



**COWLITZ FOOD AND FUEL  
CLEANUP ACTION PLAN**

**May 14, 2024**

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## ACRONYMS AND ABBREVIATIONS

AO	Agreed Order
Arcadis	Arcadis U.S., Inc.
AST	aboveground storage tank
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CAP	Cleanup Action Plan
CEMC	Chevron Environmental Management Company
COC	constituent of concern

cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSID	Cleanup Site Identification Number
CSL	cleanup screening level
CSM	conceptual site model
CUL	cleanup level
DCA	disproportionate cost analysis
DCAP	Draft Cleanup Action Plan
DRO	diesel range organics
Ecology	Washington State Department of Ecology
EC	environmental covenant
EDR	engineering design report
EIMS	Environmental Information Management System
FSID	Facility Site Identification Number
GRO	gasoline range organics
HRO	heavy oil range organics
IRA	interim remedial action
kg	kilogram
LNAPL	light non-aqueous phase liquid
mg/kg	milligrams per kilogram
MNA	monitored natural attenuation
MTCA	Model Toxics Control Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
POC	point of compliance
PVC	polyvinyl chloride
REL	remediation level
RIWP	Remedial Investigation Work Plan

ROI	radius of influence
site	Cowlitz Food & Fuel located at 101 Mulford Road in Toledo, WA
SVE	soil vapor extraction
TDPI	Texaco Downstream Properties, Inc.
TEE	terrestrial ecological evaluation
TPH	total petroleum hydrocarbons
UST	underground storage tank
VOC	volatile organic compound
WAC	Washington Administrative Code
µg/kg	micrograms per kilogram
µg/L	micrograms per liter

## EXECUTIVE SUMMARY

This document presents the Draft Cleanup Action Plan (DCAP) for the Cowlitz Food & Fuel Site located at 101 Mulford Road in Toledo, WA (site). This DCAP has been prepared to meet the requirements of the Model Toxics Control Act (MTCA) administered by Ecology under chapter 173-340 of the Washington Administrative Code (WAC). This DCAP describes the proposed cleanup action for the site and sets forth the requirements that the cleanup must meet.

An active gasoline service station has occupied the site since 1955. Soil and groundwater impacts have resulted from releases from underground storage tanks (USTs) and ancillary piping and fuel-distribution systems.

Cleanup levels were established for contaminants present in soil and groundwater. Soil cleanup levels are based on protection of human health from direct contact with soil and protection of ecological receptors. Groundwater cleanup levels are based on the highest beneficial use and reasonable maximum exposure under both current and future land use at the site.

The selected cleanup action includes excavation in conjunction with UST system upgrades, institutional controls, and monitored natural attenuation. Soil excavation will be coordinated with the current property owner to be performed subsequent to removal of the existing USTs. Additional details regarding the excavation will be provided in an Engineering Design Report. Groundwater monitoring will continue on a semi-annual basis and will increase to a quarterly frequency after the excavation is complete.

# 1 INTRODUCTION

This document presents the Draft Cleanup Action Plan (DCAP) for the Cowlitz Food & Fuel Site, located at 101 Mulford Road in Toledo, WA (site). The purpose of this DCAP is to summarize the cleanup action proposed by the Washington State Department of Ecology (Ecology) for the site in accordance with Washington Administrative Code (WAC) 173-340-380(1)(a). This DCAP was prepared pursuant to Agreed Order (AO) No. DE 5236 with Ecology, effective March 1, 2010.

The site is also known as Cowlitz BP, or Former Texaco Service Station No. 211556, and is identified by the Ecology Toxics Cleanup Program as Facility Site ID No. 1166. This DCAP is focused solely on this active service station; the inactive service station located south across Mulford Road is not included. More information on the history of these two stations is presented in Section 2.2.

The DCAP includes the following sections:

Section 2. Background. This section describes the site and provides the site history and a summary of previous environmental investigations.

Section 3. Cleanup Standards – This section describes cleanup standards for each contaminant of concern.

Section 4. Applicable State and Federal Laws - This section describes the compliance of the cleanup action implementation with state and federal laws.

Section 5. Nature and Extent of Contamination – This section describes the residual soil and groundwater contamination at the site.

Section 6. Cleanup Action: This section describes the proposed cleanup action.

Section 7. Compliance Monitoring: This section describes the proposed soil and groundwater data collection to show compliance with site cleanup standards.

Section 8. Proposed Schedule for Implementation – This section proposes a schedule for implementation of the cleanup action and continuing compliance monitoring.

Section 9. Financial Assurance – This section indicates that Chevron Environmental Management Company (CEMC) will provide adequate financial assurance to cover costs associated with the selected cleanup alternative at the site.

Section 10. Public Participation – This section describes public participation in the cleanup process.



Section 11. References – This section contains references for this document.

## 2 BACKGROUND

This section describes the site and summarizes historical activities conducted.

### 2.1 Site Description

The site is located east of Interstate 5, off the Vader-Ryderwood exit, near the intersection of Cowlitz Ridge Road and Mulford Road, in Lewis County, Washington (Figure 1). The site is comprised of three land parcels (Figure 2). An operating gasoline service station with mini-mart (currently branded as “Shell”) and a restaurant (Mrs. Beesley’s) are located on the two parcels north of Mulford Road (Lewis County Assessor Parcel Numbers [APNs] 012429003001 and 012429004000, currently owned by Candid Travel Center Land LLC). This portion of the site will hereafter be referred to as the “active station.” The third parcel (APN 012429002001, currently owned by Mr. Charles Vineyard), which is located south of Mulford Road, was formerly the location of another gasoline service station (hereafter “inactive station”). This portion of the site was generally vacant since approximately 1994. However, a drive-thru espresso stand (Ami Rae’s Espresso & More) has been operating on this portion of the site since approximately 2016.

The presence of petroleum contamination was formerly confirmed at both locations. They were combined into the Cowlitz BP Site by Ecology, in part due to their previously common property ownership.

### 2.2 Site History

The properties comprising the site were originally purchased by Mr. Frank Vineyard (deceased) as a single tax lot, which was originally used for farming. In 1955, the original lot was subdivided and several of the subdivided lots were leased.

#### 2.2.1 Active Station Operating History

The active station property was initially leased to a predecessor of **Texaco** Inc. (Texaco) in 1955. Texaco constructed a service station building and installed the original underground storage tanks (USTs) and piping. A leak in a product delivery line was repaired by Texaco in April 1977. It is estimated that this leak resulted in a loss of approximately 2,296 gallons of gasoline.

The ownership interests in the improvements passed to Olson Brothers Garage, Inc. in 1980 and then to West Coast Oil Company in 1985. Ron and Sheri Smith (the Smiths) purchased the active

station property improvements from West Coast Oil in 1986. In March 1990, four USTs and associated piping were removed and replaced with new fiberglass tanks and piping. During this process, petroleum contaminated soil was discovered and reported to Ecology.

In 2004, the active station improvements were sold to Tri-Tex Oil Company of Castle Rock, Washington.

The active station property and improvements were sold to the current owner and operator (Candid Travel Center Land LLC) in 2020.

### **2.2.2 Inactive Station Operating History**

The inactive station property was originally leased to General Petroleum Corporation in May 1955. In 1978, the property was leased by Olson Brothers Garage, Inc. and was occupied until 1984 by a Mobil service station and a small restaurant. After 1984, the station ceased operation and the above-ground infrastructure was subsequently demolished. In 1994, this property was reportedly being used as a sales lot for manufactured homes. The property was vacant since the mid-1990s; however, a drive-thru espresso stand (Ami Rae's Espresso & More) has operated on this property since approximately 2016.

## **2.3 Site Regulatory History and Environmental Investigations**

The presence of petroleum contamination at the site was first documented during UST upgrades performed at the active station in March 1990. Soil samples collected during this event contained gasoline-range organics (GRO) at concentrations up to 6,300 mg/kg. Approximately 1,000 cubic yards of petroleum contaminated soil was reportedly excavated from the UST basin and treated on-site via aeration (Cowlitz Clean Sweep, 1990).

During February 1991, four groundwater monitoring wells (B-1, B-2, B-3, and B-4) were installed at the active station. Soil samples collected from the borings did not contain petroleum constituents at concentrations exceeding MTCA Method A cleanup standards; however, groundwater samples from the wells did contain GRO and benzene, toluene, ethylbenzene and xylenes (BTEX) at concentrations exceeding MTCA Method A cleanup standards (SECOR International Incorporated [SECOR], 1999).

In April 1991, Ecology issued Enforcement Order No. DE 91-S123 to Mr. Frank Vineyard. The Enforcement Order required that a Remedial Investigation/ Feasibility Study (RI/FS) be performed for both the active and inactive station properties, and that the USTs at the inactive station property be removed as part of the RI/FS work activities.

Removal of the inactive station USTs was reportedly performed in January 1992. Two 6,000-gallon gasoline USTs and one 300-gallon used-oil UST were removed. Soil samples collected during the tank removal activities indicated the presence of GRO and diesel-range organics (DRO) at concentrations exceeding MTCA Method A cleanup standards. Approximately 300 cubic yards of petroleum contaminated soil were removed from the UST excavation and stockpiled on the property.

Remedial investigation field activities were performed at the site in February and March 1992. A total of five soil borings were advanced and nine groundwater monitoring wells (MW-101 through MW-109) were installed to assess the extent of soil impacts at the active station, and groundwater impacts throughout the site. None of the soil samples collected contained petroleum constituents at concentrations exceeding MTCA Method A cleanup standards; however, groundwater samples collected indicated the presence of GRO and BTEX in the vicinity of both the active and inactive station portions of the site (SECOR, 1999).

The original RI/FS report was completed in 1993 and a draft Cleanup Action Plan (1994 CAP) was prepared and released for public comment in May 1994. The selected cleanup alternative identified in the 1994 CAP consisted of excavating remaining contaminated soil for treatment on-site using bioremediation, followed by groundwater remediation by a pump and treat system that would re-inject treated groundwater through two infiltration trenches. However, this cleanup action was never implemented due to unauthorized actions on the inactive station property and a request by Mr. Vineyard that additional potentially liable parties (PLPs) be named by Ecology.

In 1994, Texaco Downstream Properties Inc. (TDPI) and the Smiths were named as PLPs. At the request of the PLPs, Ecology allowed additional remedial investigation activities to be performed, and a re-evaluation of the selected cleanup approach that had been presented in the 1994 CAP. This work was performed pursuant to AO Nos. DE S361, S362, and S368, which were issued by Ecology in May 1995.

In August 1995, a supplemental investigation was performed by SECOR, on behalf of TDPI, to further assess the extent of petroleum impacts at the site. The supplemental investigation included the collection of 21 groundwater grab samples, installation of 10 additional groundwater monitoring wells (MW-110 through MW-119), and subsequent monitoring and sampling of all newly installed and existing wells. The conclusions of the supplemental investigation were that the groundwater plume was not as extensive as previously believed, and that groundwater impacts were primarily confined to the areas around the former UST

basins at the active and inactive station locations. Furthermore, the groundwater plume did not appear to be migrating or increasing in size (SECOR, 1995).

Following completion of the supplemental investigation, additional investigation was performed to assist in the evaluation of a new cleanup approach for the site. This included vapor extraction pilot testing, which was performed in August 1996 (SECOR, 1996) and intrinsic bioremediation sampling, which was part of the 1996 groundwater monitoring and sampling program at the site (SECOR, 1997). Results of the vapor extraction pilot testing indicated relatively low volatile hydrocarbon removal rates (8 to 18 pounds per day at startup) and suggested additional pilot testing to facilitate design of a full-scale remediation system. Results of the intrinsic bioremediation sampling suggested that intrinsic biodegradation of petroleum hydrocarbons appeared to be occurring at the site, and that the groundwater contaminant plume appeared to be in a relatively steady state, where hydrocarbons provided by the source, dispersed and coalesced into a plume that was then degraded.

In August 1999, an updated CAP (1999 CAP) was submitted for the site. The 1999 CAP identified enhanced in-situ biodegradation as the selected cleanup remedy for petroleum contaminated soil and groundwater at the site (SECOR, 1999). In May 2001, Ecology issued AOs DE00 TCPSR-297, -298, and -299 to implement the 1999 CAP.

In June 2001, a Cleanup Work Plan for the site was submitted, which included introducing oxygen to groundwater by placing oxygen release compound (ORC®) into soil borings, installing a product recovery canister into monitoring well MW-111, and continuing groundwater monitoring. Soil boring installation for ORC® placement was performed in July 2001. Although 50 borings were originally proposed, only 37 borings were reportedly completed due to difficult drilling conditions. The ORC® borings were generally placed in proximity to, or immediately upgradient of, monitoring wells B-3, B-4, MW-101, MW-110, MW-111, and MW-115.

In May 2004, SAIC submitted a report summarizing an evaluation of groundwater data that was performed to determine the effectiveness of the 2001 ORC® application. The evaluation concluded that water-quality improvements had begun prior to the ORC® application, and that the ORC® application did not appear to have been effective, except perhaps very locally. This report further indicated that other remedial strategies were being considered to aid in further reductions of hydrocarbon concentrations at the site (SAIC, 2004a).

In November and December 2004, an additional investigation was performed to further delineate the extent of soil impacts at the site. One soil boring (SB-1) was completed at the inactive station, in the vicinity of MW-101, and seven soil borings (SB-2 through SB-8) were

completed at the active station, in the vicinity of MW-111. On the inactive station property, SB-1 was installed to collect additional soil data within the area of the former UST basin. On the active station, borings SB-2 through SB-8 were completed to develop a greater understanding of the soil contaminant distribution in the vicinity of MW-111, which routinely contained petroleum light non-aqueous phase liquid (LNAPL) at that time. Results of this investigation suggested that impacts from the active station did not appear to have migrated onto the inactive station portion of the site (SAIC, 2004b).

In December 2004, SAIC submitted a letter report that presented the preliminary results of the November/December 2004 soil sampling activities and also discussed possible remedial alternatives to achieve the cleanup objectives for the site. The letter concluded that excavation followed by natural attenuation would have the highest likelihood of success and provide the shortest remedial time frame. The letter further specified that a new CAP would be completed for the site (SAIC, 2004b).

In 2006, at the request of Ecology, a revised draft CAP (2006 DCAP) was prepared for the site and submitted to Ecology for review. The 2006 DCAP identified the following cleanup actions, which were selected by Ecology and Chevron Environmental Management Company (CEMC),<sup>1</sup> for the site:

- Active station – Institutional controls and surface paving for containment of contaminated soil, monitored natural attenuation (MNA) of soil and groundwater, and long-term monitoring.
- Inactive station – Excavation, MNA of groundwater, and long-term monitoring.

Comments on the 2006 DCAP were provided by Ecology in a letter dated November 2, 2006. Among the comments, Ecology indicated that an alternative evaluation for the active station property would not be complete without considering two additional options: 1) complete excavation of contaminated soil, and 2) hot-spot excavation and removal. However, the 2006

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<sup>1</sup>CEMC conducts environmental investigation and remediation work on behalf of its affiliates, including TDPI. TDPI is a subsidiary of Chevron Corporation. To effectuate the work to be performed under Agreed Order DE 21413 in the most efficient manner, language in this CAP may reflect the work is to be done by CEMC. However, TDPI and the Subject PLPs, remains strictly, jointly, and severally liable for the performance of any and all obligations under the AO. In the event the party identified as a lead should fail to timely and properly complete performance of all or any portion of its work, TDPI and the Subject PLPs must perform that remaining work, if any.

DCAP was never finalized because on December 29, 2006, Ecology provided notice to SAIC and the PLPs that preparation of the final CAP should be delayed until a new AO could be prepared for the site.

The new AO (No. DE 08 TCPSR-5236) became effective on March 1, 2010 and fully superseded and replaced AOs DE-00TCPSR-297, -298, and -299. The new AO required that TDPI perform the following:

1. Prepare a new FS for the site
2. Continue performing groundwater monitoring at the site
3. Prepare a DCAP according to the requirements of WAC-173-340-380
4. Prepare an Interim Action Work Plan and conduct an Interim Action consisting of the removal of residual contaminated soil associated with the former diesel UST at the active station and the USTs at the inactive station.

SAIC submitted an Interim Remedial Action (IRA) Work Plan for the site, which was approved by Ecology on August 17, 2010. In accordance with the approved IRA Work Plan, SAIC completed the proposed active station diesel UST excavation (Excavation 1) and inactive station excavation (Excavation 2) in October 2010. Confirmation soil sampling results indicated that each of the excavations were successful in removing soils containing petroleum contaminants above cleanup levels in the vadose zone; however, excavation bottom samples indicated that petroleum contamination in excess of cleanup levels remained in the saturated zone at the base of each excavation. Approximately 700 pounds of ORC<sup>®</sup> were placed in the bottom of Excavation 1, and approximately 1,300 pounds of ORC<sup>®</sup> were placed in the bottom of Excavation 2, in order to enhance natural attenuation of the inaccessible petroleum contamination that was left in place. Additional details regarding implementation of the Interim Action were presented in SAIC's Final- Interim Remedial Action Report, dated April 14, 2011.

SAIC submitted a draft FS to Ecology on February 8, 2011. The draft FS identified MNA as the proposed cleanup action for the site. Ecology provided comments on the draft FS, by letter dated April 15, 2011, which requested additional details regarding the alternatives proposed and a re-evaluation of the scoring used to rank the alternatives. Ecology also disagreed with the conclusions presented in the draft FS regarding the elimination of a soil and/or groundwater to vapor exposure pathway.

In response to Ecology's comments on the draft FS, SAIC prepared a work plan to perform supplemental assessment at the site, which was approved by Ecology on September 7, 2011.

Field activities were performed in October 2011, which included installation of four shallow soil-vapor sampling probes (SVSP-1 through SVSP-4), and installation and sampling of one new monitoring well (MW-120). The soil-vapor sampling probes were installed on the active station portion of the site in order to evaluate the potential of a vapor intrusion risk to the service station building and/or Mrs. Beesley's restaurant. Monitoring well MW-120 was installed on the inactive station property, to replace MW-101, in order to evaluate groundwater conditions in the vicinity of Excavation 2. Soil-vapor samples were collected from the probes in December 2011. Results of the soil-vapor sampling indicated that benzene was present at one of the four sampling locations (SVSP-2) at a concentration exceeding Ecology's then-current draft soil-gas screening level. Subsequent modeling of the sampling results predicted that current conditions at the site would not result in indoor air conditions that would create a health risk based on an adult worker exposure scenario, but that further vapor intrusion assessment may be warranted if site use changed in the future.

Soil sampling results from installation of monitoring well MW-120, and subsequent groundwater sampling results from this well did not detect the presence of petroleum contamination at this location. Additional details regarding these assessment activities were presented in SAIC's Draft – Supplemental Site Assessment Summary Report (SAIC, 2012a), which was approved by Ecology by letter dated September 4, 2012.

Following submittal of the Supplemental Site Assessment Summary Report, SAIC prepared a revised FS for the site, which was submitted to Ecology on October 31, 2012 (2012 Draft FS). The 2012 Draft FS identified Alternative 2 (partial excavation, MNA, and institutional controls) or Alternative 4 (MNA, institutional controls, and future property-wide excavation in conjunction with service station upgrades or redevelopment) as the preferred cleanup action for the site. Ecology provided comments on the 2012 Draft FS by letter dated February 25, 2013. Based on their evaluation of the cleanup alternatives presented, Ecology identified Alternative 3 (partial excavation, air sparge/SVE, MNA, and institutional controls) as the preferred remedial alternative.

In response to Ecology's comments on the 2012 Draft FS, CEMC requested a meeting with Ecology to further discuss the evaluation of cleanup alternatives. Representatives of Ecology, CEMC, and SAIC met to discuss a path forward strategy for the site on May 22, 2013. The CEMC/SAIC project team suggested that the costs of Alternative 3 were disproportionate to the benefit offered, and that this aggressive remedial action was not warranted due to the limited extent of contamination remaining at the site and the low risk for exposure to human or



ecological receptors. Ecology indicated that insufficient data was available to confirm CEMC's position regarding the site but agreed to delay completion of the FS to conduct further assessment of the site, specifically collection of current soil sampling data and performance of an assessment to evaluate natural attenuation processes presumed to be occurring in groundwater.

On July 30, 2013, SAIC submitted a work plan to complete soil sampling and natural attenuation assessment activities at the site (SAIC, 2013). The objectives of the assessment were to evaluate current petroleum hydrocarbon concentrations in soil on the active station portion of the site and underlying the 2010 interim remedial action excavation areas, and to evaluate natural attenuation processes in groundwater that were believed to be responsible for ongoing reductions in dissolved-phase petroleum contamination on the active station property. Following receipt of Ecology comments on the draft work plan, provided by letter dated August 21, 2013, SAIC submitted a final work plan on September 25, 2013. The final work plan was conditionally approved by Ecology by letter dated October 2, 2013.

Field activities associated with the soil sampling portion of the work plan were completed by Leidos in November 2013, and the results were presented in Leidos' Soil Sampling Assessment Summary Report, dated March 28, 2014. Based on the results of the soil sampling assessment, Leidos concluded that the lateral and vertical extent of impacted soil at the site may be decreasing in response to ongoing natural attenuation. However, results of the soil sampling activities also confirmed the presence of shallow soil contamination at the site that was not consistent with a UST release. Based on these data, as well as observations of petroleum sheens in rainwater at the site, Leidos concluded that shallow soil contamination at the site was likely the result of past and on-going surface releases that have occurred in association with the operation of the active service station. In the areas of the former 2010 IRA excavations, confirmation soil sampling results found evidence of GRO at concentrations above the MTCA Method A cleanup level in both of the samples collected at 10.5 feet bgs in the area of Excavation 1. GRO was also detected in the sample collected at 10 feet bgs from the area of Excavation 2; however, at a concentration below the Method A cleanup level.

On October 29, 2015, Leidos submitted a report to Ecology presenting the results of natural attenuation assessment activities for groundwater performed for the site. The report included an evaluation of all available historical groundwater sampling results for the site, as well as an evaluation of geochemical indicator data collected from 11 monitoring wells during quarterly sampling performed from September 2013 through August 2015. Based on this evaluation,

Leidos concluded that conditions at the site were appropriate to consider use of natural attenuation as a cleanup alternative for petroleum contaminated groundwater at the site, and that due to a lack of complete exposure pathways from impacted groundwater to human or ecological receptors, there would be little if any benefit realized from a more active cleanup strategy. However, the conclusions drawn by the natural attenuation assessment were based on an assumption that land use at the site would remain unchanged during the estimated restoration timeframe presented in the report (approximately 33 years). Leidos further stated that future land use changes at the site would have the potential to create complete exposure pathways or opportunities for cost-effective remedial actions that could be implemented during property redevelopment or service station upgrades.

Ecology accepted the Natural Attenuation Assessment for Groundwater report as the Draft Final version (pending eventual public comment) by letter dated March 1, 2017. The letter also stated that by accepting the report, Ecology was concluding completion of the additional assessment work proposed by CEMC in June 2013. Therefore, preparation and submittal of a revised draft FS by CEMC to Ecology was the next step required under the terms of the AO for the site.

On April 28, 2017, Leidos submitted the Revised Agency Review Draft Feasibility Study Report (draft FS) for Ecology review. The draft FS included an evaluation of available historical groundwater sampling results collected from the 11 monitoring wells during quarterly sampling performed from September 2013 through August 2015 as well as additional assessment work performed during this time period. Based on the evaluation, Leidos concluded that conditions at the site were appropriate to consider use of natural attenuation as a cleanup alternative for petroleum contaminated groundwater at the site (Leidos 2017).

On April 3, 2019, Ecology, CEMC, Arcadis, Leidos, and the property owner at that time, Mr. Charles Vineyard, met to discuss the current site status and the path forward for the site. As discussed during this meeting, routine semi-annual groundwater monitoring and sampling activities were continued as planned. The active station property and improvements were sold to the current owner (Candid Travel Center Land LLC) in 2020.

On August 20, 2020, Ecology provided comments on the draft FS. A revised draft FS was submitted on November 16, 2020, and following Ecology comments the Revised FS was submitted on September 2, 2021. Ecology approved the Revised FS and the selection of Alternative 4, which includes excavation in conjunction with station upgrade work, institutional controls, and MNA, as described in Section 6 of this DCAP. In a letter dated November 18, 2021,

Ecology accepted the Revised FS as the public review draft version and requested a DCAP within 30 days. The initial DCAP was submitted to Ecology on December 17, 2021.

## **2.4 Site Geology and Hydrogeology**

Geologic interpretations of the site vicinity developed by the United States Geological Survey (USGS) indicate that Quaternary alluvial deposits of silt, sand, and gravel associated with the Cowlitz River are characteristic of the area. The alluvial deposits are bounded by outwash deposits of sand and gravel interbedded with silt and clay associated with the Fraser glaciation of the Cascade Mountains. Shallow groundwater within these deposits generally discharges into the Cowlitz River (SECOR, 1999).

Data collected during subsequent site investigation and cleanup actions has been consistent with the USGS interpretation of the regional geology. Generally, the site exhibits the characteristics of gravelly alluvial material with interbedded layers of sand and silt. Site data collected during drilling activities, and during the IRA excavations, indicated that the site is underlain by sandy gravel and gravelly sand with cobbles, with varying percentages of silt. This upper stratum varies in thickness from approximately 10 feet to at least 18.5 feet and serves as a shallow aquifer in the vicinity of the site. A clay layer of undetermined thickness has been identified beneath the sand and gravels in many of the soil borings completed at the site, and it is believed to act as a confining bed to the overlying shallow aquifer.

Depth to water measurements collected at the site indicate the water table is approximately 7 to 8 feet bgs, with a 2-foot seasonal fluctuation across the site.

Groundwater has been observed to flow in the southeast direction, toward the Cowlitz River. A river terrace, 15 feet lower than the site elevation, is located approximately 500 feet southeast of the site. Shallow groundwater has been observed discharging through springs and seeps along the bank above this terrace. A groundwater potentiometric map, based on groundwater elevation data collected during the November 2016 groundwater monitoring event, is included as Figure 3.

## **3 SITE CLEANUP STANDARDS**

### **3.1 Contaminants of Concern**

MTCA defines a contaminant as “any hazardous substance that does not occur naturally or occurs at greater than natural background levels.” Contaminants of concern (COCs) include

those hazardous substances that are known to be present at a site, or which are suspected to be present based on information regarding the nature of a known release or past operations at a site. Sampling data from past environmental investigations and interim remedial actions have confirmed the presence of the following COCs for each of the impacted media at the site:

Contaminants of Concern	Soil	Groundwater
Gasoline Range Organics (GRO)	X	X
Diesel Range Organics (DRO)	X	X
Heavy Oils (HRO)	X	X
Benzene	X	X
Toluene	X	X
Ethylbenzene	X	X
Xylenes (Total)	X	X
Lead	X	X
Carcinogenic polycyclic aromatic hydrocarbons (cPAHs)	X	

### 3.2 Potential Exposure Pathways and Receptors

MTCA [WAC 173-340-200] defines an exposure pathway as “the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from a site.”

Potential sources of hazardous substances at the site are petroleum contaminated soil and groundwater.

#### 3.2.1 Soil

Contaminated soil has the potential to serve as a source of hazardous substance exposure through the following exposure pathways:

<b>Potential Exposure Pathways – Contaminated Soil</b>
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Potential Soil Exposure Pathway/Scenario	Applicability
Ingestion of, or dermal contact with, contaminated soil	<b>Risk to future workers</b> - The area of soil impacted by COCs at the site is covered by pavement or service station infrastructure on the active station property or is located at a depth of approximately 10 – 12 feet bgs in the area of Excavation 1. Therefore, the current potential for ingestion or dermal contact is significantly limited. However, potential ingestion or direct contact exposures are possible for future workers performing excavation, site assessment, or subsurface utility work at the site.
Inhalation of hazardous vapors and/or airborne particulates (i.e., dust) in outdoor air	<b>Potential risk to future workers</b> – Volatilization of hazardous substances or dust from contaminated soil may create an inhalation exposure pathway for future workers performing excavation, site assessment, or subsurface utility work at the site.
Inhalation of hazardous substances that have volatilized from contaminated soil and migrated to indoor air	<b>Potential risk to future residents or future workers</b> – Results of 2011 supplemental site assessment activities indicated that current conditions at the site did not pose a vapor intrusion risk, based on an adult worker exposure scenario. However, there is potential for a complete vapor intrusion exposure pathway if land use changes at the site in the future.
Contamination of groundwater by hazardous substances leaching from soil	<b>Risk to future residents or future workers</b> - Soil contamination in contact with groundwater has resulted in concentrations of dissolved-phase petroleum contamination in groundwater (see section 3.2.2).

**3.2.2 Groundwater**

Contaminated groundwater has the potential to serve as a source of hazardous substance exposure through the following exposure pathways:

<b>Potential Exposure Pathways – Contaminated Groundwater</b>	
<b>Potential Groundwater Exposure Pathway/Scenario</b>	<b>Applicability</b>
Ingestion of contaminated groundwater	<b>Risk to current and future residents and workers –</b> Three drinking-water wells are currently located within ¼ mile of the site, with the closest well located approximately 500 feet northwest across Interstate 5. None of the wells are located down-gradient of the site. Potential future residential development could include the installation of drinking-water wells on the site or at down-gradient locations. Potential exposures could also occur during future site redevelopment construction or during underground utility work.
Dermal contact with contaminated groundwater	<b>Risk to future workers -</b> Groundwater is typically located at a depth of approximately 6 to 10 feet bgs. Therefore, the current potential for dermal contact is significantly limited. However, dermal contact exposures are possible for workers during future site redevelopment or utility work.
Contamination of surface water by hazardous substance migration through groundwater	<b>Eliminated -</b> Groundwater from the site is believed to eventually discharge to the Cowlitz River (approximately ¼ mile south of the site). However, groundwater data from the site indicate that the dissolved-phase petroleum contaminant plume is contained onsite, is not migrating, and appears to be attenuating by naturally occurring degradation processes. Therefore, surface water is not considered to be a receptor of concern.
Inhalation of hazardous vapors in outdoor air	<b>Potential risk to future workers –</b> Volatilization of hazard substances from contaminated groundwater may create an inhalation exposure pathway for future workers performing excavation, site assessment, or subsurface utility work at the site.
Inhalation of hazardous substances that have volatilized from contaminated groundwater and migrated to indoor air	<b>Potential risk to future residents or future workers –</b> Results of 2011 supplemental site assessment activities indicated that current site conditions did not pose a vapor intrusion risk, based on an adult worker exposure scenario. However, there is potential for a complete vapor intrusion exposure pathway if land use changes at the site in the future.

**3.2.3 Soil Vapor**

An operating gasoline service station with mini-mart and a restaurant are currently located on the site. Based on the 2011 soil vapor sampling and modeling, conditions at the site would not result in indoor air health risk based on an adult worker exposure scenario. Further vapor intrusion assessment may be warranted if site use changed in the future.

### **3.3 Terrestrial Ecological Evaluation**

In addition to an evaluation of potential human health risks, MTCA [WAC 173-340-7490] requires that a Terrestrial Ecological Evaluation (TEE) be completed to determine whether a release of hazardous substances to soil may pose a threat to the terrestrial environment, and if so, to establish site-specific cleanup standards for the protection of terrestrial plants and animals.

Conditions at and adjacent to the site are not such that require performance of a site-specific TEE. Therefore, a simplified TEE was conducted, as set forth in WAC 173-340-7492. Due to the area of contiguous undeveloped land within 500 feet of any area of the site (greater than 4 acres), it was determined that conditions at the site had the potential to pose a threat of significant adverse effects to terrestrial ecological receptors. Therefore, cleanup levels based on the protection of ecological receptors, as listed in MTCA Table 749-2, must be considered in development of the site cleanup standards.

### **3.4 Soil Cleanup Levels and Points of Compliance**

MTCA states that cleanup levels shall be based on the reasonable maximum exposure expected to occur during both current and future land use. By default, MTCA further states that residential land use represents the reasonable maximum exposure. Therefore, cleanup levels must be protective of residential or unrestricted land use. On sites where the cleanup action is routine or may involve relatively few hazardous substances, MTCA allows the use of Method A cleanup levels.

The Method A cleanup levels for soil presented in Table 740-1 (Soil Cleanup Levels for Unrestricted Land Use) of the MTCA Cleanup Regulation (WAC 173-340) are generally applicable to this site; however, as discussed in section 3.3, soil cleanup levels for this site must also consider the potential threat of significant adverse effects to terrestrial ecological receptors. Therefore, the values in Table 749-2 of WAC 173-340 must also be considered when developing soil cleanup levels. For the COCs identified for this site, lead and DRO have Method A cleanup levels that must be revised to meet the more stringent cleanup level presented in Table 749-2.

The soil cleanup levels combined with the point of compliance determines the cleanup standard for the site. Under MTCA, the point of compliance is pathway dependent. Potential pathways for exposure to contaminants in the soil are discussed below.

- **Protection of Human Exposure via Direct Contact/Incidental Ingestion:** The point of compliance is in the soils throughout the site to a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface during site development activities (i.e., ground surface to 15 feet bgs).
- **Protection of Ecological Receptors:** The standard point of compliance is in the soils throughout the site from ground surface to 15 feet bgs (the reasonable depth of soil that could be encountered). MTCA allows the use of a conditional point of compliance set in the soils throughout the site at a depth of 6 feet bgs.
- **Protection of Groundwater:** The point of compliance is throughout the site.

### 3.5 Groundwater Cleanup Levels and Points of Compliance

MTCA requires that groundwater cleanup levels be based on the highest beneficial use and reasonable maximum exposure under both current and future land use at the site. For groundwater, MTCA specifies that drinking water is the highest beneficial use, and that ingestion of drinking water represents the reasonable maximum exposure [WAC 173-340-720]. The Method A cleanup levels for groundwater presented in Table 720-1 (Method A Cleanup Levels for Groundwater) are applicable to this site.

MTCA states that groundwater cleanup levels shall be attained in all groundwater from the point of compliance to the outer boundary of the hazardous substance plume. The standard point of compliance as defined by MTCA is throughout the site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected by the site. Therefore, the point of compliance is throughout the site.

### 3.6 Summary of Proposed Cleanup Standards

Per MTCA, cleanup standards establish the concentrations of hazardous substances that are protective of human health and the environment (cleanup levels), and the location on the site where those cleanup levels must be attained (points of compliance). The following table presents the proposed cleanup standards that have been developed for the site.



Media	Point of Compliance	GRO	DRO	HRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Lead	Benzo(a) pyrene (cPAHs)
Soil (mg/kg) (0 – 6 ft bgs)	Entire Site	30	460	2,000	0.03	7	6	9	220	0.1
Soil (mg/kg) (6 – 15 ft bgs)	Entire Site	30	2,000	2,000	0.03	7	6	9	220	0.1
Groundwater (micrograms per liter)	Entire Site	800	500	500	5	1,000	700	1,000	15	N/A

**Notes:**

1. Cleanup levels are a conditional point of compliance subject to the requirements in WAC 173-340-7490(4).
2. cPAHs are not considered COCs for groundwater at the site.
3. DRO and HRO fractions in soil and groundwater samples will be added together and compared against the DRO MTCA Method A Cleanup Level in accordance with Toxics Cleanup Program Implementation Memorandum #4 (Ecology 2004)

The cleanup levels presented above are derived from:

- MTCA Table 740-1, Method A soil cleanup levels for unrestricted land use
- MTCA Table 749-2, priority contaminants of ecological concern for sites that qualify for simplified terrestrial ecological evaluation procedure
- MTCA Table 720-1, Method A cleanup levels for groundwater

Under WAC 173-340-7492(2)(c), MTCA states that no hazardous substance listed in Table 749-2 is, or will be, present in the soil within 6 feet of the ground surface at concentrations higher than the values provided in Table 749-2. The cleanup levels for the COCs in soil between the ground surface and 6 feet bgs were selected using the most stringent criteria in either MTCA Table 740-1 or Table 749-2. For soils deeper than 6 feet bgs, MTCA Method A CULs as listed in MTCA Table 740-1 will be used.

## 4 APPLICABLE STATE AND FEDERAL LAWS

This section describes the compliance of the cleanup action implementation with state and federal laws, as required by WAC 173-340-380(1)(a)(vii).

In addition to meeting MTCA cleanup standards as described above, a cleanup action must meet cleanup standards and environmental standards set in applicable laws. The cleanup action

must also comply with elements of other applicable environmental reviews and permitting requirements. Although a cleanup action performed under formal MTCA authorities (e.g., an agreed order) would be exempt from the procedural requirements of certain state and local environmental laws, the action must nevertheless comply with the substantive requirements of such laws (RCW 70D.350.090; WAC 173-340-710). Potentially applicable federal and state laws, and local requirements that may impact the implementation of the cleanup action at the site are listed below:

### **National Pollutant Discharge Elimination System**

Coverage under the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity (Construction Stormwater General Permit [CSWGP]) will likely be required by the Washington State Department of Ecology, Water Quality Program. Arcadis will obtain NPDES and CSWG permits as necessary.

### **Safe Drinking Water Act**

As part of the cleanup standards determination, the MTCA Method A cleanup levels were compared to applicable state and federal standards to ensure the most stringent and protective cleanup levels were selected for application at the site. The following state and federal standards for groundwater were reviewed and found to be equivalent to or less stringent than the MTCA Method A cleanup levels:

- Maximum Contaminant Levels established under the Safe Drinking Water Act and published in 40 CFR 141
- Maximum Contaminant Level goals for non-carcinogens established under the Safe Drinking Water Act and published in 40 CFR 141

### **State Environmental Policy Act**

State Environmental Policy Act (SEPA) review will be conducted by Ecology in conjunction with this DCAP to evaluate SEPA compliance.

### **Resource Conservation and Recovery Act (RCRA)**

Investigation-derived waste (IDW), soil, water or other substances removed from the site during the implementation of the cleanup action will be handled per RCRA regulations and implemented according to WAC 173-303.

### **Washington Dangerous Waste Regulations (Chapter 173-303 WAC)**

These requirements potentially apply to the identification, generation, accumulation, and transport of hazardous/dangerous wastes at the site during cleanup. These standards are applicable to any soil wastes that are taken off-site for disposal. However, it is unlikely that any of the excavated material will be classified as dangerous waste.

### **Washington Solid Waste Handling Standards (Chapter 173-350 WAC)**

These requirements establish minimum standards for handling and disposal of solid waste. They are applicable for alternatives that generate solid waste, the definition of which includes wastes that are likely to be generated as a result of site cleanup, including contaminated soils, construction and demolition wastes, and garbage. The standards require that solid waste be handled in a manner that does not pose a threat to human health or the environment and that complies with local solid waste management rules and applicable water and air pollution controls.

### **Federal and State of Washington Worker Safety Regulations**

The cleanup action will be implemented in accordance with state and federal regulations governing the safety of workers implementing remedies at hazardous waste sites. These consist of the following:

- Health and Safety for Hazardous Waste Operations and Emergency Response (HAZWOPER), Chapter 296-62 WAC, and Health and Safety, 29 CFR 1901.120
- Occupational Safety and Health Act (OSHA)
- Washington Industrial Safety and Health Act (WISHA), Chapters 296-62 and 296-155 WAC; Chapter 49.17 RCW

HAZWOPER regulates health and safety operations for hazardous waste sites. The health and safety regulations describe federal requirements for health and safety training for workers at hazardous waste sites.

OSHA provides employee health and safety regulations for construction activities and general construction standards, as well as regulations for fire protection, materials handling, hazardous materials, personal protective equipment, and general environmental controls. Hazardous waste site work requires that, prior to participation, employees be trained in site

activities, medical monitoring, monitoring to protect employees from excessive exposure to hazardous substances, and decontamination of personnel and equipment.

Washington State adopted the standards that govern the conditions of employment in all workplaces under its WISHA regulations. The regulations encourage efforts to reduce safety and health hazards in the workplace and set standards for safe work practices for dangerous areas such as trenches, excavations, and hazardous waste sites.

### **Minimum Standards for Construction and Maintenance of Wells (WAC 173-160)**

Existing groundwater wells will be maintained in accordance with the requirements of WAC 173-160 to further ensure protection of groundwater resources at the site.

### **Local Requirements**

The cleanup action will need to meet the substantive requirements of the following Lewis County standards and best management practices:

- Fill and Grade Permit
- Application to Perform Work on County Right-of-Way
- Call Before You Dig
- Stormwater Management Regulations (Chapter 15.45, Lewis County Code)

## **5 NATURE AND EXTENT OF CONTAMINATION**

Existing contaminant impacts at the site can be attributed to two discrete source areas. On the active station portion of the site, soil and groundwater impacts have resulted from known releases from the gasoline USTs and ancillary piping and fuel-distribution systems located in the southern portion of that area of the site. An additional source area is also associated with the former location of a diesel-fuel UST that was located east of the active station. The former diesel-fuel UST source area was the focus of Excavation 1, which was performed as part of the 2010 IRA at the site.

Formerly, a third discrete source area for petroleum hydrocarbon contamination in soil and groundwater was present in the vicinity of the former UST basin on the inactive station portion of the site. This source area was the focus of Excavation 2, which was also performed as part of the 2010 IRA. However, confirmation soil sampling results from the 2010 IRA, November 2013 soil sampling assessment, and groundwater sampling results for monitoring well MW-120

indicate that petroleum hydrocarbon impacts are no longer present in this area at concentrations above the proposed cleanup standards for the site.

## 5.1 Soil

In the southern portion of the active station area, GRO and BTEX have been detected in soil at concentrations above the proposed cleanup levels for the site. Soil impacts in this area have generally been found at depths of 2 to 15 feet bgs and are most predominant within a narrow smear zone near the water table. Horizontal delineation of the extent of soil impacts in this area has been somewhat limited by the active station infrastructure (i.e., USTs, pump islands, and piping) and the proximity of this area to Mulford and Cowlitz Ridge roads. However, soil data from borings installed adjacent to Mulford Road (e.g., SB-18, SB-20 and SB-21) suggest that soil impacts likely extend beneath the roadway.

In the eastern portion of the active station area, soil contamination related to the former diesel UST that was located in this area was partially addressed by the IRA excavation performed in October 2010. Within the vadose zone, soil impacts above the proposed site cleanup levels were removed by excavation (COCs in all sidewall samples were non-detect or less than MTCA Method A CULs). However, samples collected in 2013 from boring locations within the boundary of Excavation 1 (SB-12 and SB-13) contained GRO at concentrations in excess of the proposed cleanup levels for the site.

On the inactive station portion of the site, previous soil impacts related to the former service station UST basin appear to have been addressed by the IRA excavation that was performed in this area in October 2010. Results for soil samples collected in 2013 from soil boring SB-11 were in compliance with the proposed cleanup standards for all COCs for the site. A summary of historical soil analytical data is provided in Table 1, and Figure 4 presents the approximate areal extent of petroleum contaminated soil that is believed to be remaining at the site, and the relevant data used for horizontal delineation. Cross-sections showing both the estimated vertical and horizontal extent of petroleum contaminated soil on the active station property are also included as Figures 5 through 7.

Based on these data, a rough (i.e., “order of magnitude”) approximation of the amount of petroleum contaminated soil remaining in the southern portion of the active station property was developed by assuming that within the estimated area of contaminant impact (approximately 13,500 square feet) that contaminated soil would be present from 5 to 15 feet

bgs. The resulting volume of petroleum contaminated soil is estimated to be approximately 5,000 cubic yards.

## 5.2 Groundwater

As previously presented in the Natural Attenuation Assessment for Groundwater (Leidos 2015) completed by Leidos in October 2015, long-term groundwater sampling results indicate that groundwater conditions throughout much of the site are in compliance with drinking water quality standards. Remaining dissolved-phase petroleum impacts exceeding the proposed site cleanup standards are confined to a small area of the site located immediately downgradient of the active station UST basin and pump islands, which includes the locations of monitoring wells B-3, B-4, and MW-111 (see Figure 8). Within this area, results of the natural attenuation assessment indicated that the dissolved-phase plume was shrinking due to microbial degradation that is occurring in this residual secondary source area.

In monitoring wells B-3, B-4, and MW-111, GRO and DRO have been detected above their proposed site cleanup standards, and HRO is occasionally detected at concentrations in excess of the proposed cleanup standard. Benzene had been in compliance with the proposed cleanup standard at B-3 from 2012 to May 2022 and at B-4 from 2008 to May 2022. In monitoring well B-2, the concentration of DRO during the May 2021 event exceeded the cleanup level; DRO had been primarily non-detect in this well for the previous several years. The reported DRO concentration following silica gel cleanup was significantly less, and below the cleanup level, indicating that the reported DRO is due, at least partially, to the presence of natural organic material. However, concentrations of GRO and benzene, toluene, ethylbenzene, and total xylenes (BTEX) significantly increased to levels above proposed cleanup standards in both wells beginning in November 2022 and LNAPL appeared in B-4 in January 2023 (Arcadis, 2023).<sup>2</sup> Detailed hydrocarbon analysis indicated the increase was from a new release of premium grade gasoline.

A summary of historical groundwater monitoring data from 1991 through 2023 is provided in Table 2.

Groundwater monitoring was conducted semi-annually from 2018 through present. The groundwater flow direction has continued to be primarily toward the southeast.

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<sup>2</sup> Arcadis, *Semi-Annual Status Report, Second Half 2022, Cowlitz Food and Fuel*, March 8, 2023.

## 6 CLEANUP ACTION

Cleanup action alternatives were evaluated in the Revised FS submitted to Ecology on September 2, 2021.

### 6.1 Proposed Cleanup Action

The cleanup action selected (Alternative 4) includes the following components:

- **Excavation** – an excavation in conjunction with service station upgrades to remove impacted soil.
- **Institutional Controls** – contamination remaining in place will be capped with asphalt and limitations to use of the property will be implemented using environmental covenants (ECs) on site parcels where contaminated soil remains in place.
- **Monitored natural attenuation** – following excavation to remove residual secondary source material, cleanup of Site groundwater would be achieved through naturally occurring degradation of the contaminants remaining at the Site.

#### 6.1.1 Excavation

Residual petroleum contaminated soil will be permanently addressed by physically removing the impacted soil mass and replacing this material with clean backfill. Contaminated soil will then be transported from the site for disposal at a regulated waste disposal facility.

Excavation will be coordinated with the property owner's planned station upgrades, which we understand includes removal and replacement of the USTs, which would allow an extensive excavation to be performed to remove the majority of the petroleum contamination remaining at the site. An Engineering Design Report (EDR) will be prepared with details regarding the planned excavation work. The excavation will be subsequent to the Property Owner's removal of the USTs.

Figure 9 shows a preliminary estimate of the area (approximately 11,500 square feet) that would be available for excavation, based on the current understanding of station infrastructure and utilities in this area. It is anticipated that the maximum depth of the excavation would be approximately 12 feet bgs, which would equate to a depth of approximately 2 feet below the seasonal-low water table elevation. Assuming this entire area could be excavated to a depth of

12 feet bgs, and that all soil between 5 and 12 feet bgs was contaminated, it is estimated that approximately 3,000 cubic yards of petroleum contaminated soil could be removed. This would be approximately 60 percent of the total volume of contaminated soil (5,000 cubic yards) that is estimated to be present in this portion of the site (assuming the depth of impacts extends to 15 feet bgs). Cross-sectional views of the anticipated excavation area are included as Figures 10 and 11.

It is anticipated that contaminated soil will remain in saturated soils below approximately 12 feet bgs, or in the vicinity of utilities along the adjacent rights-of-way. Therefore, similar to the previous interim actions, this cleanup action would also include the addition of ORC® or an equivalent product to the bottom of the excavation, to enhance in-situ remediation of impacted groundwater and saturated zone soils remaining after the excavation.

#### **Cleanup Action Conceptual Design Summary**

- The excavation would remove an estimated 3,000 cubic yards (60 percent) of contaminated soil, assuming a best-case excavation scenario.
- An estimated 2,000 cubic yards of contaminated soil would remain following the excavation.
- ORC® or an equivalent product would be used to assist in additional contaminant mass reductions through hydrocarbon destruction in saturated soils that would remain in place below 12 feet bgs.
- The estimated restoration time frame (including post-excavation monitoring) to attain site cleanup levels is 5 to 10 years.

#### **6.1.2 Institutional Controls**

Institutional controls are measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or cleanup action, or that may result in exposure to hazardous substances at a site.

It is anticipated that contaminated soil would still likely remain in place below the proposed depth of excavation (12 feet bgs) and in the vicinity of existing utilities and adjacent roadways. Potential exposure pathways to any residual impacted soil would be limited by being capped with asphalt or concrete, and restrictions to limit the use of the property.

Limitations to use of the property will be implemented using environmental covenants (ECs) on site parcels where contaminated soil remains in place. The institutional controls will be



implemented as ECs executed by the property owners and recorded with the Lewis County register of deeds for all affected properties in accordance with WAC 173-340-440. ECs will be consistent with Ecology’s Model Environmental Covenant, and include the following components:

- Restricted use: the property would be used only as an industrial or commercial property.
- Containment of contaminated soil under a concrete or asphalt cap.
- Institutional controls will restrict activities that may compromise the integrity of the asphalt or concrete cap or result in extraction of groundwater. The covenant would require annual inspection of the cap, and repair of any damages observed.
- Limitation on the placement of stormwater facilities – the covenant would restrict areas of the property where stormwater facilities could be placed.
- Groundwater beneath the property would not be extracted for any purpose other than temporary construction dewatering, investigation, monitoring or remediation. Drilling of a well for any water supply purpose would be strictly prohibited.
- Access will be maintained to groundwater monitoring wells located on the site and any damages observed to wells would be repaired. Groundwater monitoring would be performed to assess groundwater conditions at the site following the cleanup action.
- If contamination is proposed to be left in rights-of-way exceeding cleanup standards, a subordination agreement with the right-of-way holder will be implemented as part of the environmental covenant.

### **6.1.3 Monitored Natural Attenuation (MNA)**

Any contamination in groundwater remaining subsequent to the excavation will continue to undergo naturally occurring degradation due to the removal of a significant amount of secondary source material. Following completion of the excavation, groundwater samples would be collected from monitoring wells on-site on a quarterly basis to document trends in groundwater quality post-excavation, and reports would be submitted to Ecology.

## **6.2 Selection of Cleanup Action**

Under WAC 173-340-380, MTCA requires that CAPs include a brief summary of other cleanup action alternatives evaluated in the FS (Alternatives 1, 2, 3, and 5) and a summary of the

rationale for selecting the proposed cleanup action. The selected alternative (Alternative 4) was described in Section 6.1.

### **6.2.1 Other Cleanup Action Alternatives Evaluated in the FS**

The following other cleanup action alternatives were evaluated in the FS:

#### **Alternative 1 Air Sparge/SVE, MNA, and Institutional Controls**

Under Alternative 1, air sparge (AS) and SVE remediation technologies would be combined to perform active in-situ remediation at the site in order to reduce contaminant concentrations to the extent practicable in the vicinity of the UST basin, pump islands, and monitoring wells B-3, B-4, and MW-111, while MNA would be used to address residual petroleum contamination in the vicinity of Excavation 1 on the active station property.

#### **Alternative 2 Partial Excavation, MNA and Institutional Controls**

Under Alternative 2, excavation would be performed to remove contaminated soil, to the extent practicable, in the southern portion of the active service station property. The extent of contaminated soil removed would be limited by the proximity of the existing USTs, pump islands, fuel piping, utilities and roadways, which are located in this area of the site.

#### **Alternative 3: Partial Excavation, Air Sparge/SVE, MNA and Institutional Controls**

Under Alternative 3, components of Alternative 1 and Alternative 2 would be combined. The first part of this alternative would be the same as for Alternative 2, which would consist of a partial excavation in the southern portion of the active service station property. Following completion of this excavation, an AS/SVE system would be installed to address contamination remaining in areas inaccessible for excavation.

#### **Alternative 5: Property-Wide Excavation, MNA, and Institutional Controls**

Under Alternative 5, existing service station infrastructure on the active station property would be removed to allow excavation of additional petroleum contaminated soil, beyond what could be achieved by the partial excavation component of Alternatives 2 and 3. The excavation component of Alternative 5 is expected to be the same as for the selected alternative (Alternative 4); however, under Alternative 5, the excavation would be performed as soon as practicable, instead of performing the excavation in conjunction with redevelopment, or upgrades to the service station infrastructure.

## **6.2.2 Rationale for Selection of the Cleanup Action**

Each of the five alternatives evaluated are considered to meet the minimum requirements established by MTCA for cleanup actions and, in general, are considered to be relatively equivalent with regard to the level of benefit they would provide toward the protection of human health and the environment at this site. All of the alternatives are expected to require a relatively long restoration time frame, due to conditions at this site such as: the presence of service station infrastructure and utilities; the presence of low volatility petroleum contamination; the presence of petroleum contamination at depths of 5 or more feet below the water table; and high groundwater recharge rates in this area, which would prevent implementation of a cost-effective action to completely clean up the site in a short-term restoration timeframe. Therefore, all of the alternatives include institutional controls and MNA components to control contaminant exposure pathways and ultimately achieve the site cleanup standards. Land use at this site is expected to remain as an active service station for the foreseeable future.

Based on the evaluation of alternatives presented in the FS, Alternative 4 (MNA, institutional controls, and property-wide excavation in conjunction with service station upgrades) was selected as the preferred cleanup action for this site. Under this alternative, excavation will take place at the site in coordination with service station upgrades which would allow a property-wide excavation to be performed within 3 years. This alternative presents the least disruption to the service station and Mrs. Beasley's restaurant. Institutional controls including an environmental covenant and annual asphalt cap monitoring, as described in Section 6.1.2 will be in place following the excavation.

## **7 COMPLIANCE MONITORING**

Compliance monitoring requirements (WAC 173-340-410) associated with cleanup actions consist of:

- Protection monitoring to confirm that human health and the environment are adequately protected during the construction period of the cleanup action as described in the health and safety plan.
- Performance monitoring to ensure the cleanup action has attained the cleanup action objectives.

- Groundwater confirmation monitoring following cleanup action completion to confirm the long-term effectiveness of the cleanup action.
- Cap Monitoring to monitor areas where contaminated soil will be left in place under a cap of asphalt or concrete.

### **7.1 Protection Monitoring**

The purpose of protection monitoring is to confirm that human health and the environment are adequately protected during the construction period of the cleanup action. The specific human health and environment, monitoring and safety precautions, will be performed through the implementation of the following plans that are deliverables of the Agreed Order for the cleanup:

- Health and Safety Plan
- Erosion Control and Stormwater Pollution Prevention Plan
- Soil Compliance Monitoring Plan
- Traffic Control Plan

### **7.2 Excavation Performance/Confirmation Monitoring**

Performance monitoring will be conducted during the excavation, and confirmation monitoring will be conducted prior to backfilling the excavation.

Soil will be screened in the field during excavation to note any odors, visual sheens, or elevated photoionization detector (PID) readings indicative of petroleum hydrocarbon contamination. Soil stockpiles will be sampled to adequately characterize soil for offsite disposal. Confirmation soil samples will be collected from the bottom and sidewalls of the excavation to ensure impacted soil has been effectively removed to the extent practicable or to document areas of remaining soil contamination.

Details regarding soil sampling will be provided in the EDR.

### **7.3 Groundwater Confirmation Monitoring**

As mentioned above, groundwater samples will be collected from monitoring wells quarterly following completion of the excavation in order to demonstrate compliance and to document MNA. Confirmation monitoring will be conducted until groundwater meets CULs throughout the site over four consecutive monitoring events. Groundwater monitoring wells that remain

post-excavation will be sampled on a quarterly schedule. Groundwater monitoring wells will be inspected annually and maintained and repaired as necessary to ensure that representative groundwater samples can be obtained and that the wells meet the requirements of Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells.

#### **7.4 Cap Monitoring**

A cap monitoring plan will be prepared to monitor the condition of the asphalt or concrete cap on the parcels where contaminated soil remains in place. The cap monitoring plan will include contingency planning in the event that potentially impacted soil becomes exposed. Reporting on the cap condition will be conducted every five years and/or if any changes are observed in the condition of the cap. An initial inspection with photographs and description of the cap to be monitored will be included with the plan.

### **8 SCHEDULE FOR IMPLEMENTATION**

The current property owner has indicated that upgrades to the service station are currently planned, pending the schedule and implementation of the cleanup activities.

However, the implementation timeframe for this cleanup action is highly dependent on the timing of station upgrades. CEMC will work with the property owner to coordinate excavation activities in conjunction with service station upgrades; with the excavation activities planned for completion within 3 years. The excavation will take place subsequent to the property owners' UST removal. The schedule is also dependent on the public participation process and execution of a new AO.

The estimated restoration time frame (including post-excavation monitoring) to attain site cleanup levels is 5 to 10 years.

### **9 FINANCIAL ASSURANCE**

CEMC will provide adequate financial assurance to cover costs associated with the selected cleanup alternative at the site, including remedial excavation, institutional controls, and compliance monitoring, pursuant to WAC-340-440(11).

## 10 PUBLIC PARTICIPATION

Ecology prepared a Public Participation Plan for the site in December 2009 that described the process to involve and inform the public during the cleanup process. In the November 18, 2021 letter, Ecology indicated that the Revised FS, this DCAP, and a new AO to implement the cleanup will go through a combined public comment period. During cleanup action implementation, public participation will be accomplished in accordance with WAC 173-340-600. Notice in the *Site Register*, public notice, and an opportunity to comment will be provided on any plans prepared under WAC 173-340-400 that represent a substantial change from this DCAP.

## 11 REFERENCES

Arcadis, 2023. Semi-Annual Status Report, Second Half 2022, Cowlitz Food & Fuel (Former Texaco Service Station No. 211556). March 8.

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# TABLES





**TABLE 1**  
**SUMMARY OF HISTORICAL SOIL ANALYTICAL DATA**  
**COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556**  
**101 Mulford Road**  
**Toledo, Washington**

SAMPLE ID	DEPTH (ft.)	DATE SAMPLED	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-HRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)	Benzo(a)anthracene <sup>1</sup> (mg/kg)	Benzo(a)pyrene <sup>1</sup> (mg/kg)	Benzo(b)fluoranthene <sup>1</sup> (mg/kg)	Benzo(k)fluoranthene <sup>1</sup> (mg/kg)	Chrysene <sup>1</sup> (mg/kg)	Dibenz(a,h)anthracene <sup>1</sup> (mg/kg)	Indeno(1,2,3-cd)pyrene <sup>1</sup> (mg/kg)	Total Toxicity of Benzo(a)pyrene <sup>2</sup> (mg/kg)	Total Lead (mg/kg)
B-201-80	UNK	pre 2004	<1.0	--	--	<0.05	<0.1	<0.1	<0.1	--	--	--	--	--	--	--	--	--
B-202-80	UNK	pre 2004	<1.0	--	--	<0.05	<0.1	<0.1	<0.1	--	--	--	--	--	--	--	--	--
B-203-65	UNK	pre 2004	<1.0	--	--	<0.05	<0.1	<0.1	<0.1	--	--	--	--	--	--	--	--	--
B-204-75	UNK	pre 2004	55	--	--	<0.05	<0.1	<0.1	<0.1	--	--	--	--	--	--	--	--	--
B-204-125	UNK	pre 2004	14	--	--	<0.05	<0.1	<0.1	<0.1	--	--	--	--	--	--	--	--	--
SB-2	8	12/1/2004	<1.0	<3	<10	<0.005	<0.005	<0.005	<0.02	--	--	--	--	--	--	--	--	--
SB-3-4	4	12/1/2004	260	62	37	<0.02	<0.2	0.1	0.3	--	--	--	--	--	--	--	--	8.76
SB-3-10	10	12/1/2004	840	34	14	2.4	0.7	4.9	9.7	--	--	--	--	--	--	--	--	5.50
SB-3-13	13	12/1/2004	200	--	--	<0.08	<0.1	0.4	0.9	--	--	--	--	--	--	--	--	3.05
SB-4-5	5	12/1/2004	140	63	75	0.03	<0.02	0.07	<0.2	--	--	--	--	--	--	--	--	21.1
SB-4-9	9	12/1/2004	2500	130	<100	9.1	2.9	7.5	<8	--	--	--	--	--	--	--	--	5.90
SB-4-12	12	12/1/2004	250	--	--	<0.2	<0.2	0.6	0.8	--	--	--	--	--	--	--	--	2.93
SB-4-17.5	17.5	12/1/2004	7.0	<3.0	21	<0.005	<0.005	0.01	<0.02	--	--	--	--	--	--	--	--	8.09
SB-5-8	8	12/2/2004	3.4	--	--	<0.005	<0.005	0.006	<0.02	--	--	--	--	--	--	--	--	4.94
SB-5-13	13	12/2/2004	170	3.4	<10	0.6	<0.2	0.7	0.8	--	--	--	--	--	--	--	--	4.13
SB-5-15	15	12/2/2004	20	--	--	0.03	<0.005	0.1	0.1	--	--	--	--	--	--	--	--	4.89
SB-6-9	9	12/2/2004	410	--	--	2.6	0.8	3.4	4.5	--	--	--	--	--	--	--	--	6.82
SB-6-11	11	12/2/2004	810	--	--	3.2	0.8	4.7	6.3	--	--	--	--	--	--	--	--	3.4
SB-7-4	4	12/2/2004	8	<3.0	<10	0.02	<0.005	0.02	<0.02	--	--	--	--	--	--	--	--	4.89
D-120204-1	4	12/2/2004	7.6	<3.0	<10	0.02	<0.02	0.01	<0.02	--	--	--	--	--	--	--	--	4.76
SB-7-7.5	8	12/2/2004	750	--	--	1.1	<0.4	3.1	3	--	--	--	--	--	--	--	--	5.05
SB-7-12	12	12/2/2004	27	<3.0	<10	0.07	<0.02	0.05	0.1	--	--	--	--	--	--	--	--	2.77
SB-7-15	15	12/2/2004	130	--	--	0.6	<0.2	0.4	0.7	--	--	--	--	--	--	--	--	3.02
D-120204-2	15	12/2/2004	210	--	--	0.5	<0.08	0.6	1	--	--	--	--	--	--	--	--	2.45
SB-8-4	4	12/2/2004	6.9	<3.0	<10	<0.005	<0.005	0.008	<0.02	--	--	--	--	--	--	--	--	4.91
SB-8-4 Matrix Spike	4	12/2/2004	3.5	<3.0	<10	<0.005	<0.005	<0.005	<0.02	--	--	--	--	--	--	--	--	7.02
SB-8-4 Matrix Dup	4	12/2/2004	8.9	<3.0	<10	<0.005	<0.005	0.01	0.02	--	--	--	--	--	--	--	--	7.45
SB-8-8	8	12/2/2004	2500	130	<20	6.3	<4	6.1	11	--	--	--	--	--	--	--	--	6.52
SB-8-13	13	12/2/2004	11	<3.0	14	0.1	0.01	0.01	0.04	--	--	--	--	--	--	--	--	7.87
EX1-10-5	5	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-11-5	5	10/6/2010	16	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-12-3	3	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-13-3	3	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-14-9.5	9.5	10/6/2010	<10	140	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-15-5	5	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-16-3	3	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-23-5	5	10/6/2010	22	160	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-24-3	3	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-25-9.5	9.5	10/6/2010	28	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-26-5	5	10/6/2010	24	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-27-3	5	10/6/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-28-9.5	9.5	10/7/2010	12	<50	<100	<0.02	<0.05	<0.05	<0.15	0.0010	<0.00084	0.0016	<0.00084	0.0026	<0.00084	<0.00084	0.001	7.91
EX1-29-9.5	9.5	10/7/2010	25	<50	<100	<0.02	<0.05	<0.05	<0.15	0.00091	0.0011	0.0017	<0.00081	0.0014	<0.00081	0.00088	0.002	11.4
EX1-31-5	5	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-32-3	3	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-35-5	5	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-36-3	3	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-37-6	6	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--

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SAMPLE ID	DEPTH (ft.)	DATE SAMPLED	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-HRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)	Benzo(a)anthracene <sup>1</sup> (mg/kg)	Benzo(a)pyrene <sup>1</sup> (mg/kg)	Benzo(b)fluoranthene <sup>1</sup> (mg/kg)	Benzo(k)fluoranthene <sup>1</sup> (mg/kg)	Chrysene <sup>1</sup> (mg/kg)	Dibenz(a,h)anthracene <sup>1</sup> (mg/kg)	Indeno (1,2,3-cd)pyrene <sup>1</sup> (mg/kg)	Total Toxicity of Benzo(a)pyrene <sup>2</sup> (mg/kg)	Total Lead (mg/kg)
EX1-38-9	9	10/7/2010	22	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-39-3	3	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-40-10	10	10/7/2010	20	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-41-5	5	10/7/2010	10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-42-3	3	10/7/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-49-9	9	10/8/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-50-9	9	10/8/2010	19	120	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-52-9.5	9.5	10/8/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-52-9.5 Dup	9.5	10/8/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-53-10	10	10/11/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-53-10 Dup	10	10/11/2010	<10	--	--	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-54-10	10	10/11/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-54-10 Dup	10	10/11/2010	--	<50	<100	--	--	--	<0.15	--	--	--	--	--	--	--	--	--
EX1-56-10	10	10/12/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-56-10 Dup	10	10/12/2010	<10	--	--	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-57-10	10	10/12/2010	26	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-57-10 Dup	10	10/12/2010	--	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
EX1-58-10	10	10/12/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-59-5	5	10/12/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-60-10	10	10/12/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-61-12	12	10/12/2010	260	105	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-62-12	12	10/12/2010	50	<50	<100	<0.02	<0.05	<0.05	<0.15	0.00089	0.0011	0.0014	0.00089	0.0034	0.00089	0.00089	0.002	9.50
EX1-63-12	12	10/12/2010	750	<50	<100	<0.02	<0.05	<0.05	<0.15	0.00074	0.00074	0.00074	0.00074	0.0016	0.00074	0.00074	0.001	6.16
EX1-64-12	12	10/12/2010	71	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX1-65-12	12	10/12/2010	65	65	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-1-8.5	8.5	10/13/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-2-8.5	8.5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-3-5	5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-4-3	3	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-5-8.5	8.5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-5-8.5 Dup	8.5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-6-5	5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-7-3	3	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-8-8.5	8.5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-9-5	5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-10-3	3	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-11-8.5	8.5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-12-5	5	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-13-3	3	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-13-3 Dup	3	10/14/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-15-3	3	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-15-3 Dup	3	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-16-5	5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-17-8.5	8.5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-18-3	3	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-19-5	5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-20-8.5	8.5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-21-3	3	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--

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SAMPLE ID	DEPTH (ft.)	DATE SAMPLED	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-HRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)	Benzo(a)anthracene <sup>1</sup> (mg/kg)	Benzo(a)pyrene <sup>1</sup> (mg/kg)	Benzo(b)fluoranthene <sup>1</sup> (mg/kg)	Benzo(k)fluoranthene <sup>1</sup> (mg/kg)	Chrysene <sup>1</sup> (mg/kg)	Dibenz(a,h)anthracene <sup>1</sup> (mg/kg)	Indeno(1,2,3-cd)pyrene <sup>1</sup> (mg/kg)	Total Toxicity of Benzo(a)pyrene <sup>2</sup> (mg/kg)	Total Lead (mg/kg)
EX2-22-5	5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-23-3	3	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-24-5	5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-25-8.5	8.5	10/18/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-26-8.5	8.5	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-27-3	3	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-28-5	5	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-29-8.5	8.5	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-30-3	3	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-30-3 Dup	3	10/19/2010	--	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
EX2-31-5	5	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-32-8.5	8.5	10/19/2010	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-33-10.5	10.5	10/20/2010	29	<50	<100	<0.02	0.06	<0.05	0.18	--	--	--	--	--	--	--	--	--
EX2-34-10.5	10.5	10/20/2010	29	<50	<100	<0.02	<0.05	<0.05	0.11	--	--	--	--	--	--	--	--	--
EX2-35-10.5	10.5	10/20/2010	980	<50	<100	<0.02	0.08	1.1	4.40	--	--	--	--	--	--	--	--	--
EX2-36-10.5	10.5	10/20/2010	22	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-37-10.5	10.5	10/20/2010	22	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
EX2-37-10.5 Dup	10.5	10/20/2010	27	<50	<100	<0.02	<0.05	<0.05	<0.15	--	--	--	--	--	--	--	--	--
SB-9-4	4	11/4/2013	5.0	<3.7	<12	<0.0065	<0.0065	0.0072	<0.019	<0.0082	<0.0082	<0.0082	<0.0082	<0.0041	<0.0082	<0.0082	0.001	8.80
SB-9-9	9	11/8/2013	2,400	52	<11	0.56	4.5	<2.7	5.0	0.0053	0.0020	0.0020	0.0082	0.0050	<0.0073	<0.0073	0.003	4.63
SB-9-11	11	11/8/2013	<0.9	<3.3	<11	<0.0046	<0.0046	<0.0046	<0.014	<0.0074	<0.0074	<0.0074	<0.0074	<0.0037	<0.0074	<0.0074	0.001	3.40
DUP-3-110813	11	11/8/2013	<0.9	<3.2	<11	<0.0043	0.0051	<0.0043	<0.013	<0.0072	<0.0072	<0.0072	<0.0072	<0.0036	<0.0072	<0.0072	0.001	2.64
SB-10-2	2	11/4/2013	2.5	<3.9	<13	<0.0075	0.013	0.023	0.11	<0.0085	<0.0085	<0.0085	<0.0085	0.0013	<0.0085	<0.0085	0.001	7.57
SB-10-6	6	11/6/2013	1,800	96	<12	<0.27	0.35	1.0	1.9	0.0070	0.0037	0.0036	0.0019	0.0080	<0.0082	<0.0082	0.005	10.7
SB-10-9	9	11/7/2013	5,900	160	<11	0.65	4.2	7.5	15	0.012	0.0046	0.0041	0.0014	0.011	<0.0075	0.0012	0.007	7.13
SB-10-13	13	11/7/2013	<1	<3.3	<11	<0.0048	<0.0048	<0.0048	<0.015	<0.0073	<0.0073	<0.0073	<0.0073	0.0080	<0.0073	<0.0073	0.001	2.53
SB-11-10	10	11/6/2013	19	<3.3	<11	<0.0048	0.0049	0.024	0.046	0.0075	0.0017	0.0097	0.00097	0.0024	<0.0073	<0.0073	0.001	5.79
SB-11-12.5	12.5	11/6/2013	<1	<3.3	<11	<0.0048	<0.0048	<0.0048	<0.014	<0.0073	<0.0073	<0.0073	<0.0073	<0.0037	<0.0073	<0.0073	0.001	6.79
SB-12-9.5	9.5	11/6/2013	1.5	<3.3	15	<0.0055	<0.0055	<0.0055	<0.016	0.0015	0.0021	0.0032	0.0011	0.0026	<0.0074	0.0011	0.003	6.34
SB-12-10.5	10.5	11/6/2013	1,600	2,500	<110	<0.19	2.2	<1.5	3.4	<0.0072	<0.0072	<0.0072	<0.0072	0.017	<0.0072	<0.0072	0.011	11.0
SB-12-12	12	11/6/2013	2.6	<3.3	<11	<0.0046	<0.0046	<0.0046	<0.014	<0.0073	<0.0073	<0.0073	<0.0073	<0.0037	<0.0073	<0.0073	0.001	5.70
SB-12-13.5	13.5	11/6/2013	<1.0	<3.3	<11	<0.0051	0.017	<0.0051	<0.015	<0.0073	<0.0073	<0.0073	<0.0073	<0.0036	<0.0073	<0.0073	0.001	7.21
SB-13-10.5	10.5	11/7/2013	150	82	14	0.085	0.32	0.17	0.88	<0.0074	<0.0074	0.0011	<0.0074	0.0014	<0.0074	<0.0074	0.001	7.34
SB-13-12.5	12.5	11/7/2013	>1.0	<3.4	<11	<0.0052	<0.0052	<0.0052	<0.015	<0.0075	<0.0075	<0.0075	<0.0075	<0.0037	<0.0075	<0.0075	0.001	6.78
SB-14-7	7	11/5/2013	<1.1	<3.5	<12	<0.0056	<0.0056	<0.0056	<0.017	0.0039	0.0055	0.0098	0.0042	0.018	0.0027	0.0017	0.008	8.67
SB-14-9.5	9.5	11/7/2013	4,500	190	<11	1.7	8.2	<5.3	9.7	0.027	0.012	0.011	0.0037	0.026	0.0011	0.0022	0.017	7.24
DUP-1-110713	9.5	11/7/2013	2,200	150	<11	<0.45	<2.6	1.6	4.2	0.014	0.0060	0.0053	0.0021	0.013	<0.0073	0.0012	0.008	6.21
SB-14-12.5	12.5	11/7/2013	28	<3.3	<11	0.013	0.032	0.054	0.059	<0.0074	<0.0074	<0.0074	<0.0074	<0.0037	<0.0074	<0.0074	0.001	3.60
SB-14-14	14	11/7/2013	4.1	<3.2	<11	<0.0053	0.0065	0.0059	<0.016	<0.0072	<0.0072	<0.0072	<0.0072	<0.0036	<0.0072	<0.0072	0.001	1.85
SB-15-2	2	11/5/2013	74	36	83	0.032	0.086	0.22	0.65	<0.0092	0.0093	0.0019	<0.0092	0.0034	<0.0092	<0.0092	0.002	11.5
SB-15-6	6	11/6/2013	3,300	160	<11	<0.57	1.4	3.8	5.7	0.015	0.0079	0.0074	0.0037	0.016	0.0079	0.0013	0.011	12.5
SB-15-9	9	11/7/2013	1,100	69	<11	0.38	1.4	6.8	7.2	0.0051	0.0021	0.0021	0.00081	0.0048	<0.0071	<0.0071	0.003	4.24
SB-15-13	13	11/7/2013	3.6	<3.4	<11	<0.0048	<0.0048	0.041	<0.014	<0.0076	<0.0076	<0.0076	<0.0076	<0.0038	<0.0076	<0.0076	0.001	1.78
SB-16-2	2	11/6/2013	210	7.2	<14	<0.036	<0.15	0.15	0.24	<0.0091	<0.0091	<0.0091	<0.0091	<0.0045	<0.0091	<0.0091	0.001	11.4
SB-16-6	6	11/6/2013	77	4.1	<11	<0.0055	0.034	0.012	0.096	0.0029	0.0018	0.0016	0.00081	0.0025	<0.0073	<0.0073	0.003	13.4
SB-16-8	8	11/7/2013	540	17	12	<0.040	0.17	0.42	0.67	0.0070	0.0029	0.0024	0.00093	0.0055	<0.0074	<0.0074	0.004	5.05
SB-16-10	10	11/7/2013	99	<3.4	12	0.054	0.097	0.22	0.20	<0.0075	<0.0075	0.0018	<0.0075	0.0011	<0.0075	<0.0075	0.001	6.84
SB-17-2	2	11/6/2013	2,800	62	33	<0.36	1.1	7.9	65	0.0018	<0.0086	0.0020	<0.0086	0.0026	<0.0086	<0.0086	0.002	19.3

**TABLE 1**  
**SUMMARY OF HISTORICAL SOIL ANALYTICAL DATA**  
**COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556**  
**101 Mulford Road**  
**Toledo, Washington**

SAMPLE ID	DEPTH (ft.)	DATE SAMPLED	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-HRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)	Benzo(a)anthracene <sup>1</sup> (mg/kg)	Benzo(a)pyrene <sup>1</sup> (mg/kg)	Benzo(b)fluoranthene <sup>1</sup> (mg/kg)	Benzo(k)fluoranthene <sup>1</sup> (mg/kg)	Chrysene <sup>1</sup> (mg/kg)	Dibenz(a,h)anthracene <sup>1</sup> (mg/kg)	Indeno (1,2,3-cd)pyrene <sup>1</sup> (mg/kg)	Total Toxicity of Benzo(a)pyrene <sup>2</sup> (mg/kg)	Total Lead (mg/kg)
SB-17-8	8	11/8/2013	1,300	25	<11	1.4	1.7	10	20	0.0027	0.0011	0.0013	<0.00074	0.0032	<0.00074	<0.00074	0.002	3.64
SB-17-11	11	11/8/2013	<0.9	<3.3	<11	<0.0046	<0.0046	<0.0046	<0.014	<0.00075	<0.00075	<0.00075	<0.00075	<0.00037	<0.00075	<0.000075	0.001	2.67
SB-18-8	8	11/7/2013	580	<3.4	<11	0.43	1.2	1.4	0.84	<0.00074	<0.00074	<0.00074	<0.00074	0.00055	<0.00074	<0.00074	0.001	4.55
DUP-2-110713	8	11/7/2013	620	7.8	<11	0.46	1.3	1.5	0.92	<0.00074	<0.00074	<0.00074	<0.00074	0.00044	<0.00074	<0.00074	0.001	4.09
SB-18-12	12	11/7/2013	<1	<3.5	<12	<0.0050	<0.0050	<0.0050	<0.015	<0.00077	<0.00077	<0.00077	<0.00077	<0.00038	<0.00077	<0.00077	0.001	3.00
SB-19-9	9	11/8/2013	5.7	<3.2	<11	<0.0048	0.014	0.014	0.042	<0.00072	<0.00072	<0.00072	<0.00072	0.00062	<0.00072	<0.00072	0.008	3.55
SB-19-11	11	11/8/2013	<1	<3.2	<11	<0.0050	<0.0050	<0.0050	<0.015	<0.00072	<0.00072	<0.00072	<0.00072	<0.00036	<0.00072	<0.00072	0.001	2.97
SB-20-2	2	11/8/2013	5.6	19	16	<0.0068	0.0068	<0.0091	<0.020	<0.00087	<0.00087	<0.00087	<0.00087	0.00098	<0.00087	<0.00087	0.001	5.29
SB-20-10	10	11/8/2013	730	65	<11	0.26	0.96	2.1	1.1	0.0054	0.0023	0.0021	0.00072	0.0050	<0.00071	<0.00071	0.003	5.80
SB-20-12	12	11/8/2013	2.1	<3.3	<11	<0.0048	<0.0048	0.0077	<0.014	<0.00073	<0.00073	<0.00073	<0.00073	<0.00036	<0.00073	<0.00073	0.001	6.07
SB-20-14	14	11/8/2013	<1.0	<3.4	<11	<0.0050	<0.0050	<0.0050	<0.015	<0.00075	<0.00075	<0.00075	<0.00075	<0.00037	<0.00075	<0.00075	0.001	3.94
SB-21-6	6	11/8/2013	<1.6	<3.7	<12	<0.0082	<0.0082	<0.0082	<0.025	<0.00082	<0.00082	<0.00082	<0.00082	<0.00041	<0.00082	<0.00082	0.001	3.83
SB-21-9	9	11/8/2013	61	3.3	<11	<0.020	<0.069	0.049	0.12	<0.00072	<0.00072	<0.00072	<0.00072	0.00061	<0.00072	<0.00072	0.001	4.42
SB-21-12	12	11/8/2013	<1.2	<3.3	<11	<0.0059	<0.0059	<0.0059	<0.018	<0.00073	<0.00073	<0.00073	<0.00073	<0.00037	<0.00073	<0.00073	0.001	4.62
<b>Proposed Site Cleanup Standards</b>			<b>30</b>	<b>460<sup>3</sup>/2,000<sup>4</sup></b>	<b>2,000</b>	<b>0.03</b>	<b>7.0</b>	<b>6.0</b>	<b>9.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.1</b>	<b>250</b>

**ABBREVIATIONS:**

DRO = Diesel Range Organics  
HRO = Oil Range Organics  
GRO = Gasoline Range Organics  
B = Benzene  
T = Toluene  
E = Ethylbenzene  
X = Xylenes  
T. LEAD = Total Lead

CULs = Cleanup levels

Dup = Duplicate  
Ecology = Washington State Department of Ecology  
EPA = United States Environmental Protection Agency  
mg/kg = Milligrams per kilogram  
MTCA = Model Toxics Control Act  
UNK = Unknown

**NOTES:**

1 Carcinogenic polycyclic aromatic hydrocarbons (cPAHs).  
2 Total toxicity of benzo(a)pyrene calculated using Toxicity Equivalency Factors provided in Table 708-2 of WAC 173-340-900. In cases where the analytical result was less than the reporting limit, the reporting limit value was used as the concentration to calculate total toxicity.  
3 Proposed Cleanup Standard for TPH-DRO in soil from ground surface to 6 feet below ground surface.  
4 Proposed Cleanup Standard for TPH-DRO in soil from 6 to 15 feet below ground surface.  
Results in bold indicate analyte reported in concentration exceeding proposed site cleanup standards.  
-- = Not Analyzed

**ANALYTICAL METHODS:**

Gasoline Range Organics Analyzed by Ecology Method NWTPH-Gx.  
Diesel Range Organics Analyzed by Ecology Method NWTPH-Dx with silica-gel cleanup.  
Heavy Oils Analyzed by Ecology Method NWTPH-Dx with silica-gel cleanup.  
Benzene, Toluene, Ethylbenzene, and Total Xylenes Analyzed by EPA Method 8021B (2004 and older) and EPA Method 8260B (2010)  
cPAHs analyzed by EPA Method 8270C SIM.  
Total Lead analyzed by EPA Method 6020.

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1,000	700	1,000	20	15	
MW-103	02/14/1991	107.81	8.08	--	99.73	--	--	--	--	--	--	--	--	--	--	--	
MW-103	02/18/1992	107.81	8.08	--	99.73	--	--	--	--	--	--	--	--	--	--	--	
MW-103	03/09/1992	107.81	7.80	--	100.01	--	--	--	--	<50	--	--	--	--	--	--	
MW-103	03/13/1992	107.81	8.08	--	99.73	<50	--	<250	--	<250	--	--	--	--	--	--	
MW-103	04/21/1992	107.81	7.78	--	100.03	<50	--	--	--	--	--	--	--	--	--	--	
MW-103	03/03/1994	107.81	--	--	--	<50	--	<250	--	<250	<13	--	--	--	--	--	
MW-103	06/13/1995	107.81	8.55	--	99.26	<50	--	<250	--	<250	--	--	--	--	--	<3.0	
MW-103	08/22/1995	107.81	--	--	--	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	08/23/1995	107.81	8.91	--	98.90	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	11/28/1995	107.81	7.30	--	100.51	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	03/12/1996	107.81	8.03	--	99.78	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	06/26/1996	107.81	8.67	--	99.14	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	10/09/1996	107.81	8.82	--	98.99	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	02/12/1997	107.81	7.81	--	100.00	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	04/22/1997	107.81	7.42	--	100.39	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	08/05/1997	107.81	8.83	--	98.98	257	--	257	--	110	--	--	--	--	--	<2.0	
MW-103	11/11/1997	107.81	9.01	--	98.80	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	02/11/1998	107.81	8.03	--	99.78	<50	--	<250	--	<250	--	--	--	--	--	<2.0	
MW-103	05/28/1998	107.81	8.17	--	99.64	<50	--	<250	--	<250	--	--	--	--	--	2.84	
MW-103	08/20/1998	107.81	9.21	--	98.60	<50	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	11/19/1998	107.81	9.03	--	98.78	<50	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	03/11/1999	107.81	7.51	--	100.30	<50	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	05/25/1999	107.81	8.51	--	99.30	<50	--	<250	--	<250	--	--	--	--	--	--	
MW-103	08/17/1999	107.81	8.93	--	98.88	<50	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	11/19/1999	107.81	7.18	--	100.63	<80	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	03/09/2000	107.81	7.48	--	100.33	<80	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	06/13/2000	107.81	8.29	--	99.52	<80	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	09/26/2000	107.81	9.05	--	98.76	--	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	12/13/2000	107.81	8.65	--	99.16	--	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	02/28/2001	107.81	8.34	--	99.47	89	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	05/02/2001	107.81	8.12	--	99.69	214	--	<250	--	<250	--	--	--	--	--	<1.0	
MW-103	12/30/2003	107.81	7.32	0.00	100.49	<110	--	<50	--	<85	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-103	07/20/2004	107.81	9.09	0.00	98.72	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	
MW-103	10/07/2004	107.81	8.66	0.00	99.15	--	--	<160	--	<50	--	--	--	--	--	--	
MW-103	01/27/2005	107.81	7.95	0.00	99.86	<48	--	<83	--	<83	--	--	--	--	--	--	
MW-103	04/12/2005	107.81	7.65	0.00	100.16	<48	--	<78	--	<78	--	--	--	--	--	--	
MW-103	07/18/2005	107.81	8.76	0.00	99.05	<48	--	<79	--	<79	--	--	--	--	--	--	
MW-103	10/21/2005	107.81	8.87	0.00	98.94	<48	--	<79	--	<79	--	--	--	--	--	--	
MW-103	08/12/2010	107.81	8.90	0.00	98.91	<50	--	30	--	120	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-103	11/3-4/2010	107.81	7.69	0.00	100.12	<50	--	<29	--	91	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	
MW-103	2/3-4/2011	107.81	7.99	0.00	99.82	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-103	05/24/2011	107.81	8.25	0.00	99.56	<50	--	30	--	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-103	11/7-9/2011	107.81	8.90	0.00	98.91	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-103	2/6-8/2012	107.81	7.80	0.00	100.01	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-103	5/2-4/2012	107.81	8.05	0.00	99.76	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.083	LFP
MW-103	8/1-3/2012	107.81	8.95	0.00	98.86	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP
MW-103	11/26-28/2012	107.81	7.36	0.00	100.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-103	2/4-6/2013	107.81	7.85	0.00	99.96	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.087	LFP
MW-103	5/6-8/2013	107.81	8.60	0.00	99.21	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-103	9/9-13/2013	107.81	8.55	0.00	99.26	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-103	11/18-21/2013	107.81	7.62	0.00	100.19	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.21	LFP
MW-103	2/4-11/2014	107.81	8.36	0.00	99.45	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-103	6/12-14/2014	107.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-103	8/18-21/2014	107.81	6.81	0.00	101.00	62	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.18	LFP
MW-103	11/19-20/2014	107.81	8.41	0.00	99.40	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-103	2/17-20/2015	107.81	7.83	0.00	99.98	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-103	5/11-15/2015	107.81	8.77	0.00	99.04	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-103	8/10-11/2015	107.81	9.35	0.00	98.46	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
MW-103	11/16-18/2015	107.81	6.67	0.00	101.14	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	LFP
MW-103	5/13-14/2016	107.81	8.60	0.00	99.21	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	11/14/2016	107.81	7.83	0.00	99.98	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	05/14/2017	107.81	7.87	0.00	99.94	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	11/11-12/2017	107.81	7.93	0.00	99.88	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	05/11/2018	107.81	8.56	0.00	99.25	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	11/11-12/2018	107.81	8.91	0.00	98.90	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	04/27/2019	107.81	8.29	0.00	99.52	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	11/03/2019	107.81	8.55	0.00	99.26	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-103	Nov 2019	107.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned
MW-109	03/13/1992	107.35	7.72	0.00	99.63	<50	--	--	--	--	--	--	--	--	--	--	--
MW-109	04/21/1992	107.35	7.42	0.00	99.93	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	03/03/1994	107.35	--	--	--	4,900	--	900	--	1,500	--	--	--	--	--	--	--
MW-109	08/22/1995	107.35	8.57	0.00	98.78	<50	--	2,900	--	2,400	--	--	--	--	--	--	--
MW-109	11/28/1995	107.35	5.87	0.00	101.48	72	--	480	--	1,900	--	--	--	--	--	<2.0	--
MW-109	03/12/1996	107.35	7.16	0.00	100.19	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-109	06/26/1996	107.35	8.24	0.00	99.11	<50	--	554	--	<750	--	--	--	--	--	<2.0	--
MW-109	10/09/1996	107.35	8.54	0.00	98.81	<50	--	405	--	<750	--	--	--	--	--	<2.0	--
MW-109	02/12/1997	107.35	5.82	0.00	101.53	<50	--	393	--	1,290	--	--	--	--	--	<2.0	--
MW-109	04/22/1997	107.35	7.10	0.00	100.25	<50	--	356	--	1,270	--	--	--	--	--	<2.0	--
MW-109	08/05/1997	107.35	8.81	0.00	98.54	<50	--	560	--	1,690	--	--	--	--	--	<2.0	--
MW-109	11/11/1997	107.35	7.57	0.00	99.78	<50	--	269	--	780	--	--	--	--	--	<2.0	--
MW-109	02/11/1998	107.35	6.20	0.00	101.15	<50	--	387	--	1,700	--	--	--	--	--	<2.0	--
MW-109	05/28/1998	107.35	7.62	0.00	99.73	<50	--	332	--	920	--	--	--	--	--	2.25	--
MW-109	08/20/1998	107.35	9.00	0.00	98.35	<50	--	520	--	1,450	--	--	--	--	--	<1.0	--
MW-109	11/19/1998	107.35	8.21	0.00	99.14	<50	--	409	--	1,130	--	--	--	--	--	<1.3	--
MW-109	03/11/1999	107.35	6.94	0.00	100.41	<80	--	539	--	2,000	--	--	--	--	--	<1.0	--
MW-109	05/25/1999	107.35	8.13	0.00	99.22	<80	--	916	--	--	--	--	--	--	--	--	--
MW-109	08/17/1999	107.35	8.66	0.00	98.69	<80	--	1,520	--	7,770	--	--	--	--	--	<1.0	--
MW-109	11/19/1999	107.35	6.65	0.00	100.70	<80	--	<250	--	--	--	--	--	--	--	<1.0	--
MW-109	03/09/2000	107.35	5.67	0.00	101.68	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	06/13/2000	107.35	6.65	0.00	100.70	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	09/26/2000	107.35	8.36	0.00	98.99	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	12/13/2000	107.35	7.72	0.00	99.63	--	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	02/28/2001	107.35	7.44	0.00	99.91	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	05/02/2001	107.35	9.50	0.00	97.85	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-109	10/30/2002	107.35	8.69	0.00	98.66	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	6.44	--
MW-109	10/31/2003	107.35	7.63	0.00	99.72	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	--
MW-109	12/31/2003	107.35	6.42	0.00	100.93	2,300	--	<50	--	440	<0.5	<0.5	<0.5	<1.5	--	<1.2	--
MW-109	10/06/2004	107.35	7.71	0.00	99.64	<50	--	<81	--	110	--	--	--	--	--	--	--
MW-109	10/24/2005	107.35	7.93	0.00	99.42	<48	--	<81	--	<100	--	--	--	--	--	--	--
MW-109	09/05/2007	107.35	8.45	0.00	98.90	91	--	<79	--	240	--	--	--	--	--	0.15	--

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-109	5/27-28/2008	107.35	7.86	0.00	99.49	<50	--	<79	--	<98	<0.5	0.6	<0.5	<0.5	<0.5	<0.050	
MW-109	8/27-29/2008	107.35	7.92	0.00	99.43	<50	--	<79	--	<99	<5	<5	<5	<5	<5	<0.050	LFP
MW-109	11/17-19/2008	107.35	6.60	0.00	100.75	<50	--	35	--	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	2/16-18/2009	107.35	7.59	0.00	99.76	<50	--	53	--	130	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-109	5/4-6/2009	107.35	7.09	0.00	100.26	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	8/19-21/2009	107.35	8.35	0.00	99.00	<50	--	49	--	290	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-109	11/18-20/2009	107.35	5.74	0.00	101.61	<50	--	98	--	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-109	2/8-10/2010	107.35	7.04	0.00	100.31	<50	--	31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	5/12-13/2010	107.35	7.41	0.00	99.94	<50	--	60	--	270	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-109	08/11/2010	107.35	8.90	0.00	98.45	<50	--	34	--	300	<0.5	<0.5	<0.5	<0.5	<0.5	0.1	LFP
MW-109	11/3-4/2010	107.35	6.37	0.00	100.98	<50	--	65	--	430	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	2/3-4/2011	107.35	7.12	0.00	100.23	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	05/23/2011	107.35	7.26	0.00	100.09	<50	--	47	--	520	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-109	8/23-24/11	107.35	8.35	0.00	99.00	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-109	11/7-9/2011	107.35	8.00	0.00	99.35	84	--	<300	--	890	<0.5	<0.5	0.6	<0.5	<0.5	0.19	LFP
MW-109	2/6-8/2012	107.35	6.85	0.00	100.50	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-109	5/2-4/2012	107.35	6.90	0.00	100.45	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-109	8/1-3/2012	107.35	8.13	0.00	99.22	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-109	11/26-28/2012	107.35	6.42	0.00	100.93	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-109	2/4-6/2013	107.35	6.95	0.00	100.40	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-109	5/6-8/2013	107.35	7.35	0.00	100.00	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-109	9/9-13/2013	107.35	7.34	0.00	100.01	<50	<31	<31	<72	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	LFP
MW-109	11/18-22/2013	107.35	8.12	0.00	99.23	<50	68	<29	170	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-109	2/4-11/2014	107.35	7.33	0.00	100.02	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-109	6/12-14/2014	107.35	7.31	0.00	100.04	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	--	Insufficient water to collect lead sample
MW-109	8/18-21/14	107.35	9.93	0.00	97.42	--	--	--	--	--	--	--	--	--	--	--	Insufficient Water
MW-109	11/19-20/2014	107.35	7.38	0.00	99.97	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-109	2/17-20/2015	107.35	6.91	0.00	100.44	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-109	5/11-15/2015	107.35	7.29	0.00	100.06	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-109	8/10-11/2015	107.35	8.62	0.00	98.73	<50	130	<29	640	210	<0.5	<0.5	<0.5	<0.5	<0.5	136	LFP
MW-109	11/16-18/2015	107.35	5.34	0.00	102.01	<50	36	<28	97	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0028	LFP
MW-109	5/13-14/2016	107.35	7.76	0.00	99.59	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-109	11/14/2016	107.35	6.40	0.00	100.95	<50	77	<28	65	<65	<0.5	<0.5	<0.5	<0.5	--	0.55	LFP
MW-109	05/14/2017	107.35	6.70	0.00	100.65	<50	45	<28	260	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-109	11/11-12/2017	107.35	6.61	0.00	100.74	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	--	0.40	LFP
MW-109	05/11/2018	107.35	7.38	0.00	99.97	<50	<28	31	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP
MW-109	11/11-12/2018	107.35	7.47	0.00	99.88	<19	40	<28	260	96	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-109	04/27/2019	107.35	7.28	0.00	100.07	<19	97	<30	<67	<67	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-109	11/03/2019	107.35	7.49	0.00	99.86	<19	41 J	<30	95 J	<68	<0.2	<0.2	<0.4	<1	--	29.4	LFP
MW-109	05/06/2020	107.35	7.50	0.00	99.85	51.3 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-109	11/7/2020	107.35	6.62	0.00	100.73	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-109	05/24/2021	107.35	7.94	0.00	99.41	35.0 BJ	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-109	11/29/2021	107.35	6.60	0.00	100.75	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-109	05/23/2022	107.35	7.05	0.00	100.30	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-109	11/29/2022	107.35	7.19	0.00	100.16	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-109	01/20/2023	107.35	6.35	0.00	101.00	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-109	05/15/2023	107.35	7.01	0.00	100.34	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	08/22/1995	108.89	9.62	0.00	99.27	11,000	--	400	--	<750	--	--	--	--	--	--	
MW-110	11/28/1995	108.89	8.08	0.00	100.81	6,000	--	540	--	<750	--	--	--	--	--	14	
MW-110	03/12/1996	108.89	8.74	0.00	100.15	3,600	--	340	--	<750	--	--	--	--	--	14	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-110	06/26/1996	108.89	9.41	0.00	99.48	2,750	--	274	--	<750	--	--	--	--	--	8.14	
MW-110	10/09/1996	108.89	9.67	0.00	99.22	1,160	--	<250	--	<750	--	--	--	--	--	5.96	
MW-110	02/12/1997	108.89	8.42	0.00	100.47	1,830	--	393	--	<750	--	--	--	--	--	11.7	
MW-110	04/22/1997	108.89	8.18	0.00	100.71	1,950	--	371	--	<750	--	--	--	--	--	7.27	
MW-110	08/05/1997	108.89	9.80	0.00	99.09	1,480	--	282	--	<750	--	--	--	--	--	3.16	
MW-110	11/11/1997	108.89	8.57	0.00	100.32	2,330	--	659	--	<750	--	--	--	--	--	22.9	
MW-110	02/11/1998	108.89	8.54	0.00	100.35	2,040	--	390	--	<750	--	--	--	--	--	15.3	
MW-110	05/28/1998	108.89	8.69	0.00	100.20	1,350	--	324	--	<750	--	--	--	--	--	15.5	
MW-110	08/20/1998	108.89	10.91	0.00	97.98	812	--	<250	--	<750	--	--	--	--	--	1.55	
MW-110	11/19/1998	108.89	9.51	0.00	99.38	637	--	258	--	<750	--	--	--	--	--	7.27	
MW-110	03/11/1999	108.89	8.09	0.00	100.80	2,350	--	486	--	<500	--	--	--	--	--	11	
MW-110	05/25/1999	108.89	9.28	0.00	99.61	2,950	--	<250	--	--	--	--	--	--	--	--	
MW-110	08/17/1999	108.89	9.81	0.00	99.08	749	--	<250	--	<500	--	--	--	--	--	2.2	
MW-110	11/19/1999	108.89	7.77	0.00	101.12	2,030	--	453	--	--	--	--	--	--	--	32.4	
MW-110	03/09/2000	108.89	8.15	0.00	100.74	3,780	--	<250	--	<500	--	--	--	--	--	9.59	
MW-110	06/13/2000	108.89	8.81	0.00	100.08	2,330	--	<250	--	<500	--	--	--	--	--	5.45	
MW-110	09/26/2000	108.89	9.98	0.00	98.91	--	--	<250	--	<500	--	--	--	--	--	2.83	
MW-110	12/13/2000	108.89	9.37	0.00	99.52	1,340	--	<250	--	<500	--	--	--	--	--	4.15	
MW-110	02/28/2001	108.89	9.07	0.00	99.82	1,800	--	<250	--	<500	--	--	--	--	--	6.32	
MW-110	05/02/2001	108.89	8.62	0.00	100.27	905	--	<250	--	<500	--	--	--	--	--	4.23	
MW-110	10/30/2002	108.89	10.28	0.00	98.61	3,880	--	<250	--	<500	<2.50	<2.50	22.5	108	--	6.36	
MW-110	01/23/2003	108.89	8.74	0.00	100.15	1,190	--	<250	--	<500	0.902	0.585	9.83	13.9	--	26.5	
MW-110	04/18/2003	108.89	8.40	0.00	100.49	499	--	<250	--	<500	1.94	<0.500	0.799	1.65	--	16.8	
MW-110	07/11/2003	108.89	9.99	0.00	98.90	586	--	<250	--	<500	1.76	<0.500	1.08	1.11	--	2.115	
MW-110	10/31/2003	108.89	9.25	0.00	99.64	184	--	<250	--	<500	0.529	<0.500	<0.500	<1.0	--	<1.0	
MW-110	12/31/2003	108.89	7.94	0.00	100.95	<99	--	1,800	--	410	<10	<2.0	23	25	--	17.3	
MW-110	05/03/2004	108.89	9.56	0.00	99.33	454	--	<250	--	<500	1.8	<0.500	<0.500	<1.0	--	3.865	
MW-110	07/20/2004	108.89	10.03	0.00	98.86	308	--	<250	--	<500	0.893	<0.500	<0.500	<1.0	--	<1.0	
MW-110	10/06/2004	108.89	9.38	0.00	99.51	160	--	<79	--	<99	--	--	--	--	--	--	
MW-110	01/27/2005	108.89	8.65	0.00	100.24	150	--	<81	--	<100	--	--	--	--	--	--	
MW-110	04/12/2005	108.89	8.22	0.00	100.67	290	--	370	--	<100	--	--	--	--	--	--	
MW-110	07/18/2005	108.89	9.50	0.00	99.39	100	--	<79	--	<99	--	--	--	--	--	--	
MW-110-DUP	07/18/2005	108.89	9.50	0.00	99.39	100	--	<79	--	<99	--	--	--	--	--	--	
MW-110	10/20/2005	108.89	9.62	0.00	99.27	110	--	82	--	100	--	--	--	--	--	--	
MW-110	09/04/2007	108.89	10.08	0.00	98.81	290	--	<150	--	220	--	--	--	--	--	5	
MW-110	5/27-28/2008	108.89	9.52	0.00	99.37	210	--	<76	--	<96	<0.5	<0.5	9	0.7	<0.5	9.1	LFP
MW-110	8/27-29/2008	108.89	9.60	0.00	99.29	240	--	120	--	<100	<5	<5	<5	<5	<5	1.5	LFP
MW-110	11/17-19/2008	108.89	8.17	0.00	100.72	150	--	410	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	34.1	LFP
MW-110	2/16-18/2009	108.89	9.23	0.00	99.66	<50	--	58	--	170	<0.5	<0.5	<0.5	<0.5	<0.5	27.7	LFP
MW-110	5/4-6/2009	108.89	8.60	0.00	100.29	96	--	380	--	670	<0.5	<0.5	<0.5	<0.5	<0.5	5.4	LFP
MW-110	8/19-21/2009	108.89	9.98	0.00	98.91	69	--	<30	--	76	<0.5	<0.5	<0.5	<0.5	<0.5	0.63	LFP
MW-110	11/18-20/2009	108.89	6.97	0.00	101.92	670	--	200	--	<67	<0.5	<0.5	2	<0.5	<0.5	5	LFP
MW-110	2/8-10/2010	108.89	8.64	0.00	100.25	<50	--	51	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	12.5	LFP
MW-110	5/12-13/2010	108.89	9.08	0.00	99.81	<50	--	39	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	4.2	LFP
MW-110	08/11/2010	108.89	9.75	0.00	99.14	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.4	LFP
MW-110	11/3-4/2010	108.89	8.15	0.00	100.74	<50	--	49	--	98	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	LFP
MW-110	2/3-4/2011	108.89	8.77	0.00	100.12	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.72	LFP
MW-110	05/24/2011	108.89	8.90	0.00	99.99	<50	--	<29	--	180	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-110	8/23-24/11	108.89	9.96	0.00	98.93	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	LFP
MW-110	11/7-9/2011	108.89	9.30	0.00	99.59	95	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-110	2/6-8/2012	108.89	8.40	0.00	100.49	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-110	5/2-4/2012	108.89	8.40	0.00	100.49	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-110	8/1-3/2012	108.89	8.46	0.00	100.43	<50	--	50	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-110	11/26-28/2012	108.89	7.95	0.00	100.94	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	LFP
MW-110	2/4-6/2013	108.89	8.38	0.00	100.51	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-110	5/6-8/2013	108.89	9.52	0.00	99.37	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-110	9/9-13/2013	108.89	9.03	0.00	99.86	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-110	11/18-21/2013	108.89	8.22	0.00	100.67	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.33	LFP
MW-110	2/4-11/2014	108.89	8.98	0.00	99.91	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-110	6/12-14/2014	108.89	9.50	0.00	99.39	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-110	8/18-21/14	108.89	8.53	0.00	100.36	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-110	11/19-20/2014	108.89	9.08	0.00	99.81	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.94	LFP
MW-110	2/17-20/2015	108.89	8.39	0.00	100.50	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-110	5/11-15/2015	108.89	9.51	0.00	99.38	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.46	LFP
MW-110	8/10-11/2015	108.89	10.23	0.00	98.66	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.88	LFP
MW-110	11/16-18/2015	108.89	6.54	0.00	102.35	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	LFP
MW-110	5/13-14/2016	108.89	9.04	0.00	99.85	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/14/2016	108.89	8.21	0.00	100.68	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/14/2017	108.89	8.40	0.00	100.49	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/11-12/2017	108.89	8.44	0.00	100.45	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/11/2018	108.89	9.12	0.00	99.77	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/11-12/2018	108.89	9.30	0.00	99.59	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	04/27/2019	108.89	8.93	0.00	99.96	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/03/2019	108.89	9.15	0.00	99.74	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/05/2020	108.89	9.15	0.00	99.74	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/7/2020	108.89	8.27	0.00	100.62	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/24/2021	108.89	9.61	0.00	99.28	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/29/2021	108.89	8.19	0.00	100.70	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/23/2022	108.89	8.67	0.00	100.22	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	11/29/2022	108.89	8.79	0.00	100.10	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	01/20/2023	108.89	7.96	0.00	100.93	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-110	05/15/2023	108.89	9.00	0.00	99.89	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-111	08/22/1995	107.12	7.86	0.00	99.26	33,000	--	360	--	<750	--	--	--	--	--	--	
MW-111	11/28/1995	107.12	6.14	0.00	100.98	17,000	--	640	--	<750	--	--	--	--	--	10	
MW-111	03/12/1996	107.12	6.84	0.00	100.28	11,000	--	290	--	<750	--	--	--	--	--	7.6	
MW-111	06/26/1996	107.12	7.55	0.00	99.57	7,690	--	479	--	<750	--	--	--	--	--	4.8	
MW-111	10/09/1996	107.12	7.81	0.00	99.31	3,560	--	256	--	<750	--	--	--	--	--	4.7	
MW-111	02/12/1997	107.12	6.52	0.00	100.60	17,200	--	631	--	<750	--	--	--	--	--	8.7	
MW-111	04/22/1997	107.12	6.31	0.00	100.81	13,800	--	920	--	<750	--	--	--	--	--	5.3	
MW-111	08/05/1997	107.12	7.90	0.00	99.22	4,290	--	444	--	<750	--	--	--	--	--	3.5	
MW-111	11/11/1997	107.12	6.70	0.00	100.42	14,300	--	770	--	<750	--	--	--	--	--	12.4	
MW-111	02/11/1998	107.12	6.65	0.00	100.47	13,600	--	587	--	<750	--	--	--	--	--	8.3	
MW-111	05/28/1998	107.12	6.89	0.00	100.23	11,200	--	526	--	<750	--	--	--	--	--	16.6	
MW-111	08/20/1998	107.12	9.08	0.00	98.04	5,950	--	637	--	<750	--	--	--	--	--	1.7	
MW-111	11/19/1998	107.12	7.60	0.00	99.52	10,500,000	--	3,890	--	<750	--	--	--	--	--	2.2	
MW-111	01/22/1999	107.12	5.36	0.00	101.76	19,000	--	--	--	--	--	--	--	--	--	--	
MW-111	03/11/1999	107.12	6.19	0.00	100.93	6,910	--	611	--	<500	--	--	--	--	--	6.3	
MW-111	05/25/1999	107.12	7.43	0.00	99.69	8,500	--	388	--	--	--	--	--	--	--	4.2	
MW-111	08/17/1999	107.12	7.98	0.00	99.14	17,600	--	547	--	<500	--	--	--	--	--	3	
MW-111	11/19/1999	107.12	5.87	0.00	101.25	27,900	--	547	--	--	--	--	--	--	--	14.4	
MW-111	03/09/2000	107.12	6.27	0.00	100.85	20,800	--	12,400	--	646	--	--	--	--	--	11.8	
MW-111	06/13/2000	107.12	6.91	0.00	100.21	29,600	--	7,670	--	<500	--	--	--	--	--	12.8	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-111	09/26/2000	107.12	8.37	0.00	98.75	--	--	--	--	--	--	--	--	--	--	--	
MW-111	12/13/2000	107.12	7.65	0.00	99.47	23,100	--	13,800	--	<500	--	--	--	--	--	4.1	
MW-111	02/28/2001	107.12	7.26	0.00	99.86	16,400	--	3,740	--	<500	--	--	--	--	--	5.6	
MW-111	05/02/2001	107.12	6.89	0.00	100.23	17,700	--	7,530	--	<500	--	--	--	--	--	10.7	
MW-111	10/30/2002	107.12	8.70	0.28	98.64	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	01/23/2003	107.12	6.99	0.04	100.16	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	04/18/2003	107.12	6.89	0.06	100.28	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	07/11/2003	107.12	8.25	0.07	98.93	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	10/31/2003	107.12	7.48	0.03	99.66	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	12/31/2003	107.12	6.40	0.00	100.72	300	--	50,000	--	2,800	8.3	6.5	1,100	3,300	--	15.2	
MW-111	05/03/2004	107.12	7.79	0.03	99.35	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	07/20/2004	107.12	8.16	0.06	99.01	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-111	10/06/2004	107.12	7.54	0.00	99.58	5,700	--	240	--	<100	--	--	--	--	--	--	
MW-111	01/27/2005	107.12	6.79	0.00	100.33	8,800	--	310	--	<98	--	--	--	--	--	--	
MW-111-DUP	01/27/2005	107.12	6.79	0.00	100.33	9,100	--	310	--	<98	--	--	--	--	--	--	
MW-111	04/12/2005	107.12	6.32	0.00	100.80	10,000	--	820	--	<100	--	--	--	--	--	--	
MW-111-DUP	04/12/2005	107.12	6.32	0.00	100.80	10,000	--	850	--	<110	--	--	--	--	--	--	
MW-111	07/18/2005	107.12	7.75	0.00	99.37	6,300	--	460	--	<96	--	--	--	--	--	--	
MW-111	10/20/2005	107.12	7.84	0.00	99.28	--	--	--	--	--	--	--	--	--	--	--	
MW-111	09/04/2007	107.12	8.26	0.00	98.86	6,800	--	1,100	--	<220	--	--	--	--	--	2.8	
MW-111	09/04/2007	107.12	--	--	--	<50	--	<81	--	<100	--	--	--	--	--	<0.047	
MW-111	5/27-28/2008	107.12	7.64	0.00	99.48	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to Obstruction in Well @ 7 Feet
MW-111	8/27-29/2008	107.12	7.71	0.00	99.41	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to Obstruction in Well @ 7 Feet
MW-111	11/17-19/2008	107.12	6.27	0.00	100.85	18,000	--	2,300	--	<1,400	3	<1	300	220	<1	36.8	LFP
MW-111	2/16-18/2009	107.12	7.36	0.00	99.76	20,000	--	350	--	74	4	2	190	110	<1	8.5	LFP
MW-111	5/4-6/2009	107.12	6.62	0.00	100.50	13,000	--	1,200	--	<70	8	2	220	120	<0.5	20.1	LFP
MW-111	8/19-21/2009	107.12	8.12	0.00	99.00	11,000	--	780	--	<70	4	0.6	180	130	<0.5	5.3	LFP
MW-111	11/18-20/2009	107.12	5.42	0.00	101.70	4,700	--	400	--	<68	5	0.7	53	21	<0.5	6.3	LFP
MW-111	2/08-10/2010	107.12	6.79	0.00	100.33	19,000	--	2,700	--	<140	16	1	270	110	<0.5	18.8	LFP
MW-111	5/11-13/2010	107.12	7.25	0.00	99.87	21,000	--	3,400	--	380	10	1	300	110	<1	22.6	LFP
MW-111	08/11/2010	107.12	7.92	0.00	99.20	9,200	--	1,300	--	<700	4	<1	220	55	<1	20.2	LFP
MW-111	11/3-4/2010	107.12	6.12	0.00	101.00	7,000	--	1,700	--	640	4	<1	160	68	<1	29.5	LFP
MW-111	2/3-4/2011	107.12	6.91	0.00	100.21	14,000	--	2,800	--	<340	10	0.9	250	72	<0.5	19.9	LFP
MW-111	05/24/2011	107.12	7.03	0.00	100.09	2,700	--	500	--	130	<0.5	<0.5	65	15	<0.5	2.8	LFP
MW-111	8/23-24/11	107.12	9.16	0.00	97.96	6,900	--	1,600	--	<69	3	<0.5	130	11	<0.5	12.2	LFP
MW-111	11/7-9/2011	107.12	7.85	0.00	99.27	20,000	--	4,700	--	<730	1	<1	140	26	<1	45.8	LFP
MW-111	2/6-8/2012	107.12	6.55	0.00	100.57	5,100	--	690	--	110	5	<0.5	140	<0.5	<0.5	22.1	LFP
MW-111	5/2-4/2012	107.12	6.50	0.00	100.62	4,400	--	420	--	<68	5	0.7	170	23	<0.5	8.9	LFP
MW-111	8/1-3/2012	107.12	7.93	0.00	99.19	6,900	--	620	--	140	0.6	<0.5	<0.5	12	<0.5	22.9	LFP
MW-111	11/26-28/2012	107.12	6.07	0.00	101.05	5,200	--	15,000	--	<3,500	4	<0.5	140	32	<0.5	36.1	LFP
MW-111	2/4-6/2013	107.12	6.53	0.00	100.59	7,500	--	2,300	--	710	<3	<3	120	24	<0.5	17.8	LFP
MW-111	5/6-8/2013	107.12	7.46	0.00	99.66	5,500	--	300	--	<67	2	<0.5	100	13	<0.5	16.6	LFP
MW-111	9/9-13/2013	107.12	7.15	0.00	99.97	5,500	3,600	330	89	<66	1	<0.5	110	39	<0.5	59.4	LFP
MW-111	11/18-22/2013	107.12	6.42	0.00	100.70	3,300	1,000	370	<66	<66	0.9	<0.5	77	13	<0.5	17.8	LFP
MW-111	2/4-11/2014	107.12	7.11	0.00	100.01	4,800	1,000	410	<68	<68	1	<0.5	75	7	<0.5	27.3	LFP
MW-111	6/12-14/2014	107.12	7.70	0.00	99.42	4,200	1,200	380	83	<67	2	<0.5	130	14	<0.5	16.1	LFP
MW-111	8/18-21/14	107.12	8.07	0.00	99.05	4,700	1,400	310	100	<67	1	<0.5	49	1	<0.5	1.09	LFP
MW-111	11/19-20/2014	107.12	6.47	0.00	100.65	6,000	1,800	430	320	<69	2	<0.5	120	11	<0.5	45.3	LFP
MW-111	2/17-20/2015	107.12	6.57	0.00	100.55	3,600	730	230	180	<68	1	<0.5	44	3	<0.5	14.3	LFP
MW-111	5/11-15/2015	107.12	9.02	0.00	98.10	4,400	1,000	320	<66	<66	1	<0.5	71	5	<0.5	0.0202	LFP
MW-111	8/10-11/2015	107.12	8.43	0.00	98.69	4,500	2,700	470	93	<67	<3	<3	31	6	<3	12.5	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-111	11/16-18/2015	107.12	4.59	0.00	102.53	1,900	450	150	270	<67	<0.5	<0.5	9	1	<0.5	0.0078	LFP
MW-111	5/13-14/2016	107.12	8.95	0.00	98.17	4,200	1,200	350	1,600	680	<0.5	<0.5	19	2	--	7.8	LFP
MW-111	11/14/2016	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate - Well Under Puddle
MW-111	05/14/2017	107.12	6.37	0.00	100.75	9,200	1,200	490	1,400	630	1	<0.5	46	3	--	10.3	LFP
MW-111	11/11-12/2017	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate - Well Under Puddle
MW-111	05/11/2018	107.12	7.57	0.00	99.55	6,600	1,400	440	970	400	14	2	45	3	<0.5	13.8	LFP
MW-111	11/11-12/2018	107.12	7.31	0.00	99.81	4,000	3,300	300	320	<68	3	0.6	33	3	--	92.8	LFP
MW-111	04/27/2019	107.12	7.11	0.00	100.01	5,800	1,800	900	1,900	1,100	3	0.6 J	29	2 J	--	17.8	LFP
MW-111	11/03/2019	107.12	7.31	0.00	99.81	4,500	2,100	250	970	400	1	0.3 J	20	2 J	--	49.4	LFP
MW-111	05/06/2020	107.12	7.60	0.00	99.52	37.8 B J	1,530	739	1,670	1,050	0.824 J	0.394 J	14	1.53 J	--	10.2	
MW-111	11/7/2020	107.12	6.45	0.00	100.67	511	1,300	144 B J	2,980	494 B	<1.00	1.15	0.415 J	<3.00	--	1.84 J	
MW-111	05/24/2021	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate - Well Under Puddle
MW-111	11/29/2021	107.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate - Well Under Puddle
MW-111	05/23/2022	107.12	7.85	0.00	99.27	628	738	75.5 J	840	<250	0.131 J	<1.00	0.775 J	<3.00	--	4.82 J	
MW-111-DUP	05/23/2022	--	--	--	--	654	640	<200	380	<250	0.182 J	<1.00	0.764 J	<3.00	--	3.72 J	
MW-111	11/29/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate - Well Under Puddle
MW-111	01/20/2023	107.12	6.15	0.00	100.97	62,600	3,010	676	1,710	<250	2,610	17,300	1,070	5,650	--	10.7	
MW-111	05/15/2023	107.12	7.20	0.00	99.92	4,890	80.7 J	80.7 J	121 J	121 J	81.3 J	1,070	89.2 J	583 J	--	2.16 B	
MW-112	08/22/1995	107.58	8.42	0.00	99.16	480	--	<250	--	<750	--	--	--	--	--	--	
MW-112	11/28/1995	107.58	6.73	0.00	100.85	150	--	<250	--	<750	--	--	--	--	--	5.8	
MW-112	03/12/1996	107.58	7.43	0.00	100.15	250	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	06/26/1996	107.58	8.12	0.00	99.46	63.8	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	10/09/1996	107.58	8.36	0.00	99.22	93.1	--	<250	--	<750	--	--	--	--	--	2.62	
MW-112	02/12/1997	107.58	7.11	0.00	100.47	1,250	--	322	--	<750	--	--	--	--	--	2.99	
MW-112	04/22/1997	107.58	6.85	0.00	100.73	323	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	08/05/1997	107.58	8.45	0.00	99.13	124	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	11/11/1997	107.58	7.26	0.00	100.32	112	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	02/11/1998	107.58	7.25	0.00	100.33	658	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-112	05/28/1998	107.58	7.46	0.00	100.12	713	--	315	--	<750	--	--	--	--	--	10.4	
MW-112	08/20/1998	107.58	9.64	0.00	97.94	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-112	11/19/1998	107.58	8.20	0.00	99.38	367	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-112	03/11/1999	107.58	6.79	0.00	100.79	1,370	--	<250	--	<500	--	--	--	--	--	1.42	
MW-112	05/25/1999	107.58	7.97	0.00	99.61	<80	--	<250	--	--	--	--	--	--	--	--	
MW-112	08/17/1999	107.58	8.51	0.00	99.07	106	--	<250	--	<500	--	--	--	--	--	<1.6	
MW-112	11/19/1999	107.58	6.46	0.00	101.12	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-112	03/09/2000	107.58	6.85	0.00	100.73	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	06/13/2000	107.58	7.48	0.00	100.10	824	--	<250	--	<500	--	--	--	--	--	2.14	
MW-112	09/26/2000	107.58	8.66	0.00	98.92	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	12/13/2000	107.58	8.07	0.00	99.51	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	02/28/2001	107.58	7.77	0.00	99.81	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-112	05/02/2001	107.58	7.31	0.00	100.27	710	--	<250	--	<500	--	--	--	--	--	1.44	
MW-112	10/30/2002	107.58	8.95	0.00	98.63	95.7	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	2.63	
MW-112	01/23/2003	107.58	7.39	0.00	100.19	178	--	<250	--	<500	<0.500	<0.500	0.730	<1.00	--	<1.0	
MW-112	04/18/2003	107.58	7.28	0.00	100.30	93.4	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	07/11/2003	107.58	8.68	0.00	98.90	<50.0	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	10/31/2003	107.58	8.04	0.00	99.54	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	12/30/2003	107.58	6.62	0.00	100.96	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-112	05/03/2004	107.58	8.22	0.00	99.36	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-112	07/20/2004	107.58	8.69	0.00	98.89	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	
MW-112	10/07/2004	107.58	8.06	0.00	99.52	<50	--	<82	--	<100	--	--	--	--	--	--	
MW-112	07/18/2005	107.58	8.26	0.00	99.32	<48	--	<77	--	<96	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-112	10/21/2005	107.58	8.25	0.00	99.33	48	--	<82	--	<100	--	--	--	--	--	--	--
MW-112	09/05/2007	107.58	8.79	0.00	98.79	<50	--	<79	--	<99	--	--	--	--	--	0.52	--
MW-112	5/27-28/2008	107.58	8.22	0.00	99.36	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-112	8/27-29/2008	107.58	8.26	0.00	99.32	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-112	11/17-19/2008	107.58	6.87	0.00	100.71	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.057	LFP
MW-112	2/16-18/2009	107.58	7.92	0.00	99.66	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.51	LFP
MW-112	5/4-06/2009	107.58	7.26	0.00	100.32	380	--	120	--	<69	2	<0.5	<0.5	<0.5	<0.5	2.1	LFP
MW-112	8/19-21/2009	107.58	8.67	0.00	98.91	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	LFP
MW-112	11/18-20/2009	107.58	5.58	0.00	102.00	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-112	2/8-10/2010	107.58	7.35	0.00	100.23	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.46	LFP
MW-112	5/12-13/2010	107.58	7.77	0.00	99.81	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	LFP
MW-112	08/12/2010	107.58	8.45	0.00	99.13	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP
MW-112	11/3-4/2010	107.58	6.85	0.00	100.73	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-112	2/3-4/2011	107.58	8.21	0.00	99.37	<50	--	49	--	89	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	LFP
MW-112	05/24/2011	107.58	7.58	0.00	100.00	<50	--	<29	--	270	<0.5	<0.5	<0.5	<0.5	<0.5	0.49	LFP
MW-112	8/23-24/11	107.58	8.52	0.00	99.06	72	--	860	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-112	11/7-9/2011	107.58	8.35	0.00	99.23	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-112	2/6-8/2012	107.58	7.10	0.00	100.48	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-112	5/2-4/2012	107.58	7.20	0.00	100.38	68	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	LFP
MW-112	8/1-3/2012	107.58	8.45	0.00	99.13	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-112	11/26-28/2012	107.58	6.67	0.00	100.91	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-112	2/4-6/2013	107.58	7.22	0.00	100.36	50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	LFP
MW-112	5/6-8/2013	107.58	8.00	0.00	99.58	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.47	LFP
MW-112	9/9-13/2013	107.58	7.71	0.00	99.87	<50	32	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.85	LFP
MW-112	11/18-22/2013	107.58	6.76	0.00	100.82	68	33	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	LFP
MW-112	2/4-11/2014	107.58	7.67	0.00	99.91	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.38	LFP
MW-112	8/18-21/14	107.58	8.63	0.00	98.95	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-112	11/19-20/2014	107.58	7.71	0.00	99.87	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-112	2/17-20/2015	107.58	7.33	0.00	100.25	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.083	LFP
MW-112	5/11-15/2015	107.58	8.19	0.00	99.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.460	LFP
MW-112	8/10-11/2015	107.58	8.90	0.00	98.68	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.200	LFP
MW-112	11/16-18/2015	107.58	5.65	0.00	101.93	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0014	LFP
MW-112	5/13-14/2016	107.58	8.18	0.00	99.40	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-112	11/14/2016	107.58	6.90	0.00	100.68	<50	--	56	--	<70	<0.5	<0.5	<0.5	<0.5	--	0.33	LFP
MW-112	05/14/2017	107.58	7.05	0.00	100.53	150	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	0.56	LFP
MW-112	11/11-12/2017	107.58	6.99	0.00	100.59	95	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	0.27	LFP
MW-112	05/11/2018	107.58	7.82	0.00	99.76	<50	--	59	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-112	11/11-12/2018	107.58	7.81	0.00	99.77	<19	--	<28	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-112	04/27/2019	107.58	7.62	0.00	99.96	38 J	--	130	--	98 J	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-112	11/03/2019	107.58	7.82	0.00	99.76	38 J	--	60 J	--	<68	<0.2	<0.2	<0.4	<1	--	0.25 J	LFP
MW-112	05/06/2020	107.58	7.83	0.00	99.75	42.6 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
MW-112	11/7/2020	107.58	6.94	0.00	100.64	183 B	<200	<200	131 J	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
MW-112	05/24/2021	107.58	8.21	0.00	99.37	61.1 BJ	72.0 J	72.0 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-112	11/29/2021	107.58	6.83	0.00	100.75	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-112	05/23/2022	107.58	7.33	0.00	100.25	107 B	132 J	132 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-112	11/29/2022	107.58	7.47	0.00	100.11	3,470	<200	--	<250	--	33.0	734	31.9	140	--	<2.00	LFP
MW-112	01/20/2023	107.58	6.58	0.00	101.00	94.9 B J	<200	--	<250	--	17.5	<1.00	0.264 J	0.269 J	--	<2.00	LFP
MW-112	05/15/2023	107.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	08/22/1995	108.44	9.26	0.00	99.18	3,100	--	320	--	<750	--	--	--	--	--	--	--
MW-113	11/28/1995	108.44	7.55	0.00	100.89	180	--	<250	--	<750	--	--	--	--	--	<2.0	--

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-113	03/12/1996	108.44	8.26	0.00	100.18	750	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	06/26/1996	108.44	8.95	0.00	99.49	809	--	<250	--	<750	--	--	--	--	--	2.43	
MW-113	10/09/1996	108.44	9.21	0.00	99.23	494	--	<250	--	<750	--	--	--	--	--	2.95	
MW-113	02/12/1997	108.44	7.93	0.00	100.51	1,600	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	04/22/1997	108.44	7.71	0.00	100.73	748	--	291	--	<750	--	--	--	--	--	<2.0	
MW-113	08/05/1997	108.44	9.37	0.00	99.07	876	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	11/11/1997	108.44	8.04	0.00	100.40	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	02/11/1998	108.44	8.02	0.00	100.42	76.10	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-113	05/28/1998	108.44	8.31	0.00	100.13	116	--	<250	--	<750	--	--	--	--	--	6.26	
MW-113	08/20/1998	108.44	10.48	0.00	97.96	235	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	11/19/1998	108.44	9.02	0.00	99.42	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	03/11/1999	108.44	7.59	0.00	100.85	162	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-113	05/25/1999	108.44	8.83	0.00	99.61	321	--	<250	--	--	--	--	--	--	--	--	
MW-113	08/17/1999	108.44	9.34	0.00	99.10	265	--	<250	--	<500	--	--	--	--	--	1.2	
MW-113	11/19/1999	108.44	7.27	0.00	101.17	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-113	03/09/2000	108.44	7.66	0.00	100.78	96.70	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	06/13/2000	108.44	8.29	0.00	100.15	154	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	09/26/2000	108.44	9.51	0.00	98.93	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	12/13/2000	108.44	8.91	0.00	99.53	<80	--	<250	--	588	--	--	--	--	--	<1.0	
MW-113	02/28/2001	108.44	8.60	0.00	99.84	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	05/02/2001	108.44	8.14	0.00	100.30	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-113	10/30/2002	108.44	9.85	0.00	98.59	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	1.55	
MW-113	01/23/2003	108.44	8.29	0.00	100.15	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	04/18/2003	108.44	8.09	0.00	100.35	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	07/11/2003	108.44	9.51	0.00	98.93	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	10/31/2003	108.44	8.80	0.00	99.64	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	12/31/2003	108.44	7.44	0.00	101.00	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-113	05/03/2004	108.44	9.14	0.00	99.30	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-113	07/20/2004	108.44	9.58	0.00	98.86	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	--	
MW-113	10/06/2004	108.44	8.92	DRY	--	--	--	--	--	--	--	--	--	--	--	--	
MW-113	01/27/2005	108.44	8.15	0.00	100.29	<48	--	<84	--	<110	--	--	--	--	--	--	
MW-113	04/12/2005	108.44	7.76	0.00	100.68	<48	--	<88	--	<110	--	--	--	--	--	--	
MW-113	07/18/2005	108.44	9.11	0.00	99.33	<48	--	<79	--	<98	--	--	--	--	--	--	
MW-113	10/26/2005	108.44	9.10	0.00	99.34	<48	--	<82	--	<100	--	--	--	--	--	--	
MW-113	09/05/2007	108.44	9.59	0.00	98.85	<50	--	<82	--	<100	--	--	--	--	--	0.32	
MW-113-DUP	09/05/2007	108.44	9.59	0.00	98.85	<50	--	<82	--	<100	--	--	--	--	--	0.32	LFP
MW-113	5/27-28/2008	108.44	9.02	0.00	99.42	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-113	8/27-29/2008	108.44	9.10	0.00	99.34	<50	--	<81	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-113	11/17-19/2008	108.44	7.68	0.00	100.76	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	2/16-18/2009	108.44	8.75	0.00	99.69	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.087	LFP
MW-113	5/4-6/2009	108.44	8.28	0.00	100.16	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	8/19-21/2009	108.44	9.50	0.00	98.94	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-113	11/18-20/2009	108.44	6.39	0.00	102.05	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-113	2/8-10/2010	108.44	8.15	0.00	100.29	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-113	5/12-13/2010	108.44	8.60	0.00	99.84	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.093	LFP
MW-113	08/12/2010	108.44	9.29	0.00	99.15	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.077	LFP
MW-113	11/3-4/2010	108.44	7.65	0.00	100.79	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	2/3-4/2011	108.44	8.26	0.00	100.18	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	05/24/2011	108.44	8.42	0.00	100.02	<50	--	<30	--	330	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-113	8/23-24/11	108.44	9.32	0.00	99.12	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.096	LFP
MW-113	11/7-9/2011	108.44	9.20	0.00	99.24	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP

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 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-113	2/6-8/2012	108.44	7.95	0.00	100.49	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-113	5/2-4/2012	108.44	8.00	0.00	100.44	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-113	8/1-3/2012	108.44	9.30	0.00	99.14	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.048	LFP
MW-113	11/26-28/2012	108.44	7.49	0.00	100.95	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-113	2/4-6/2013	108.44	8.06	0.00	100.38	<50	--	30	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-113	5/6-8/2013	108.44	8.83	0.00	99.61	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-113	9/9-13/2013	108.44	8.56	0.00	99.88	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-113	11/18-21/2013	108.44	7.74	0.00	100.70	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-113	2/4-11/2014	108.44	6.56	0.00	101.88	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-113	6/12-14/2014	108.44	8.79	0.00	99.65	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-113	8/18-21/14	108.44	9.39	0.00	99.05	<50	<30	<30	<71	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.35	LFP
MW-113	11/19-20/2014	108.44	8.59	0.00	99.85	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	2/17-20/2015	108.44	8.01	0.00	100.43	<50	<30	<30	<70	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	5/11-15/2015	108.44	9.08	0.00	99.36	75	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-113	8/10-11/2015	108.44	9.28	0.00	99.16	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
MW-113	11/16-18/2015	108.44	5.99	0.00	102.45	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.00019	LFP
MW-113	5/13-14/2016	108.44	8.95	0.00	99.49	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-113	11/14/2016	108.44	7.73	0.00	100.71	<50	--	57	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-113	05/14/2017	108.44	7.88	0.00	100.56	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
MW-113	11/11-12/2017	108.44	7.81	0.00	100.63	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP
MW-113	05/11/2018	108.44	8.65	0.00	99.79	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP
MW-113	11/11-12/2018	108.44	8.68	0.00	99.76	<19	--	<28	--	<65	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-113	04/27/2019	108.44	8.11	0.00	100.33	<19	--	81 J	--	130 J	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
MW-113	11/03/2019	108.44	8.65	0.00	99.79	<19	--	100	--	<66	<0.2	<0.2	<0.4	<1	--	0.25 J	LFP
MW-113	05/06/2020	108.44	8.67	0.00	99.77	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
MW-113	11/7/2020	108.44	7.77	0.00	100.67	44.4 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	0.888 J	LFP
MW-113	05/24/2021	108.44	9.11	0.00	99.33	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-113	11/29/2021	108.44	7.70	0.00	100.74	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-113	05/23/2022	108.44	8.20	0.00	100.24	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
MW-113	11/29/2022	108.44	8.28	0.00	100.16	64.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00	LFP
MW-113	01/20/2023	108.44	7.49	0.00	100.95	78.8 B J	<200	--	<250	--	<1.00	0.319 J	<1.00	1.39 J	--	<2.00	LFP
MW-113	05/15/2023	108.44	8.52	0.00	99.92	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	0.209 J	--	<2.00	LFP
MW-114	08/22/1995	106.89	7.47	0.00	99.42	<50	--	<250	--	<750	--	--	--	--	--	--	--
MW-114	11/28/1995	106.89	5.83	0.00	101.06	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	03/12/1996	106.89	6.39	0.00	100.50	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	06/26/1996	106.89	7.11	0.00	99.78	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	10/09/1996	106.89	7.42	0.00	99.47	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	02/12/1997	106.89	5.47	0.00	101.42	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	04/22/1997	106.89	14.30	0.00	92.59	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	08/05/1997	106.89	7.65	0.00	99.24	<50	--	<250	--	1,410	--	--	--	--	--	<2.0	--
MW-114	11/11/1997	106.89	6.45	0.00	100.44	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	02/11/1998	106.89	6.23	0.00	100.66	<50	--	<250	--	<750	--	--	--	--	--	<2.0	--
MW-114	05/28/1998	106.89	6.44	0.00	100.45	<50	--	<250	--	<750	--	--	--	--	--	5.91	--
MW-114	08/20/1998	106.89	8.75	0.00	98.14	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-114	11/19/1998	106.89	7.05	0.00	99.84	<50	--	<250	--	<750	--	--	--	--	--	<1.0	--
MW-114	03/11/1999	106.89	5.90	0.00	100.99	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--
MW-114	05/25/1999	106.89	7.10	0.00	99.79	<80	--	<250	--	--	--	--	--	--	--	--	--
MW-114	08/17/1999	106.89	7.59	0.00	99.30	<80	--	<250	--	607	--	--	--	--	--	<1.0	--
MW-114	11/19/1999	106.89	5.59	0.00	101.30	<80	--	<250	--	--	--	--	--	--	--	<1.0	--
MW-114	03/09/2000	106.89	5.98	0.00	100.91	<80	--	<250	--	<500	--	--	--	--	--	<1.0	--

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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-114	06/13/2000	106.89	6.04	0.00	100.85	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-114	09/26/2000	106.89	7.81	0.00	99.08	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-114	12/13/2000	106.89	7.06	0.00	99.83	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-114	02/28/2001	106.89	6.79	0.00	100.10	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-114	05/02/2001	106.89	8.84	0.00	98.05	<80	--	<250	--	1,880	--	--	--	--	--	<1.0	
MW-114	10/30/2002	106.89	8.32	0.00	98.57	115	--	<250	--	1,090	<0.500	<0.500	1.17	5.18	--	1.01	
MW-114	10/31/2003	106.89	6.61	0.00	100.28	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-114	12/30/2003	106.89	5.81	0.00	101.08	3,600	--	<50	--	480	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-114	10/06/2004	106.89	6.98	0.00	99.91	<50	--	<76	--	<95	--	--	--	--	--	--	
MW-114	10/24/2005	106.89	7.28	0.00	99.61	<48	--	<79	--	<99	--	--	--	--	--	--	LFP
MW-114	09/05/2007	106.89	7.87	0.00	99.02	<50	--	94	--	810	--	--	--	--	--	0.38	LFP
MW-114	5/27-28/2008	106.89	7.19	0.00	99.70	<50	--	<1,600	--	15,000	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-114	8/27-29/2008	106.89	7.30	0.00	99.59	<50	--	270	--	2,200	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	LFP
MW-114	11/17-19/2008	106.89	6.01	0.00	100.88	<50	--	330	--	4,600	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-114	2/16-18/2009	106.89	6.91	0.00	99.98	<50	--	210	--	1,900	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
MW-114	5/4-6/2009	106.89	6.42	0.00	100.47	<50	--	180	--	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-114	8/19-21/2009	106.89	7.78	0.00	99.11	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.79	LFP
MW-114	11/18-20/2009	106.89	5.10	0.00	101.79	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.34	LFP
MW-114	2/8-10/2010	106.89	6.38	0.00	100.51	<50	--	110	--	790	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	5/12-13/2010	106.89	6.71	0.00	100.18	<50	--	<30	--	80	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	LFP
MW-114	08/11/2010	106.89	7.45	0.00	99.44	<50	--	<29	--	220	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-114	11/3-4/2010	106.89	5.88	0.00	101.01	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-114	2/3-4/2011	106.89	6.48	0.00	100.41	<50	--	60	--	460	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	05/23/2011	106.89	6.55	0.00	100.34	<50	--	55	--	380	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-114	8/23-24/11	106.89	7.70	0.00	99.19	<50	--	130	--	1,500	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP
MW-114	11/7-9/2011	106.89	7.35	0.00	99.54	<50	--	120	--	950	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	2/6-8/2012	106.89	6.25	0.00	100.64	<50	--	<29	--	180	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP
MW-114	5/2-4/2012	106.89	5.95	0.00	100.94	<50	--	<30	--	140	<0.5	<0.5	<0.5	<0.5	<0.5	0.72	LFP
MW-114	8/1-3/2012	106.89	7.50	0.00	99.39	<50	--	140	--	910	<0.5	<0.5	<0.5	<0.5	<0.5	0.084	LFP
MW-114	11/26-28/2012	106.89	5.88	0.00	101.01	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	0.19	LFP
MW-114	2/4-6/2013	106.89	6.27	0.00	100.62	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	LFP
MW-114	5/6-8/2013	106.89	6.97	0.00	99.92	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-114	9/9-13/2013	106.89	6.96	0.00	99.93	<50	60	<29	260	<67	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	LFP
MW-114	11/18-22/2013	106.89	8.36	0.00	98.53	<50	99	200	340	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	2/4-11/2014	106.89	6.56	0.00	100.33	<50	<29	<29	71	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.12	LFP
MW-114	6/12-14/2014	106.89	6.96	0.00	99.93	<50	94	38	820	340	<0.5	<0.5	<0.5	<0.5	<0.5	0.18	LFP
MW-114	8/18-21/14	106.89	7.57	0.00	99.32	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-114	11/19-20/2014	106.89	6.75	0.00	100.14	<50	<28	<28	140	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-114	2/17-20/2015	106.89	6.31	0.00	100.58	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-114	5/11-15/2015	106.89	6.89	0.00	100.00	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	LFP
MW-114	8/10-11/2015	106.89	8.03	0.00	98.86	<50	130	<29	570	170	<0.5	<0.5	<0.5	<0.5	<0.5	39.2	LFP
MW-114	11/16-18/2015	106.89	4.54	0.00	102.35	<50	49	<29	280	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0145	LFP
MW-114	5/13-14/2016	106.89	7.97	0.00	98.92	<50	67	35	490	260	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
MW-114	11/14/2016	106.89	5.40	0.00	101.49	<50	220	36	790	280	<0.5	<0.5	<0.5	<0.5	--	2.5	LFP
MW-114	05/14/2017	106.89	5.93	0.00	100.96	<50	42	38	<67	280	<0.5	<0.5	<0.5	<0.5	--	8.3	LFP
MW-114	11/11-12/2017	106.89	5.82	0.00	101.07	<50	61	<28	320	<66	<0.5	<0.5	<0.5	<0.5	--	0.45	LFP
MW-114	05/11/2018	106.89	6.70	0.00	100.19	<50	29	<28	230	98	<0.5	<0.5	<0.5	<0.5	<0.5	0.40	LFP
MW-114	04/27/2019	106.89	6.60	0.00	100.29	<19	99	<29	300	<66	<0.2	<0.2	<0.4	<1	--	5	
MW-114	11/03/2019	106.89	6.80	0.00	100.09	<19	110	<30	670	310	<0.2	<0.2	<0.4	<1	--	0.21 J	
MW-114	05/06/2020	106.89	6.77	0.00	100.12	38.2 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<5.00	
MW-114	11/7/2020	106.89	5.95	0.00	100.94	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-114	05/24/2021	106.89	7.26	0.00	99.63	<100	<200	<200	83.9 J	83.9 J	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114	11/29/2021	106.89	5.96	0.00	100.93	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114 DUP	11/29/2021	--	--	--	--	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
MW-114	05/23/2022	106.89	6.39	0.00	100.50	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-114	11/29/2022	106.89	6.49	0.00	100.40	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-114	01/20/2023	106.89	5.74	0.00	101.15	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-114	05/15/2023	106.89	6.29	0.00	100.60	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	08/22/1995	107.94	8.79	0.00	99.15	1,800	--	<250	--	<750	--	--	--	--	--	--	
MW-115	11/28/1995	107.94	7.05	0.00	100.89	460	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	03/12/1996	107.94	7.76	0.00	100.18	630	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	06/26/1996	107.94	8.45	0.00	99.49	706	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	10/09/1996	107.94	8.71	0.00	99.23	722	--	<250	--	<750	--	--	--	--	--	2.54	
MW-115	02/12/1997	107.94	7.48	0.00	100.46	58	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	04/22/1997	107.94	7.25	0.00	100.69	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	08/05/1997	107.94	8.77	0.00	99.17	611	--	<250	--	<750	--	--	--	--	--	2.0	
MW-115	11/11/1997	107.94	7.71	0.00	100.23	57	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	02/11/1998	107.94	7.72	0.00	100.22	89.5	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-115	05/28/1998	107.94	7.92	0.00	100.02	<50	--	<250	--	<750	--	--	--	--	--	8.08	
MW-115	08/20/1998	107.94	9.18	0.00	98.76	155	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	11/19/1998	107.94	8.58	0.00	99.36	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	03/11/1999	107.94	7.12	0.00	100.82	<80	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-115	05/25/1999	107.94	8.33	0.00	99.61	<80	--	<250	--	--	--	--	--	--	--	--	
MW-115	08/17/1999	107.94	8.87	0.00	99.07	163	--	<250	--	<500	--	--	--	--	--	1.4	
MW-115	11/19/1999	107.94	6.82	0.00	101.12	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-115	03/09/2000	107.94	7.20	0.00	100.74	103	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	06/13/2000	107.94	7.82	0.00	100.12	<80	--	--	--	--	--	--	--	--	--	<1.0	
MW-115	09/26/2000	107.94	9.02	0.00	98.92	--	--	<250	--	<500	--	--	--	--	--	1.02	
MW-115	12/13/2000	107.94	8.43	0.00	99.51	313	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	02/28/2001	107.94	8.13	0.00	99.81	177	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	05/02/2001	107.94	10.37	0.00	97.57	162	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-115	10/30/2002	107.94	9.33	0.00	98.61	175	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	4.36	
MW-115	10/31/2003	107.94	8.30	0.00	99.64	78.9	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-115	12/31/2003	107.94	6.98	0.00	100.96	<99	--	<50	--	<79	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-115	10/06/2004	107.94	8.43	0.00	99.51	<50	--	<160	--	<200	--	--	--	--	--	--	LFP
MW-115	10/21/2005	107.94	8.67	0.00	99.27	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-115-DUP	10/21/2005	107.94	8.67	0.00	99.27	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-115	09/05/2007	107.94	9.11	0.00	98.83	<50	--	<76	--	<95	--	--	--	--	--	0.37	LFP
MW-115	8/27-29/2008	107.94	8.63	0.00	99.31	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.35	LFP
MW-115	11/17-19/2008	107.94	7.25	0.00	100.69	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.097	LFP
MW-115	2/16-18/2009	107.94	8.31	0.00	99.63	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP
MW-115	5/4-6/2009	107.94	7.66	0.00	100.28	<50	--	42	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-115	8/19-21/2009	107.94	9.04	0.00	98.90	<50	--	320	--	2,700	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	LFP
MW-115	10/19/2009	107.94	8.70	0.00	99.24	--	--	<29	--	<68	--	--	--	--	--	--	LFP
MW-115	11/18-20/2009	107.94	5.85	0.00	102.09	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-115	2/8-10/2010	107.94	7.69	0.00	100.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP
MW-115	5/12-13/2010	107.94	8.14	0.00	99.80	<50	--	30	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.20	LFP
MW-115	08/12/2010	107.94	8.81	0.00	99.13	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	LFP
MW-115	11/3-4/2010	107.94	7.07	0.00	100.87	70	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.83	LFP
MW-115	2/3-4/2011	107.94	7.81	0.00	100.13	<50	--	33	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-115	05/24/2011	107.94	7.95	0.00	99.99	<50	--	42	--	220	<0.5	<0.5	<0.5	<0.5	<0.5	0.53	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-115	8/23-24/11	107.94	9.05	0.00	98.89	73	--	68	--	74	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	LFP
MW-115	11/7-9/2011	107.94	8.70	0.00	99.24	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.60	LFP
MW-115	2/6-8/2012	107.94	7.55	0.00	100.39	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-115	5/2-4/2012	107.94	7.55	0.00	100.39	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-115	8/1-3/2012	107.94	8.82	0.00	99.12	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.63	LFP
MW-115	11/26-28/2012	107.94	7.04	0.00	100.90	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.052	LFP
MW-115	2/4-6/2013	107.94	7.58	0.00	100.36	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-115	5/6-8/2013	107.94	8.34	0.00	99.60	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP
MW-115	9/9-13/2013	107.94	8.09	0.00	99.85	<50	31	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.89	LFP
MW-115	11/18-21/2013	107.94	7.45	0.00	100.49	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.45	LFP
MW-115	2/4-11/2014	107.94	8.05	0.00	99.89	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.43	LFP
MW-115	8/18-21/14	107.94	8.88	0.00	99.06	66	36	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	LFP
MW-115	11/19-20/2014	107.94	8.07	0.00	99.87	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.28	LFP
MW-115	2/17-20/2015	107.94	7.57	0.00	100.37	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-115	5/11-15/2015	107.94	8.33	0.00	99.61	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.60	LFP
MW-115	8/10-11/2015	107.94	9.28	0.00	98.66	<50	33	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.71	LFP
MW-115	11/16-18/2015	107.94	6.53	0.00	101.41	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00	LFP
MW-115	5/13-14/2016	107.94	8.48	0.00	99.46	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	11/14/2016	107.94	7.35	0.00	100.59	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	05/14/2017	107.94	7.44	0.00	100.50	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	11/11-12/2017	107.94	7.37	0.00	100.57	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	05/11/2018	107.94	8.20	0.00	99.74	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	11/11-12/2018	107.94	8.31	0.00	99.63	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	04/27/2019	107.94	7.49	0.00	100.45	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	11/03/2019	107.94	8.20	0.00	99.74	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-115	Nov 2019	107.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned
MW-116	08/22/1995	107.56	8.82	0.00	98.74	<50	--	<250	--	<750	--	--	--	--	--	--	LFP
MW-116	03/12/1996	107.56	8.08	0.00	99.48	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	10/09/1996	107.56	8.69	0.00	98.87	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	02/12/1997	107.56	7.86	0.00	99.70	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	04/22/1997	107.56	7.65	0.00	99.91	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	08/05/1997	107.56	8.71	0.00	98.85	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	11/11/1997	107.56	8.07	0.00	99.49	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	02/11/1998	107.56	8.06	0.00	99.50	<50	--	<250	--	<750	--	--	--	--	--	<2.0	LFP
MW-116	05/28/1998	107.56	8.25	0.00	99.31	<50	--	<250	--	<750	--	--	--	--	--	4.66	LFP
MW-116	08/20/1998	107.56	9.05	0.00	98.51	<50	--	<250	--	<750	--	--	--	--	--	<1.0	LFP
MW-116	11/19/1998	107.56	9.16	0.00	98.40	<50	--	<250	--	<750	--	--	--	--	--	<1.0	LFP
MW-116	03/11/1999	107.56	7.64	0.00	99.92	<80	--	<250	--	<750	--	--	--	--	--	<1.0	LFP
MW-116	05/25/1999	107.56	8.40	0.00	99.16	<80	--	<250	--	--	--	--	--	--	--	--	LFP
MW-116	08/17/1999	107.56	8.78	0.00	98.78	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	11/19/1999	107.56	7.60	0.00	99.96	<80	--	<250	--	--	--	--	--	--	--	<1.0	LFP
MW-116	03/09/2000	107.56	7.70	0.00	99.86	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	06/13/2000	107.56	8.37	0.00	99.19	<80	--	--	--	--	--	--	--	--	--	<1.0	LFP
MW-116	09/26/2000	107.56	8.88	0.00	98.68	--	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	12/13/2000	107.56	8.52	0.00	99.04	--	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	02/28/2001	107.56	8.25	0.00	99.31	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	05/02/2001	107.56	10.84	0.00	96.72	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-116	12/30/2003	107.56	7.54	0.00	100.02	<99	--	<50	--	<79	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-116	07/20/2004	107.56	8.92	0.00	98.64	<50	--	<284	--	<568	<0.500	<0.500	<0.500	<1.00	--	--	LFP
MW-116	10/07/2004	107.56	7.54	0.00	100.02	<50	--	<75	--	<94	--	--	--	--	--	--	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-116	10/20/2005	107.56	8.73	0.00	98.83	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-116	09/06/2007	107.56	9.00	0.00	98.56	<50	--	<76	--	<95	--	--	--	--	--	0.15	LFP
MW-116	8/27-29/2008	107.56	8.68	0.00	98.88	<50	--	89	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	11/17-19/2008	107.56	7.93	0.00	99.63	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	2/16-18/2009	107.56	8.45	0.00	99.11	<50	--	590	--	350	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-116	5/4-6/2009	107.56	8.20	0.00	99.36	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	8/19-21/2009	107.56	8.91	0.00	98.65	<50	--	34	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-116	11/18-20/2009	107.56	6.85	0.00	100.71	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
MW-116	2/8-10/2010	107.56	8.07	0.00	99.49	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	
MW-116	08/12/2010	107.56	8.78	0.00	98.78	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-116	11/3-4/2010	107.56	8.04	0.00	99.52	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-116	2/3-4/2011	107.56	8.16	0.00	99.40	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-116	05/24/2011	107.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-116	8/23-24/11	107.56	9.00	0.00	98.56	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	11/7-9/2011	107.56	8.75	0.00	98.81	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	2/6-8/2012	107.56	8.05	0.00	99.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	5/2-4/2012	107.56	8.10	0.00	99.46	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-116	8/1-3/2012	107.56	8.80	0.00	98.76	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-116	11/26-28/2012	107.56	7.84	0.00	99.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-116	2/4-6/2013	107.56	8.04	0.00	99.52	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-116	5/6-8/2013	107.56	8.51	0.00	99.05	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-116	9/9-13/2013	107.56	8.61	0.00	98.95	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-116	11/18-21/2013	107.56	8.15	0.00	99.41	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-116	2/4-11/2014	107.56	8.28	0.00	99.28	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-116	8/18-21/14	107.56	8.83	0.00	98.73	68	38	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.78	LFP
MW-116	11/19-20/2014	107.56	8.38	0.00	99.18	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-116	2/17-20/2015	107.56	8.08	0.00	99.48	<50	<30	<30	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	
MW-116	5/11-15/2015	107.56	8.71	0.00	98.85	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	
MW-116	8/10-11/2015	107.56	9.17	0.00	98.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.42	
MW-116	11/16-18/2015	107.56	7.37	0.00	100.19	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0062	
MW-116	5/13-14/2016	107.56	8.59	0.00	98.97				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-116	11/14/2016	107.56	8.06	0.00	99.50	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-116	05/14/2017	107.56	8.07	0.00	99.49	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-116	11/11-12/2017	107.56	8.14	0.00	99.42				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-116	05/11/2018	107.56	8.43	0.00	99.13	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-116	11/11-12/2018	107.56	9.04	0.00	98.52				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-116	04/27/2019	107.56	8.30	0.00	99.26	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-116	11/03/2019	107.56	8.48	0.00	99.08	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-116	Nov 2019	107.56	--	--	--				WELL ABANDONED								
MW-117	08/22/1995	106.57	7.45	0.00	99.12	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-117	11/28/1995	106.57	5.45	0.00	101.12	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	03/12/1996	106.57	6.32	0.00	100.25	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	06/26/1996	106.57	7.18	0.00	99.39	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	10/09/1996	106.57	7.42	0.00	99.15	<50	--	<250	--	<750	--	--	--	--	--	7.1	
MW-117	02/12/1997	106.57	5.93	0.00	100.64	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	04/22/1997	106.57	5.78	0.00	100.79	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	08/05/1997	106.57	7.58	0.00	98.99	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	11/11/1997	106.57	6.21	0.00	100.36	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	02/11/1998	106.57	6.21	0.00	100.36	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-117	05/28/1998	106.57	6.44	0.00	100.13	<50	--	<250	--	<750	--	--	--	--	--	2.68	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-117	08/20/1998	106.57	7.90	0.00	98.67	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-117	11/19/1998	106.57	7.18	0.00	99.39	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-117	03/11/1999	106.57	5.51	0.00	101.06	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	05/25/1999	106.57	7.00	0.00	99.57	<80	--	<250	--	--	--	--	--	--	--	--	
MW-117	08/17/1999	106.57	7.56	0.00	99.01	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	11/19/1999	106.57	5.11	0.00	101.46	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-117	03/09/2000	106.57	5.65	0.00	100.92	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	06/13/2000	106.57	6.25	0.00	100.32	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	09/26/2000	106.57	7.70	0.00	98.87	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	12/13/2000	106.57	7.11	0.00	99.46	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	02/28/2001	106.57	6.78	0.00	99.79	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	05/02/2001	106.57	8.90	0.00	97.67	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-117	12/30/2003	106.57	5.46	0.00	101.11	<100	--	<50	--	<80	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-117	10/06/2004	106.57	7.07	0.00	99.50	<50	--	<79	--	<98	--	--	--	--	--	--	LFP
MW-117	10/21/2005	106.57	7.33	0.00	99.24	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-117	09/05/2007	106.57	7.92	0.00	98.65	<50	--	<82	--	<100	--	--	--	--	--	0.22	LFP
MW-117	5/27-28/2008	106.57	7.42	0.00	99.15	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.056	LFP
MW-117	8/27-29/2008	106.57	7.38	0.00	99.19	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	11/17-19/2008	106.57	5.90	0.00	100.67	<50	--	55	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	2/16-18/2009	106.57	7.06	0.00	99.51	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.095	LFP
MW-117	5/4-6/2009	106.57	6.51	0.00	100.06	<50	--	38	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	8/19-21/2009	106.57	7.82	0.00	98.75	<50	--	40	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.073	LFP
MW-117	11/18-20/2009	106.57	3.85	0.00	102.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	2/8-10/2010	106.57	6.43	0.00	100.14	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	5/12-13/2010	106.57	6.96	0.00	99.61	<50	--	36	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
MW-117	08/12/2010	106.57	7.68	0.00	98.89	<50	--	<29	--	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	11/3-4/2010	106.57	5.97	0.00	100.60	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	2/3-4/2011	106.57	6.5	0.00	100.07	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	05/24/2011	106.57	6.77	0.00	99.80	<50	--	<30	--	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
MW-117	8/23-24/11	106.57	7.85	0.00	98.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-117	11/7-9/2011	106.57	7.55	0.00	99.02	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	2/6-8/2012	106.57	6.20	0.00	100.37	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	5/2-4/2012	106.57	6.00	0.00	100.57	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-117	8/1-3/2012	106.57	7.66	0.00	98.91	<50	--	<32	--	<75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
MW-117	11/26-28/2012	106.57	5.60	0.00	100.97	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-117	2/4-6/2013	106.57	6.29	0.00	100.28	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-117	5/6-8/2013	106.57	7.18	0.00	99.39	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-117	9/9-13/2013	106.57	8.11	0.00	98.46	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	11/18-21/2013	106.57	5.99	0.00	100.58	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	2/4-11/2014	106.57	6.85	0.00	99.72	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	6/12-14/2014	106.57	7.11	0.00	99.46	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-117	8/18-21/14	106.57	7.71	0.00	98.86	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.37	LFP
MW-117	11/19-20/2014	106.57	6.91	0.00	99.66	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	2/17-20/2015	106.57	6.26	0.00	100.31	<50	<29	<29	<69	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	5/11-15/2015	106.57	6.91	0.00	99.66	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-117	8/10-11/2015	106.57	8.10	0.00	98.47	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	1.10	LFP
MW-117	11/16-18/2015	106.57	3.89	0.00	102.68	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0021	LFP
MW-117	5/13-14/2016	106.57	7.38	0.00	99.19				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-117	11/14/2016	106.57	5.60	0.00	100.97	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-117	05/14/2017	106.57	6.10	0.00	100.47	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-117	11/11-12/2017	106.57	6.16	0.00	100.41				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
MW-117	05/11/2018	106.57	7.04	0.00	99.53	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-117	11/11-12/2018	106.57	6.58	0.00	99.99	WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY												
MW-117	04/27/2019	106.57	6.82	0.00	99.75	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-117	11/03/2019	106.57	7.09	0.00	99.48	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-117	Nov 2019	106.57	--	--	--	WELL ABANDONED												
MW-118	08/22/1995	106.72	7.87	0.00	98.85	<50	--	470	--	<750	--	--	--	--	--	--	--	
MW-118	11/28/1995	106.72	5.76	0.00	100.96	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	03/12/1996	106.72	6.67	0.00	100.05	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	06/26/1996	106.72	7.51	0.00	99.21	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	10/09/1996	106.72	7.78	0.00	98.94	50.1	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	02/12/1997	106.72	6.35	0.00	100.37	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	04/22/1997	106.72	5.98	0.00	100.74	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	08/05/1997	106.72	7.85	0.00	98.87	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	11/11/1997	106.72	6.52	0.00	100.20	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	02/11/1998	106.72	6.56	0.00	100.16	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0	
MW-118	05/28/1998	106.72	6.85	0.00	99.87	<50	--	<250	--	<750	--	--	--	--	--	--	2.84	
MW-118	08/20/1998	106.72	7.26	0.00	99.46	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0	
MW-118	11/19/1998	106.72	7.70	0.00	99.02	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0	
MW-118	03/11/1999	106.72	5.81	0.00	100.91	<80	--	<250	--	<750	--	--	--	--	--	--	<1.0	
MW-118	05/25/1999	106.72	7.39	0.00	99.33	<80	--	<250	--	--	--	--	--	--	--	--	--	
MW-118	08/17/1999	106.72	7.95	0.00	98.77	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	11/19/1999	106.72	5.53	0.00	101.19	<80	--	<250	--	--	--	--	--	--	--	--	<1.0	
MW-118	03/09/2000	106.72	5.99	0.00	100.73	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	06/13/2000	106.72	7.08	0.00	99.64	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	09/26/2000	106.72	8.07	0.00	98.65	--	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	12/13/2000	106.72	7.53	0.00	99.19	--	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	02/28/2001	106.72	7.17	0.00	99.55	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	05/02/2001	106.72	6.81	0.00	99.91	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0	
MW-118	12/30/2003	106.72	5.71	0.00	101.01	<500	--	<50	--	<400	<0.5	<0.5	<0.5	<1.5	--	--	<1.2	
MW-118	07/20/2004	106.72	8.14	0.00	98.58	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	--	
MW-118	10/07/2004	106.72	7.55	0.00	99.17	<50	--	<76	--	<96	--	--	--	--	--	--	--	LFP
MW-118-DUP	10/07/2004	106.72	7.55	0.00	99.17	<50	--	<80	--	160	--	--	--	--	--	--	--	LFP
MW-118	10/20/2005	106.72	7.78	0.00	98.94	<48	--	<83	--	<100	--	--	--	--	--	--	--	LFP
MW-118	09/05/2007	106.72	8.20	0.00	98.52	<50	--	980	--	710	--	--	--	--	--	--	0.13	LFP
MW-118	8/27-29/2008	106.72	7.64	0.00	99.08	<50	--	260	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	11/17-19/2008	106.72	6.20	0.00	100.52	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	2/16-18/2009	106.72	7.29	0.00	99.43	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.068	--	LFP
MW-118	5/4-6/2009	106.72	6.70	0.00	100.02	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	8/19-21/2009	106.72	8.04	0.00	98.68	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.23	--	LFP
MW-118	11/18-20/2009	106.72	4.45	0.00	102.27	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	2/8-10/2010	106.72	6.65	0.00	100.07	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	5/12-13/2010	106.72	7.21	0.00	99.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	--	LFP
MW-118	08/12/2010	106.72	7.90	0.00	98.82	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	--	LFP
MW-118	11/3-4/2010	106.72	6.39	0.00	100.33	<50	--	<29	--	160	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	--	LFP
MW-118	2/3-4/2011	106.72	6.77	0.00	99.95	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	--	LFP
MW-118	8/23-24/11	106.72	8.15	0.00	98.57	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	--	LFP
MW-118	11/7-9/2011	106.72	7.80	0.00	98.92	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	--	LFP
MW-118	2/6-8/2012	106.72	6.50	0.00	100.22	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	--	LFP
MW-118	5/2-4/2012	106.72	5.85	0.00	100.87	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	--	LFP
MW-118	8/1-3/2012	106.72	7.87	0.00	98.85	<50	--	97	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	0.042	--	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments			
MW-118	11/26-28/2012	106.72	5.84	0.00	100.88	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP			
MW-118	2/4-6/2013	106.72	6.57	0.00	100.15	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP			
MW-118	5/6-8/2013	106.72	7.47	0.00	99.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP			
MW-118	9/9-13/2013	106.72	7.28	0.00	99.44	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
MW-118	11/18-21/2013	106.72	6.57	0.00	100.15	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP			
MW-118	2/4-11/2014	106.72	7.02	0.00	99.70	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP			
MW-118	8/18-21/14	106.72	7.92	0.00	98.80	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.41	LFP			
MW-118	11/19-20/2014	106.72	7.15	0.00	99.57	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP			
MW-118	2/17-20/2015	106.72	6.54	0.00	100.18	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.083				
MW-118	5/11-15/2015	106.72	8.93	0.00	97.79	<50	69	75	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.170				
MW-118	8/10-11/2015	106.72	8.27	0.00	98.45	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13				
MW-118	11/16-18/2015	106.72	4.69	0.00	102.03	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00067				
MW-118	5/13-14/2016	106.72	7.61	0.00	99.11				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY											
MW-118	11/14/2016	106.72	6.36	0.00	100.36	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only		
MW-118	05/14/2017	106.72	6.50	0.00	100.22	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only		
MW-118	11/11-12/2017	106.72	6.52	0.00	100.20				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY											
MW-118	05/11/2018	106.72	7.31	0.00	99.41	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only		
MW-118	11/11-12/2018	106.72	7.34	0.00	99.38				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY											
MW-118	04/27/2019	106.72	7.05	0.00	99.67	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only		
MW-118	11/03/2019	106.72	7.66	0.00	99.06	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only		
MW-118	Nov 2019	106.72	--	--	--				WELL ABANDONED											
MW-119	08/22/1995	108.35	9.22	0.00	99.13	<50	--	<250	--	<750	--	--	--	--	--	--	--			
MW-119	11/28/1995	108.35	7.54	0.00	100.81	100	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	03/12/1996	108.35	8.21	0.00	100.14	240	--	<250	--	<750	--	--	--	--	--	--	2.2			
MW-119	06/26/1996	108.35	8.91	0.00	99.44	174	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	10/09/1996	108.35	9.14	0.00	99.21	78	--	<250	--	<750	--	--	--	--	--	--	2.16			
MW-119	02/12/1997	108.35	7.84	0.00	100.51	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	04/22/1997	108.35	7.67	0.00	100.68	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	08/05/1997	108.35	9.15	0.00	99.20	53.6	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	11/11/1997	108.35	8.02	0.00	100.33	<50	--	264	--	<750	--	--	--	--	--	--	<2.0			
MW-119	02/11/1998	108.35	8.02	0.00	100.33	<50	--	<250	--	<750	--	--	--	--	--	--	<2.0			
MW-119	05/28/1998	108.35	8.20	0.00	100.15	102	--	<250	--	<750	--	--	--	--	--	--	3.33			
MW-119	08/20/1998	108.35	10.40	0.00	97.95	<50	--	<250	--	<750	--	--	--	--	--	--	<1.0			
MW-119	11/19/1998	108.35	8.98	0.00	99.37	78.5	--	<250	--	<750	--	--	--	--	--	--	1.82			
MW-119	03/11/1999	108.35	7.61	0.00	100.74	<80	--	<250	--	<750	--	--	--	--	--	--	<1.0			
MW-119	05/25/1999	108.35	8.77	0.00	99.58	<80	--	<250	--	--	--	--	--	--	--	--	--			
MW-119	08/17/1999	108.35	9.29	0.00	99.06	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0			
MW-119	11/19/1999	108.35	7.25	0.00	101.10	<80	--	<250	--	--	--	--	--	--	--	--	<1.0			
MW-119	03/09/2000	108.35	7.63	0.00	100.72	<80	--	<250	--	<500	--	--	--	--	--	--	<1.0			
MW-119	06/13/2000	108.35	8.28	0.00	100.07	413	--	<250	--	<500	--	--	--	--	--	--	2.64			
MW-119	09/26/2000	108.35	9.44	0.00	98.91	--	--	<250	--	<500	--	--	--	--	--	--	<1.0			
MW-119	12/13/2000	108.35	8.86	0.00	99.49	--	--	<250	--	<500	--	--	--	--	--	--	1.79			
MW-119	02/28/2001	108.35	8.56	0.00	99.79	227	--	<250	--	<500	--	--	--	--	--	--	2.64			
MW-119	05/02/2001	108.35	8.10	0.00	100.25	104	--	<250	--	<500	--	--	--	--	--	--	1.56			
MW-119	10/30/2002	108.35	9.76	0.00	98.59	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	4.2			
MW-119	10/31/2003	108.35	8.62	0.00	99.73	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	--	1.315			
MW-119	12/30/2003	108.35	7.40	0.00	100.95	<96	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	--	<1.2	LFP		
MW-119	10/07/2004	108.35	8.85	0.00	99.50	<50	--	<79	--	<98	--	--	--	--	--	--	--	LFP		
MW-119	10/20/2005	108.35	9.08	0.00	99.27	<48	--	<80	--	<100	--	--	--	--	--	--	--	LFP		
MW-119	09/05/2007	108.35	9.53	0.00	98.82	<50	--	<800	--	<1,000	--	--	--	--	--	0.57	--	LFP		

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-119	8/27-29/2008	108.35	9.05	0.00	99.30	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.52	LFP
MW-119	11/17-19/2008	108.35	7.65	0.00	100.70	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP
MW-119	2/16-18/2009	108.35	8.70	0.00	99.65	<50	--	45	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.44	LFP
MW-119	5/4-6/2009	108.35	8.06	0.00	100.29	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.74	LFP
MW-119	8/19-21/2009	108.35	9.45	0.00	98.90	<50	--	36	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	LFP
MW-119	11/18-20/2009	108.35	6.41	0.00	101.94	150	--	32	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	1	LFP
MW-119	2/8-10/2010	108.35	8.11	0.00	100.24	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.33	LFP
MW-119	5/12-13/2010	108.35	8.56	0.00	99.79	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.69	LFP
MW-119	08/12/2010	108.35	9.22	0.00	99.13	<50	--	<30	--	70	<0.5	<0.5	<0.5	<0.5	<0.5	0.36	LFP
MW-119	11/3-4/2010	108.35	7.52	0.00	100.83	<50	--	38	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	LFP
MW-119	2/3-4/2011	108.35	8.22	0.00	100.13	<50	--	30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	LFP
MW-119	05/24/2011	108.35	8.37	0.00	99.98	<50	--	<30	--	210	<0.5	<0.5	<0.5	<0.5	<0.5	0.49	LFP
MW-119	11/7-9/2011	108.35	9.10	0.00	99.25	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.34	LFP
MW-119	2/6-8/2012	108.35	7.90	0.00	100.45	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-119	5/2-4/2012	108.35	8.00	0.00	100.35	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP
MW-119	8/1-3/2012	108.35	9.23	0.00	99.12	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	LFP
MW-119	11/26-28/2012	108.35	7.43	0.00	100.92	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
MW-119	2/4-6/2013	108.35	7.99	0.00	100.36	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.099	LFP
MW-119	5/6-8/2013	108.35	8.76	0.00	99.59	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-119	9/9-13/2013	108.35	8.51	0.00	99.84	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP
MW-119	11/18-21/2013	108.35	7.67	0.00	100.68	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.80	LFP
MW-119	2/4-11/2014	108.35	8.47	0.00	99.88	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.16	LFP
MW-119	8/18-21/14	108.35	9.23	0.00	99.12	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.17	LFP
MW-119	11/19-20/2014	108.35	8.50	0.00	99.85	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.14	LFP
MW-119	2/17-20/2015	108.35	7.97	0.00	100.38	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.18	LFP
MW-119	5/11-15/2015	108.35	8.96	0.00	99.39	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	LFP
MW-119	8/10-11/2015	108.35	9.70	0.00	98.65	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
MW-119	11/16-18/2015	108.35	6.43	0.00	101.92	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.0041	LFP
MW-119	5/13-14/2016	108.35	8.39	0.00	99.96				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-119	11/14/2016	108.35	7.70	0.00	100.65	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-119	05/14/2017	108.35	7.85	0.00	100.50	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-119	11/11-12/2017	108.35	7.92	0.00	100.43				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								LFP
MW-119	05/11/2018	108.35	8.60	0.00	99.75	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-119	11/11-12/2018	108.35	8.62	0.00	99.73				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								LFP
MW-119	11/7-9/2011	108.35	8.00	0.00	99.11	740	--	220	--	160	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	LFP
MW-119	2/6-8/2012	108.35	6.80	0.00	101.55	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-119	5/2-4/2012	108.35	6.20	0.00	102.15	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
MW-119	8/1-3/2012	108.35	8.11	0.00	99.00	<50	--	59	--	75	<0.5	<0.5	<0.5	<0.5	<0.5	0.29	LFP
MW-119	11/26-28/2012	108.35	6.21	0.00	102.14	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
MW-119	2/4-6/2013	108.35	6.84	0.00	101.51	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-119	5/6-8/2013	108.35	7.64	0.00	100.71	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
MW-119	9/9-13/2013	108.35	7.36	0.00	99.75	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
MW-119	11/18-21/2013	108.35	6.61	0.00	100.50	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.088	LFP
MW-119	2/4-11/2014	108.35	7.32	0.00	101.03	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
MW-119	6/12-14/2014	108.35	7.70	0.00	100.65	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-119	8/18-21/14	108.35	8.13	0.00	98.98	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.32	LFP
MW-119	11/19-20/2014	108.35	7.37	0.00	100.98	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
MW-119	04/27/2019	108.35	8.39	0.00	99.96	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-119	11/03/2019	108.35	8.34	0.00	100.01	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-119	Nov 2019	108.35	--	--	--				WELL ABANDONED								LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-120	2/17-20/2015	107.11	6.83	0.00	100.28	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	
MW-120	5/11-15/2015	107.11	7.71	0.00	99.40	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	
MW-120	8/10-11/2015	107.11	8.53	0.00	98.58	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	
MW-120	11/16-18/2015	107.11	4.94	0.00	102.17	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.0019	
MW-120	5/13-14/2016	107.11	7.81	0.00	99.30				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-120	11/14/2016	107.11	6.47	0.00	100.64	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-120	05/14/2017	107.11	6.67	0.00	100.44	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-120	11/11-12/2017	107.11	6.69	0.00	100.42				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-120	05/11/2018	107.11	7.49	0.00	99.62	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-120	11/11-12/2018	107.11	7.46	0.00	99.65				WELL REMOVED FROM SAMPLING PROGRAM - MONITORING ONLY								
MW-120	04/27/2019	107.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-120	11/03/2019	107.11	7.50	0.00	99.61	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
MW-120	Nov 2019	107.11	--	--	--				WELL ABANDONED								
B-1	02/14/1991	107.74	--	--	--	5,100	--	<250	--	--	--	--	--	--	--	--	
B-1	02/14/1992	107.74	6.90	0.00	100.84	--	--	--	--	--	--	--	--	--	--	--	
B-1	02/18/1992	107.74	6.72	0.00	101.02	--	--	--	--	--	--	--	--	--	--	--	
B-1	03/13/1992	107.74	6.93	0.00	100.81	<50	--	--	--	--	--	--	--	--	--	--	
B-1	04/21/1992	107.74	6.66	0.00	101.08	--	--	--	--	--	--	--	--	--	--	--	
B-1	08/22/1995	107.74	8.03	0.00	99.71	<50	--	<250	--	<750	--	--	--	--	--	--	
B-1	11/28/1995	107.74	6.13	0.00	101.61	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	03/11/1996	107.74	6.99	0.00	100.75	<50	--	<250	--	<750	--	--	--	--	--	--	7.5
B-1	06/26/1996	107.74	7.73	0.00	100.01	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	10/09/1996	107.74	8.05	0.00	99.69	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	02/12/1997	107.74	6.46	0.00	101.28	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	04/22/1997	107.74	6.25	0.00	101.49	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	08/05/1997	107.74	8.20	0.00	99.54	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	11/11/1997	107.74	6.84	0.00	100.90	<50	--	300	--	<750	--	--	--	--	--	--	<2
B-1	02/11/1998	107.74	6.70	0.00	101.04	<50	--	<250	--	<750	--	--	--	--	--	--	<2
B-1	05/28/1998	107.74	6.85	0.00	100.89	<50	--	<250	--	<750	--	--	--	--	--	--	<1
B-1	08/20/1998	107.74	9.42	0.00	98.32	<50	--	<250	--	<750	--	--	--	--	--	--	<1
B-1	11/19/1998	107.74	7.43	0.00	100.31	<50	--	<250	--	<750	--	--	--	--	--	--	<1
B-1	03/11/1999	107.74	6.34	0.00	101.40	<80	--	<250	--	<750	--	--	--	--	--	--	<1
B-1	05/25/1999	107.74	7.60	0.00	100.14	<80	--	<1,450	--	--	--	--	--	--	--	--	--
B-1	08/17/1999	107.74	8.28	0.00	99.46	<80	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	11/19/1999	107.74	5.90	0.00	101.84	<80	--	<250	--	--	--	--	--	--	--	--	<1
B-1	03/09/2000	107.74	6.38	0.00	101.36	<80	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	06/12/2000	107.74	6.26	0.00	101.48	<80	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	09/26/2000	107.74	8.51	0.00	99.23	--	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	12/13/2000	107.74	7.69	0.00	100.05	--	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	02/28/2001	107.74	7.37	0.00	100.37	<80	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	05/02/2001	107.74	6.69	0.00	101.05	109	--	<250	--	<500	--	--	--	--	--	--	<1
B-1	12/30/2003	107.74	6.11	0.00	101.63	<98	--	<50	--	<78	<0.5	<0.5	<0.5	<1.5	--	--	<1.2
B-1	10/06/2004	107.74	8.87	0.00	98.87	<50	--	81	--	100	--	--	--	--	--	--	LFP
B-1	10/24/2005	107.74	7.96	0.00	99.78	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
B-1	09/05/2007	107.74	8.60	0.00	99.14	<50	--	<80	--	<100	--	--	--	--	--	0.13	LFP
B-1	5/27-28/2008	107.74	7.85	0.00	99.89	<50	--	<75	--	<94	<0.5	0.6	<0.5	<0.5	<0.5	<0.050	LFP
B-1	8/27-29/2008	107.74	8.00	0.00	99.74	<50	--	<82	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	11/17-19/2008	107.74	6.39	0.00	101.35	<50	--	83	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	2/16-18/2009	107.74	7.55	0.00	100.19	<50	--	300	--	2,000	<0.5	<0.5	<0.5	<0.5	<0.5	0.098	LFP
B-1	5/4-6/2009	107.74	6.47	0.00	101.27	<50	--	39	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-1	8/19-21/2009	107.74	8.54	0.00	99.20	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	11/18-20/2009	107.74	5.35	0.00	102.39	66	--	60	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	LFP
B-1	2/8-10/2010	107.74	6.89	0.00	100.85	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	5/12-13/2010	107.74	7.34	0.00	100.40	<50	--	70	--	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-1	08/11/2010	107.74	8.16	0.00	99.58	<50	--	<30	--	83	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	11/3-4/2010	107.74	6.02	0.00	101.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	2/3-4/2011	107.74	7.03	0.00	100.71	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	05/24/2011	107.74	7.10	0.00	100.64	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-1	8/23-24/11	107.74	8.46	0.00	99.28	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	11/7-9/2011	107.74	8.10	0.00	99.64	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	2/6-8/2012	107.74	6.75	0.00	100.99	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	LFP
B-1	5/2-4/2012	107.74	6.45	0.00	101.29	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-1	8/1-3/2012	107.74	8.23	0.00	99.51	<50	--	<30	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
B-1	11/26-28/2012	107.74	6.29	0.00	101.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
B-1	2/4-6/2013	107.74	6.81	0.00	100.93	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-1	5/6-8/2013	107.74	8.66	0.00	99.08	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-1	9/9-13/2013	107.74	7.18	0.00	100.56	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-1	11/18-22/2013	107.74	6.64	0.00	101.10	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-1	2/4-11/2014	107.74	7.25	0.00	100.49	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-1	6/12-14/2014	107.74	7.87	0.00	99.87	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-1	8/18-21/14	107.74	8.40	0.00	99.34	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-1	11/19-20/2014	107.74	7.43	0.00	100.31	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-1	2/17-20/2015	107.74	6.79	0.00	100.95	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-1	5/11-15/2015	107.74	8.77	0.00	98.97	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-1	8/10-11/2015	107.74	8.80	0.00	98.94	<50	89	<28	74	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.13	LFP
B-1	11/16-18/2015	107.74	4.69	0.00	103.05	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	0.00063	LFP
B-1	5/13-14/2016	107.74	7.80	0.00	99.94	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
B-1	11/14/2016	107.74	6.15	0.00	101.59	<50	--	51	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-1	05/14/2017	107.74	6.51	0.00	101.23	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-1	11/11-12/2017	107.74	7.42	0.00	100.32	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP
B-1	05/11/2018	107.74	7.31	0.00	100.43	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	LFP
B-1	11/11-12/2018	107.74	7.48	0.00	100.26	<19	--	30	--	<67	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
B-1	04/27/2019	107.74	7.23	0.00	100.51	<19	--	32 J	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	LFP
B-1	11/03/2019	107.74	7.45	0.00	100.29	<19	--	<29	--	<66	<0.2	<0.2	<0.4	<1	--	0.30 J	LFP
B-1	05/06/2020	107.74	7.46	0.00	100.28	32.9 B J	<200	--	--	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP
B-1	11/7/2020	107.74	6.6	0.00	101.14	--	--	--	--	--	--	--	--	--	--	--	LFP
B-1	05/24/2021	107.74	7.92	0.00	99.82	462 B	137 J	137 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-1 DUP	05/24/2021	108.99	--	--	--	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-1	11/29/2021	107.74	6.52	0.00	101.22	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
B-1	05/23/2022	107.74	6.98	0.00	100.76	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
B-1	11/29/2022	107.74	7.17	0.00	100.57	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
B-1	01/20/2023	107.74	6.35	0.00	101.39	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
B-1	05/15/2023	107.74	6.22	0.00	101.52	--	--	--	--	--	--	--	--	--	--	--	Well Removed from Sampling Program - Gauging Only
B-2	02/14/1991	108.99	--	--	--	180	--	<250	--	--	--	--	--	--	--	--	LFP
B-2	02/14/1992	108.99	8.08	0.00	100.91	--	--	--	--	--	--	--	--	--	--	--	LFP
B-2	02/18/1992	108.99	7.97	0.00	101.02	--	--	--	--	--	--	--	--	--	--	--	LFP
B-2	03/09/1992	108.99	7.88	0.00	101.11	--	--	--	--	--	--	--	--	--	--	--	LFP
B-2	03/13/1992	108.99	8.12	0.00	100.87	--	--	--	--	--	--	--	--	--	--	--	LFP
B-2	04/21/1992	108.99	7.82	0.00	101.17	--	--	--	--	--	--	--	--	--	--	--	LFP
B-2	08/22/1995	108.99	9.30	0.00	99.69	<50	--	<250	--	<750	--	--	--	--	--	--	LFP



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-2	11/27/1995	108.99	7.33	0.00	101.66	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	03/12/1996	108.99	8.20	0.00	100.79	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	06/27/1996	108.99	8.95	0.00	100.04	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	10/10/1996	108.99	9.28	0.00	99.71	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	02/12/1997	108.99	7.73	0.00	101.26	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	04/22/1997	108.99	7.41	0.00	101.58	<50	--	<250	--	<750	--	--	--	--	--	2	
B-2	08/05/1997	108.99	9.40	0.00	99.59	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	11/11/1997	108.99	8.00	0.00	100.99	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	02/11/1998	108.99	7.90	0.00	101.09	<50	--	<250	--	<750	--	--	--	--	--	<2	
B-2	05/28/1998	108.99	8.03	0.00	100.96	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-2	08/20/1998	108.99	10.64	0.00	98.35	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-2	11/19/1998	108.99	8.67	0.00	100.32	<50	--	<250	--	<750	--	--	--	--	--	<1	
B-2	03/11/1999	108.99	7.56	0.00	101.43	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	05/25/1999	108.99	8.82	0.00	100.17	<80	--	<250	--	<1,600	--	--	--	--	--	--	
B-2	08/17/1999	108.99	9.51	0.00	99.48	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	11/19/1999	108.99	7.08	0.00	101.91	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	03/09/2000	108.99	7.59	0.00	101.40	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	06/12/2000	108.99	8.00	0.00	100.99	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	09/26/2000	108.99	9.74	0.00	99.25	--	--	<250	--	<500	--	--	--	--	--	<1	
B-2	12/13/2000	108.99	8.91	0.00	100.08	--	--	<250	--	<500	--	--	--	--	--	<1	
B-2	02/28/2001	108.99	8.59	0.00	100.40	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	05/02/2001	108.99	7.89	0.00	101.10	<80	--	<250	--	<500	--	--	--	--	--	<1	
B-2	12/30/2003	108.99	7.36	0.00	101.63	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.5	--	<1.2	
B-2	10/06/2004	108.99	7.65	0.00	101.34	<50	--	<79	--	<99	--	--	--	--	--	--	LFP
B-2	07/18/2005	108.99	9.20	0.00	99.79	<48	--	<77	--	<96	--	--	--	--	--	--	LFP
B-2	10/21/2005	108.99	9.17	0.00	99.82	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
B-2	09/05/2007	108.99	9.83	0.00	99.16	<50	--	<81	--	<100	--	--	--	--	--	0.1	LFP
B-2	8/27-29/2008	108.99	9.28	0.00	99.71	<50	--	<80	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	11/17-19/2008	108.99	7.57	0.00	101.42	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	2/16-18/2009	108.99	8.77	0.00	100.22	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.070	LFP
B-2	5/4-6/2009	108.99	7.69	0.00	101.30	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	8/19-21/2009	108.99	9.75	0.00	99.24	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	11/18-20/2009	108.99	6.46	0.00	102.53	<50	--	94	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.15	LFP
B-2	2/8-10/2010	108.99	8.10	0.00	100.89	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	5/12-13/2010	108.99	8.55	0.00	100.44	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	LFP
B-2	08/11/2010	108.99	9.38	0.00	99.61	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	11/3-4/2010	108.99	7.20	0.00	101.79	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	2/3-4/2011	108.99	8.25	0.00	100.74	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	05/24/2011	108.99	8.33	0.00	100.66	<50	--	<30	--	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.052	LFP
B-2	8/23-24/11	108.99	9.70	0.00	99.29	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.26	LFP
B-2	11/7-9/2011	108.99	9.30	0.00	99.69	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-2	2/6-8/2012	108.99	7.95	0.00	101.04	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.10	LFP
B-2	5/2-4/2012	108.99	7.40	0.00	101.59	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.080	LFP
B-2	8/1-3/2012	108.99	8.20	0.00	100.79	<50	--	<31	--	<72	<0.5	<0.5	<0.5	<0.5	<0.5	<0.034	LFP
B-2	11/26-28/2012	108.99	7.47	0.00	101.52	<50	--	<37	--	<86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	LFP
B-2	2/4-6/2013	108.99	8.04	0.00	100.95	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-2	5/6-8/2013	108.99	8.89	0.00	100.10	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.073	LFP
B-2	9/9-13/2013	108.99	8.41	0.00	100.58	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	11/18-22/2013	108.99	7.77	0.00	101.22	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	2/4-11/2014	108.99	8.47	0.00	100.52	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP
B-2	6/12-14/2014	108.99	8.91	0.00	100.08	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.085	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-2	8/18-21/14	108.99	9.53	0.00	99.46	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	11/19-20/2014	108.99	8.54	0.00	100.45	<50	<29	<29	<68	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	2/17-20/2015	108.99	7.93	0.00	101.06	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	5/11-15/2015	108.99	8.91	0.00	100.08	<50	<28	<28	<66	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.082	LFP
B-2	8/10-11/2015	108.99	10.01	0.00	98.98	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	1.20	LFP
B-2	11/16-18/2015	108.99	5.75	0.00	103.24	<50	<29	<29	<67	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.00060	LFP
B-2	5/13-14/2016	108.99	9.02	0.00	99.97	<50	--	37	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.13	LFP
B-2	11/14/2016	108.99	7.47	0.00	101.52	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-2	05/14/2017	108.99	7.72	0.00	101.27	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	--	<0.090	LFP
B-2	11/11-12/2017	108.99	6.41	0.00	102.58	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	--	<0.11	LFP
B-2	05/11/2018	108.99	8.47	0.00	100.52	<50	--	<28	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.11	
B-2	11/11-12/2018	108.99	8.63	0.00	100.36	<19	--	<29	--	<67	<0.2	<0.2	<0.4	<1	--	<1.1	
B-2	04/27/2019	108.99	8.43	0.00	100.56	<19	--	31 J	--	<66	<0.2	<0.2	<0.4	<1	--	<1.1	
B-2	11/03/2019	108.99	8.66	0.00	100.33	<19	--	67 J	--	<66	<0.2	<0.2	<0.4	<1	--	1.2	
B-2	05/06/2020	108.99	8.67	0.00	100.32	32.6 B J	<200	--	--	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00	
B-2	11/7/2020	108.99	7.59	0.00	101.40	--	--	--	--	--	--	--	--	--	--	--	
B-2	05/24/2021	108.46	9.17	0.00	99.29	258 B	657	92.0 J	147 J	<250	<1.00	<1.00	5.4	0.243 J	--	<6.00	
B-2	11/29/2021	108.99	7.71	0.00	101.28	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	
B-2	05/23/2022	108.99	8.18	0.00	100.81	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
B-2	11/29/2022	108.99	8.06	0.00	100.93	57.7 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	5.18	
B-2	01/20/2023	108.99	7.49	0.00	101.50	37.9 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<2.00	
B-2	05/15/2023	108.99	8.50	0.00	100.49	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	0.232 J	--	0.901 B J	
B-2-DUP	05/15/2023	--	--	--	--	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<2.00	
B-3	02/14/1991	108.46	--	--	--	98,000	--	<250	--	--	--	--	--	--	--	--	
B-3	02/14/1992	108.46	7.82	0.00	100.64	--	--	--	--	--	--	--	--	--	--	--	
B-3	02/18/1992	108.46	7.82	0.00	100.64	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/09/1992	108.46	7.55	0.00	100.91	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/13/1992	108.46	7.82	0.00	100.64	28,000	--	31,000	--	--	--	--	--	--	--	--	
B-3	04/21/1992	108.46	7.50	0.00	100.96	--	--	--	--	--	--	--	--	--	--	--	
B-3	03/03/1994	108.46	--	--	--	43,000	--	3,940	--	<750	--	--	--	--	--	--	
B-3	08/23/1995	108.46	8.93	0.00	99.53	46,000	--	2,600	--	<750	--	--	--	--	--	--	
B-3	11/28/1995	108.46	7.12	0.00	101.34	63,000	--	1,500	--	<750	--	--	--	--	--	--	
B-3	03/12/1996	108.46	7.85	0.00	100.61	42,000	--	900	--	<750	--	--	--	--	--	--	
B-3	06/27/1996	108.46	8.67	0.00	99.79	37,900	--	1,510	--	1,080	--	--	--	--	--	--	
B-3	10/10/1996	108.46	8.97	0.00	99.49	16,200	--	729	--	<750	--	--	--	--	--	--	
B-3	02/12/1997	108.46	7.55	0.00	100.91	35,200	--	4,060	--	986	--	--	--	--	--	--	
B-3	04/22/1997	108.46	7.30	0.00	101.16	31,900	--	3,980	--	767	--	--	--	--	--	--	
B-3	08/02/1997	108.46	9.05	0.00	99.41	20,400	--	3,370	--	1,270	--	--	--	--	--	--	
B-3	11/11/1997	108.46	6.76	0.00	101.70	28,400	--	3,230	--	777	--	--	--	--	--	--	
B-3	02/11/1998	108.46	7.54	0.00	100.92	28,400	--	3,240	--	1,460	--	--	--	--	--	--	
B-3	05/28/1998	108.46	7.76	0.00	100.70	34,600	--	3,360	--	<750	--	--	--	--	29.5	--	
B-3	08/20/1998	108.46	10.30	0.00	98.16	32,900	--	2,150	--	<750	--	--	--	--	<1.89	--	
B-3	11/19/1998	108.46	8.39	0.00	100.07	23,800	--	6,650	--	<3,750	--	--	--	--	--	--	
B-3	03/11/1999	108.46	7.15	0.00	101.31	17,000	--	2,920	--	<5,000	--	--	--	--	--	--	
B-3	05/25/1999	108.46	8.50	0.00	99.96	30,500	--	1,850	--	--	--	--	--	--	--	--	
B-3	08/17/1999	108.46	9.15	0.00	99.31	29,600	--	2,570	--	711	--	--	--	--	--	--	
B-3	11/19/1999	108.46	6.76	0.00	101.70	30,700	--	7,880	--	--	--	--	--	--	--	--	
B-3	03/09/2000	108.46	7.24	0.00	101.22	10,400	--	<250	--	<500	--	--	--	--	--	--	
B-3	06/13/2000	108.46	8.15	0.00	100.31	23,000	--	<250	--	<500	--	--	--	--	--	--	
B-3	09/26/2000	108.46	9.35	0.00	99.11	--	--	<250	--	<500	--	--	--	--	--	--	

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 101 Mulford Road  
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Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-3	12/13/2000	108.46	8.58	0.00	99.88	21,600	--	<250	--	<500	--	--	--	--	--	--	
B-3	02/28/2001	108.46	8.28	0.00	100.18	25,700	--	<250	--	<500	--	--	--	--	--	--	
B-3	05/02/2001	108.46	7.79	0.00	100.67	17,200	--	<250	--	<500	--	--	--	--	--	--	
B-3	12/30/2003	108.46	7.04	0.00	101.42	<980	--	14,000	--	3,800	<5.0	1.9	130	61	--	17.3	
B-3	07/20/2004	108.46	9.31	0.00	99.15	13,200	--	1,220	--	<500	12.5	<10.0	874	204	--	24.6	
B-3	10/06/2004	108.46	8.68	0.00	99.78	13,000	--	1,200	--	<500	--	--	--	--	--	--	
B-3	01/27/2005	108.46	7.70	0.00	100.76	6,200	--	1,100	--	<190	--	--	--	--	--	--	LFP
B-3	04/12/2005	108.46	7.21	0.00	101.25	5,300	--	1,200	--	<100	--	--	--	--	--	--	LFP
B-3	07/18/2005	108.46	8.83	0.00	99.63	6,400	--	1,200	--	<97	--	--	--	--	--	--	LFP
B-3	10/21/2005	108.46	8.85	0.00	99.61	8,900	--	2,400	--	<510	--	--	--	--	--	--	LFP
B-3	09/04/2007	108.46	9.41	0.00	99.05	10,000	--	1,500	--	<200	--	--	--	--	--	--	LFP
B-3	5/27-28/2008	108.46	8.73	0.00	99.73	3,700	--	2,400	--	<540	2	2	98	3	<0.5	20.2	LFP
B-3	8/27-29/2008	108.46	8.85	0.00	99.61	10,000	--	2,400	--	<98	5	2	230	17	<0.5	21.5	LFP
B-3	11/17-19/2008	108.46	7.13	0.00	101.33	7,100	--	1,700	--	<690	<0.5	<0.5	57	2	<0.5	20	LFP
B-3	2/16-18/2009	108.46	8.40	0.00	100.06	8,800	--	1,900	--	<340	180	130	130	21	<0.5	19.5	LFP
B-3	5/4-6/2009	108.46	7.65	0.00	100.81	5,800	--	2,400	--	<340	68	15	120	7	<0.5	13.1	LFP
B-3	8/19-21/2009	108.46	9.33	0.00	99.13	5,900	--	2,900	--	<360	39	10	170	16	<0.5	19	LFP
B-3	11/18-20/2009	108.46	6.35	0.00	102.11	2,500	--	2,200	--	<340	1	<0.5	12	1	<0.5	16.5	LFP
B-3	2/8-10/2010	108.46	7.73	0.00	100.73	6,200	--	1,700	--	140	2	<0.5	25	1	<0.5	9.9	LFP
B-3	5/12-13/2010	108.46	8.18	0.00	100.28	8,200	--	1,200	--	<68	2	<0.5	47	2	<0.5	10.3	LFP
B-3	08/11/2010	108.46	9.00	0.00	99.46	5,900	--	2,700	--	<340	7	1.0	270	20	<0.5	19.3	LFP
B-3	11/3-4/2010	108.46	6.96	0.00	101.50	3,100	--	2,500	--	<350	0.60	<0.5	24	1	<0.5	13.3	LFP
B-3	2/3-4/2011	108.46	6.70	0.00	101.76	4,900	--	1,400	--	<340	0.80	<0.5	53	2	<0.5	10.2	LFP
B-3	05/24/2011	108.46	7.96	0.00	100.50	1,800	--	1,200	--	300	1	<0.5	76	3	<0.5	14	LFP
B-3	8/23-24/11	108.46	9.24	0.00	99.22	3,700	--	960	--	<72	8	2	160	8	<0.5	11.7	LFP
B-3	11/7-9/2011	108.46	8.95	0.00	99.51	5,800	--	1,500	--	460	7	2	180	6	<0.5	12.3	LFP
B-3	2/6-8/2012	108.46	7.40	0.00	101.06	<50	--	<31	--	<71	<0.5	<0.5	<0.5	<0.5	<0.5	4.4	LFP
B-3	5/2-4/2012	108.46	7.50	0.00	100.96	1,300	--	53	--	<72	<0.5	<0.5	19	<0.5	0.7	3.9	LFP
B-3	8/1-3/2012	108.46	8.24	0.00	100.22	600	--	460	--	110	0.6	<0.5	1	<0.5	<0.5	8.0	LFP
B-3	11/26-28/2012	108.46	6.98	0.00	101.48	500	--	73	--	<68	<0.5	<0.5	0.8	<0.5	<0.5	7.4	LFP
B-3	2/4-6/2013	108.46	6.33	0.00	102.13	120	--	45	--	<66	<0.5	<0.5	<0.5	<0.5	<0.5	5.6	LFP
B-3	5/6-8/2013	108.46	8.50	0.00	99.96	2,600	--	150	--	<67	<0.5	<0.5	73	3	<0.5	8.9	LFP
B-3	9/9-13/2013	108.46	8.09	0.00	100.37	1,700	2,700	160	72	<66	0.6	<0.5	37	0.9	<0.5	16.0	LFP
B-3	11/18-22/2013	108.46	6.45	0.00	102.01	190	1,600	42	180	<67	<0.5	<0.5	<0.5	<0.5	<0.5	11.2	LFP
B-3	2/4-11/2014	108.46	8.10	0.00	100.36	480	730	36	<67	<67	<0.5	<0.5	2	<0.5	<0.5	7.4	LFP
B-3	6/12-14/2014	108.46	8.69	0.00	99.77	260	780	100	100	<66	<0.5	<0.5	1	<0.5	<0.5	8.3	LFP
B-3	8/18-21/14	108.46	9.23	0.00	99.23	1,000	1,000	180	170	<68	<0.5	<0.5	9	0.7	<0.5	8.9	LFP
B-3	11/19-20/2014	108.46	8.17	0.00	100.29	900	1,400	130	160	<67	<0.5	<0.5	7	<0.5	<0.5	13.4	LFP
B-3	2/17-20/2015	108.46	6.36	0.00	102.10	650	490	150	180	<66	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	LFP
B-3	5/11-15/2015	108.46	8.16	0.00	100.30	1,400	690	120	<66	<66	<0.5	<0.5	33	0.9	<0.5	0.0081	LFP
B-3	8/10-11/2015	108.46	9.59	0.00	98.87	660	2,000	130	550	<67	<0.5	<0.5	5	0.5	<0.5	9.5	LFP
B-3	11/16-18/2015	108.46	5.58	0.00	102.88	880	1,200	57	180	<67	<0.5	<0.5	2	<0.5	<0.5	0.0185	LFP
B-3	5/13-14/2016	108.46	8.64	0.00	99.82	400	650	38	220	<67	<0.5	<0.5	1	<0.5	--	5.1	LFP
B-3	11/14/2016	108.46	7.45	0.00	101.01	560	380	<29	<67	<67	<0.5	<0.5	1	<0.5	--	10.6	LFP
B-3	05/14/2017	108.46	7.44	0.00	101.02	230	92	<28	<66	<66	<0.5	<0.5	1	<0.5	--	2.3	LFP
B-3	11/11-12/2017	108.46	7.47	0.00	100.99	860	270	32	<67	<67	3	<0.5	2	<0.5	--	11.4	LFP
B-3	05/11/2018	108.46	8.14	0.00	100.32	900	82	33	68	<67	<0.5	<0.5	5	<0.5	<0.5	0.76	LFP
B-3	11/11-12/2018	108.46	8.24	0.00	100.22	2,100	2,800	180	370	<66	0.9	0.3	5	<1	--	11.1	LFP
B-3	04/27/2019	108.46	8.02	0.00	100.44	<19	--	160	--	<66	<0.2	<0.2	<0.4	<1	--	3.4	LFP
B-3	11/03/2019	108.46	8.25	0.00	100.21	1,500	1,400	90 J	84 J	<67	0.2 J	0.3 J	8	<1	--	8.2	LFP
B-3	05/06/2020	108.46	8.35	0.00	100.11	92.3 B J	273	79.5 J	--	104 J	<1.00	<1.00	<1.00	<3.00	--	<5.00	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-3	11/7/2020	108.46	7.51	0.00	100.95	807	1,280	122 B J	386	<250	0.240 J	<1.00	1.52	0.315 J	--	5.89	
B-3	05/24/2021	108.46	8.85	0.00	98.83	<100	83.0 J	83.0 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	
B-3	11/29/2021	108.46	7.31	0.00	101.15	<100	176 J	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	5.52	
B-3	05/23/2022	108.46	7.79	0.00	100.67	56.4 B J	171 J	171 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	3.21 J	
B-3	11/29/2022	108.46	8.12	0.00	100.34	219,000	6,640	378	211 J	<250	6,770	48,300	3,280	20,400	--	14.5	
B-3	01/20/2023	108.46	7.05	0.00	101.41	130,000	3,520	--	<250	--	2,230	28,800	3,010	19,000		9.24 B	
B-3	05/15/2023	108.46	8.22	0.00	100.24	91,400	2,430	590	204 J	<250	2,420	28,100	2,530	15,200	--	7.65 B	
B-4	02/14/1991	107.68	--	--	--	33,000	--	<250	--	--	--	--	--	--	--	--	
B-4	02/14/1992	107.68	6.82	0.00	100.86	--	--	--	--	--	--	--	--	--	--	--	
B-4	02/18/1992	107.68	5.94	0.00	101.74	--	--	--	--	--	--	--	--	--	--	--	
B-4	03/09/1992	107.68	6.62	0.00	101.06	--	--	--	--	--	--	--	--	--	--	--	
B-4	03/13/1992	107.68	6.88	0.00	100.80	21,000	--	--	--	--	--	--	--	--	--	--	
B-4	04/21/1992	107.68	6.57	0.00	101.11	--	--	--	--	--	--	--	--	--	--	--	
B-4	03/03/1994	107.68	--	--	--	15,800	--	1,040	--	1,250	--	--	--	--	--	--	
B-4	08/22/1995	107.68	7.92	0.00	99.76	22,000	--	840	--	820	--	--	--	--	--	--	
B-4	11/28/1995	107.68	6.11	0.00	101.57	22,000	--	1,900	--	990	--	--	--	--	--	3.1	
B-4	03/12/1996	107.68	6.85	0.00	100.83	11,000	--	3,200	--	2,500	--	--	--	--	--	4.7	
B-4	06/26/1996	107.68	7.58	0.00	100.10	16,100	--	757	--	<750	--	--	--	--	--	2.83	
B-4	10/09/1996	107.68	7.90	0.00	99.78	10,200	--	543	--	<750	--	--	--	--	--	4.13	
B-4	02/12/1997	107.68	6.01	0.00	101.67	12,200	--	4,710	--	4,830	--	--	--	--	--	2.82	
B-4	04/22/1997	107.68	10.10	0.00	97.58	15,500	--	5,840	--	1,191	--	--	--	--	--	4.18	
B-4	08/05/1997	107.68	8.37	0.00	99.31	15,800	--	2,560	--	3,160	--	--	--	--	--	6.26	
B-4	11/11/1997	107.68	7.67	0.00	100.01	31,100	--	2,080	--	1,040	--	--	--	--	--	4.75	
B-4	02/11/1998	107.68	6.45	0.00	101.23	3,750	--	1,340	--	1,630	--	--	--	--	--	<2.0	
B-4	05/28/1998	107.68	7.25	0.00	100.43	2,510	--	3,180	--	1,250	--	--	--	--	--	4.69	
B-4	08/20/1998	107.68	9.12	0.00	98.56	7,240	--	1,460	--	1,240	--	--	--	--	--	1.17	
B-4	11/19/1998	107.68	7.22	0.00	100.46	1,880	--	2,470	--	3,750	--	--	--	--	--	<1.0	
B-4	03/11/1999	107.68	5.41	0.00	102.27	11,900	--	1,130	--	585	--	--	--	--	--	3.54	
B-4	05/25/1999	107.68	7.45	0.00	100.23	5,380	--	<1,450	--	--	--	--	--	--	--	--	
B-4	08/17/1999	107.68	8.06	0.00	99.62	2,700	--	670	--	868	--	--	--	--	--	2.3	
B-4	11/19/1999	107.68	5.75	0.00	101.93	11,400	--	1,700	--	--	--	--	--	--	--	17.5	
B-4	03/09/2000	107.68	6.34	0.00	101.34	105,000	--	<1,250	--	2,830	--	--	--	--	--	10.9	
B-4	06/13/2000	107.68	6.80	0.00	100.88	8,810	--	<250	--	943	--	--	--	--	--	6.92	
B-4	09/26/2000	107.68	8.31	0.00	99.37	--	--	<250	--	0.565	--	--	--	--	--	5	
B-4	12/13/2000	107.68	7.54	0.00	100.14	--	--	1,250	--	<500	--	--	--	--	--	5.98	
B-4	02/28/2001	107.68	7.24	0.00	100.44	12,100	--	<250	--	<500	--	--	--	--	--	5.34	
B-4	05/02/2001	107.68	6.59	0.00	101.09	12,300	--	15,700	--	757	--	--	--	--	--	5.75	
B-4	12/30/2003	107.68	6.07	0.00	101.61	1,700	--	17,000	--	2,000	<10	<5.0	310	370	--	7.5	
B-4	07/20/2004	107.68	8.23	0.00	99.45	4,660	--	<250	--	<500	15.1	1.3	42.3	10.1	--	--	
B-4	10/06/2004	107.68	7.45	0.00	100.23	2,300	--	390	--	180	--	--	--	--	--	--	
B-4	01/27/2005	107.68	6.72	0.00	100.96	2,800	--	200	--	<195	--	--	--	--	--	--	LFP
B-4	04/12/2005	107.68	6.62	0.00	101.06	2,600	--	340	--	<100	--	--	--	--	--	--	LFP
B-4	07/18/2005	107.68	6.62	0.00	101.06	1,600	--	560	--	<1,100	--	--	--	--	--	--	LFP
B-4	10/21/2005	107.68	7.81	0.00	99.87	1,800	--	190	--	260	--	--	--	--	--	--	LFP
B-4	09/04/2007	107.68	8.40	0.00	99.28	3,200	--	310	--	<100	--	--	--	--	--	1.8	LFP
B-4-DUP	09/04/2007	107.68	8.40	0.00	99.28	3,300	--	340	--	140	--	--	--	--	--	1.7	LFP
B-4	5/27-28/2008	107.68	7.52	0.00	100.16	1,800	--	310	--	330	3	3	25	7	<0.5	2.9	LFP
B-4	8/27-29/2008	107.68	7.88	0.00	99.80	3,100	--	330	--	1,100	1	0.9	22	4	<0.5	1.6	LFP
B-4	11/17-19/2008	107.68	6.26	0.00	101.42	3,500	--	700	--	2,600	1	0.7	27	3	<0.5	2.3	LFP
B-4	2/16-18/2009	107.68	7.40	0.00	100.28	2,000	--	440	--	480	0.6	<0.5	11	2	<0.5	2	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
B-4	5/4-6/2009	107.68	6.46	0.00	101.22	2,100	--	590	--	1,300	<0.5	<0.5	20	2	<0.5	1.6	LFP
B-4	8/19-21/2009	107.68	8.35	0.00	99.33	910	--	590	--	810	1	<0.5	5	1	<0.5	1.2	LFP
B-4	11/18-20/2009	107.68	5.30	0.00	102.38	5,700	--	490	--	450	3	0.7	36	3	<0.5	5.2	LFP
B-4	2/8-10/2010	107.68	6.78	0.00	100.90	350	--	400	--	1,400	<0.5	<0.5	4	<0.5	<0.5	0.46	LFP
B-4	5/12-13/2010	107.68	7.23	0.00	100.45	360	--	940	--	7,100	<0.5	<0.5	1	<0.5	<0.5	0.15	LFP
B-4	08/11/2010	107.68	8.00	0.00	99.68	170	--	600	--	2,000	<0.5	<0.5	1	<0.5	<0.5	0.26	LFP
B-4	11/3-4/2010	107.68	6.19	0.00	101.49	530	--	400	--	1,500	<0.5	<0.5	4	0.7	<0.5	1	LFP
B-4	2/3-4/2011	107.68	7.15	0.00	100.53	2,200	--	1,400	--	4,700	0.9	0.7	11	1	<0.5	2.9	LFP
B-4	05/24/2011	107.68	7.22	0.00	100.46	840	--	300	--	680	<0.5	<0.5	0.8	<0.5	<0.5	1.2	LFP
B-4	8/23-24/11	107.68	8.50	0.00	99.18	1,400	--	230	--	<68	<0.5	<0.5	1	0.6	<0.5	1.4	LFP
B-4	11/7-9/2011	107.68	8.15	0.00	99.53	950	--	120	--	360	<0.5	<0.5	1	0.5	<0.5	0.57	LFP
B-4	2/6-8/2012	107.68	6.80	0.00	100.88	320	--	64	--	120	<0.5	<0.5	2	<0.5	<0.5	1.6	LFP
B-4	5/2-4/2012	107.68	6.75	0.00	100.93	580	--	110	--	72	<0.5	<0.05	2	<0.5	<0.5	1.7	LFP
B-4	8/1-3/2012	107.68	8.26	0.00	99.42	510	--	100	--	190	<0.5	<0.5	<0.5	<0.5	<0.5	0.83	LFP
B-4	11/26-28/2012	107.68	6.34	0.00	101.34	1,200	--	320	--	210	<0.5	<0.5	8	0.7	<0.5	3.0	LFP
B-4	2/4-6/2013	107.68	6.95	0.00	100.73	1,600	--	150	--	<69	<0.5	<0.5	4	<0.5	<0.5	2.5	LFP
B-4	5/6-8/2013	107.68	7.53	0.00	100.15	2,400	--	140	--	<67	<0.5	<0.5	4	0.5	<0.5	2.4	LFP
B-4	9/9-13/2013	107.68	7.30	0.00	100.38	1,200	250	130	110	<66	<0.5	<0.5	3	0.5	<0.5	1.6	LFP
B-4	11/18-22/2013	107.68	6.76	0.00	100.92	1,200	150	120	<67	<67	<0.5	<0.5	3	<0.5	<0.5	1.9	LFP
B-4	2/4-11/2014	107.68	7.36	0.00	100.32	1,800	170	140	<68	<68	<0.5	<0.5	3	<0.5	<0.5	2.4	LFP
B-4	6/12-14/2014	107.68	7.94	0.00	99.74	1,200	260	120	73	<67	<0.5	<0.5	1	<0.5	<0.5	1.8	LFP
B-4	8/18-21/14	107.68	8.43	0.00	99.25	1,800	300	140	88	<67	<0.5	<0.5	1	0.5	<0.5	1.4	LFP
B-4	11/19-20/2014	107.68	6.77	0.00	100.91	1,300	270	120	<66	<66	<0.5	<0.5	2	<0.5	<0.5	2.4	LFP
B-4	2/17-20/2015	107.68	6.93	0.00	100.75	550	290	95	470	240	<0.5	<0.5	<0.5	<0.5	<0.5	0.73	LFP
B-4	5/11-15/2015	107.68	7.91	0.00	99.77	940	210	130	<66	<66	<0.5	<0.5	1	<0.5	<0.5	0.0016	LFP
B-4	8/10-11/2015	107.68	8.94	0.00	98.74	600	500	66	340	<66	<0.5	<0.5	<0.5	0.6	<0.5	0.89	LFP
B-4	11/16-18/2015	107.68	4.73	0.00	102.95	2,000	750	130	740	270	<0.5	<0.5	4	<0.5	<0.5	0.0171	LFP
B-4	5/13-14/2016	107.68	7.84	0.00	99.84	2,100	390	120	550	300	<0.5	<0.5	0.9	<0.5	--	0.81	LFP
B-4	11/14/2016	107.68	6.30	0.00	101.38	1,200	1,000	400	1,000	610	<0.5	<0.5	<0.5	<0.5	--	1.00	LFP
B-4	05/14/2017	107.68	6.65	0.00	101.03	2,000	1,200	520	2,500	1,100	<0.5	<0.5	<0.5	<0.5	--	12.8	LFP
B-4	11/11-12/2017	107.68	6.57	0.00	101.11	3,600	650	180	700	260	4	<0.5	1	<0.5	--	0.97	LFP
B-4	05/11/2018	107.68	7.39	0.00	100.29	3,600	650	180	700	260	4	<0.5	1	<0.5	--	0.97	LFP
B-4	11/11-12/2018	107.68	7.52	0.00	100.16	1,600	230	110	330	150	<0.2	<0.2	<0.4	<1	--	1.8	LFP
B-4	04/27/2019	107.68	7.31	0.00	100.37	940	--	90 J	--	<68	<0.2	<0.2	<0.4	<1	--	6.9	LFP
B-4	11/03/2019	107.68	7.51	0.00	100.17	1,500	290	120	410	270	<0.2	<0.2	0.4 J	<1	--	36.3	LFP
B-4	05/06/2020	107.68	7.54	0.00	100.14	1,800	230	115 J	--	106 J	<1.00	<1.00	<1.00	<3.00	--	9.59	LFP
B-4	11/7/2020	107.68	6.63	0.00	101.05	1,360	1,490	157 B J	507	<250	<1.00	<1.00	<1.00	<3.00	--	0.857 J	LFP
B-4	05/24/2021	107.68	7.89	0.00	99.79	<100	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	11/29/2021	107.68	6.52	0.00	101.16	723	122 J	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	05/23/2022	107.68	7.07	0.00	100.61	1,100	231	84.6 J	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<6.00	LFP
B-4	11/29/2022	107.68	7.64	0.00	100.04	112,000	1,400	305	<250	<250	3,050	19,600 E	1,450	8,750	--	3.18	LFP
B-4	01/20/2023	107.68	6.51	0.20	101.17	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
B-4	05/15/2023	107.68	6.38	0.06	101.35	--	--	--	--	--	--	--	--	--	--	--	Not Sampled Due to the Presence of NAPL
MW-101	02/14/1992	99.51	6.94	--	92.57	45,000	--	33,000	--	--	--	--	--	--	--	--	LFP
MW-101	02/18/1992	99.51	6.88	--	92.63	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-101	03/09/1992	99.51	6.76	--	92.75	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-101	03/13/1992	99.51	7.02	--	92.49	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-101	04/21/1992	99.51	7.73	--	91.78	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-101	03/03/1994	99.51	--	--	--	73,000	--	1,730	--	<750	--	--	--	--	--	--	LFP
MW-101	08/22/1995	99.51	7.90	--	91.61	12,000	--	1,300	--	<750	--	--	--	--	--	--	LFP
MW-101	11/28/1995	99.51	6.12	--	93.39	49,000	--	1,400	--	<750	--	--	--	--	--	24	LFP

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-101	03/12/1996	99.51	6.86	--	92.65	43,000	--	760	--	<750	--	--	--	--	--	9.3	
MW-101	06/26/1996	99.51	7.59	--	91.92	22,000	--	656	--	<750	--	--	--	--	--	8.22	
MW-101	10/09/1996	99.51	7.85	--	91.66	5,800	--	309	--	<750	--	--	--	--	--	4.24	
MW-101	02/12/1997	99.51	6.55	--	92.96	33,900	--	1,090	--	<750	--	--	--	--	--	7.04	
MW-101	04/22/1997	99.51	6.31	--	93.20	21,500	--	1,870	--	977	--	--	--	--	--	7.41	
MW-101	11/11/1997	99.51	6.76	--	92.75	23,400	--	952	--	<750	--	--	--	--	--	11.3	
MW-101	02/11/1998	99.51	6.78	--	92.73	28,400	--	793	--	<750	--	--	--	--	--	6.51	
MW-101	05/28/1998	99.51	6.91	--	92.60	11,900	--	798	--	<750	--	--	--	--	--	4.71	
MW-101	08/20/1998	99.51	8.30	--	91.21	4,400	--	414	--	<750	--	--	--	--	--	1.6	
MW-101	11/19/1998	99.51	7.69	--	91.82	5,820	--	714	--	<750	--	--	--	--	--	1.7	
MW-101	03/11/1999	99.51	6.17	--	93.34	38,500	--	1,200	--	<500	--	--	--	--	--	6.82	
MW-101	05/25/1999	99.51	7.47	--	92.04	18,000	--	1,450	--	--	--	--	--	--	--	--	
MW-101	08/17/1999	99.51	7.99	--	91.52	2,940	--	810	--	750	--	--	--	--	--	2.9	
MW-101	11/19/1999	99.51	5.84	--	93.67	16,300	--	1,010	--	--	--	--	--	--	--	15.4	
MW-101	03/09/2000	99.51	6.25	--	93.26	15,800	--	<250	--	<500	--	--	--	--	--	13	
MW-101	06/13/2000	99.51	6.98	--	92.53	4,870	--	<250	--	<500	--	--	--	--	--	4.3	
MW-101	09/26/2000	99.51	8.15	--	91.36	<500	--	--	--	<250	--	--	--	--	--	1.88	
MW-101	12/13/2000	99.51	7.65	--	91.86	<500	--	988	--	442	--	--	--	--	--	1.13	
MW-101	02/28/2001	99.51	7.25	--	92.26	2,710	--	<250	--	<500	--	--	--	--	--	2.45	
MW-101	05/02/2001	99.51	9.55	--	89.96	2,280	--	<250	--	<500	--	--	--	--	--	2.6	
MW-101	12/30/2003	99.54	6.04	0.00	93.50	<96	--	13,000	--	890	<5.0	0.6	260	290	--	27.9	
MW-101	07/20/2004	99.54	8.18	0.00	91.36	1,040	--	<250	--	<500	3.01	<0.500	0.822	1.21	--	<1.0	LFP
MW-101	10/06/2004	99.51	7.54	0.00	91.97	<260	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-101	01/27/2005	99.51	6.78	0.00	92.73	2,900	--	190	--	<100	--	--	--	--	--	--	LFP
MW-101	04/12/2005	99.51	6.32	0.00	93.19	1,700	--	160	--	<100	--	--	--	--	--	--	LFP
MW-101	07/18/2005	99.51	7.78	0.00	91.73	240	--	93	--	<99	--	--	--	--	--	--	LFP
MW-101	10/21/2005	99.51	7.75	0.00	91.76	470	--	110	--	<100	--	--	--	--	--	--	LFP
MW-101	09/05/2007	99.51	8.22	0.00	91.29	200	--	110	--	140	--	--	--	--	--	1.2	LFP
MW-101	5/27-28/2008	99.51	7.71	0.00	91.80	410	--	<80	--	<99	<0.5	<0.5	0.5	<0.5	<0.5	1.2	LFP
MW-101	8/27-29/2008	99.51	7.75	0.00	91.76	450	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	LFP
MW-101	11/17-19/2008	99.51	6.33	0.00	93.18	520	--	74	--	<68	<0.5	<0.5	1	<0.5	<0.5	1.1	LFP
MW-101	2/16-18/2009	99.51	7.43	0.00	92.08	590	--	68	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.96	
MW-101	5/4-6/2009	99.51	6.93	0.00	92.58	370	--	66	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.39	
MW-101	8/19-21/2009	99.51	8.16	0.00	91.35	510	--	65	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.22	
MW-101	11/18-20/2009	99.51	4.97	0.00	94.54	84	--	42	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	1	
MW-101	2/8-10/2010	99.51	6.82	0.00	92.69	970	--	130	--	190	<0.5	<0.5	1	<0.5	<0.5	2.1	
MW-101	5/12-13/2010	99.51	7.32	0.00	92.19	470	--	64	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.65	
MW-101	08/12/2010	99.51	7.96	0.00	91.55	370	--	52	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.24	
MW-101																	NOT PART OF MONITORING/SAMPLING PROGRAM
MW-102	02/14/1992	--	6.94	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	02/18/1992	--	6.88	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	03/09/1992	--	6.76	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102	03/13/1992	--	7.02	0.00	--	150	--	--	--	--	--	--	--	--	--	--	
MW-102	04/21/1992	--	7.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	
MW-102																	NOT PART OF MONITORING/SAMPLING PROGRAM
MW-104	02/14/1992	100.45	8.86	0.00	91.59	--	--	--	--	--	--	--	--	--	--	--	
MW-104	02/18/1992	100.45	8.84	0.00	91.61	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/09/1992	100.45	8.73	0.00	91.72	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/13/1992	100.45	8.84	0.00	91.61	<50	--	--	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-104	04/21/1992	100.45	8.72	0.00	91.73	--	--	--	--	--	--	--	--	--	--	--	
MW-104	08/22/1995	100.45	9.30	0.00	91.15	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-104	11/27/1995	100.45	8.39	0.00	92.06	--	--	--	--	--	--	--	--	--	--	--	
MW-104	03/12/1996	100.45	8.78	0.00	91.67	--	--	--	--	--	--	--	--	--	--	--	
MW-104	06/27/1996	100.45	9.00	0.00	91.45	--	--	--	--	--	--	--	--	--	--	--	
MW-104	10/10/1996	100.45	9.18	0.00	91.27	--	--	--	--	--	--	--	--	--	--	--	
MW-104	02/12/1997	100.45	8.65	0.00	91.80	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-104	04/22/1997	100.45	8.50	0.00	91.95	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-104	08/05/1997	100.45	9.20	0.00	91.25	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-104	11/11/1997	100.45	8.81	0.00	91.64	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-104	02/11/1998	100.45	8.83	0.00	91.62	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-104	05/28/1998	100.45	8.97	0.00	91.48	<50	--	<250	--	<750	--	--	--	--	--	9.54	
MW-104	08/20/1998	100.45	9.51	0.00	90.94	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-104	11/19/1998	100.45	9.82	0.00	90.63	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-104	03/11/1999	100.45	8.48	0.00	91.97	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-104	05/25/1999	100.45	8.96	0.00	91.49	<80	--	<250	--	--	--	--	--	--	--	--	
MW-104	08/17/1999	100.45	9.24	0.00	91.21	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-104	11/19/1999	100.45	8.40	0.00	92.05	<80	--	<250	--	--	--	--	--	--	--	1.0	
MW-104	03/09/2000	100.45	8.49	0.00	91.96	<80	--	<250	--	<50	--	--	--	--	--	<1.0	
MW-104	06/13/2000	100.45	8.89	0.00	91.56	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-104	09/26/2000	100.45	9.32	0.00	91.13	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-104	12/13/2000	100.45	9.09	0.00	91.36	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-104	02/28/2001	100.45	8.89	0.00	91.56	<80	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-104	05/02/2001	100.45	8.79	0.00	91.66	103	--	<250	--	<500	--	--	--	--	--	<1.0	LFP
MW-104	10/31/2003	100.44	9.15	0.00	91.29	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	LFP
MW-104	12/30/2003	100.44	8.39	0.00	92.05	<96	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-104	10/07/2004	100.45	9.09	0.00	91.36	<50	--	<83	--	<100	--	--	--	--	--	--	LFP
MW-104	10/20/2005	100.45	9.19	0.00	91.26	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-104	09/06/2007	100.45	9.42	0.00	91.03	<50	--	<79	--	<98	--	--	--	--	--	0.087	LFP
MW-104	8/27-29/2008	100.45	9.23	0.00	91.22	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-104	11/17-19/2008	100.46	8.75	0.00	91.71	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-104	2/16-18/2009	100.46	9.01	0.00	91.45	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.1	
MW-104	5/4-6/2009	100.46	8.88	0.00	91.58	<50	--	38	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-104	8/19-21/2009	100.46	9.32	0.00	91.14	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	0.057	
MW-104	11/18-20/2009	100.46	8.08	0.00	92.38	98	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	
MW-104	2/8-10/2010	100.46	8.76	0.00	91.70	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.053	
MW-104																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-105	02/14/1992	96.14	3.36	0.00	92.78	--	--	--	--	--	--	--	--	--	--	--	
MW-105	02/18/1992	96.14	3.34	0.00	92.80	--	--	--	--	--	--	--	--	--	--	--	
MW-105	03/09/1992	96.14	3.25	0.00	92.89	--	--	--	--	--	--	--	--	--	--	--	
MW-105	03/13/1992	96.14	3.60	0.00	92.54	<50	--	--	--	--	--	--	--	--	--	--	
MW-105	04/21/1992	96.14	3.40	0.00	92.74	--	--	--	--	--	--	--	--	--	--	--	
MW-105	08/22/1995	96.14	5.08	0.00	91.06	<50	--	<250	--	900	--	--	--	--	--	--	
MW-105	11/28/1995	96.14	2.53	0.00	93.61	--	--	--	--	--	--	--	--	--	--	--	
MW-105	03/12/1996	96.14	3.37	0.00	92.77	--	--	--	--	--	--	--	--	--	--	--	
MW-105	06/26/1996	96.14	4.74	0.00	91.40	--	--	--	--	--	--	--	--	--	--	--	
MW-105	10/09/1996	96.14	4.93	0.00	91.21	--	--	--	--	--	--	--	--	--	--	--	
MW-105	02/12/1997	96.14	3.19	0.00	92.95	<50	--	<250	--	<750	--	--	--	--	--	2	
MW-105	04/22/1997	96.14	3.08	0.00	93.06	<50	--	<250	--	<750	--	--	--	--	--	2	
MW-105	08/05/1997	96.14	4.85	0.00	91.29	<50	--	<250	--	<750	--	--	--	--	--	2	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-105	11/11/1997	96.14	3.11	0.00	93.03	<50	--	<250	--	<750	--	--	--	--	--	2	
MW-105	02/11/1998	96.14	3.24	0.00	92.90	<50	--	<250	--	<750	--	--	--	--	--	2	
MW-105	05/28/1998	96.14	3.91	0.00	92.23	<50	--	<250	--	<750	--	--	--	--	--	6.62	
MW-105	08/20/1998	96.14	5.28	0.00	90.86	<50	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	11/19/1998	96.14	5.37	0.00	90.77	<50	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	03/11/1999	96.14	2.43	0.00	93.71	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	05/25/1999	96.14	4.29	0.00	91.85	<80	--	<250	--	--	--	--	--	--	--	--	
MW-105	08/17/1999	96.14	5.06	0.00	91.08	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	11/19/1999	96.14	3.08	0.00	93.06	<80	--	<250	--	--	--	--	--	--	--	<1.00	
MW-105	03/09/2000	96.14	2.75	0.00	93.39	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	06/13/2000	96.14	4.45	0.00	91.69	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	09/26/2000	96.14	5.20	0.00	90.94	--	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	12/13/2000	96.14	4.67	0.00	91.47	--	--	<250	--	<500	--	--	--	--	--	1.37	
MW-105	02/28/2001	96.14	3.92	0.00	92.22	<80	--	<250	--	<500	--	--	--	--	--	<1.00	
MW-105	05/02/2001	96.14	3.53	0.00	92.61	87	--	<250	--	<750	--	--	--	--	--	<1.00	
MW-105	12/31/2003	96.15	2.45	0.00	93.70	<500	--	<50	--	<400	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-105	05/03/2004	96.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	07/20/2004	96.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	10/07/2004	96.14	4.71	0.00	91.43	<50	--	<160	--	<200	--	--	--	--	--	--	LFP
MW-105	10/20/2005	96.14	5.16	0.00	90.98	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-105	09/06/2007	96.14	5.34	0.00	90.80	<50	--	<100	--	<81	--	--	--	--	--	0.47	LFP
MW-105	5/27-28/2008	96.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-105	8/27-29/2008	96.14	5.16	0.00	90.98	<50	--	<81	--	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	11/17-19/2008	96.14	3.75	0.00	92.39	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	2/16-18/2009	96.14	6.15	0.00	89.99	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.57	
MW-105	5/4-6/2009	96.14	3.68	0.00	92.46	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-105	8/19-21/2009	96.14	5.25	0.00	90.89	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.064	
MW-105	11/18-20/2009	96.14	1.56	0.00	94.58	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.053	
MW-105	2/8-10/2010	96.14	3.37	0.00	92.77	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.078	
MW-105																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-106	02/14/1992	99.71	8.18	0.00	91.53	--	--	--	--	--	--	--	--	--	--	--	
MW-106	02/18/1992	99.71	8.20	0.00	91.51	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/09/1992	99.71	8.04	0.00	91.67	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/13/1992	99.71	8.18	0.00	91.53	<50	--	--	--	--	--	--	--	--	--	--	
MW-106	04/21/1992	99.71	8.02	0.00	91.69	--	--	--	--	--	--	--	--	--	--	--	
MW-106	08/22/1995	99.71	8.79	0.00	90.92	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-106	11/28/1995	99.71	7.63	0.00	92.08	--	--	--	--	--	--	--	--	--	--	--	
MW-106	03/12/1996	99.71	8.04	0.00	91.67	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	06/26/1996	99.71	8.61	0.00	91.10	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	10/09/1996	99.71	8.65	0.00	91.06	<50	--	<250	--	<750	--	--	--	--	--	2.16	
MW-106	02/12/1997	99.71	7.95	0.00	91.76	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	04/22/1997	99.71	7.73	0.00	91.98	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	08/05/1997	99.71	8.68	0.00	91.03	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	11/11/1997	99.71	8.07	0.00	91.64	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	02/11/1998	99.71	8.12	0.00	91.59	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-106	05/28/1998	99.71	8.35	0.00	91.36	<50	--	<250	--	<750	--	--	--	--	--	4.53	
MW-106	08/20/1998	99.71	8.96	0.00	90.75	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-106	11/19/1998	99.71	9.37	0.00	90.34	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-106	03/11/1999	99.71	7.70	0.00	92.01	<80	--	<250	--	<50	--	--	--	--	--	1.1	
MW-106	05/25/1999	99.71	8.32	0.00	91.39	<80	--	<250	--	--	--	--	--	--	--	--	



Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-106	08/17/1999	99.71	8.70	0.00	91.01	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	11/19/1999	99.71	7.88	0.00	91.83	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-106	03/09/2000	99.71	7.74	0.00	91.97	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	06/13/2000	99.71	8.39	0.00	91.32	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	09/26/2000	99.71	8.79	0.00	90.92	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	12/13/2000	99.71	8.51	0.00	91.20	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	02/28/2001	99.71	8.18	0.00	91.53	<80	--	<250	--	<500	--	--	--	--	--	<2.0	
MW-106	05/02/2001	99.71	8.17	0.00	91.54	88	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-106	10/30/2002	99.73	8.98	0.00	90.75	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-106	01/23/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	04/18/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	07/11/2003	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-106	10/31/2003	99.73	8.52	0.00	91.21	<50	--	<250	--	<500	<0.500	<0.500	<0.500	<1.00	--	<1.0	
MW-106	12/31/2003	99.73	7.54	0.00	92.19	<98	--	<50	--	<78	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-106	05/03/2004	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	07/20/2004	99.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	10/07/2004	99.71	8.50	0.00	91.21	<50	--	<78	--	<97	--	--	--	--	--	--	LFP
MW-106	10/20/2005	99.71	8.70	0.00	91.01	<48	--	<82	--	<100	--	--	--	--	--	--	LFP
MW-106	09/06/2007	99.71	8.88	0.00	90.83	<50	--	<80	--	<100	--	--	--	--	--	0.13	LFP
MW-106	5/27-28/2008	99.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-106	8/27-29/2008	99.71	8.72	0.00	90.99	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	11/17-19/2008	99.71	8.18	0.00	91.53	<50	--	30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	2/16-18/2009	99.71	8.40	0.00	91.31	<50	--	<29	--	<67	<0.5	<0.5	<0.5	<0.5	<0.5	0.072	
MW-106	5/4-6/2009	99.71	8.30	0.00	91.41	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	8/19-21/2009	99.71	8.65	0.00	91.06	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106	11/18-20/2009	99.71	7.40	0.00	92.31	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	0.11	
MW-106	2/8-10/2010	99.71	8.05	0.00	91.66	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-106																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-107	02/14/1992	100.00	8.50	0.00	91.50	--	--	--	--	--	--	--	--	--	--	--	
MW-107	02/18/1992	100.00	8.50	0.00	91.50	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/09/1992	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/13/1992	100.00	8.52	0.00	91.48	<50	--	--	--	--	--	--	--	--	--	--	
MW-107	04/21/1992	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	08/22/1995	100.00	9.06	0.00	90.94	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-107	11/28/1995	100.00	8.00	0.00	92.00	--	--	--	--	--	--	--	--	--	--	--	
MW-107	03/12/1996	100.00	8.36	0.00	91.64	--	--	--	--	--	--	--	--	--	--	--	
MW-107	06/26/1996	100.00	8.89	0.00	91.11	--	--	--	--	--	--	--	--	--	--	--	
MW-107	10/09/1996	100.00	8.94	0.00	91.06	--	--	--	--	--	--	--	--	--	--	--	
MW-107	02/12/1997	100.00	8.25	0.00	91.75	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-107	04/22/1997	100.00	8.05	0.00	91.95	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-107	08/05/1997	100.00	8.95	0.00	91.05	<50	--	<250	--	<809	--	--	--	--	--	<2.0	
MW-107	11/11/1997	100.00	8.37	0.00	91.63	<50	--	<250	--	750	--	--	--	--	--	<2.0	
MW-107	02/11/1998	100.00	8.44	0.00	91.56	<50	--	351	--	750	--	--	--	--	--	<2.0	
MW-107	05/28/1998	100.00	8.73	0.00	91.27	<50	--	<250	--	754	--	--	--	--	--	--	
MW-107	08/20/1998	100.00	9.24	0.00	90.76	<50	--	<250	--	750	--	--	--	--	--	1	
MW-107	11/19/1998	100.00	9.65	0.00	90.35	<50	--	<250	--	750	--	--	--	--	--	<1.0	
MW-107	03/11/1999	100.00	8.08	0.00	91.92	<80	--	539	--	750	--	--	--	--	--	<1.0	
MW-107	05/25/1999	100.00	8.82	0.00	91.18	<80	--	<250	--	<500	--	--	--	--	--	--	
MW-107	08/17/1999	100.00	8.10	0.00	91.90	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-107	11/19/1999	100.00	8.21	0.00	91.79	<80	--	<250	--	<500	--	--	--	--	--	<1.0	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-107	03/09/2000	100.00	8.08	0.00	91.92	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-107	06/13/2000	100.00	8.88	0.00	91.12	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	09/26/2000	100.00	9.07	0.00	90.93	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	12/13/2000	100.00	8.78	0.00	91.22	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	02/28/2001	100.00	8.63	0.00	91.37	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	05/02/2001	100.00	8.63	0.00	91.37	88	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-107	10/30/2002	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	01/23/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	04/18/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	07/11/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	10/31/2003	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-107	12/31/2003	100.00	7.92	0.00	92.08	150	--	<50	--	85	<0.5	<0.5	<0.5	<1.5	--	<1.2	LFP
MW-107	05/03/2004	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	07/20/2004	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	10/07/2004	100.00	8.78	0.00	91.22	<50	--	<80	--	<100	--	--	--	--	--	--	LFP
MW-107	10/20/2005	100.00	8.97	0.00	91.03	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-107	09/06/2007	100.00	9.18	0.00	90.82	<50	--	<78	--	<98	--	--	--	--	--	0.07	LFP
MW-107	5/27-28/2008	100.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-107	8/27-29/2008	100.00	8.98	0.00	91.02	<50	--	<79	--	<99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	11/17-19/2008	100.00	8.46	0.00	91.54	<50	--	38	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	2/16-18/2009	100.00	8.62	0.00	91.38	<50	--	35	--	70	<0.5	<0.5	<0.5	<0.5	<0.5	0.068	
MW-107	5/4-6/2009	100.00	8.95	0.00	91.05	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	8/19-21/2009	100.00	9.11	0.00	90.89	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	0.27	
MW-107	11/18-20/2009	100.00	7.77	0.00	92.23	<50	--	99	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107	2/8-10/2010	100.00	8.25	0.00	91.75	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-107																	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-108	02/14/1992	99.79	8.10	0.00	91.69	--	--	--	--	--	--	--	--	--	--	--	
MW-108	02/18/1992	99.79	8.62	0.00	91.17	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/09/1992	99.79	8.49	0.00	91.30	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/13/1992	99.79	8.63	0.00	91.16	<50	--	--	--	--	--	--	--	--	--	--	
MW-108	04/21/1992	99.79	8.47	0.00	91.32	--	--	--	--	--	--	--	--	--	--	--	
MW-108	08/22/1995	99.79	9.04	0.00	90.75	<50	--	<250	--	<750	--	--	--	--	--	--	
MW-108	11/28/1995	99.79	7.98	0.00	91.81	--	--	--	--	--	--	--	--	--	--	--	
MW-108	03/12/1996	99.79	8.50	0.00	91.29	--	--	--	--	--	--	--	--	--	--	--	
MW-108	06/26/1996	99.79	8.86	0.00	90.93	--	--	--	--	--	--	--	--	--	--	--	
MW-108	10/09/1996	99.79	8.91	0.00	90.88	--	--	--	--	--	--	--	--	--	--	--	
MW-108	02/12/1997																MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED
MW-108	04/22/1997	99.79	8.08	0.00	91.71	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-108	08/05/1997	99.79	8.94	0.00	90.85	<50	--	<250	--	825	--	--	--	--	--	<2.0	
MW-108	11/11/1997	99.79	8.53	0.00	91.26	<50	--	<250	--	<750	--	--	--	--	--	<2.0	
MW-108	02/11/1998	99.79	8.59	0.00	91.20	<50	--	<250	--	873	--	--	--	--	--	<2.0	
MW-108	05/28/1998	99.79	8.72	0.00	91.07	<50	--	<250	--	<750	--	--	--	--	--	4.27	
MW-108	08/20/1998	99.79	9.20	0.00	90.59	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-108	11/19/1998	99.79	9.60	0.00	90.19	<50	--	<250	--	<750	--	--	--	--	--	<1.0	
MW-108	03/11/1999	99.79	8.16	0.00	91.63	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	05/25/1999	99.79	8.69	0.00	91.10	<80	--	<250	--	--	--	--	--	--	--	--	
MW-108	08/17/1999	99.79	8.96	0.00	90.83	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	11/19/1999	99.79	8.08	0.00	91.71	<80	--	<250	--	--	--	--	--	--	--	<1.0	
MW-108	03/09/2000	99.79	8.16	0.00	91.63	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	06/13/2000	99.79	8.69	0.00	91.10	<80	--	<250	--	<500	--	--	--	--	--	<1.0	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
MW-108	09/26/2000	99.79	9.04	0.00	90.75	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	12/13/2000	99.79	8.81	0.00	90.98	--	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	02/28/2001	99.79	8.60	0.00	91.19	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	05/02/2001	99.79	8.53	0.00	91.26	<80	--	<250	--	<500	--	--	--	--	--	<1.0	
MW-108	10/30/2002	99.79	9.24	0.00	90.55	<80	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-108	01/23/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	04/18/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	07/11/2003	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-108	10/31/2003	99.79	8.82	0.00	90.97	<50.0	--	<250	--	<500	<0.500	<0.500	<0.500	<1.0	--	<1.0	
MW-108	12/31/2003	99.79	7.95	0.00	91.84	<97	--	<50	--	<77	<0.5	<0.5	<0.5	<1.5	--	<1.2	
MW-108	05/03/2004	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	07/20/2004	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	10/07/2004	99.79	8.80	0.00	90.99	<50	--	<80	--	<100	--	--	--	--	--	--	LFP
MW-108	10/20/2005	99.79	8.89	0.00	90.90	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-108	10/20/2005 (D)	99.79	8.89	0.00	90.90	<48	--	<81	--	<100	--	--	--	--	--	--	LFP
MW-108	09/06/2007	99.79	9.15	0.00	90.64	<50	--	<80	--	<100	--	--	--	--	--	0.12	LFP
MW-108	5/27-28/2008	99.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	LFP
MW-108	8/27-29/2008	99.79	9.00	0.00	90.79	<50	--	<78	--	<98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	11/17-19/2008	99.79	8.48	0.00	91.31	<50	--	<30	--	<70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	2/16-18/2009	99.79	8.74	0.00	91.05	<50	--	1,100	--	230	<0.5	<0.5	<0.5	<0.5	<0.5	0.070	
MW-108	5/4-6/2009	99.79	8.62	0.00	91.17	<50	--	<29	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	8/19-21/2009	99.79	9.07	0.00	90.72	<50	--	<30	--	<69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	
MW-108	11/18-20/2009	99.79	7.64	0.00	92.15	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050	

Table 2. Historical Groundwater Gauging Data and Select Analytical Results  
 COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556  
 101 Mulford Road  
 Toledo, Washington



Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments	
MW-108	2/8-10/2010	99.79	8.50	0.00	91.29	<50	--	<29	--	<68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.050		
MW-108	MONITORING WELL DECOMMISSIONED/SAMPLING DISCONTINUED																	
TPWHD	11/7/2020	--	--	--	--	55.9 B J	<200	<200	<250	<250	<1.00	<1.00	<1.00	<3.00	--	<5.00		
TRIP BLANK	10/30/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TRIP BLANK	01/23/2003	--	--	--	--	<80	--	--	--	--	<0.500	<0.500	<0.500	<1.0	--	--		
TRIP BLANK	04/18/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.0	--	--		
QA	07/11/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--		
QA	10/31/2003	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--		
QA	12/31/2003	--	--	--	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.5	--	--		
QA	5/3/2004 <sup>6</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
QA	07/20/2004	--	--	--	--	<50	--	--	--	--	<0.500	<0.500	<0.500	<1.00	--	--		
QA	5/27-28/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/27-29/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/17-19/2008	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/16-18/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/4-6/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/19-21/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/18-20/2009	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/8-10/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/12-13/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	08/11/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/3-4/2010	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/3-4/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	05/23/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/23-24/11	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/7-9/2011	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/6-8/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/2-4/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/1-3/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/26-28/2012	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/4-6/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/6-8/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	9/9-13/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/18-22/2013	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/4-11/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	6/12-14/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/18-21/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/19-20/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	2/17-20/2014	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/11-15/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	8/10-11/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/16-18/2015	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	5/13-14/2016	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	11/14/2016	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		
QA	05/14/2017	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--		

**Table 2. Historical Groundwater Gauging Data and Select Analytical Results**  
**COWLITZ BP / COWLITZ Food and Fuel / Former Texaco Service Station No. 211556**  
**101 Mulford Road**  
**Toledo, Washington**

Well	Date	TOC	DTW	LNAPL	GWE	TPH-GRO	TPH-DRO	TPH-DRO w/Si gel	TPH-HRO	TPH-HRO w/Si gel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Dissolved Lead	Comments
QA	11/11-12/2017	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	05/11/2018	--	--	--	--	<50	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	
QA	11/11-12/2018	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	04/27/2019	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	11/03/2019	--	--	--	--	<19	--	--	--	--	<0.2	<0.2	<0.4	<1	--	--	
QA	05/06/2020	--	--	--	--	38.7 B J	--	--	--	--	<1.00	<1.00	<1.00	<3.00	--	--	
QA	11/7/2020	--	--	--	--	43.1 B J	--	--	--	--	<1.00	<1.00	<1.00	<3.00	--	--	

**Notes:**

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**BOLD and highlighted** values exceed their respective MTCA Method A cleanup level

**BOLD** values are non-detect do not exceed the laboratory method detection limit (MDL), but the MDL exceeds the MTCA Method A cleanup level

Results reported in micrograms per liter (µg/L)

**Abbreviations:**

TOC = Top of Casing in feet above North American Vertical Datum of 1988 (NAVD 88)

DTW = Depth to water in feet below TOC

NAPL = Non-aqueous phase liquid thickness in feet

GWE = Groundwater elevation in feet relative to NAVD88

-- = Not applicable, not available, or not analyzed

MTCA = Model Toxics Control Act Cleanup

CUL = Cleanup Level

DUP = Blind duplicate sample results

LFP = Low flow (purge) sample

QA = Quality Assurance

**Laboratory Qualifiers:**

< = Not detected at or above the laboratory Reporting Limit (RL) or Limit of Quantification (LOQ)

J = Estimated value; result is greater than the laboratory Method Detection Limit (MDL) but less than the RL or LOQ.

B = The same analyte is found in the associated blank.

E = The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

**Notes:**

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**BOLD and highlighted** values exceed their respective MTCA Method A cleanup level

**BOLD** values are non-detect do not exceed the laboratory method detection limit (MDL), but the MDL exceeds the MTCA Method A cleanup level

Results reported in micrograms per liter (µg/L)

**Analytical Methods:**

Samples analyzed by USEPA Method 8260

BTEX = benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics analyzed by NWTPH-Gx

Samples analyzed by NWTPH-Dx

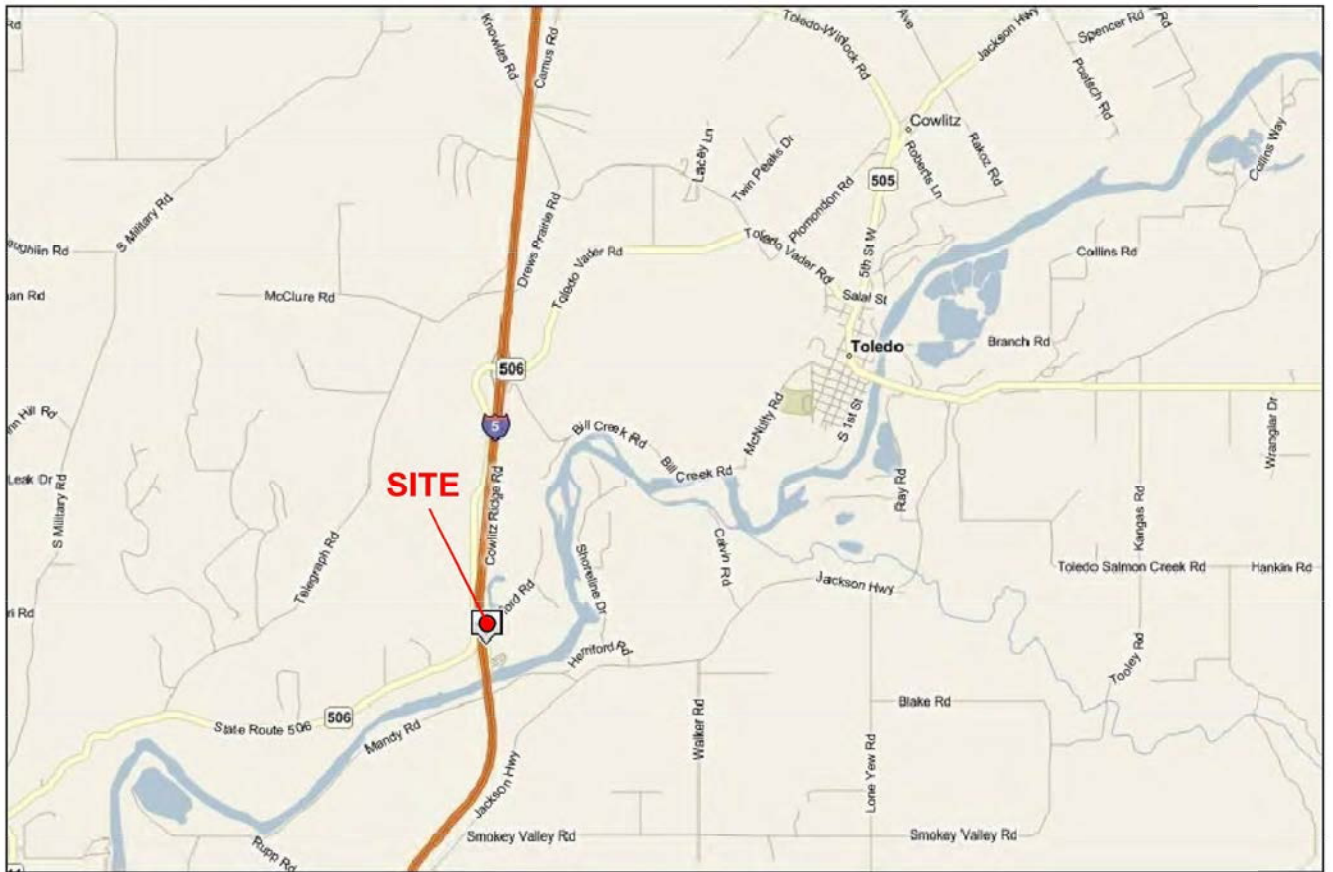
TPH-DRO = Total Petroleum Hydrocarbon as Diesel Range Organics

TPH-HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

Dissolved Lead analyzed by USEPA 6010D

# FIGURES





COWLITZ BP / COWLITZ FOOD AND FUEL /  
 FORMER TEXACO SERVICE STATION NO. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

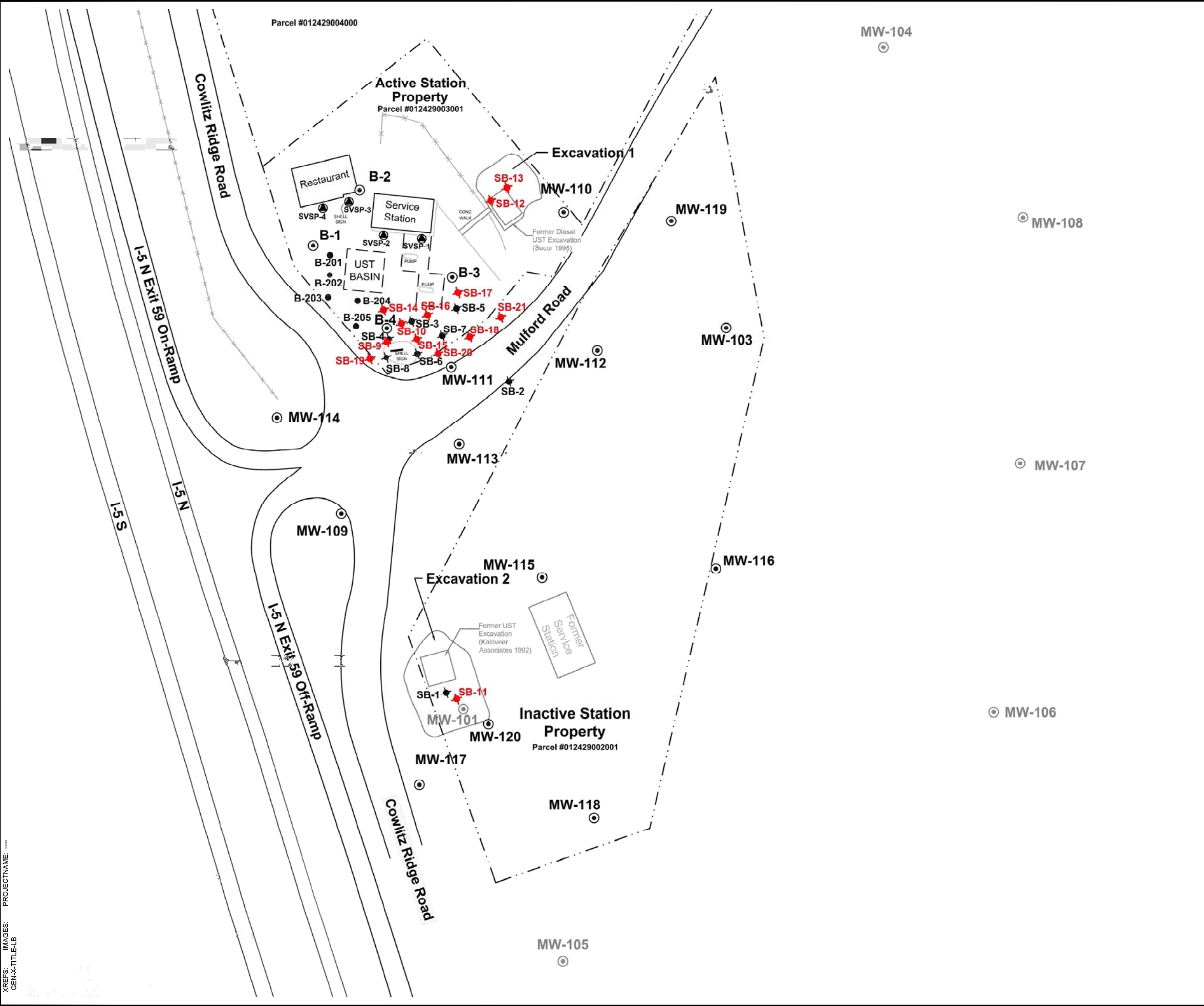
**VICINITY MAP**



FIGURE

**1**

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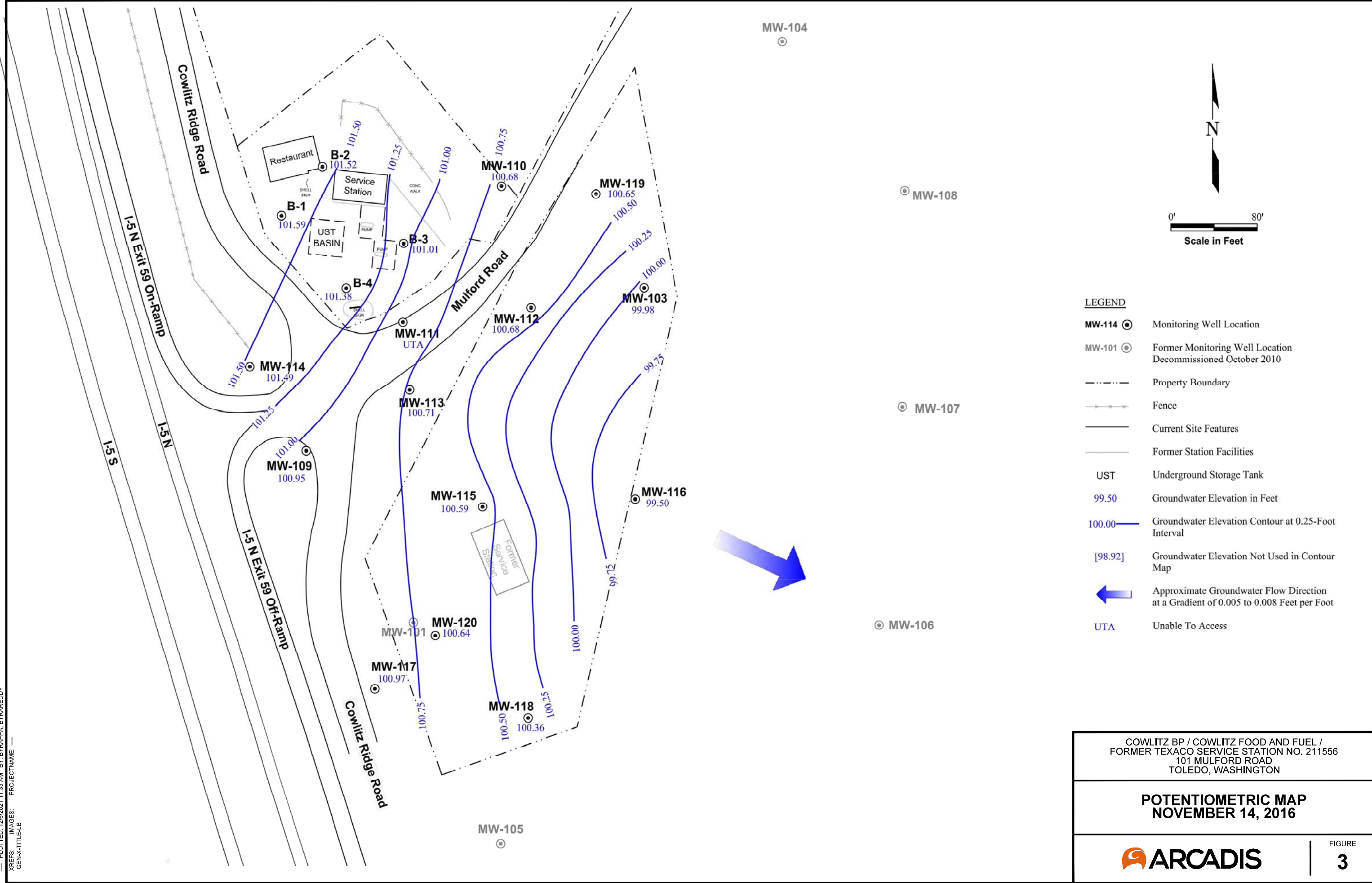
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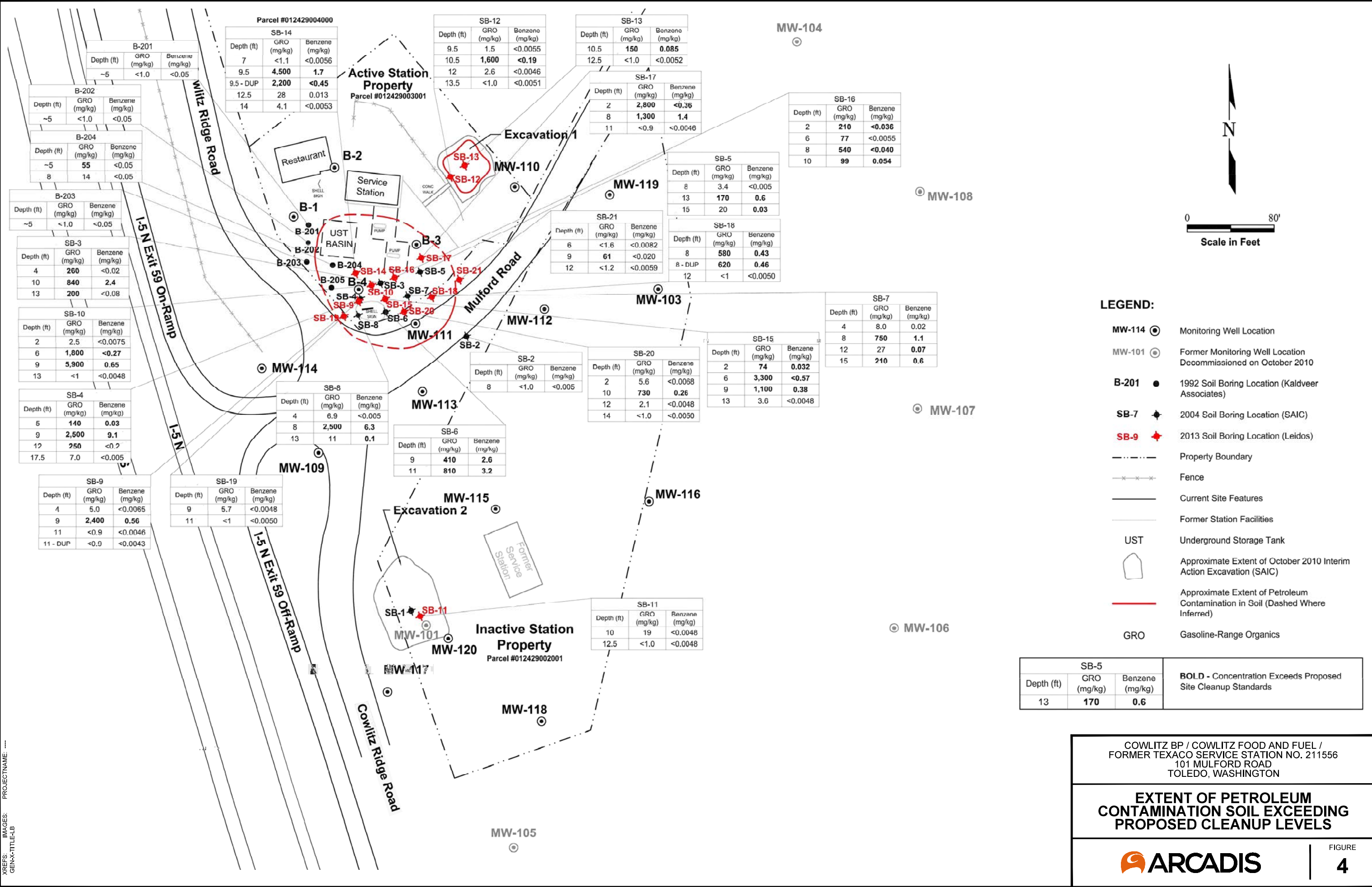
- MW-114 Monitoring Well Location
- MW-101 Former Monitoring Well Location Decommissioned October 2010
- B-201 1992 Soil Boring Location (Kaldveer Associates)
- SB-7 2004 Soil Boring Location (SAIC)
- SB-9 2013 Soil Boring Location (Leidos)
- svsp-3 Soil-Vapor Sampling Probe
- Property Boundary
- Fence
- Current Site Features
- Former Station Facilities
- UST Underground Storage Tank
- Approximate Extent of October 2010 Interim Action Excavation (SAIC)

COWLITZ BP / COWLITZ FOOD AND FUEL /  
 FORMER TEXACO SERVICE STATION NO. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

**SITE MAP**







**LEGEND:**

- MW-114 ● Monitoring Well Location
- MW-101 ● Former Monitoring Well Location Decommissioned on October 2010
- B-201 ● 1992 Soil Boring Location (Kaldveer Associates)
- SB-7 ◆ 2004 Soil Boring Location (SAIC)
- SB-9 ◆ 2013 Soil Boring Location (Leidos)
- - - - - Property Boundary
- x - x - Fence
- - - - - Current Site Features
- - - - - Former Station Facilities
- UST Underground Storage Tank
- Approximate Extent of October 2010 Interim Action Excavation (SAIC)
- Approximate Extent of Petroleum Contamination in Soil (Dashed Where Inferred)
- GRO Gasoline-Range Organics

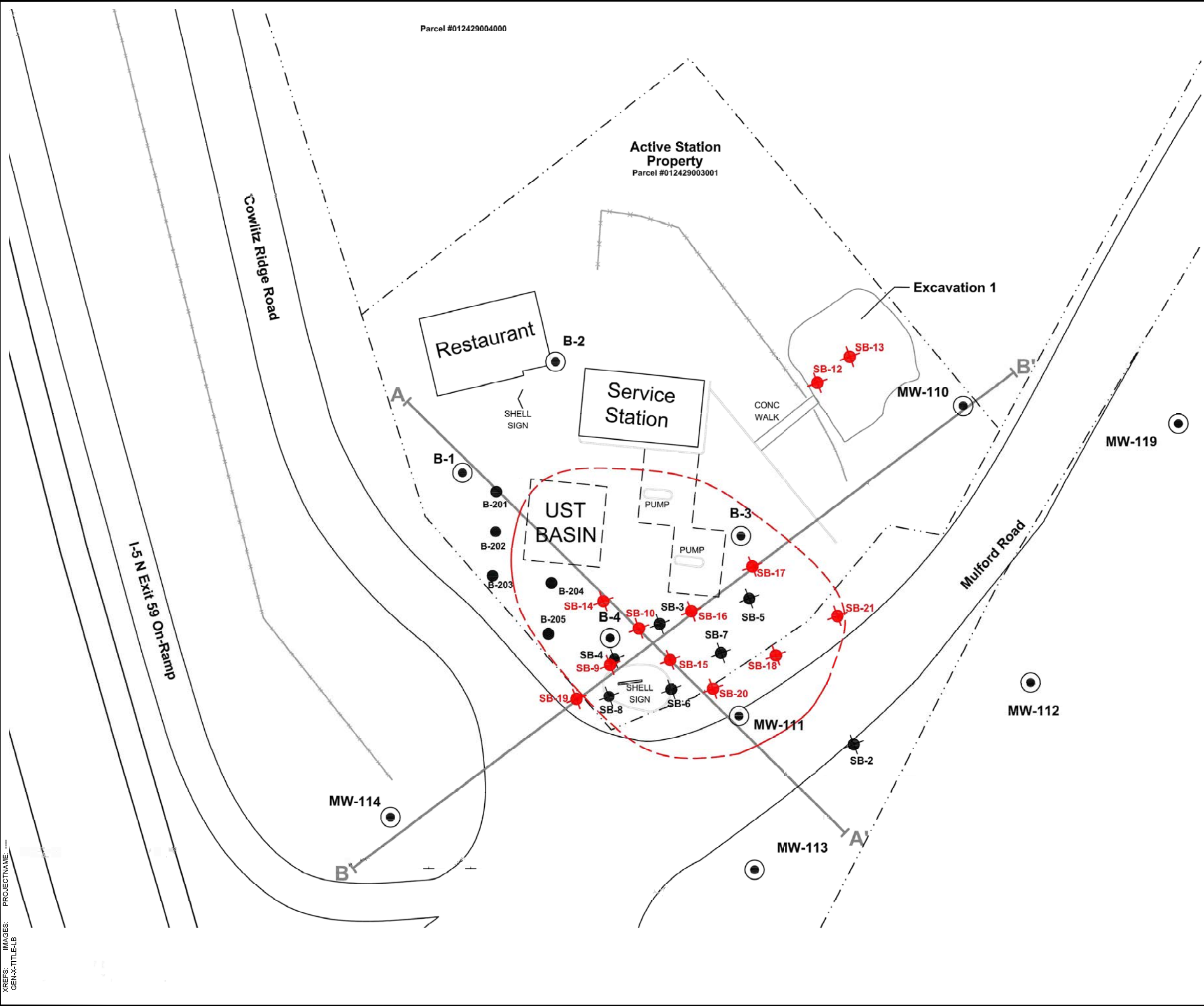
SB-5			<b>BOLD - Concentration Exceeds Proposed Site Cleanup Standards</b>
Depth (ft)	GRO (mg/kg)	Benzene (mg/kg)	
13	<b>170</b>	<b>0.6</b>	

COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556  
101 MULFORD ROAD  
TOLEDO, WASHINGTON

**EXTENT OF PETROLEUM CONTAMINATION SOIL EXCEEDING PROPOSED CLEANUP LEVELS**

**ARCADIS** | FIGURE 4

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Parcel #012429004000

Active Station Property  
Parcel #012429003001



- LEGEND:**
- MW-114 Monitoring Well Location
  - B-201 1992 Soil Boring Location (Kaldveer Associates)
  - SB-7 2004 Soil Boring Location (SAIC)
  - SB-9 2013 Soil Boring Location (Leidos)
  - Property Boundary
  - Fence
  - Current Site Features
  - UST Underground Storage Tank
  - Approximate Extent of Petroleum Contamination in Soil (Dashed Where Inferred)
  - A-A' Approximate Geologic Cross Section Transect Line

COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556  
101 MULFORD ROAD  
TOLEDO, WASHINGTON

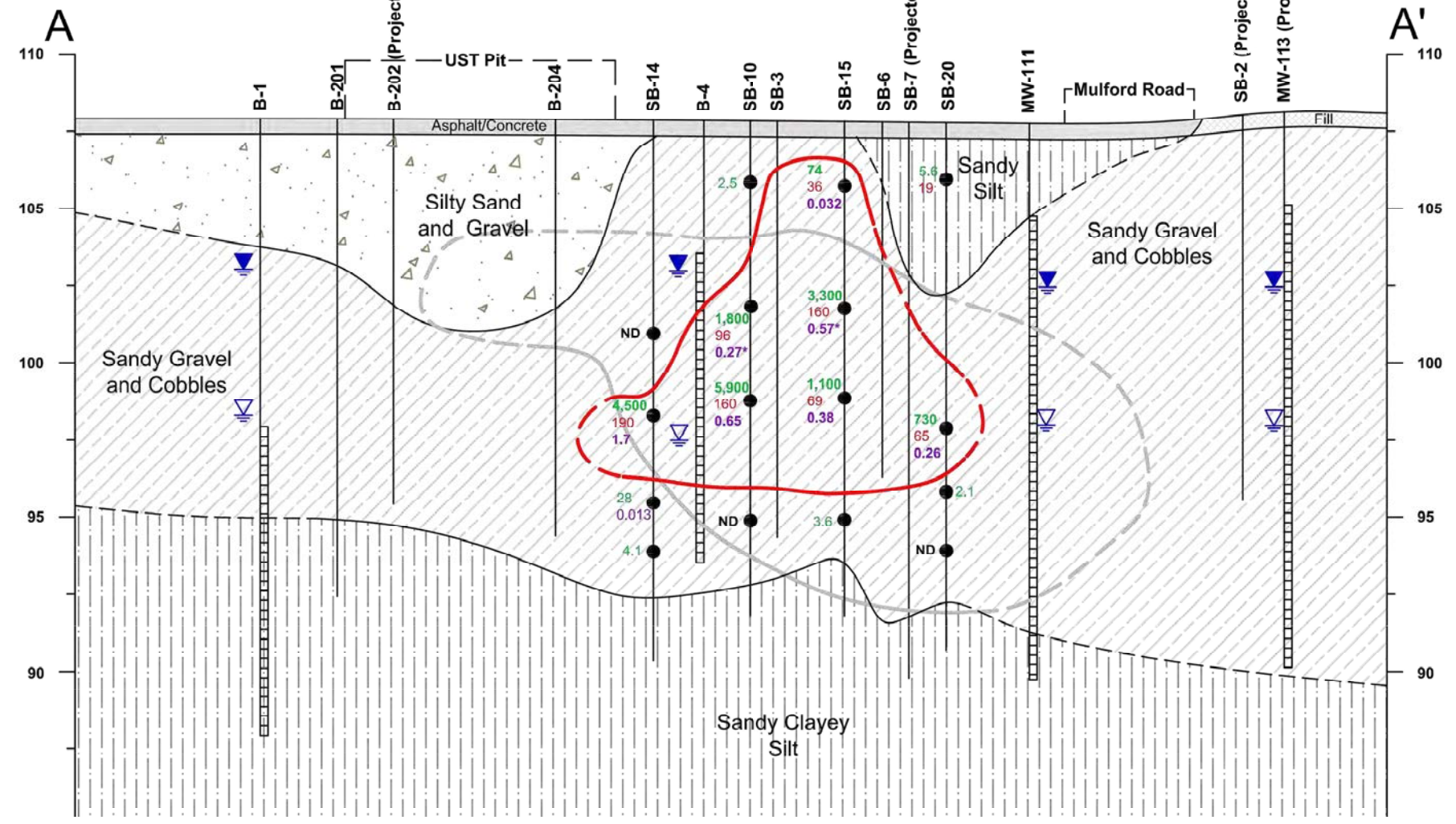
**GEOLOGIC CROSS-SECTION LOCATION MAP**

**ARCADIS**

FIGURE 5

Northwest

Southeast



Approximate Elevation (Relative NAVD 88)

LEGEND:

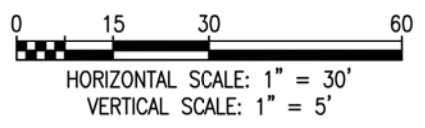
- Boring
- Screened interval
- Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on November 2013 soil sampling results (dashed where inferred)
- Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on pre-2005 soil sampling results (dashed where inferred)
- Highest recorded groundwater elevation
- Lowest recorded groundwater elevation
- Soil analytical sample location
- 3,300 Gasoline-range hydrocarbon concentration in milligrams per kilogram (mg/kg)
- 160 Diesel-range hydrocarbon concentration in mg/kg
- 0.38 Benzene concentration in mg/kg
- ND No analytes were detected at or above laboratory detection limits
- 0.38** Bold indicates analyte concentration exceeding the proposed Site cleanup standard
- 0.27\* Analyte not detected at or above indicated laboratory detection limit; however, the detection limit exceeded the proposed Site cleanup standard
- Contact line between soil types

SOIL/ROCK CLASSIFICATION LEGEND:

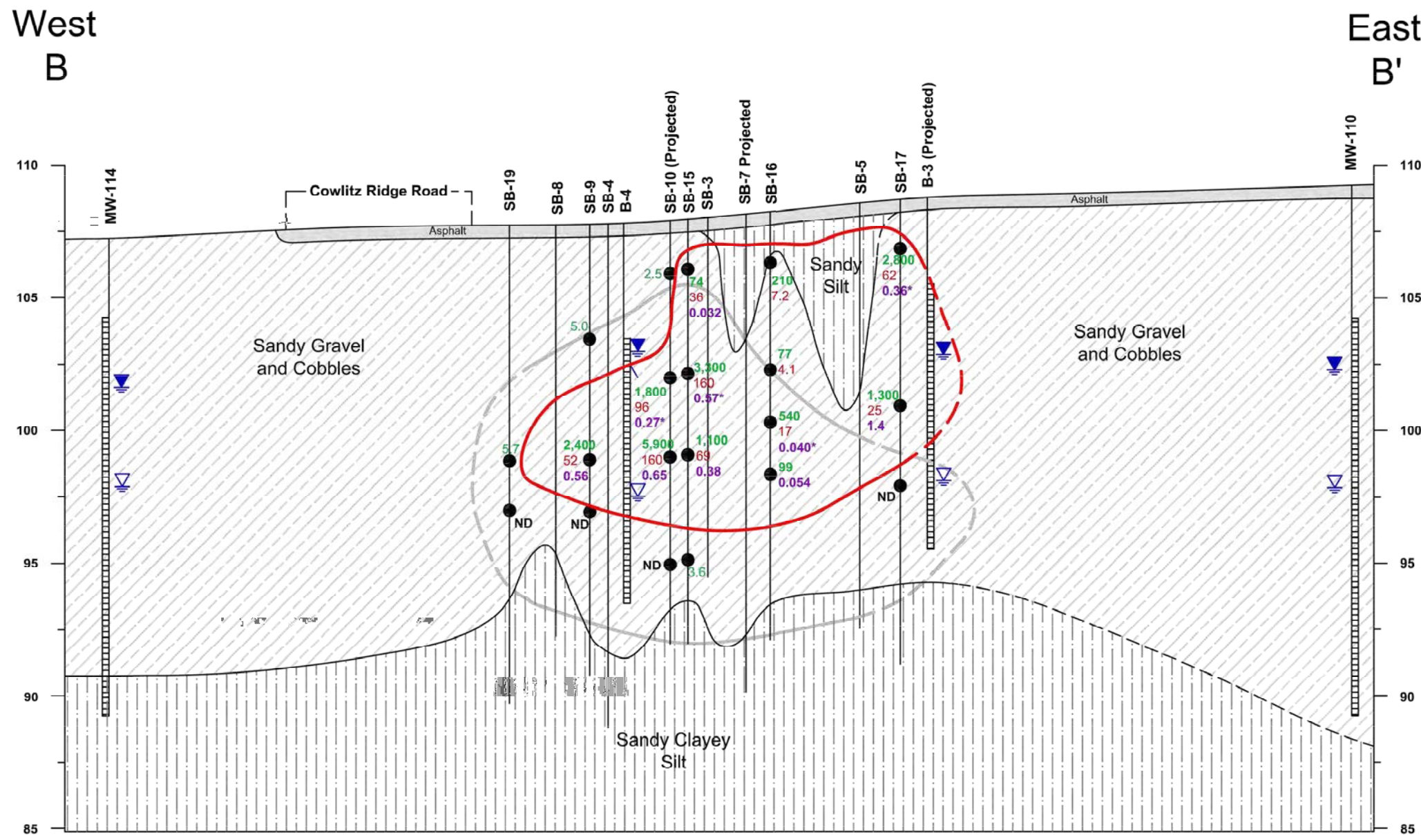
- Concrete or Asphalt
- Brown, fine to coarse Sand and Gravel with some cobbles and silt
- Brown to gray, medium to coarse sandy Gravel and Cobbles
- Brown to greenish gray, fine sandy, clayey Silt

COWLITZ BP / COWLITZ FOOD AND FUEL / FORMER TEXACO SERVICE STATION NO. 211556  
 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

GEOLOGIC CROSS-SECTION A-A'



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- LEGEND:**
- Boring
  - Screened interval
  - Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on November 2013 soil sampling results (dashed where inferred)
  - Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on pre-2005 soil sampling results (dashed where inferred)
  - Highest recorded groundwater elevation
  - Lowest recorded groundwater elevation
  - Soil analytical sample location
  - Gasoline-range hydrocarbon concentration in milligrams per kilogram (mg/kg)
  - Diesel-range hydrocarbon concentration in mg/kg
  - Benzene concentration in mg/kg
  - No analytes were detected at or above laboratory detection limits
  - Bold indicates analyte concentration exceeding the proposed Site cleanup standard
  - Analyte not detected at or above indicated laboratory detection limit; however, the detection limit exceeded the proposed Site cleanup standard
  - Contact line between soil types

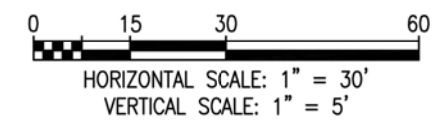
- SOIL/ROCK CLASSIFICATION LEGEND:**
- Concrete or Asphalt
  - Brown, fine to coarse Sand and Gravel with some cobbles and silt
  - Brown to gray, medium to coarse sandy Gravel and Cobbles
  - Brown to greenish gray, fine sandy, clayey Silt

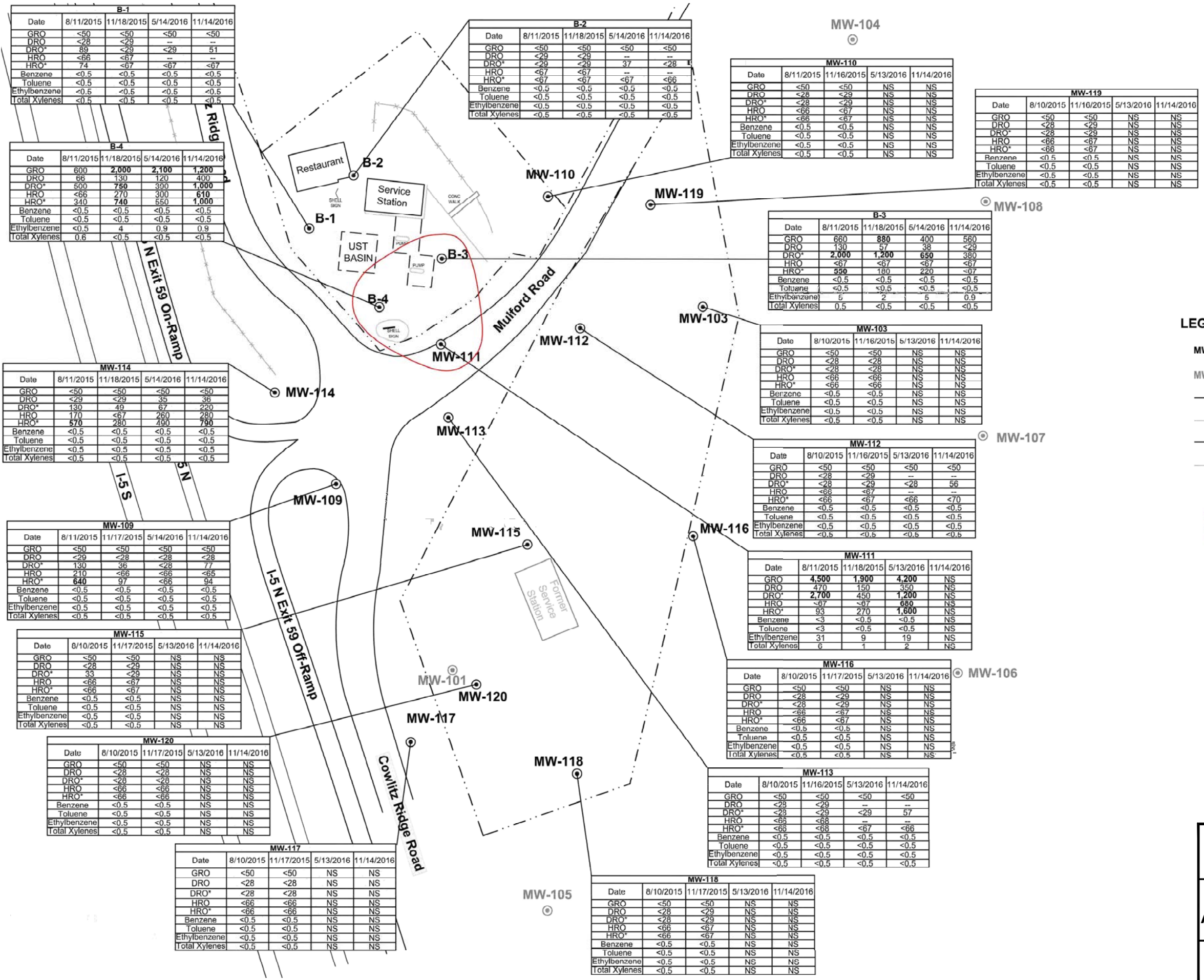
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 101 MULFORD ROAD  
 TOLEDO, WASHINGTON

**GEOLOGIC CROSS-SECTION B-B'**

**ARCADIS**

FIGURE  
**7**





**LEGEND:**

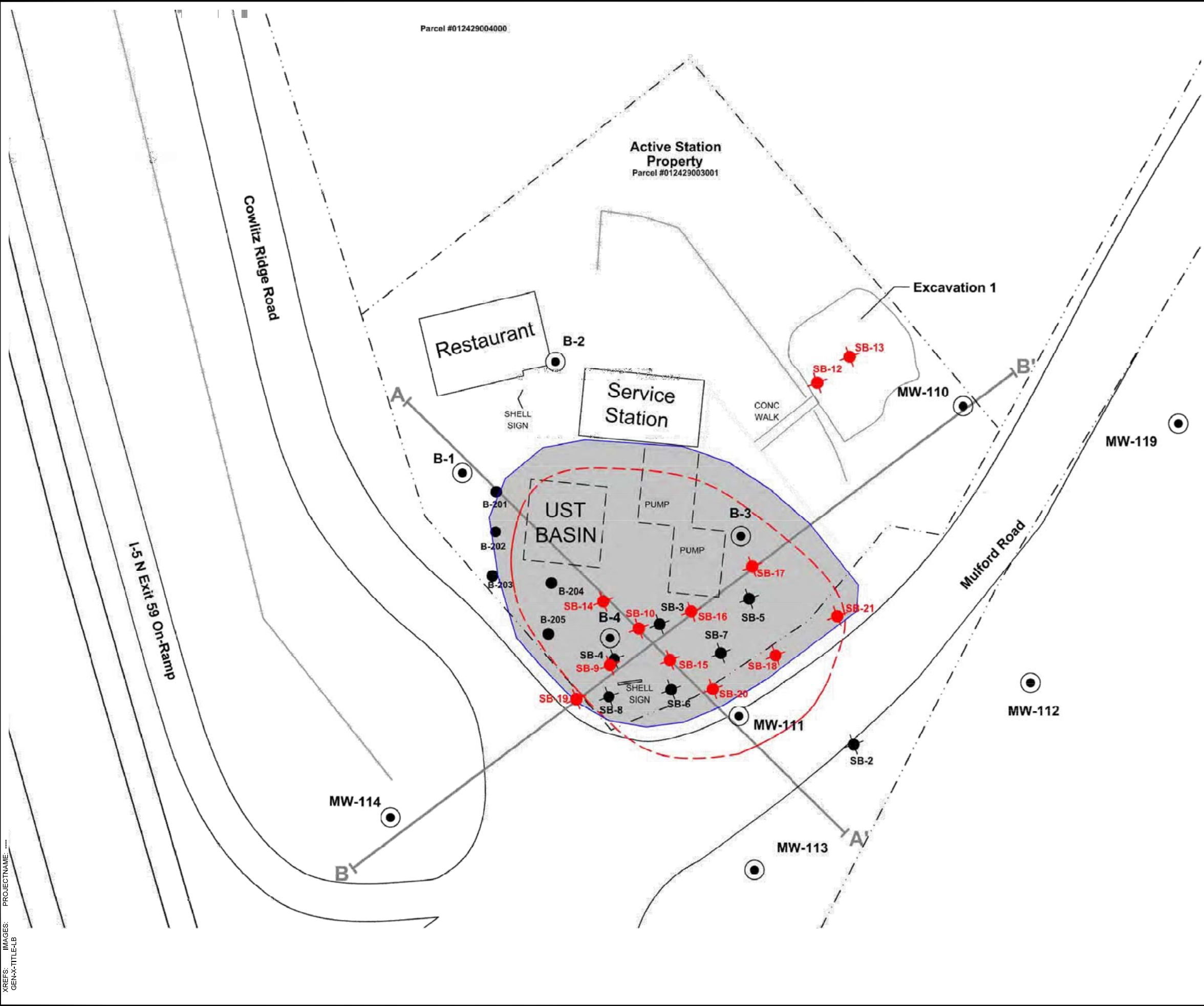
- MW-114 ● Monitoring Well Location
- MW-101 ● Former Monitoring Well Location
- - - - - Property Boundary
- x - x - Fence
- Current Site Features
- Former Station Facilities
- UST Underground Storage Tank
- Estimated Horizontal Extent of Groundwater Containing Petroleum Hydrocarbon Contamination Above Proposed Site Cleanup Standards
- <0.5 Laboratory Analytical Result Less Than The Achievable Method Detection Limit
- 1 Laboratory Analytical Result Less Than The Proposed Site Cleanup Standard
- 5,500 Laboratory Analytical Result In Excess of the Proposed Site Cleanup Standard
- NS Not Sampled
- Not Analyzed
- \* Analyzed without Silica Gel Cleanup

All Concentration Data Reported in Micrograms per Liter

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**GROUNDWATER ANALYTICAL RESULTS-  
AUGUST 2015 THROUGH NOVEMBER 2016**

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 XREFS: IMAGES: PROJECTNAME: GENX-TITLE-LB



- LEGEND:**
- MW-114 Monitoring Well Location
  - B-201 1992 Soil Boring Location (Kaldveer Associates)
  - SB-7 2004 Soil Boring Location (SAIC)
  - SB-9 2013 Soil Boring Location (Leidos)
  - Property Boundary
  - Fence
  - Current Site Features
  - UST Underground Storage Tank
  - Approximate Extent of Petroleum Contamination in Soil (Dashed Where Inferred)
  - Estimated Extent of Property-Wide Excavation
  - A-A' Approximate Geologic Cross-Section Transect Line











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**ESTIMATED EXTENT OF PROPOSED  
 EXCAVATION (PLAN VIEW)**





**ARCADIS**

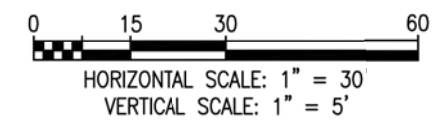
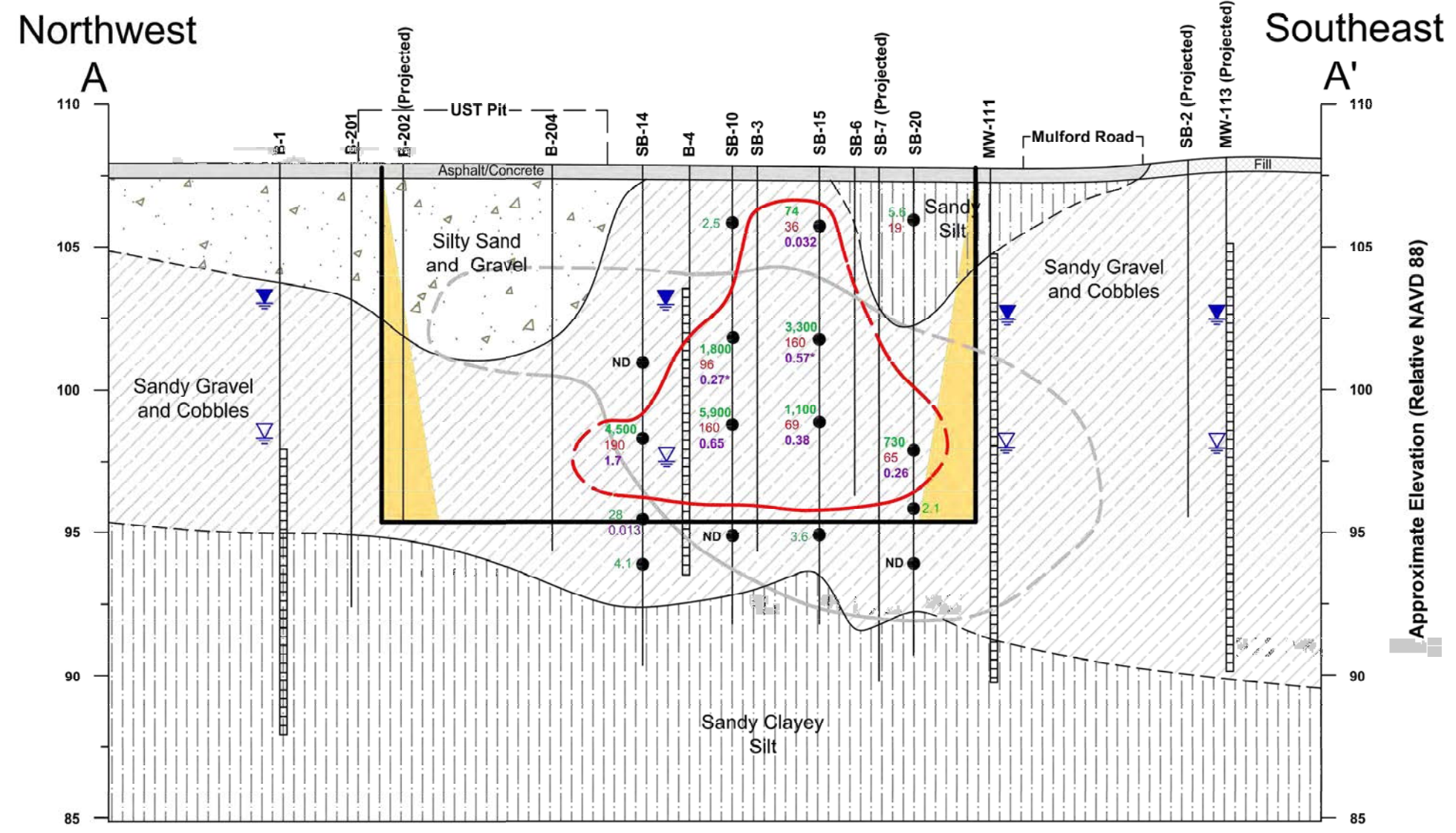
FIGURE  
**9**

**LEGEND:**

-  Boring
-  Screened interval
-  Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on 2013 soil sampling results (dashed where inferred)
-  Estimated extent of soil contamination exceeding proposed Site cleanup standards, based on pre-2005 soil sampling results (not shown, see Table 1)
-  Highest recorded groundwater elevation
-  Lowest recorded groundwater elevation
-  Soil analytical sample location
- 28 Gasoline-range hydrocarbon concentration in milligrams per kilogram (mg/kg)
- 10 Diesel-range hydrocarbon concentration in mg/kg
- 0.001 Benzene concentration in mg/kg
- ND No analytes were detected at or above laboratory detection limits
- 0.13 Bold indicates analyte concentration exceeding the proposed Site cleanup standard
- 0.05\* Analyte not detected at or above indicated laboratory detection limit; however, the detection limit exceeded the proposed Site cleanup standard
-  Contact line between soil types
-  Estimated extent of partial excavation
-  Area within anticipated excavation boundary that may be inaccessible due to sidewall sloping requirements (area shown assumes standard sidewall slope of 1:1)

**SOIL/ROCK CLASSIFICATION LEGEND:**

-  Concrete or Asphalt
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**ESTIMATED EXTENT OF PROPERTY-WIDE  
 EXCAVATION  
 (CROSS-SECTIONAL VIEW A-A')**












 **ARCADIS**

FIGURE  
**10**







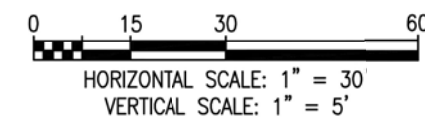
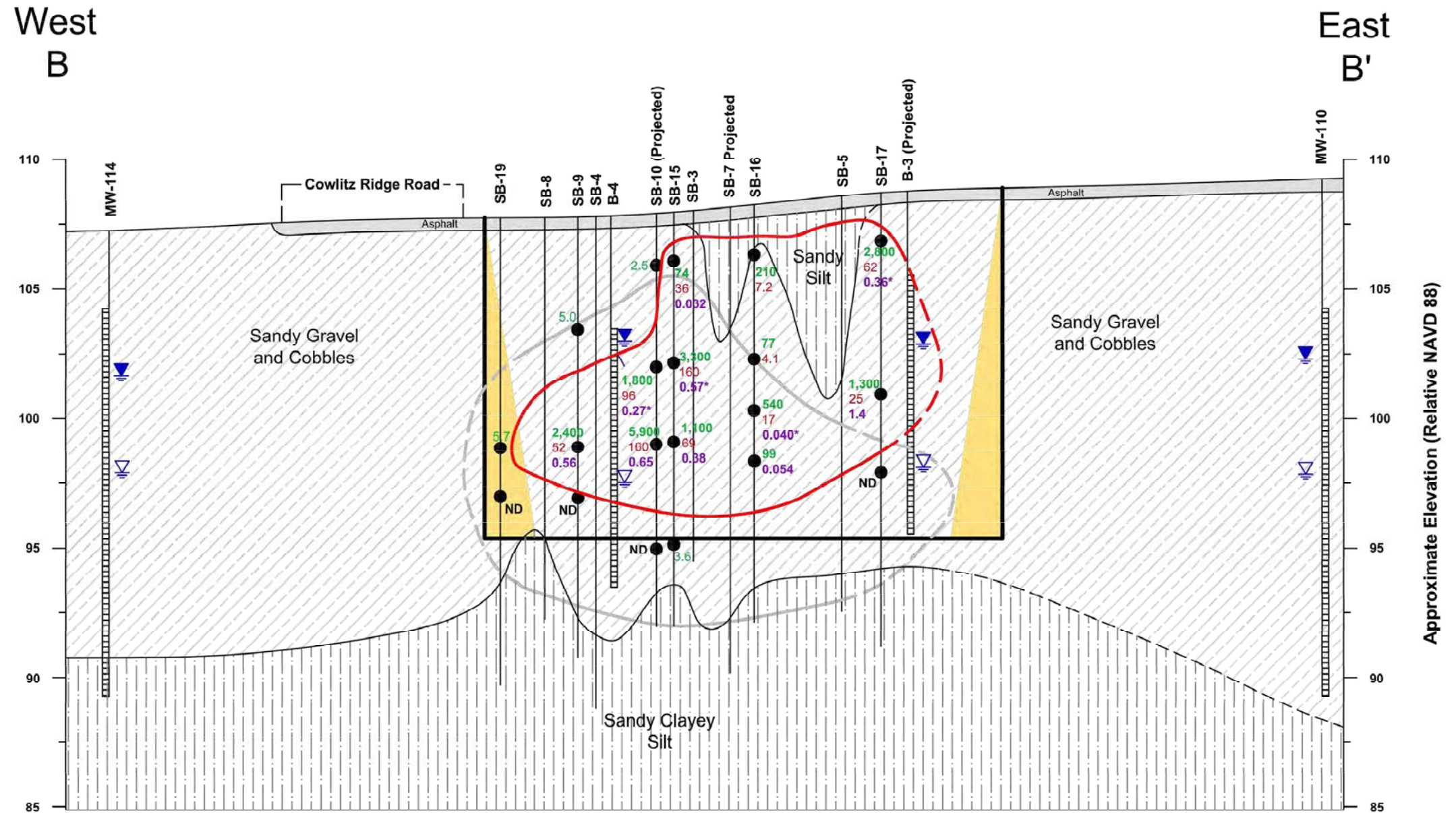
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 XREFS: IMAGES: PROJECTNAME: GENX-TITLE-LB

**LEGEND:**

-  Boring
-  Screened interval
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ESTIMATED EXTENT OF PROPERTY-WIDE  
 EXCAVATION  
 (CROSS-SECTIONAL VIEW B-B')


FIGURE  
**11**