



Associated
Environmental
Group, LLC

Human Health Risk-Based Assessment and Closure Request

Conducted on:

**Smitty's Conoco #140-Toppenish
(Former Spirit Gas Station)**

102 East Toppenish Avenue

Toppenish, Washington 98948-1359

EPA Facility ID: 4260087

EPA Docket No.: RCRA-10-2010-0136

Ecology Facility/Site ID: 47421742

Prepared for:

R.H. Smith Distributing Company, Inc.

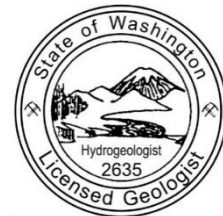
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1.0 INTRODUCTION

Associated Environmental Group, LLC (AEG) has prepared this Human Health Risk-Based Assessment and Closure Request (Request) for the Smitty's Conoco #140 Toppenish, referred to as Smitty's Toppenish (Site). The Site has also been known as Toppenish Pik-A-Pop, Toppenish Smitty's Store #141, and the Old Western Market, and is currently vacant with no structures. The Site includes the real property located at 102 East Toppenish Avenue, in Toppenish, Washington (Property), Yakima County parcel number 20100334510 (Figure 1, *Vicinity Map*).

The U.S. Environmental Protection Agency (EPA) identifies the Site as SMITTYS FOODS FUEL 140 with EPA Facility ID No. 4260087. The Site is currently under an EPA "Administrative Order on Consent" with a docket number of RCRA-10-2010-0136.

A petroleum release occurred at the Site prior to 2004 when it was a former Spirit-brand retail fueling station. Soil and groundwater analytical results from numerous phases of subsurface investigations of areas on and off the Property were used to select the remedial actions for the Site and adjacent/nearby off-property areas. These remedial actions have included excavation and removal of petroleum-contaminated soil (PCS) followed by a staged approach to in-situ bioremediation comprising of chemical oxidation, granular activated carbon (GAC) injections, and aerobic biodegradation of petroleum hydrocarbons (TPH). The overall remediation steps for the Site were based on contamination levels, previous remedial action, Property size, locales of impacted soil and groundwater on and off the Property, and current site usage.

This Request presents a brief summary of the findings of Site investigations, remedial actions completed, and confirmation soil sampling, as well as information collected during historical and recent groundwater monitoring events. This Request also presents a conceptual site model (CSM), including an evaluation of beneficial water use (BWU) near the Site, a human health risk-based screening evaluation, and a request for no further action (NFA).

1.1 *Regulatory Jurisdiction*

The Property is currently owned by R.H. Smith Distributing Company, Inc. (R.H. Smith). The Site is located on the reservation of the Confederated Tribes and Bands of the Yakama Nation in Central Washington (Yakama Nation). Since the Site is located within the Yakama Nation reservation, EPA has regulatory jurisdiction for implementing federal laws and regulations on this Site.

The EPA allows for the use of any EPA-approved risk-based approach to determine compliance. For this Site, EPA chose to follow the guidelines and cleanup standards of the Model Toxics

Control Act (MTCA), Chapter 70A.305 RCW, as administered by the Washington State Department of Ecology (Ecology). In addition, the Oregon Department of Environmental Quality's (DEQ's) Risk-Based Decision Making for Remediation of Petroleum-Contaminated Sites (RBDM; DEQ 2003) was selected to compare the standards and evaluate the Site for an NFA determination. The May 2018 updated values for the DEQ risk-based concentrations (RBCs) were used for comparison of the sample results for this Request.

1.2 *Constituents of Potential Concern*

Based on AEG's investigations, constituents of potential concern (COPCs) in the soil and groundwater at the Site are gasoline- and diesel-range TPH, and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. The source of the contamination was identified as leaking product lines previously located on the Property. Following Site cleanup actions, residual impacts are primarily located between 15 and 20 feet below grade surface (bgs). Subsurface investigation results indicate that the contamination does not extend below 25 feet bgs.

2.0 SITE INFORMATION

2.1 *Site Description*

The Site, a former Spirit-brand retail fueling station and associated convenience store, is located on the southeast corner of East Toppenish Avenue and Asotin Avenue in Toppenish, Washington. This gasoline station has also been known as Toppenish Pik-A-Pop and Toppenish Smitty Store #140.

The Property is triangular-shaped and comprises about 24,000 square feet (or 0.55 acres). It is located in Township 10 North, Range 20 East, Section 3 WM. The gasoline station and convenience store ceased operation in the November 2009, and all structures were demolished in 2016. The Property is currently vacant. The Property is bounded to the north by East Toppenish Avenue followed by commercial properties, to the southwest by Asotin Avenue followed by Railroad Park, and to the east by a community garden followed by a Mexican restaurant with associated asphalt-paved parking. Figure 2, *Site Map*, presents the general boundaries of the Site and vicinity area.

2.2 *Site Geology and Hydrogeology*

The City of Toppenish is situated within the Yakima River Basin along the western margin of the Columbia Plateau region and is adjacent to the eastern foothills of the Cascade Mountain Range (Cascades). The Yakima River Basin is bounded on the west by the Cascades, on the north by the Wenatchee Mountains, on the east by the Rattlesnake Hills, and on the south by the Horse Haven Hills.

While the headwaters of the Yakima River are based in the Cascades, much of the river basin is located in a semi-arid climate creating a large demand on river water and groundwater resources during summer months for agricultural irrigation. Annual precipitation in the area is approximately 8 inches per year. This is due to the rain shadow effect created by the mountains to the west (US Department of Interior, 2002).

Generally, there are three aquifer systems within the Yakima River Basin, including:

- A shallow aquifer composed of alluvium.
- A deeper, confined gravel aquifer called the Ellensburg aquifer.
- A deep basalt bedrock aquifer (USGS, 1987).

Subsurface conditions at the Site, at locations of investigation, generally consist of alluvium deposits. These deposits general consist of brown, loose to medium dense silty sand, silty sand with gravel, very dense sandy gravel with local cobbles, and gray coarse clean sand to the maximum depth explored of 30 feet bgs. Boring logs from the confirmation soil borings completed by AEG throughout the Site are attached in Appendix A, *Supporting Documents, Boring Logs, Laboratory Data Sheets*.

The direction of surface water flow follows the regional topography of the Yakima River Valley to the south and southeast. The Yakima River is located approximately 2 miles northeast of the Site.

Based on water level measurements obtained at different times of the year, the water levels fluctuate approximately 1.5 to 2 feet seasonally within individual wells, with the highest water levels occurring during the summer months when irrigation is ongoing (Table 1, *Summary of Groundwater Elevations*). Historically, the depth to groundwater measured in monitoring wells throughout the Site has ranged from approximately 9 to 14 feet bgs.

The most recent hydraulic groundwater gradient was observed at approximately 0.004 foot per foot to the east as shown in AEG's March 2020 groundwater monitoring activities (Figure 3, *Groundwater Elevation Contour Map 03/10/2020*). Previous groundwater sampling events and historic contour maps have shown a flow direction that seasonally fluctuates to the east and south east. This is further illustrated on earlier contour maps, including Figure 4, *Groundwater Elevation Contour Map 09/16/2019*, Figure 5, *Groundwater Elevation Contour Map 12/19/2017*, and Figure 6, *Groundwater Elevation Contour Map 09/16/2015*. It should also be noted that the current groundwater gradient is somewhat affected by the backfill of the on-Site excavation, which is more transmissive than the surrounding native soil. This is evident in Figure 3, *Groundwater Elevation Contour Map 03/10/2020*, and Figure 4, *Groundwater Elevation Contour Map 09/16/2019*, where the contour lines are closer to each other near the former excavation area.

3.0 PREVIOUS ENVIRONMENTAL ACTIONS

3.1 *Phase II ESA Subsurface Assessment – DLH, June 2004*

On June 14, 2004, DLH Environmental Consulting (DLH) conducted a Phase II Environmental Site Assessment (ESA) at the Site to determine if the subsurface soils and groundwater had been impacted by TPH from potential leaks in the UST system, and/or overfilling during fuel delivery. Analytical results indicated concentrations of gasoline-range TPH and BTEX compounds in soil above MTCA Method A cleanup levels, and gasoline- and diesel-range TPH, BTEX compounds, naphthalenes, and lead in groundwater above MTCA Method A cleanup levels.

3.2 *Monitoring Well Installation and Subsurface Media Sampling – NEI, 2005*

In July 2005, Noll Environmental, Inc. (NEI) installed three groundwater monitoring wells (MW-1, MW-2, and MW-3) at the Site to about 19 feet bgs. The well locations are illustrated on Figure 2, *Site Map*. Analytical results of the groundwater samples collected from the three monitoring wells indicated the presence of gasoline-range TPH, BTEX compounds, and lead in groundwater above MTCA Method A cleanup levels. Analytical results are summarized in Table 2, Summary of Groundwater Analytical Results.

3.3 *Helium Tank Tightness Testing – NW Tank, May 2009*

On May 18, 2009, Northwest Tank and Environmental Services, Inc. was retained by R.H. Smith to conduct a helium test on the Site's USTs and associated product lines. The helium test indicated that a release point existed in the vicinity of the southern dispenser of the eastern dispenser island.

3.4 *Initial Site Investigation – AEG, August/September 2009*

On August 16, 2009, AEG visited the Site and collected soil samples adjacent to the two fuel pumps on the eastern-most fuel dispensing island, pump #1/2 and pump #3/4. Soil samples (SB-1 through SB-3) were collected at 4 feet bgs via a hand auger. Laboratory analytical results were non-detect, and are presented in Table 1, *Summary of Soil Analytical Results*.

On September 2, 2009, AEG conducted groundwater monitoring/sampling in monitoring wells MW-1 through MW-3. Concentrations of gasoline-range TPH and BTEX compounds were detected at concentrations above their respective MTCA Method A cleanup levels (see Table 2, *Summary of Groundwater Analytical Results*).

Based on the elevated concentrations, R.H. Smith directed AEG to supervise the removal of the fuel dispenser islands and expose the product lines to visually inspect their integrity and connections to the UST system.

On September 26, 2009, AEG collected soil samples within the dispenser sumps for fuel dispensers #1/2 and #3/4 on the eastern most dispenser island, at a depth of approximately 1-foot bgs. The laboratory analytical results indicated concentrations of gasoline-related petroleum products above their respective MTCA Method A soil cleanup levels. Analytical results are presented in Table 1, *Summary of Soil Analytical Results*.

Based on these results and subsequent correspondences with EPA, AEG recommended decommissioning and removal of the three fuel USTs and associated product lines from the Property.

3.5 EPA Groundwater Sampling Event – EPA, October 2009

In October 2009, EPA representatives conducted a groundwater-sampling event and submitted three groundwater samples for analysis of volatile organic compounds (VOCs) via EPA Method 8260C. VOC concentrations in groundwater during this event were comparable to previous groundwater monitoring/sampling events (EPA, 2009).

3.6 Interim Remedial Action (UST Decommissioning) – AEG, November 2009

From November 9 through November 20, 2009, AEG, along with subcontractor Belsaas & Smith Construction (Belsaas), completed decommissioning and removal of the following USTs:

- One 8,000-gallon gasoline UST.
- One 6,000-gallon gasoline UST.
- One 4,000-gallon diesel fuel UST.
- One 1,000-gallon UST.
- One 500-gallon waste oil UST.

Two of the tanks had not been previously identified at the Site. The 1,000-gallon UST had been closed-in-place by being filled with Controlled Density Fill (CDF), and the fill port on the 500-gallon UST had been removed. The 500-gallon UST also contained approximately 300 gallons of waste oil. All the USTs appeared to be slightly corroded; however, no obvious holes were found in any of the tanks.

Petroleum-contaminated soil (PCS) was encountered in the overburden soil around the fill ports of the 4,000-gallon, 6,000-gallon, and 8,000-gallon USTs, near the turbines, and beneath the USTs, to a depth of approximately 12 feet bgs where groundwater was encountered. A total of 1,535 tons of PCS was excavated and removed from the Site.

Excavation was limited horizontally by the City of Toppenish rights-of way (ROWs) and by the building on the Site, and vertically by the presence of groundwater. Monitoring wells MW-2 and MW-3, located in the western and northeastern areas of the Site, were removed during soil excavation activities.

3.7 Administrative Order on Consent (Docket No. RCRA-10-2010-0136) – April 2010

On April 19, 2010, R.H. Smith and EPA entered into an Administrative Order on Consent (AOC), which required R.H. Smith to perform the following scope of work:

- *Develop a Site Assessment Plan for the facility.*
- *Submit an approvable Corrective Action Plan (CAP) that will prevent or mitigate any migration of petroleum constituents released from the USTs formerly located at the Site.*
- *Implement the approved CAP at the facility.*
- *Submit Quarterly Progress Reports.*

The AOC was modified on March 14, 2011, to change the schedule for the work to be performed. The work described below was performed pursuant to the AOC.

3.8 Off-Property Preliminary Investigation – AEG, July 2010

AEG conducted off-property characterization of the dissolved-phase TPH plume associated with the Site in July 2010. Twelve borings (B-1 through B-12) were advanced to a maximum depth of 15 feet bgs via a direct-push probe drilling rig at locations of environmental concern inferred to be downgradient, cross-gradient, and adjacent to the Property.

Based on the soil and groundwater analytical results from this investigation, it was determined that the dissolved-phase plume had impacted areas at least 300 feet east of the Property towards B Street. Areas south and southeast of the Property did not appear adversely impacted based on findings from borings advanced in these areas. Analytical results of the soil samples are presented in Table 1, *Summary of Soil Analytical Results*.

3.9 Supplemental Remedial Investigation – AEG, January and February 2011

In January and February 2011, AEG conducted a Supplemental Remedial Investigation to further characterize the lateral and vertical extent of the dissolved-phase TPH plume in areas downgradient and cross-gradient of the Property. Seven soil borings, subsequently converted to 2-inch diameter groundwater monitoring wells (MW-4 through MW-10), were advanced to a depth of approximately 25 feet bgs. Analytical results of the soil and groundwater samples are presented

in Table 1, *Summary of Soil Analytical Results*, and Table 2, *Summary of Groundwater Analytical Results*, respectively.

Findings from these investigations confirmed that:

“...soil remedial activities during the UST decommissioning and product lines removal have eliminated the bulk of petroleum contaminated soil at the Site; however, residual PCS remains at depths greater than 10 feet bgs, and will continue to serve as a source of residual contamination to groundwater” (AEG, 2011).

“...the lateral extent of the dissolved phase petroleum hydrocarbons extends from the west area of the property (in the vicinity of the previous USTs) to off-property areas to the east of the facility, including the adjoining El Charrito restaurant property, and B Street. However, based on the lack of detectable concentrations of these analytes in the February 2011 quarterly groundwater sampling event, it appears that diesel-range TPH and halogenated volatile organic compounds (VOCs) are not constituents of concern associated with the Site” (AEG, 2011).

3.10 In-situ Chemical Oxidation – AEG, December 2011

From December 5 through 10, 2011, AEG injected 4,590 pounds (lbs) of Regenesi's RegenOx[®] product (an in-situ chemical oxidation [ISCO] product) through 24 injection points at depths of approximately 4 to 15 feet bgs to treat contaminants within the affected shallow soil and lower smear zone. The RegenOx[®] was used to reduce sorbed and soil-matrix-bound TPH in the vadose zone and saturated zone, as well as in the dissolved phase in groundwater.

3.11 Enhanced Aerobic Bioremediation – AEG, March 2012

To further assist the microbial degradation of remaining TPH in the impacted vadose zone and groundwater, a secondary stage of in-situ treatment was conducted at the Site in March 2012 (three months after the initial stage of RegenOx[®] treatment). Approximately 1,400 lbs of Regenesi's Oxygen-Releasing Compound - Advanced (ORC-A[®]) was injected throughout the Site at depths of 4 to 15 feet bgs, and at lateral intervals of approximately 10 to 20 feet. Three angled injections were completed on the north, south, and west side of the building at depths of approximately 7 to 18 feet bgs.

3.12 Supplemental Site Characterization – AEG, February 2015

On February 12, 2015, AEG advanced six soil borings (B-13 through B-18), and drilled and installed seven monitoring wells (MW-11 through MW-17). Analytical results indicated detections of gasoline-range TPH and BTEX compounds in the soil. The monitoring wells were sampled in March following well development and allowing them time to equilibrate. Analytical

results of the well groundwater were either non-detect or below cleanup levels. Boring/well locations are illustrated on Figure 2, *Site Map*. Analytical results of the soil and groundwater samples are presented in Table 1, *Summary of Soil Analytical Results*, and Table 2, *Summary of Groundwater Analytical Results*, respectively.

3.13 Building Demolition and Soil Excavation – AEG, April 2016

Prior to initiating remedial work, AEG provided and/or arranged for security fencing, utility abandonment, and asbestos testing/removal for the Site. The asbestos removal occurred on April 27, 2016, with 1,344 square feet of asbestos roofing being removed from the building prior to demolition.

On May 2, 2016, Russell Crane Service, Inc. began to remove the above-grade structures and breakup and remove the concrete foundation. Once this was removed, excess concrete was discovered beneath the foundation along the eastern Property line, which also needed to be removed for the PCS excavation. The remaining asphalt surfaces at the Property were removed as part of the Site preparation for the PCS excavation.

The PCS excavation was performed over a 12-day period. During the PCS excavation, a mobile laboratory operated by Libby Environmental (Libby) was on Site to analyze confirmation soil samples collected from the excavation limits. The excavation started on the north side of the Property, and continued southward toward Asotin Ave. The total depth of the excavation was 18 feet bgs as groundwater was coming in at a faster rate than anticipated at that depth, and AEG was unable to excavate to the total anticipated depth of 20 feet bgs. Soil encountered below the fill from about 7 to 18 feet bgs consisted of sandy gravel, and fine- to coarse-grained gravels, with coarse sand. A more transmissive gravel was encountered at 18 feet bgs.

The excavation was limited to the within the boundaries of the Property to not undermine adjacent roads, sidewalks, or the community garden. A total of 2,273.79 tons of PCS were excavated and loaded onto trucks for transport and disposal at Wasco County Landfill in The Dalles, Oregon. Analytical results of the confirmation soil samples are presented in Table 1, *Summary of Soil Analytical Results*.

Once clean confirmation samples were collected, the excavation was partially backfilled with 4- to 8-inch spalls, approximately 2,200 pounds of RegenOx[®] Part A, 480 pounds of RegenOx[®] Part B, and 495 pounds of ORC-A[®] were distributed throughout the excavation. Excavator buckets were then used to mix the RegenOx[®] and ORC-A[®] into the groundwater. Once mixed, backfilling continued to approximately 5 feet bgs with the spalls. The remainder of the excavation

was backfilled with imported material to match surface grade. This consisted of 1¼-inch-minus, angular-engineered rock from Wapenish Sand & Gravel.

3.14 In-Situ Treatment Event (BOS 200® Injections) – AEG, April 2019

AEG proposed an in-situ injection event to remediate the residual petroleum-contaminated soil and groundwater at the Site that could not be accessed via excavation. Impacts to soil and groundwater were remediated using two remediation mechanisms: 1) trapping contaminants via carbon adsorption, and 2) subsequent treatment via biological degradation. The in-situ process uses the BOS 200® products from Remediation Products, Inc. (RPI), which were developed for TPH degradation to trap subsurface contamination and, using proprietary remediation ingredients, immediately begin to degrade the contamination. This “treatment” occurs through a biological process that works with or without the presence of subsurface oxygen. The strategy and approach for the remedial actions specific to the Site were designed by AEG and RPI, based on the Site constituents of concern (COCs); Site-specific soil, groundwater, and aquifer data/information; and the vertical and areal extent of the impacted area.

Specific tasks associated with injection activities included the following:

- Obtained an Underground Injection Control (UIC) Permit from the Yakima Nation.
- Conducted both public and private utility locates for the Site and vicinity. The public ROW locates were performed by the Underground Utilities Locate Center; Utilities Plus provided private utility locates for the Site.
- Provided oversight of subcontractor Cascade Drilling of Woodinville, Washington during BOS 200® injection activities on Site, and acted as tenant liaison for all aspects of the project. Injection of BOS 200® occurred in areas exceeding the MTCA Method A cleanup levels to a total of 25 feet bgs to target the highest concentrations of contaminated groundwater at the Site within the known contamination area. Injections were done in two stages using top down methodology. The injections were staggered at vertical depths. A total volume of approximately 15,200 gallons (which included 5,900 lbs of BOS-200®, 54 liters of bacteria, and 195 gallons of potable flush water) were injected into the subsurface via 38 direct-push injection points.
- Properly decommissioned monitoring wells MW-5 and MW-7 followed by installation of replacement wells MW-5R and MW-7R.

3.15 Compliance Groundwater Monitoring June 2019 to March 2020

To evaluate the performance of the remedy, quarterly compliance groundwater monitoring was performed, which included sampling seven of the monitoring wells (MW-1R, MW-4, MW-5R, MW-7R, MW-9, MW-10, and MW-16).

None of the constituents analyzed were detected above MTCA cleanup levels in any monitoring wells sampled in the four quarters following the April 2019 injection event. Analytical results for this sampling event, and historical analytical results, are presented in the attached Table 2, *Summary of Groundwater Analytical Results*.

3.16 Confirmation Soil Sampling – AEG, April 2020

Following the injection event, to confirm soil impacts were successfully reduced to below MTCA cleanup levels, AEG advanced seven soil borings to depths of 25 to 30 feet bgs in the vicinity of previous soil exceedances. Soil samples were collected at approximately 5-foot intervals, and at important lithologic contacts encountered during soil boring.

A total of 17 soil samples collected from the confirmation boring locations and were submitted for laboratory analyses. Analytical results indicated the presence of gasoline-range TPH ethylbenzene, and/or xylenes above MTCA Method A cleanup levels in selected soil samples from borings B-21, B-22 and B-23. Table 1, *Summary of Soil Analytical Results*, presents a summary of all soil analytical results as compared to MTCA Method A and DEQ RBC soil cleanup levels. Full analytical results are provided in Appendix A, *Supporting Documents, Boring Logs, Laboratory Datasheets*.

4.0 HUMAN HEALTH RISK-BASED ASSESSMENT

4.1 *Potential Site Receptors*

In 2003, the DEQ adopted the RBDM guidance document (DEQ, 2003) to provide a risk-based closure approach to simple cleanup sites where COPCs have been identified and the magnitude and extent of impacts is well understood. The RBDM approaches are consistent with guidance documents developed by the EPA. Specifically, the RBDM guidance was developed using the following EPA documents:

- Soil Screening Guidance, Technical Background Document (EPA, 1996)
- Risk Assessment Guidance for Superfund, Volume 1 – Human Health Evaluation Manual (EPA, 1991)

The DEQ RBC cleanup standard tables from 2003 were updated in 2018. The RBDM process applies a conservative risk-based approach to cleanup sites based on current and future land use scenarios and likely human receptors pathways. Potential receptors are categorized based on the land use, land use density, potential exposure scenarios, and overall exposure time in a given scenario. The DEQ categorizes human receptors and potential pathways into the following categories:

- Residential – children and adults living in a low-density land use zone that allows for single family housing.
- Urban Residential – children and adults that live in medium- to high-density land use zone typified by apartments and condominiums.
- Occupational Workers – individuals that work in an office, retail, industrial, or other similar commercial setting over the course of an eight-hour day.
- Construction Workers – individuals that work at a property over the course of a long-term construction project.
- Excavation Workers – similar to construction workers; however, the exposure frequency is expected to be less than that of construction workers.

Based on DEQ criteria, urban residents are or may be located in proximity to the Site. In addition, possible future on-Site and current off-Site occupational workers (El Charrito Restaurant) are potential site receptors.

The definition of “construction workers” includes individuals that work at a property over the course of a long-term construction project, while “excavation workers” are similar to construction

workers with the exposure frequency expected to be less than that of construction workers. Based on these criteria, and based on the fact that no redevelopment of the Property is currently planned, future on-Site construction workers are unlikely in the short term, but are still considered to be potential site receptors. If in the future utility line/maintenance workers are on Site in excavation or trenches greater than 20 feet bgs, and given anticipated short-term exposure frequencies, future on-Site excavation workers are likely to be considered potential site receptors.

Once current and future human receptors have been established, and potential COPC sources in soil and groundwater are evaluated, potential exposure pathways and a conceptual site model (CSM) are developed. The CSM is then used to compare detected environmental media-specific COPC concentrations to human health RBCs established by the DEQ to be safe for human exposure in various scenarios. The comparisons and evaluations presented in the CSM will be used to support risk-based decision making for the Site.

A CSM for the Site is illustrated on Figure 7, *Conceptual Site Model*, and summarizes the relationship between potential chemical sources, release mechanisms, potentially complete transport pathways, exposure media, and potential current and future receptors.

4.2 Land Use and Zoning

The Site is located in a light industrial area in Toppenish. Current land use near the Site is predominantly commercial and includes restaurants, parking lots, and office buildings. East Toppenish Avenue runs east to west directly north of the Site. To the west, southwest, and south of the Site is Asotin Avenue, which runs northwest-southeast. A City park owned by the Burlington Northern/Central Washington Railway is located to the west across Asotin Avenue. The railroad is located west of the park and runs north-south, and directly to the east is the El Charrito Restaurant. Any nearby residential properties (over 470 feet to the north) are located hydraulically upgradient or cross-gradient of the Site. The nearest residential property to the Site is located at 22 North B Street, which is 470 feet to the northeast.

According to the 2008 Comprehensive Plan Update (City of Toppenish, 2008), the Site is currently zoned light industrial (M-1). The M-1 zoning allows for various commercial uses, including:

- Agricultural supplies, machinery and equipment sales.
- Automobile and trailer sales and service agencies.
- Automobile service stations.
- Boat and motor sales, repair, and manufacture.
- Draying, freighting, and trucking yard or terminal.

- Dry cleaning and laundry, rug and carpet cleaning, dyeing works.
- Feed, seed, and garden supplies.
- Fuel distributors.
- Glass sales and installation.
- Nursery or greenhouse.
- Outdoor advertising.
- Professional, executive, and administrative offices.
- Research, experimental, or testing laboratories.
- Restaurants.
- Veterinary clinics.
- Wholesale businesses, storage buildings, and warehouses.
- The manufacturing, processing, compounding, packaging, or treatment of such products as drugs, bakery goods, candy, food and beverage products, dairy products, cosmetics, and toiletries.
- The manufacture, assembly, compounding, or treatment of articles or merchandise from the following materials: bone, cellophane, canvas, cloth, cork, feathers, felt fiber, fur, glass, hair, horn, leather, metal, paper, plastics, precious or semiprecious metals or stones, shell, textiles, tobacco, wood (except planing mills), yarns, and paint.

There are no “residential” uses allowed but special property uses specifically allowed in this district as listed in *Chapter 17.56 TMC. (Ord. 2002-7 § 1, 2002; Ord. 88-11 § 3, 1988; Ord. A-580 § 19(1), 1964)* when approved by the Toppenish planning commission, including:

- Dwellings or shelters for the occupancy of guards, watchmen, or caretakers.
- Dwellings for the occupancy of the operators and employees necessary to the operation of a farm or agricultural use.
- On-site hazardous waste treatment and storage; provided, that such facilities meet state siting criteria adopted pursuant to the requirements of RCW 70.105.210.

Given the zoning and current and potential future Site uses, the most likely on-Site human receptors include future occupational workers; however, zoning designations can change, and urban residents could also be considered a potential future on-Site receptor. Off-site receptors would include current and future occupational workers, and potential future urban residents. Since

redevelopment of the Property is not expected to occur in the near future, on-Site construction worker soil and groundwater exposures are not reasonably likely, but short-term excavation/utility work is possible.

DEQ allows for the separate assessment of exposure pathways for construction and excavation workers. Construction workers are those individuals expected to work at a reasonable maximum exposure frequency and duration of 250 days per year for 1 year, respectively, and excavation workers may work at an exposure frequency and duration of 9 days per year for one year, respectively. Future outdoor workers on Site are anticipated to include those who conduct periodic work, such as those conducting routine utility line maintenance.

Table 2, *Summary of Groundwater Analytic Results*, uses the May 2018 DEQ RBC screening level table, *Risk-Based Concentrations for Individual Chemical*, to compare COPC groundwater concentrations with the values for "Groundwater in Excavation" and identified as "Construction and Excavation Worker" RBCs. Potential exposure would be to utility/excavation workers if the working trenches or excavations were 20 to 25 feet bgs where soil and groundwater exceeding the RBCs of the identified COPCs would be present. The quarterly groundwater sample results show no detections of COPCs above their respective MTCA or RBC cleanup levels for the last four or more consecutive quarters of monitoring (June, September, and December 2019, and March 2020), reducing the potential exposure through groundwater contact.

4.3 Beneficial Groundwater Use Survey

Beneficial water use near the Site was evaluated to assess use of extracted groundwater for domestic purposes. This evaluation included a review of local water well records on file with Ecology's Water Resources Program and City of Toppenish, which is the identified municipal drinking water source area. The data obtained during these activities are discussed below.

4.3.1 Review of Washington Department of Ecology Well Logs

AEG reviewed well logs within a ¼-, ½-, and 1-mile radius of the Site. Well logs were obtained from the Washington State Well Log Viewer website. Based on information from Ecology's Water Resources Program, not all wells are identified in the database as the Yakima Nation is not required to report new wells. From the survey, one City of Toppenish municipal water supply well (Well #S03) was identified within a 0.25-mile radius of the Site. Three municipal water supply wells (Well #S05, Well #S06, and Well #S08), four industrial wells on the Del Monte plant property, and eight irrigation/domestic wells were identified between ½ and 1 mile of the Site. The well logs, list summary, and well location map are included in Appendix B, *Beneficial Water Use Survey*.

4.3.2 Municipal Drinking Water Source

According to the City of Toppenish Water System Plan (City of Toppenish, 2017), the existing City of Toppenish water system consists of a single distribution pressure system, which is served by two steel elevated tank reservoirs and two standpipe reservoirs with a combined total capacity of 3.45 million gallons, of which 2.46 million gallons is usable. The static pressure within the water system ranges from 56 psi to 69 psi. In 2015, there were 2,422 total services in the Toppenish water system.

The City of Toppenish is supplied water from six City-owned source wells. The maximum pumping capacity of the six wells is 5,015 gallons per minute (GPM) or 7.22 million gallons per day (MGD). The City of Toppenish holds water use permits from the Yakama Nation for each of its source wells, with a combined total instantaneous quantity of 4,815 GPM. The City of Toppenish also maintains certificated water rights from Ecology, totaling 2,000 GPM and 3,200 Acre-Feet per Year (1,043 million gallons). Water consumption in the City of Toppenish varies throughout the year with the seasons, primarily due to irrigation use in the summer months. Services within the City of Toppenish do not have separate irrigation systems, so domestic water is used for irrigation.

According to the U.S. Census Bureau, the 2010 population of the City of Toppenish was 8,949, an increase of three people since 2000, essentially increasing 0.0%. The resulting average annual growth rate for the period 2000-2010 is approximately 0.0%. The total population within the City of Toppenish in 2015 was 8,965, which is approximately a 0.018% annual increase over the 2010 census value. This 10-year growth rate is much lower than previous decades and will likely be the same from the 2020 Census.

The existing transmission and distribution system are looped where possible and consists of mainly 4-inch to 8-inch cast iron, ductile iron, and asbestos cement (AC) pipes. When water mains are replaced due to leaks or age, ductile iron pipe is generally used. Currently, Toppenish has no interties with neighboring water purveyors. An overview map of Toppenish's existing water system and supply locations are presented in Appendix B, *Beneficial Water Use Survey*.

Groundwater at the Site is not currently used as a potable drinking water source, and is not expected to be used as a drinking-water source in the future. The current monitoring wells at the Site are installed in the shallow alluvial aquifer at depths up to 25 feet bgs. Two deep municipal water supply wells are located approximately 1 mile upgradient based on the easterly water low observed at the Site. The drinking water wells are installed in deeper hydrogeologic units and groundwater extracted from these wells is not likely to be hydraulically connected to shallow groundwater in the vicinity of the Site. Therefore, water customers receiving drinking water from the City of

Toppenish's water supply network are not considered potential receptors with respect to Site beneficial groundwater use.

4.4 *Potential Sources of Site Contamination*

The source for the contamination identified at the Site has been linked to a leaking product line. Other potential sources could include:

- Overfilling of USTs during fuel delivery.
- Spillage during vehicle fueling.
- Leaking from historical product lines.
- Leaking and/or corroded USTs, which have been removed.

Secondary sources at the Site include TPH constituent mass that have transferred from primary sources to surrounding Site media (i.e., soil and groundwater). These sources include TPH constituent mass that has partitioned into Site soil through sorption processes and dissolved into groundwater, as well as separate-phase globules that reside in soil pores. These sources have been removed or remediated both on the Site and on the downgradient property, and are not considered a potential threat to receptors.

4.5 *Constituents of Potential Concern and Affected Media*

Soil and groundwater are media at the Site that have been, or could potentially be, affected by the COPCs identified at the Site. Given the historical use of the Site as a fueling station with convenience store, the COPCs at this Site included the following:

- TPH (as gasoline, diesel, and heavy oil)
- BTEX compounds
- 1,2-Dichloroethane (EDC)
- Ethylene dibromide (EDB)
- Methyl tert-butyl ether (MTBE)
- Lead

Based on an evaluation of historical Site use and available data, the nature, magnitude, and extent of petroleum-contaminated soil and groundwater at the Site have been sufficiently characterized and remediated. Characterization has included the analysis of soil and groundwater samples for one or more of the COPCs listed above.

4.5.1 Soil

COPCs documented in soil at the Site include gasoline and BTEX compounds. About 110 soil samples have been collected from the Site to date from characterization soil borings, sidewalls and base of the May 2016 excavation, and from post-cleanup confirmation soil borings. Table 1, *Summary of Soil Analytical Results*, presents a summary of all soil analytical results as compared to MTCA Method A and DEQ RBC soil cleanup levels. Full analytical results are provided in Appendix A, *Supporting Documents, Boring Logs, Laboratory Datasheets*.

Based on the depth of the soil contamination observed and its location downgradient from the source area, it is thought that the deeper and downgradient soil contamination is a result of migration of the gasoline with the groundwater away from the release location. This migration most likely included advective transport as well as dispersion and diffusion in the soil and groundwater.

The post-cleanup confirmation boring soil sample results were compared to MTCA Method A cleanup levels and the May 2018 DEQ RBC cleanup levels. Exceedances occurred in soil samples collected from borings B-21, B-22, and B-23.

4.5.2 Groundwater

COPCs documented in groundwater at the Site include gasoline and BTEX compounds. Altogether, 20 monitoring wells have been installed at the Site to date, including three post-cleanup replacement wells. Groundwater data collected from the wells between 2015 and 2020 have shown a decrease in contaminant concentrations since cleanup actions were performed, and all wells have been below the most stringent MTCA Method A cleanup levels and DEQ RBCs for four or more consecutive quarters of monitoring (June, September, and December 2019, and March 2020). Table 2, *Summary of Groundwater Analytical Results*, presents a summary of all groundwater analytical results as compared to MTCA Method A and DEQ RBC groundwater cleanup levels. Full analytical results are provided in Appendix A, *Supporting Documents, Boring Logs, Laboratory Datasheets*.

4.6 Potential Release Mechanisms and Receptors

TPH and BTEX compounds are soluble in groundwater and will migrate with the water. Benzene is the most soluble component and will migrate faster than the rest of the BTEX compounds. It may migrate farther and, if present, be used as an indicator parameter for the contamination.

Gasoline-range TPH and BTEX compounds can be volatilized under the appropriate conditions. In the subsurface, this volatilization releases COCs into the soil vapor where, if conditions are

right, it can migrate beneath or into structures. As the more soluble and more volatile components of the gasoline-range TPH are either dissolved or volatilized, the heavier components of the TPH remain in the soil. These degraded components are less volatile, and less likely to impact soil vapors.

Direct contact with soil containing TPH and BTEX is considered a potential exposure pathway. Routes of exposure by direct contact for on-Site receptors may include incidental ingestion of soil, dermal contact with soil, and inhalation of dust particles that have been released by wind erosion into ambient (outdoor) air, and for off-Site receptors may include inhalation of dust particles that have been released by wind erosion into ambient (outdoor) air.

Residual impacts to soil identified in the post-cleanup confirmation borings are present at and below 15 feet bgs, which is the point of compliance for direct contact exposure under MTCA. As such, exposure to future occupational workers or urban residents are unlikely. Only construction/utility workers are likely to be exposed if the area were disturbed.

Another potential release mechanism at the Site may include volatilization of COPCs in soil or groundwater to indoor air of future on-Site occupational or urban residential buildings or current or future off-Site occupational or urban residential buildings. Inhalation of vapors produced through volatilization of gasoline-range TPH and BTEX in the groundwater through the soil column is considered a potential exposure pathway. However, the EPA document *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* (EPA, 2015b) recommends a vertical separation distance of 15 feet (where weathered gasoline concentration exceed 250 mg/kg) between the contamination and the building foundation. None of the residual soil impacts detected in the confirmation borings at 15 feet exceed 250 mg/kg. As such, impacts via this pathway are unlikely.

COPCs may leach from soil to groundwater beneath the Site by percolation, resulting in potential direct-contact exposures to COPCs in groundwater. Although the groundwater in the area of the Site is not currently used for drinking water, it is considered a potential future source of drinking water for the purposes of establishing cleanup levels for this Site. Further, there is potential for direct contact for construction/utility workers because of the shallow depth of its occurrence if the excavation is exceeding 18 feet bgs. General routes of exposure by direct contact include ingestion of groundwater or tap water, dermal contact with groundwater or tap water, and inhalation of volatile COPCs released from groundwater or tap water. However, groundwater at the Site is not currently used as a potable water source. The Site and surrounding properties currently use, and in the future are expected to receive, their water from a deep groundwater municipal source.

No shallow drinking-water wells were identified within ¼ mile of the Site. One municipal supply well (#S03) exists within ¼ mile and, like all the local supply wells, is installed in the deeper hydrogeologic units. Based on the well construction, groundwater extracted from this well is not likely to be hydraulically connected to shallow groundwater in the vicinity of the Site. Exposure pathways associated with potential direct exposures to COPCs in groundwater are not considered to be complete. Therefore, COPCs in tap water are not complete exposure pathways via ingestion of, dermal contact with, and inhalation of volatiles for current and potential future on- and off-Site receptors.

There are no surface water bodies in proximity to the Site that would be expected to be impacted via groundwater-to-surface water migration. These potential exposure pathways were evaluated to support risk-based management decisions for the Site. The Site is located in a developed urban area and is devoid of ecological habitat; therefore, it is reasonably assumed that ecological receptors are absent from the Site and will remain so in the future.

4.7 Potentially Complete Exposure Pathways

Based on the information presented in the previous sections, the potentially complete exposure pathways identified for soil, and exposure pathways evaluated to support risk-based decision making, include the following:

- *Current Off-site Occupational Workers:*
 - Soil ingestion, dermal contact, and inhalation
 - Inhalation of volatile COPCs in outdoor air
 - Inhalation of volatile COPCs in indoor air
- *Future On-site and/or Off-site Occupational Workers and Urban Residents:*
 - Soil ingestion, dermal contact, and inhalation
 - Inhalation of volatile COPCs in outdoor air
 - Inhalation of volatile COPCs in indoor air
- *Current and/or future construction/excavation workers:*
 - Soil ingestion (via dust) or dermal contact with soil.
 - Inhalation of volatile COPCs in outdoor air.

Residual COPCs in soil are present at about 15 to 20 feet bgs in selected areas. The depth to groundwater is about 18 feet bgs. Typically, utility worker trenches occur at depths shallower than 10 feet bgs.

4.8 Risk-Based Screening Evaluation

COPC concentrations detected in soil and groundwater were compared to applicable DEQ urban residential, occupational, and excavation worker RBCs for the potentially complete, and incomplete but evaluated to support risk-based decision-making exposure scenarios discussed in Section 4.7. Results of the evaluation are discussed below.

4.8.1 Soil

Residual post-cleanup soil impacts are limited to confirmation borings B-21, B-22, and B-23. COPC concentrations in these borings exceeded one or more of the DEQ's RBCs for gasoline-range TPH, ethylbenzene, and/or xylenes for urban residential and/or occupational exposures, with all exceedances between 15 to 20 feet bgs.

Gasoline-range TPH concentrations in B-22 from 20 feet bgs exceeded the DEQ's urban residential RBCs for the soil ingestion pathway. The Site is currently undeveloped (an empty lot). According to DEQ, for residential, urban residential and occupational scenarios, exposure to contaminated soils should be considered a potential exposure pathway for all contaminants found in the top 3 feet of soil (DEQ, 2003). Given the depth of the impacted soil (20 feet bgs), the *Soil Ingestion* pathway is not considered significant from a risk-based perspective.

Gasoline-range TPH concentrations in B-21 (at 15 and 20 feet bgs), B-22 (at 20 feet bgs), and B-23 (at 15 and 20 feet bgs) exceeded the DEQ's urban residential RBCs for vapor intrusion into buildings pathway. Ethylbenzene concentrations in B-21 (at 20 feet bgs) and B-23 (at 20 feet bgs) also exceeded the DEQ's urban residential RBCs for vapor intrusion into buildings pathway, and the B-21 sample also exceeded the occupational RBCs. According to EPA's *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* (EPA, 2015b) a vertical separation distance of 15 feet (where weathered gasoline concentrations exceed 250 mg/kg) is recommended between the contamination and the building foundation. The two 15-foot exceedances in B-21 and B-23 are less than 250 mg/kg. As such, the *Vapor Intrusion into Buildings* pathway is not considered significant from a risk-based perspective.

Gasoline-range TPH, ethylbenzene, and xylene concentrations in the samples collected from B-21, B-22, and B-23 at 15 and/or 20 feet bgs exceeded the DEQ's urban residential and occupational RBCs for the leaching to groundwater pathway. As previously discussed, the Site uses the City's municipal water as the prime source of drinking water. Also, soil impacts at 20 feet bgs are within

the saturated zone; however, the monitoring well data has empirically shown previously detected impacts in groundwater are no longer present and the residual soil impacts are not leaching into the groundwater. Therefore, the *leaching to groundwater* exposure pathway is not considered significant from a risk-based perspective.

4.8.2 Groundwater

Based on groundwater data collected from the Site between July 2005 and March 2020, it has been shown that no groundwater samples collected since May 2015 have contained COPC concentrations above urban residential, occupational, or excavation worker RBCs. Current groundwater results indicate that COPC concentrations do not exceed DEQ urban residential, occupational, and excavation worker RBCs. Groundwater data has been below the most stringent MTCA Method A cleanup levels and DEQ RBCs for the last four or more consecutive quarters of monitoring (June, September, and December 2019, and March 2020). Monitoring well MW-7R, where historical contamination had been present in MW-7 prior to the remedial action, was non-detect for COPCs. Analytical results for this sampling event, and historical analytical results, are presented in the attached Table 2, *Summary of Groundwater Analytical Results*.

5.0 SITE CLOSURE REQUEST

This Request presents the findings of Site investigation and remediation activities completed between 2005 and 2020, an evaluation of beneficial water use near the Site, and a human health risk-based screening evaluation. Based on the information presented in this Request, residual petroleum-related compounds in soil do not pose an unacceptable risk to potential future urban residents, occupational workers, or excavation workers. Also, the data summary indicates residual petroleum-related compounds in soil do not pose an unacceptable risk to current and future off-Site occupational workers.

According to the DEQ's RBDM guidance (DEQ, 2003), urban residents and occupational workers are not likely to be exposed to soil at depths greater than 3 feet bgs. Soil results indicate that petroleum-impacted soil at the Site exceeding DEQ direct-contact RBCs is limited to depths greater than 15 feet bgs. The volatilization to outdoor air pathway is not considered significant because the Site is located in an urban environment with gravel, asphalt, and concrete covering the majority of ground surfaces, and soil impacts are at and below 15 feet bgs.

Residual concentrations of gasoline-range TPH, ethylbenzene, and xylenes in soil exceed MTCA Method A cleanup levels (which are based on protection of groundwater for drinking water use) and the most stringent established human health RBCs established by the DEQ. However, an evaluation of current and likely future Site uses, as well as recent groundwater monitoring data, establishes that residual concentrations of TPH-related compounds in soil are not expected to pose adverse health effects to current and future human receptors. As such, it is AEG's opinion that *no further environmental investigation or cleanup required under current land use* for the Site is warranted. Since residual soil impacts are below the threshold for direct contact (3 feet) for urban residents and occupational workers, and below the threshold for potential vapor intrusion (15 feet), no restrictions of future land use appear warranted.

6.0 LIMITATIONS

This report summarizes the findings of the services authorized under our agreement with R.H. Smith Distributing Company, Inc. and Ms. Susan Smith. It has been prepared using generally accepted professional practices, related to the nature of the work accomplished. This report was prepared for the exclusive use of Ms. Smith and her designated representatives for the specific application to the project purpose.

Recommendations, opinions, site history, and proposed actions contained in this report apply to conditions and information available at the time this report was completed. Since conditions and regulations beyond our control can change at any time after completion of this report, or our proposed work, we are not responsible for any impacts of any changes in conditions, standards, practices, and/or regulations subsequent to our performance of services. We cannot warrant or validate the accuracy of information supplied by others, in whole or part.

7.0 REFERENCES

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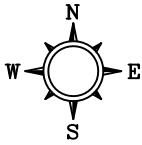
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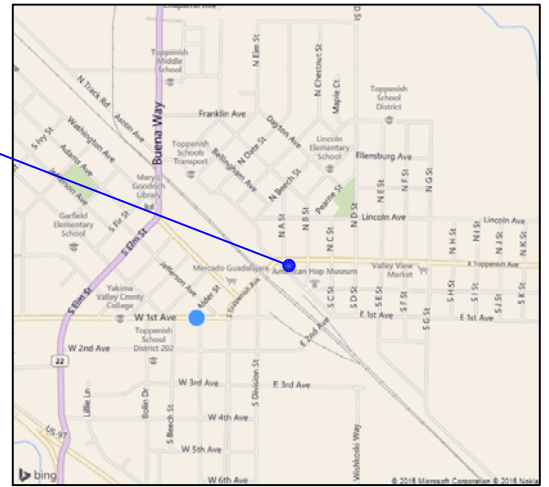
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FIGURES



PROJECT LOCATION



NOTES

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

VICINITY MAP

NOT TO SCALE

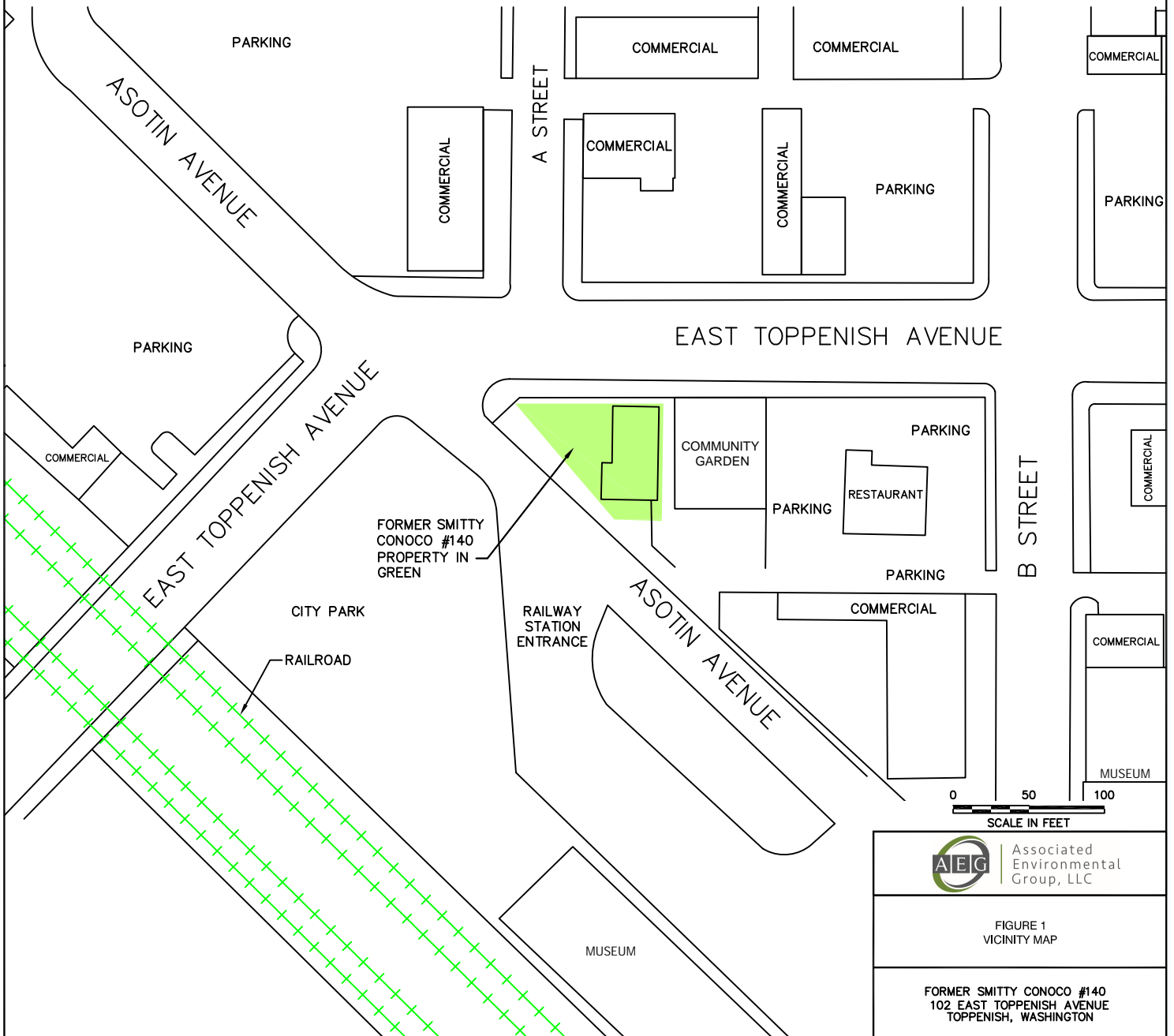
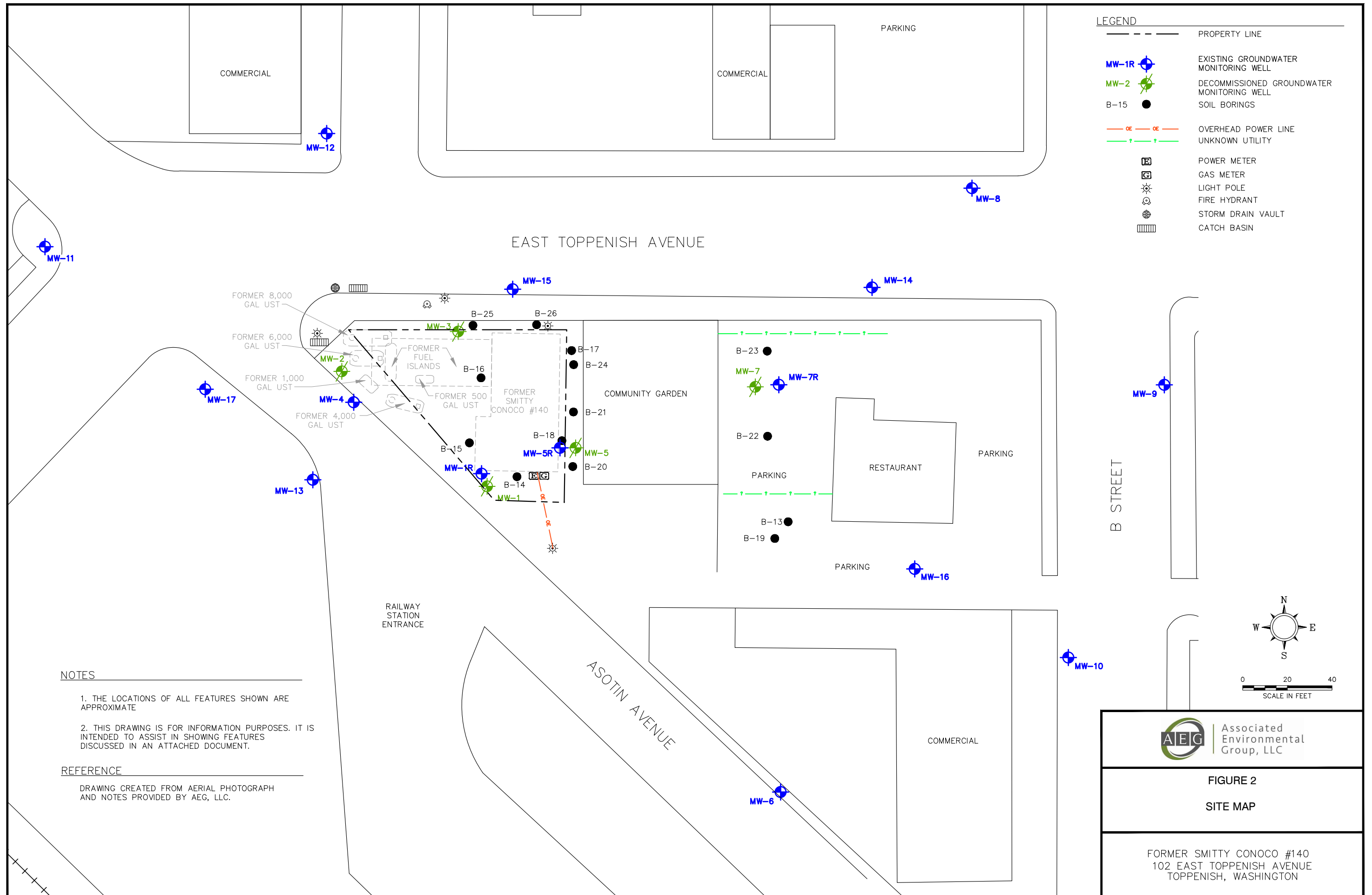


FIGURE 1
VICINITY MAP

FORMER SMITTY CONOCO #140
102 EAST TOPPENISH AVENUE
TOPPENISH, WASHINGTON



LEGEND

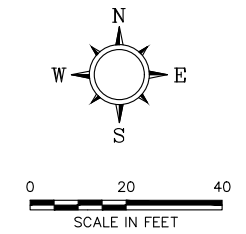
---	PROPERTY LINE
MW-1R	EXISTING GROUNDWATER MONITORING WELL
MW-2	DECOMMISSIONED GROUNDWATER MONITORING WELL
B-15	SOIL BORINGS
OE	OVERHEAD POWER LINE
?	UNKNOWN UTILITY
⊞	POWER METER
⊞	GAS METER
☀	LIGHT POLE
⊞	FIRE HYDRANT
⊞	STORM DRAIN VAULT
⊞	CATCH BASIN

NOTES

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DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

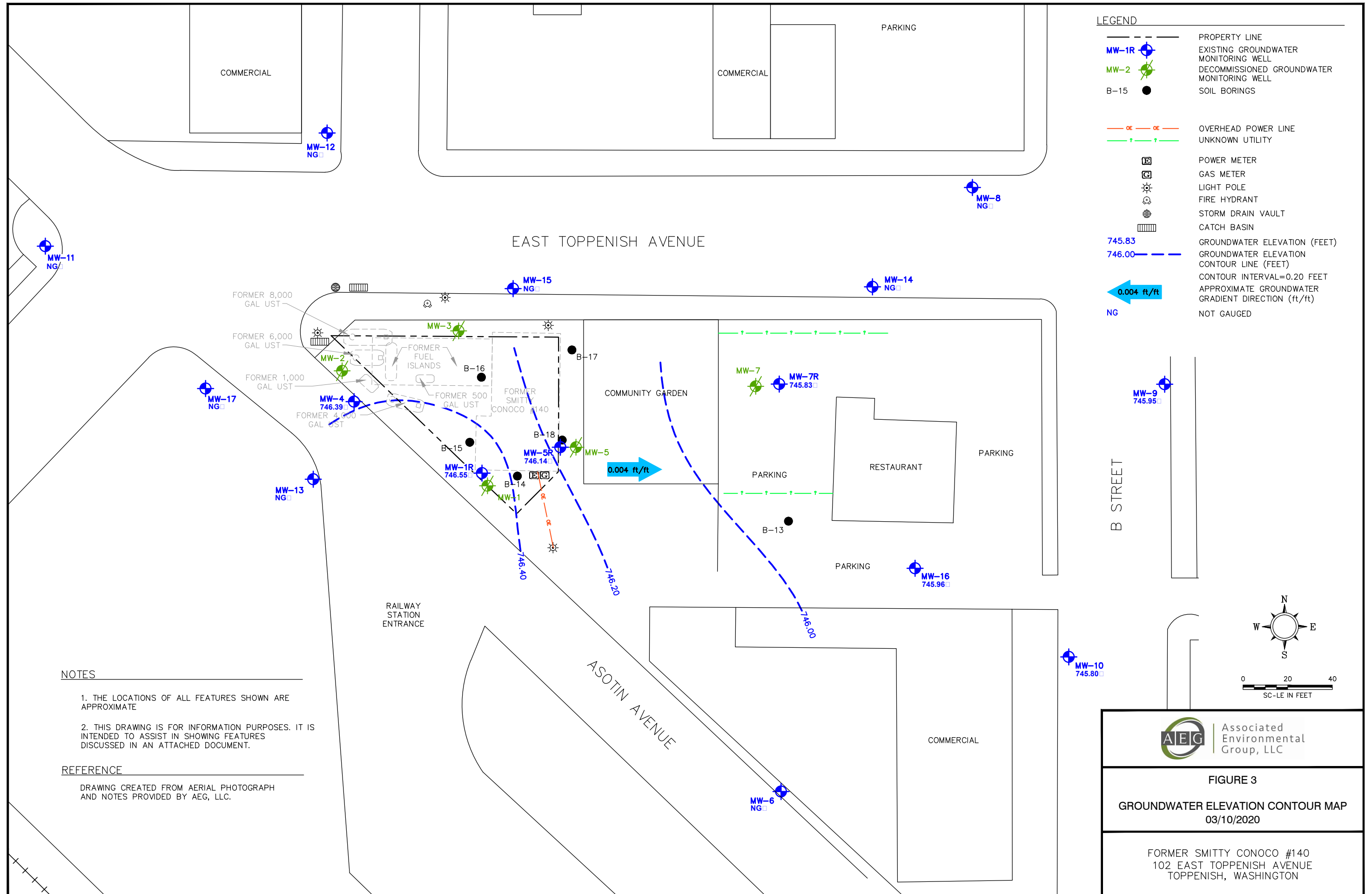


AEG | Associated Environmental Group, LLC

FIGURE 2

SITE MAP

FORMER SMITTY CONOCO #140
102 EAST TOPPENISH AVENUE
TOPPENISH, WASHINGTON



LEGEND

---	PROPERTY LINE
MW-1R	EXISTING GROUNDWATER MONITORING WELL
MW-2	DECOMMISSIONED GROUNDWATER MONITORING WELL
B-15	SOIL BORINGS
OE	OVERHEAD POWER LINE
?	UNKNOWN UTILITY
☐	POWER METER
☐	GAS METER
☀	LIGHT POLE
☀	FIRE HYDRANT
☐	STORM DRAIN VAULT
☐	CATCH BASIN
745.83	GROUNDWATER ELEVATION (FEET)
746.00	GROUNDWATER ELEVATION CONTOUR LINE (FEET)
← 0.004 ft/ft	CONTOUR INTERVAL=0.20 FEET APPROXIMATE GROUNDWATER GRADIENT DIRECTION (ft/ft)
NG	NOT GAUGED

NOTES

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

REFERENCE

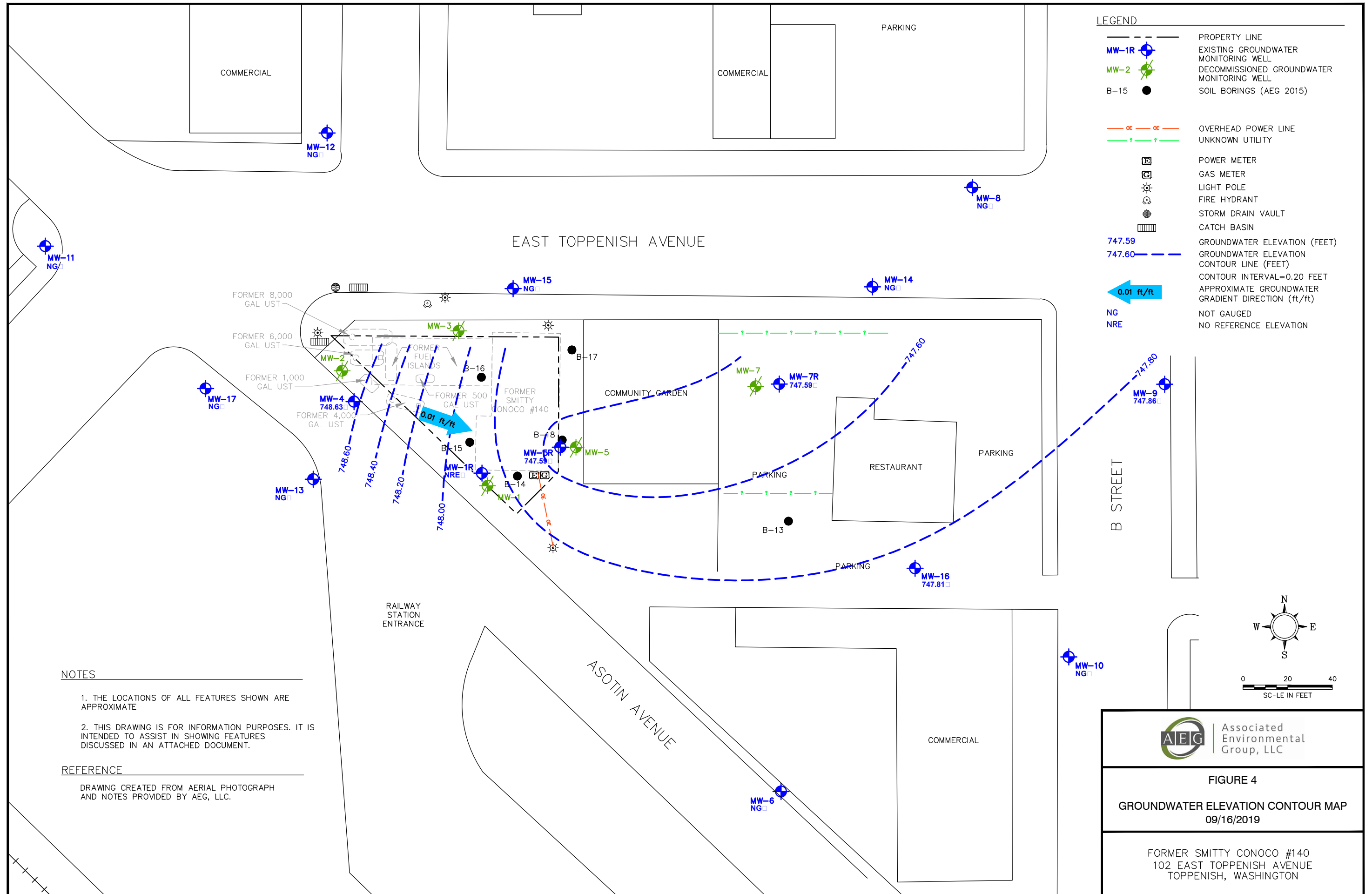
DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

AEG | Associated Environmental Group, LLC

FIGURE 3

GROUNDWATER ELEVATION CONTOUR MAP
03/10/2020

FORMER SMITTY CONOCO #140
102 EAST TOPPENISH AVENUE
TOPPENISH, WASHINGTON



LEGEND

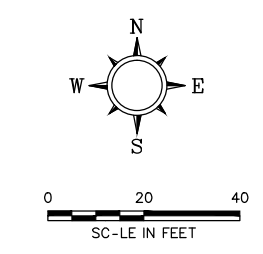
---	PROPERTY LINE
MW-1R	EXISTING GROUNDWATER MONITORING WELL
MW-2	DECOMMISSIONED GROUNDWATER MONITORING WELL
B-15	SOIL BORINGS (AEG 2015)
— OE — OE —	OVERHEAD POWER LINE
— ? — ? —	UNKNOWN UTILITY
⊞	POWER METER
⊞	GAS METER
☀	LIGHT POLE
⊞	FIRE HYDRANT
⊞	STORM DRAIN VAULT
⊞	CATCH BASIN
747.59	GROUNDWATER ELEVATION (FEET)
747.60	GROUNDWATER ELEVATION CONTOUR LINE (FEET)
← 0.01 ft/ft	CONTOUR INTERVAL=0.20 FEET APPROXIMATE GROUNDWATER GRADIENT DIRECTION (ft/ft)
NG	NOT GAUGED
NRE	NO REFERENCE ELEVATION

NOTES

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.



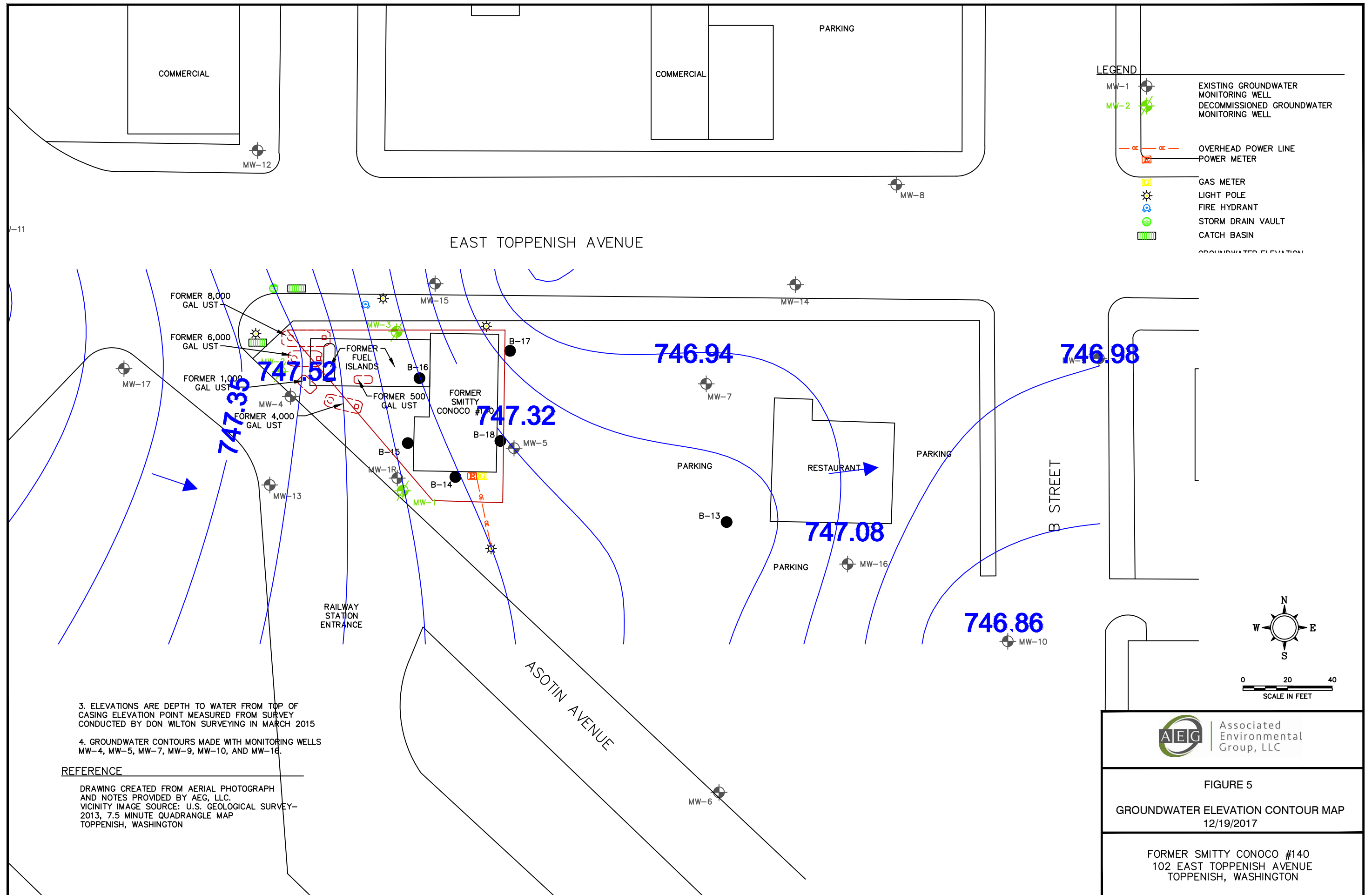
AEG | Associated Environmental Group, LLC

FIGURE 4

GROUNDWATER ELEVATION CONTOUR MAP

09/16/2019

FORMER SMITTY CONOCO #140
102 EAST TOPPENISH AVENUE
TOPPENISH, WASHINGTON



LEGEND	
MW-1	EXISTING GROUNDWATER MONITORING WELL
MW-2	DECOMMISSIONED GROUNDWATER MONITORING WELL
— OE —	OVERHEAD POWER LINE
⊠	POWER METER
⊠	GAS METER
⊙	LIGHT POLE
⊙	FIRE HYDRANT
⊙	STORM DRAIN VAULT
⊠	CATCH BASIN
	GROUNDWATER ELEVATION

3. ELEVATIONS ARE DEPTH TO WATER FROM TOP OF CASING ELEVATION POINT MEASURED FROM SURVEY CONDUCTED BY DON WILTON SURVEYING IN MARCH 2015

4. GROUNDWATER CONTOURS MADE WITH MONITORING WELLS MW-4, MW-5, MW-7, MW-9, MW-10, AND MW-16.

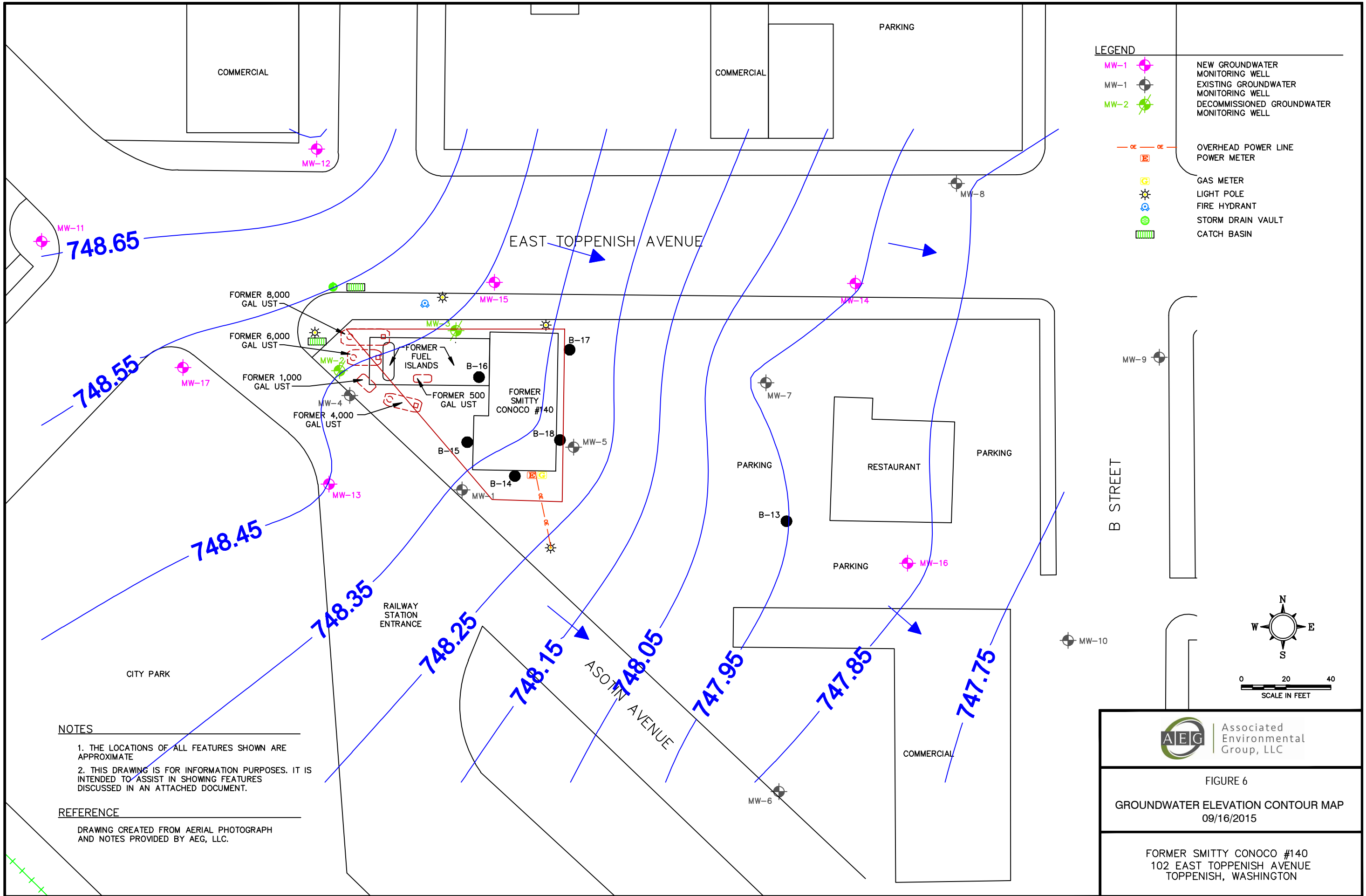
REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC. VICINITY IMAGE SOURCE: U.S. GEOLOGICAL SURVEY-2013, 7.5 MINUTE QUADRANGLE MAP TOPPENISH, WASHINGTON



FIGURE 5
GROUNDWATER ELEVATION CONTOUR MAP
12/19/2017

FORMER SMITTY CONOCO #140
102 EAST TOPPENISH AVENUE
TOPPENISH, WASHINGTON



LEGEND	
MW-1	NEW GROUNDWATER MONITORING WELL
MW-1	EXISTING GROUNDWATER MONITORING WELL
MW-2	DECOMMISSIONED GROUNDWATER MONITORING WELL
— OE — OE —	OVERHEAD POWER LINE
⊠	POWER METER
⊙	GAS METER
⊙	LIGHT POLE
⊙	FIRE HYDRANT
⊙	STORM DRAIN VAULT
⊙	CATCH BASIN

NOTES

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

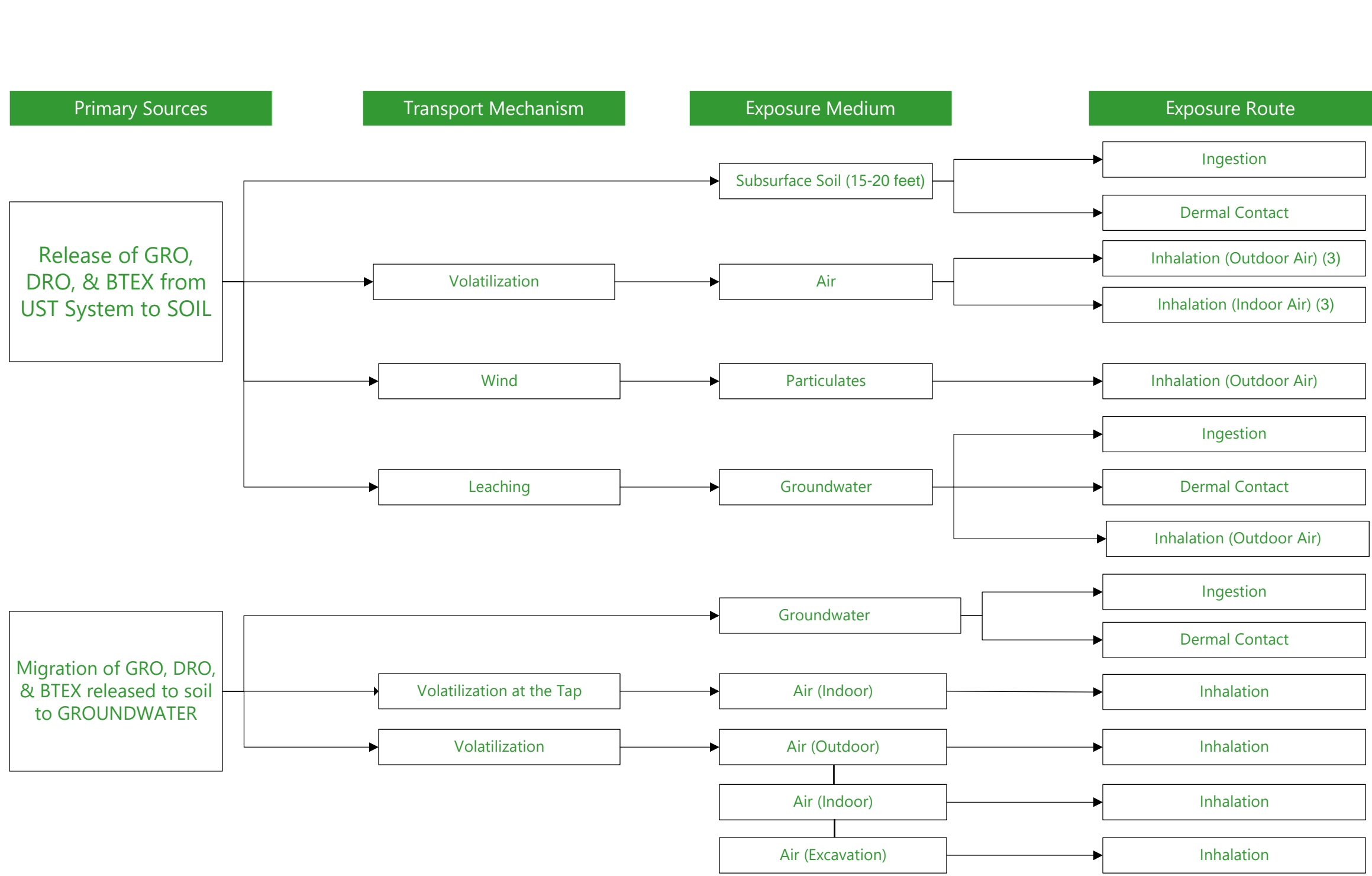
REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

Associated Environmental Group, LLC

FIGURE 6
GROUNDWATER ELEVATION CONTOUR MAP
 09/16/2015

FORMER SMITTY CONOCO #140
 102 EAST TOPPENISH AVENUE
 TOPPENISH, WASHINGTON



Pathway Potentially Complete?

(On- & Off-Site) Urban Residential (1)		(On- & Off-Site) Occupational		Construction & Excavation Workers (2)	
Current	Future	Current	Future	Current	Future
-	-	-	-	-	-
-	-	-	-	+	+
-	-	-	-	+	+
-	-	-	-	-	-
-	-	-	-	+	+
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

- NOTES:
- + This route is a potentially complete pathway under current site conditions.
 - There is no exposure potential for this route under current site conditions.
 - (1) The Site is zoned for Light Industrial
 - (2) Only applicable for excavations >15 feet bgs.
 - (3) Screened out, where applicable, when applying EPA vapor criteria

Associated Environmental Group, LLC	FIGURE 7 CONCEPTUAL SITE MODEL				
	FORMER SMITTY'S CONOCO #140 102 EAST TOPPENISH AVENUE TOPPENISH, WASHINGTON				
February 10, 2021	SIZE	FSCM NO	DWG NO	REV	
DRAWN BY CSS	SCALE	NTS	FS FLOWCHART.VSDX	2	
			SHEET	1 OF 1	

TABLES

Table 1 - Summary of Soil Analytical Results

Smitty's Toppenish
Toppenish, Washington

Sample Number	Depth Collected (feet)	Date Collected	Gasoline	Volatile Organic Compounds			
				Benzene	Toluene	Ethylbenzene	Xylenes
Characterization Soil Borings							
SB-1	4.0	8/26/2009	<10	<0.02	<0.02	<0.03	<0.03
SB-2	4.0	8/26/2009	<10	<0.02	<0.02	<0.03	<0.03
SB-3	4.0	8/26/2009	<10	<0.02	<0.02	<0.03	<0.03
T-01	1.0	9/26/2009	4,830	9.45	121	21.4	513
T-02	1.0	9/26/2009	750	1.82	5.69	1.84	31.9
B1-S3-12.0	12.0	7/13/2010	108	0.15	0.15	0.71	0.23
B2-S3-11.5	11.5	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
B3-S3-11.5	11.5	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
B4-S2-7.0	7.0	7/13/2010	--	<0.02	<0.10	<0.05	<0.15
B5-S4-15.0	15.0	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
B6-S3-12.0	12.0	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
B7-S4-15.0	15.0	7/13/2010	--	<0.02	<0.10	<0.05	<0.15
B8-S4-15.0	15.0	7/13/2010	14	0.025	<0.10	0.08	0.2
B9-S3-12.0	12.0	7/13/2010	2,340	0.24	0.71	13.3	82.9
B10-S4-13.0	13.0	7/13/2010	821	0.031	0.16	0.97	1.75
B11-S4-15.0	15.0	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
B12-S4-13.0	13.0	7/13/2010	<10	<0.02	<0.10	<0.05	<0.15
MW4-S2-10/12	10-12	1/24/2011	3,410	<0.02	<0.02	1.24	53.9
MW5-S2-12/14	12-14	1/27/2011	1,300	<0.02	<0.02	<0.05	0.073
MW6-S2-10/12	10-12	1/24/2011	<10	<0.02	<0.02	<0.05	0.071
MW7-S2-12/14	12-14	1/27/2011	650	<0.02	0.14	1.93	15.4
MW8-S2-10/12	10-12	1/27/2011	<10	<0.02	<0.02	<0.05	<0.05
MW9-S2-10/12	10-12	1/27/2011	<10	<0.02	<0.02	<0.05	<0.05
MW10-S2-12/14	12-14	1/24/2011	500	<0.02	<0.02	<0.05	0.35
B13-S1-10	10.0	2/10/2015	10	<0.02	<0.10	<0.05	0.25
B13-S2-16.5	16.5	2/10/2015	19	<0.02	<0.10	<0.05	<0.15
B13-S3-20	20.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
B13-S4-25	25.0	2/10/2015	66	<0.02	0.15	0.25	0.15
B13-S5-30	30.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
B14-S1-13(15)	10*	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
B14-S2-18(20)	14*	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
B14-S3-22	15*	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
B14-S4-25	17*	2/10/2015	106	<0.02	<0.10	<0.05	<0.15
B15-S1-16.0	11*	2/11/2015	12	<0.02	<0.10	0.12	0.58
B15-S2-18	13*	2/11/2015	1,810 E	<0.08	<0.40	3.92	30.1
B15-S3-21	14*	2/11/2015	9,670 E	<0.50	<2.5	48	296
B16-S1-18	13*	2/11/2015	<10	<0.02	<0.10	0.14	0.59
B16-S2-19	13*	2/11/2015	7,150	<0.50	<2.5	76.7	401
B16-S3-25	17*	2/11/2015	80	<0.02	<0.10	0.13	0.66
B17-S1-22	15*	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
B17-S2-14	10*	2/11/2015	<10	<0.02	<0.10	<0.05	0.29
B17-S3-18	13*	2/11/2015	45	0.023	<0.10	0.17	0.45
B18-S1-18	13*	2/12/2015	16	<0.02	<0.10	<0.05	0.27
B18-S3-20	14*	2/12/2015	152	<0.02	<0.10	0.36	2.19
B18-S2-25	17*	2/12/2015	<10	<0.02	<0.10	<0.05	<0.15
MW11-S2-7.0	12.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW11-S3-12.0	12.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW11-S4-19.0	19.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW11-S5-22.0	22.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW11-S6-25.0	25.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW12-S3-12.0	12.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW12-S4-18.0	18.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW12-S5-20.0	20.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW12-S6-25.0	25.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15

Table 1 - Summary of Soil Analytical Results

Smitty's Toppenish
Toppenish, Washington

Sample Number	Depth Collected (feet)	Date Collected	Gasoline	Volatile Organic Compounds			
				Benzene	Toluene	Ethylbenzene	Xylenes
MW13-S1-10	10.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW13-S2-20	20.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW13-S3-25	25.0	2/9/2015	<10	<0.02	<0.10	<0.05	<0.15
MW14-S1-10	10.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW14-S2-16	16.0	2/10/2015	11	<0.02	<0.10	<0.05	0.24
MW14-S3-18	18.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW14-S4-22	22.0	2/10/2015	11	<0.02	<0.10	<0.05	0.15
MW15-S1-10	10.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW15-S2-18	18.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW15-S4-21	21.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW15-S5-25	25.0	2/10/2015	<10	<0.02	<0.10	<0.05	<0.15
MW16-S6-10	20.0	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
MW16-S3-15	15.0	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
MW16-S2-20	20.0	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
MW16-S5-26	26.0	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
MW17-S1-10	10.0	2/11/2015	62	<0.02	<0.10	<0.05	0.17
MW17-S3-20	20.0	2/11/2015	13	<0.02	<0.10	<0.05	0.16
MW17-S4-25	25.0	2/11/2015	<10	<0.02	<0.10	<0.05	<0.15
MW1R-15	15.0	9/20/2016	54	<0.02	<0.10	<0.05	<0.15
MW1R-20	20.0	9/20/2016	14	<0.02	<0.10	<0.05	<0.15
MW1R-25	25.0	9/20/2016	<10	<0.02	<0.10	<0.05	<0.15
MW1R-30	30.0	9/20/2016	<10	<0.02	<0.10	<0.05	<0.15
Excavation Confirmation Soil Samples							
SW-12	12.0	5/10/2016	<10	<0.02	<0.1	<0.05	<0.15
ECS-12	12.0	5/11/2016	<10	<0.02	<0.1	<0.05	<0.15
ECB-18	18.0	5/11/2016	11	<0.02	<0.1	<0.05	0.17
NSW-12	12.0	5/11/2016	<10	<0.02	<0.1	<0.05	<0.15
NB-16	16.0	5/11/2016	19	0.034	<0.1	0.05	0.15
NESW-6	6.0	5/12/2016	<10	<0.02	<0.1	<0.05	<0.15
ESW-6	6.0	5/12/2016	<10	<0.02	<0.1	<0.05	<0.15
SWB-16	16.0	5/12/2016	93	0.056	<0.1	0.28	0.95
NWSW-12	12.0	5/12/2016	<10	<0.02	<0.1	<0.05	<0.15
SWSW-12	12.0	5/16/2016	<10	<0.02	<0.1	<0.05	<0.15
WSWSW-15	15.0	5/16/2016	<10	<0.02	<0.1	<0.05	<0.15
WSWC-14	14.0	5/17/2016	<10	<0.02	<0.1	<0.05	<0.15
WNW-14	14.0	5/17/2016	<10	<0.02	<0.1	<0.05	<0.15
Confirmation Soil Borings							
B19-15	15.0	4/17/2020	18	<0.02	<0.10	<0.05	<0.15
B19-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B20-20	20.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B20-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B21-15	15.0	4/17/2020	155	<0.02	<0.10	0.21	0.57
B21-20	20.0	4/17/2020	1,250	<0.02	<0.10	25	43
B21-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B22-15	15.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B22-20	20.0	4/17/2020	2,590	<0.02	<0.10	1.7	5.3
B22-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B23-15	15.0	4/17/2020	101	<0.02	<0.10	0.29	2.6
B23-20	20.0	4/17/2020	1,850	<0.02	0.18	5.0	35
B23-25	25.0	4/17/2020	14	<0.02	<0.10	<0.05	<0.15
B24-20	20.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B24-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15

Table 1 - Summary of Soil Analytical Results

Smitty's Toppenish
Toppenish, Washington

Sample Number	Depth Collected (feet)	Date Collected	Gasoline	Volatile Organic Compounds			
				Benzene	Toluene	Ethylbenzene	Xylenes
B25-25	25.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B25-30	30.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B26-20	20.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
B26-30	30.0	4/17/2020	<10	<0.02	<0.10	<0.05	<0.15
PQL			10	0.02	0.05	0.05	0.15
MTCA Method A Cleanup Levels			30	0.03	7	6	9
DEQ RBC (mg/kg) - Residential							
Soil Ingestion, Dermal Contact, and Inhalation			1,200	8.2	5,800	34	1,400
Volatilization to Outdoor Air			5,900	11	>Csat	36	>Csat
Vapor Intrusion into Buildings			94	0.16	>Csat	1.3	160
Leaching to Groundwater			31	0.023	84	0.22	23
DEQ RBCs (mg/kg) - Urban Residential							
Soil Ingestion, Dermal Contact, and Inhalation			2,500	24	12,000	110	2,900
Volatilization to Outdoor Air			5,900	27	>Csat	85	>Csat
Vapor Intrusion into Buildings			94	0.38	>Csat	3.0	160
Leaching to Groundwater			31	0.10	340	0.94	87
DEQ RBCs (mg/kg) - Occupational							
Soil Ingestion, Dermal Contact, and Inhalation			20,000	37	88,000	150	25,000
Soil Volatilization to Outdoor Air			69,000	50	>Csat	160	>Csat
Soil Vapor Intrusion into Buildings			>Max	2.1	>Csat	17	>Csat
Leaching to Groundwater			130	0.10	490	0.90	100
DEQ RBCs (mg/kg) - Excavation Workers							
Soil Ingestion, Dermal Contact and Inhalation (Dust or Vapor)			>Max	11,000	770,000	49,000	560,000

Notes:

All values reported in milligrams per kilogram (mg/kg)

-- = Not analyzed for constituent

< = Not detected at the listed laboratory detection limits

E = Reported result is an estimate because it exceeds the calibration range

PQL = Practical Quantification Limit (laboratory detection limit)

RBC = Risk-Based Concentrations; Oregon Department of Environmental Quality (DEQ)

Red Bold concentrations exceed the most restrictive DEQ risk based concentration (RBC) for any pathway

Bold indicates the detected concentration is below the DEQ RBC for any pathway

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning.

>Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L.

Therefore, this substance is deemed not to pose risks in this scenario.

Soil analytical results are compared to the applicable May 2018 DEQ soil RBCs.

* Borings drilled at a 45 degree depths are true vertical depth as adjusted.

Table 2 - Summary of Groundwater Analytical Results
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, WA

Well Number	Date Sampled	Total Petroleum Hydrocarbons			Volatile Organic Compounds								Total Lead
		Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDC	EDB	MTBE	Total Naphthalenes	
MW-1*	7/19/2005	23,000	<200	<400	24	<1.0	200	1,300	--	--	--	--	15
	8/22/2006	12,000	<200	<400	50	16	92	460	--	--	--	--	--
	10/9/2007	4,900	--	--	45	<1.0	35	94	--	--	--	--	--
	9/8/2009	657	--	--	64.4	21.7	<1.0	39.5	--	--	--	--	--
	10/13/2009	--	--	--	58	2.6	23	9.0	--	--	--	--	--
	2/1/2011	<100	--	--	<1.0	<1.0	2.2	7.2	<1.0	<0.01	<5.0	<5.0	<5.0
	5/18/2011	<100	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<5.0	<5.0	<5.0
	2/18/2012	<100	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<5.0	<5.0	<5.0
	7/18/2012	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--
	10/23/2012	<100	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	1/29/2013	839	--	--	1.5	<2.0	<1.0	5.6	--	--	--	--	--
	5/1/2013	1,130	--	--	<1.0	<2.0	1.33	2.34	--	--	--	--	--
	7/30/2013	<100	--	--	<1.0	<2.0	<1.0	<1.0	--	--	--	--	--
	10/29/2013	570	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	2/13/2014	270	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	4/24/2014	130	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/23/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/22/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	243	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
MW-1R	10/5/2016	342	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/30/2017	848	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	6/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	12/19/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/28/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/10/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	6/18/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	12/26/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
3/10/2020	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
MW-2*	7/19/2005	39,000	<200	<400	220	290	180	1,200	--	--	--	--	--
	8/22/2006	40,000	<200	<400	42	96	34	269	--	--	--	--	--
	10/9/2007	45,000	--	--	25	31	36	275	--	--	--	--	--
	9/8/2009	108	--	--	2.3	3.2	<1.0	5.8	--	--	--	--	--
	10/13/2009	--	--	--	14	10	31	130	--	--	--	--	--
MW-3*	7/19/2005	39,000	<200	<400	1,400	2,600	430	4,700	--	--	--	--	--
	8/22/2006	40,000	<200	<400	2,400	4,800	420	4,100	--	--	--	--	--
	10/9/2007	45,000	--	--	730	2,900	630	6,300	--	--	--	--	--
	9/8/2009	84,900	--	--	2,500	4,800	639	7,450	--	--	--	--	--
	10/13/2009	--	--	--	1,500	3,600	440	4,100	--	--	--	--	--
MW-4	2/1/2011	18,800	--	--	22.4	62.8	435	2,730	<1.0	<0.01	<5.0	115	<5.0
	5/18/2011	6,880	--	--	13.9	15.9	<1.0	688	<1.0	<0.01	<5.0	10.8	<5.0
	2/18/2012	19,500	--	--	25.3	38.2	119	1,060	<1.0	0.06	<5.0	278	<5.0
	7/18/2012	21,500	--	--	45.2	37	292	1,690	--	--	--	--	--
	10/23/2012	7,070	--	--	35.6	15.2	142	251	--	--	--	--	--
	1/29/2013	24,700	--	--	44.0	43	397	1,100	--	--	--	--	--
	5/1/2013	24,500	--	--	25.6	24	364	928	--	--	--	--	--
	7/30/2013	13,000	--	--	11.0	5.2	<1.0	660	--	--	--	--	--
	10/29/2013	30,400	--	--	17.0	29	570	1,430	--	--	--	--	--
	2/13/2014	12,200	--	--	26.3	17.3	248	575	--	--	--	--	--
	4/24/2014	3,690	--	--	1.6	2.1	<1.0	112	--	--	--	--	--
	7/23/2014	6,740	--	--	2.7	7.7	33	419	--	--	--	--	--
	10/22/2014	9,230	--	--	2.0	7.0	193	744	--	--	--	--	--
	3/4/2015	10,200	<200	--	23.8	17.6	168	652	--	--	--	--	<5.0
	5/21/2015	3,870	--	--	1.5	3.8	80	162	--	--	--	--	--
	9/16/2015	3,250	--	--	1.0	2.1	21	219	--	--	--	--	--
	8/16/2016	732	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	1,880	--	--	<1.0	<2.0	57	41	--	--	--	--	--
	3/30/2017	4,540	--	--	1.0	3.1	130	137	--	--	--	--	--
	6/28/2017	810	--	--	<2.0	<4.0	<2.0	5.0	--	--	--	--	--
	9/28/2017	2,210	--	--	<1.0	<2.0	54	37	--	--	--	--	--
	12/19/2017	3,110	--	--	<1.0	2.2	92.7	64.6	--	--	--	--	--
	3/28/2018	727	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
7/10/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
6/18/2019	230	--	--	<1.0	<2.0	3.4	2.0	--	--	--	--	--	
9/16/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
12/26/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
3/10/2020	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	

Table 2 - Summary of Groundwater Analytical Results
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, WA

Well Number	Date Sampled	Total Petroleum Hydrocarbons			Volatile Organic Compounds								Total Lead
		Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDC	EDB	MTBE	Total Naphthalenes	
MW-5*	2/1/2011	10,100	<200	<400	11.9	5.6	186	242	<1.0	<0.01	<5.0	155	<5.0
	5/18/2011	1,790	<200	<400	<1.0	<1.0	<1.0	4.1	<1.0	<0.01	<5.0	5.4	8.2
	2/18/2012	2,010	--	--	1.8	3.8	2.4	4.3	<1.0	<0.01	<5.0	<5.0	<5.0
	7/18/2012	180	--	--	1.2	<1.0	<1.0	<1.0	--	--	--	--	--
	10/23/2012	<100	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	1/29/2013	3,100	--	--	8.4	<2.0	21	37	--	--	--	--	--
	5/1/2013	3,050	--	--	0.9	<2.0	1.89	<2.0	--	--	--	--	--
	7/30/2013	<100	--	--	<1.0	<2.0	<1.0	<1.0	--	--	--	--	--
	10/29/2013	540	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	2/13/2014	602	--	--	1.8	<2.0	1.6	<3.0	--	--	--	--	--
	4/24/2014	709	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/23/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/22/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/4/2015	329	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	151	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/30/2017	<100	--	--	<1.0	<2.0	1.3	<2.0	--	--	--	--	--
	6/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
12/19/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
3/28/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
7/10/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
MW-5R	6/18/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	12/12/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/10/2020	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-6	2/1/2011	<100	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<5.0	<5.0	<5.0
	5/18/2011	<100	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<5.0	<5.0	<5.0
	2/18/2012	<100	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<5.0	<5.0	<5.0
	7/18/2012	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--
	10/23/2012	<100	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	1/29/2013	<100	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	5/1/2013	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/30/2013	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/29/2013	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	2/13/2014	<100	--	--	<1.0	<2.0	<1.0	<3.0	--	--	--	--	--
	4/24/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/23/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/22/2014	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/4/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
5/21/2015	--	--	--	--	--	--	--	--	--	--	--	--	
9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
MW-7*	2/1/2011	42,300	<200	<400	215	692	1,570	11,500	<1.0	<0.01	<5.0	311	7.9
	5/18/2011	68,200	<200	<400	90.5	120	411	15,500	<1.0	<0.01	<5.0	1,540	11.5
	2/18/2012	38,600	--	--	61.5	53.8	234	6,760	<1.0	<0.01	<5.0	364	26.7
	7/18/2012	37,100	--	--	124	165	626	9,370	--	--	--	--	--
	10/23/2012	59,700	--	--	293	150	502	4,600	--	--	--	--	--
	1/29/2013	65,700	--	--	84	140	478	5,730	--	--	--	--	--
	5/1/2013	68,800	--	--	23	31	323	1,790	--	--	--	--	--
	7/30/2013	56,000	--	--	22	36	43	5,100	--	--	--	--	--
	10/29/2013	29,000	--	--	14	34	350	2,420	--	--	--	--	--
	2/13/2014	21,800	--	--	16.9	38.5	71.6	2,660	--	--	--	--	--
	4/24/2014	18,600	--	--	14	52	439	2,840	--	--	--	--	--
	7/23/2014	9,810	--	--	4.3	14	64	1,770	--	--	--	--	--
	10/22/2014	3,490	--	--	<2.0	<2.0	28	98	--	--	--	--	--
	3/4/2015	29,200	<200	--	30	80.4	530	2,130	--	--	--	--	<5.0
	5/21/2015	26,300	--	--	4.6	54	578	2,950	--	--	--	--	--
	9/16/2015	12,700	--	--	2.6	34.5	19.6	1,920	--	--	--	--	--
	8/16/2016	1,420	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	1,470	--	--	<1.0	<2.0	12	27	--	--	--	--	--
	3/30/2017	11,200	--	--	<1.0	16.7	233	1,060	--	--	--	--	--
	6/28/2017	2,750	--	--	<1.0	<2.0	58.5	262	--	--	--	--	--
9/28/2017	804	--	--	<1.0	<2.0	4.1	5.7	--	--	--	--	--	
12/19/2017	3,960	--	--	0.98	16.9	136	474	--	--	--	--	--	
3/28/2018	2,830	--	--	<1.0	<2.0	129	141	--	--	--	--	--	
7/10/2018	2,880	--	--	<1.0	<2.0	<1.0	60	--	--	--	--	--	
MW-7R	6/18/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	12/26/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/10/2020	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--

Table 2 - Summary of Groundwater Analytical Results
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, WA

Well Number	Date Sampled	Total Petroleum Hydrocarbons			Volatile Organic Compounds								Total Lead
		Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDC	EDB	MTBE	Total Naphthalenes	
MW-11	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-12	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-13	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-14	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	707	--	--	<1.0	<2.0	<1.0	4.2	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-15	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	147	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
MW-16	3/4/2015	627	<200	--	3.8	<2.0	1.9	2.4	--	--	--	--	<5.0
	5/21/2015	566	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/30/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	6/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/28/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	12/19/2017	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	3/28/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	7/10/2018	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	6/18/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
12/26/2019	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
3/10/2020	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--	
MW-17	3/4/2015	<100	<200	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	<5.0
	5/21/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	9/16/2015	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
	10/5/2016	<100	--	--	<1.0	<2.0	<1.0	<2.0	--	--	--	--	--
PQL	100	200	400	1.0	1.0/2.0	1.0	1.0/2.0/3.0	1.0	0.01	5.0	5.0	5.0	
MTCA Method A Cleanup Levels ¹	800	500	500	5	1,000	700	1,000	5	0.01	20	160	15	
DEQ RBCs - Residential in µg/L													
Groundwater: Ingestion & Inhalation from Tapwater	110	100	300	0.46	1,100	1.5	190	0.17	0.0075	14	0.17	NV	
Groundwater: Volatilization to Outdoor Air	>S	>S	>S	3,100	>S	9,900	>S	2,100	180	350,000	3,600	NV	
Groundwater: Vapor Intrusion into Buildings	22,000	>S	>S	210	>S	620	86,000	300	45	67,000	840	NV	
DEQ RBCs - Urban Residential in µg/L													
Groundwater: Ingestion & Inhalation from Tapwater	110	100	300	2.0	4,400	6.7	710	0.78	0.034	64	0.78	NV	
Groundwater: Volatilization to Outdoor Air	>S	>S	>S	7,400	>S	23,000	>S	4,900	430	830,000	8,500	NV	
Groundwater: Vapor Intrusion into Buildings	22,000	>S	>S	510	>S	1,500	86,000	700	110	160,000	2,000	NV	
DEQ RBCs - Occupational in µg/L													
Groundwater: Ingestion & Inhalation from Tapwater	450	430	1,300	2.1	6,300	6.4	830	0.78	0.034	68	0.72	NV	
Groundwater: Volatilization to Outdoor Air	>S	>S	>S	14,000	>S	43,000	>S	9,000	790	1,500,000	16,000	NV	
Groundwater: Vapor Intrusion into Buildings	>S	>S	>S	2,800	>S	8,200	>S	3,900	590	870,000	11,000	NV	
DEQ RBCs - Excavation Worker in µg/L													
Groundwater: In Excavation	14,000	>S	>S	1,800	220,000	4,500	23,000	630	27	63,000	500	NV	

Notes:

Groundwater analytical results compared to the applicable May 2018 Oregon Department of Environmental Quality (DEQ) groundwater Risk-Based Concentrations (RBCs)

All values in micrograms per liter (µg/L)

-- = Not analyzed for constituent

< = Not detected at the listed laboratory detection limits

* Monitoring well decommissioned due to remedial activities.

¹ MTCA Method A Cleanup Levels are provided for comparison purposes.

>S = This groundwater RBC exceeds the solubility limit (Groundwater concentrations in excess of S indicate that free product may be present)

Red Bold indicates the detected concentration exceeds the most restrictive risk based concentration (RBC) for any pathway

Bold indicates the detected concentration is below all risk based concentration (RBC) for any pathway

MTBE = Methyl tertiary-butyl ether

EDB = Ethylene dibromide

EDC = 1,2-Dichloroethane

NV = Non-volatile

PQL = Practical Quantification Limit (laboratory detection limit)

Table 3 - Summary of Groundwater Elevations
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, Washington

Well Number/ TOC Elevation	Date of Measurement	Depth to Water	Depth to Liquid Phase Hydrocarbons	Thickness Liquid Phase Hydrocarbons	Groundwater Elevation	Change in Groundwater Elevation
MW-1	07/19/05	--	--	--	--	--
759.05	08/22/06	--	--	--	--	--
	10/09/07	--	--	--	--	--
	09/08/09	--	--	--	--	--
	10/13/09	--	--	--	--	--
	02/01/11	11.80	--	--	747.25	--
	05/18/11	11.18	--	--	747.87	0.62
	02/28/12	12.06	--	--	746.99	-0.88
	07/18/12	10.31	--	--	748.74	1.75
	10/23/12	10.70	--	--	748.35	-0.39
	01/29/13	11.88	--	--	747.17	-1.18
	05/01/13	11.82	--	--	747.23	0.06
	07/30/13	10.29	--	--	748.76	1.53
	10/29/13	10.92	--	--	748.13	-0.63
	02/13/14	12.11	--	--	746.94	-1.19
	04/24/14	11.65	--	--	747.40	0.46
	07/23/14	10.27	--	--	748.78	1.38
	10/22/14	10.32	--	--	748.73	-0.05
	03/03/15	11.84	--	--	747.21	-1.52
	05/20/15	10.89	--	--	748.16	0.95
	09/16/15	10.72	--	--	748.33	0.17
MW-1R	10/05/16	9.64	--	--	--	--
	03/30/17	11.25	--	--	--	-1.61
	06/28/17	9.93	--	--	--	1.32
	09/28/17	10.08	--	--	--	-0.15
	12/19/17	11.40	--	--	--	-1.32
	03/28/18	12.31	--	--	--	-0.91
	07/10/18	10.03	--	--	--	2.28
	06/18/19	11.10	--	--	--	-1.07
	09/16/19	10.18	--	--	--	0.92
	12/26/19	11.88	--	--	--	-1.70
	03/10/20	12.50	--	--	--	-0.62
MW-4	02/01/11	11.25	--	--	747.34	--
758.59	05/18/11	10.64	--	--	747.95	0.61
	02/28/12	11.51	--	--	747.08	-0.87
	07/18/12	9.77	--	--	748.82	1.74
	10/23/12	10.13	--	--	748.46	-0.36
	01/29/13	11.31	--	--	747.28	-1.18
	05/01/13	11.28	--	--	747.31	0.03
	07/30/13	9.75	--	--	748.84	1.53
	10/29/13	10.34	--	--	748.25	-0.59
	02/13/14	11.52	--	--	747.07	-1.18
	04/24/14	11.11	--	--	747.48	0.41
	07/23/14	9.72	--	--	748.87	1.39
	10/22/14	9.76	--	--	748.83	-0.04
	03/03/15	11.30	--	--	747.29	-1.54
	05/20/15	10.35	--	--	748.24	0.95
	09/16/15	10.18	--	--	748.41	0.17
	08/16/16	9.53	--	--	749.06	0.65
	10/05/16	9.52	--	--	749.07	0.01

Table 3 - Summary of Groundwater Elevations
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, Washington

Well Number/ TOC Elevation	Date of Measurement	Depth to Water	Depth to Liquid Phase Hydrocarbons	Thickness Liquid Phase Hydrocarbons	Groundwater Elevation	Change in Groundwater Elevation
MW-4 (cont.)	03/30/17	11.06	--	--	747.53	-1.54
	06/28/17	9.85	--	--	748.74	1.21
	09/28/17	9.70	--	--	748.89	0.15
	12/19/17	11.07	--	--	747.52	-1.37
	03/28/18	12.03	--	--	746.56	-0.96
	07/10/18	9.91	--	--	748.68	2.12
	06/18/19	10.79	--	--	747.80	-0.88
	09/16/19	9.96	--	--	748.63	0.83
	12/26/19	11.62	--	--	746.97	-1.66
03/10/20	12.20	--	--	746.39	-0.58	
MW-5	02/01/11	12.34	--	--	746.96	--
759.3	05/18/11	11.74	--	--	747.56	0.60
	02/28/12	12.49	--	--	746.81	-0.75
	07/18/12	10.56	--	--	748.74	1.93
	10/23/12	10.96	--	--	748.34	-0.40
	01/29/13	12.35	--	--	746.95	-1.39
	05/01/13	12.31	--	--	746.99	0.04
	07/30/13	10.53	--	--	748.77	1.78
	10/29/13	11.14	--	--	748.16	-0.61
	02/13/14	12.52	--	--	746.78	-1.38
	04/24/14	12.11	--	--	747.19	0.41
	07/23/14	10.52	--	--	748.78	1.59
	10/22/14	10.58	--	--	748.72	-0.06
	03/03/15	12.20	--	--	747.10	-1.62
	05/20/15	11.10	--	--	748.20	1.10
	09/16/15	10.97	--	--	748.33	0.13
	10/05/16	10.27	--	--	749.03	0.70
	03/30/17	11.94	--	--	747.36	-1.67
	06/28/17	10.59	--	--	748.71	1.35
	09/28/17	10.46	--	--	748.84	0.13
	12/19/17	11.98	--	--	747.32	-1.52
	03/28/18	13.72	--	--	745.58	-1.74
	07/10/18	10.63	--	--	748.67	3.09
MW-5R	06/18/19	11.83	--	--	--	--
	09/16/19	11.00	--	--	--	-0.37
	12/26/19	12.55	--	--	--	-0.72
	03/10/20	13.16	--	--	--	-2.16
MW-6	02/01/11	11.19	--	--	746.68	--
757.87	05/18/11	10.54	--	--	747.33	0.65
	02/28/12	11.38	--	--	746.49	-0.84
	07/18/12	9.65	--	--	748.22	1.73
	10/23/12	10.07	--	--	747.80	-0.42
	01/29/13	11.20	--	--	746.67	-1.13
	05/01/13	11.14	--	--	746.73	0.06
	07/30/13	9.68	--	--	748.19	1.46
	10/29/13	10.29	--	--	747.58	-0.61
	02/13/14	11.37	--	--	746.50	-1.08
	04/24/14	10.96	--	--	746.91	0.41
	07/23/14	9.62	--	--	748.25	1.34
	10/22/14	9.68	--	--	748.19	-0.06

Table 3 - Summary of Groundwater Elevations
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, Washington

Well Number/ TOC Elevation	Date of Measurement	Depth to Water	Depth to Liquid Phase Hydrocarbons	Thickness Liquid Phase Hydrocarbons	Groundwater Elevation	Change in Groundwater Elevation
MW-6 (cont.)	03/03/15	11.17	--	--	746.70	-1.49
	05/20/15	10.21	--	--	747.66	0.96
	09/16/15	10.02	--	--	747.85	0.19
	08/16/16	9.27	--	--	748.60	0.75
	10/05/16	9.34	--	--	748.53	-0.07
MW-7	02/01/11	12.08	--	--	746.83	--
758.91	05/18/11	11.54	--	--	747.37	0.54
	02/28/12	12.25	--	--	746.66	-0.71
	07/18/12	10.59	--	--	748.32	1.66
	10/23/12	10.98	--	--	747.93	-0.39
	01/29/13	12.09	--	--	746.82	-1.11
	05/01/13	12.05	--	--	746.86	0.04
	07/30/13	10.58	--	--	748.33	1.47
	10/29/13	11.19	--	--	747.72	-0.61
	02/13/14	12.28	--	--	746.63	-1.09
	04/24/14	11.85	--	--	747.06	0.43
	07/23/14	10.50	--	--	748.41	1.35
	10/22/14	10.55	--	--	748.36	-0.05
	03/03/15	12.08	--	--	746.83	-1.53
	05/20/15	11.13	--	--	747.78	0.95
	09/16/15	10.97	--	--	747.94	0.16
	08/16/16	10.27	--	--	748.64	0.70
	10/05/16	10.30	--	--	748.61	-0.03
	03/30/17	11.87	--	--	747.04	-1.57
	06/28/17	10.66	--	--	748.25	1.21
09/28/17	10.48	--	--	748.43	0.18	
12/19/17	11.97	--	--	746.94	-1.49	
03/28/18	10.48	--	--	748.43	1.49	
07/10/18	10.60	--	--	748.31	-0.12	
MW-7R	06/18/19	11.84	--	--	--	--
	09/16/19	11.00	--	--	--	0.84
	12/26/19	12.54	--	--	--	-1.54
	03/10/20	13.08	--	--	--	-0.54
MW-8	02/01/11	11.58	--	--	746.82	--
758.4	05/18/11	11.05	--	--	747.35	0.53
	02/28/12	11.78	--	--	746.62	-0.73
	07/18/12	10.14	--	--	748.26	1.64
	10/23/12	10.56	--	--	747.84	-0.42
	01/29/13	11.64	--	--	746.76	-1.08
	05/01/13	11.60	--	--	746.80	0.04
	07/30/13	10.12	--	--	748.28	1.48
	10/29/13	10.76	--	--	747.64	-0.64
	02/13/14	11.82	--	--	746.58	-1.06
	04/24/14	11.41	--	--	746.99	0.41
	07/23/14	10.04	--	--	748.36	1.37
	10/22/14	10.16	--	--	748.24	-0.12
	03/03/15	11.60	--	--	746.80	-1.44
	05/20/15	10.69	--	--	747.71	0.91
	09/16/15	10.55	--	--	747.85	0.14
10/05/16	9.89	--	--	748.51	0.66	

Table 3 - Summary of Groundwater Elevations
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, Washington

Well Number/ TOC Elevation	Date of Measurement	Depth to Water	Depth to Liquid Phase Hydrocarbons	Thickness Liquid Phase Hydrocarbons	Groundwater Elevation	Change in Groundwater Elevation
MW-9	02/01/11	11.34	--	--	746.62	--
757.96	05/18/11	10.68	--	--	747.28	0.66
	02/28/12	11.42	--	--	746.54	-0.74
	07/18/12	9.79	--	--	748.17	1.63
	10/23/12	10.22	--	--	747.74	-0.43
	1/29/13	11.29	--	--	746.67	-1.07
	05/01/13	11.23	--	--	746.73	0.06
	07/30/13	9.80	--	--	748.16	1.43
	10/29/13	10.41	--	--	747.55	-0.61
	02/13/14	11.45	--	--	746.51	-1.04
	04/24/14	11.04	--	--	746.92	0.41
	07/23/14	9.71	--	--	748.25	1.33
	10/22/14	--	--	--	--	--
	03/03/15	11.22	--	--	746.74	-1.51
	05/20/15	10.33	--	--	747.63	0.89
	09/16/15	--	--	--	--	--
	10/05/16	9.52	--	--	748.44	0.81
	03/30/17	11.05	--	--	746.91	-1.53
	06/28/17	9.73	--	--	748.23	1.32
	09/28/17	9.75	--	--	748.21	-0.02
	12/19/17	10.98	--	--	746.98	-1.23
	03/28/18	11.80	--	--	746.16	-0.82
	07/10/18	10.81	--	--	747.15	0.99
	06/18/19	10.84	--	--	747.12	0.03
	09/16/19	10.10	--	--	747.86	-0.74
	12/26/19	11.54	--	--	746.42	-1.44
	03/10/20	12.01	--	--	745.95	-0.47
MW-10	02/01/11	11.68	--	--	746.52	
758.20	05/18/11	11.09	--	--	747.11	0.59
	02/28/12	11.84	--	--	746.36	-0.75
	07/18/12	10.21	--	--	747.99	1.63
	10/23/12	10.62	--	--	747.58	-0.41
	1/29/13	11.70	--	--	746.50	-1.08
	05/01/13	11.64	--	--	746.56	0.06
	07/30/13	10.22	--	--	747.98	1.42
	10/29/13	11.84	--	--	746.36	-1.62
	02/13/14	11.87	--	--	746.33	-0.03
	04/24/14	11.47	--	--	746.73	0.40
	07/23/14	10.15	--	--	748.05	1.32
	10/22/14	10.25	--	--	747.95	-0.10
	03/03/15	11.64	--	--	746.56	-1.39
	05/20/15	10.73	--	--	747.47	0.91
	09/16/15	10.52	--	--	747.68	0.21
	10/05/16	9.87	--	--	748.33	0.65
	03/30/17	11.42	--	--	746.78	-1.55
	06/28/17	10.05	--	--	748.15	1.37
	09/28/17	10.07	--	--	748.13	-0.02
	12/19/17	11.34	--	--	746.86	-1.27
	03/28/18	12.12	--	--	746.08	-0.78
	07/10/18	10.11	--	--	748.09	2.01

Table 3 - Summary of Groundwater Elevations
Former Smitty Conoco #140 (Former Spirit Gas Station)
Toppenish, Washington

Well Number/ TOC Elevation	Date of Measurement	Depth to Water	Depth to Liquid Phase Hydrocarbons	Thickness Liquid Phase Hydrocarbons	Groundwater Elevation	Change in Groundwater Elevation
MW-10 (cont.)	06/18/19	11.19	--	--	747.01	-0.93
	09/16/19	10.45	--	--	747.75	-0.74
	12/26/19	10.45	--	--	747.75	0.00
	03/10/20	12.40	--	--	745.80	-1.95
MW-11	03/03/15	11.76	--	--	747.56	--
759.32	05/20/15	10.78	--	--	748.54	0.98
	09/16/15	10.66	--	--	748.66	0.12
	10/05/16	9.95	--	--	749.37	0.71
MW-12	03/03/15	11.59	--	--	747.67	--
759.26	05/20/15	10.61	--	--	748.65	0.98
	09/16/15	10.50	--	--	748.76	0.11
	10/05/16	9.83	--	--	749.43	0.67
MW-13	03/03/15	11.40	--	--	747.33	--
758.73	05/20/15	10.41	--	--	748.32	0.99
	09/16/15	10.25	--	--	748.48	0.16
	10/05/16	9.56	--	--	749.17	0.69
MW-14	03/03/15	12.16	--	--	746.87	--
759.03	05/20/15	11.24	--	--	747.79	0.92
	09/16/15	11.08	--	--	747.95	0.16
	10/05/16	10.43	--	--	748.60	0.65
MW-15	03/03/15	11.44	--	--	747.36	--
758.80	05/20/15	10.44	--	--	748.36	1.00
	09/16/15	10.37	--	--	748.43	0.07
	10/05/16	9.65	--	--	749.15	0.72
MW-16	03/03/15	12.84	--	--	746.80	--
759.64	05/20/15	11.94	--	--	747.70	0.90
	09/16/15	11.76	--	--	747.88	0.18
	10/05/16	11.07	--	--	748.57	0.69
	03/30/17	12.63	--	--	747.01	-1.56
	06/28/17	11.34	--	--	748.30	1.29
	09/28/17	11.28	--	--	748.36	0.06
	12/19/17	12.56	--	--	747.08	-1.28
	03/28/18	13.44	--	--	746.20	-0.88
	07/10/18	11.84	--	--	747.80	1.60
	06/18/19	12.42	--	--	747.22	-0.58
	09/16/19	11.83	--	--	747.81	0.59
	12/26/19	13.12	--	--	746.52	-1.29
	03/10/20	13.68	--	--	745.96	-0.56
MW-17	03/03/15	12.46	--	--	747.36	--
759.82	05/20/15	11.47	--	--	748.35	0.99
	09/16/15	11.32	--	--	748.50	0.15
	10/05/16	10.63	--	--	749.19	0.69

Notes:

All values reported in feet

TOC = Top of casing elevation relative to assigned benchmark.

-- = Not applicable

APPENDIX A

Supporting Documents:

Boring Logs

Laboratory Datasheets



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-19
Page: 1 of 2

Drilling Start Date: 04/13/2020 10:30
Drilling End Date: 04/13/2020 11:32
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 35.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 25.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') Asphalt			0
				GR	10:46		8.00	(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown		B19-5	5
				GR	11:15		18.00	(15') As Above		B19-10	10
								(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown		B19-15	15
20											

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-19
Page: 2 of 2

Drilling Start Date: 04/13/2020 10:30
Drilling End Date: 04/13/2020 11:32
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 35.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 25.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)	
20	[Lithology: Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown]	[Water Level: 25.0]	[Boring Completion: GR]	[Sample Type: GR]	[Time: 11:28]	[Blow Counts: 5.00]	[Description: (15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown (21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray (32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown (35') Boring terminated]	37.0	B19-20	20
108.0								B19-25	25	
75.0								B19-30	30	
18.0								B19-35	35	
40										

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-20
Page: 1 of 2

Drilling Start Date: 04/13/2020 12:16
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0				GR	10:46		8.00	(0') Asphalt			0
								(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown			
5										B20-5	5
10				GR	11:15		18.00			B20-10	10
15								(15') As Above			
								(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			
20										B20-15	15
										B20-20	9.5

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-20
Page: 2 of 2

Drilling Start Date: 04/13/2020 12:16
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)						
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)		Lab Sample					
20	[Patterned Lithology Column]			GR	11:28		0.00 (15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			20						
							21.5 (21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray									
25																
30							5.00 (32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown									
35							(35') Boring terminated									
40																

NOTES:



Associated
Environmental
Group, LLC




Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-21
Page: 1 of 2

Drilling Start Date:
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 35.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 17.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	

0				GR	10:46		8.00	(0') Asphalt			0
0.5								(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown			5
10				GR	11:15		18.00				10
15								(15') As Above			15
15.5								(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			75.0

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-21
Page: 2 of 2

Drilling Start Date:	Boring Depth (ft): 35.0
Drilling End Date:	Boring Diameter (in): 10.00
Drilling Company: Cascade	Sampling Method(s): Grab
Drilling Method: Sonic	DTW During Drilling (ft): 17.0
Drilling Equipment: LAR Sonic	DTW After Drilling (ft): N/A
Driller: Rico	Ground Surface Elev. (ft):
Logged By: B. Dilba	Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)	
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)		Lab Sample
20	[Orange dotted pattern]						(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown	846.0	B21-20	20	
							(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray				
25									76.0	B21-25	25
30			GR	11:28		5.00	(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown	105.0	B21-30	30	
35							(35') Boring terminated	0.6	B21-35	35	
40											

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-22
Page: 1 of 2

Drilling Start Date: 04/14/2020 08:07
Drilling End Date: 04/16/2020 08:29
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 31.5
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 20.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)	
0				GR	10:46		8.00			0
	(0') Asphalt									
	(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown									
5								0.0	B22-5	5
10				GR	11:15		18.00		0.0	B22-10
15										15
	(15') As Above									
	(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown									
20										

NOTES:



Associated Environmental Group, LLC

Client: **AEG-CLIENTS**
 Project: **09-171**
 Address: **102 E Toppenish Ave, Toppenish, WA**

BORING LOG
 Boring No. **B-22**
 Page: **2 of 2**

Drilling Start Date: **04/14/2020 08:07**
 Drilling End Date: **04/16/2020 08:29**
 Drilling Company: **Cascade**
 Drilling Method: **Sonic**
 Drilling Equipment: **LAR Sonic**
 Driller: **Rico**
 Logged By: **B. Dilba**

Boring Depth (ft): **31.5**
 Boring Diameter (in): **10.00**
 Sampling Method(s): **Grab**
 DTW During Drilling (ft): **20.0**
 DTW After Drilling (ft): **N/A**
 Ground Surface Elev. (ft):
 Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
20	[Patterned Lithology]			GR	11:28		1.50	(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown	598.0	B22-20	20
								(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray			25
30								(31.5') Boring terminated			30
								(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown			35
40											40

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-23
Page: 1 of 2

Drilling Start Date: 04/16/2020 08:40
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 35.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 20.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') Asphalt			0
				GR	10:46		8.00	(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown			
5											
				GR	11:15		18.00				
10											
								(15') As Above			
15								(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown	1,111	B23-15	15
20									1,070	B23-20	

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-23
Page: 2 of 2

Drilling Start Date: 04/16/2020 08:40
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 35.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 20.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)	
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)		Lab Sample
20	[Orange dotted pattern]						(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			20	
							(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray			25	
25										3.5	B23-25
30				GR	11:28					100.0	B23-30
				GR	09:23						
							(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown				
35							(35') Boring terminated			8.4	B23-35
40											

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-24
Page: 1 of 2

Drilling Start Date: 04/16/2020 10:03
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') Asphalt			0
0.5				GR	10:46		8.00	(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown		B24-5	5
10				GR	11:15		18.00			B24-10	10
15								(15') As Above		B24-15	15
15.5								(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown		B24-20	8.4
20											

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-24
Page: 2 of 2

Drilling Start Date: 04/16/2020 10:03
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
20							0.00	(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			20
								(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray			
25									0.3	B24-25	25
								(26') Poorly graded SAND (SP); mostly fine-medium grained sand, trace fine-coarse gravel, medium dense, wet, light reddish-brown			
30								(30') Boring terminated	1.0	B24-30	30
								(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown			
35											35
40											40

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-25
Page: 1 of 2

Drilling Start Date: 04/16/2020 11:04
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)	
0							(0') Asphalt			0
0.4				GR	10:46		(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown		B25-5	5
10.0				GR	11:15		(15') As Above		B25-10	10
15.5							(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown		B25-15	15
567.0										

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-25
Page: 2 of 2

Drilling Start Date: 04/16/2020 11:04
Drilling End Date:
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
20	[Orange dotted pattern]							(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown	3.8	B25-20	20
								(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray			
25	[Yellow dotted pattern]							(26') Poorly graded SAND (SP); mostly fine-medium grained sand, trace fine-coarse gravel, medium dense, wet, light reddish-brown		B25-25	25
								(30') Boring terminated			
30								(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown		B25-30	30
35											35
40											40

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-26
Page: 1 of 2

Drilling Start Date: 04/16/2020 11:53
Drilling End Date: 04/16/2020 12:51
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT			SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts		Recovery (ft)	PID (ppm)	
0							(0') Asphalt			0
0.3				GR	10:46		(0.5') Silty SAND (SM); mostly fine grained sand, some silt, poorly graded, medium dense, moist, light reddish-brown		B26-5	5
1.2									B26-10	10
15				GR	11:15		(15') As Above		B26-15	15
15.5							(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown			546.0
20										

NOTES:



Associated Environmental Group, LLC

Client: AEG-CLIENTS
Project: 09-171
Address: 102 E Toppenish Ave, Toppenish, WA

BORING LOG
Boring No. B-26
Page: 2 of 2

Drilling Start Date: 04/16/2020 11:53
Drilling End Date: 04/16/2020 12:51
Drilling Company: Cascade
Drilling Method: Sonic
Drilling Equipment: LAR Sonic
Driller: Rico
Logged By: B. Dilba

Boring Depth (ft): 30.0
Boring Diameter (in): 10.00
Sampling Method(s): Grab
DTW During Drilling (ft): 15.0
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft):
Location (Lat, Long):

DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
20	[Orange dotted pattern]						0.00	(15.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, few fine-medium sand, dense, moist, light reddish-brown	10.0	B26-20	20
								(21.5') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, moist, light bluish-gray			
25	[Yellow dotted pattern]							(26') Poorly graded SAND (SP); mostly fine-medium grained sand, trace fine-coarse gravel, medium dense, wet, light reddish-brown			
								(30') Boring terminated			
30								(32') Poorly graded GRAVEL with silt (GP-GM); mostly fine-coarse grained gravel, trace fine-medium sand, dense, wet, light reddish-brown		B26-30	30
35											
40											

NOTES:



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

April 24, 2020

Becky Dilba
Associated Environmental Group, LLC
2633 Parkmont Lane SW, Suite A
Olympia, WA 98502

Dear Ms. Dilba:

Please find enclosed the analytical data report for the Smitty's Toppenish Project located in Toppenish, Washington.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of in 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
Senior Chemist
Libby Environmental, Inc.

Libby Environmental, Inc.

SMITTY'S TOPPENISH PROJECT
AEG, LLC
Toppenish, Washington
Libby Project # L200417-2
Client Project # 09-171

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Sample Description	Method	B19-15	B19-15	B19-25	B20-20	B20-25	
	Blank		Dup				
Date Sampled	N/A	4/17/2020	4/17/2020	4/17/2020	4/17/2020	4/17/2020	
Date Analyzed	PQL	4/20/2020	4/20/2020	4/20/2020	4/20/2020	4/20/2020	
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
Benzene	0.02	nd	nd	nd	nd	nd	
Toluene	0.10	nd	nd	nd	nd	nd	
Ethylbenzene	0.05	nd	nd	nd	nd	nd	
Total Xylenes	0.15	nd	nd	nd	nd	nd	
Gasoline	10	nd	13	18	nd	nd	
Surrogate Recovery							
Dibromofluoromethane	105	104	111	103	107	110	
1,2-Dichloroethane-d4	122	123	132	123	131	129	
Toluene-d8	82	79	99	101	99	99	
4-Bromofluorobenzene	88	98	78	76	85	65	

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

SMITTY'S TOPPENISH PROJECT
AEG, LLC
Toppenish, Washington
Libby Project # L200417-2
Client Project # 09-171

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Sample Description		B21-20	B22-20	B22-25	B23-20	B23-25	B24-20
Date Sampled		4/17/2020	4/17/2020	4/17/2020	4/17/2020	4/17/2020	4/17/2020
Date Analyzed	PQL	4/20/2020	4/20/2020	4/20/2020	4/20/2020	4/20/2020	4/20/2020
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Benzene	0.02	nd	nd	nd	nd	nd	nd
Toluene	0.10	nd	nd	nd	0.18	nd	nd
Ethylbenzene	0.05	25	1.7	nd	5.0	nd	nd
Total Xylenes	0.15	43	5.3	nd	35	nd	nd
Gasoline	10	1250	2590	nd	1850	14	nd
Surrogate Recovery							
Dibromofluoromethane		105	88	106	76	99	101
1,2-Dichloroethane-d4		130	128	124	130	116	116
Toluene-d8		105	108	80	95	99	98
4-Bromofluorobenzene		109	115	101	113	84	95

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

SMITTY'S TOPPENISH PROJECT
 AEG, LLC
 Toppenish, Washington
 Libby Project # L200417-2
 Client Project # 09-171

3322 South Bay Road NE
 Olympia, WA 98506
 Phone: (360) 352-2110
 FAX: (360) 352-4154
 Email: libbyenv@gmail.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Sample Description		B24-25	B25-25	B25-30	B26-20	B26-30	B26-30 Dup
Date Sampled		4/17/2020	4/17/2020	4/17/2020	4/17/2020	4/17/2020	4/17/2020
Date Analyzed	PQL	4/20/2020	4/20/2020	4/20/2020	4/20/2020	4/21/2020	4/21/2020
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Benzene	0.02	nd	nd	nd	nd	nd	nd
Toluene	0.10	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
Total Xylenes	0.15	nd	nd	nd	nd	nd	nd
Gasoline	10	nd	nd	nd	nd	nd	nd
Surrogate Recovery							
Dibromofluoromethane		104	109	107	109	111	113
1,2-Dichloroethane-d4		120	129	126	129	133	127
Toluene-d8		95	98	98	99	99	99
4-Bromofluorobenzene		92	72	78	70	69	67

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@gmail.com

SMITTY'S TOPPENISH PROJECT

AEG, LLC

Toppenish, Washington

Libby Project # L200417-2

Client Project # 09-171

QA/QC for Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Matrix Spike Sample Identification: B26-30

	Spiked Conc. (mg/kg)	MS Response (mg/kg)	MS Recovery (%)	Limits Recovery (%)	Data Flag
Benzene	0.25	0.25	99	65-135	
Toluene	0.25	0.22	88	65-135	
Ethylbenzene	0.25	0.23	92	65-135	
Total Xylenes	0.75	0.66	88	65-135	
Surrogate Recovery (%)			MS		
Dibromofluoromethane			111	65-135	
1,2-Dichloroethane-d4			132	65-135	
Toluene-d8			99	65-135	
4-Bromofluorobenzene			80	65-135	

ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Sherry Chilcutt

Laboratory Control Sample

	Spiked Conc. (mg/kg)	LCS Response (mg/kg)	LCS Recovery (%)	LCS Recovery Limits (%)	Data Flag
Benzene	0.25	0.24	96	80-120	
Toluene	0.25	0.22	88	80-120	
Ethylbenzene	0.25	0.25	98	80-120	
Total Xylenes	0.75	0.70	93	80-120	
Surrogate Recovery					
Dibromofluoromethane			107	65-135	
1,2-Dichloroethane-d4			121	65-135	
Toluene-d8			81	65-135	
4-Bromofluorobenzene			104	65-135	

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@gmail.com

SMITTY'S TOPPENISH PROJECT

AEG, LLC

Toppenish, Washington

Libby Project # L200417-2

Client Project # 09-171

QA/QC for Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Matrix Spike Sample Identification: B19-5

	Spiked Conc. (mg/kg)	MS Response (mg/kg)	MSD Response (mg/kg)	MS Recovery (%)	MSD Recovery (%)	RPD (%)	Limits Recovery (%)	Data Flag
Benzene	0.25	0.23	0.24	92	96	5.1	65-135	
Toluene	0.25	0.31	0.25	126	98	24.7	65-135	
Ethylbenzene	0.25	0.22	0.23	90	91	1.8	65-135	
Total Xylenes	0.75	0.90	0.72	119	96	22.1	65-135	
Surrogate Recovery (%)				MS	MSD			
Dibromofluoromethane				106	108		65-135	
1,2-Dichloroethane-d4				125	127		65-135	
Toluene-d8				98	99		65-135	
4-Bromofluorobenzene				73	98		65-135	

ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Sherry Chilcutt

Laboratory Control Sample

	Spiked Conc. (mg/kg)	LCS Response (mg/kg)	LCS Recovery (%)	LCS Recovery Limits (%)	Data Flag
Benzene	0.25	0.21	84	80-120	
Toluene	0.25	0.20	80	80-120	
Ethylbenzene	0.25	0.21	82	80-120	
Total Xylenes	0.75	0.64	85	80-120	
Surrogate Recovery					
Dibromofluoromethane			104	65-135	
1,2-Dichloroethane-d4			122	65-135	
Toluene-d8			95	65-135	
4-Bromofluorobenzene			74	65-135	

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

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SMITTY'S TOPPENISH PROJECT
AEG, LLC

Libby Project # L200417-2

Date Received 4/17/2020

Time Received 4:03 PM

Received By SC

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody complete? Yes No
2. How was the sample delivered? Hand Delivered Picked Up Shipped

Log In

3. Cooler or Shipping Container is present. Yes No N/A
4. Cooler or Shipping Container is in good condition. Yes No N/A
5. Cooler or Shipping Container has Custody Seals present. Yes No N/A
6. Was an attempt made to cool the samples? Yes No N/A
7. Temperature of cooler (0°C to 8°C recommended) 16.3 °C
8. Temperature of sample(s) (0°C to 8°C recommended) 16.3 °C
9. Did all containers arrive in good condition (unbroken)? Yes No
10. Is it clear what analyses were requested? Yes No
11. Did container labels match Chain of Custody? Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Are correct containers used for the analysis indicated? Yes No
14. Is there sufficient sample volume for indicated analysis? Yes No
15. Were all containers properly preserved per each analysis? Yes No
16. Were VOA vials collected correctly (no headspace)? Yes No N/A
17. Were all holding times able to be met? Yes No

Discrepancies/ Notes

18. Was client notified of all discrepancies? Yes No N/A

Person Notified: _____

Date: _____

By Whom: _____

Via: _____

Regarding: _____

19. Comments. Vials Preserved
- _____
- _____
- _____

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 4-17-20 Page: 1 of 3

Client: MEG

Project Manager:

Address:

Project Name: Smitty's Topsoil

City: State: Zip:

Location: City, State:

Phone: Fax:

Collector: B. Dilber Date of Collection: 4/13-4/15/2020

Client Project # 09-171

Email:



Sample Number	Depth	Time	Sample Type	Container Type											Field Notes			
					VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	NWTPH-Dx/Idx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082		MTCA 5 Metals	RCRA 8 Metals	
1 B19-5	1041	1045																4/13/2020
2 B19-10	10	1042																
3 B19-15	15	1048			X	X												
4 B19-20	20	1049																
5 B19-25	25	1102			X	X												
6 B19-30	30	1103																
7 B19-35	35	1110																
8 B20-5		1230																
9 B20-10		1233																
10 B20-15		1243																
11 B20-20		1244			X	X												
12 B20-25		1301			X	X												
13 B20-30		1302																
14 B21-5		1413																
15 B21-10		1414																
16 B21-15		1420																
17 B21-20		1421			X	X											Hot	

Relinquished by:	Date / Time	Received by:	Date / Time	Sample Receipt Good Condition? Y N Cooler Temp. °C Sample Temp. °C Total Number of Containers	Remarks:
Relinquished by:	Date / Time	Received by:	Date / Time		
Relinquished by:	Date / Time	Received by:	Date / Time		
				TAT: 24HR 48HR 5-DAY	

Libby Environmental, Inc.

Chain of Custody Record

3322 South Bay Road NE
Olympia, WA 98506

Ph: 360-352-2110
Fax: 360-352-4154

Date: 4-17-20

Page: 2 of 3

Client: RECY

Project Manager:

Address:

Project Name: Sunrise Topsoil

City: State: Zip:

Location: City, State:

Phone: Fax:

Collector: B-Dilks Date of Collection: 4/13-4/16/2020

Client Project # 04-171

Email:

Sample Number	Depth	Time	Sample Type	Container Type	Analytes											Field Notes				
					VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals					
1 <u>B21-5</u>		<u>1133</u>	S																	4/13/2020
2 <u>B21-30</u>		<u>1134</u>																		
3 <u>B21-35</u>		<u>1145</u>																		
4 <u>B22-5</u>		<u>808</u>																		4/14/2020
5 <u>B22-10</u>		<u>808</u>																		
6 <u>B22-15</u>		<u>817</u>																		
7 <u>B22-20</u>		<u>817</u>																		4/16/2020
8 <u>B22-25</u>		<u>805</u>																		
9 <u>B22-30</u>		<u>828</u>																		
10 <u>B23-5</u>		<u>845</u>																		
11 <u>B23-10</u>		<u>853</u>																		
12 <u>B23-15</u>		<u>859</u>																		
13 <u>B23-20</u>		<u>903</u>																		}
14 <u>B23-25</u>		<u>913</u>																		
15 <u>B23-30</u>		<u>914</u>																		
16 <u>B23-35</u>		<u>924</u>																		
17 <u>B24-5</u>		<u>1014</u>																		

Relinquished by:	Date / Time	Received by:	Date / Time	Sample Receipt	Remarks:
		<u>MAA</u>	<u>4-17-20</u>		
Relinquished by:	Date / Time	Received by:	Date / Time	Cooler Temp. °C	
				Sample Temp. °C	
Relinquished by:	Date / Time	Received by:	Date / Time	Total Number of Containers	
				TAT: 24HR 48HR <u>5-DAY</u>	

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Road NE
Olympia, WA 98506

Ph: 360-352-2110
Fax: 360-352-4154

Date: 4-17-20

Page: 3 of 3

Client: AECY

Project Manager:

Address:

Project Name: Smithy's Toppenish

City: State: Zip:

Location: City, State:

Phone: Fax:

Collector: B D:by Date of Collection: 4/16/2020

Client Project # 09-171

Email:

Sample Number	Depth	Time	Sample Type	Container Type	Analytes													Field Notes											
					VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals														
1 B24-10		1018	S																										
2 B24-15		1030	S																										
3 B24-20		1038				X	X																						
4 B24-25		1047				X	X																						
5 B24-30		1045																											
6 B25-5		1114																											
7 B25-10		1114																											
8 B25-15		1120																											
9 B25-20		1125																											
10 B25-25		1134									X	X																	
11 B25-30		1138									X	X																	
12 B26-5		1202																											
13 B26-10		1206																											
14 B26-15		1219																											
15 B26-20		1242									X	X																	
16 B26-30		1242									X	X																	
17																													

Relinquished by:	Date / Time	Received by:	Date / Time	Sample Receipt Good Condition? Y N Cooler Temp. °C Sample Temp. °C Total Number of Containers	Remarks: TAT: 24HR 48HR 5-DAY
Relinquished by:	Date / Time	Received by: [Signature]	Date / Time: 4-17-20 1603		
Relinquished by:	Date / Time	Received by:	Date / Time		



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

May 1, 2020

Becky Dilba
Associated Environmental Group, LLC
2633 Parkmont Lane SW, Suite A
Olympia, WA 98502

Dear Ms. Dilba:

Please find enclosed the analytical data report for the Smitty's Toppenish Project located in Toppenish, Washington.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of in 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
Senior Chemist
Libby Environmental, Inc.

Libby Environmental, Inc.

SMITTY'S TOPPENISH PROJECT
AEG, LLC
Toppenish, Washington
Libby Project # L200417-2B
Client Project # 09-171

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Sample Description	Method	B21-15	B21-25	B22-15	B23-15	
	Blank					
Date Sampled	N/A	4/13/2020	4/13/2020	4/14/2020	4/16/2020	
Date Analyzed	PQL	4/29/2020	4/29/2020	4/29/2020	4/29/2020	
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
Benzene	0.02	nd	nd	nd	nd	
Toluene	0.10	nd	nd	nd	nd	
Ethylbenzene	0.05	nd	0.21	nd	0.29	
Total Xylenes	0.15	nd	0.57	nd	2.6	
Gasoline	10	nd	155	nd	101	
Surrogate Recovery						
Dibromofluoromethane	103	104	109	104	103	
1,2-Dichloroethane-d4	101	117	106	112	113	
Toluene-d8	84	98	100	100	98	
4-Bromofluorobenzene	94	104	95	98	96	

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@gmail.com

SMITTY'S TOPPENISH PROJECT

AEG, LLC

Toppenish, Washington

Libby Project # L200417-2B

Client Project # 09-171

QA/QC for Gasoline (NWTPH-Gx) & BTEX (EPA Method 8260D) in Soil

Matrix Spike Sample Identification: L200424-1

	Spiked Conc. (mg/kg)	MS Response (mg/kg)	MSD Response (mg/kg)	MS Recovery (%)	MSD Recovery (%)	RPD (%)	Limits Recovery (%)	Data Flag
Benzene	0.25	0.27	0.27	107	108	1.1	65-135	
Toluene	0.25	0.25	0.24	100	94	6.2	65-135	
Ethylbenzene	0.25	0.26	0.24	103	95	8.5	65-135	
Total Xylenes	0.75	0.78	0.71	103	94	9.5	65-135	
Surrogate Recovery (%)				MS	MSD			
Dibromofluoromethane				109	111		65-135	
1,2-Dichloroethane-d4				107	111		65-135	
Toluene-d8				102	101		65-135	
4-Bromofluorobenzene				98	99		65-135	

ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Sherry Chilcutt

Laboratory Control Sample

	Spiked Conc. (mg/kg)	LCS Response (mg/kg)	LCS Recovery (%)	LCS Recovery Limits (%)	Data Flag
Benzene	0.25	0.24	96	80-120	
Toluene	0.25	0.22	88	80-120	
Ethylbenzene	0.25	0.24	96	80-120	
Total Xylenes	0.75	0.72	96	80-120	
Surrogate Recovery					
Dibromofluoromethane			99	65-135	
1,2-Dichloroethane-d4			97	65-135	
Toluene-d8			88	65-135	
4-Bromofluorobenzene			99	65-135	

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

Phone: (360) 352-2110

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Email: libbyenv@gmail.com

SMITTY'S TOPPENISH PROJECT
AEG, LLC

Libby Project # L200417-2B

Date Received 4/17/2020

Time Received 4:03 PM

Received By SC

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody complete? Yes No
2. How was the sample delivered? Hand Delivered Picked Up Shipped

Log In

3. Cooler or Shipping Container is present. Yes No N/A
4. Cooler or Shipping Container is in good condition. Yes No N/A
5. Cooler or Shipping Container has Custody Seals present. Yes No N/A
6. Was an attempt made to cool the samples? Yes No N/A
7. Temperature of cooler (0°C to 8°C recommended) 16.3 °C
8. Temperature of sample(s) (0°C to 8°C recommended) 16.3 °C
9. Did all containers arrive in good condition (unbroken)? Yes No
10. Is it clear what analyses were requested? Yes No
11. Did container labels match Chain of Custody? Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Are correct containers used for the analysis indicated? Yes No
14. Is there sufficient sample volume for indicated analysis? Yes No
15. Were all containers properly preserved per each analysis? Yes No
16. Were VOA vials collected correctly (no headspace)? Yes No N/A
17. Were all holding times able to be met? Yes No

Discrepancies/ Notes

18. Was client notified of all discrepancies? Yes No N/A

Person Notified: _____

Date: _____

By Whom: _____

Via: _____

Regarding: _____

19. Comments. Vials Preserved
- _____
- _____
- _____

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Road NE
Olympia, WA 98506

Ph: 360-352-2110
Fax: 360-352-4154

Date: 4-17-20 Page: 2 of 3

Client: MEG

Project Manager:

Address:

Project Name: Smoky Toppen

City: State: Zip:

Location: City, State:

Phone: Fax:

Collector: B Dilts Date of Collection: 4/13, 4/16/2020

Client Project # 04-171

Email:

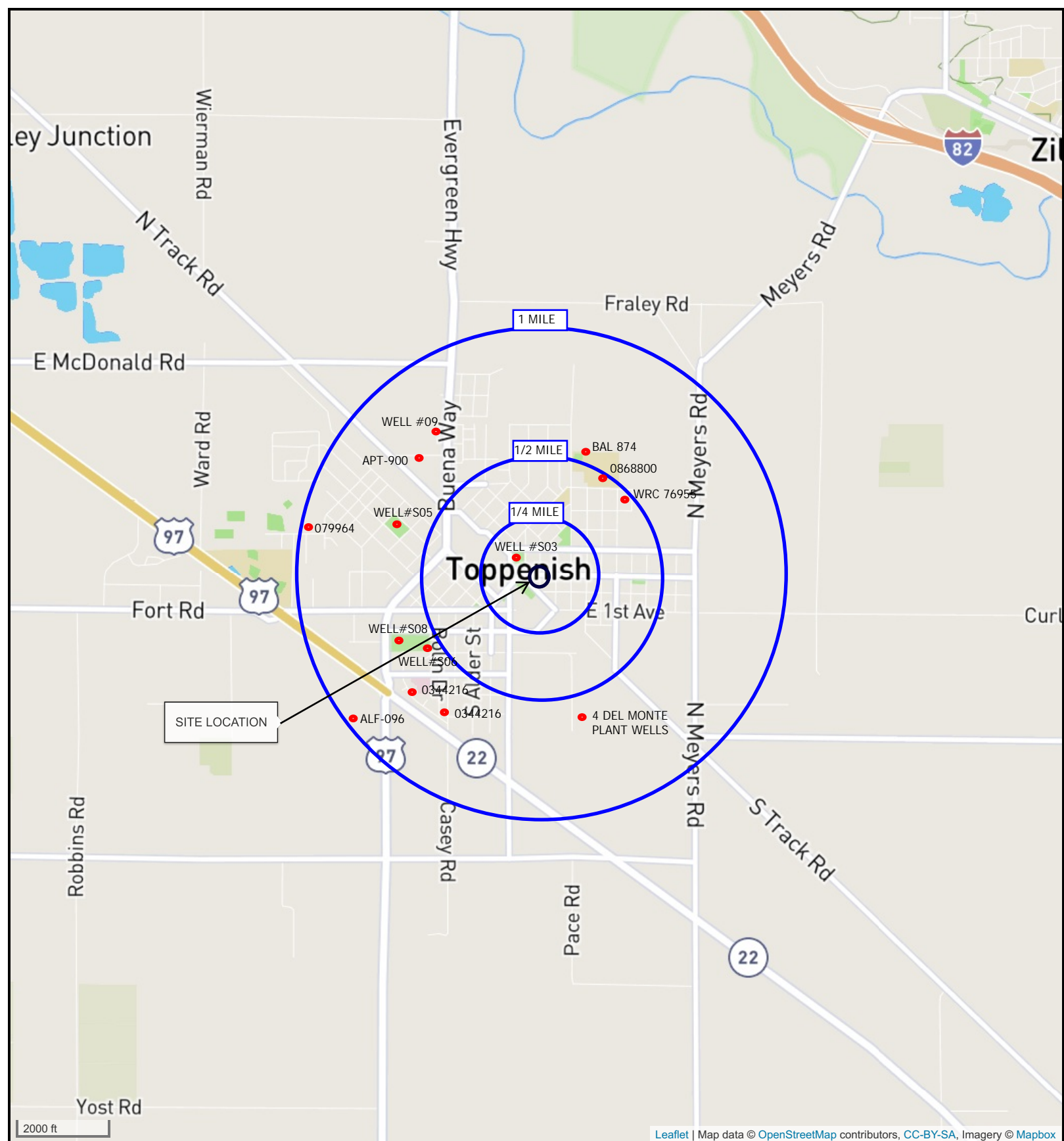
Sample Number	Depth	Time	Sample Type	Container Type											Field Notes				
					VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals		RCRA 8 Metals			
1 <u>B21-25</u>		<u>1133</u>	S		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												<u>4/13/2020</u>	
2 <u>B21-30</u>		<u>1134</u>																	
3 <u>B21-35</u>		<u>1145</u>																	
4 <u>B22-5</u>		<u>808</u>																	<u>4/14/2020</u>
5 <u>B22-10</u>		<u>808</u>																	
6 <u>B22-15</u>		<u>817</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
7 <u>B22-20</u>		<u>817</u>				X	X												
8 <u>B22-25</u>		<u>805</u>				X	X												<u>4/16/2020</u>
9 <u>B22-30</u>		<u>829</u>																	
10 <u>B23-5</u>		<u>845</u>																	
11 <u>B23-10</u>		<u>853</u>																	
12 <u>B23-15</u>		<u>859</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
13 <u>B23-20</u>		<u>903</u>				X	X												
14 <u>B23-25</u>		<u>913</u>				X	X												
15 <u>B23-30</u>		<u>914</u>																	
16 <u>B23-35</u>		<u>924</u>																	
17 <u>B24-5</u>		<u>1014</u>																	

Relinquished by:	Date / Time	Received by:	Date / Time	Sample Receipt		Remarks: <u>Added 4-26-20 PRF Becky via email. STD</u>
		<u>Shy</u>	<u>4-17-20</u>	Good Condition?	Y N	
				Cooler Temp.	°C	
				Sample Temp.	°C	
Relinquished by:	Date / Time	Received by:	Date / Time	Total Number of Containers		TAT: 24HR 48HR 5-DAY

APPENDIX B

Supporting Documents:

Beneficial Water Use Survey

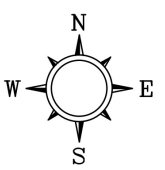


2000 ft

Leaflet | Map data © OpenStreetMap contributors, CC-BY-SA, Imagery © Mapbox



Latitude: 46.377083
Longitude: -120.307437



Associated Environmental Group, LLC

AEG-CLIENTS
09-171

FIGURE 1
WELL LOCATION MAP
Smitty's Toppenish

102 E Toppenish Ave
Toppenish, Washington

BENEFICIAL WELL USE SURVEY

WELLS LOCATED LESS THAN ¼ MILE

Well No. 291224 is located approximately 0.2 miles southeast of the site adjacent to Pioneer Park. The municipal water supply well, owned by The City of Toppenish, was installed in 1992 and is screened from 150 to 226 feet bgs.

WELLS LOCATED BETWEEN ¼ AND ½ MILE

Well No. 76955 is located approximately 0.3 miles southeast of the Site. The domestic/irrigation well was drilled in July of 1974 to over 19 feet bgs.

Well No. 086880 is located approximately 0.5 miles south of the site. The domestic well was drilled in September of 1992 to 100 feet bgs.

WELLS ASSUMED TO BE WITHIN 1 MILE OF THE SITE:

Well No. S05 is located approximately 0.6 miles northwest of the site in Onley Park. The well is owned by The City of Toppenish and was installed in 1952 and is screened from 50 to 180 feet bgs.

Well No. 62346 (Well S06) is located approximately 0.6 miles southeast of the site adjacent to Pioneer Park. The municipal water supply well, owned by The City of Toppenish, was installed in 1992 and is screened from 150 to 226 feet bgs.

Well No. S08 is located approximately 0.6 miles southwest of the site adjacent to Pioneer Park. The well is owned by The City of Toppenish and was installed in 1994 and is screened from 138 to 228 bgs.

Well No. S09 is located approximately 0.7 miles northwest of the site adjacent to Reservoir No. 5. The well is owned by The City of Toppenish and was installed in 2014 and is screened from 334 to 424 bgs.

Well 034216 is located approximately 0.75 miles southwest of the Site. The well log documents the installation of a new domestic well, registered in August of 1990. The well was drilled to 38 feet bgs

Well 079964 is located approximately 0.9 miles south of the Site. The well log documents the installation of a new domestic well, registered in July of 1991. The well was drilled to 40 feet bgs.

Well APT900 is located approximately 0.75 miles north of the site. The well log documents the installation of a new domestic well, registered in May 2008. The well was drilled to 96 feet bgs.

Well No. 086880 is located approximately 0.8 miles northeast of the Site. The well log documents

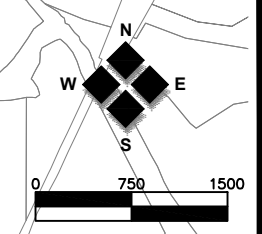
the installation of a new domestic well, registered in October 1992. The well was drilled to 100 feet bgs.

Del Monte Corporation has four wells located on their property, located approximately 0.6 miles southeast of the site.

1. Well No. 12037 is listed as “other” and was completed to 42 feet bgs in 1942.
2. Well No. 300563 is listed as industrial and was drilled to 236 feet bgs in 1942.
3. The well is listed as #2 and is located approximately 300 feet north of Well #1. The well was completed to 240 feet in 1947.
4. Well No. 036415 is listed as “industrial” and “reconditioned.” It is listed as Well #1 but received new casing. The depth of the well is 213 feet bgs and the new casing was installed in March of 1990.

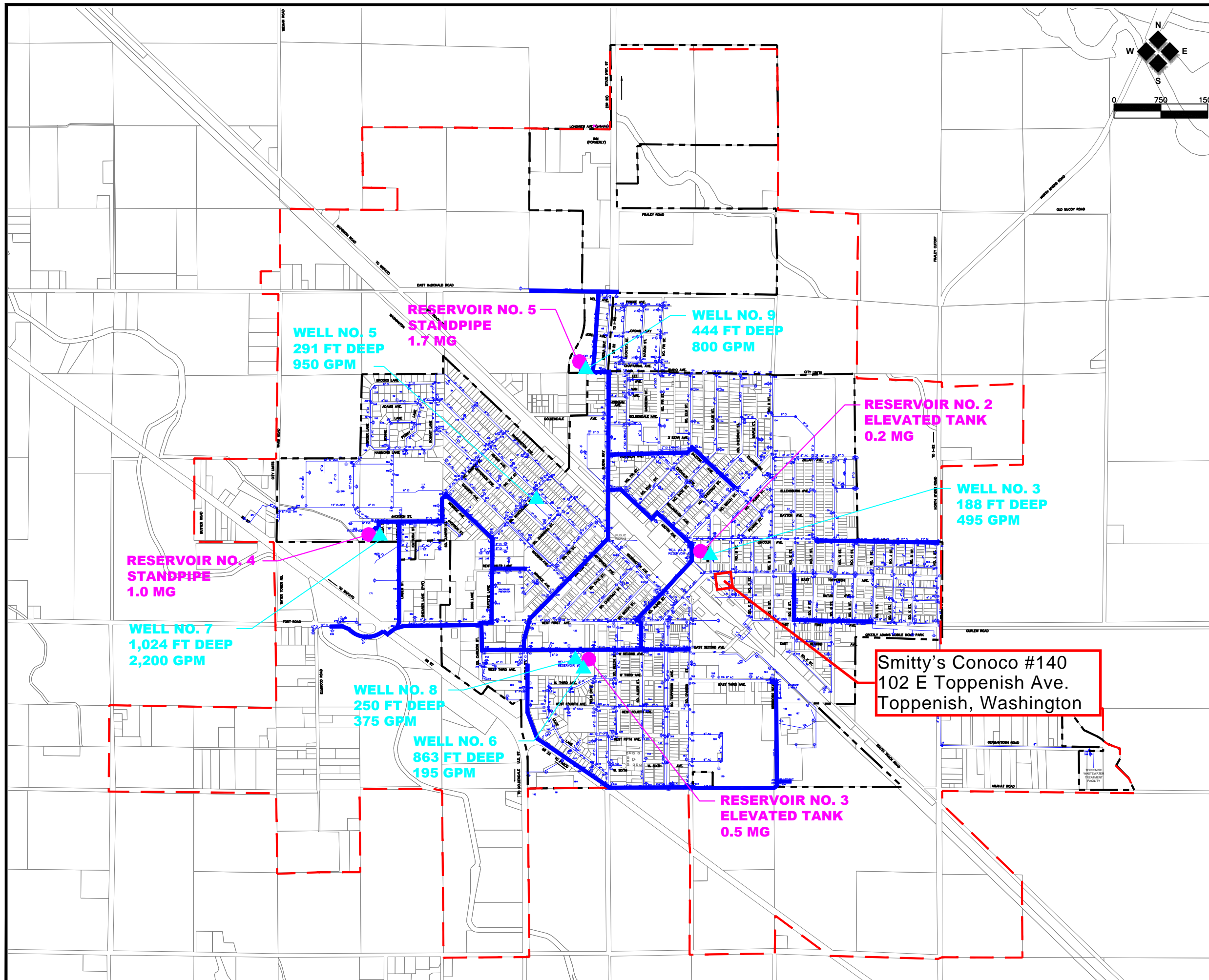
CITY OF TOPPENISH

Water System Plan Update WATER SYSTEM MAJOR COMPONENTS MAP



LEGEND

- CITY LIMITS
- FUTURE SERVICE AREA
- STORAGE RESERVOIR
- GROUNDWATER WELL
- WATER MAINS
- WATER MAINS (10" AND LARGER)
- HYDRANTS
- VALVES



HLA
Engineering and Land Surveying, Inc.

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Yakima, WA 98902
509.966.7000
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www.hlacivil.com