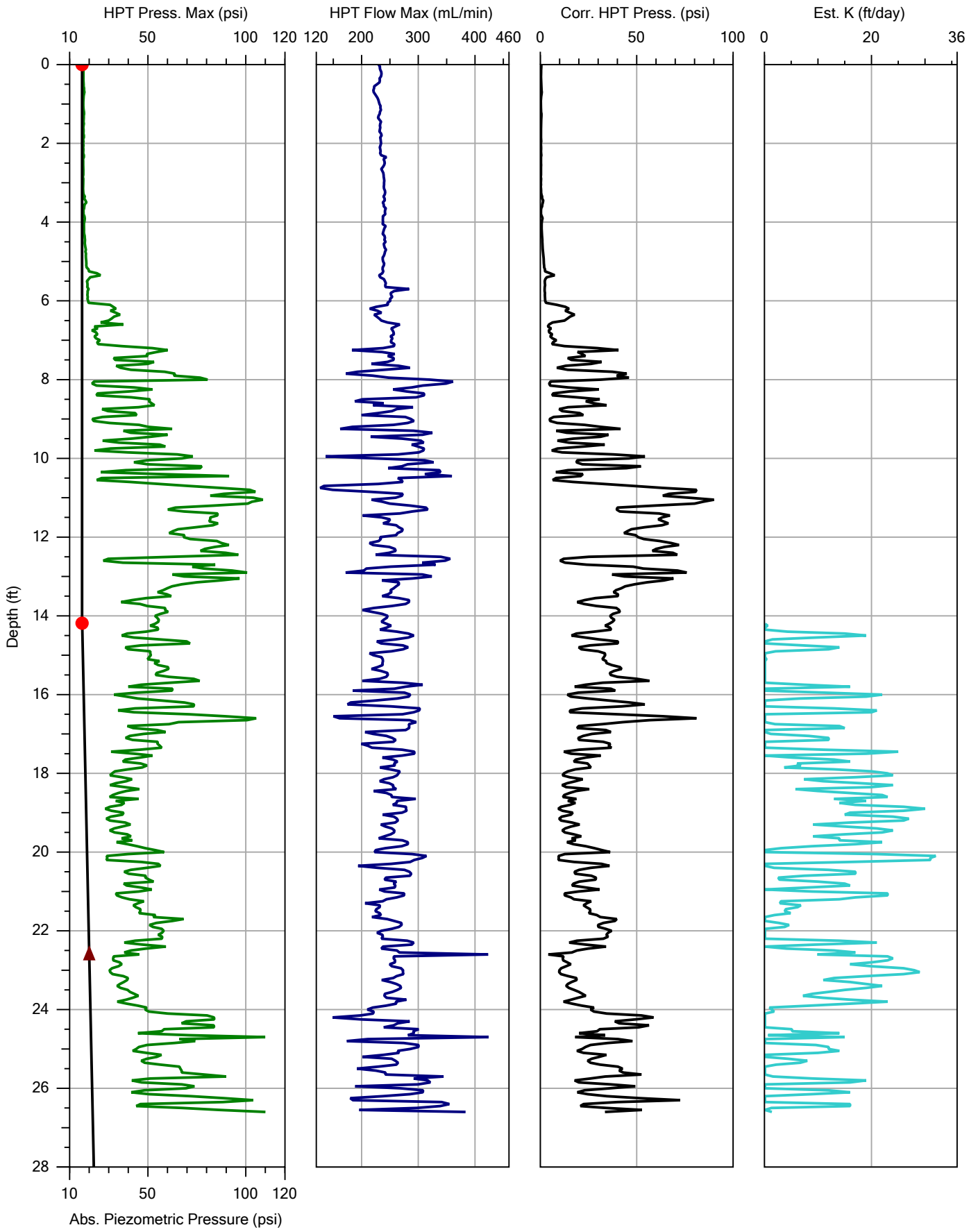
| Company: Cascade | Operator: C Terry | Date: 09/30/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |



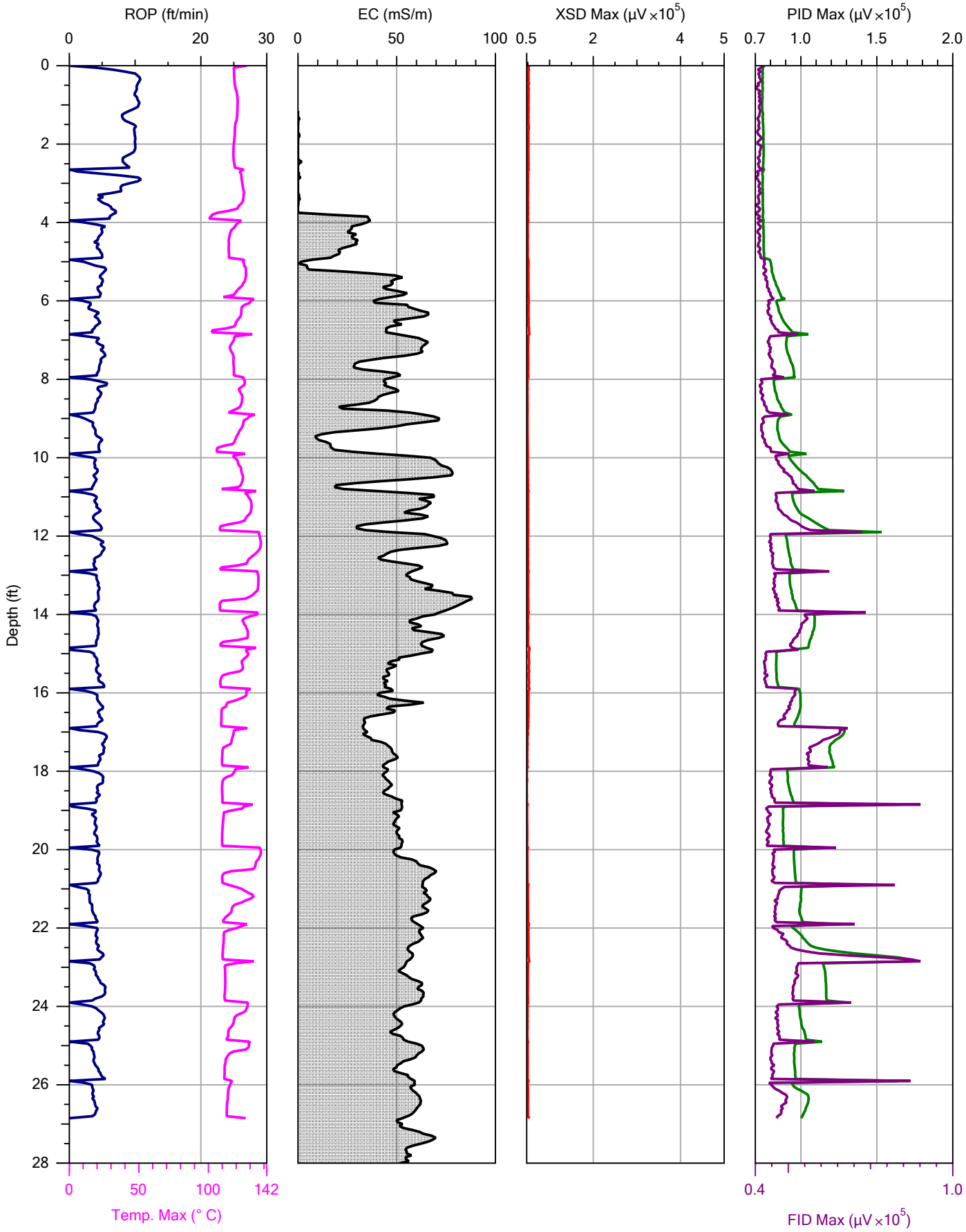

CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-07.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |




CASCADE
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-07.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

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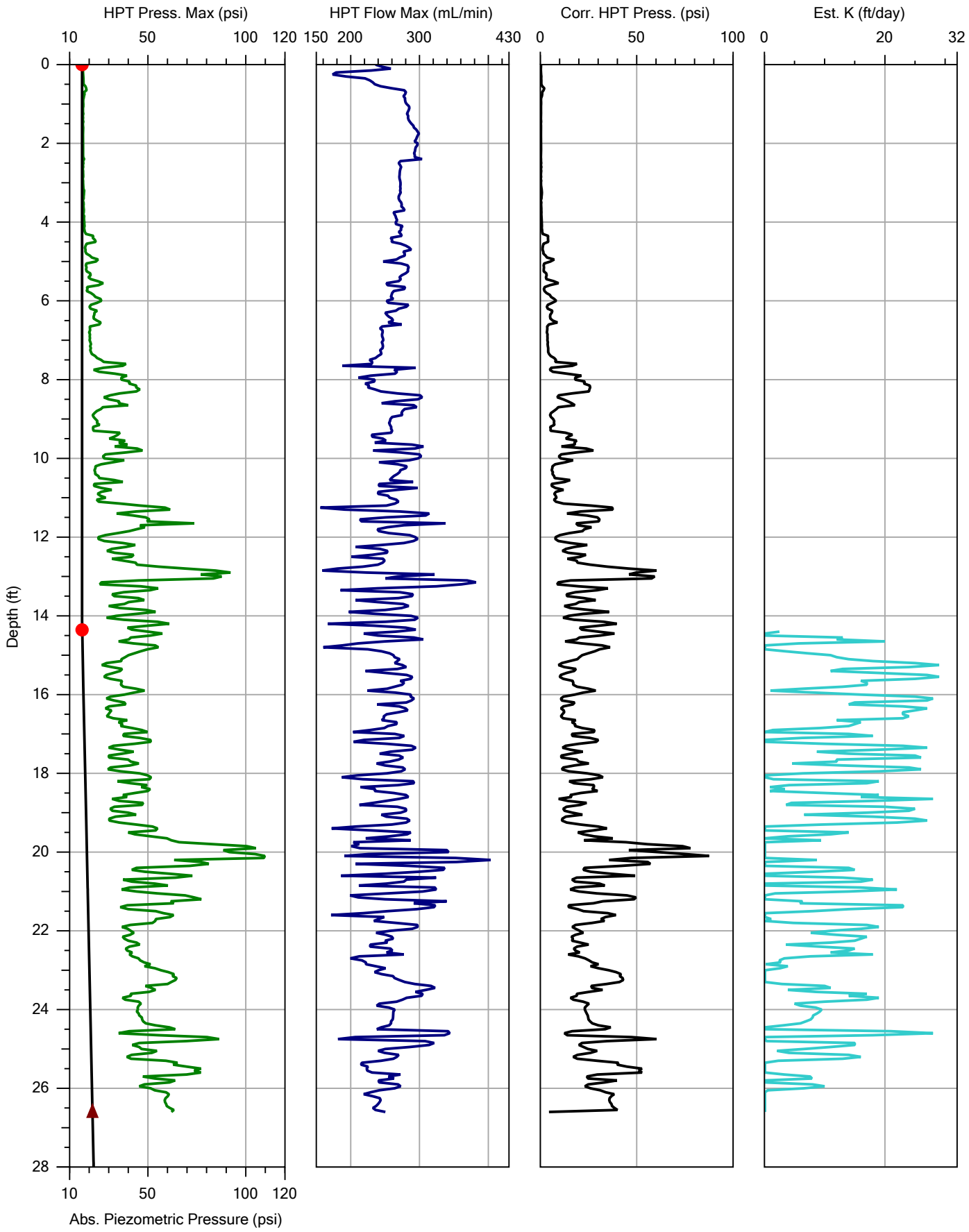
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-08.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

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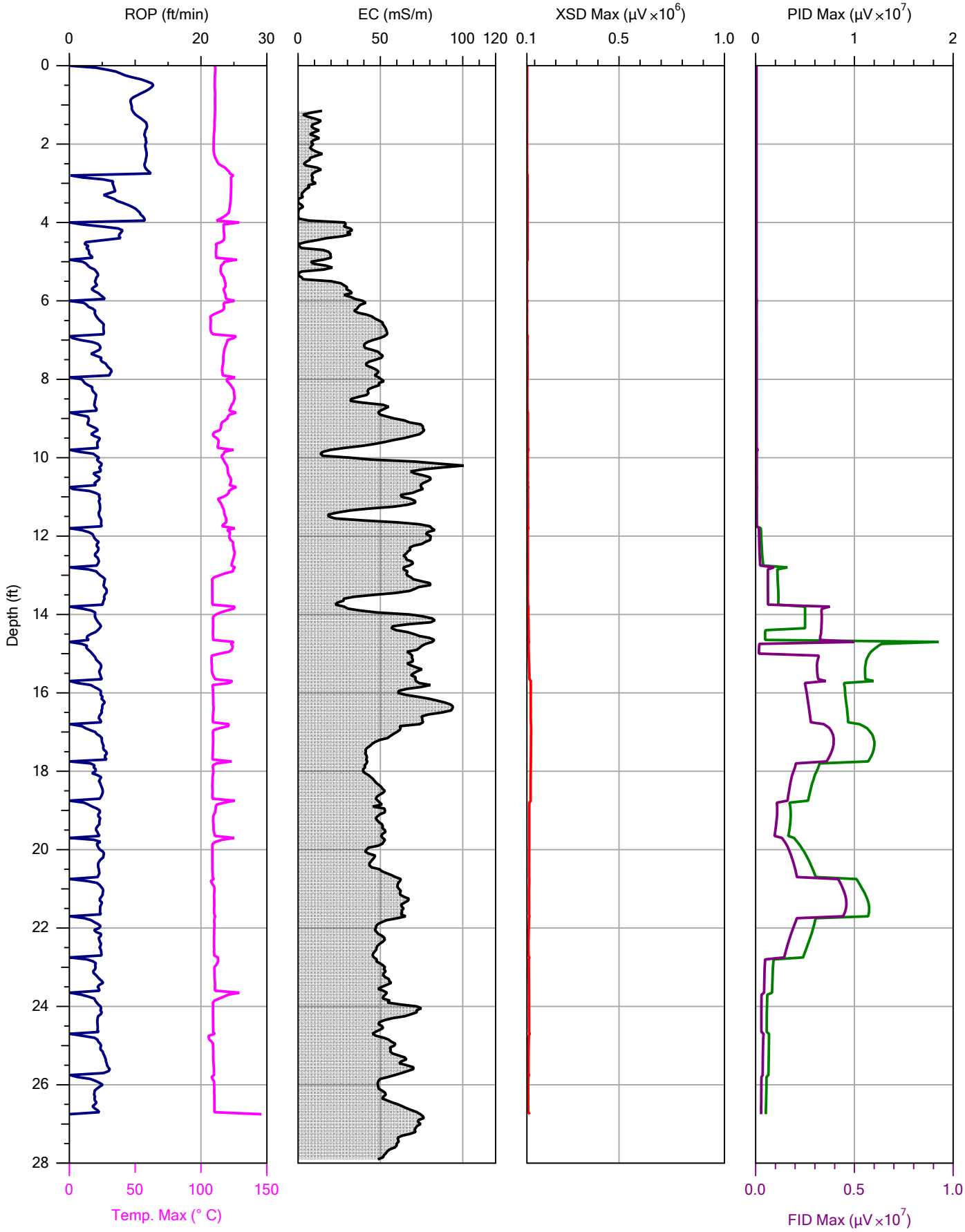
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-08.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

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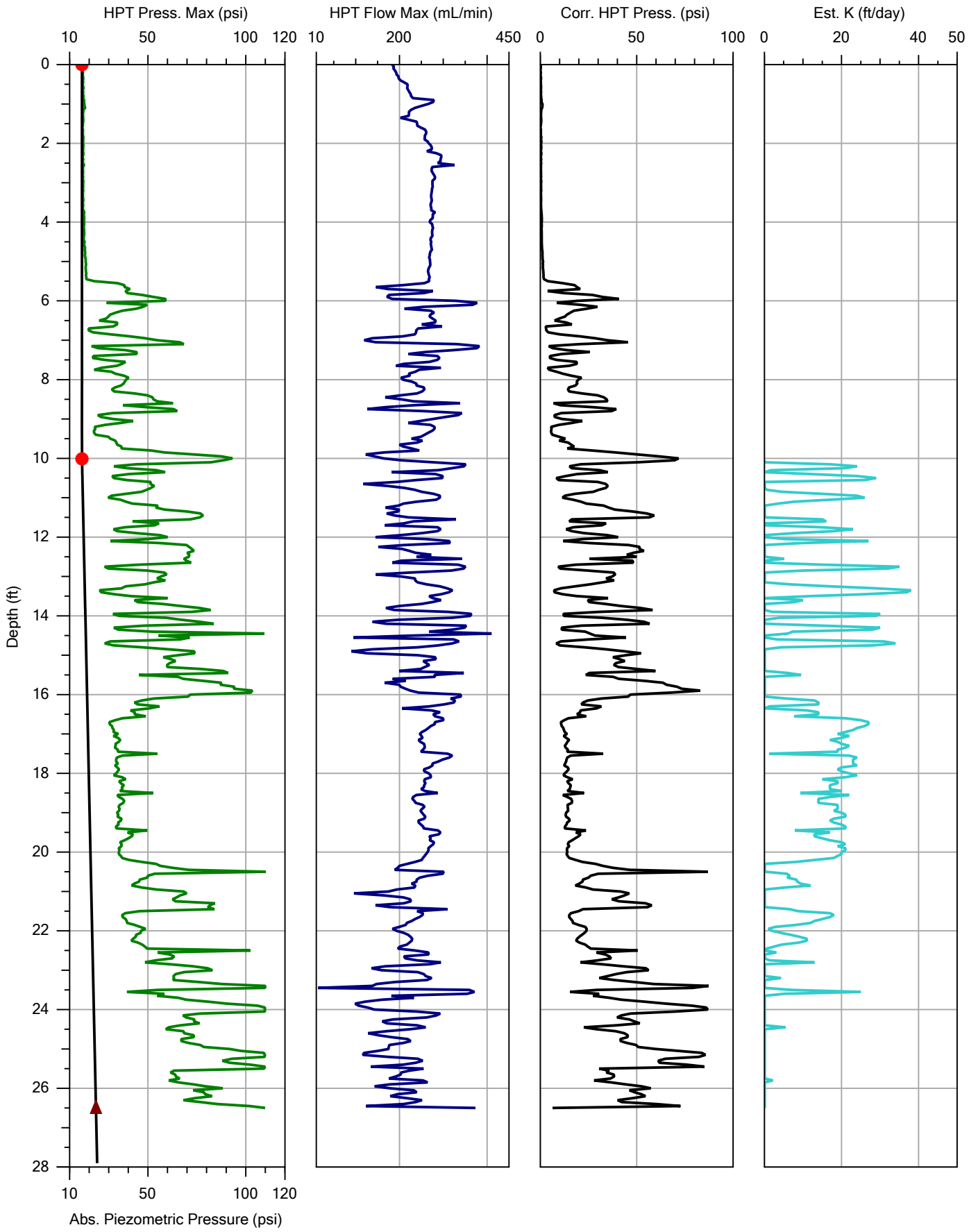
DRILLING | TECHNICAL SERVICES

| | | |
|---|---|---|
| | | File: MIHPT-09.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

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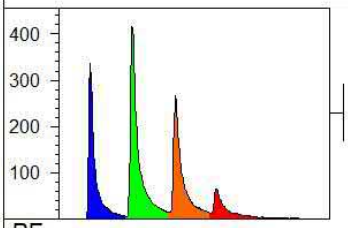
| | | |
|---|---|---|
| | | File: MIHPT-09.MHP |
| Company: Cascade | Operator: C Terry | Date: 09/29/21 |
| Project ID: RELLC Grandview | Client: AECOM | Location: Grandview, WA |

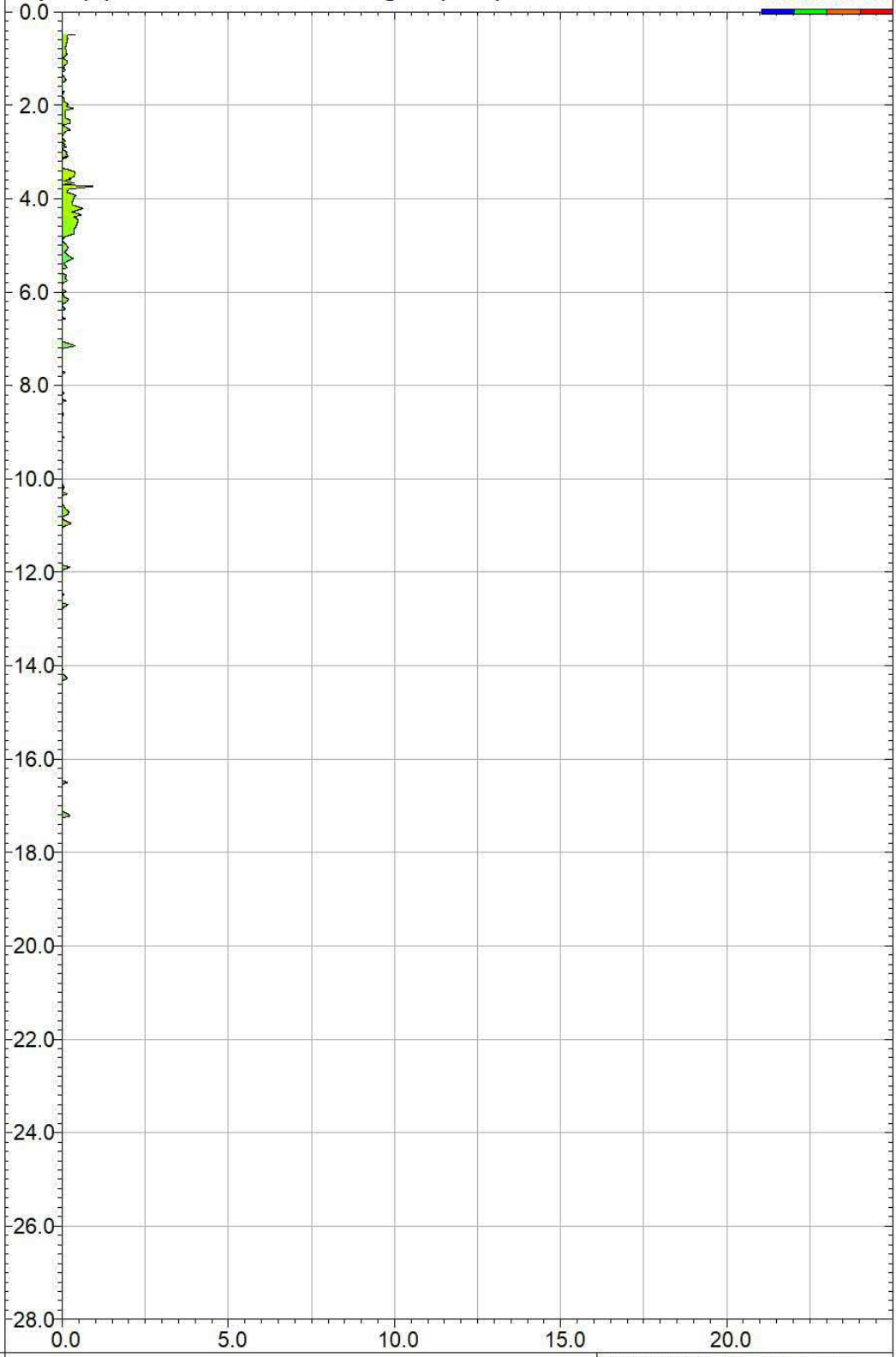

# UVOST INVESTIGATION DATA PLOTS

**Callouts**




RE
100.0 %RE

**Depth (ft)** **Signal (%RE)** 350 400 450 500




# UVOST@MIHPT-01

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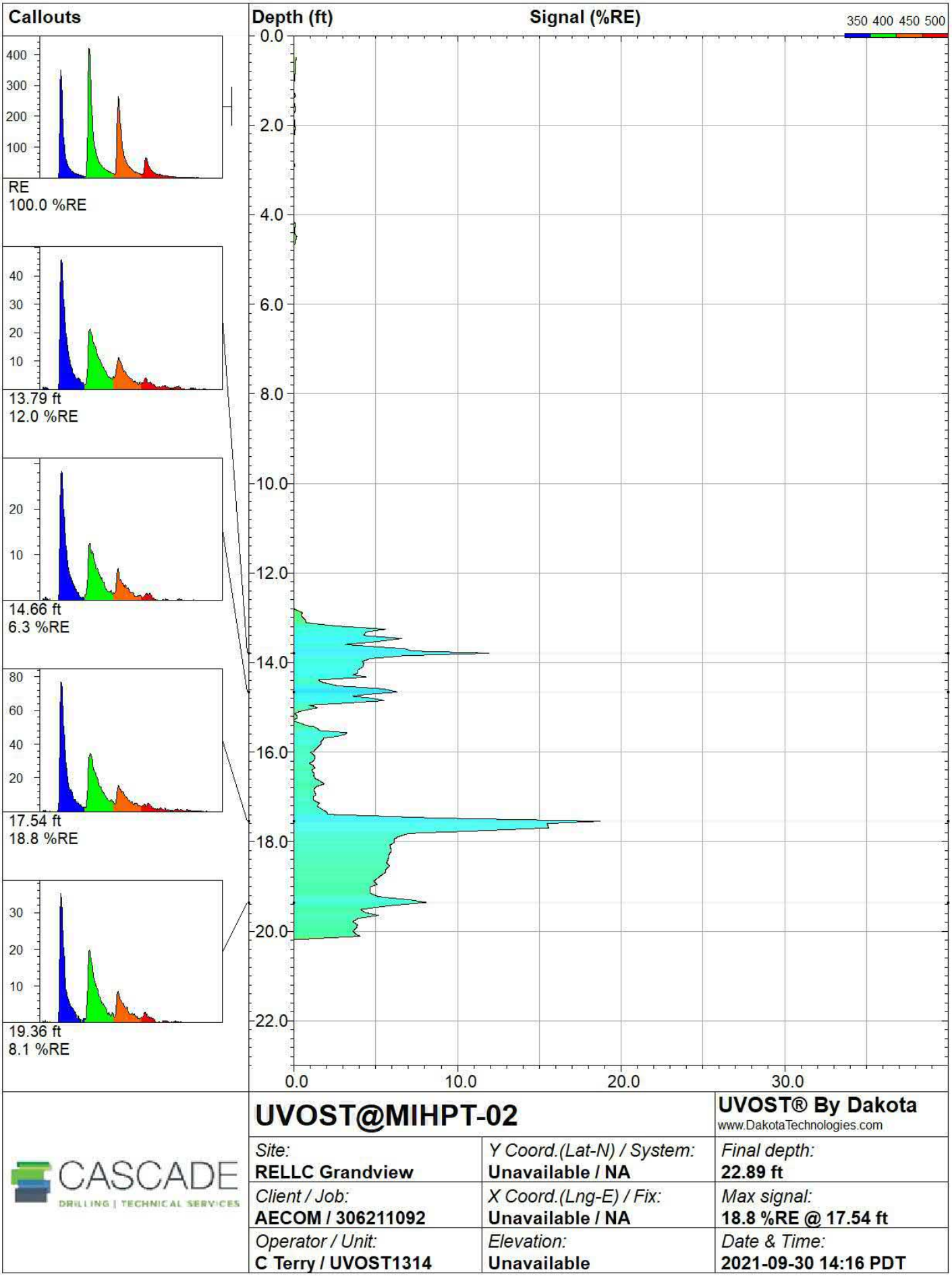
| | | |
|---|---|---|
| *Site:* **RELLC - Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **25.12 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **1.0 %RE @ 3.74 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 16:50 PDT** |




# UVOST@MIHPT-02

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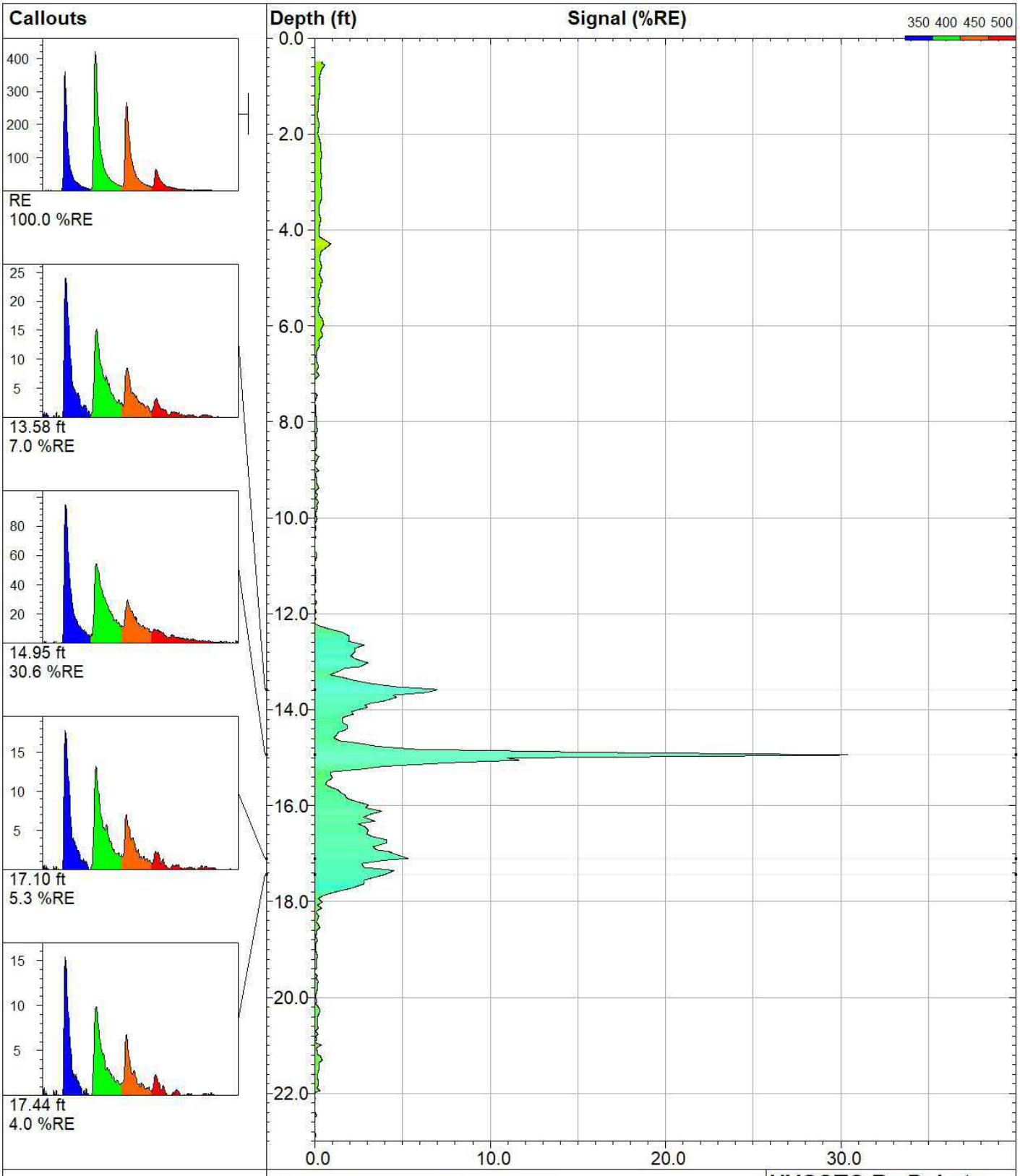
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **22.89 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **18.8 %RE @ 17.54 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-30 14:16 PDT** |




# UVOST@MIHPT-03

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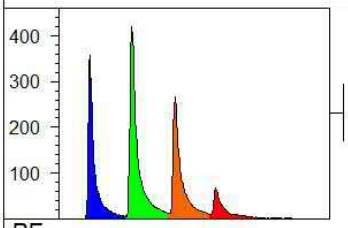
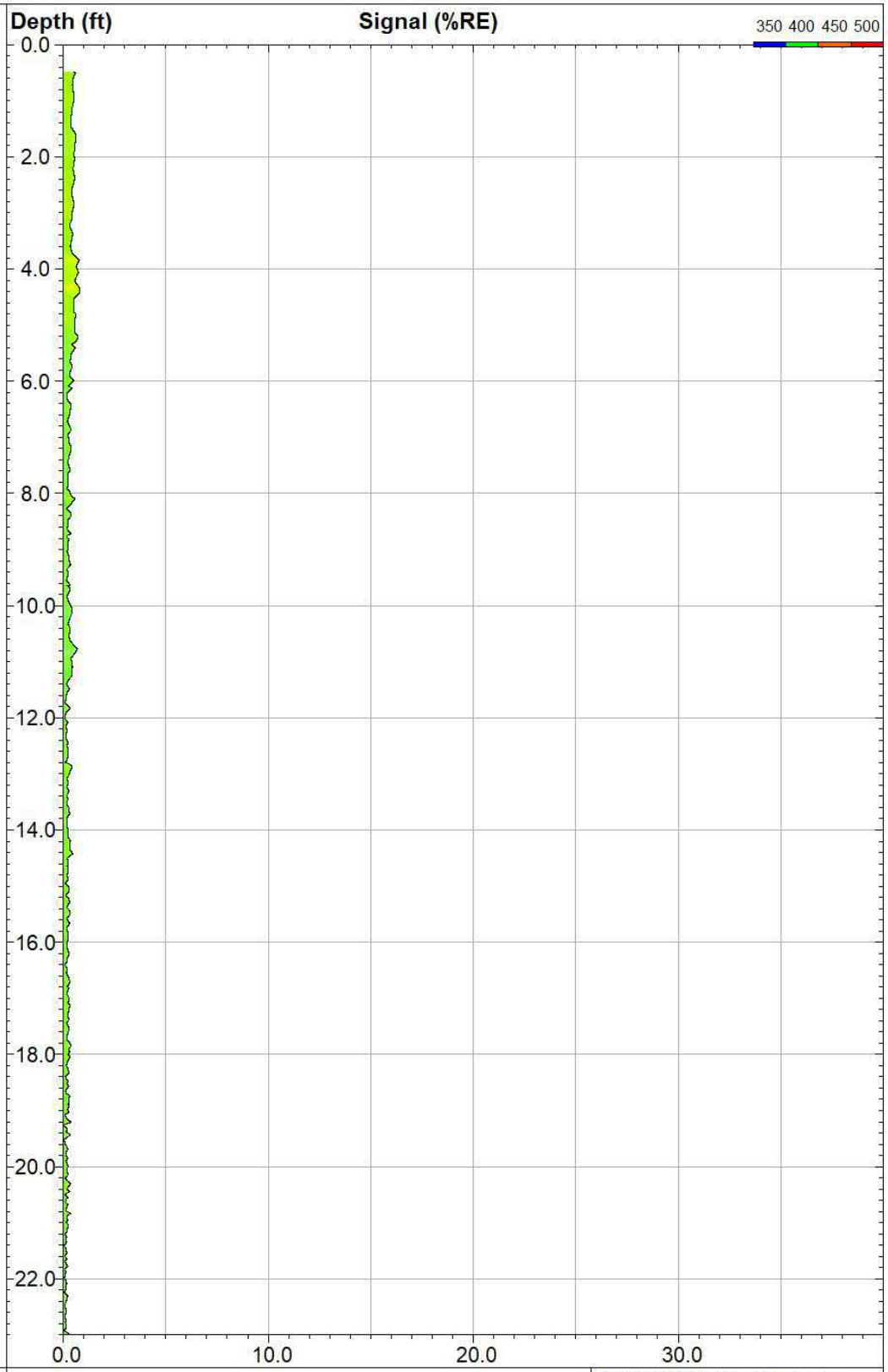
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **24.92 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **30.6 %RE @ 14.95 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-30 15:00 PDT** |

**Callouts**




RE
100.0 %RE

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# UVOST@MIHPT-04

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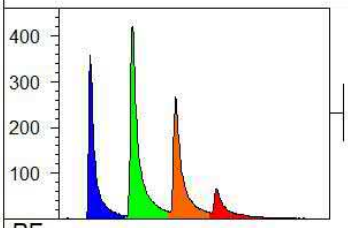
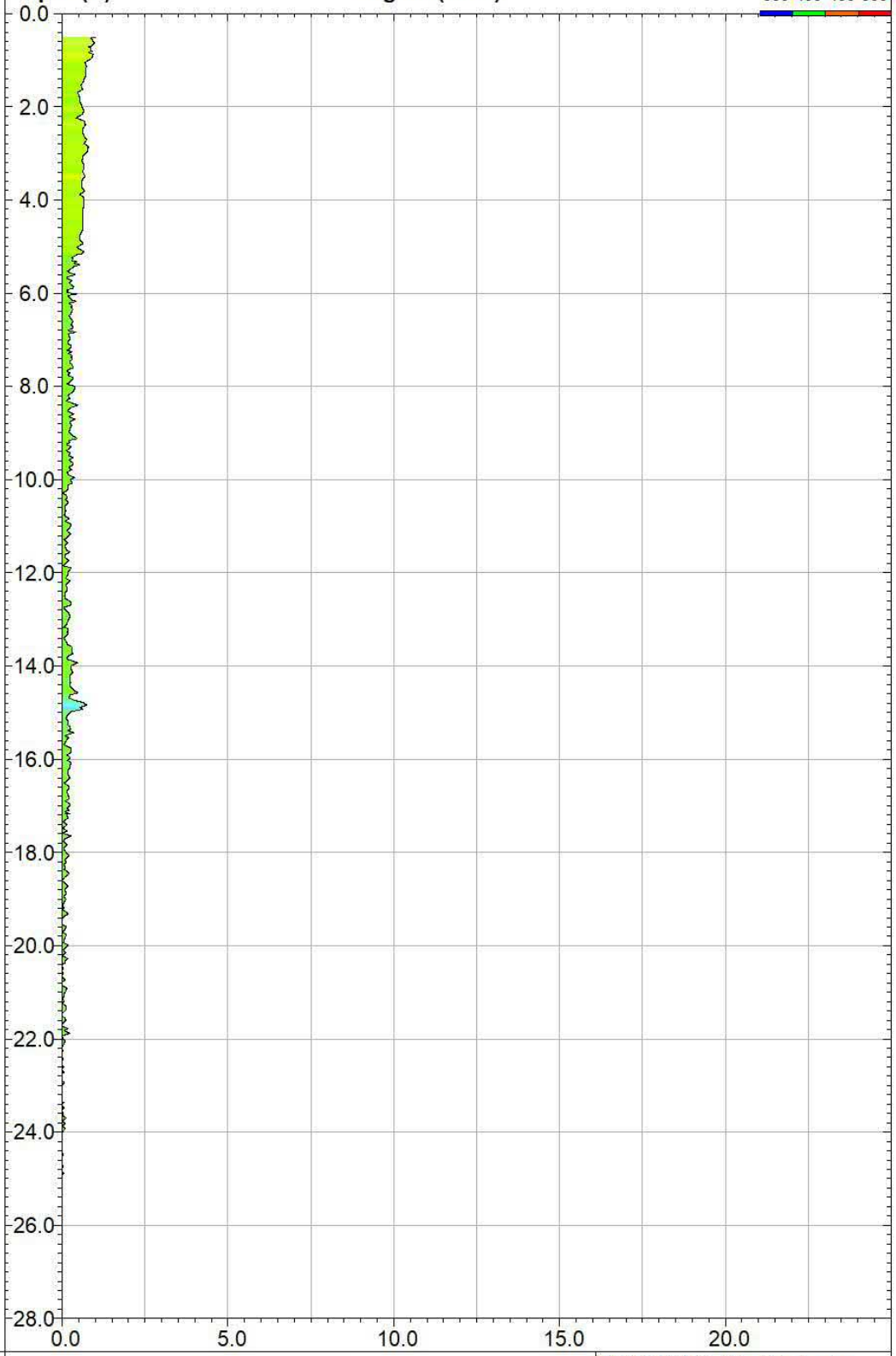
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **24.82 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **0.8 %RE @ 4.44 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-30 15:51 PDT** |

**Callouts**




RE
100.0 %RE

**Depth (ft)** **Signal (%RE)** 350 400 450 500




# UVOST@MIHPT-05

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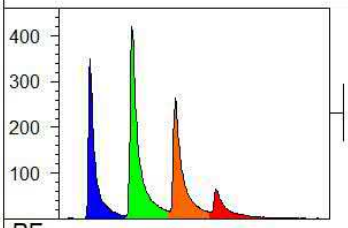
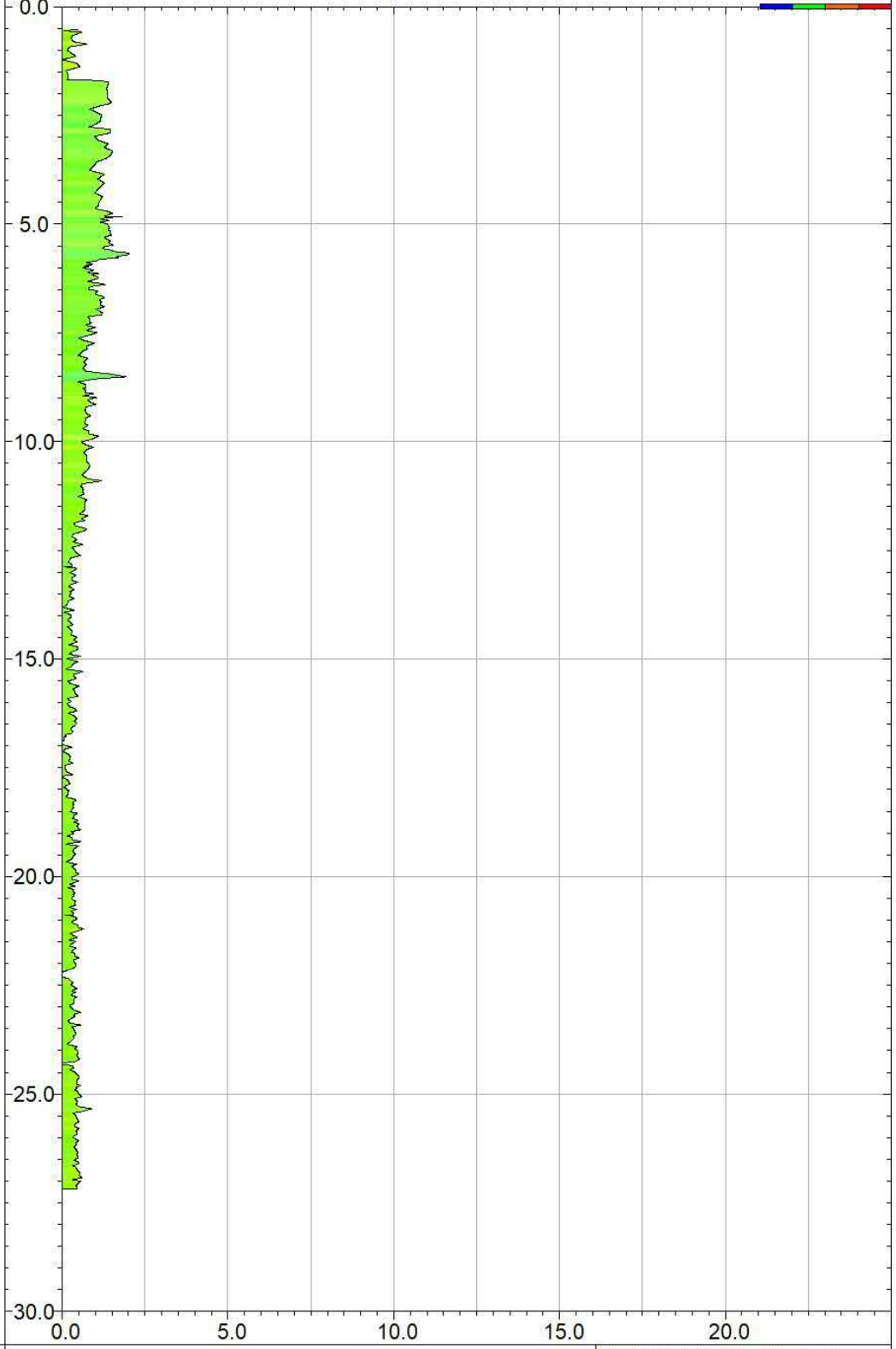
| | | |
|---|---|---|
| *Site:* **RELLC - Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **24.91 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **1.0 %RE @ 0.51 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 13:24 PDT** |

**Callouts**




RE
100.0 %RE

**Depth (ft)** **Signal (%RE)** 350 400 450 500




# UVOST@MIHPT-06

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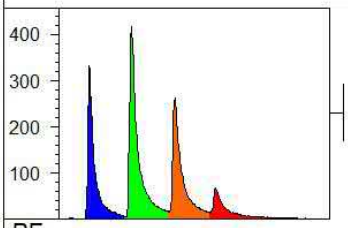
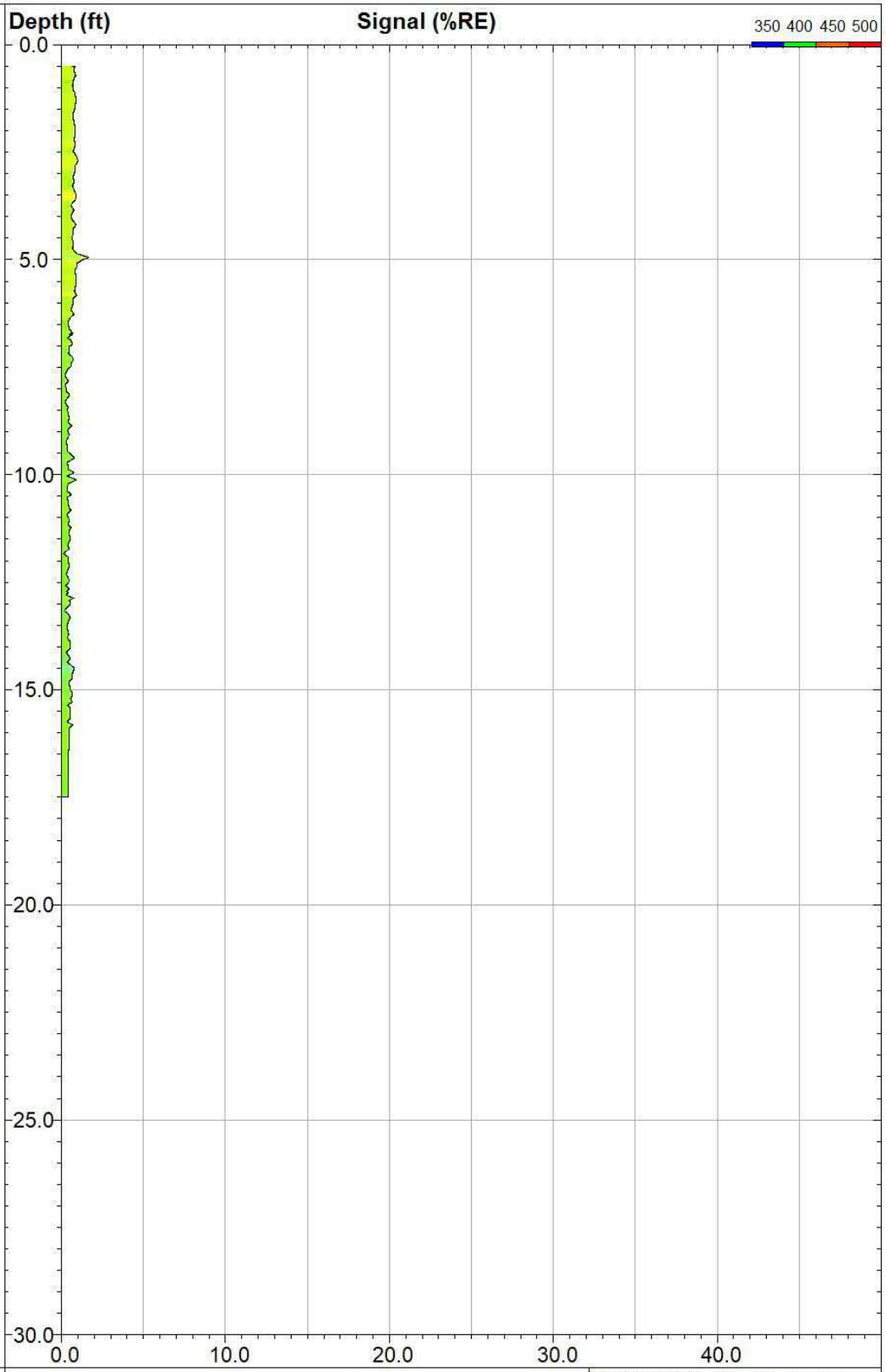
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **27.18 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **2.0 %RE @ 5.67 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 10:04 PDT** |

**Callouts**




RE
100.0 %RE




# UVOST@MIHPT-07

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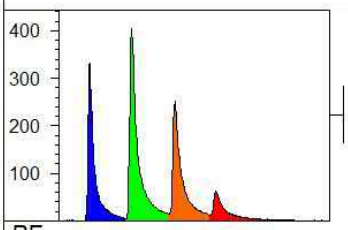
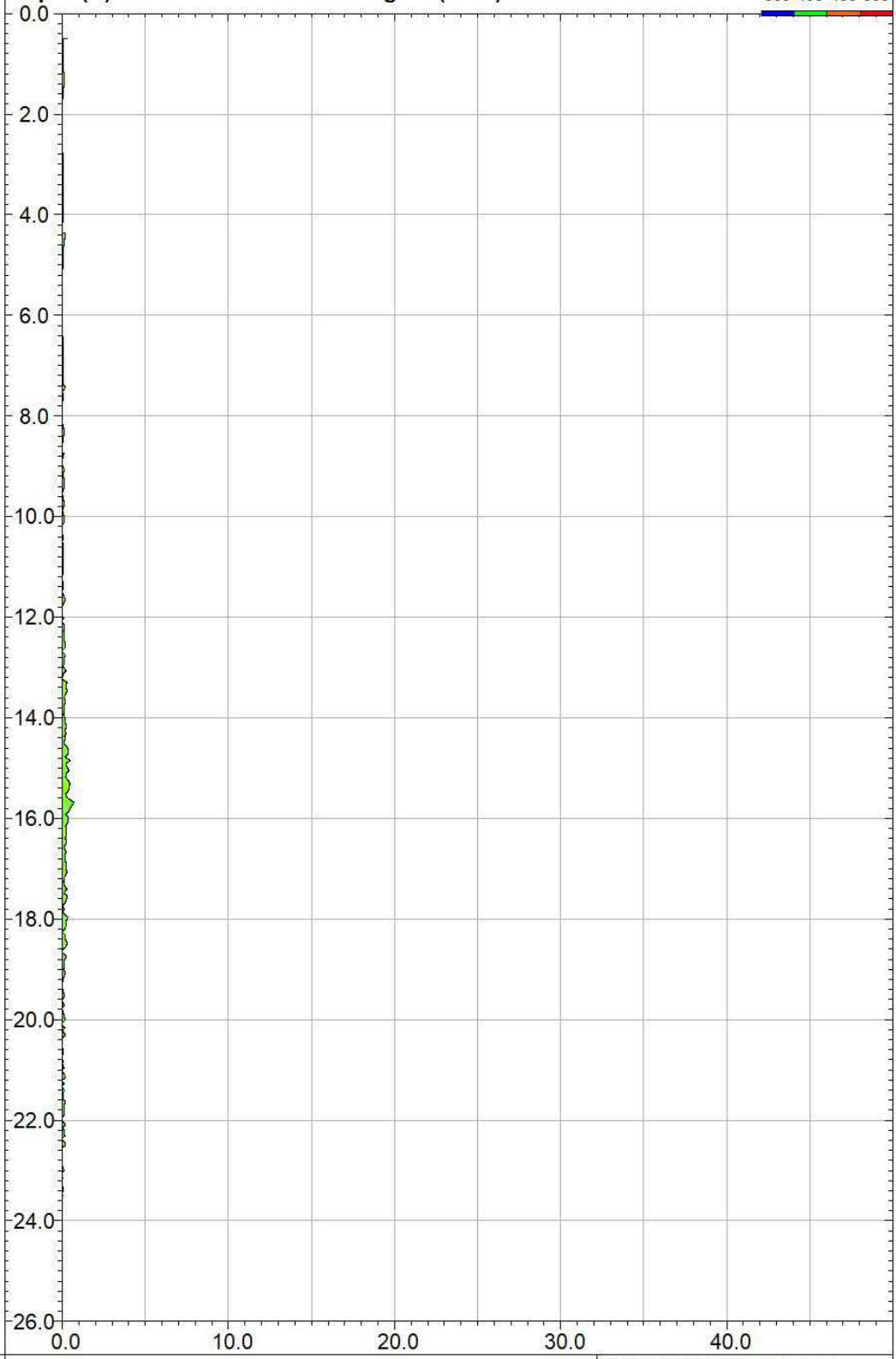
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **17.50 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **1.7 %RE @ 4.95 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 10:55 PDT** |

**Callouts**




RE
100.0 %RE

**Depth (ft)** **Signal (%RE)** 350 400 450 500

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# UVOST@MIHPT-07A

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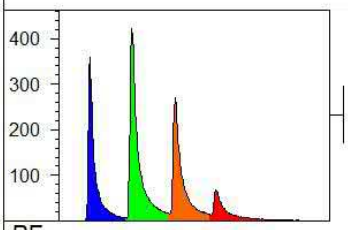
| | | |
|---|---|---|
| *Site:* **RELLC Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **23.62 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **0.7 %RE @ 15.68 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 11:32 PDT** |

**Callouts**




RE
100.0 %RE

**Depth (ft)** **Signal (%RE)** 350 400 450 500


# UVOST@MIHPT-08

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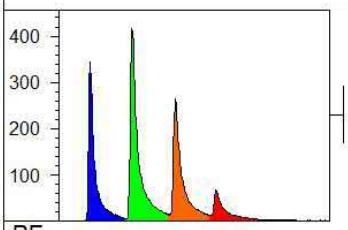
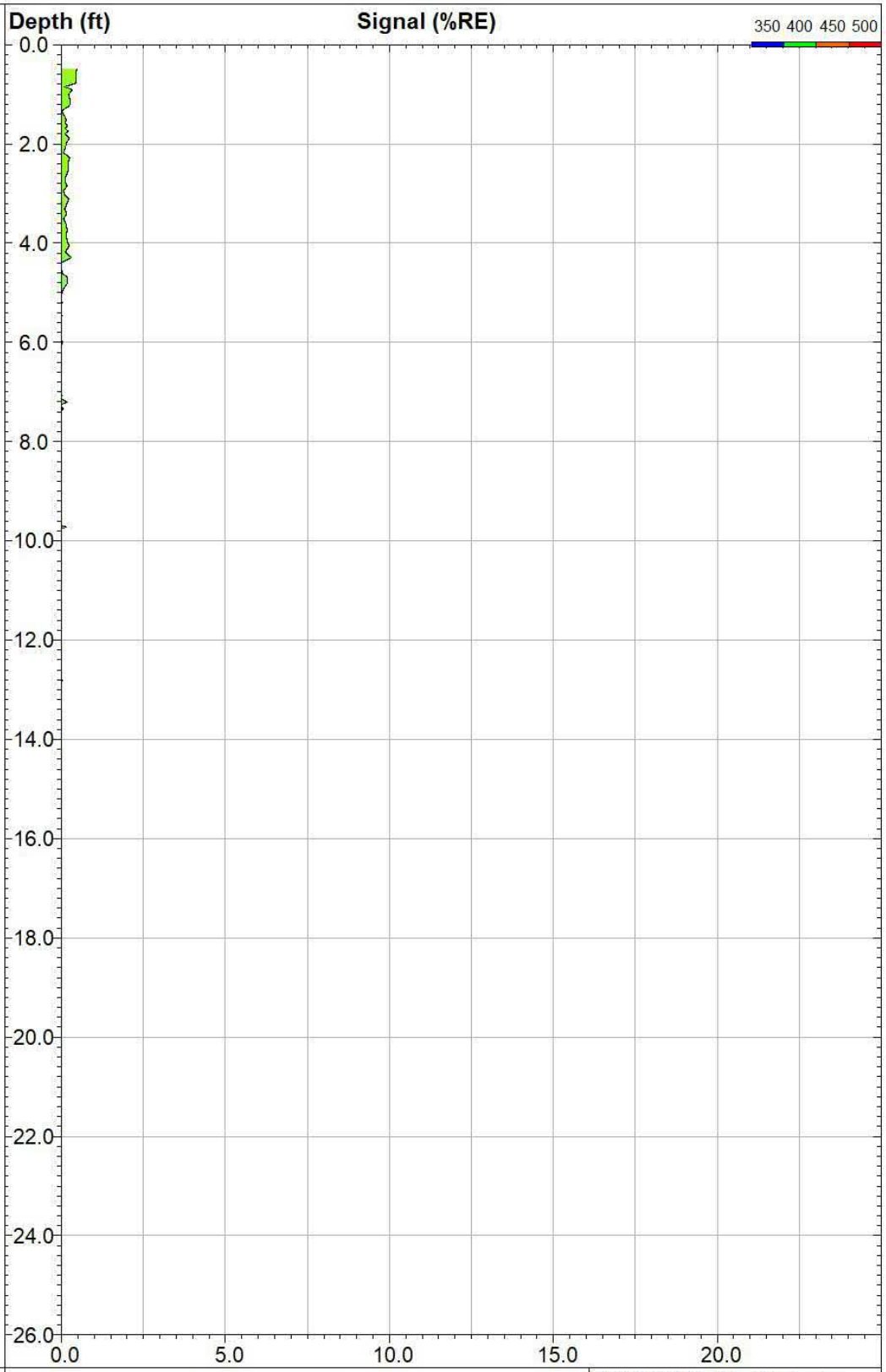
| | | |
|---|---|---|
| *Site:* **RELLC - Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **24.80 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **0.6 %RE @ 5.14 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 14:33 PDT** |

**Callouts**




RE
100.0 %RE

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# UVOST@MIHPT-09

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| | | |
|---|---|---|
| *Site:* **RELLC - Grandview** | *Y Coord.(Lat-N) / System:* **Unavailable / NA** | *Final depth:* **22.85 ft** |
| *Client / Job:* **AECOM / 306211092** | *X Coord.(Lng-E) / Fix:* **Unavailable / NA** | *Max signal:* **0.5 %RE @ 0.50 ft** |
| *Operator / Unit:* **C Terry / UVOST1314** | *Elevation:* **Unavailable** | *Date & Time:* **2021-09-28 15:44 PDT** |