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June 23, 2023

*Transmitted via USPS and email to: tracy.England@state.or.us*

**Subject: Site Investigation and Risk-Based Closure Report**  
**Enterprise Chevron**  
**111 NW 1<sup>st</sup> Street, Enterprise, Oregon**  
**DEQ LUST File No. 32-98-0010**

Dear Mr. England,

Martin S. Burck Associates, Inc. (MSBA) has prepared the enclosed *Site Investigation and Risk-Based Closure Report* on behalf of Byrnes Oil for the active Chevron service station located at 111 Northwest 1<sup>st</sup> Street in Enterprise, Oregon. This report presents 1) an overview of previous environmental site work, 2) a summary of soil and groundwater sampling activities, 3) a Conceptual Site Model, and 4) a risk assessment. Based on the results of this work, MSBA has determined the site is in compliance with the applicable standards and recommends regulatory site closure.

Sincerely,

**Martin S. Burck Associates, Inc.**



Martin S. Burck, LG/RG  
Licensed/Registered Geologist; OR, WA, CA

Enclosure: Report

# **SITE INVESTIGATION AND RISK-BASED CLOSURE REPORT**

**Enterprise Chevron  
111 NW 1<sup>st</sup> Street, Enterprise, Oregon  
DEQ LUST File No. 32-98-0010**

June 23, 2023

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**Enterprise Chevron  
111 NW 1<sup>st</sup> Street, Enterprise, Oregon  
DEQ LUST File No. 32-98-0010**

June 23, 2023

Prepared For:

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# **SITE INVESTIGATION AND RISK-BASED CLOSURE REPORT**

**Enterprise Chevron  
111 NW 1<sup>st</sup> Street, Enterprise, Oregon  
DEQ LUST File No. 32-98-0010**

## **1.0 INTRODUCTION**

Martin S. Burck Associates, Inc. (MSBA) has prepared this report on behalf of Byrnes Oil for the active Chevron service station located at 111 NW 1<sup>st</sup> Street in Enterprise, Oregon. The location of the site is illustrated on Figure 1. A release of petroleum hydrocarbons (PHCs) was discovered at the site in 1998 during underground storage tank (UST) decommissioning activities. Investigation and cleanup activities were performed in general accordance with the Oregon Department of Environmental Quality (DEQ) *UST Cleanup Manual* (USTCM) (updated May 2009), the *Risk-Based Decision Making for the Remediation of Contaminated Sites* (RBDM) (updated October 2017), and the *Guidance for Assessing and Remediating Vapor Intrusion in Buildings* (GARVIB) (March 2010). This work was also performed in general accordance with the MSBA Field Methods and Procedures presented in Appendix A.

This report presents the following:

- 1) An overview of previous environmental site work
- 2) A summary of recent soil and groundwater sampling activities
- 3) A Conceptual Site Model (CSM)
- 4) A risk assessment evaluating the constituents of interest (COIs) related to the applicable receptors and exposure pathways

Based on the results of this work, MSBA has determined the site is in compliance with the applicable standards and recommends regulatory site closure.

### **1.1 Site Description and History**

The site is centrally located within the main business district of Enterprise, Oregon (Figure 1). The immediate surrounding area consists of commercial properties. The nearest residential properties (single-family) are located 350 to 400 feet northwest and northeast of the site. The site is at an elevation of approximately 3,760 feet above mean sea level. The topography near the site is relatively flat with a gentle downward slope toward the west-northwest.

The site is operated as a Chevron service station with a convenience store/station building. The general site features are illustrated on Figure 2. Three USTs are present at the site including a 3,000 gallon diesel tank (UST 1), a 10,000 gallon regular gasoline tank (UST 2), and a 10,000 gallon

premium gasoline tank (UST 3). Two dispenser islands are located at the site north and west of the station building. Each island has one dispenser. The north dispenser island is situated above the two 10,000 gallon gasoline USTs.

## **1.2 General Geologic Setting**

The United States Department of Agriculture (USDA) soil survey lists the site as within the Freels Silt Loam unit. The typical soil profile for this unit is silt loam from the surface to a depth of 5 feet below surface grade (bsg) or greater. During site characterization activities, MSBA observed gravelly, angular, granitic, coarse grained sand to the maximum explored depth of 15 feet bsg. Shallow groundwater has been encountered at the site at a depth of 12.5 feet bsg. The inferred groundwater flow direction based on topography and field measurements at a nearby site (Section 1.3) is toward the northwest. A topographic interpretation map showing the surface features and corresponding inferred groundwater flow paths is presented as Figure 3. The climate at the site is semi-arid with precipitation of 19.29 inches per year (Western Regional Climate Center).

## **1.3 Nearby PHC Release at Former Steve's Auto**

In 1992, an estimated 5,400 gallons of gasoline was reportedly released from a pressurized line at the nearby Steve's Auto (SA) property, located at 207 S. River Street (Figure 1). The SA property is approximately 800 feet southeast of the site. It was estimated that only 400 gallons of gasoline were recovered from wells at the site and the remaining 5,000 gallons reportedly migrated offsite and were never located or accounted for. The SA property was assigned leaking underground storage tank (LUST) number 32-90-0230 and Environmental Cleanup Site Information (ECSI) file number 2345. Following the release, gasoline vapors were reported in several businesses, including the former Pioneer Bank (205 West Main Street), located approximately 150 feet southwest of the Enterprise Chevron site (Figure 1). In 1993, a vapor extraction system was installed at the former Pioneer Bank property and operated for approximately seven years. Site investigation activities were performed, including the installation and sampling of six groundwater monitoring wells. The groundwater flow direction was determined to be toward the northwest. A no further action (NFA) determination was issued for the SA site by DEQ in 2010.

## **2.0 SUMMARY OF PREVIOUSLY REPORTED ENVIRONMENTAL SITE WORK**

The following section presents a summary of previously reported environmental work performed at the site based on a review of available information.

## 2.1 UST Decommissioning (May 1998)

In May 1998, Sheldon Petroleum Services (SPS) decommissioned a 1,000-gallon gasoline tank located near the west side of the three currently active tanks. Two 10,000-gallon USTs, which had been re-lined, remained in place during the decommissioning. During the decommissioning, a release of PHCs to soil and groundwater was discovered. Groundwater was encountered at an approximate depth of 12 feet bsg. The release was reported and LUST number 32-98-0010 was assigned. Approximately 80 cubic yards of soil containing PHCs were excavated and removed for offsite treatment (aeration and tilling) at a nearby Byrnes Oil Bulk Plant facility. Soil samples *Byrnes Bottom*, *Byrnes W.S.*, and *Byrnes S.E.* were collected from the tank cavity and submitted to Wy'East Environmental Sciences, of Portland, Oregon, for hydrocarbon identification analysis using Oregon DEQ method TPH-HCID. Soil sample *Byrnes Pile* was also collected from a stockpile and analyzed. Diesel was detected in samples *Byrnes Pile* and *Byrnes W.S.*, therefore, the samples were submitted for follow-up analysis of diesel using Oregon DEQ method TPH-D; diesel was detected in both samples at concentrations of 211 parts per million (ppm) and 334 ppm, respectively. Gasoline was detected in samples *Byrnes S.E.* and *Byrnes Bottom*, therefore, the samples were submitted for follow-up analysis of gasoline using Oregon DEQ method TPH-G; gasoline was detected in both samples at concentrations of 163 ppm and 4,600 ppm, respectively. Following the excavation cleanup activities a 3,000 gallon diesel UST (UST 1) was installed at the approximate former location of the decommissioned 1,000 gallon gasoline UST. The soil sample laboratory analytical results are summarized in Table 1.

Since groundwater was encountered during the decommissioning and excavation cleanup activities, groundwater sample *Byrnes Water* was collected by SPS and submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method 8020. BTEX were detected at concentrations of 20,900 parts per billion (ppb); 106,000 ppb; 8,720 ppb; and 46,600 ppb; respectively. Following the excavation cleanup activities, SPS used bioremediation to treat residual PHCs in soil and groundwater with an injection of UC 40 Oil Breaker, UC Nutrients, OZTR, and bacteria. The groundwater sample laboratory analytical results are summarized in Table 3.

## 2.2 Soil and Groundwater Boring B1 - MSBA (October 2008)

On October 9, 2008, MSBA directed the advance of boring B1 using a hollow stem auger drill rig. Field activities were performed in general accordance with the MSBA Field Methods and Procedures presented in Appendix A. The boring was advanced northwest of the former tank/cleanup area in the inferred general downgradient direction and area with the highest anticipated concentrations of remaining PHCs. The location of the boring is illustrated in Figure 4. Groundwater was encountered at a depth of approximately 12.5 feet bsg and the boring was advanced to a depth of 15 feet bsg. The depth to groundwater measured in boring B1 was generally consistent with the depth reported by SPS in 1998. Soil observed in the boring consisted of gravelly, angular, granitic, coarse grained sand. A thin layer of soil with a PHC odor at 12.5 feet bsg, immediately above the groundwater

surface, was observed and sampled. MSBA collected soil samples **B1-10**, **B1-12.5**, and **B1-15** from the boring. The last number(s) in the sample name represents the depth it was collected below the surface, in feet (i.e. sample **B1-10** was collected at a depth of 10 feet bsg).

The three soil samples were submitted to Apex Laboratories (Apex) of Tigard, Oregon for laboratory analysis. All three soil samples were analyzed for gasoline using method NWTPH-Gx. Sample **B1-12.5** was also analyzed for hydrocarbon identification using method NWTPH-HCID, selected volatile organic compounds (VOCs) using EPA method 8260B, and total lead using EPA method 6020. Gasoline was not detected in samples **B1-10** and **B1-15** and was detected in sample **B1-12.5** at a concentration of 4,490 ppm. Gasoline and diesel were detected in sample **B1-12.5** based on the hydrocarbon identification analysis, however, the laboratory attributed the diesel detection to overlap from gasoline. VOCs and lead were also detected in sample **B1-12.5**. The soil sample laboratory analytical results are summarized in Table 1 and the gasoline, benzene, ethylbenzene, and naphthalene results are shown on Figure 4.

Groundwater sample **B1-Water** was collected from a temporary well installed in the boring and submitted to Apex for hydrocarbon identification analysis using method NWTPH-HCID, gasoline using method NWTPH-Gx, selected VOCs using EPA method 8260B, and dissolved lead using EPA method 6020A. Gasoline was detected in sample **B1-Water** at a concentration of 3,810 ppb. Gasoline and diesel were detected based on the hydrocarbon identification analysis, however, the laboratory attributed the diesel detection to overlap from gasoline. VOCs were also detected and dissolved lead was not detected. The groundwater sample laboratory analytical results are summarized in Table 3 and the gasoline, benzene, ethylbenzene, and naphthalene results are shown on Figure 5.

The results of this work were presented in a report titled *Enterprise Chevron Proposed Corrective Action* (March 2009). The report also presented a preliminary CSM and exposure pathway evaluation. DEQ formally responded to the report requesting additional soil and groundwater characterization in a letter dated January 17, 2017.

### **2.3 Corrective Action Plan - MSBA - April and June 2020**

In March 2020, MSBA submitted a *Corrective Action Plan* (CAP) to DEQ, which included an updated preliminary CSM and exposure pathway evaluation. The CAP proposed four GeoProbe borings and one subslab vapor sample to further evaluate the applicable exposure pathways. In May 2020, DEQ requested minor revisions to the CAP including additional information regarding the municipal water supply and the underground water utility. In June 2020, MSBA submitted an *Amended Corrective Action Plan* (Amended CAP) to DEQ, which was approved.

## 2.4 Site Investigation Activities - August 2020

In August 2020, MSBA performed soil, groundwater, and subslab vapor investigation activities at the site. Field activities were performed in general accordance with the Amended CAP and the MSBA Field Methods and Procedures presented in Appendix A.

MSBA directed the advance of borings B2 through B5 using a GeoProbe drill rig. The locations of the borings are illustrated on Figure 4. Soil samples were collected from the borings and submitted for analysis of PHCs and VOCs, which were detected at concentrations exceeding the leaching to groundwater (LGW) risk-based concentrations (RBCs) exclusively. The soil sample laboratory analytical results are summarized in Table 1 and the gasoline, benzene, ethylbenzene, and naphthalene results are shown on Figure 4.

Temporary well casings were placed in each boring for groundwater monitoring and sampling. Following installation of the temporary well casings, MSBA surveyed the top of casing elevations and measured the depth to water at B3, B4, and B5. The groundwater level data were used to infer contours, which indicated a general flow direction toward the northwest. The northwest flow direction is consistent with the anticipated groundwater flow direction based on surface topography. The groundwater level data are summarized in Table 2 and the inferred groundwater surface contours and flow direction are shown on Figure 5. Groundwater samples were collected from the temporary wells and submitted for analysis of PHCs and VOCs, which were detected at concentrations exceeding the ingestion and inhalation from tapwater (IIT) RBCs exclusively. The groundwater sample laboratory analytical results are summarized in Table 3 and the gasoline, benzene, ethylbenzene, and naphthalene results are shown on Figure 5.

One subslab vapor sample was collected at the north side interior of the station building to evaluate the vapor intrusion into buildings (VIB) exposure pathway. VOCs were detected in the subslab vapor sample, however, the concentrations and laboratory reporting limits (RLs) were well below the soil vapor RBCs indicating there is no elevated risk to human health and safety associated with the VIB exposure pathway for the occupational receptor. In addition, soil and groundwater samples collected in August 2020 demonstrated that gasoline and VOCs have attenuated and are no longer present in the soil and groundwater at concentrations exceeding the VIB exposure pathway for the occupational receptor. The subslab vapor sample laboratory analytical results are summarized in Table 4 and the gasoline, benzene, ethylbenzene, and naphthalene results are shown on Figure 6. The results of this work were presented in the *Site Investigation Report*, dated March 31, 2021.

Based on this soil and groundwater analytical data, MSBA recommended three additional offsite GeoProbe borings in the downgradient/cross-gradient directions intended to define the regulatory extent of PHCs in groundwater to achieve regulatory site closure. The proposed borings and closure strategy was approved by DEQ in a letter dated May 10, 2021.



### 3.0 SOIL AND GROUNDWATER INVESTIGATION - SEPTEMBER 2021

The following presents a summary of the direct push GeoProbe boring soil and groundwater sampling activities performed in September 2021. A total of three borings (B6, B7, and B8) were advanced. The purpose of this work was to define the regulatory extent of PHCs in groundwater and achieve site closure. Field activities were performed in general accordance with the DEQ approved work plan and MSBA Field Methods and Procedures presented in Appendix A.

#### 3.1 Boring Locations

MSBA selected the three boring locations based on the previous soil and groundwater analytical data, inferred groundwater flow direction, and the general location of the former tank/cleanup area. The locations of the borings are illustrated on Figure 4. Boring B6 was advanced approximately 131 feet northwest (downgradient) of the former tank/cleanup area. Boring B7 was advanced approximately 92 feet west (cross-gradient/downgradient) of the former tank/cleanup area. Boring B8 was advanced approximately 83 feet north (cross-gradient/downgradient) of the former tank/cleanup area.

#### 3.2 Soil Sampling

Borings B6, B7, and B8 were advanced to a depth of 20 feet bsg by Stratus Corporation (Stratus) of Gaston, Oregon. MSBA field screened soil from each boring including visual observations and headspace vapor monitoring using a MiniRAE photoionization detector (PID) with a 10.6 eV lamp. Soil observed in the borings consisted primarily of fine grained sand with silty and clayey lenses. Groundwater was encountered in the borings at depths ranging from 14.5 to 15.5 feet bsg. Soil samples **B6-14.5**, **B7-15.5**, and **B8-14.5** were collected at the groundwater interface. A Soil Boring Log was completed for each location to document the soil type, characteristics, and condition, the depth to groundwater, and field screening results; copies are presented in Appendix B.

#### 3.3 Soil Sample Analytical Results

The selected soil samples were submitted to Pace Analytical (Pace) of Mount Juliet, Tennessee for analysis of gasoline using method NWTPH-Gx and RBDM VOCs using method 8260D. The sample analytical data are summarized in Table 1 and the results for gasoline, benzene, ethylbenzene, and naphthalene are illustrated on Figure 4.



Gasoline was detected in sample **B6-14.5** at 241 ppm, **B8-14.5** at 176 ppm, and was not detected in sample **B7-15.5** (Table 1; Figure 4). Several RBDM VOCs were also detected in samples **B6-14.5** and **B8-14.5** and were not detected in sample **B7-15.5**. A copy of the laboratory analytical report is presented in Appendix C.

### 3.4 Groundwater Monitoring and Sampling

Temporary well casings were placed in each boring for the collection of groundwater samples. Fifteen feet of 0.75-inch polyvinyl chloride (PVC) casing with 0.01-inch slots was placed at the bottom of each boring. Solid 0.75-inch PVC well casing was installed from the top of the screened interval to near the ground surface.

Prior to sampling the wells, groundwater was purged at a low flow rate ranging from 0.19 to 0.26 gallons per minute until a minimum of three casing volumes were removed and the discharge was relatively clear. Additional purging and sampling details are presented on the Groundwater Purge and Sample Data Sheets included in Appendix B.

### 3.5 Groundwater Sample Analytical Results

The three groundwater samples, **B6-GW**, **B7-GW**, and **B8-GW**, were submitted to Pace for laboratory analysis of gasoline using method NWTPH-Gx and RBDM VOCs using EPA method 8260D. The sample analytical data are summarized in Table 3 and the results for gasoline, benzene, ethylbenzene, and naphthalene results are illustrated on Figure 5.

Gasoline was detected in sample **B6-GW** at 168 ppb and was not detected in the remaining samples (Table 3; Figure 5). RBDM VOCs were not detected in any samples consistent with the historic age of the release (pre-1998). A copy of the laboratory analytical report is presented in Appendix D.

### 3.6 Temporary Well Abandonment and Investigation Derived Waste Disposal

After sampling, the temporary wells were abandoned by removing the casing and backfilling the boring with bentonite chips to approximately 1.5 feet of the surface consistent with the Oregon Water Resources Department (WRD) standards. The remainder of the boring at the surface was backfilled with concrete. Details of the abandonments are presented in the MSBA Soil Boring Logs (Appendix B).

Investigation-derived waste consisting of soil cuttings and purge and decontamination water were placed in 55-gallon drums, transported offsite by Stratus, and properly disposed. A copy of the disposal receipt is presented in Appendix B.

## **4.0 REGULATORY EXTENT OF PHCs**

The following presents a summary of the regulatory extent of PHCs in soil and groundwater.

### **4.1 Regulatory Extent of Soil Containing PHCs**

The regulatory extent of soil containing PHCs was adequately defined by borings B6, B7, and B8. The regulatory extent is considered the extent at which PHCs are present at concentrations below the applicable screening levels. Gasoline was detected in soil samples **B6-14.5** and **B8-14.5** at relatively low concentrations. MSBA calculated the rate of reduction for gasoline and estimates it does not extend more than 10 to 30 feet beyond the borings. The inferred regulatory extent is shown on Figure 4. Following the 1998 excavation cleanup activities and bioremediation completed by SPS, the regulatory extent of soil containing PHCs is relatively limited. Regulatory PHC concentrations extend offsite beneath the adjacent right-of-ways (ROWs) and small portions of the adjacent commercial properties to the north, northwest, and west.

### **4.2 Regulatory Extent of Groundwater Containing PHCs**

The regulatory extent of groundwater containing PHCs has been adequately defined, as shown on Figure 5. Gasoline was detected in downgradient sample **B6-GW**, however, MSBA calculated the rate of reduction for gasoline and estimates it does not extend more than 10 feet northwest of **B6-GW** (Figure 5). Regulatory concentrations extend offsite beneath the adjacent ROWs and small portions of the adjacent commercial properties to the north, northwest, and west.

## **5.0 CONCEPTUAL SITE MODEL INFORMATION**

MSBA developed a CSM by completing a surface water assessment, a beneficial water use survey, an underground utility survey, an ecological impact screening, and a land use zoning evaluation.

### **5.1 Surface Water Assessment**

The surface water assessment included a review of the United States Geologic Survey (USGS) 7.5-minute series, Enterprise Quadrangle, Oregon Topographic Map (Figure 1), Google Earth satellite imagery, and the United States Fish and Wildlife Service (USFWS) National Wetlands Mapper. The closest identified body of surface water is Prairie Creek located approximately 830 feet south (cross-gradient) of the site at its nearest point. There are no identifiable wetlands within a quarter-mile of the site. Based on the distance and/or location relative to the site, MSBA concludes Prairie Creek does not represent a concern with respect to the regulatory status of the site.

### **5.2 Beneficial Water Use Survey**

The beneficial water use survey was completed in general accordance with the DEQ document *Guidance for Conducting Beneficial Water Use Determinations at Environmental Cleanup Sites*, dated July 1, 1998. This survey included a search of the WRD database, a door-to-door and mail-in survey, and an evaluation of the municipal water sources and supply.

#### **5.2.1 Water Resources Department Database Well Survey**

The beneficial water use survey was conducted to identify potential drinking water or irrigation wells within a quarter-mile radius of the site. The quarter-mile search radius was selected based on the relatively limited dissolved PHC plume, as illustrated on Figure 5. The search included Section 2, Township 2 South, Range 44 East, and Section 35, Township 1 South, Range 44 East. The search results identified 45 wells located within or potentially within a quarter-mile radius of the site. A summary of the search results is included in Appendix E. Abandoned wells, monitoring wells, and geotechnical hole reports were excluded from the survey. Some of the water well reports do not have addresses and the well locations could not be determined. MSBA identified the locations of six wells within the quarter-mile search radius as plotted on Figure 7. Copies of the water well reports for these six wells are presented in Appendix E. The following presents a summary of the four closest downgradient and/or cross-gradient water wells listed by the WRD well identification number.

WALL 51017: This well was installed in 2010 and is located approximately 750 feet south (cross-gradient) of the site. The total depth is 100 feet bsg with a static water level of 16 feet bsg. The solid casing is set to 77 feet bsg with a perforated liner to 100 feet bsg. The well has a 30-foot surface seal consisting of bentonite and cement.

WALL 784: This well was installed in 1994 and is located approximately 815 feet southwest (cross-gradient) of the site. The total depth is 46 feet bsg with a static water level of 8 feet bsg. No screened interval is listed and it appears to have open construction with a solid casing set to 40 feet bsg. The well has a 22-foot bentonite surface seal.

WALL 50868: This well was installed in 2007 and is located approximately 850 feet north (cross-gradient) of the site. The total depth is 120 feet bsg with a static water level of 13 feet bsg. No screened interval is listed for this well and it appears to have open construction with a solid casing set to 93 feet bsg. The well has a 30-foot surface seal consisting of bentonite and cement.

WALL 50995: This well was installed in 2009 and is located approximately 1,120 feet west (downgradient) of the site. The total depth is 104 feet bsg with a static water level of 17 feet bsg. No screened interval is listed for this well and it appears to have open construction with a solid casing set to 77 feet bsg. The well has a 32-foot surface seal consisting of bentonite and cement.

### **5.2.2 Door-to-Door and Mail-In Well Survey**

Since the location of some wells could not be determined based on the information provided in the WRD database, MSBA conducted a door-to-door and mail survey of the adjacent/nearby properties to verify the presence/absence of water wells in the immediate vicinity of the site. The results of this survey are shown on Figure 8. MSBA was unable to contact three of the property owners despite multiple attempts. Based on this survey, none of the respondents utilize the groundwater and all are supplied with municipal water.

### **5.2.3 Municipal Water Sources**

MSBA reviewed the *City of Enterprise 2021 Annual Drinking Water Report* (latest available) and spoke with Mr. Ron Neil, the Public Works Director for the City of Enterprise, to determine the municipal water source for the site and surrounding properties. Municipal water is supplied to the site and surrounding area by water well WALL 50195 and two springs. The water well is located approximately 2,640 (0.5 mile) northeast (upgradient/cross-gradient) of the site near the intersection of Northwest 4<sup>th</sup> Street and Northeast Chico Road. The site is located outside of the ten-year time-of-travel for this well. The well has a total depth of 1,315 feet with a static water level of 61.6 feet, is screened from 431.5 to 1,315 feet, and has a 440-foot surface seal consisting of cement. The well was installed in 1996. A copy of the water well report is presented in Appendix E. The two springs also used for municipal water are located approximately four miles south-southwest of Enterprise.

## **5.2.4 Beneficial Water Use Summary**

MSBA evaluated the well reports listed in the WRD database, the wells nearest to the site, and the municipal water source. Based on the depths, distances, and/or relative locations, MSBA concludes that none of the wells or municipal drinking water sources represent a concern with respect to the dissolved PHC plume remaining at the site.

## **5.3 Underground Utility Survey**

Underground water and storm sewer utilities are located in the vicinity of the tank cavity (Figure 8). The on-site water and storm sewer utilities are relatively shallow with depths ranging from 3 to 4 feet bsg. The sanitary sewer main is located south of the site and the lateral appears to enter the station building from the south; opposite the area of potential concern located on the north side. The onsite sanitary sewer lateral is approximately 3.5 to 4 feet bsg and the main line is 7 to 8 feet bsg. There are no underground natural gas utilities in the area. Underground electrical and communications utilities are likely present, however, the locations were not revealed by public locates. The anticipated depths of electrical and communications utilities range from 1.5 to 4 feet bsg. The city reported that the water main running beneath West North Street is 10 inch PVC. The underground water lateral to the site appears to run over the tank cavity. MSBA was not able to locate as-built drawings related to the water lateral, however, the city stated the line is likely 3/4 inch galvanized or copper piping. Based on the relatively shallow depth of 3.5 to 4 feet bsg, the water utilities are well above remaining soil and groundwater containing PHCs at approximately 12.5 feet bsg. Therefore, it appears that there is no elevated risk to human health and safety or preferential migration potential with respect to the underground utilities at the site.

## **5.4 Potential Ecological Impact Screening**

DEQ regulations (OAR 340-122-244(3)) generally do not require screening for potential ecological impacts if the site is devoid of threatened or endangered species and the following criteria are satisfied.

- (a) Contaminated soils are only present at a depth greater than 3 feet below ground surface, or, if present at a shallower depth, such soils cover an area no greater than 0.125 acre;
- (b) Surface water has not been affected by the release;
- (c) Contaminated groundwater does not and is not reasonably likely to discharge to surface waters or otherwise reach the surface in a manner that might result in contact with ecological receptors; and

- (d) Contaminated groundwater does not and is not reasonably likely to come into contact with aquatic sediments. (OAR 340-122-0244(3))

Based on the site data and conditions, the criteria are satisfied and an ecological impact screening is not warranted.

## 5.5 Land Use Zoning Evaluation

The land use zoning for the site and properties to the west, north, and east is designated as Light Commercial; zoning to the south is Central Business District. A modified copy of the Enterprise Zoning map is presented in Appendix F. MSBA contacted Lacey McQuead with the City of Enterprise Planning Commission and confirmed that there are no current or anticipated future changes to the land use zoning in this area. The nearest residences are non-conforming single-family properties located 350 to 400 feet northwest and northeast of the site, within the Light Commercial Zoning area. The nearest residential zoning (Single/Double Family Residential) is located approximately 410 feet northeast of the site (Zoning Map, Appendix F).

## 6.0 SOURCE, RECEPTOR, AND PATHWAY DETERMINATION

A CSM is prepared to evaluate the three primary elements of a risk assessment that include: 1) Sources; 2) Receptors; and 3) Pathways. Together, these three elements can potentially result in a risk to human health and safety. If any one of these three elements is absent, incomplete, or not applicable, there is no potential risk to human health and safety or the environment. A general explanation of the three primary elements of a CSM is presented below:

- 1) **Sources** - represent the constituents and the media (soil and groundwater) in which the constituents may be present. The constituents are independently evaluated as chemicals of potential concern (COPCs) within each media they are present.
- 2) **Receptors** - include the representative segments of the human population (residents, occupational workers, construction workers, and excavation workers) that occupy or work in the vicinity of the site based on zoning, current and permitted land uses, and potential likely future uses of the property.
- 3) **Pathways** - represent the potential mechanisms of transport and routes of exposure (i.e. inhalation, ingestion, and dermal contact) that may provide a means of contact between the sources and the receptors.

The three primary elements of a CSM as they relate to this site are discussed in greater detail in the following sections. The CSM evaluation was completed in general accordance with the USTCM RBDM).

## **6.1 SOURCES - Constituents/Media and COI/COPC Evaluation**

In accordance with the RBDM guidance document, a list was developed to identify the COIs that require further evaluation with respect to the potential receptors and exposure pathways. The COIs include the source constituents known to be, or considered likely to be, present based on the site history. Therefore, the COIs for gasoline (RBDM-Table 2.1) were included in this evaluation and are presented in Table 5.

The screening levels used for this evaluation (Table 5) represent the most stringent RBCs for the applicable current and potential future receptors (Section 5.5), adapted from Appendix A of the RBDM guidance document. The maximum detected concentrations (MDCs) were evaluated with respect to the screening levels to determine whether individual COIs should be further evaluated as COPCs based on the following criteria. MSBA relied on the 2020 and 2021 soil and groundwater sample data. The 1998 SPS and 2008 MSBA sample data were not utilized due to the significant attenuation that has occurred since the samples were collected.

- 1) Individual COIs will not be further evaluated as COPCs if they are: 1) detected at a concentration below the respective screening level; 2) not detected and one-half of the RL, which was raised due to dilution required for analysis, is below the respective screening levels; or, 3) not detected and the commonly achievable RL, which was not raised by sample dilution required for analysis, exceeds the respective screening levels (USTCM-Section 3.3.6: Detection Limits Versus RBCs).
- 2) Individual COIs will be further evaluated as COPCs if they are: 1) detected at a concentration exceeding the respective screening level; or 2) not detected and one-half of the RL, which was raised by sample dilution required for analysis, exceeds the screening level (USTCM-Section 3.3.6: Detection Limits Versus RBCs).

### **6.1.1 COI Evaluation - Soil**

The soil COIs were identified for further evaluation by comparing the soil MDCs to the screening levels (Table 5) in accordance with the criteria presented above (Section 6.1). The detected soil COIs gasoline; benzene; ethylbenzene; xylenes; naphthalene; 1,2,4-trimethylbenzene (124-TMB); and 1,3,5-trimethylbenzene (135-TMB) exceeded the respective screening levels and will be further evaluated for potential risk as COPCs. 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) were not detected in the soil but the RLs exceeded the respective screening levels. However, EDB and EDC have not been detected in any soil, groundwater, or soil vapor samples collected at the site.



In general accordance with the USTCM, a non-detection under these circumstances is sufficient evidence that the constituents are not present and therefore, do not require further evaluation as COPCs (USTCM, Section 3.3.6: Detection Limits Versus RBCs).

### **6.1.2 COI Evaluation - Groundwater**

The groundwater COIs were identified for further evaluation by comparing the groundwater MDCs to the screening levels (Table 5) in accordance with the criteria presented above (Section 6.1). The detected groundwater COIs gasoline, benzene, ethylbenzene, xylenes, naphthalene, 124-TMB, and 135-TMB exceeded the respective screening levels and will be further evaluated for potential risk as COPCs. EDB and EDC were not detected in groundwater but the RLs exceeded the respective screening levels. However, EDB and EDC have not been detected in any soil, groundwater, or soil vapor samples collected at the site. As discussed above (Section 6.1.1), EDB and EDC do not require further evaluation as COPCs.

### **6.1.3 COI Evaluation - Subslab Vapor**

The subslab vapor COIs were screened for further evaluation by comparing the MDCs to the screening levels (Table 5) in accordance with the criteria presented above (Section 6.1). No subslab vapor COIs require further evaluation as COPCs.

## **6.2 RECEPTORS - Potential Receptor Evaluation**

Potential receptors were evaluated based on the current and future zoning (Section 5.5), the current site and surrounding property uses, and the potential future uses of the site. MSBA has determined that current and likely future property use will remain commercial, therefore, occupational worker, construction worker, and excavation worker receptors were evaluated. The two nearest downgradient residential properties to the north, northwest, and northeast, are located well beyond the regulatory extent of PHCs in soil and groundwater. However, out of an abundance of caution, residential receptors were also evaluated.

## **6.3 PATHWAYS - Potential Exposure Pathway Evaluation and Risk Determination**

The RBDM lists potential exposure pathways between the COPCs in the soil and/or groundwater and the applicable receptors. The following presents an assessment of the potential risk to human health and safety from PHCs in soil and groundwater.

An exposure pathway is considered “complete” when site data and information indicates that a receptor is reasonably likely to contact a COPC. An exposure pathway is considered “incomplete” when site data and information indicates that a potential receptor is not reasonably likely to contact



a COPC. If a potential exposure pathway is deemed complete, it is further evaluated for potential risk. CSM information was utilized for this evaluation, including general site information (Section 1.0), a Surface Water Assessment (Section 5.1), a Beneficial Water Use Survey (Section 5.2), an Underground Utility Survey (Section 5.3), and a Land Use Zoning Evaluation (Section 5.5). The following presents a summary and brief description of the potential exposure pathways and receptors evaluated for risk.

**Soil Ingestion, Dermal Contact, and/or Inhalation (SIDCI):** This pathway includes ingestion, dermal contact, and/or inhalation of residual COPCs in soil. The applicable potential receptors include residents, occupational workers, construction workers, and excavation workers.

**Leaching to Groundwater (LGW):** This pathway includes residual COPCs in soil leaching into groundwater and subsequently being ingested by potential receptors through groundwater supply wells. The applicable potential receptors include residents and occupational workers.

**Ingestion and Inhalation from Tapwater (IIT):** This pathway includes ingestion and/or inhalation of residual COPCs in groundwater by potential receptors through groundwater wells. The applicable potential receptors for this site include residents and occupational workers.

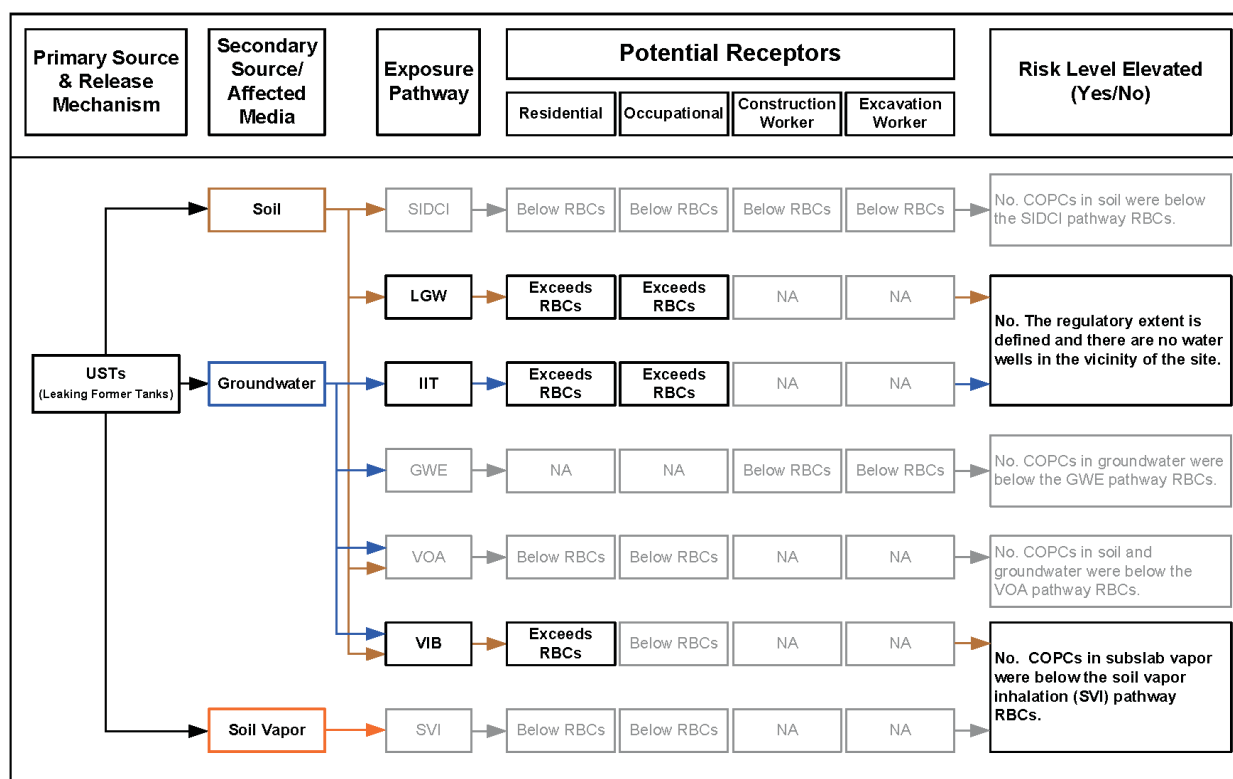
**Groundwater in Excavation (GWE):** This pathway includes dermal absorption and/or inhalation of COPCs in groundwater by potential receptors during construction or excavation activities. The applicable potential receptors for this site include construction and excavation workers.

**Vapor Intrusion into Buildings (VIB):** This pathway includes volatilization of residual COPCs in soil and groundwater resulting in unsafe breathing conditions in indoor air. The applicable potential receptors for this site include residents and occupational workers.

**Volatilization to Outdoor Air (VOA):** This pathway includes volatilization of residual COPCs in soil and groundwater resulting in unsafe breathing conditions in outdoor air. The applicable potential receptors for this site include residents and occupational workers.

## 7.0 RISK ASSESSMENT

The following presents an evaluation of risk to the identified receptors for each of the applicable potential exposure pathways. The risk assessment summary is illustrated below.



The individual exposure pathways are discussed in further detail below.

### 7.1 Soil Ingestion, Dermal Contact, and/or Inhalation

No COPCs were detected in the soil at concentrations exceeding the SIDCI pathway RBCs for the residential, occupational worker, construction worker, or excavation worker receptors. In addition, the entire surface of the site is covered with asphalt, concrete, or structures and the known residual PHCs are approximately 12.5 feet bsg, eliminating the potential for incidental contact with receptors. Therefore, based on the data and site conditions, MSBA concludes there is no elevated risk to human health and safety with respect to the SIDCI exposure pathway for the residential, occupational worker, construction worker, and excavation worker receptors.

## **7.2 Leaching to Groundwater**

Gasoline and several VOCs were detected in soil, or had elevated RLs, at concentrations exceeding the LGW pathway RBCs for the residential and occupational worker receptors. Based on the Beneficial Water Use Survey, there are no wells of concern and future wells are not reasonably likely. In addition, following the excavation cleanup and bioremediation activities performed in 1998, significant attenuation of PHCs in soil and groundwater has been documented and will continue. Therefore, based on the data and site conditions, there is no elevated risk to human health and safety with respect to the LGW exposure pathway for the residential and occupational worker receptors.

## **7.3 Ingestion and Inhalation from Tapwater**

Gasoline and several VOCs were detected in groundwater, or had elevated RLs, at concentrations exceeding the IIT pathway RBCs for the residential and occupational worker receptors. Based on the Beneficial Water Use Survey, there are no wells of concern and future wells are not reasonably likely. In addition, following the excavation cleanup and bioremediation activities performed in 1998, significant attenuation of PHCs in soil and groundwater has been documented and will continue. Therefore, based on the data and site conditions, there is no elevated risk to human health and safety with respect to the IIT exposure pathway for the residential and occupational worker receptors.

## **7.4 Groundwater in Excavation**

No COPCs were detected in soil or groundwater at concentrations exceeding the GWE pathway RBCs for the excavation and construction worker receptors. Therefore, based on the data and site conditions, MSBA concludes there is no elevated risk to human health and safety with respect to the GWE exposure pathway for the excavation and construction worker receptors.

## **7.5 Vapor Intrusion into Buildings**

No COPCs were detected in soil, groundwater, or soil vapor at concentrations exceeding the VIB pathway RBCs for the occupational worker receptor. Gasoline, benzene, and ethylbenzene were detected in soil at concentrations exceeding the VIB pathway RBCs for the residential receptor. COPCs were not detected in the on-site subslab vapor sample above the residential RBCs. In

addition, the nearest residence is approximately 350 feet from the site. Therefore, based on the data and site conditions, MSBA concludes that there is no elevated risk to human health and safety with respect to the VIB exposure pathway for the residential and occupational worker receptors.

## **7.6 Volatilization to Outdoor Air**

No COPCs were detected in the soil or groundwater at concentrations exceeding the VOA pathway RBCs for the residential and occupational worker receptors. Therefore, based on the current data and site conditions, MSBA concludes that there is no elevated risk to human health and safety with respect to the VOA exposure pathway for the occupational worker receptor.

## **7.7 Risk Assessment Summary**

Based on the results of this assessment, there is no elevated risk to human health and safety for any of the applicable receptors from the identified COPCs and potential exposure pathways.

## **8.0 RECOMMENDATION FOR RISK-BASED REGULATORY SITE CLOSURE**

The regulatory extent of gasoline and related COPCs in soil and groundwater beneath the site has been adequately defined. Soil, groundwater, and subsurface vapor sample analytical data indicate that residual PHCs are present at levels below the applicable constituent RBCs and/or the potential exposure pathways are incomplete. Therefore, MSBA concludes there is no elevated risk to human health and safety or the environment. MSBA recommends regulatory closure of the site.

## 9.0 REMARKS AND SIGNATURES

The information/conclusions/recommendations contained in this report were arrived at in accordance with currently accepted professional geological and environmental practices at this time and location. No warranties are expressed or implied. This report was prepared solely for Byrnes Oil. MSBA is not responsible for the independent conclusions or actions of others derived from the information presented herein.

Information and opinions presented in this report are based on the collection and review of data from limited portions of the site subsurface. MSBA is not responsible for conditions that may exist in portions of the site that were not investigated, for conditions that were not reported or properly presented to MSBA, or for future activities or investigations that may alter the current condition or understanding of the site.

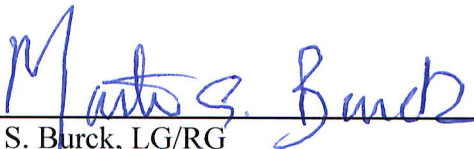
Prepared By:

**Martin S. Burck Associates, Inc.**

  
\_\_\_\_\_  
Jon White  
Project Manager

/ 6/23/2023  
\_\_\_\_\_  
Date

Reviewed by:

  
\_\_\_\_\_  
Martin S. Burck, LG/RG  
Licensed/Registered Geologist OR, WA, CA

/ 6/23/2023  
\_\_\_\_\_  
Date



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## Figures

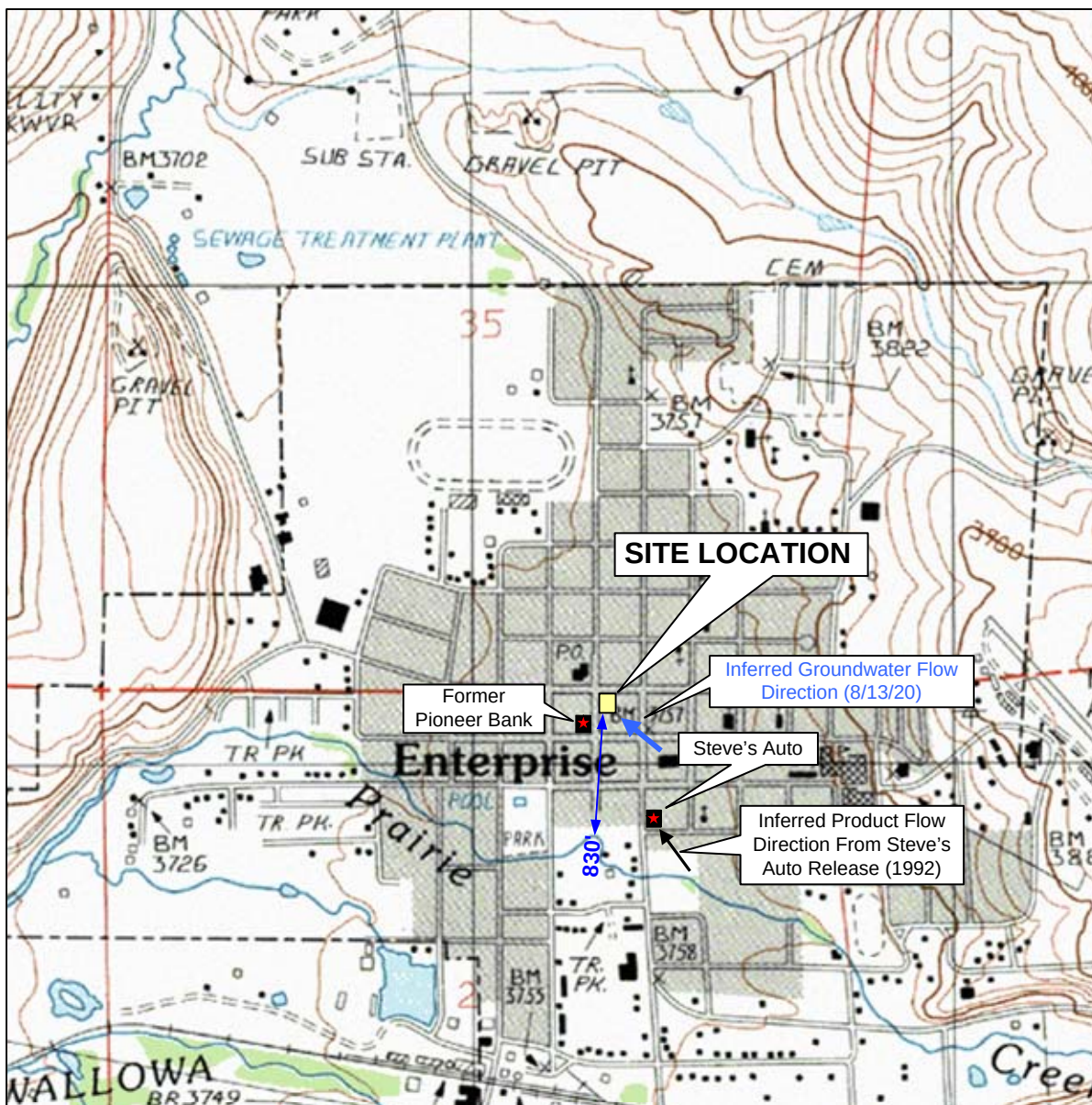
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- Figure 1 Site Location Map
- Figure 2 Site and Surrounding Features Map
- Figure 3 Inferred Groundwater Flow Direction Map
- Figure 4 Soil Data Map
- Figure 5 Groundwater Data Map
- Figure 6 Subslab Vapor Data Map
- Figure 7 Water Well Location Map
- Figure 8 Door-to-Door Well Survey and Underground Utilities Map



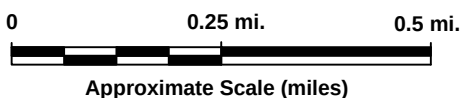
R. 44 E.

T. 2 S. | T. 1 S.



Adapted from: ENTERPRISE QUADRANGLE  
Oregon-Wallowa Co., 7.5 Minute Series  
USGS Topographic Map, 1990  
National Geodetic Vertical Datum of 1929  
Contour Interval 20 feet

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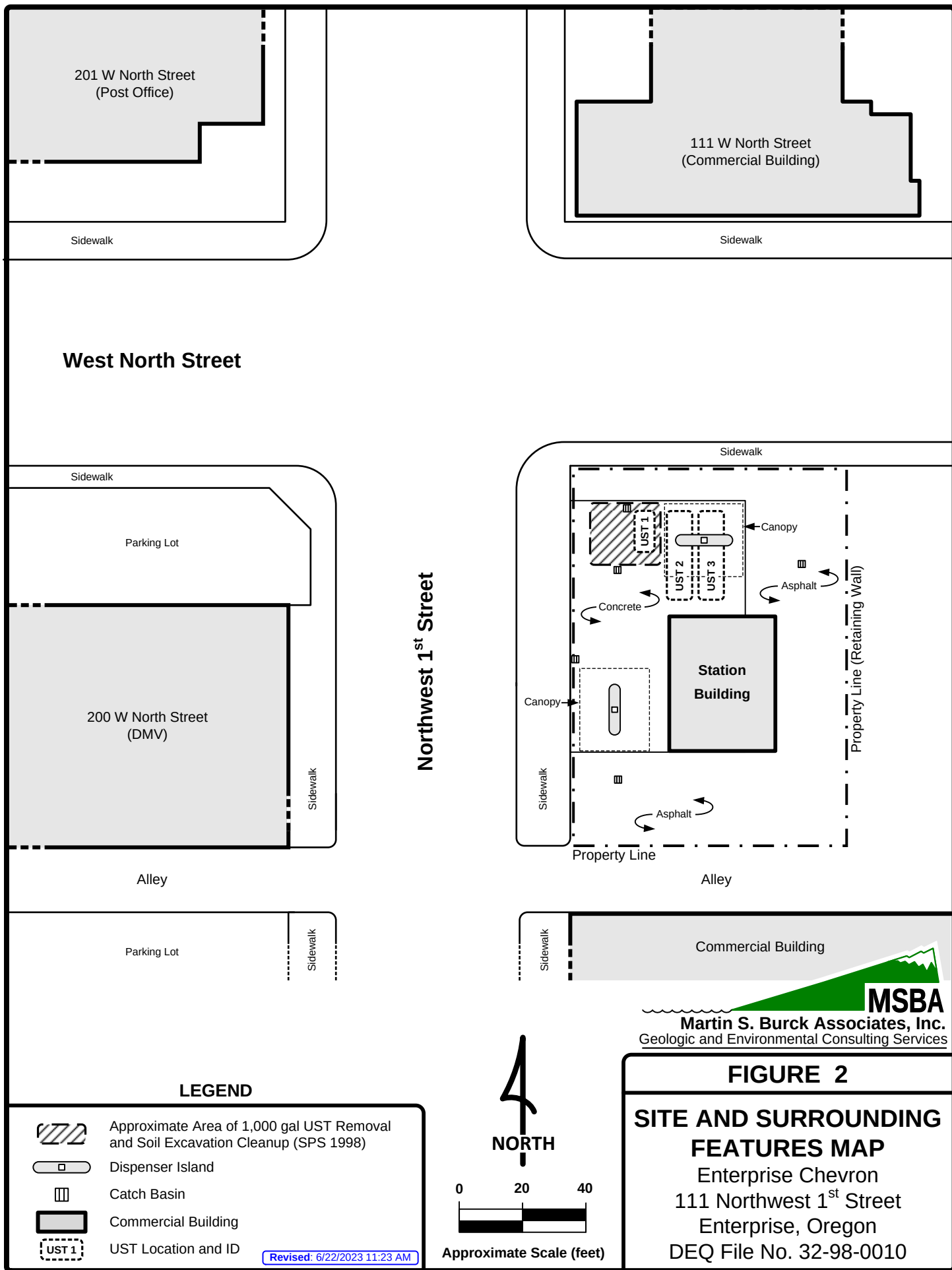
**MSBA**  
Martin S. Burck Associates, Inc.  
Geologic and Environmental Consulting Services

## FIGURE 1

### SITE LOCATION MAP

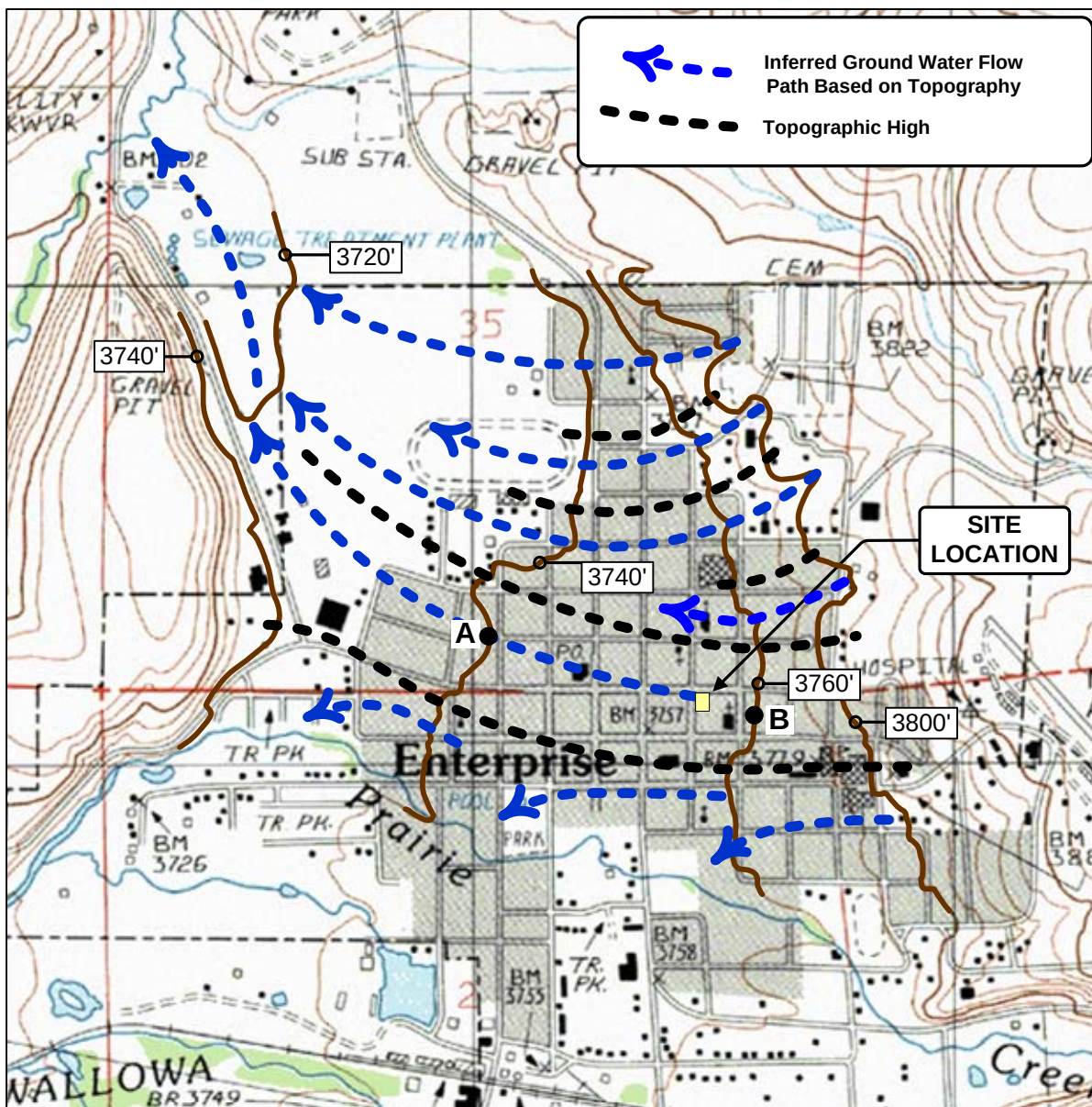
Enterprise Chevron  
111 Northwest 1<sup>st</sup> Street  
Enterprise, Oregon  
DEQ File No. 32-98-0010





R. 44 E.

T. 2 S. | T. 1 S.



Adapted from: ENTERPRISE QUADRANGLE  
Oregon-Wallowa Co., 7.5 Minute Series  
USGS Topographic Map, 1990  
National Geodetic Vertical Datum of 1929  
Contour Interval 20 feet

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**MSBA**  
Martin S. Burck Associates, Inc.  
Geologic and Environmental Consulting Services

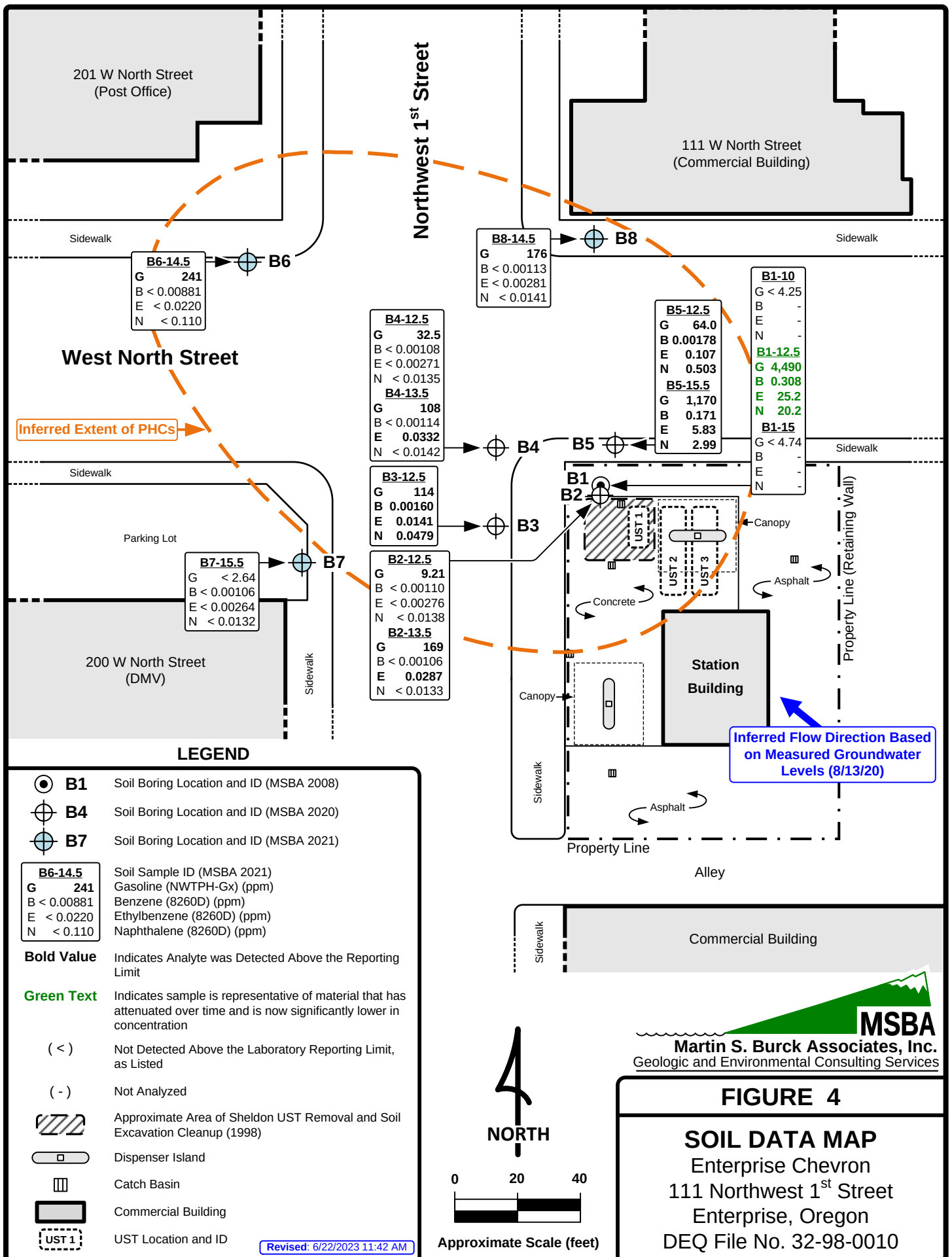
### FIGURE 3

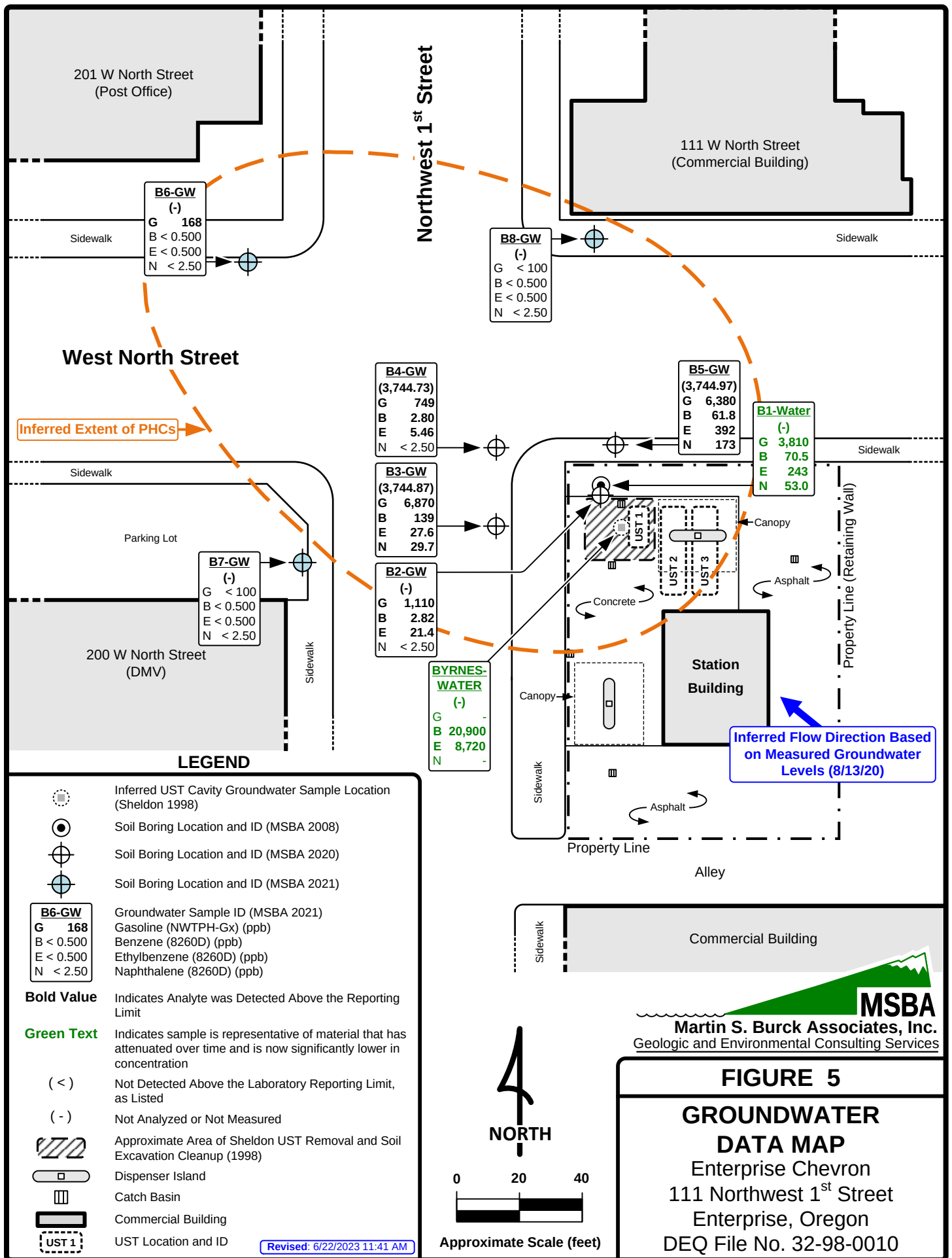
#### INFERRED GROUNDWATER FLOW DIRECTION MAP

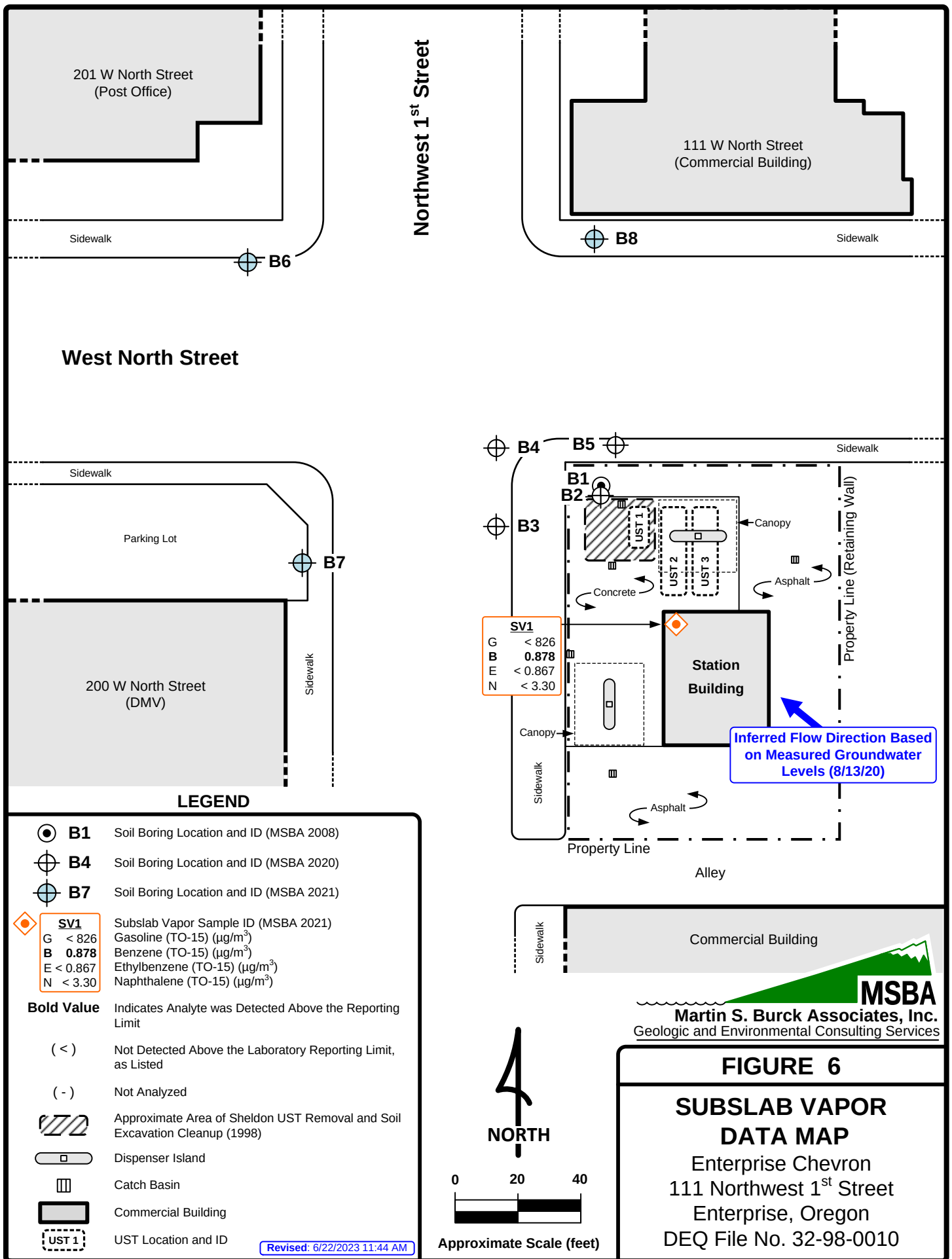
Enterprise Chevron  
111 Northwest 1<sup>st</sup> Street  
Enterprise, Oregon  
DEQ File No. 32-98-0010



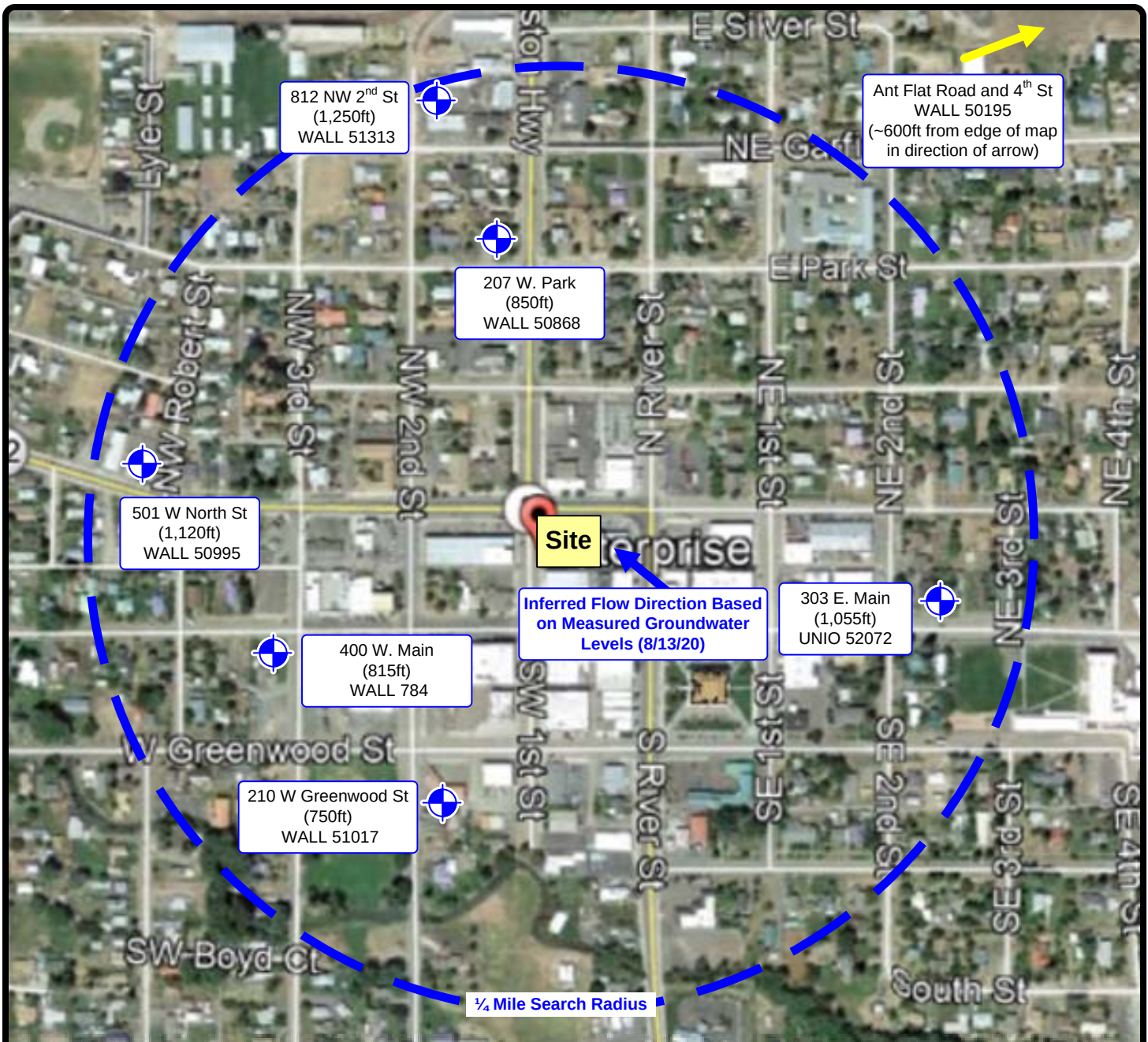
0 0.25 mi. 0.5 mi.  
Approximate Scale (miles)











Adapted from: Google Earth Image (2016)

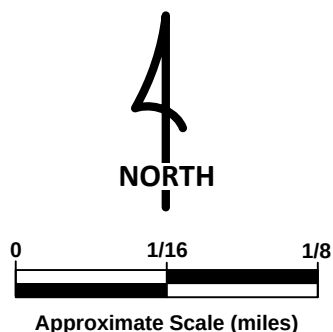


## LEGEND

- - - - - One-Quarter Mile Search Radius
-  Water Well Location (Approximate)
- 812 NW 2<sup>nd</sup> St  
(1,250ft)  
WALL 51313

 Well Street Address  
(Distance from Site in Feet)  
Well Report Identification Number

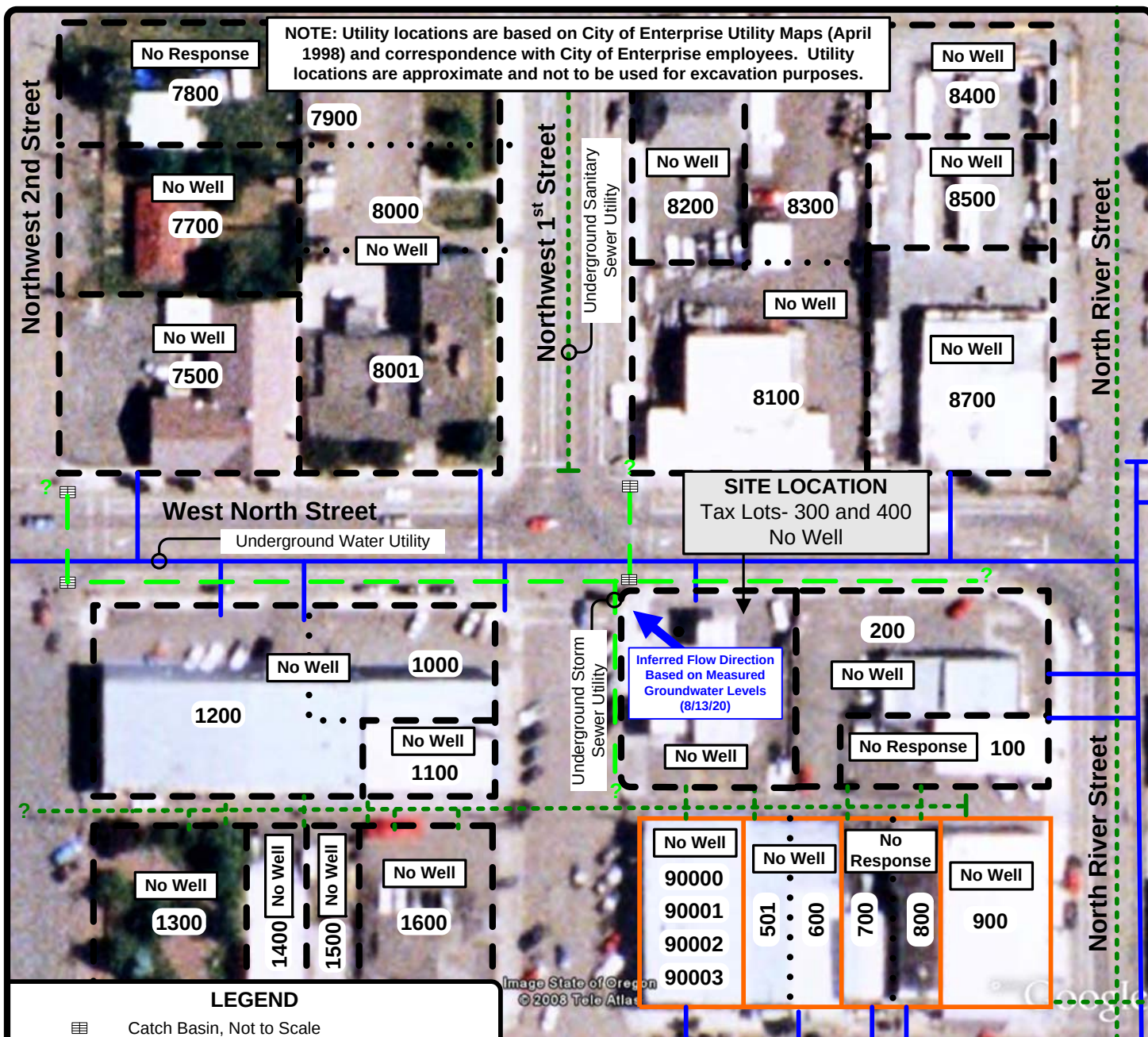
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## FIGURE 7

**WATER WELL  
LOCATION MAP**  
Enterprise Chevron  
111 Northwest 1<sup>st</sup> Street  
Enterprise, Oregon  
DEQ File No.: 32-98-0010







## Tables

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|         |                                      |
|---------|--------------------------------------|
| Table 1 | Soil Sample Analytical Data          |
| Table 2 | Groundwater Level Data               |
| Table 3 | Groundwater Sample Analytical Data   |
| Table 4 | Subslab Vapor Sample Analytical Data |
| Table 5 | Constituents of Interest             |

| TABLE 1<br>SOIL SAMPLE ANALYTICAL DATA<br>Enterprise Chevron<br>111 Northwest 1st Street<br>Enterprise, Oregon 97828<br>DEQ LUST No.: 32-98-0010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                                      |                                      |                     |                  |        |                         |           |              |           |                        |           |                     |                 |           |             |           |                 |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------|--------------------------------------|---------------------|------------------|--------|-------------------------|-----------|--------------|-----------|------------------------|-----------|---------------------|-----------------|-----------|-------------|-----------|-----------------|-------------------------------|
| Sample ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sample Date         | Sample Depth (feet bsg) <sup>a</sup> | PHCs <sup>b</sup> (ppm) <sup>c</sup> |                     |                  |        | VOCs <sup>d</sup> (ppm) |           |              |           |                        |           |                     |                 |           |             |           |                 | Total Lead <sup>e</sup> (ppm) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |                                      | HCID <sup>f</sup>                    | Gasoline            | Diesel           | Oil    | Benzene                 | Toluene   | Ethylbenzene | Xylenes   | EDB                    | EDC       | MTBE                | IPB             | NPB       | Naphthalene | 124-TMB   | 135-TMB         |                               |
| Sheldon Petroleum Services Samples                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                      |                                      |                     |                  |        |                         |           |              |           |                        |           |                     |                 |           |             |           |                 |                               |
| <i>Byrnes Pile</i> <sup>g</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5/12/98             | na <sup>h</sup>                      | D                                    | - <sup>i</sup>      | 211 <sup>j</sup> | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| <i>Byrnes Bottom</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5/12/98             | na                                   | G                                    | 4,600               | -                | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| <i>Byrnes W.S.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5/12/98             | na                                   | D                                    | -                   | 334              | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| <i>Byrnes S.E.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5/12/98             | na                                   | G                                    | 163                 | -                | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| Martin S. Burck Associates Samples                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                                      |                                      |                     |                  |        |                         |           |              |           |                        |           |                     |                 |           |             |           |                 |                               |
| <i>B1-10</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10/9/08             | 10                                   | -                                    | < 4.25 <sup>k</sup> | -                | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| <i>B1-12.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10/9/08             | 12.5                                 | G, D <sup>l</sup>                    | 4,490               | -                | -      | 0.308                   | < 2.37    | 25.2         | 144       | < 0.593                | < 0.593   | < 1.19              | 9.27            | 41.6      | 20.2        | 284       | 95.3            | 1.38                          |
| <i>B1-15</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10/9/08             | 15                                   | -                                    | < 4.74              | -                | -      | -                       | -         | -            | -         | -                      | -         | -                   | -               | -         | -           | -         | -               | -                             |
| <i>B2-12.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/14/20             | 12.5                                 | -                                    | 9.21                | -                | -      | < 0.00110               | < 0.00552 | < 0.00276    | 0.00808   | < 0.00276 <sup>m</sup> | < 0.00276 | < 0.00110           | < 0.00276       | < 0.00552 | < 0.0138    | 0.0180    | 0.00702         | -                             |
| <i>B2-13.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/14/20             | 13.5                                 | -                                    | 169                 | -                | -      | < 0.00106               | < 0.00531 | 0.0287       | 0.401     | < 0.00266              | < 0.00266 | < 0.00106           | 0.0203          | 0.159     | < 0.0133    | 0.981     | 0.422           | -                             |
| <i>B3-12.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/13/20             | 12.5                                 | -                                    | 114                 | -                | -      | 0.00160                 | < 0.00624 | 0.0141       | 0.0583    | < 0.00312              | < 0.00312 | < 0.00125           | 0.0208          | 0.205     | 0.0479      | 1.63      | 0.635           | -                             |
| <i>B4-12.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/13/20             | 12.5                                 | -                                    | 32.5                | -                | -      | < 0.00108               | < 0.00541 | < 0.00271    | 0.00917   | < 0.00271              | < 0.00271 | < 0.00108           | < 0.00271       | < 0.00541 | < 0.0135    | 0.0108    | < 0.00541       | -                             |
| <i>B4-13.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/13/20             | 13.5                                 | -                                    | 108                 | -                | -      | < 0.00114               | < 0.00569 | 0.0332       | 0.197     | < 0.00284              | < 0.00284 | < 0.00114           | 0.00677         | 0.0579    | < 0.0142    | 0.162     | 0.0674          | -                             |
| <i>B5-12.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/13/20             | 12.5                                 | -                                    | 64.0                | -                | -      | 0.00178                 | 0.0101    | 0.107        | 0.862     | < 0.00309              | < 0.00309 | < 0.00124           | 0.0920          | 0.828     | 0.503       | 6.41      | 1.88            | -                             |
| <i>B5-15.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8/13/20             | 15.5                                 | -                                    | 1,170               | -                | -      | 0.171                   | 1.75      | 5.83         | 36.7      | < 0.243                | < 0.243   | < 0.0972            | 1.13            | 6.24      | 2.99        | 38.9      | 12.1            | -                             |
| <i>B6-14.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9/8/21              | 14.5                                 | -                                    | 241                 | -                | -      | < 0.00881               | < 0.0441  | < 0.0220     | < 0.0573  | < 0.0220               | < 0.0220  | < 0.00881           | 0.0280          | 0.188     | < 0.110     | 1.81      | 0.671           | -                             |
| <i>B7-15.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9/8/21              | 15.5                                 | -                                    | < 2.64              | -                | -      | < 0.00106               | < 0.00528 | < 0.00264    | < 0.00687 | < 0.00264              | < 0.00264 | < 0.00106           | < 0.00264       | < 0.00528 | < 0.0132    | < 0.00528 | < 0.00528       | -                             |
| <i>B8-14.5</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9/8/21              | 14.5                                 | -                                    | 176                 | -                | -      | < 0.00113               | < 0.00563 | < 0.00281    | < 0.00732 | < 0.00281              | < 0.00281 | < 0.00113           | 0.00772         | 0.0627    | < 0.0141    | 0.0117    | 0.00563         | -                             |
| DEQ Soil Risk-Based Concentrations (RBCs) - Revised May 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |                                      |                                      |                     |                  |        |                         |           |              |           |                        |           |                     |                 |           |             |           |                 |                               |
| Leaching to Groundwater                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Residential         | N/A <sup>n</sup>                     | 31                                   | 9,500               | 9,500            | 0.023  | 84                      | 0.22      | 23           | 0.00012   | 0.0028                 | 0.11      | 96                  | -- <sup>o</sup> | 0.077     | 10          | 11        | 30              |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Occupational        | N/A                                  | 130                                  | > MAX <sup>p</sup>  | > MAX            | 0.10   | 490                     | 0.90      | 100          | 0.00056   | 0.013                  | 0.54      | > Csat <sup>q</sup> | --              | 0.34      | 48          | 53        | 30              |                               |
| Direct Contact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Residential         | N/A                                  | 1,200                                | 1,100               | 1,100            | 8.2    | 5,800                   | 34        | 1,400        | 0.16      | 3.6                    | 250       | 3,500               | --              | 5.3       | 430         | 430       | 400             |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Occupational        | N/A                                  | 20,000                               | 14,000              | 14,000           | 37     | 88,000                  | 150       | 25,000       | 0.73      | 16                     | 1,100     | 57,000              | --              | 23        | 6,900       | 6,900     | 800             |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Construction Worker | N/A                                  | 9,700                                | 4,600               | 4,600            | 380    | 28,000                  | 1,700     | 20,000       | 9.0       | 200                    | 12,000    | 27,000              | --              | 580       | 2,900       | 2,900     | 800             |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Excavation Worker   | N/A                                  | > MAX                                | > MAX               | > MAX            | 11,000 | 770,000                 | 49,000    | 560,000      | 250       | 5,600                  | 320,000   | 750,000             | --              | 16,000    | 81,000      | 81,000    | 800             |                               |
| Vapor Intrusion Into Buildings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Residential         | N/A                                  | 94                                   | > MAX               | > MAX            | 0.16   | > Csat                  | 1.3       | 160          | 0.012     | 0.077                  | 8.5       | > Csat              | --              | 6.4       | 140         | 98        | NV              |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Occupational        | N/A                                  | > MAX                                | > MAX               | > MAX            | 2.1    | > Csat                  | 17        | > Csat       | 0.16      | 1.0                    | 110       | > Csat              | --              | 83        | > Csat      | > Csat    | NV <sup>r</sup> |                               |
| Volitization to Outside Air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Residential         | N/A                                  | 5,900                                | > MAX               | > MAX            | 11     | > Csat                  | 36        | > Csat       | 0.15      | 3.4                    | 340       | > Csat              | --              | 6.4       | > Csat      | > Csat    | NV              |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Occupational        | N/A                                  | 69,000                               | > MAX               | > MAX            | 50     | > Csat                  | 160       | > Csat       | 0.65      | 15                     | 1,500     | > Csat              | --              | 83        | > Csat      | > Csat    | NV              |                               |
| <sup>a</sup> Depth of sample in feet below surface grade (bsg)<br><sup>b</sup> Petroleum hydrocarbons (PHCs) were identified using Hydrocarbon Identification Analysis by NWTPH-HCID or analyzed using DEQ NWTPH methods Gx (gasoline) and Dx (diesel and oil)<br><sup>c</sup> Analytical results reported in parts per million (ppm)<br><sup>d</sup> Volatile organic compounds (VOCs) were analyzed using EPA method 8260B or 8260D. Abbreviations are as follows: EDB = 1,2-dibromoethane, EDC = 1,2-dichloroethane, MTBE = methyl tert-butyl ether, IPB = iso-propylbenzene, NPB = n-propylbenzene, 124-TMB = 1,2,4-trimethylbenzene, and 135-TMB = 1,3,5-trimethylbenzene<br><sup>e</sup> Total lead was analyzed using EPA Method 6020<br><sup>f</sup> Hydrocarbon Identification Key: "G" denotes gasoline hydrocarbon detection, "D" denotes diesel hydrocarbon detection, "O" denotes heavy oil hydrocarbon detection, and "ND" denotes none detected<br><sup>g</sup> Green text indicates sample is representative of insitu material that has attenuated over time and is now significantly lower in concentration<br><sup>h</sup> ( na ) Not available (sample depth is unknown)<br><sup>i</sup> ( - ) Not analyzed<br><sup>j</sup> Bold value indicates analyte concentration exceeded laboratory reporting limit<br><sup>k</sup> ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed<br><sup>l</sup> Laboratory qualifier " Results in the diesel organics range are primarily due to overlap from a gasoline range product"<br><sup>m</sup> Yellow shading indicates analyte concentration (or one-half the reporting limit) exceeds an RBC. The exceeded level is also shaded<br><sup>n</sup> ( N/A ) Not applicable<br><sup>o</sup> ( -- ) Not available (Oregon DEQ has not established an RBC value for the respective analyte)<br><sup>p</sup> ( > MAX ) "The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, these substances are not expected to pose risks in the scenario shown" (Appendix A, RBDM, 2018)<br><sup>q</sup> ( > Csat ) "This soil RBC exceeds the limit of three-phase equilibrium partitioning" (Appendix A, RBDM, 2018)<br><sup>r</sup> ( NV ) "This chemical is considered "nonvolatile" for the purposes of the exposure calculations" (Appendix A, RBDM, 2018) |                     |                                      |                                      |                     |                  |        |                         |           |              |           |                        |           |                     |                 |           |             |           |                 |                               |

**TABLE 2**  
**GROUNDWATER LEVEL DATA**

Enterprise Chevron  
111 Northwest 1st Street  
Enterprise, Oregon 97828  
DEQ LUST No.: 32-98-0010

| Well ID                                                                                                                                                                                                                                                                                                                                                                       | Date    | Top of Casing Elevation <sup>a</sup><br>(feet) | Depth to Water <sup>b</sup><br>(feet) | Groundwater Elevation <sup>c</sup><br>(feet) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------|---------------------------------------|----------------------------------------------|
| <b>B3</b>                                                                                                                                                                                                                                                                                                                                                                     | 8/13/20 | 3,757.00                                       | 12.13                                 | 3,744.87                                     |
| <b>B4</b>                                                                                                                                                                                                                                                                                                                                                                     | 8/13/20 | 3,756.20                                       | 11.47                                 | 3,744.73                                     |
| <b>B5</b>                                                                                                                                                                                                                                                                                                                                                                     | 8/13/20 | 3,756.52                                       | 11.55                                 | 3,744.97                                     |
| <b>a</b> Reference elevation surveyed relative to benchmark (B-3 top of casing) with assumed elevation of 3,757.00 feet<br><b>b</b> Depth to water measured in feet from the surveyed location at the top of each well casing to the groundwater surface<br><b>c</b> Elevation of measured groundwater surface in monitoring wells relative to assumed elevation of benchmark |         |                                                |                                       |                                              |

| TABLE 3<br>GROUNDWATER SAMPLE ANALYTICAL DATA<br>Enterprise Chevron<br>111 Northwest 1st Street<br>Enterprise, Oregon 97828<br>DEQ LUST No.: 32-98-0010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|--------------------|------------------|-----|-------------------------|---------|--------------|---------|----------------------|---------|-----------|---------|------------------|-------------|---------|---------|-----------------------------------|
| Sample ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sample Date             | PHCs <sup>a</sup> (ppb) <sup>b</sup> |                    |                  |     | VOCs <sup>c</sup> (ppb) |         |              |         |                      |         |           |         |                  |             |         |         | Dissolved Lead <sup>d</sup> (ppb) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         | HCID <sup>e</sup>                    | Gasoline           | Diesel           | Oil | Benzene                 | Toluene | Ethylbenzene | Xylenes | EDB                  | EDC     | MTBE      | IPB     | NPB              | Naphthalene | 124-TMB | 135-TMB |                                   |
| Sheldon Petroleum Services Sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |
| Byrnes water <sup>f, g</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5/12/98 <sup>h</sup>    | - <sup>i</sup>                       | -                  | -                | -   | 20,900 <sup>j</sup>     | 106,000 | 8,720        | 46,600  | -                    | -       | -         | -       | -                | -           | -       | -       | -                                 |
| Martic S. Burck Associates Samples                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |
| B1-Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10/9/08                 | G, D <sup>k</sup>                    | 3,810              | -                | -   | 70.5                    | 4.37    | 243          | 290     | < 0.500 <sup>l</sup> | < 0.500 | 1.11      | 22.3    | 79.8             | 53.0        | 427     | 38.2    | < 1.00                            |
| B2-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8/14/20                 | -                                    | 1,110 <sup>m</sup> | -                | -   | 2.82                    | 7.50    | 21.4         | 173     | < 0.500              | < 0.500 | < 0.500   | 2.40    | 8.51             | < 2.50      | 57.6    | 16.6    | -                                 |
| B3-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8/13/20                 | -                                    | 6,870              | -                | -   | 139                     | 37.1    | 27.6         | 95.8    | < 0.500              | < 0.500 | < 0.500   | 10.2    | 54.1             | 29.7        | 1,330   | 160     | -                                 |
| B4-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8/13/20                 | -                                    | 749                | -                | -   | 2.80                    | 0.633   | 5.46         | 23.5    | < 0.500              | < 0.500 | < 0.500   | 0.646   | 3.34             | < 2.50      | 7.47    | 2.17    | -                                 |
| B5-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8/13/20                 | -                                    | 6,380              | -                | -   | 61.8                    | 203     | 392          | 2,410   | < 0.500              | < 0.500 | < 0.500   | 61.1    | 211              | 173         | 1,140   | 321     | -                                 |
| B6-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9/8/21                  | -                                    | 168                | -                | -   | < 0.500                 | < 0.500 | < 0.500      | < 1.50  | < 0.500              | < 0.500 | < 0.500   | < 0.500 | 0.761            | < 2.50      | 5.71    | 1.95    | -                                 |
| B7-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9/8/21                  | -                                    | < 100              | -                | -   | < 0.500                 | < 0.500 | < 0.500      | < 1.50  | < 0.500              | < 0.500 | < 0.500   | < 0.500 | < 0.500          | < 2.50      | < 0.500 | < 0.500 | -                                 |
| B8-GW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9/8/21                  | -                                    | < 100              | -                | -   | < 0.500                 | < 0.500 | < 0.500      | < 1.50  | < 0.500              | < 0.500 | < 0.500   | < 0.500 | < 0.500          | < 2.50      | < 0.500 | < 0.500 | -                                 |
| DEQ Groundwater Risk-Based Concentrations (RBCs) - Revised May 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |
| Ingestion & Inhalation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Residential             | N/A <sup>n</sup>                     | 110                | 100              | 100 | 0.46                    | 1,100   | 1.54         | 190     | 0.0075               | 0.17    | 14        | 440     | - - <sup>o</sup> | 0.17        | 54      | 59      | 15                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Occupational            | N/A                                  | 450                | 430              | 430 | 2.1                     | 6,300   | 6.4          | 830     | 0.034                | 0.78    | 68        | 2,000   | - -              | 0.72        | 250     | 280     | 15                                |
| Vapor Intrusion into Building                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Residential             | N/A                                  | 22,000             | > S <sup>p</sup> | > S | 210                     | > S     | 620          | 86,000  | 45                   | 300     | 67,000    | > S     | - -              | 840         | 50,000  | 36,000  | NV <sup>q</sup>                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Occupational            | N/A                                  | > S                | > S              | > S | 2,800                   | > S     | 8,200        | > S     | 590                  | 3,900   | 870,000   | > S     | - -              | 11,000      | > S     | > S     | NV                                |
| Volatilization to Outdoor Air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Residential             | N/A                                  | > S                | > S              | > S | 3,100                   | > S     | 9,900        | > S     | 180                  | 2,100   | 350,000   | > S     | - -              | 3,600       | > S     | > S     | NV                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Occupational            | N/A                                  | > S                | > S              | > S | 14,000                  | > S     | 43,000       | > S     | 790                  | 9,000   | 1,500,000 | > S     | - -              | 16,000      | > S     | > S     | NV                                |
| Groundwater in Excavation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Residential             | N/A                                  | 14,000             | > S              | > S | 1,800                   | 220,000 | 4,500        | 23,000  | 27                   | 630     | 63,000    | 51,000  | - -              | 500         | 6,300   | 7,500   | > S                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Construction Excavation |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |
| <div><div>a</div><div>Petroleum hydrocarbons (PHCs) were identified using Hydrocarbon Identification Analysis by NWTPH-HCID or analyzed using Department of Environmental Quality (DEQ) NWTPH methods Gx (gasoline) and Dx (diesel and oil)</div><div>b</div><div>Analytical results reported in parts per billion (ppb)</div><div>c</div><div>Volatile organic compounds (VOCs) were analyzed using EPA method 8260B or 8260D (or 8020 for the 1998 samples). Abbreviations are as follows: EDB = 1,2-dibromoethane, EDC = 1,2-dichloroethane, MTBE = methyl tert-butyl ether, IPB = iso-propylbenzene, NPB = n-propylbenzene, 124-TMB = 1,2,4-trimethylbenzene, and 135-TMB = 1,3,5-trimethylbenzene</div><div>d</div><div>Dissolved metals (lead) analyzed using EPA method 6020</div><div>e</div><div>Hydrocarbon Identification Key: "G" denotes gasoline hydrocarbon detection, "D" denotes diesel hydrocarbon detection, and "O" denotes heavy oil hydrocarbon detection</div><div>f</div><div>Green text indicates sample is representative of groundwater that has attenuated over time and is now significantly lower in concentration</div><div>g</div><div>Groundwater sample collected from the tank cavity by Sheldon Petroleum Services</div><div>h</div><div>Only a partial lab report was available and it does not list the sample date. The date listed is inferred</div><div>i</div><div>( - ) Not Analyzed</div><div>j</div><div>Bold value indicates analyte concentration exceeded laboratory reporting limit</div><div>k</div><div>Laboratory qualifier: "Results in the diesel organics range are primarily due to overlap from a gasoline range product"</div><div>l</div><div>( &lt; ) Analyte concentration not detected above the laboratory reporting limit, as listed</div><div>m</div><div>Yellow Shading indicates analyte concentration (or one-half the laboratory reporting limit) exceeds an RBC. The exceeded level is also shaded</div><div>n</div><div>( N/A ) Not applicable</div><div>o</div><div>( - - ) Not available (Oregon DEQ has not established an RBC value for the respective analyte)</div><div>p</div><div>( &gt; S ) "This groundwater RBC exceeds the solubility limit" (Appendix A, RBDM, 2018)</div><div>q</div><div>( NV ) "This chemical is considered "nonvolatile" for the purposes of the exposure calculations" (Appendix A, RBDM, 2018)</div></div> |                         |                                      |                    |                  |     |                         |         |              |         |                      |         |           |         |                  |             |         |         |                                   |

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# **TABLE 4** **SUBSLAB VAPOR SAMPLE ANALYTICAL DATA**

Enterprise Chevron  
111 Northwest 1st Street  
Enterprise, Oregon 97828  
DEQ LUST No.: 32-98-0010

| Sample ID                                                                 | Sample Date           | Gasoline and RBDM <sup>a</sup> VOCs <sup>b</sup> (µg/m <sup>3</sup> ) <sup>c</sup> |                           |             |              |             |                   |                    |                         |                  |                 |             |                        |                        | Leak Test Results                                             |
|---------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------|---------------------------|-------------|--------------|-------------|-------------------|--------------------|-------------------------|------------------|-----------------|-------------|------------------------|------------------------|---------------------------------------------------------------|
|                                                                           |                       | Gasoline                                                                           | Benzene                   | Toluene     | Ethylbenzene | Xylenes     | 1,2-Dibromoethane | 1,2-Dichloroethane | Methyl tert-butyl ether | Isopropylbenzene | n-Propylbenzene | Naphthalene | 1,2,4-Trimethylbenzene | 1,3,5-Trimethylbenzene | 2-Propanol                                                    |
| <b>SV-1</b>                                                               | 8/14/20               | < 826 <sup>d</sup>                                                                 | <b>0.878</b> <sup>e</sup> | <b>4.37</b> | < 0.867      | <b>1.96</b> | < 1.54            | < 0.810            | < 0.721                 | < 0.983          | < 0.982         | < 3.30      | < 0.982                | < 0.982                | SV-1: <b>74.7</b><br>SV-1 Shroud: <b>332,000</b> <sup>f</sup> |
| <b>DEQ Soil Vapor Risk-Based Concentrations (RBCs) - Revised May 2018</b> |                       |                                                                                    |                           |             |              |             |                   |                    |                         |                  |                 |             |                        |                        |                                                               |
| RBC (µg/m3)                                                               | Residential Receptor  | 79,000                                                                             | 72                        | 1,000,000   | 220          | 21,000      | 0.94              | 22                 | 2,200                   | 83,000           | -- <sup>g</sup> | 17          | 13,000                 | 13,000                 | --                                                            |
|                                                                           | Occupational Receptor | 1,700,000                                                                          | 1,600                     | 21,900,000  | 4,900        | 440,000     | 20                | 470                | 47,000                  | 1,800,000        | --              | 360         | 260,000                | 260,000                | --                                                            |

**a (RBDM) Risk-Based Decision Making for the Remediation of Contaminated Sites**

**b Gasoline and RBDM volatile organic compounds (VOCs) analyzed using method TO-15**

**c Analytical results reported in micrograms per cubic meter (µg/m<sup>3</sup>)**

**d ( < ) Analyte concentration not detected above the laboratory reporting limit, as listed**

**e Bold value indicates analyte concentration detected above the laboratory reporting limit**

**f Sample SV-1 Shroud : collected from inside the shroud placed around the sampling manifold and summa with 2-propanol introduced for leak testing purposes**

**g ( -- ) Not available (Oregon DEQ has not established an RBC value for the respective analyte)**

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## TABLE 5 CONSTITUENTS OF INTEREST

Enterprise Chevron  
111 Northwest 1st Street  
Enterprise, Oregon 97828  
DEQ File No.: 32-98-0010

| Constituents of Interest (COI) | Maximum Detected Concentrations |                                  |                                | Screening Levels <sup>a</sup> |                     |                   | Exceeds Screening Level (COPC) <sup>b</sup> |               |             |
|--------------------------------|---------------------------------|----------------------------------|--------------------------------|-------------------------------|---------------------|-------------------|---------------------------------------------|---------------|-------------|
|                                | Soil (ppm) <sup>c</sup>         | Subslab Vapor (ppm) <sup>d</sup> | Groundwater (ppb) <sup>e</sup> | Soil (ppm)                    | Subslab Vapor (ppm) | Groundwater (ppb) | Soil                                        | Subslab Vapor | Groundwater |
| Gasoline                       | 1,170                           | < 826 <sup>f</sup>               | 6,870                          | 31                            | 79,000              | 110               | Yes                                         | No            | Yes         |
| Benzene                        | 0.171                           | 0.878                            | 61.8                           | 0.023                         | 72                  | 0.46              | Yes                                         | No            | Yes         |
| Toluene                        | 1.75                            | 4.37                             | 203                            | 84                            | 1,000,000           | 1,100             | No                                          | No            | No          |
| Ethylbenzene                   | 5.83                            | < 0.867                          | 392                            | 0.22                          | 220                 | 1.54              | Yes                                         | No            | Yes         |
| Xylenes                        | 36.7                            | 1.96                             | 2,410                          | 23                            | 21,000              | 190               | Yes                                         | No            | Yes         |
| EDB                            | < 0.243                         | < 1.54                           | < 0.500                        | 0.00012                       | 0.94                | 0.0075            | Yes                                         | No            | Yes         |
| EDC                            | < 0.243                         | < 0.810                          | < 0.500                        | 0.0028                        | 22                  | 0.17              | Yes                                         | No            | Yes         |
| MTBE                           | < 0.0972                        | < 0.721                          | < 0.500                        | 0.11                          | 2,200               | 14                | No                                          | No            | No          |
| IPB                            | 1.13                            | < 0.983                          | 61.1                           | 96                            | 83,000              | 440               | No                                          | No            | No          |
| n-Propylbenzene                | 6.24                            | < 0.982                          | 211                            | - - <sup>g</sup>              | - -                 | - -               | No                                          | No            | No          |
| Naphthalene                    | 2.99                            | < 3.30                           | 173                            | 0.077                         | 17                  | 0.17              | Yes                                         | No            | Yes         |
| 124-Trimethylbenzene           | 38.9                            | < 0.982                          | 1,330                          | 10                            | 13,000              | 54                | Yes                                         | No            | Yes         |
| 135-Trimethylbenzene           | 12.1                            | < 0.982                          | 321                            | 11                            | 13,000              | 59                | Yes                                         | No            | Yes         |

**a** Screening levels listed as the most stringent risk-based concentrations for applicable receptors presented in Appendix A of the RBDM (May 2018)

**b** "Yes" indicates that the maximum detected constituent concentration was above the screening level, or if the constituent was not detected but one-half the maximum reporting limit was above the screening level. "No" indicates that the maximum detected constituent concentration was below the screening level, or the constituent was not detected or one-half the maximum reporting limit was below the screening level

**c** Soil sample analytical data reported in parts per million (ppm)

**d** Subslab vapor sample analytical data reported in micrograms per cubic meter (µg/m<sup>3</sup>)

**e** Groundwater sample analytical data reported in parts per billion (ppb)

**f** ( < ) Analyte concentration not detected above the reporting limit, as listed

**g** ( - - ) Not available (Oregon DEQ has not established an RBC value for the respective analyte)

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# Appendix A

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## Field Methods and Procedures

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## FIELD METHODS AND PROCEDURES

The following section presents the general methods and procedures that are utilized to complete field activities. These activities include advancing borings and collecting soil and groundwater samples for laboratory analyses. Samples are collected, preserved, and transported for analysis in general accordance with DEQ methodology as presented in OAR 340-122-345 "Sample Collection Methods," and OAR 340-122-218 "Sampling and Analysis." If not specified by current DEQ regulations, sampling and analytical methods are implemented in general accordance with EPA protocol and/or commonly accepted industry standards for this time and place.

### Utility Locating

Utilities, including overhead and underground, are identified and located prior to conducting work at the site. For overhead utilities, a safe minimum working distance is maintained with all sampling equipment dependant on the activity. For drilling or direct push equipment, a minimum 15-20 foot buffer is recommended. For other work such as excavation by backhoe, hand augering, hand probing, etc., a minimum distance is maintained such that the sampling equipment cannot come in contact with the utilities.

Underground utilities are located by contacting Utility Notification Center (UNC) for all underground sampling, excavation, and all other activities performed below the surface. The notification is performed at least 48 hours in advance of the work or as required by local laws and regulations to allow sufficient time for marking of the affected utilities. When warranted, MSBA will arrange on-site meetings with the contracted locators for the utilities to resolve any issues of proximity to the planned work.

In addition to contacting the UNC, MSBA may also perform one or more of the following activities intended to help prevent incidental contact with underground utilities during subsurface activities.

- 1) **Field Observation:** MSBA observes the site and surroundings for any signs of overhead and/or underground utilities.
- 2) **Private Utility Locate:** MSBA may contract with private utility locators if warranted to provide additional clarification of potential utilities and their locations.
- 3) **Hand Clearing:** MSBA may clear up to a maximum of the first five feet of subsurface soil for potential underground utilities by hand digging, hand augering, or air knifing.

## **Grab Soil Sampling**

Grab soil samples are collected by hand or using a decontaminated shovel or hand trowel directly from surface/shallow soil or the sidewalls/base of a test pit or excavation area up to a depth of 4 feet below surface grade (bsg). At depths deeper than 4 feet bsg, soil samples are collected from an excavator bucket. The excavator bucket may be decontaminated prior to sampling. Just prior to collecting each sample, approximately 3 inches of soil is scraped away from the sampling surface. Soil samples are collected with a minimum amount of disturbance.

Soil samples are placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 milliliter (ml) volatile organic analysis (VOA) EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity.

## **Drilling Method and Soil Sampling**

Subsurface explorations are completed using drilling equipment operated by a licensed drilling subcontractor. The drilling method is selected based on the anticipated subsurface conditions. In general, push-probe or hollow-stem methods are utilized for softer silty soils and sonic or air-rotary methods are utilized for harder, rocky conditions. An MSBA representative oversees and directs the explorations and obtains all soil and groundwater samples.

Soil samples are collected by MSBA and placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 ml VOA EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity. The soil type and other pertinent information is recorded on a field Subsurface Exploration Log.

### **Hand Auger Soil Boring and Sampling**

Auger borings are advanced by hand. Samples of soil are collected directly from the barrel of the auger at the target depth or as warranted based on observed conditions. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any unusual conditions which may affect the sample integrity.

Soil samples are collected by MSBA and placed into laboratory provided wide-mouth glass jars, leaving as little headspace as possible. Soil samples are also collected in 40 ml VOA EPA method 5035 vials with a preservative. The jar is immediately sealed firmly with a Teflon-lined screw cap. After the samples are properly sealed, they are placed in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until preparation for analysis by the laboratory. Soil samples are analyzed within the laboratory designated hold times.

Disposable latex gloves are worn by the sampler and discarded after each sample. Sampling equipment is thoroughly cleaned and decontaminated between sampling events to help eliminate the potential for cross-contamination between samples. Each sample is clearly labeled with a unique name. A written record is maintained which includes, but is not limited to, the date, time, and location where the sample is collected, and any conditions which may have affected the sample integrity. The soil type and other pertinent information is recorded on a field Subsurface Exploration Log.

### **Soil Field Screening Methods**

Field screening methods consist of visual observations, water sheen screening, and/or headspace vapor screening using a MiniRAE photoionization detector (PID). Visual screening methods include observations of staining, discoloration, and other indicators of petroleum. Water sheen screening involves placing a small amount of soil into water and making observations of any sheens. Water sheen classifications are made as follows:

No Sheen:            No visible sheen on the water surface.

Slight Sheen:        Faint and dull sheen with no color; dissipates quickly. Naturally occurring organic matter may produce a slight sheen.

Moderate Sheen: May have some color or iridescence; spread of sheen is irregular to flowing; most of water surface covered with sheen.

Heavy Sheen: Obvious color and iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening is conducted by creating a small hole in the soil core or placing a small portion of soil into a Zip-Loc bag and sealing it shut. The probe of the PID is inserted into the soil core. The soil sample within the bag is allowed to volatilize and the probe of the PID is inserted into the bag. The reported accuracy of a MiniRAE PID is 10% discrepancy at concentrations between 1 and 2,000 ppm and 20% discrepancy at concentrations greater than 2,000 ppm. The PID is calibrated in accordance with the manufacturer recommended procedures prior to each day of use.

### **Temporary Well Installation**

Following completion of the soil borings, temporary wells may be installed to allow for groundwater level monitoring and sample collection. Following completion of the groundwater level monitoring and sampling, the temporary well is abandoned within 72 hours in accordance with the Oregon Water Resources Department standards.

### **Well Development**

Following installation, the temporary wells are developed to remove fines and to enhance the recharge and representative quality of water if sufficient water column and recharge is present. The development is performed using a bailer or pump (peristaltic or submersible). The well may be surged prior to development. Well development continues until the discharge is relatively sediment free. Well development may be discontinued if there is insufficient recharge.

### **Monitoring Well Elevation Survey**

The top of each well casing is surveyed to within plus or minus (+/-) 0.01-foot relative to a common temporary benchmark. A temporary benchmark is designated with an assumed elevation relative to the approximate surface elevation above mean sea level (msl). The surveyed locations are marked on each casing for future reference and measuring. The purpose of the survey is to allow precise correlation of measured groundwater levels between each of the wells at the site. The survey information is recorded on a survey data sheet.



## **Groundwater Level Monitoring**

The depth to groundwater (water level) is measured with an electronic, hand-held, water level indicator. The probe of the indicator is lowered in the well until contact with groundwater completes a circuit causing a buzzer to activate. The depth to water, measured from the surveyed point at the top of the well casing, is read directly from a graduated cord attached to the probe with marked increments of 0.01-foot. The groundwater level data is recorded on a groundwater level data sheet.

If present, free product thickness in a well is measured with an electronic, hand-held oil/water interface probe. The oil/water interface probe is lowered into the well until contact with fluids initiates a signal tone. An intermittent tone indicates water and a continuous tone indicates product. A measuring tape in increments of 0.01-foot is attached to the probe and is used to measure thickness of product in a well.

## **Groundwater Sampling**

Prior to collecting a sample for laboratory analysis, the depth to water is measured and the wetted casing length and corresponding well volume is calculated. A minimum of three well volumes of groundwater is then purged with a bailer, submersible pump or peristaltic pump to remove potentially stagnant groundwater and allow the surrounding formation water to enter the well for sampling. During the purging process, the pH, conductivity, and turbidity may be monitored until these parameters are stabilized to confirm that representative formation water is collected for analysis. Stable parameters are generally defined by three successive readings within plus or minus 0.1 for pH, 3 percent for conductivity, and 10 percent for turbidity. Parameter stabilization is typically achieved in less than three well volumes.

After purging, a groundwater sample is collected when the water level in the well has recharged to within 85 percent of the initial static water level. If the desired amount of recharge is not achieved within a period of 60 minutes, the sample is collected and the deficient water level is recorded. If the water column does not contain sufficient volume, the sample may be collected incrementally as recharge allows. The sample is collected from the well using a bailer, submersible pump, or peristaltic pump with dedicated tubing, under low flow conditions to minimize the loss of volatile components, if present.

The groundwater is transferred into laboratory provided 40 ml glass VOA vials, one liter amber glass jars, and 250 ml polyethylene bottles. Some containers may contain a preservative. The type of container, and whether or not it is preserved, is determined by the type of laboratory analysis to be performed. Groundwater samples collected in VOAs are transferred with minimal agitation and sealed with Teflon-lined septum lids so that no head space is present. Samples collected in VOA vials are submitted for volatile organic compound (VOC) analysis. The vials may contain 2-5 drops of dilute HCL as a preservative increasing the sample hold time from 7 to 14 days. Groundwater

samples are collected in preserved or non-preserved one liter amber glass jars for analysis of non-volatile petroleum constituents. Groundwater samples are collected in non-preserved 250 ml polyethylene bottles for analysis of metals. Samples collected for analysis of dissolved metals are filtered in the field to remove 0.45 micron size particles or immediately upon receipt by the laboratory. Samples collected for analysis of total metals are not filtered. Groundwater purge and sample data is recorded on a Purge and Sample Data sheet.

After the samples are properly sealed, they are placed immediately in an ice chest with ice and maintained at a temperature of 4° C (+/- 2° C) until being prepared by the laboratory for analysis.

### **Chain-of-Custody and Labeling**

The Chain-of-Custody (COC) is a form that documents the custody of a sample from the time of origin to the time of disposal or destruction. A COC is initiated in the field at the time the samples are collected. The sampler documents such information as the time, date, type of sample, and requested analyses. Any individual in custody of the samples, including the laboratory, is required to document the transfer of custody (beginning with the sampler) by signing the COC (including date and time of transfer).

### **Equipment Decontamination**

Equipment used to collect soil and groundwater samples such as; bailers, water level indicators, etc., is decontaminated prior to each use. Strict decontamination procedures are utilized to help eliminate the potential for cross-contamination between samples and sample locations.

The decontamination procedure includes a thorough washing in tap water with Liquinox followed by two rinses in tap water and a third and final spray rinse using distilled water. If time permits, the sampling equipment is allowed to air dry. Disposable latex gloves are worn during sampling to help eliminate the potential for cross-contamination by the sampler. The gloves are discarded after each sample event and a new pair is utilized for each subsequent sampling event.

### **Investigation Derived Waste**

Investigation derived waste (IDW) accumulated during the explorations typically consists of soil, groundwater, or decontamination and rinse waters. Soil and water are collected and placed into suitable containers. A label is affixed to each storage container including the date, contents, and contact information. The containers are stored onsite in a secure location pending disposal at an authorized facility. Disposable items such as sampling gloves, paper towels, and plastic sheeting are placed into plastic garbage bags and disposed in a municipal trash receptacle.

## **SOIL VAPOR, SUBSLAB, AND AIR SAMPLING PROCEDURES**

Soil vapor, subslab, and air samples are collected in general accordance with The Interstate Technology and Regulatory Council Vapor Intrusion Team guidance document titled, *Vapor Intrusion, Fundamentals of Screening, Investigation, and Management*, dated October 2014, and the Oregon Department of Environmental Quality (DEQ) guidance document titled, *Guidance for Assessing and Remediating Vapor Intrusion in Buildings* (GARVIB) dated March 25, 2010

### **Subslab Vapor Sampling Point Installation**

Prior to sampling, a building survey is conducted. As part of the building survey, the concrete floor is inspected in the vicinity of the proposed sample locations. Any significant irregularities are documented and reported with the sample results as supplemental information. Sample locations may be adjusted in the field to avoid potential interference from irregularities and maintain sample integrity. Prior to drilling into the slab, MSBA contacts local utility companies and may hire a private utility locating company to identify and mark underground utilities coming into the building. As-built drawings of each building are reviewed, if available.

A rotary hammer drill is used to create a small diameter pilot hole at each sample location to assess the thickness of the slab. A larger bit is then used to create a hole that penetrates the slab and approximately 1 to 2 inches of subslab material, creating a small open cavity to help facilitate placement and prevent obstruction of the sampling tube. A dedicated stainless steel sampling point/screen is connected to Teflon tubing by a hose barb and installed just beneath the bottom of the slab. A thin layer of filter sand is placed in the hole adjacent to the sampling screen to just above the bottom of the slab. A 0.5 inch layer of mixed powder and granular bentonite is placed above the sand but not hydrated. A quick-drying Portland cement slurry is used to seal the remainder of the borehole to the surface. The bentonite layer absorbs moisture from the cement slurry and hydrates while at the same time, prevents the overlying slurry from infiltrating the filter sand. MSBA allows sufficient time for the cement to set up prior to sampling, typically 45 to 60 minutes. After the sample is collected, it is over drilled and patched with cement.

### **Subsurface Vapor Sampling - Hand-Operated Push Probe**

Soil vapor sample points are installed in temporary borings advanced using a 0.75-inch diameter, hand-driven push probe. Typically, the push probe is advanced and soil vapor samples are collected at a depth of 5 feet bsg; however, high groundwater conditions may warrant shallower sampling depths. The probe is generally fitted with either a retractable or dedicated screened slotted vapor sample attachment depending on subsurface conditions. A Teflon tube extends from the sample attachment to the surface. When using the dedicated tip, the following procedure is observed: 1)

filter sand is placed in the borehole from 5 feet to 4 feet bsg; 2) a 0.5-inch powdered/granulated bentonite barrier is placed on the sand and not hydrated; and 3) a bentonite/cement slurry is used to seal the remainder of the borehole to the surface. When using the retractable probe there is no annular space, however, a bentonite and/or cement slurry seal is placed at surface grade.

### **Subsurface Vapor Sampling - Hand Auger**

Soil vapor points are installed in temporary borings advanced to a depth of 5 feet bsg using a 3.25 inch diameter, stainless-steel hand auger. A sampling point/screen is connected to Teflon tubing and placed near the bottom of the boring. The annular space around the point/screen is backfilled with 6 to 8 inches of Colorado silica sand (or similar). A 0.5 inch layer of powdered/granular bentonite is placed on top of the sand and the remainder of the borehole is sealed to within 0.5 foot of the surface using a wet cement and/or bentonite slurry to ensure the sidewalls are properly sealed. A threaded brass compression fitting and end cap are used to seal the tubing while the boring is allowed to equilibrate post subsurface disturbance for a minimum of 48 hours. Semi-permanent soil vapor points are sealed at the surface with cement and a flush-mount monument of the same or similar specifications and standards as a groundwater monitoring well.

### **Subsurface Vapor Sampling - Drill Rig Push Probe**

Soil vapor sampling points may be installed within borings advanced using a drill rig (direct push, sonic, auger, or air rotary). Soil vapor points are installed in borings advanced to a depth of 5 feet bsg. A sampling point/screen is connected to Teflon tubing and placed near the bottom of the boring. The annular space around the point/screen is backfilled with 6 to 8 inches of Colorado silica sand (or similar). A 0.5 inch layer of powdered/granular bentonite is placed on top of the sand and the remainder of the borehole is sealed to within 0.5 foot of the surface using a wet cement and/or bentonite slurry to ensure the sidewalls are properly sealed. A threaded brass compression fitting and end cap are used to seal the tubing while the boring is allowed to equilibrate post subsurface disturbance for a minimum of 48 hours. Semi-permanent soil vapor points are sealed at the surface with cement and a flush-mount monument of the same or similar specifications and standards as a groundwater monitoring well.

### **Soil Vapor Sample Purging and Leak Detection**

Prior to purging and sampling activities, the certified laboratory-provided sample collection manifold is vacuum tested. A vacuum of approximately 30 inches of mercury is applied to the manifold by connecting it to the sample canister. The manifold is sealed at both ends and monitored for 5 minutes to verify that no vacuum is lost. If a decrease in vacuum is observed, then the sampling canister may have been compromised and is not used.

MSBA allows the temporary or semi-permanent boring advanced with a hand-driven push probe to equilibrate a minimum of 20 minutes and a hand auger advanced boring to equilibrate a minimum of 48 hours prior to purging in general accordance with GARVIB. A total of 3 times the cumulative volume of air within the sampling point, tubing, manifold, and filter sand is purged using a dedicated, disposable 60 ml syringe or metered pump at a flow rate of approximately 200 milliliters per minute (ml/min) or less. The flow rate is limited by the intake regulator or critical orifice assembly on the manifold that is calibrated by the laboratory. Leak testing is performed using a 2-propanol vapor filled shroud surrounding the soil vapor point, sample canister, sorbent tube, manifold, and tubing. A target concentration of 2-propanol ranging from 100,000 g/m<sup>3</sup> to 300,000 g/m<sup>3</sup> is maintained in the shroud during purging and sampling activities. The concentration of 2-propanol is field screened using a photoionization detector (PID); a sample is collected from inside the shroud using a laboratory provided vapor intrusion sorbent tube (VIST) and submitted for laboratory analysis of 2-propanol to determine the actual concentration.

### **Soil Vapor Sample Collection and Analysis**

MSBA begins collecting the subslab and subsurface vapor samples immediately after the purging has been completed. The sample is collected using either a sampling canister and manifold for analysis by EPA method TO-15, and/or a VIST sorbent tube and dedicated, disposable 60 ml syringe for analysis by EPA method TO-17. The collection method is determined prior to the sampling event by MSBA based on soil and groundwater analytical data. The initial vacuum of the sampling canister is tested prior to sampling. The anticipated initial vacuum reading will range from approximately 25 to 30 inches of mercury.

Soil vapor samples selected for TO-15 analysis are collected using a laboratory-provided, evacuated sampling canister and sampling manifold with an intake regulator that ensures that the sample collection flow rate is no greater than 200 mL/minute; collection rate varies depending on the subsurface conditions. MSBA continues sampling until the final vacuum of the sampling canister has reached approximately 3 to 6 inches of mercury. Following sample collection, MSBA documents the final canister pressure and sample time on a Soil Vapor Purge & Sample Data sheet and prepares a chain-of-custody (CoC) including the requested analysis.

Soil vapor samples selected for TO-17 analysis are collected using a laboratory-provided VIST sorbent tube. The soil vapor is drawn through the sorbent tube at a rate of no greater than 200ml/min using a dedicated, disposable 60 ml syringe. Following sample collection, MSBA documents the sample time and the calculated sample volume on a Soil Vapor Purge & Sample Date sheet (a copy is included in this attachment), and prepares a CoC including the requested analysis.

## **Indoor Air Sampling - Ambient and Outdoor**

Prior to sampling, a building survey (as specified in Appendix E of the GARVIB) is performed and all occupants are asked to keep windows and exterior doors closed, as reasonable, to minimize the contribution of outdoor air. In addition, an indoor air questionnaire will be completed by the occupants to identify any potential background sources of PHCs in the indoor environment. Samples are collected at breathing zone height, approximately 3-5 feet. Crawlspace air samples are collected at approximately 1 foot above surface grade. During the indoor air sample collection period, a minimum of one outdoor ambient air sample is also collected upwind of the building to evaluate background levels of PHCs. The ambient air sample is also placed at breathing zone height of approximately 3-5 feet. Air samples are collected during a 24-hour period for residential buildings and during a 8-hour period for commercial buildings in order to simulate unique exposure conditions. Purging and leak detection are not conducted due to the nature of this type of sample. Air samples selected for TO-15 (VOCs and/or gasoline) analysis are collected using a laboratory-provided, evacuated sampling canister with an intake regulator or critical orifice assembly that ensures the sample collection time is no greater than 8 hours or 24 hours, depending on the project specifications. The volume of the sampling canister is 1-liter or 6-liters, depending on the reporting limits required. In general, larger sample volumes achieve lower reporting limits.

## **Sample Laboratory Analyses**

Following sample collection, samples are shipped under CoC protocol to Eurofins Air Toxics of Folsom, California for analysis of gasoline and VOCs using EPA Method TO-15, and/or for diesel and/or naphthalene using EPA Method TO-17. Samples are also analyzed for the leak detection compound 2-propanol.



# SOIL BORING LOG

Site Address:

Boring Number

Page Number

1 of

Drilling Contractor



Drilling Method

Start (Date - Time)

Finish (Date - Time)

Elevation (Top of  
Well Casing)

Logged  
By

Soil Description

Sample  
Number

PID reading  
(ppm)

Sample  
Recovery  
(inches)

Depth (feet)  
Sample Interval

0

Comments: Sample diameter : \_\_\_\_\_  
Total Depth : \_\_\_\_\_  
Hole abandonment : \_\_\_\_\_



GROUNDWATER PURGE AND SAMPLE DATA

Sample Order ( )

Project: \_\_\_\_\_

Date: \_\_\_\_\_ Sampled By: \_\_\_\_\_

MONITORING WELL INFORMATION

Well Number: \_\_\_\_\_ General Location: \_\_\_\_\_

Well Diameter (in): \_\_\_\_\_ Total Depth (ft): \_\_\_\_\_ Depth to Groundwater (ft): \_\_\_\_\_

Wetted Casing Length (ft): \_\_\_\_\_ One Well Volume (gals): \_\_\_\_\_ No. of Well Volumes to Purge: \_\_\_\_\_

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.17; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

Total Purge Volume (gals): \_\_\_\_\_ Purge Method (Pump, Bailer, etc.): \_\_\_\_\_

WELL DEVELOPMENT/PURGING INFORMATION

| Time | Depth to Water | Gallons Purged | Cumulative Total | T | C | pH | TDS | Comments |
|------|----------------|----------------|------------------|---|---|----|-----|----------|
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |
|      |                |                |                  |   |   |    |     |          |

Comments: ≥ 85% static water column ≤ \_\_\_\_\_ feet DtW WELL TYPE: \_\_\_\_\_

GROUNDWATER SAMPLE INFORMATION

Collection Time \_\_\_\_\_ Appearance ☐ Clear ☐ Cloudy ☐ Turbid Thermal Preservation ☐ Ice Chest & Ice ☐ Other

Containers ( ) 40 ml VOAs ( ) 1 liter Amber ( ) 500 ml Poly  
☐ Preserved ☐ HCL ☐ Preserved ☐ HCL ☐ Preserved ☐ HCL  
Requested Analyses: ☐ Gx ☐ RBDM VOCs ☐ Dx ☐ PAHs ☐ BTEX ☐ Other

Collection Method ☐ Disposable Bailer ☐ PVC Bailer ☐ Peristaltic Pump Comments \_\_\_\_\_

Comments \_\_\_\_\_



SITE SURVEY DATA

Project: \_\_\_\_\_

Date: \_\_\_\_\_ Surveyed By: \_\_\_\_\_

| Location | Backsight<br>(+) | Foresight<br>(-) | Instrument<br>Height | Elevation | Comments |
|----------|------------------|------------------|----------------------|-----------|----------|
|          |                  |                  |                      |           |          |
|          |                  |                  |                      |           |          |
|          |                  |                  |                      |           |          |
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|          |                  |                  |                      |           |          |
|          |                  |                  |                      |           |          |

Benchmark location sketch

**MARTIN S. BURCK ASSOCIATES, INC.**

**GROUNDWATER LEVEL DATA**

**MSBA**

Date: \_\_\_\_\_ Measured By: \_\_\_\_\_

[illegible]



SOIL VAPOR PURGE AND SAMPLE DATA

Sample Order ( )

Project:

Date: Sampled By:

SAMPLE INFORMATION

Sample Name General Location:

Tubing Diameter (ID) Total Depth (ft) Total Tubing/  
Manifold Length

Installation Type One Purge  
Volume

No. of Volumes to  
Purge Total Purge Volume

SOIL VAPOR PURGING INFORMATION

| Time | Comments and Leak Test Description and Results |
|------|------------------------------------------------|
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |
|      |                                                |

SOIL VAPOR SAMPLE INFORMATION

Start Time End Time (Time of  
Collection on COC) Start/End  
Vacuum

Container(s) Requested  
Analyses:

Comments

# Appendix B

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Soil Boring Logs

Groundwater Purge and Sample Data Sheets

Disposal Documentation



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## Soil Boring Logs

# SOIL BORING LOG

Site Address:

Enterprise Chevron  
111 NW 1st Street  
Enterprise, OR

Boring Number

B6

Page Number

1 of 1

Drilling Contractor

Stratos Corp

Drilling Method

Direct Push



Start (Date - Time)

9/8/21 - 11:45

Finish (Date - Time)

9/8/21 - 14:10

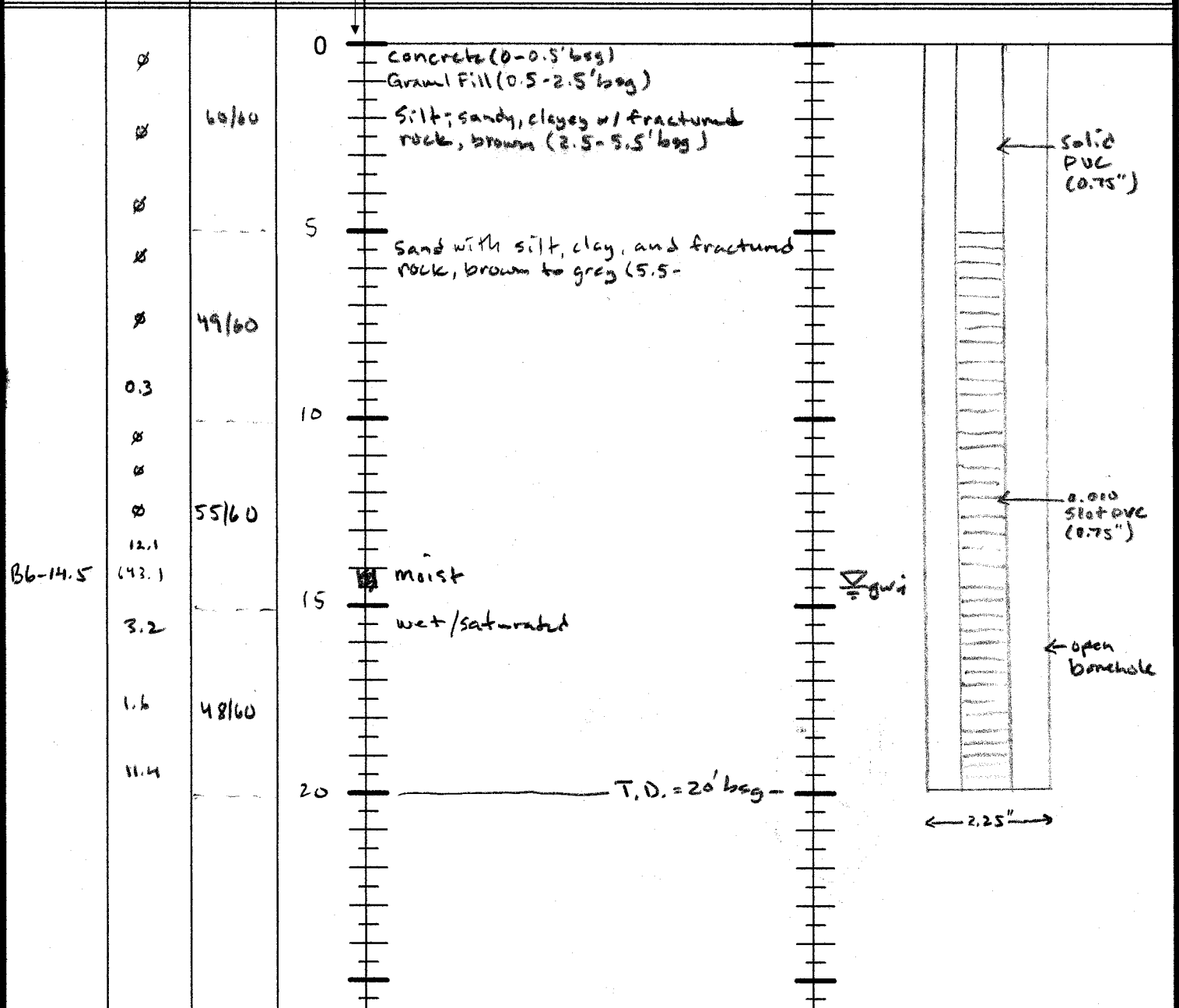
Elevation (Top of Well Casing)

not surveyed

Logged By

J. White

Soil Description



Comments: Sample diameter : 2.25"

Total Depth : 20' bag

Hole abandonment : Bentonite (20 - 1.5' bag), concrete (1.5' bag - surface)

# SOIL BORING LOG

Site Address:

Enterprise Chevron  
111 NW 1st Street  
Enterprise, OR

Boring Number

B7

Page Number

1 of 1

Drilling Contractor

Stratus Corp.

Drilling Method

Direct Push



Martin S. Burck Associates, Inc.  
Geologic and Environmental Consulting Services

| Sample Number    | PID reading (ppm) | Sample Recovery (inches) | Depth (feet)<br>Sample Interval | Start (Date - Time)                                                                                                                                                                                                 | Finish (Date - Time) |
|------------------|-------------------|--------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|                  |                   |                          |                                 | Elevation (Top of Well Casing)                                                                                                                                                                                      | Logged By            |
|                  |                   |                          |                                 | 9/8/21 - 07:40                                                                                                                                                                                                      | 9/8/21 - 09:25       |
|                  |                   |                          |                                 | not surveyed                                                                                                                                                                                                        | J. White             |
| Soil Description |                   |                          |                                 |                                                                                                                                                                                                                     |                      |
| B7-15.5          | 60/60             | 40/60                    | 0 - 15                          | <p>Asphalt (0-0.5' bsg)<br/>Gravel fill (0.5-2.5' bsg)<br/>Clay; silty, spongy (2.5-3' bsg)</p> <p>Sand with silt, clay, and fractured rock; fine, brown to grey (5-20' bsg)</p> <p>moist</p> <p>coarse to fine</p> |                      |
| B7-20            | 51/60             |                          | 15 - 20                         | <p>wet</p> <p>T.D. = 20' bsg</p> <p>2.25"</p>                                                                                                                                                                       |                      |

Comments: Sample diameter : 2.25"  
Total Depth : 20' bsg  
Hole abandonment : Bentonite (20-1.5' bsg), concrete (1.5-0.5' bsg), Asphalt (0.5' bsg - surface)

# SOIL BORING LOG

Site Address:  
Enterprise Chuvran  
111 NW 1st Street  
Enterprise, OR

Boring Number

B8

Page Number

1 of 1

Drilling Contractor

Stratus Corp.

Drilling Method

Direct Push



Start (Date - Time)

9/8/21 - 09:42

Finish (Date - Time)

9/8/21 - 13:10

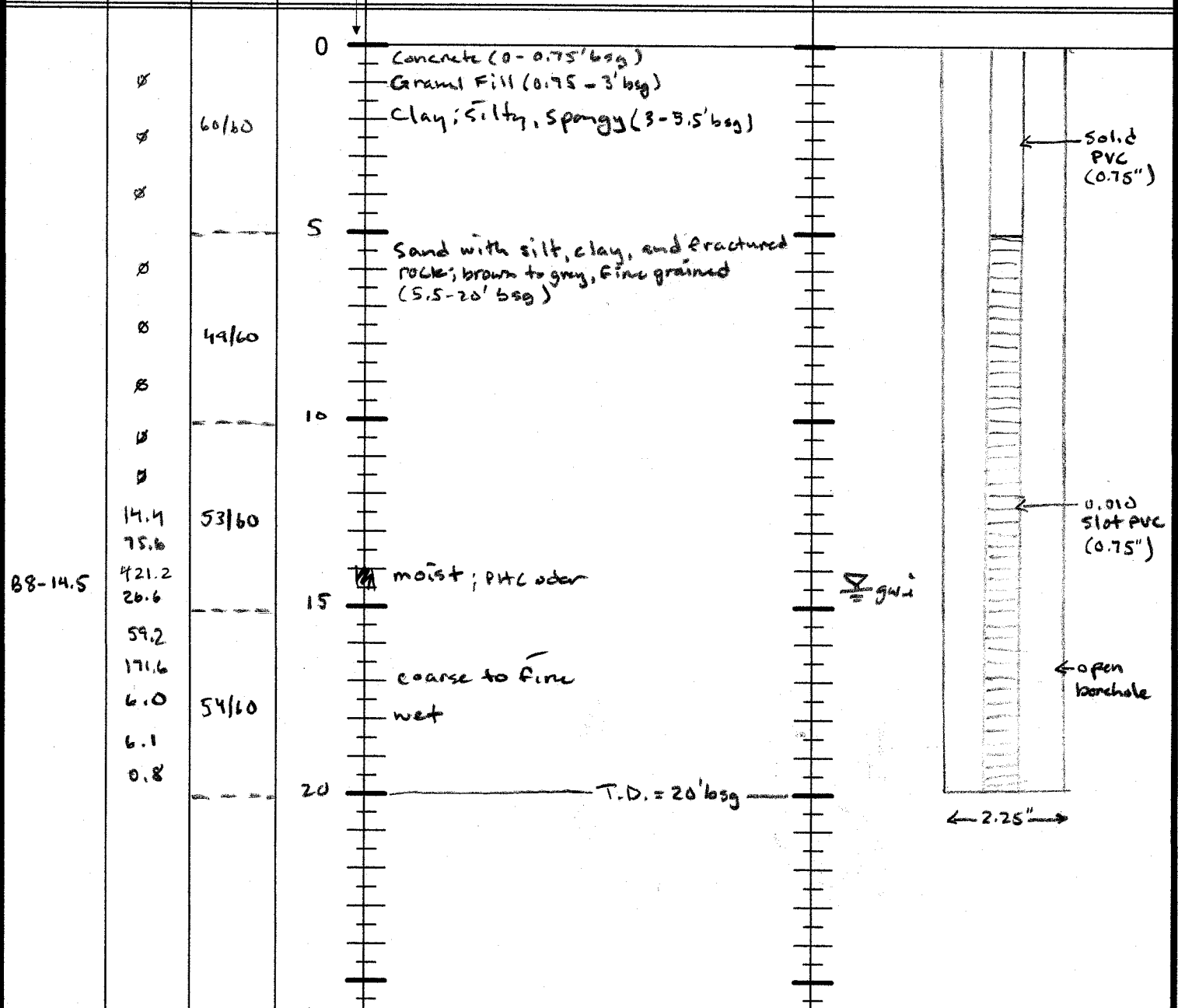
Elevation (Top of Well Casing)

not surveyed

Logged By

J. White

Soil Description



Comments:

Sample diameter: 2.25"

Total Depth: 20' bsg

Hole abandonment: Bentonite (20 - 1.5' bsg), Concrete (1.5' bsg - Surface)

---

## Groundwater Purge and Sample Data Sheets

## GROUNDWATER PURGE AND SAMPLE DATA

Sample Order ( 3 )

Project: Enterprise Chevron

Date: 9/8/21 Sampled By: J. White

### MONITORING WELL INFORMATION

Well Number: B6 General Location: NW corner of W North & NW 1st

Well Diameter (in): 2.25 Total Depth (ft): 20 Depth to Groundwater (ft): 14.14

Wetted Casing Length (ft): 5.86 One Well Volume (gals): 1.23 No. of Well Volumes to Purge: 3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.17; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
2.25" = 0.21

Total Purge Volume (gals): 3.7 Purge Method (Pump, Bailer, etc.): peristaltic pump

### WELL DEVELOPMENT/PURGING INFORMATION

| Time  | Depth to Water | Gallons Purged | Cumulative Total | T (°C) | C (µS) | pH | TDS (ppm) | Comments                      |
|-------|----------------|----------------|------------------|--------|--------|----|-----------|-------------------------------|
| 13:05 | 14.14          | 0              | 0                |        |        |    |           | start purge                   |
| 13:23 | 14.64          | 5              | 5                |        |        |    |           |                               |
| 13:44 | 14.73          | 5              | 10               |        |        |    |           |                               |
| 14:03 | 14.80          | 5              | 15               |        |        |    |           | clear; PHL odor; ok to sample |
|       |                |                |                  |        |        |    |           |                               |
|       |                |                |                  |        |        |    |           |                               |
|       |                |                |                  |        |        |    |           |                               |

Comments:  $\geq 85\%$  static water column  $\leq 15.02$  feet DtW WELL TYPE:

### GROUNDWATER SAMPLE INFORMATION

Collection Time 14:05 Appearance ☒ Clear ☐ Cloudy ☐ Turbid Thermal Preservation ☒ Ice Chest & Ice ☐ Other

Containers ( 6 ) 40 ml VOAs ( ) 100 ml Amber ( ) 250 ml Poly  
☒ Preserved HCL ☐ Preserved HCL ☐ Preserved HNO<sub>3</sub>  
 Requested Analyses: ☒ Gx ☒ RBDM VOCs  
☐ Dx ☐ PAHs  
☐ BTEX ☐ Other

Collection Method ☐ Disposable Bailer ☐ PVC Bailer ☒ Peristaltic Pump

Comments

Comments

## GROUNDWATER PURGE AND SAMPLE DATA

Sample Order ( 1 )

Project: Enterprise Chevron

Date: 9/8/21 Sampled By: J. W. To

### MONITORING WELL INFORMATION

Well Number: B7 General Location: DMV Parking lot exit

Well Diameter (in): 2.25" Total Depth (ft): 20 Depth to Groundwater (ft): 14.83

Wetted Casing Length (ft): 5.17 One Well Volume (gals): 1.1 No. of Well Volumes to Purge: 3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.17; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
2.25" = 0.21

Total Purge Volume (gals): 3.3 Purge Method (Pump, Bailer, etc.): peristaltic pump

### WELL DEVELOPMENT/PURGING INFORMATION

| Time  | Depth to Water | Gallons Purged | Cumulative Total | T (°C) | C (µS) | pH | TDS (ppm) | Comments                                             |
|-------|----------------|----------------|------------------|--------|--------|----|-----------|------------------------------------------------------|
| 08:50 | 14.83          | 0              | 0                |        |        |    |           |                                                      |
| 09:08 | 14.91          | 4              | 4                |        |        |    |           | Start purge<br>clear; no pte<br>colors; ok to sample |
|       |                |                |                  |        |        |    |           |                                                      |
|       |                |                |                  |        |        |    |           |                                                      |
|       |                |                |                  |        |        |    |           |                                                      |
|       |                |                |                  |        |        |    |           |                                                      |
|       |                |                |                  |        |        |    |           |                                                      |
|       |                |                |                  |        |        |    |           |                                                      |

Comments:  $\geq 85\%$  static water column  $\leq 15.61$  feet DtW WELL TYPE:

### GROUNDWATER SAMPLE INFORMATION

Collection Time 09:13 Appearance ☒ Clear ☐ Cloudy ☐ Turbid Thermal Preservation ☒ Ice Chest & Ice ☐ Other

Containers ( 6 ) 40 ml VOAs ( ) 100 ml Amber ( ) 250 ml Poly  
☒ Preserved ☐ Preserved ☐ Preserved  
☒ HCL ☐ HCL ☐ HNO<sub>3</sub>

Collection Method ☐ Disposable Bailer ☐ PVC Bailer ☒ Peristaltic Pump Requested Analyses: ☒ Gx ☐ Dx ☐ BTEX ☒ RBDM VOCs ☐ PAHs ☐ Other

Comments



## GROUNDWATER PURGE AND SAMPLE DATA

Sample Order ( 2 )

Project: Enterprise Chevron

Date: 9/8/21 Sampled By: J. White

### MONITORING WELL INFORMATION

Well Number: B8 General Location: NE corner of W North & NW 1st

Well Diameter (in): 2.25 Total Depth (ft): 20 Depth to Groundwater (ft): 13.93

Wetted Casing Length (ft): 6.07 One Well Volume (gals): 1.3 No. of Well Volumes to Purge: 3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.092; 2" = 0.17; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

Total Purge Volume (gals): 3.9 Purge Method (Pump, Bailer, etc.): peristaltic pump

### WELL DEVELOPMENT/PURGING INFORMATION

| Time  | Depth to Water | Gallons Purged | Cumulative Total | T (°C) | C (µS) | pH | TDS (ppm) | Comments                          |
|-------|----------------|----------------|------------------|--------|--------|----|-----------|-----------------------------------|
| 11:19 | 13.93          | 6              | 6                |        |        |    |           | start purge                       |
| 11:46 | 14.02          | 5              | 5                |        |        |    |           |                                   |
| 12:06 | 14.02          | 5              | 10               |        |        |    |           |                                   |
| 12:41 | 14.02          | 5              | 15               |        |        |    |           |                                   |
| 12:55 | 14.02          | 3              | 18               |        |        |    |           | clear; no PTH odors; ok to sample |
|       |                |                |                  |        |        |    |           |                                   |
|       |                |                |                  |        |        |    |           |                                   |

Comments:  $\geq 85\%$  static water column  $\leq 14.84$  feet DtW WELL TYPE:

### GROUNDWATER SAMPLE INFORMATION

Collection Time 12:58 Appearance ☒ Clear ☐ Cloudy ☐ Turbid Thermal Preservation ☒ Ice Chest & Ice ☐ Other

Containers ( 6 ) 40 ml VOAs ( ) 100 ml Amber ( ) 250 ml Poly Requested Analyses: ☒ Gx ☒ RBDM VOCs ☐ Dx ☐ PAHs ☐ BTEX ☐ Other

Collection Method ☐ Disposable Bailer ☐ PVC Bailer ☒ Peristaltic Pump

Comments

---

## Disposal Documentation



39515 SW Hatley Rd, Gaston, OR 97119 Phone (503) 985-7912 Fax (503) 985-1953

Project # 213133

Date: 5-27-22

Transported to: \_\_\_\_\_  
Truck #: 16

Thomas

streets

461

Garbanzo

2009/11/17

**X**

Authorized Representative

X

Stratus Corporation

Notes:



Hillsboro Landfill, Inc  
3205 SE Minter Bridge  
Hillsboro, OR, 97123  
Ph: (503)-640-9427

Original  
Ticket# 1643827

Customer Name STRATUSCORP STRATUS CORPORATI Carrier STRATUS CORPORATION STRATUS CORPORAT  
Ticket Date 05/27/2022 Vehicle# 16 Volume  
Payment Type Credit Account Container  
Manual Ticket# Driver TOMAS  
Hauling Ticket# Check#  
Route Billing # 0000371  
State Waste Code Gen EPA ID  
Manifest NA  
Destination Grid  
PO P20207W  
Profile 133949OR (LF01 soil)  
Generator 168-BYRNES OIL COMPANY BYRNES OIL COMPANY 111 NW 1ST STREET ENTERPRISE OR 97

|          | Time                | Scale     | Operator | Inbound | Gross |          |
|----------|---------------------|-----------|----------|---------|-------|----------|
| In       | 05/27/2022 11:41:26 | Inbound 1 | EDESMART |         | Tare  | 14840 lb |
| Out      | 05/27/2022 12:07:19 | Outbound  | amarti22 |         | Net   | 14240 lb |
|          |                     |           |          |         | Tons  | 600 lb   |
| Comments | P21313W             |           |          |         |       | 0.30     |

Consumer Comments? We want to know. Please call.

| Product              | LD% | Qty  | UOM  | Rate | Tax | Amount | Origin  |
|----------------------|-----|------|------|------|-----|--------|---------|
| 1 Special Misc-Tons- | 100 | 0.30 | Tons |      |     |        | WALLOWA |
| 2 EVFt-P-Standard En | 100 |      | %    |      |     |        | WALLOWA |

Total Tax  
Total Ticket

Driver's Signature



# Non-Hazardous WAM Approval

Requested Management Facility: Hillsboro Landfill

P21313W  
1-WET

Profile Number: 133949OR Waste Acceptance Expiration Date: 12/14/2024  
Common Name: LF01 soil WM Regulatory Volume Limit: \_\_\_\_\_ ☒ NA

## APPROVAL DETAILS

Approval Decision: ☒ Approved ☐ Not Approved

Profile Renewal: ☒ Yes ☐ No

Management Method: Direct Landfill

Generator Name: Byrnes oil company

Profile Expiration Date: 12/14/2024

Periodic Testing Due Date: \_\_\_\_\_ ☒ NA

Other Due Date: \_\_\_\_\_ ☒ NA (Specify) \_\_\_\_\_

Management Facility Precautions, Special Handling Procedures or Limitation on approval:

### Generator Conditions

- Shall not contain free liquids.
- Waste manifest or applicable shipping document must accompany load.
- The waste profile number must appear on the shipping papers.

WM Authorization Name: Donald Lavrine Title: Waste Approval Manager

WM Authorization Signature: Donald Lavrine Date: 12/14/2021

Agency Authorization (if Required): \_\_\_\_\_ Date: \_\_\_\_\_

**THINK GREEN®**

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Last Revised January 25, 2018  
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# Appendix C

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Soil Sample Laboratory Report

**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1402258  
Samples Received: 09/11/2021  
Project Number: ENTERPRISE  
Description: Enterprise Chevron  
Site: ENTERPRISE  
Report To: Josh Owen  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

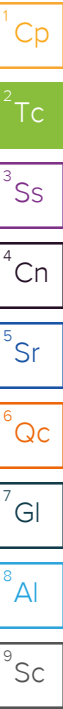
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)



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# SAMPLE SUMMARY

## B6-14.5 L1402258-01 Solid

Collected by  
Jon White

Collected date/time  
09/08/21 13:16

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011                 | WG1741788 | 1        | 09/17/21 11:15        | 09/17/21 11:21     | KDW     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1742045 | 200      | 09/08/21 13:16        | 09/18/21 00:33     | DWR     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1741565 | 8        | 09/08/21 13:16        | 09/17/21 03:40     | JHH     | Mt. Juliet, TN |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

## B7-15.5 L1402258-02 Solid

Collected by  
Jon White

Collected date/time  
09/08/21 08:37

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011                 | WG1741788 | 1        | 09/17/21 11:15        | 09/17/21 11:21     | KDW     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1741102 | 25       | 09/08/21 08:37        | 09/17/21 08:36     | MGF     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1741565 | 1        | 09/08/21 08:37        | 09/17/21 03:59     | JHH     | Mt. Juliet, TN |

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

## B8-14.5 L1402258-04 Solid

Collected by  
Jon White

Collected date/time  
09/08/21 10:53

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011                 | WG1741788 | 1        | 09/17/21 11:15        | 09/17/21 11:21     | KDW     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1741534 | 25       | 09/08/21 10:53        | 09/18/21 00:55     | DWR     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1741565 | 1        | 09/08/21 10:53        | 09/17/21 04:18     | JHH     | Mt. Juliet, TN |

<sup>8</sup>Al

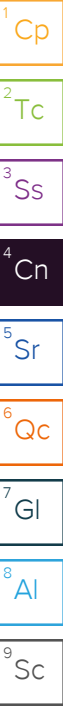
<sup>9</sup>Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager



## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 95.8   |           | 1        | 09/17/2021 11:21 | <a href="#">WG1741788</a> |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------------|--------------|-----------|-----------|----------|------------------|---------------------------|
|                                 | mg/kg        |           | mg/kg     |          | date / time      |                           |
| Gasoline Range Organics-NWTPH   | 241          |           | 22.0      | 200      | 09/18/2021 00:33 | <a href="#">WG1742045</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 98.6         |           | 77.0-120  |          | 09/18/2021 00:33 | <a href="#">WG1742045</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------|--------------|-----------|-----------|----------|------------------|---------------------------|
|                           | mg/kg        |           | mg/kg     |          | date / time      |                           |
| Benzene                   | ND           |           | 0.00881   | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| 1,2-Dibromoethane         | ND           |           | 0.0220    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| 1,2-Dichloroethane        | ND           |           | 0.0220    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Ethylbenzene              | ND           |           | 0.0220    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Isopropylbenzene          | 0.0280       |           | 0.0220    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Methyl tert-butyl ether   | ND           |           | 0.00881   | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Naphthalene               | ND           |           | 0.110     | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| n-Propylbenzene           | 0.188        |           | 0.0441    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Toluene                   | ND           |           | 0.0441    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| 1,2,4-Trimethylbenzene    | 1.81         |           | 0.0441    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| 1,3,5-Trimethylbenzene    | 0.671        |           | 0.0441    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| Xylenes, Total            | ND           |           | 0.0573    | 8        | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| (S) Toluene-d8            | 101          |           | 75.0-131  |          | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| (S) 4-Bromofluorobenzene  | 114          |           | 67.0-138  |          | 09/17/2021 03:40 | <a href="#">WG1741565</a> |
| (S) 1,2-Dichloroethane-d4 | 108          |           | 70.0-130  |          | 09/17/2021 03:40 | <a href="#">WG1741565</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 97.6   |           | 1        | 09/17/2021 11:21 | <a href="#">WG1741788</a> |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------------|--------------|-----------|-----------|----------|------------------|---------------------------|
|                                 | mg/kg        |           | mg/kg     |          | date / time      |                           |
| Gasoline Range Organics-NWTPH   | ND           |           | 2.64      | 25       | 09/17/2021 08:36 | <a href="#">WG1741102</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 93.3         |           | 77.0-120  |          | 09/17/2021 08:36 | <a href="#">WG1741102</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------|--------------|-----------|-----------|----------|------------------|---------------------------|
|                           | mg/kg        |           | mg/kg     |          | date / time      |                           |
| Benzene                   | ND           |           | 0.00106   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| 1,2-Dibromoethane         | ND           |           | 0.00264   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| 1,2-Dichloroethane        | ND           |           | 0.00264   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Ethylbenzene              | ND           |           | 0.00264   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Isopropylbenzene          | ND           |           | 0.00264   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Methyl tert-butyl ether   | ND           |           | 0.00106   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Naphthalene               | ND           |           | 0.0132    | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| n-Propylbenzene           | ND           |           | 0.00528   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Toluene                   | ND           |           | 0.00528   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| 1,2,4-Trimethylbenzene    | ND           |           | 0.00528   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| 1,3,5-Trimethylbenzene    | ND           |           | 0.00528   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| Xylenes, Total            | ND           |           | 0.00687   | 1        | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| (S) Toluene-d8            | 103          |           | 75.0-131  |          | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| (S) 4-Bromofluorobenzene  | 99.9         |           | 67.0-138  |          | 09/17/2021 03:59 | <a href="#">WG1741565</a> |
| (S) 1,2-Dichloroethane-d4 | 107          |           | 70.0-130  |          | 09/17/2021 03:59 | <a href="#">WG1741565</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 95.0   |           | 1        | 09/17/2021 11:21 | <a href="#">WG1741788</a> |

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------------|--------------|-----------|-----------|----------|------------------|---------------------------|
|                                 | mg/kg        |           | mg/kg     |          | date / time      |                           |
| Gasoline Range Organics-NWTPH   | 176          |           | 2.81      | 25       | 09/18/2021 00:55 | <a href="#">WG1741534</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 98.2         |           | 77.0-120  |          | 09/18/2021 00:55 | <a href="#">WG1741534</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result (dry) | Qualifier         | RDL (dry) | Dilution | Analysis         | Batch                     |
|---------------------------|--------------|-------------------|-----------|----------|------------------|---------------------------|
|                           | mg/kg        |                   | mg/kg     |          | date / time      |                           |
| Benzene                   | ND           |                   | 0.00113   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| 1,2-Dibromoethane         | ND           |                   | 0.00281   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| 1,2-Dichloroethane        | ND           |                   | 0.00281   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Ethylbenzene              | ND           |                   | 0.00281   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Isopropylbenzene          | 0.00772      |                   | 0.00281   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Methyl tert-butyl ether   | ND           |                   | 0.00113   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Naphthalene               | ND           |                   | 0.0141    | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| n-Propylbenzene           | 0.0627       |                   | 0.00563   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Toluene                   | ND           |                   | 0.00563   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| 1,2,4-Trimethylbenzene    | 0.0117       | <a href="#">B</a> | 0.00563   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| 1,3,5-Trimethylbenzene    | 0.00563      |                   | 0.00563   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| Xylenes, Total            | ND           |                   | 0.00732   | 1        | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| (S) Toluene-d8            | 99.4         |                   | 75.0-131  |          | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| (S) 4-Bromofluorobenzene  | 101          |                   | 67.0-138  |          | 09/17/2021 04:18 | <a href="#">WG1741565</a> |
| (S) 1,2-Dichloroethane-d4 | 105          |                   | 70.0-130  |          | 09/17/2021 04:18 | <a href="#">WG1741565</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3705844-1 09/17/21 11:21

|              | MB Result | <u>MB Qualifier</u> | MB MDL | MB RDL |
|--------------|-----------|---------------------|--------|--------|
| Analyte      | %         |                     | %      | %      |
| Total Solids | 0.00200   |                     |        |        |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

L1402268-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1402268-02 09/17/21 11:21 • (DUP) R3705844-3 09/17/21 11:21

|              | Original Result | DUP Result | Dilution | DUP RPD | <u>DUP Qualifier</u> | DUP RPD Limits |
|--------------|-----------------|------------|----------|---------|----------------------|----------------|
| Analyte      | %               | %          |          | %       |                      | %              |
| Total Solids | 86.7            | 87.7       | 1        | 1.11    |                      | 10             |

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

Laboratory Control Sample (LCS)

(LCS) R3705844-2 09/17/21 11:21

|              | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | <u>LCS Qualifier</u> |
|--------------|--------------|------------|----------|-------------|----------------------|
| Analyte      | %            | %          | %        | %           |                      |
| Total Solids | 50.0         | 50.0       | 100      | 85.0-115    |                      |

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3705602-2 09/16/21 21:52

| Analyte                            | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| Gasoline Range Organics-NWTPH      | U                  |              | 0.848           | 2.50            |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 92.5               |              |                 | 77.0-120        |

Laboratory Control Sample (LCS)

(LCS) R3705602-1 09/16/21 21:08

| Analyte                            | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| Gasoline Range Organics-NWTPH      | 5.50                  | 5.74                | 104           | 71.0-124         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                     | 114           | 77.0-120         |               |

L1401942-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1401942-01 09/17/21 02:25 • (MS) R3705602-3 09/17/21 09:20 • (MSD) R3705602-4 09/17/21 09:42

| Analyte                            | Spike Amount<br>(dry)<br>mg/kg | Original Result<br>(dry)<br>mg/kg | MS Result (dry)<br>mg/kg | MSD Result<br>(dry)<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|------------------------------------|--------------------------------|-----------------------------------|--------------------------|------------------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Gasoline Range Organics-NWTPH      | 138                            | ND                                | 74.5                     | 83.3                         | 54.2         | 60.6          | 25       | 10.0-149         |              |               | 11.2     | 27              |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                                |                                   |                          |                              | 103          | 105           |          | 77.0-120         |              |               |          |                 |

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R3706050-2 09/17/21 23:49

| Analyte                            | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| Gasoline Range Organics-NWTPH      | 1.75               | J            | 0.848           | 2.50            |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 99.7               |              |                 | 77.0-120        |

Laboratory Control Sample (LCS)

(LCS) R3706050-1 09/17/21 23:05

| Analyte                            | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| Gasoline Range Organics-NWTPH      | 5.50                  | 5.47                | 99.5          | 71.0-124         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                     | 91.8          | 77.0-120         |               |

L1402949-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1402949-01 09/18/21 03:51 • (MS) R3706050-3 09/18/21 08:14 • (MSD) R3706050-4 09/18/21 08:36

| Analyte                            | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|------------------------------------|-----------------------|--------------------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Gasoline Range Organics-NWTPH      | 217                   | ND                       | 148                | 160                 | 68.2         | 73.7          | 39.5     | 10.0-149         |              |               | 7.79     | 27              |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                          |                    |                     | 107          | 108           |          | 77.0-120         |              |               |          |                 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3706051-2 09/17/21 23:49

| Analyte                            | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|------------------------------------|--------------------|--------------|-----------------|-----------------|
| Gasoline Range Organics-NWTPH      | 1.75               | J            | 0.848           | 2.50            |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 99.7               |              |                 | 77.0-120        |

Laboratory Control Sample (LCS)

(LCS) R3706051-1 09/17/21 23:05

| Analyte                            | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|-----------------------|---------------------|---------------|------------------|---------------|
| Gasoline Range Organics-NWTPH      | 5.50                  | 5.47                | 99.5          | 71.0-124         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                     | 91.8          | 77.0-120         |               |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3706026-3 09/17/21 01:46

| Analyte                   | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|---------------------------|--------------------|--------------|-----------------|-----------------|
| Benzene                   | U                  |              | 0.000467        | 0.00100         |
| 1,2-Dibromoethane         | U                  |              | 0.000648        | 0.00250         |
| 1,2-Dichloroethane        | U                  |              | 0.000649        | 0.00250         |
| Ethylbenzene              | U                  |              | 0.000737        | 0.00250         |
| Isopropylbenzene          | U                  |              | 0.000425        | 0.00250         |
| Methyl tert-butyl ether   | U                  |              | 0.000350        | 0.00100         |
| Naphthalene               | U                  |              | 0.00488         | 0.0125          |
| n-Propylbenzene           | U                  |              | 0.000950        | 0.00500         |
| Toluene                   | U                  |              | 0.00130         | 0.00500         |
| 1,2,4-Trimethylbenzene    | 0.00247            | U            | 0.00158         | 0.00500         |
| 1,3,5-Trimethylbenzene    | U                  |              | 0.00200         | 0.00500         |
| Xylenes, Total            | U                  |              | 0.000880        | 0.00650         |
| (S) Toluene-d8            | 103                |              |                 | 75.0-131        |
| (S) 4-Bromofluorobenzene  | 98.1               |              |                 | 67.0-138        |
| (S) 1,2-Dichloroethane-d4 | 103                |              |                 | 70.0-130        |

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3706026-1 09/17/21 00:31 • (LCSD) R3706026-2 09/17/21 00:50

| Analyte                   | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCSD Result<br>mg/kg | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------------------------|-----------------------|---------------------|----------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene                   | 0.125                 | 0.110               | 0.125                | 88.0          | 100            | 70.0-123         |               |                | 12.8     | 20              |
| 1,2-Dibromoethane         | 0.125                 | 0.126               | 0.129                | 101           | 103            | 74.0-128         |               |                | 2.35     | 20              |
| 1,2-Dichloroethane        | 0.125                 | 0.128               | 0.137                | 102           | 110            | 65.0-131         |               |                | 6.79     | 20              |
| Ethylbenzene              | 0.125                 | 0.114               | 0.125                | 91.2          | 100            | 74.0-126         |               |                | 9.21     | 20              |
| Isopropylbenzene          | 0.125                 | 0.118               | 0.132                | 94.4          | 106            | 72.0-127         |               |                | 11.2     | 20              |
| Methyl tert-butyl ether   | 0.125                 | 0.123               | 0.132                | 98.4          | 106            | 66.0-132         |               |                | 7.06     | 20              |
| Naphthalene               | 0.125                 | 0.102               | 0.0976               | 81.6          | 78.1           | 59.0-130         |               |                | 4.41     | 20              |
| n-Propylbenzene           | 0.125                 | 0.118               | 0.134                | 94.4          | 107            | 74.0-126         |               |                | 12.7     | 20              |
| Toluene                   | 0.125                 | 0.113               | 0.124                | 90.4          | 99.2           | 75.0-121         |               |                | 9.28     | 20              |
| 1,2,4-Trimethylbenzene    | 0.125                 | 0.124               | 0.140                | 99.2          | 112            | 70.0-126         |               |                | 12.1     | 20              |
| 1,3,5-Trimethylbenzene    | 0.125                 | 0.117               | 0.132                | 93.6          | 106            | 73.0-127         |               |                | 12.0     | 20              |
| Xylenes, Total            | 0.375                 | 0.342               | 0.392                | 91.2          | 105            | 72.0-127         |               |                | 13.6     | 20              |
| (S) Toluene-d8            |                       |                     |                      | 101           | 101            | 75.0-131         |               |                |          |                 |
| (S) 4-Bromofluorobenzene  |                       |                     |                      | 101           | 102            | 67.0-138         |               |                |          |                 |
| (S) 1,2-Dichloroethane-d4 |                       |                     |                      | 112           | 112            | 70.0-130         |               |                |          |                 |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

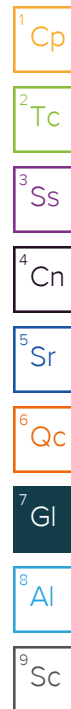
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (dry)                        | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].                                                                                                                                                                                                                                                                                                                                                                                                   |
| MDL                          | Method Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ND                           | Not detected at the Reporting Limit (or MDL where applicable).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RDL                          | Reported Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RDL (dry)                    | Reported Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rec.                         | Recovery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RPD                          | Relative Percent Difference.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SDG                          | Sample Delivery Group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (S)                          | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.                                                                                                                                                                                                                                               |
| U                            | Not detected at the Reporting Limit (or MDL where applicable).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Analyte                      | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dilution                     | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.                                                                                    |
| Limits                       | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.                                                                                                                                                                                                                                                      |
| Original Sample              | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.                                                                                                                                                                                                                                                                                                                            |
| Qualifier                    | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.                                                                                                                                                                  |
| Result                       | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Case Narrative (Cn)          | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.                                                                                                                                                                          |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.                                                                                                                                                                                              |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.                                                              |
| Sample Results (Sr)          | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.                                                                                                                                                                                             |
| Sample Summary (Ss)          | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.                                                                                                                                                                                                                                                                                                                                                            |

## Qualifier Description

|   |                                                                                     |
|---|-------------------------------------------------------------------------------------|
| B | The same analyte is found in the associated blank.                                  |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |



# ACCREDITATIONS & LOCATIONS

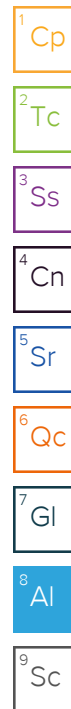
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

|                                |             |                             |                  |
|--------------------------------|-------------|-----------------------------|------------------|
| Alabama                        | 40660       | Nebraska                    | NE-OS-15-05      |
| Alaska                         | 17-026      | Nevada                      | TN000032021-1    |
| Arizona                        | AZ0612      | New Hampshire               | 2975             |
| Arkansas                       | 88-0469     | New Jersey--NELAP           | TN002            |
| California                     | 2932        | New Mexico <sup>1</sup>     | TN00003          |
| Colorado                       | TN00003     | New York                    | 11742            |
| Connecticut                    | PH-0197     | North Carolina              | Env375           |
| Florida                        | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                        | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>           | 923         | North Dakota                | R-140            |
| Idaho                          | TN00003     | Ohio--VAP                   | CL0069           |
| Illinois                       | 200008      | Oklahoma                    | 9915             |
| Indiana                        | C-TN-01     | Oregon                      | TN200002         |
| Iowa                           | 364         | Pennsylvania                | 68-02979         |
| Kansas                         | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup>        | KY90010     | South Carolina              | 84004002         |
| Kentucky <sup>2</sup>          | 16          | South Dakota                | n/a              |
| Louisiana                      | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana                      | LA018       | Texas                       | T104704245-20-18 |
| Maine                          | TN00003     | Texas <sup>5</sup>          | LAB0152          |
| Maryland                       | 324         | Utah                        | TN000032021-11   |
| Massachusetts                  | M-TN003     | Vermont                     | VT2006           |
| Michigan                       | 9958        | Virginia                    | 110033           |
| Minnesota                      | 047-999-395 | Washington                  | C847             |
| Mississippi                    | TN00003     | West Virginia               | 233              |
| Missouri                       | 340         | Wisconsin                   | 998093910        |
| Montana                        | CERT0086    | Wyoming                     | A2LA             |
| A2LA -- ISO 17025              | 1461.01     | AIHA-LAP,LLC EMLAP          | 100789           |
| A2LA -- ISO 17025 <sup>5</sup> | 1461.02     | DOD                         | 1461.01          |
| Canada                         | 1461.01     | USDA                        | P330-15-00234    |
| EPA--Crypto                    | TN00003     |                             |                  |

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.





# Appendix D

---

Groundwater Sample Laboratory Report



**Martin S. Burck Assoc.-Hood River, OR**

Sample Delivery Group: L1402265  
Samples Received: 09/11/2021  
Project Number: ENTERPRISE  
Description: Enterprise Chevron  
Site: ENTERPRISE  
Report To: Josh Owen  
200 N. Wasco Ct.  
Hood River, OR 97031

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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| <sup>3</sup> Ss |
| <sup>4</sup> Cn |
| <sup>5</sup> Sr |
| <sup>6</sup> Qc |
| <sup>7</sup> Gl |
| <sup>8</sup> Al |
| <sup>9</sup> Sc |

# SAMPLE SUMMARY

## B6-GW L1402265-01 GW

Collected by  
Jon White

Collected date/time  
09/08/21 14:05

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1741747 | 1        | 09/17/21 12:58        | 09/17/21 12:58     | BMB     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1739300 | 1        | 09/13/21 12:51        | 09/13/21 12:51     | DWR     | Mt. Juliet, TN |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## B7-GW L1402265-02 GW

Collected by  
Jon White

Collected date/time  
09/08/21 09:13

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1741747 | 1        | 09/17/21 13:20        | 09/17/21 13:20     | BMB     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1739300 | 1        | 09/13/21 13:10        | 09/13/21 13:10     | DWR     | Mt. Juliet, TN |

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

## B8-GW L1402265-03 GW

Collected by  
Jon White

Collected date/time  
09/08/21 12:58

Received date/time  
09/11/21 10:00

| Method                                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|----------------------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Volatile Organic Compounds (GC) by Method NWTPHGX  | WG1741747 | 1        | 09/17/21 13:41        | 09/17/21 13:41     | BMB     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG1739300 | 1        | 09/13/21 12:31        | 09/13/21 12:31     | DWR     | Mt. Juliet, TN |

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

ACCOUNT:

Martin S. Burck Assoc.-Hood River, OR

PROJECT:

ENTERPRISE

SDG:

L1402265

DATE/TIME:

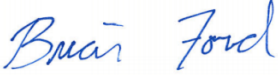
09/20/21 11:19

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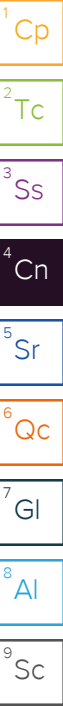
3 of 12

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford  
Project Manager



## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Gasoline Range Organics-NWTPH   | 168            |           | 100         | 1        | 09/17/2021 12:58        | <a href="#">WG1741747</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 97.9           |           | 78.0-120    |          | 09/17/2021 12:58        | <a href="#">WG1741747</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Benzene                   | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| 1,2-Dibromoethane         | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| 1,2-Dichloroethane        | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Ethylbenzene              | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Isopropylbenzene          | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Methyl tert-butyl ether   | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Naphthalene               | ND             |           | 2.50        | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| n-Propylbenzene           | 0.761          |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Toluene                   | ND             |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| 1,2,4-Trimethylbenzene    | 5.71           |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| 1,3,5-Trimethylbenzene    | 1.95           |           | 0.500       | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| Xylenes, Total            | ND             |           | 1.50        | 1        | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| (S) Toluene-d8            | 104            |           | 80.0-120    |          | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| (S) 4-Bromofluorobenzene  | 103            |           | 77.0-126    |          | 09/13/2021 12:51        | <a href="#">WG1739300</a> |
| (S) 1,2-Dichloroethane-d4 | 92.2           |           | 70.0-130    |          | 09/13/2021 12:51        | <a href="#">WG1739300</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Gasoline Range Organics-NWTPH   | ND             |           | 100         | 1        | 09/17/2021 13:20        | <a href="#">WG1741747</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 97.2           |           | 78.0-120    |          | 09/17/2021 13:20        | <a href="#">WG1741747</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Benzene                   | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| 1,2-Dibromoethane         | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| 1,2-Dichloroethane        | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Ethylbenzene              | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Isopropylbenzene          | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Methyl tert-butyl ether   | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Naphthalene               | ND             |           | 2.50        | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| n-Propylbenzene           | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Toluene                   | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| 1,2,4-Trimethylbenzene    | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| 1,3,5-Trimethylbenzene    | ND             |           | 0.500       | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| Xylenes, Total            | ND             |           | 1.50        | 1        | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| (S) Toluene-d8            | 104            |           | 80.0-120    |          | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| (S) 4-Bromofluorobenzene  | 97.2           |           | 77.0-126    |          | 09/13/2021 13:10        | <a href="#">WG1739300</a> |
| (S) 1,2-Dichloroethane-d4 | 92.0           |           | 70.0-130    |          | 09/13/2021 13:10        | <a href="#">WG1739300</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method NWTPHGX

| Analyte                         | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Gasoline Range Organics-NWTPH   | ND             |           | 100         | 1        | 09/17/2021 13:41        | <a href="#">WG1741747</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 97.5           |           | 78.0-120    |          | 09/17/2021 13:41        | <a href="#">WG1741747</a> |

## Volatile Organic Compounds (GC/MS) by Method 8260D

| Analyte                   | Result<br>ug/l | Qualifier | RDL<br>ug/l | Dilution | Analysis<br>date / time | Batch                     |
|---------------------------|----------------|-----------|-------------|----------|-------------------------|---------------------------|
| Benzene                   | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| 1,2-Dibromoethane         | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| 1,2-Dichloroethane        | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Ethylbenzene              | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Isopropylbenzene          | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Methyl tert-butyl ether   | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Naphthalene               | ND             |           | 2.50        | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| n-Propylbenzene           | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Toluene                   | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| 1,2,4-Trimethylbenzene    | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| 1,3,5-Trimethylbenzene    | ND             |           | 0.500       | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| Xylenes, Total            | ND             |           | 1.50        | 1        | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| (S) Toluene-d8            | 105            |           | 80.0-120    |          | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| (S) 4-Bromofluorobenzene  | 104            |           | 77.0-126    |          | 09/13/2021 12:31        | <a href="#">WG1739300</a> |
| (S) 1,2-Dichloroethane-d4 | 92.6           |           | 70.0-130    |          | 09/13/2021 12:31        | <a href="#">WG1739300</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3705973-2 09/17/21 12:19

| Analyte                            | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|------------------------------------|-------------------|--------------|----------------|----------------|
| Gasoline Range Organics-NWTPH      | U                 |              | 31.6           | 100            |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 97.3              |              |                | 78.0-120       |

Laboratory Control Sample (LCS)

(LCS) R3705973-1 09/17/21 11:36

| Analyte                            | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|------------------------------------|----------------------|--------------------|---------------|------------------|---------------|
| Gasoline Range Organics-NWTPH      | 5500                 | 4770               | 86.7          | 70.0-124         |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                      |                    | 103           | 78.0-120         |               |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3704219-3 09/13/21 11:19

| Analyte                   | MB Result<br>ug/l | MB Qualifier | MB MDL<br>ug/l | MB RDL<br>ug/l |
|---------------------------|-------------------|--------------|----------------|----------------|
| Benzene                   | U                 |              | 0.0941         | 0.500          |
| 1,2-Dibromoethane         | U                 |              | 0.126          | 0.500          |
| 1,2-Dichloroethane        | U                 |              | 0.0819         | 0.500          |
| Ethylbenzene              | U                 |              | 0.137          | 0.500          |
| Isopropylbenzene          | U                 |              | 0.105          | 0.500          |
| Methyl tert-butyl ether   | U                 |              | 0.101          | 0.500          |
| Naphthalene               | U                 |              | 0.174          | 2.50           |
| n-Propylbenzene           | U                 |              | 0.0993         | 0.500          |
| Toluene                   | U                 |              | 0.278          | 0.500          |
| 1,2,4-Trimethylbenzene    | U                 |              | 0.322          | 0.500          |
| 1,3,5-Trimethylbenzene    | U                 |              | 0.104          | 0.500          |
| Xylenes, Total            | U                 |              | 0.174          | 1.50           |
| (S) Toluene-d8            | 105               |              |                | 80.0-120       |
| (S) 4-Bromofluorobenzene  | 103               |              |                | 77.0-126       |
| (S) 1,2-Dichloroethane-d4 | 94.6              |              |                | 70.0-130       |

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3704219-1 09/13/21 10:20 • (LCSD) R3704219-2 09/13/21 10:40

| Analyte                   | Spike Amount<br>ug/l | LCS Result<br>ug/l | LCSD Result<br>ug/l | LCS Rec.<br>% | LCSD Rec.<br>% | Rec. Limits<br>% | LCS Qualifier | LCSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------------------------|----------------------|--------------------|---------------------|---------------|----------------|------------------|---------------|----------------|----------|-----------------|
| Benzene                   | 5.00                 | 4.28               | 4.43                | 85.6          | 88.6           | 70.0-123         |               |                | 3.44     | 20              |
| 1,2-Dibromoethane         | 5.00                 | 4.54               | 4.59                | 90.8          | 91.8           | 80.0-122         |               |                | 1.10     | 20              |
| 1,2-Dichloroethane        | 5.00                 | 4.32               | 4.03                | 86.4          | 80.6           | 70.0-128         |               |                | 6.95     | 20              |
| Ethylbenzene              | 5.00                 | 4.83               | 4.79                | 96.6          | 95.8           | 79.0-123         |               |                | 0.832    | 20              |
| Isopropylbenzene          | 5.00                 | 4.88               | 4.94                | 97.6          | 98.8           | 76.0-127         |               |                | 1.22     | 20              |
| Methyl tert-butyl ether   | 5.00                 | 4.48               | 4.54                | 89.6          | 90.8           | 68.0-125         |               |                | 1.33     | 20              |
| Naphthalene               | 5.00                 | 4.31               | 4.31                | 86.2          | 86.2           | 54.0-135         |               |                | 0.000    | 20              |
| n-Propylbenzene           | 5.00                 | 4.61               | 4.50                | 92.2          | 90.0           | 77.0-124         |               |                | 2.41     | 20              |
| Toluene                   | 5.00                 | 4.37               | 4.45                | 87.4          | 89.0           | 79.0-120         |               |                | 1.81     | 20              |
| 1,2,4-Trimethylbenzene    | 5.00                 | 4.33               | 4.35                | 86.6          | 87.0           | 76.0-121         |               |                | 0.461    | 20              |
| 1,3,5-Trimethylbenzene    | 5.00                 | 4.34               | 4.32                | 86.8          | 86.4           | 76.0-122         |               |                | 0.462    | 20              |
| Xylenes, Total            | 15.0                 | 14.5               | 14.4                | 96.7          | 96.0           | 79.0-123         |               |                | 0.692    | 20              |
| (S) Toluene-d8            |                      |                    |                     | 102           | 103            | 80.0-120         |               |                |          |                 |
| (S) 4-Bromofluorobenzene  |                      |                    |                     | 103           | 104            | 77.0-126         |               |                |          |                 |
| (S) 1,2-Dichloroethane-d4 |                      |                    |                     | 96.9          | 94.4           | 70.0-130         |               |                |          |                 |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

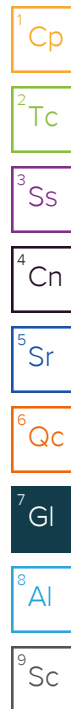
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MDL                          | Method Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ND                           | Not detected at the Reporting Limit (or MDL where applicable).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RDL                          | Reported Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rec.                         | Recovery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RPD                          | Relative Percent Difference.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SDG                          | Sample Delivery Group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (S)                          | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.                                                                                                                                                                                                                                               |
| U                            | Not detected at the Reporting Limit (or MDL where applicable).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Analyte                      | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dilution                     | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.                                                                                    |
| Limits                       | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.                                                                                                                                                                                                                                                      |
| Qualifier                    | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.                                                                                                                                                                  |
| Result                       | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Case Narrative (Cn)          | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.                                                                                                                                                                          |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.                                                                                                                                                                                              |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.                                                              |
| Sample Results (Sr)          | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.                                                                                                                                                                                             |
| Sample Summary (Ss)          | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.                                                                                                                                                                                                                                                                                                                                                            |

## Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



# ACCREDITATIONS & LOCATIONS

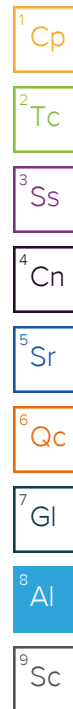
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

|                                |             |                             |                  |
|--------------------------------|-------------|-----------------------------|------------------|
| Alabama                        | 40660       | Nebraska                    | NE-OS-15-05      |
| Alaska                         | 17-026      | Nevada                      | TN000032021-1    |
| Arizona                        | AZ0612      | New Hampshire               | 2975             |
| Arkansas                       | 88-0469     | New Jersey--NELAP           | TN002            |
| California                     | 2932        | New Mexico <sup>1</sup>     | TN00003          |
| Colorado                       | TN00003     | New York                    | 11742            |
| Connecticut                    | PH-0197     | North Carolina              | Env375           |
| Florida                        | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                        | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>           | 923         | North Dakota                | R-140            |
| Idaho                          | TN00003     | Ohio--VAP                   | CL0069           |
| Illinois                       | 200008      | Oklahoma                    | 9915             |
| Indiana                        | C-TN-01     | Oregon                      | TN200002         |
| Iowa                           | 364         | Pennsylvania                | 68-02979         |
| Kansas                         | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup>        | KY90010     | South Carolina              | 84004002         |
| Kentucky <sup>2</sup>          | 16          | South Dakota                | n/a              |
| Louisiana                      | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana                      | LA018       | Texas                       | T104704245-20-18 |
| Maine                          | TN00003     | Texas <sup>5</sup>          | LAB0152          |
| Maryland                       | 324         | Utah                        | TN000032021-11   |
| Massachusetts                  | M-TN003     | Vermont                     | VT2006           |
| Michigan                       | 9958        | Virginia                    | 110033           |
| Minnesota                      | 047-999-395 | Washington                  | C847             |
| Mississippi                    | TN00003     | West Virginia               | 233              |
| Missouri                       | 340         | Wisconsin                   | 998093910        |
| Montana                        | CERT0086    | Wyoming                     | A2LA             |
| A2LA -- ISO 17025              | 1461.01     | AIHA-LAP,LLC EMLAP          | 100789           |
| A2LA -- ISO 17025 <sup>5</sup> | 1461.02     | DOD                         | 1461.01          |
| Canada                         | 1461.01     | USDA                        | P330-15-00234    |
| EPA--Crypto                    | TN00003     |                             |                  |

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



[illegible]

# Appendix E

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WRD Database Search Results  
Water Well Reports  
Municipal Well Analytical Data

---

## WRD Database Search Results



## Well Report Query Results GPS points, where available are at the far right of the table. Click link to view on map

Township: 2 S, Range: 44 E, Sections: 2, Type of Log: W

| Well Log                   | Details                 | T-R-S/<br>QQ-Q       | Taxlot | Street of Well             | Owner                                                      | Company                                              | Special Standards | Well Type | First Water | Completed Depth | Static Water Level | Yield | Completed Date | Received Date | Bonded Constructor                                 | Startcard | Well Id # | New | Abandon | Deepen | Alteration | Conversion | Domestic | Irrigation | Community | Livestock | Industrial | Injection | Thermal | De-watering | Piezometer | Latitude/<br>Longitude |
|----------------------------|-------------------------|----------------------|--------|----------------------------|------------------------------------------------------------|------------------------------------------------------|-------------------|-----------|-------------|-----------------|--------------------|-------|----------------|---------------|----------------------------------------------------|-----------|-----------|-----|---------|--------|------------|------------|----------|------------|-----------|-----------|------------|-----------|---------|-------------|------------|------------------------|
| <a href="#">WALL 275</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 SE-NW |        | SE/NW/NE-2'W3'NSECOR LT8   | BANE, J. D.<br>ENTERPRISE OR                               |                                                      |                   | W         | 28.00       | 50.00           | 14.0               | 100.0 | 11/27/1970     |               | TANDY, O C<br>O. C. TANDY                          |           |           | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 276</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 SW-SW |        | 105'W69'NOFSECORSW/SW.25   | REECE, WAYNE<br>ENTERPRISE OR                              |                                                      |                   | W         |             | 36.00           | 6.5                | 21.0  | 10/01/1959     |               | TANDY, O C<br>O. C. TANDY                          |           |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 277</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 SW-SW |        | SW.25 SW.25 SEC.2          | STONE, FRANCIS E.<br>P. O. BOX 332<br>ENTERPRISE OR        |                                                      |                   | W         | 3.00        | 50.00           | 5.0                | 30.0  | 05/16/1978     |               | STOFFEL, ROBERT V<br>STOFFEL BROS.<br>DRILLING CO. |           |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 278</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 SW-SE |        | 357'E65'NOFSWCOR SW/SE     | WITHERITE, NORMAN<br>ENTERPRISE OR                         |                                                      |                   | W         |             | 38.00           | 4.0                | 30.0  | 02/17/1966     |               | STOFFEL, ROBERT V<br>STOFFEL BROS.<br>DRILLING CO. |           |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 283</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 -     |        | NONE                       | SASSEY, ERNEST<br>902 S. SCHOOL<br>ENTERPRISE OR           |                                                      |                   | W         | 85.00       | 105.00          | 8.0                | 10.0  | 01/25/1985     |               | MCINALLY, JOHN D.<br>MC INALLY WELL<br>DRILLING    |           |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 784</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 NE-NW | 2900   |                            | STOFFEL, JEFF                                              | STOFFEL, KIM<br>400 W MAIN ST<br>ENTERPRISE OR 97828 |                   | W         | 40.00       | 46.00           | 8.0                | 50.0  | 11/07/1994     | 11/30/1994    | STOFFEL, ROBERT V                                  | 72195     |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 824</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 SE-NE | 600    | 501 E FIRST ST, ENTERPRISE | TONACK, JOHN                                               | TONACK, SHARON<br>PO BOX 60<br>GLADSTONE OR 97027    |                   | W         | 135.00      | 150.00          | 33.0               | 50.0  | 07/11/1995     | 07/26/1995    | STOFFEL, ROBERT V                                  | 74563     |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 859</a>   | <a href="#">Details</a> | 2.00S-44.00E-2 NW-SW |        | FISH HATCHERY RD           | HANSON, GILBERT D<br>PO BOX 299<br>ENTERPRISE OR 97828     |                                                      |                   | W         | 30.00       | 64.00           | 11.0               | 30.0  | 09/05/1989     | 09/07/1989    | STOFFEL, ROBERT V                                  | 12563     |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 50047</a> | <a href="#">Details</a> | 2.00S-44.00E-2 SW-SE | 4200   | 72657 FARMERS LANE         | BARKER, TIMOTHY J<br>PO BOX 451<br>ENTERPRISE OR 97828     |                                                      |                   | W         | 81.00       | 80.00           | 10.0               | 40.0  | 04/18/1996     | 04/24/1996    | STOFFEL, ROBERT V.<br>STOFFEL BROS<br>DRILLING CO. | 92083     |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |
| <a href="#">WALL 50102</a> | <a href="#">Details</a> | 2.00S-44.00E-2 NE-SE | 7401   | 403 BOYD COURT             | DONNIGAN, AHREN J<br>403 BOYD COURT<br>ENTERPRISE OR 97828 |                                                      |                   | W         |             |                 | 10.0               | 40.0  | 07/25/1996     | 07/31/1996    | STOFFEL, ROBERT V.<br>STOFFEL BROS<br>DRILLING CO. | 92093     | 1197      | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |             |            |                        |

1 2 3

[Download Data](#)



## Well Report Query Results GPS points, where available are at the far right of the table. Click link to view on map

**Township: 2 S, Range: 44 E, Sections: 2, Type of Log: W**

| Well Log                                                                        | Details                 | T-R-S/<br>QQ-Q          | Taxlot | Street of Well                                      | Owner                                                        | Company                                                   | Special<br>Standards | Well Type | First Water | Completed<br>Depth | Static<br>Water Level | Yield | Completed<br>Date | Received<br>Date | Bonded<br>Constructor                                   | Startcard | Well Id # | New | Abandon | Deepen | Alteration | Conversion | Domestic | Irrigation | Community | Livestock | Industrial | Injection | Thermal | Dewatering | Piezometer | Latitude/<br>Longitude                               |
|---------------------------------------------------------------------------------|-------------------------|-------------------------|--------|-----------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------|----------------------|-----------|-------------|--------------------|-----------------------|-------|-------------------|------------------|---------------------------------------------------------|-----------|-----------|-----|---------|--------|------------|------------|----------|------------|-----------|-----------|------------|-----------|---------|------------|------------|------------------------------------------------------|
| <a href="#">WALL_50513</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NE-NW | 3901   | 512 W MAIN                                          | SUTHERLAND, FRANCES G<br>512 W MAIN<br>ENTERPRISE OR 97828   |                                                           |                      | W         | 25.00       | 95.00              | 7.0                   | 80.0  | 07/08/2000        | 07/14/2000       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 126216    | 41854     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50543</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NE-SW | 200    | 82438 FISH<br>HATCHERY<br>LANE                      | FALK, JIM<br>82438 FISH HATCHERY LANE<br>ENTERPRISE OR 97828 |                                                           |                      | W         | 10.00       | 85.00              | 5.0                   | 60.0  | 03/10/2001        | 03/14/2001       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 137814    | 46197     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50571</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>SE-NE | 3500   | 704 TACOMA ST                                       | RYNEARSON, DONALD                                            | RYNEARSON, BESSIE<br>704 TACOMA ST<br>ENTERPRISE OR 97828 |                      | W         | 78.00       | 88.00              | 22.0                  | 30.0  | 10/02/2001        | 10/05/2001       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 143057    | 51095     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50572</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>SE-NE | 3101   | 705 TACOMA<br>AVE                                   | SHEETS, S G<br>705 TACOMA AVE<br>ENTERPRISE OR 97828         |                                                           |                      | W         | 55.00       | 65.00              | 22.0                  | 30.0  | 10/03/2001        | 10/09/2001       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 143056    | 51096     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50575</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NW-NW | 204    | 607 SW<br>THORPE LANE                               | BASHON, RAY                                                  | BASHON, ROBIN<br>307 E PARK<br>ENTERPRISE OR 97828        |                      | W         | 75.00       | 85.00              | 3.0                   | 60.0  | 11/08/2001        | 11/15/2001       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 143062    | 51074     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50691</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NW-SW | 4600   | 72531 FARMERS<br>LANE                               | WAYT, MEL                                                    | WAYT, CAROL<br>72531 FARMERS LANE<br>ENTERPRISE OR 97828  |                      | W         | 135.00      | 145.00             | 12.0                  | 40.0  | 06/09/2004        | 06/16/2004       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 162435    | 71356     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50756</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>SE-SW | 3001   | 65367<br>HURRICANE<br>CREEK                         | TRIPP, JOHN<br>65367 HURRICANE CREEK<br>ENTERPRISE OR 97828  |                                                           |                      | W         | 170.00      | 205.00             | 4.0                   | 25.0  | 10/05/2005        | 10/11/2005       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 172600    | 79641     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_50918</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NE-SE | 1700   | 1005 SE 2ND<br>AVE                                  | JOHNSON, LESTER                                              | JOHNSON, GEORGENE<br>PO BOX 387<br>ENTERPRISE OR 97828    |                      | W         | 220.00      | 240.00             | 8.0                   | 50.0  | 06/04/2008        | 06/13/2008       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 198604    | 96111     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">UNIO_52072</a>                                                      | <a href="#">Details</a> | 2.00S-44.00E-2<br>NW-NW | 800    | 303 E MAIN                                          | MINALIA, EDWAN<br>303 E MAIN E<br>ENTERPRISE OR 97828        |                                                           |                      | W         | 70.00       | 84.00              | 30.0                  | 60.0  | 03/13/2009        | 03/18/2009       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO. | 198601    | 100030    | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |            |                                                      |
| <a href="#">WALL_51017</a><br><a href="#">Exempt Use</a><br><a href="#">Map</a> | <a href="#">Details</a> | 2.00S-44.00E-2<br>NW-NE | 6400   | 210 W<br>GREENWOOD<br>ST<br>ENTERPRISE,<br>OR 97828 | FRIEDLY, KEITH<br>PO BOX 17<br>LOSTINE OR 97857              |                                                           |                      | W         | 6.00        | 100.00             | 16.0                  | 38.0  | 06/15/2010        | 06/24/2010       | STOFFEL,<br>JEFF<br>STOFFEL<br>BROS<br>DRILLING CO.     | 204995    | 100969    | ✓   |         |        |            |            | ✓        |            |           |           | ✓          |           |         |            |            | <a href="#">45.4242</a><br><a href="#">-117.2798</a> |

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## Well Report Query Results GPS points, where available are at the far right of the table. Click link to view on map

Township: 2 S, Range: 44 E, Sections: 2, Type of Log: W

| Well Log                                                     | Details                 | T-R-S/<br>QQ-Q       | Taxlot | Street of Well                               | Owner                                                                           | Company                                                                          | Special Standards | Well Type | First Water | Completed Depth | Static Water Level | Yield | Completed Date | Received Date | Bonded Constructor                                            | Startcard | Well Id # | New | Abandon | Deepen | Alteration | Conversion | Domestic | Irrigation | Community | Livestock | Industrial | Injection | Thermal | Dewatering |
|--------------------------------------------------------------|-------------------------|----------------------|--------|----------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------|-----------|-------------|-----------------|--------------------|-------|----------------|---------------|---------------------------------------------------------------|-----------|-----------|-----|---------|--------|------------|------------|----------|------------|-----------|-----------|------------|-----------|---------|------------|
| <a href="#">WALL_51271</a><br><a href="#">Exempt Use Map</a> | <a href="#">Details</a> | 2.00S-44.00E-2 SE-SW | 4400   | 65116 STOCKTON RD, ENTERPRISE, OR 97828      | RYNEARSON, DONNIE<br>65116 STOCKTON RD<br>ENTERPRISE OR 97828                   |                                                                                  |                   | W         | 6.00        | 90.00           | 9.1                | 70.0  | 10/19/2015     | 10/22/2015    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1028554   | 119442    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL_51273</a><br><a href="#">Exempt Use Map</a> | <a href="#">Details</a> | 2.00S-44.00E-2 -     | 1500   | 65228 STOCKTON RD, ENTERPRISE, OR 97828      | SPENCE, JOE<br>65228 STOCKTON RD<br>ENTERPRISE OR 97828                         |                                                                                  |                   | W         | 5.00        | 70.00           | 4.0                | 70.0  | 10/16/2015     | 10/23/2015    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1028480   | 119438    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL_51300</a><br><a href="#">Exempt Use Map</a> | <a href="#">Details</a> | 2.00S-44.00E-2 SW-NE | 5500   | 706 S RIVER STREET, ENTERPRISE, OR 97828     | TIPPETT, DONALD<br>706 S RIVER STREET<br>ENTERPRISE OR 97828                    |                                                                                  |                   | W         | 8.00        | 120.00          | 22.0               | 60.0  | 07/28/2016     | 08/02/2016    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1031428   | 122851    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL_51301</a>                                   | <a href="#">Details</a> | 2.00S-44.00E-2 SW-NE | 5300   | 700 S RIVER RD , ENTERPRISE, OR 97828        | WEAVER, TRUMAN<br>700 S RIVER RD<br>ENTERPRISE OR 97828                         |                                                                                  |                   | W         | 8.00        | 120.00          | 22.0               | 50.0  | 08/01/2016     | 08/02/2016    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1031429   | 122852    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL_51352</a>                                   | <a href="#">Details</a> | 2.00S-44.00E-2 SE-NE | 801    | NEAREST: 84738 JOSEPH HIGHWAY ENTERPRISE, OR |                                                                                 | ENTERPRISE ELECTRIC<br>84738 JOSEPH HIGHWAY<br>ENTERPRISE OR 97828               |                   | W         | 65.00       | 98.00           | 22.0               | 30.0  | 10/25/2017     | 10/30/2017    | ZOLLMAN, GARRY L<br>ZOLLMAN'S LARRY BURD<br>WELL DRILLING LLC | 1036764   | 125588    | ✓   |         |        |            |            |          |            |           |           | ✓          |           |         |            |
| <a href="#">WALL_51353</a>                                   | <a href="#">Details</a> | 2.00S-44.00E-2 SE-NE | 802    | NEAREST: 84738 JOSEPH HIGHWAY ENTERPRISE, OR |                                                                                 | ENTERPRISE ELECTRIC<br>84738 JOSEPH HIGHWAY ENTERPRISE, O<br>ENTERPRISE OR 97828 |                   | W         | 61.00       | 98.00           | 23.0               | 30.0  | 10/26/2017     | 10/30/2017    | ZOLLMAN, GARRY L<br>ZOLLMAN'S LARRY BURD<br>WELL DRILLING LLC | 1036765   | 125589    | ✓   |         |        |            |            |          |            |           |           | ✓          |           |         |            |
| <a href="#">WALL_51423</a><br><a href="#">Exempt Use Map</a> | <a href="#">Details</a> | 2.00S-44.00E-2 SE-SW | 4401   | 65073 STOCKTON RD, ENTERPRISE, OR. 97828     | VANDERZANDEN, JOSH<br>65310 STOCKTON RD, ENTERPRISE, OR.<br>ENTERPRISE OR 97828 |                                                                                  |                   | W         | 38.00       | 100.00          | 11.5               | 50.0  | 09/08/2020     | 09/11/2020    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1048673   | 138177    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL_51447</a>                                   | <a href="#">Details</a> | 2.00S-44.00E-2 SE-SW | 4403   | 72625 FARMERS LANE, ENTERPRISE, OR 97828     | BAGLEY, BILL<br>72625 FARMERS LANE<br>ENTERPRISE OR 97828                       |                                                                                  |                   | W         | 31.00       | 100.00          | 11.0               | 40.0  | 03/18/2021     | 03/29/2021    | ACQUISTAPACE, JASON<br>EARTH & WATER WORKS                    | 1050201   | 140080    | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |

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## Well Report Query Results GPS points, where available are at the far right of the table. Click link to view on map

Township: 1 S, Range: 44 E, Sections: 35, Type of Log: W

| Well Log                                                           | Details                 | T-R-S/<br>QQ-Q           | Taxlot | Street of Well                | Owner                                                         | Company                                                                               | Special<br>Standards | Well Type | First Water | Completed<br>Depth | Static<br>Water Level | Yield | Completed<br>Date | Received<br>Date | Bonded<br>Constructor                                    | Startcard | Well Id # | New | Abandon | Deepen | Alteration | Conversion | Domestic | Irrigation | Community | Livestock | Industrial | Injection | Thermal | Dewatering |
|--------------------------------------------------------------------|-------------------------|--------------------------|--------|-------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------|-----------|-------------|--------------------|-----------------------|-------|-------------------|------------------|----------------------------------------------------------|-----------|-----------|-----|---------|--------|------------|------------|----------|------------|-----------|-----------|------------|-----------|---------|------------|
| <a href="#">WALL 248</a>                                           | <a href="#">Details</a> | 1.00S-44.00E-35<br>NW-NW |        | 290°W187°SOFNE CORNER         |                                                               | HARVEY BURNSOUTPOST RV PARK<br>BOX 13D FLORA RT.<br>ENTERPRISE OR                     |                      | W         | 52.00       | 257.00             | 35.0                  | 55.0  | 05/18/1984        |                  | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS.<br>DRILLING CO. |           |           | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL 249</a><br><a href="#">Groundwater<br/>Info</a>   | <a href="#">Details</a> | 1.00S-44.00E-35<br>SE-NW |        | W3178°S53°FRNECORSE/NE        | BANE, J. D.<br>ENTERPRISE OR                                  |                                                                                       |                      | W         | 32.00       | 113.00             | 10.0                  | 280.0 | 11/16/1974        | 08/31/1976       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS.<br>DRILLING CO. |           | 95133     |     |         |        |            |            | ✓        |            |           |           |            |           |         |            |
| <a href="#">WALL 641</a>                                           | <a href="#">Details</a> | 1.00S-44.00E-35<br>SE-NW | 6700   | HWY 3                         | BANE, J D<br>PO BOX 337<br>ENTERPRISE OR 97828                |                                                                                       |                      | W         | 17.00       | 126.00             | 17.0                  | 60.0  | 07/22/1991        | 08/16/1991       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 23361     |           | ✓   |         |        |            |            |          |            |           |           | ✓          |           |         |            |
| <a href="#">WALL 50259</a>                                         | <a href="#">Details</a> | 1.00S-44.00E-35<br>NW-NW | 1600   | GOLF COURSE RD,<br>ENTERPRISE | PIERCE, GARNETT<br>PO BOX 518<br>ESCALON CA 95320             |                                                                                       |                      | W         | 185.00      | 200.00             | 32.0                  | 45.0  | 11/17/1997        | 11/24/1997       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 105338    | 19089     | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL 50459</a>                                         | <a href="#">Details</a> | 1.00S-44.00E-35<br>SW-SW | 200    | 314 GOLF COURSE RD            | HAMMACK, WILLIAM<br>314 GOLF COURSE RD<br>ENTERPRISE OR 97828 |                                                                                       |                      | W         | 100.00      | 125.00             | 73.0                  | 45.0  | 05/18/1999        | 05/27/1999       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 121614    | 27097     | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL 50489</a>                                         | <a href="#">Details</a> | 1.00S-44.00E-35<br>NE-SW | 400    | LYLE ST                       |                                                               | CHRISMAN INVESTMENTS<br>301 W MAIN<br>ENTERPRISE OR 97828                             |                      | W         | 55.00       | 123.00             | 5.0                   | 60.0  | 10/05/1999        | 10/11/1999       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 126184    | 37455     | ✓   |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL 641</a><br><a href="#">Version 2</a>              | <a href="#">Details</a> | 1.00S-44.00E-35<br>SE-NW | 6700   | HWY 3                         | BANE, J D<br>PO BOX 337<br>ENTERPRISE OR 97828                |                                                                                       |                      | W         | 17.00       | 126.00             | 17.0                  |       | 07/22/1991        | 08/16/1991       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 23361     |           | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |
| <a href="#">WALL 50676</a><br><a href="#">Groundwater<br/>Info</a> | <a href="#">Details</a> | 1.00S-44.00E-35<br>NW-SE | 1800   | 668 NW 1ST ST                 |                                                               | COUNTY OF WALLOWA; FAIR BOARD<br>668 NW 1ST ST<br>ENTERPRISE OR 97828                 |                      | W         | 60.00       | 400.00             | 17.0                  | 100.0 | 01/12/2004        | 01/16/2004       | STOFFEL,<br>ROBERT V<br>STOFFEL<br>BROS<br>DRILLING CO.  | 160123    | 68653     | ✓   |         |        |            |            | ✓        |            |           |           |            |           |         |            |
| <a href="#">WALL 50847</a><br><a href="#">Groundwater<br/>Info</a> | <a href="#">Details</a> | 1.00S-44.00E-35<br>NW-SE | 100    | 601 MEDICAL PARKWAY           |                                                               | COUNTY OF WALLOWA; HEALTH CARE DISTRICT<br>601 MEDICAL PARKWAY<br>ENTERPRISE OR 97828 | ✓                    | W         | 7.00        | 20.00              | 2.0                   | 150.0 | 02/27/2007        | 03/01/2007       | LAND OWNER<br>LAND OWNER                                 | 190902    | 90069     |     |         |        |            | ✓          |          |            |           |           |            |           |         |            |
| <a href="#">WALL 50848</a><br><a href="#">Groundwater<br/>Info</a> | <a href="#">Details</a> | 1.00S-44.00E-35<br>NW-SE | 100    | 601 MEDICAL PARKWAY           |                                                               | COUNTY OF WALLOWA; HEALTH CARE DISTRICT<br>601 MEDICAL PARKWAY<br>ENTERPRISE OR 97828 | ✓                    | W         | 7.00        | 20.00              | 1.0                   | 150.0 | 02/27/2007        | 03/01/2007       | LAND OWNER<br>LAND OWNER                                 | 190903    | 90070     |     |         |        |            | ✓          |          |            |           |           |            |           |         |            |

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## Well Report Query Results GPS points, where available are at the far right of the table. Click link to view on map

Township: 1 S, Range: 44 E, Sections: 35, Type of Log: W

| Well Log                                    | Details                 | T-R-S/<br>QQ-Q        | Taxlot | Street of Well                               | Owner                                                     | Company                                                                               | Special Standards | Well Type | First Water | Completed Depth | Static Water Level | Yield | Completed Date | Received Date | Bonded Constructor                                                  | Startcard | Well Id # | New | Abandon | Deepen | Alteration | Conversion | Domestic Irrigation | Community Livestock | Industrial | Injection | Thermal | Dewatering | Piezometer |  |                                          |
|---------------------------------------------|-------------------------|-----------------------|--------|----------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------|-----------|-------------|-----------------|--------------------|-------|----------------|---------------|---------------------------------------------------------------------|-----------|-----------|-----|---------|--------|------------|------------|---------------------|---------------------|------------|-----------|---------|------------|------------|--|------------------------------------------|
| <a href="#">WALL 50849 Groundwater Info</a> | <a href="#">Details</a> | 1.00S-44.00E-35 NW-SE | 100    | 601 MEDICAL PARKWAY                          |                                                           | COUNTY OF WALLOWA; HEALTH CARE DISTRICT<br>601 MEDICAL PARKWAY<br>ENTERPRISE OR 97828 | ✓                 | W         | 7.00        | 20.00           | 1.0                | 150.0 | 02/27/2007     | 03/01/2007    | LAND OWNER<br>LAND OWNER                                            | 190904    | 90071     | ✓   |         |        |            |            |                     |                     |            |           |         |            |            |  | <a href="#">45</a><br><a href="#">-1</a> |
| <a href="#">WALL 50867</a>                  | <a href="#">Details</a> | 1.00S-44.00E-35 SE-SE | 2001   | 301 NE PARK ST                               | GARRETT, DARRELL<br>301 NE PARK ST<br>ENTERPRISE OR 97828 |                                                                                       |                   | W         | 115.00      | 140.00          | 40.0               | 30.0  | 06/12/2007     | 06/21/2007    | STOFFEL,<br>ROBERT V<br>STOFFEL BROS<br>DRILLING CO                 | 191258    | 91030     | ✓   |         |        |            | ✓          |                     |                     |            |           |         |            |            |  |                                          |
| <a href="#">WALL 50868</a>                  | <a href="#">Details</a> | 1.00S-44.00E-35 SW-SE | 2100   | 207 W PARK ST                                | SHERLOCK, SHARON<br>207 W PARK ST<br>ENTERPRISE OR 97828  |                                                                                       |                   | W         | 100.00      | 120.00          | 13.0               | 60.0  | 06/11/2007     | 06/21/2007    | STOFFEL,<br>ROBERT V<br>STOFFEL BROS<br>DRILLING CO                 | 191253    | 91029     | ✓   |         |        |            | ✓          |                     |                     |            |           |         |            |            |  |                                          |
| <a href="#">WALL 50995 Exempt Use Map</a>   | <a href="#">Details</a> | 1.00S-44.00E-35 SE-SW | 2700   | 501 W NORTH ST<br>ENTERPRISE, OR 97828       | HILLOCK, JARED<br>811 NW 1ST ST<br>ENTERPRISE OR 97828    |                                                                                       |                   | W         | 8.00        | 104.00          | 17.0               | 50.0  | 10/24/2009     | 11/23/2009    | STOFFEL,<br>ROBERT V<br>STOFFEL BROS<br>DRILLING CO                 | 201608    | 100959    | ✓   |         |        |            |            |                     |                     | ✓          |           |         |            |            |  | <a href="#">45</a><br><a href="#">-1</a> |
| <a href="#">WALL 51231 Groundwater Info</a> | <a href="#">Details</a> | 1.00S-44.00E-35 NE-SW | 100    | 601 MEDICAL PARKWAY,<br>ENTERPRISE, OR 97828 |                                                           | WALLOWA MEMORIAL HOSPITAL<br>601 MEDICAL PARKWAY<br>ENTERPRISE OR 97828               |                   | W         | 5.50        | 100.00          | 5.5                | 300.0 | 10/01/2014     | 10/07/2014    | ZOLLMAN,<br>GARRY L<br>ZOLLMAN'S<br>LARRY BURD<br>WELL DRILLING LLC | 1024339   | 116901    | ✓   |         |        |            |            |                     |                     |            |           | ✓       |            |            |  | <a href="#">45</a><br><a href="#">-1</a> |
| <a href="#">WALL 51313 Exempt Use Map</a>   | <a href="#">Details</a> | 1.00S-44.00E-35 NW-SE | 1600   | 812 NW 2ND STREET,<br>ENTERPRISE, OR 97828   | MAXWELL, BILL<br>PO BOX 41<br>ENTERPRISE OR 97828         |                                                                                       |                   | W         | 57.00       | 100.00          | 4.5                | 70.0  | 03/02/2017     | 03/13/2017    | ACQUISTAPACE,<br>JASON<br>EARTH &<br>WATER WORKS                    | 1033702   | 122896    | ✓   |         |        |            | ✓          |                     |                     |            |           |         |            |            |  | <a href="#">45</a><br><a href="#">-1</a> |
| <a href="#">WALL 51471 Exempt Use Map</a>   | <a href="#">Details</a> | 1.00S-44.00E-35 SE-NW | 500    | 66058 LEWISTON HWY<br>ENTERPRISE             | STOFFEL, JEFF<br>PO BOX 549<br>ENTERPRISE OR 97828        |                                                                                       |                   | W         | 91.00       | 163.00          | 5.5                | 15.0  | 11/04/2021     | 11/16/2021    | ACQUISTAPACE,<br>JASON<br>EARTH &<br>WATER WORKS                    | 1053999   | 130201    | ✓   |         |        |            | ✓          |                     |                     |            |           |         |            |            |  | <a href="#">45</a><br><a href="#">-1</a> |

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## Water Well Reports

STATE OF OREGON  
WATER SUPPLY WELL REPORT  
(as required by ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 100020

START CARD # 198601

(1) LAND OWNER Owner Well I.D.  
First Name Edwan Last Name MINALIA  
Company  
Address 303 E MAIN E  
City Enterprise State OR Zip 97824

(2) TYPE OF WORK ☒ New Well ☐ Deepening ☐ Conversion  
☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD  
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud  
☐ Reverse Rotary ☐ Other

(4) PROPOSED USE ☒ Domestic ☐ Irrigation ☐ Community  
☐ Industrial/ Commercial ☐ Livestock ☐ Dewatering  
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION Special Standard ☐ Attach copy  
Depth of Completed Well 84 ft.

| BORE HOLE |      |    | SEAL      |      |    | Amt | lbs |
|-----------|------|----|-----------|------|----|-----|-----|
| Dia       | From | To | Material  | From | To |     |     |
| 10        | 0    | 24 | Bentonite | 0    | 24 | 18  |     |
| 6         | 24   | 84 |           |      |    |     |     |

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☐ Other Poured Bentonite

Backfill placed from 0 ft. to 14 ft. Material Gravel

Filter pack from 0 ft. to 14 ft. Material Gravel Size 20

Explosives used: ☐ Yes Type None Amount None

| (6) CASING/LINER                    |                          | Dia | From | To | Gauge | Stl                                 | Plstc                    | Wld                                 | Thrd                     |
|-------------------------------------|--------------------------|-----|------|----|-------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Casing                              | Liner                    |     |      |    |       |                                     |                          |                                     |                          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6   | 0    | 24 | 1.315 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Shoe ☐ Inside ☐ Outside ☐ Other Location of shoe(s) 73' 6"

Temp casing ☒ Yes Dia 10 From 0 To 20

## (7) PERFORATIONS/SCREENS

Perforations Method None  
Screens Type None Material None

| Per/S | Casing/ | Screen | Dia | From | To | Scrn/slot | Slot | # of | Tele/ |
|-------|---------|--------|-----|------|----|-----------|------|------|-------|
| green | Liner   |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |
|       |         |        |     |      |    |           |      |      |       |

## (8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min 60 Drawdown 80 Drill stem/Pump depth 1-hr Duration (hr)

Temperature 54 °F Lab analysis ☐ Yes By None

Water quality concerns? ☐ Yes (describe below)

From 0 To 20 Description None Amount None Units None

APR 15 2009

WATER RESOURCES DEPT

ORIGINAL WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

## (9) LOCATION OF WELL (legal description)

County WALTON Twp 23 N/S Range 44 E/W WM

Sec 2 1/4 of the NW 1/4 Tax Lot 800

Tax Map Number 1 Lot 1

Lat 0 " or 0 " DMS or DD

Long 0 " or 0 " DMS or DD

☒ Street address of well ☐ Nearest address

303 E MAIN Enterprise OR

## (10) STATIC WATER LEVEL

Existing Well / Predeepening Date 3-13-09 SWL(psi) 60 SWL(ft) 30

Completed Well 3-13-09 SWL(psi) 60 SWL(ft) 30

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 70

| SWL Date | From | To | Est Flow | SWL(psi) | + SWL(ft) |
|----------|------|----|----------|----------|-----------|
| 3-13     | 20   | 84 | 60       |          | 30        |

## (11) WELL LOG

Ground Elevation 70

| Material            | From | To |
|---------------------|------|----|
| Top Soil            | 0    | 6  |
| Brown Clay & Gravel | 6    | 24 |
| Gravel              | 24   | 84 |

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WATER RESOURCES DEPT  
SALEM, OREGON

Date Started 3-13-09 Completed 3-13-09

## (unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number 1690 Date 3-16-09

Password: (if filing electronically)

Signed Robert V. Stoppel

## (bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 415 Date 3-16-09

Password: (if filing electronically)

Signed Robert V. Stoppel

Contact Info (optional)

## Form Version: 0.89

Instructions for completing this report are on the last page of **DOT Form 28** 1996

(START CARD) # 89271

## Well News

**LOCATED RESOURCE LOCATION OF WELL by legal description:**

SALEM OREGON City U.S.A. Latitude

Street \_\_\_\_\_

Signed [Signature] Date 9-26-76  
 ONE COPY CONSTRUCTOR THIRD COPY CUSTOMER

wall  
50195

(as required by ORS 537.765)

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OCT 28 1996

(START CARD) # 89271

Instructions for completing this report are on the last page of this form

## Well Number

Name James & Margaret Stanger  
Address PO Box 157  
City Enterprise State OR Zip 97828

SALEM (9) LOCATION OF WELL by legal description:

☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

REGION Wallawa Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
County \_\_\_\_\_  
Township 15 N or S Range 44E E or W. WM.  
Section 36 SE 1/4 SE 1/4  
Tax Lot UNKNOWN Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) Corner of Ant. Flat  
Rd & 4th St Enterprise, OR

☒ Rotary Air    ☒ Rotary Mud    ☐ Cable    ☐ Auger  
☒ Other Reverse Circ

**(10) STATIC WATER LEVEL:**

☐ Domestic    ☒ Community    ☐ Industrial    ☐ Irrigation  
☐ Thermal    ☐ Injection    ☐ Livestock    ☐ Other \_\_\_\_\_

101.10 ft. below land surface.

Arterial pressure \_\_\_\_\_ lb. per square inch.

**(11) WATER BEARING ZONES:**

Special Construction approval ☐ Yes ☒ No Depth of Completed Well 1315 ft.  
Explosives used ☐ Yes ☒ No Type \_\_\_\_\_ Amount \_\_\_\_\_

Depth at which water was first found 314

**SEAL**

| ROLE     |      |     |          |      |     |                 |
|----------|------|-----|----------|------|-----|-----------------|
| Diameter | From | To  | Material | From | To  | Sacks or pounds |
| 24       | 0    | 226 | Cement   | 6    | 226 | 85 yds          |
| 17       | 226  | 440 | Cement   | 6    | 425 | 12.5 yds        |
|          |      |     |          |      |     |                 |
|          |      |     |          |      |     |                 |

| From         | To | Estimated Flow Rate | SWL |
|--------------|----|---------------------|-----|
| See attached |    |                     |     |
|              |    |                     |     |
|              |    |                     |     |
|              |    |                     |     |
|              |    |                     |     |

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E  
☒ Other 10" x 15" binder head  
 Backfill placed from 135 ft. to 440 ft. Material hole plug  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

**(12) WELL LOG:**

|         | Diameter | From | To   | Gauge Steel | Plastic                  | Welded                              | Threaded                 |
|---------|----------|------|------|-------------|--------------------------|-------------------------------------|--------------------------|
| Casing: | 12"      | +1   | 29.0 | 375         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|         | 12"      | H.2  | 44.1 | 375         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |      |             | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
|         |          |      |      |             | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| Liner:  | 8        | 57.5 | 55.9 | 320         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|         |          |      |      |             | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |

### Ground Elevation

[illegible]

**(7) PERFORATIONS/SCREENS:**

| From |      | To   | Slot<br>size | Number | Diameter | Material<br>Tele/pipe<br>size | Casing                   | Line                                |
|------|------|------|--------------|--------|----------|-------------------------------|--------------------------|-------------------------------------|
| 1509 | 43.5 | 3116 | 2830         | 8"     |          |                               | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|      |      |      |              |        |          |                               | <input type="checkbox"/> | <input type="checkbox"/>            |
|      |      |      |              |        |          |                               | <input type="checkbox"/> | <input type="checkbox"/>            |
|      |      |      |              |        |          |                               | <input type="checkbox"/> | <input type="checkbox"/>            |
|      |      |      |              |        |          |                               | <input type="checkbox"/> | <input type="checkbox"/>            |

**(8) WELL TESTS:** Minimum testing time is 1 hour

| <input type="checkbox"/> Pump<br>Yield gal/min | <input type="checkbox"/> Bailer<br>Drawdown | <input checked="" type="checkbox"/> Air<br>Drill stem at | <input type="checkbox"/> Flowing<br>Artesian<br>Time |
|------------------------------------------------|---------------------------------------------|----------------------------------------------------------|------------------------------------------------------|
| 1212                                           | 84                                          |                                                          | 2/12/21                                              |
|                                                |                                             |                                                          |                                                      |
|                                                |                                             |                                                          |                                                      |

Date started

**Completed**

**(unbonded) Water Well Constructor Certification:**

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed Walt Whit WWC Number 1523  
Date 9/11/96

**(bonded) Water Well Constructor Certification:**

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed W. J. Stutz WWC Number 523  
Date 9/11/91

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OCT 28 1996

(12) WELL LOG FORMATIONS

WATER RESOURCES DEPT.  
SALEM, OREGON

| Material                                                 | From | To  |    |
|----------------------------------------------------------|------|-----|----|
| Silty soil brown                                         | 0    | 2   |    |
| Sandy gravel with clay light brown                       | 2    | 8   |    |
| Loose gravel medium                                      | 8    | 13  |    |
| Red clay with broken rock                                | 13   | 19  |    |
| Broken rock gravelly                                     | 19   | 24  |    |
| Red clay                                                 | 24   | 30  |    |
| Brown silty clay with coarse gravels                     | 30   | 45  |    |
| Gravel with small amount of brown silty clay             | 45   | 65  |    |
| Silty brown clay with imbedded small gravels             | 65   | 156 |    |
| Silty brown clay with imbedded large gravels             | 156  | 159 |    |
| Brown silty clay with small gravel and broken rock seams | 159  | 213 |    |
| Weathered dark gray basalt                               | 213  | 214 |    |
| Dark gray basalt no fractures                            | 214  | 245 |    |
| Gray basalt with red conglomerate                        | 245  | 274 |    |
| Conglomerate brown soft                                  | 274  | 283 |    |
| Gray to brown basalt medium broken                       | 283  | 291 |    |
| Gray to brown basalt medium more broken                  | 291  | 298 |    |
| Dark gray basalt                                         | 298  | 302 |    |
| Gray basalt with claystone seams                         | 302  | 305 |    |
| Brown to gray basalt hard                                | 305  | 314 |    |
| Brown to gray basalt medium broken                       | 314  | 319 | WB |
| Brown to gray basalt medium                              | 319  | 328 |    |
| Brown to gray basalt hard                                | 328  | 340 |    |
| Gray basalt soft medium fractured                        | 340  | 355 | WB |
| Gray basalt medium hard                                  | 355  | 363 |    |
| Gray basalt medium broken                                | 363  | 366 | WB |
| Gray basalt gravelly with red claystone                  | 366  | 383 |    |
| Brown basalt medium solid                                | 383  | 385 |    |
| Brown basalt, broken porous w/claystone seams            | 385  | 397 |    |
| Brown basalt, broken, medium                             | 397  | 400 |    |
| Green to gray basalt, slight rusted frac.                | 400  | 422 | WB |
| Green to gray basalt, more broken                        | 422  | 436 | WB |
| Brown to gray basalt, med-hard slight fractured          | 436  | 440 |    |
| Brown to gray basalt fractured w/claystone seams         | 440  | 453 |    |
| Dark gray basalt medium w/claystone seams                | 453  | 464 |    |
| Red claystone, soft-medium                               | 464  | 472 |    |
| Reddish brown basalt, soft fractured                     | 472  | 478 |    |
| Brown basalt soft with claystone                         | 478  | 482 |    |

**STACO WELL SERVICES INC.**

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WATER RESOURCES DEPT.  
SALEM, OREGON

(12) WELL LOG FORMATIONS

| Material                                            | From | To   |    |
|-----------------------------------------------------|------|------|----|
| Reddish brown medium porous                         | 482  | 508  | WB |
| Brown and gray basalt soft-med. seams of claystone  | 508  | 522  |    |
| Brown basalt medium slight fractures                | 522  | 538  |    |
| Brown and gray basalt medium claystone seams        | 538  | 547  |    |
| Gray basalt medium fractures                        | 547  | 552  |    |
| Reddish brown vesicular soft                        | 552  | 562  | WB |
| Brown and gray basalt medium-soft                   | 562  | 570  |    |
| Gray basalt medium with red claystone               | 570  | 585  |    |
| Gray basalt medium                                  | 585  | 589  |    |
| Dark gray basalt hard                               | 589  | 669  |    |
| Red basalt, conglomerate                            | 669  | 678  |    |
| Maroon basalt, medium                               | 678  | 685  |    |
| Brown basalt, medium                                | 685  | 704  |    |
| Brown basalt, medium w/reddish brown conglomerate   | 704  | 716  | WB |
| Dark gray basalt, medium, brown claystone congl.    | 716  | 740  | WB |
| Dark gray basalt, medium, slight brown conglomerate | 740  | 768  | WB |
| Dark gray basalt, hard, red & green conglomerate    | 768  | 776  |    |
| Dark gray basalt, hard, slight fractures            | 776  | 790  |    |
| Lava red, broken with clay                          | 790  | 805  | WB |
| Black & red basalt, medium, fractures               | 805  | 809  |    |
| Dark gray basalt, medium, fractures                 | 809  | 811  |    |
| Dark gray basalt, hard                              | 811  | 815  |    |
| Dark gray & red basalt, hard, slight fractures      | 815  | 822  |    |
| Dark gray basalt, hard, slight fractures            | 822  | 855  |    |
| Dark gray basalt, medium w/reddish brown congl.     | 855  | 872  |    |
| Dark gray basalt, med-hard, claystone seams         | 872  | 900  |    |
| Dark gray basalt, med-hard                          | 900  | 904  |    |
| Dark gray basalt broken                             | 904  | 905  | WB |
| Gray to green basalt, med., small claystone seams   | 905  | 938  |    |
| Basalt broken                                       | 938  | 939  | WB |
| Dark gray basalt, hard                              | 939  | 987  |    |
| Dark gray basalt, med., reddish brown conglomerate  | 987  | 994  | WB |
| Maroon & gray basalt, medium fractures              | 994  | 998  | WB |
| Brown to gray basalt, medium-hard                   | 998  | 1008 |    |
| Dark gray basalt w/little brown, med-hard           | 1008 | 1025 |    |
| Gray & brown basalt, med., with claystone seams     | 1025 | 1045 |    |
| Dark gray basalt, hard                              | 1045 | 1060 |    |
| Reddish brown conglomerate soft-medium              | 1060 | 1087 | WB |

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WATER RESOURCES DEPT.  
SALEM, OREGON

## CITY OF ENTERPRISE

## (12) WELL LOG FORMATIONS

| Material                                                | From | To      |
|---------------------------------------------------------|------|---------|
| Brown conglomerate, medium-hard                         | 1087 | 1091    |
| Gray & brown basalt, medium, fractured                  | 1091 | 1094    |
| Gray & brown basalt, hard                               | 1094 | 1125    |
| Gray & brown basalt, medium-hard                        | 1125 | 1154    |
| Gray & brown basalt, med-hard, w/claystone seams        | 1154 | 1164    |
| Multi-colored basalt, soft-med, broken fractured        | 1164 | 1170    |
| Gray basalt, medium, fractured                          | 1170 | 1185    |
| Gray basalt, medium-hard                                | 1185 | 1215    |
| Gray with red & brown basalt, medium, fractured         | 1215 | 1225 WB |
| Gray with red basalt w/claystone, red & some white      | 1225 | 1235 WB |
| Gray with red basalt, vesicular, some claystone red/wht | 1235 | 1262 WB |
| Gray, red & brown basalt, medium                        | 1262 | 1265 WB |
| Multi-colored basalt with claystone                     | 1265 | 1292 WB |
| Multi-colored basalt, broken, caving                    | 1292 | 1302 WB |
| Gray & black basalt, very hard                          | 1302 | 1305    |
| Black basalt, medium, fractured                         | 1305 | 1315    |

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STATE OF OREGON  
WATER SUPPLY WELL REPORT  
(as required by ORS 537.765)

WELL I.D. # L 91029START CARD # 191253

Instructions for completing this report are on the last page of this form.

(1) LAND OWNER Sharon W Sherlock Well Number \_\_\_\_\_  
Name Sharon W Sherlock  
Address 207 W Park St  
City Enterprise State OR Zip 97828

(2) TYPE OF WORK ☒ New Well  
☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment ☐ Conversion

(3) DRILL METHOD  
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud  
☐ Other \_\_\_\_\_

(4) PROPOSED USE  
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation  
☐ Thermal ☐ Injection ☐ Livestock ☐ Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION Special Construction: ☐ Yes ☒ No  
Depth of Completed Well 120 ft.  
Explosives used: ☐ Yes ☒ No Type \_\_\_\_\_ Amount \_\_\_\_\_

| BORE HOLE |      |     | SEAL     |      |    |                 |
|-----------|------|-----|----------|------|----|-----------------|
| Diameter  | From | To  | Material | From | To | Sacks or Pounds |
| 10        | 0    | 20  | Cement   | 11   | 20 | 55 sacks        |
| 6         | 20   | 120 | Barite   | 0    | 11 | 14 sacks        |

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E  
☐ Other Poured Barite

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to NONE ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER

| Diameter  | From        | To | Gauge | Steel                               | Plastic                  | Welded                   | Threaded                 |
|-----------|-------------|----|-------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Casing: 6 | 12          | 99 | 2.60  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Liner:    | <u>NONE</u> |    |       | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Drive Shoe used ☐ Inside ☐ Outside ☐ NoneFinal location of shoe(s) 99' 6"

(7) PERFORATIONS/SCREENS  
☐ Perforations Method \_\_\_\_\_  
☐ Screens Type \_\_\_\_\_ Material \_\_\_\_\_

| From | To | Slot Size   | Number | Diameter | Tele/pipe size | Casing                   | Liner                    |
|------|----|-------------|--------|----------|----------------|--------------------------|--------------------------|
|      |    |             |        |          |                | <input type="checkbox"/> | <input type="checkbox"/> |
|      |    | <u>NONE</u> |        |          |                | <input type="checkbox"/> | <input type="checkbox"/> |

(8) WELL TESTS: Minimum testing time is 1 hour  
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

| Yield gal/min | Drawdown | Drill stem at | Time         |
|---------------|----------|---------------|--------------|
| <u>60+</u>    |          | <u>90'</u>    | <u>1 hr.</u> |

Temperature of water 54° Depth Artesian Flow Found \_\_\_\_\_Was a water analysis done? ☐ Yes By whom \_\_\_\_\_Did any strata contain water not suitable for intended use? ☐ Too little☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other \_\_\_\_\_

Depth of strata: \_\_\_\_\_

(9) LOCATION OF WELL (legal description)

County Willamette  
Tax Lot 2100 Lot \_\_\_\_\_  
Township 13 N or S Range 44E E or W WM  
Section 3500 SW 1/4 SE 1/4  
Lat \_\_\_\_\_ " or \_\_\_\_\_ (degrees or decimal)  
Long \_\_\_\_\_ " or \_\_\_\_\_ (degrees or decimal)

Street Address of Well (or nearest address) 207 W Park St  
Enterprise OR 97828

(10) STATIC WATER LEVEL

13 ft. below land surface. Date 6-11-07  
\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

(11) WATER BEARING ZONES

Depth at which water was first found 100

| From       | To         | Estimated Flow Rate | SWL       |
|------------|------------|---------------------|-----------|
| <u>100</u> | <u>120</u> | <u>60+</u>          | <u>13</u> |

(12) WELL LOG

| Material                         | From       | To         | SWL |
|----------------------------------|------------|------------|-----|
| <u>Top Soil</u>                  | <u>0</u>   | <u>4</u>   |     |
| <u>Shallow Clay &amp; Gravel</u> | <u>4</u>   | <u>17</u>  |     |
| <u>Common Clay Gravel</u>        | <u>47</u>  | <u>100</u> |     |
| <u>Brown Clay &amp; Gravel</u>   | <u>100</u> | <u>120</u> |     |

Date Started 6-11-07 Completed 6-11-07

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1640 Date 6-19-07Signed [Signature]

(bonded) Water Well Constructor Certification

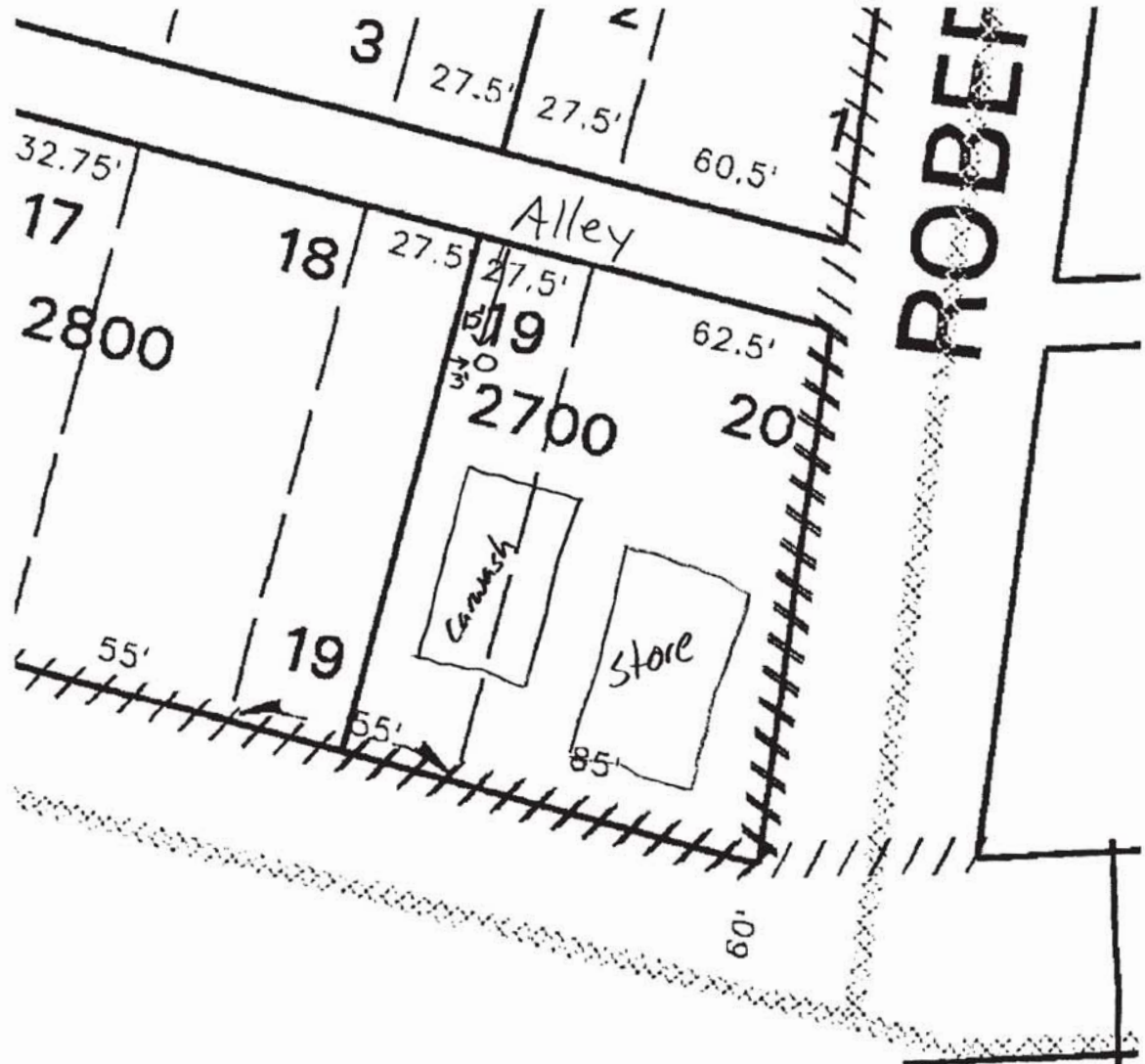
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 415 Date 6-19-07Signed Robert V. Steffel

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# EXEMPT USE WELL LOCATION MAP



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WATER RESOURCES DEPT  
SALEM, OREGON



## Wallowa County

Assessor Map Reference Number: 1N 44E 35 SESW; Tax Lot 2700

Street Address of Well, if Available: 501 W North Street, Enterprise, OR

Well Log # WALL 50995, Well Label (ID) # L 100959.

(Please Locate Well and Indicate distance From Property or Survey Corner, See Attached Sample Well Location Map.) MAP NOT TO SCALE

LAND OWNER SUBMITTED MAP





017  
TN

**STREET**

ADDITION

**WE DO NOT GUARANTEE THE  
ACCURACY OF THIS MAP, NOR  
IS IT A PART OF OUR REPORT  
WALLOWA TITLE COMPANY**

**ENWOOD**

21-1

210 W. GREENWOOD  
↓ TAX LOT 6400

**STREET**

# STREET

21  
Well Log  
Wall 51017

WELL  
LOCATION

4' BEHIND  
FORMAT  
Building

DEPOT

## LITCH

**STREET**

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WATER RESOURCES DEPT  
SALEM OREGON

2544 2AB







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## Municipal Well Analytical Data



## Well Owner Report

**NAWQA ID** CLTPAS1-38

**USGS Site ID** 452550117152001

**Owner** City of Enterprise

**Well Name** WALL 50195

**Sample Date** 7/13/2016 @ 0900

Thank you for allowing the U.S. Geological Survey (USGS) to sample your well. Information from your well, along with other similar wells in the Columbia Plateau - Principal Aquifer Survey, provides important data about the quality of groundwater used for public supply. The USGS is not a regulatory agency, and water samples are not collected for compliance monitoring. Rather, the purpose of the USGS National Water-Quality Assessment (NAWQA) Program is to define the status and trends in the Nation's water quality. Results from all sites will be published in a subsequent USGS report; your well will be identified by only the NAWQA-ID in all publications and presentations.

This report lists the concentrations of chemical constituents detected in raw groundwater collected from your well. Whether or not your well is used for drinking water, this report provides a human-health context for these concentrations by comparing them to a variety of water-quality benchmarks for drinking water. These comparisons are solely informational and do not indicate compliance or non-compliance with any drinking-water regulations. Please see the enclosed "Frequently Asked Questions" fact sheet for information about the benchmarks used in this report.

The chemical constituents are organized in the following groups: 1) field water-quality indicators, 2) major ions, 3) nutrients, 4) trace elements, 5) radioactivity, 6) volatile organic compounds, 7) pesticides, 8) geochemical and age-dating tracers, 9) microbiological constituents, 10) constituents of special interest (Not Sampled), 11) pharmaceuticals (Under Review), and 12) hormones (Under Review). Only detected constituents are reported here. Typical uses or sources are listed for all constituents; other sources not listed also may affect the concentrations of constituents in groundwater in your area.

See the enclosed List of Potentially Sampled Constituents for a complete list of potentially analyzed constituents evaluated by the NAWQA program. Note that not all constituents listed may have been evaluated for your well. Results for constituent groups labeled with "Awaiting Results" are not included in this report because they have not all been received from the analyzing laboratories. If available, a qualitative analysis of the age of groundwater from your well or spring based on tritium results is included. A more detailed analysis of age using all the tracers measured at your well will be completed and provided to you in the future. Results for pharmaceuticals and hormones (where sampled) also are not included in this report. Given that the USGS has not previously conducted large-scale studies of pharmaceuticals and hormones in groundwater, and that analysis for these compounds is being performed using new analytical methods, we feel that additional review is required to ensure data quality. We





## Well Owner Report

**NAWQA ID** CLPTPAS1-38

**USGS Site ID** 452550117152001

**Owner** City of Enterprise

**Well Name** WALL 50195

**Sample Date** 7/13/2016 @ 0900

appreciate your patience and we will communicate all additional results to you as soon as possible, prior to publication of the results in USGS reports.

Please note that all results included in this document are provisional and could change prior to publication as a result of ongoing review of quality-control data. For example, further review of quality-control data could indicate that a raised reporting level is appropriate for some organic compounds. This conclusion could cause quantified concentrations listed in this report to later be published as being "less than" the raised reporting level, effectively indicating that those compounds were not detected in the water sample. Quantified concentrations that fall below the method detection limit for the laboratory method generally have the highest uncertainty and have been italicized in this report for organic compounds. Results of the review of quality-control data will not affect comparisons of measured concentrations to water-quality benchmarks as reported here.

**Concentrations of all chemical constituents detected in raw groundwater collected from your well were less than water-quality benchmarks for drinking water, with the following exceptions:**

**None.**

Preliminary age-dating analysis based on tritium results indicate that the water in your well is *Mixed*. Water is likely a mixture of groundwater less than 64 years old and groundwater more than several hundred years old. For detailed information about age-dating and isotope tracers see Cook, P.G. and Herczeg, A.L., eds (2000) "Environmental Tracers in Subsurface Hydrology", Kluwer Academic Publishers.

If you have any questions about the potential health effects associated with compounds detected in your water sample or additional guidelines that may apply in your state, please contact your local or state health department, or see the enclosed "Frequently Asked Questions" fact sheet for more information (<http://water.usgs.gov/nawqa/studies/praq/FrequentlyAskedQuestionsOnBenchmarks.pdf>).

Once again, thank you for your assistance with the USGS NAWQA Program. Your contribution to knowledge of our Nation's water resources is very important and appreciated.

For more information about this study, please contact:

**Hank Johnson**  
[hjohnson@usgs.gov](mailto:hjohnson@usgs.gov)  
(503) 251-3472



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Additional information may be available about your well at:

<http://waterdata.usgs.gov/nwis/si>

For more information about the NAWQA program, please visit:

<http://water.usgs.gov/nawqa/>

For more information about the Principal Aquifer Survey, please visit:

<http://pubs.usgs.gov/fs/2014/3024/>



## Well Owner Report

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Owner City of Enterprise

Well Name WALL 50195

Sample Date 7/13/2016 @ 0900

| Constituent Name | Units | Value | Benchmark Value and Type | Typical Use or Source |
|------------------|-------|-------|--------------------------|-----------------------|
|------------------|-------|-------|--------------------------|-----------------------|

### 1 Field Water Quality Indicators

|                             |                        |      |              |                     |
|-----------------------------|------------------------|------|--------------|---------------------|
| Depth to water, static      | feet                   | E 60 |              |                     |
| Flow rate                   | gal/min                | 1200 |              |                     |
| Turbidity                   | NTU                    | 0.1  |              | Naturally occurring |
| Barometric pressure         | mm of mercury          | 666  |              |                     |
| Dissolved Oxygen            | mg/L                   | 3.6  |              | Naturally occurring |
| pH, field                   | standard units         | 8.3  | 6.5-8.5 SMCL | Naturally occurring |
| Specific Conductance, field | µS/cm                  | 288  |              | Naturally occurring |
| Water Temperature           | deg Celsius            | 17.2 |              |                     |
| Alkalinity                  | mg/L CaCO <sub>3</sub> | 82.3 |              | Naturally occurring |
| Bicarbonate                 | mg/L                   | 100  |              | Naturally occurring |
| Carbonate                   | mg/L                   | 0    |              | Naturally occurring |

### 2 Major and Minor Ions

|          |                           |      |  |                     |
|----------|---------------------------|------|--|---------------------|
| Hardness | mg/L as CaCO <sub>3</sub> | 75   |  | Naturally occurring |
| Calcium  | mg/L                      | 25.7 |  | Naturally occurring |

fg/kg = femtograms per kilogram  
gal/min = gallons per minute  
mg/L CaCO<sub>3</sub> = milligrams per liter as Calcium carbonate  
mg/L = milligrams per liter  
µg/L = micrograms per liter  
µS/cm = microsiemens per centimeter  
MPN/100 ml = most probable number of colonies per 100 milliliters  
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HBSL-NC = USGS Noncancer Health-Based Screening Level  
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HHBP-NC = USEPA Noncancer Human Health Benchmark for Pesticide  
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SMCL = USEPA Secondary Maximum Contaminant Level

Preliminary: Subject to Revision

Report Date: 7/24/2018





## Well Owner Report

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USGS Site ID 452550117152001

Owner City of Enterprise

Well Name WALL 50195

Sample Date 7/13/2016 @ 0900

| Constituent Name             | Units | Value | Benchmark Value and Type | Typical Use or Source |
|------------------------------|-------|-------|--------------------------|-----------------------|
| Magnesium                    | mg/L  | 2.58  |                          | Naturally occurring   |
| Potassium                    | mg/L  | 5.4   |                          | Naturally occurring   |
| Sodium                       | mg/L  | 31.8  |                          | Naturally occurring   |
| Bromide                      | mg/L  | 0.054 |                          | Naturally occurring   |
| Chloride                     | mg/L  | 7.37  | 250 SMCL                 | Naturally occurring   |
| Fluoride                     | mg/L  | 0.3   | 4 MCL                    | Naturally occurring   |
| Silica                       | mg/L  | 49.1  |                          | Naturally occurring   |
| Sulfate                      | mg/L  | 47.8  | 250 SMCL                 | Naturally occurring   |
| Total dissolved solids (TDS) | mg/L  | 208   | 500 SMCL                 | Naturally occurring   |

### 3 Nutrients

|                                                              |      |       |        |                             |
|--------------------------------------------------------------|------|-------|--------|-----------------------------|
| Nitrate plus nitrite, as nitrogen                            | mg/L | 0.406 | 10 MCL | Natural, fertilizer, sewage |
| Total nitrogen (ammonia, nitrite, nitrate, organic nitrogen) | mg/L | 0.51  |        | Natural, fertilizer, sewage |
| Orthophosphate, as phosphorus                                | mg/L | 0.021 |        | Natural, fertilizer, sewage |
| Dissolved organic carbon (DOC)                               | mg/L | 0.58  |        | Natural, sewage             |

### 4 Trace Elements

fg/kg = femtograms per kilogram  
gal/min = gallons per minute  
mg/L CaCO<sub>3</sub> = milligrams per liter as Calcium carbonate  
mg/L = milligrams per liter  
µg/L = micrograms per liter  
µS/cm = microsiemens per centimeter  
MPN/100 ml = most probable number of colonies per 100 milliliters  
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| Constituent Name | Units | Value | Benchmark Value and Type | Typical Use or Source |
|------------------|-------|-------|--------------------------|-----------------------|
| Aluminum         | µg/L  | 3.8   | 50 SMCL                  | Naturally occurring   |
| Antimony         | µg/L  | 0.045 | 6 MCL                    | Naturally occurring   |
| Arsenic          | µg/L  | 1.5   | 10 MCL                   | Naturally occurring   |
| Barium           | µg/L  | 12.2  | 2,000 MCL                | Naturally occurring   |
| Boron            | µg/L  | 50    | 6000 HBSL-NC             | Naturally occurring   |
| Chromium (VI)    | µg/L  | 0.2   | 0.04 HBSL-C              |                       |
| Chromium         | µg/L  | 0.3   | 100 MCL                  | Naturally occurring   |
| Lithium          | µg/L  | 5.12  |                          | Naturally occurring   |
| Molybdenum       | µg/L  | 2.55  | 40 HBSL-NC               | Naturally occurring   |
| Selenium         | µg/L  | 0.69  | 50 MCL                   | Naturally occurring   |
| Strontium        | µg/L  | 136   | 4000 HBSL-NC             | Naturally occurring   |
| Vanadium         | µg/L  | 17.7  |                          | Naturally occurring   |
| Uranium          | µg/L  | 0.43  | 30 MCL                   | Naturally occurring   |

### 5 Radioactivity

|                                        |       |     |        |                     |
|----------------------------------------|-------|-----|--------|---------------------|
| Gross-alpha radioactivity, 72 hr count | pCi/L | 1.6 | 15 MCL | Naturally occurring |
|----------------------------------------|-------|-----|--------|---------------------|

fg/kg = femtograms per kilogram  
 gal/min = gallons per minute  
 mg/L CaCO<sub>3</sub> = milligrams per liter as Calcium carbonate  
 mg/L = milligrams per liter  
 µg/L = micrograms per liter  
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Owner City of Enterprise

Well Name WALL 50195

Sample Date 7/13/2016 @ 0900

| Constituent Name                             | Units          | Value                | Benchmark Value and Type | Typical Use or Source    |
|----------------------------------------------|----------------|----------------------|--------------------------|--------------------------|
| Gross-beta radioactivity, 30 day count       | pCi/L          | 5.04                 | 50 Screening Level       | Naturally occurring      |
| Gross-beta radioactivity, 72 hr count        | pCi/L          | 6.31                 | 50 Screening Level       | Naturally occurring      |
| Polonium-210                                 | pCi/L          | 0.299                |                          |                          |
| Radon-222                                    | pCi/L          | 541                  | 300 MCL-proposed         | Naturally occurring      |
| <b>6 Volatile Organic Compounds</b>          |                | <b>None Detected</b> |                          |                          |
| <b>7 Pesticides and Pesticide Degradates</b> |                | <b>None Detected</b> |                          |                          |
| <b>8 Geochemical and Age-Dating Tracers</b>  |                |                      |                          |                          |
| Carbon dioxide                               | mg/L           | 0.9                  |                          |                          |
| Dissolved Oxygen, lab                        | mg/L           | 0.2                  |                          |                          |
| Argon                                        | mg/L           | 0.603                |                          |                          |
| Nitrogen gas                                 | mg/L           | 17.25                |                          |                          |
| Sulfurhexafluoride                           | fg/kg          | 36.6                 |                          |                          |
| Carbon-14                                    | percent modern | 50.47                |                          | For dating ancient water |

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| Constituent Name                       | Units   | Value  | Benchmark Value and Type | Typical Use or Source       |
|----------------------------------------|---------|--------|--------------------------|-----------------------------|
| Hydrogen stable isotope ratio of water | per mil | -126   |                          | Indicator of meteoric water |
| Carbon stable isotope ratio of water   | per mil | -14.52 |                          | Indicator of meteoric water |
| Oxygen stable isotope ratio of water   | per mil | -16.18 |                          | Indicator of meteoric water |
| Tritium                                | pCi/L   | 1.35   |                          | For dating recent water     |

**9 Microbiological Constituents** None Detected

**10 Constituents of Special Interest** Not Sampled

**11 Pharmaceuticals** Under Review

**12 Hormones** Under Review

fg/kg = femtograms per kilogram  
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mg/L CaCO<sub>3</sub> = milligrams per liter as Calcium carbonate  
mg/L = milligrams per liter  
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# Appendix F

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Modified Zoning Map

