ASSOCIATED ENVIRONMENTAL GROUP, LLC

Final Remedial Investigation/Feasibility Study Report

Conducted on:

Former Brumfield-Twidwell
Ecology Agreed Order DE2953
301 East Pioneer Avenue
Montesano, Washington 98563

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1. INTRODUCTION

Associated Environmental Group, LLC (AEG) has completed the Final Remedial Investigation and Feasibility Study (RI/FS) for the former Brumfield-Twidwell facility, located at 301 East Pioneer Avenue in Montesano, Grays Harbor County, Washington (the Site). The Final RI/FS was completed in accordance with the State of Washington Department of Ecology (Ecology) Agreed Order (AO) consent DE2953 between Ecology and Mr. Bryan Kolb, the Site former property owner. The former Brumfield-Twidwell property was formerly occupied by Shell Oil Company in the late 1920s as a retail gasoline station and later on in the 1960s as an automotive dealership under Brumfield-Twidwell. Mr. Kolb sold the property to Anchor Bank in 2007. Historical usages at this property had resulted in soil and groundwater contamination by gasoline petroleum hydrocarbons at concentrations above the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels.

The scope of work for the Final RI/FS was stipulated between Ecology and Mr. Kolb and was developed in accordance with Ecology MTCA cleanup regulations.

Tasks proposed for the remedial investigation were conducted in general accordance with the American Society for Testing and Materials (ASTM) Standard E 2531 – 06, *Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous Phase Liquids Released to the Subsurface*. Field methodologies followed the regulatory framework established within Ecology Model Toxics Control Act *Chapter 173-340 of the Washington Administrative Code (WAC) (Ecology, 2001 and revised 2007),* Model Toxics Control Act (MTCA) cleanup regulations.

1.1 Site History

The Site, located at the southeast intersection of Sylvia Street and Pioneer Avenue in Montesano, Washington, is currently occupied by Anchor Bank. It is 0.21 acre in size and corresponds to Grays Harbor County Parcel No. 079000400100 (in Section 7, Township 17 North, and Range 7 West).

Pioneer Avenue was once the main thoroughfare of the City prior to construction of Washington Highway 8 and therefore was lined with numerous fueling stations. The Site was occupied by the Shell Oil Company in 1928 as a gasoline service station and was steadily occupied by retail gasoline stations and auto repair shops. Brumfield-Twidwell acquired the property in 1966 and added the automotive dealership, and Mr. Bryan Kolb purchased the property from Brumfield-Twidwell in 1997. At the time, the Site had a mixed use single story structure that was leased to the Campbell Group and Ken's automotive repair shop. Mr. Kolb leased the building spaces to various tenants until 2005 when the structure was demolished to make way for a proposed new development. Upon completion of the petroleum contaminated soil excavation and removal in

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2006, an Anchor Bank was constructed at the Site. Anchor Bank is the current occupant and property owner.

The immediate vicinity area is predominately retail/commercial with residential neighborhoods located on the adjacent city blocks to the north and east. Figure 1, *Site & Vicinity Map*, presents the general boundaries and vicinity area of the Site. Figure 2, *Site Characterization Map*, presents the layout of the property and locations of soil borings, monitoring wells, and test pits explored by AEG and previous consultants.

1.2 Environmental Work Summary – Former Brumfield-Twidwell Facility

The Site has undergone several phases of environmental investigations between 1991 and 2009. Historical activities at the property related to the former Brumfield-Twidwell auto repair/retail gasoline station had resulted in gasoline petroleum hydrocarbons soil and groundwater contamination. The petroleum hydrocarbons contamination in the subsurface media was at concentrations above Ecology MTCA Method A cleanup levels for unrestricted land use. The historical contaminant sources (leaking underground storage tanks) have been removed from the property, and extensive petroleum contaminated soil (PCS) excavation was completed to remove the bulk of the PCS impacted by gasoline fuel and gasoline associated volatile organic compounds (VOC) including benzene, toluene, ethylbenzene, and total xylenes (BTEX). These analytes are collectively referred to as the constituents of concern.

Previous UST System & Decommissioning

In 1991, Phase I & II Environmental Site Assessment (ESA) investigations were performed by KD&S Environmental Services (KD&S). According to the KD&S, the four former underground storage tanks (USTs) that were associated with Brumfield-Twidwell operation were properly decommissioned from the Site. Tanks 1 and 2 were filled in place with sand slurry. Tank number 3 was removed, and tank number 4 was filled with a concrete mixture. No soil samples were collected during the decommissioning process of Tanks 1 and 2. However, laboratory analytical results of excavation soil samples for Tank 3 indicated that the concentrations of the constituents of concern were below Ecology MTCA Method A soil cleanup levels at that time.

Ecology Area-wide Investigation

Ecology began its area-wide investigation of petroleum hydrocarbons and volatile organic compounds (VOC) impacted soil and groundwater from the early/mid 1990s to 2007. Ecology and its consultant for the investigation, GeoEngineers Inc., concluded that there was a widespread area of soil and groundwater contamination from a cluster of contaminated facilities along Main Street and Pioneer Avenue. The Site was one of six confirmed contaminated properties, along with ten suspected properties, within this cluster in downtown Montesano.

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Amongst the findings, they concluded that the former gravity-flow sanitary sewer system (which was replaced with a pressurized step-up system) along with the City of Montesano (City) storm drainage system "*may be providing preferential pathways for petroleum-related contamination to spread from downtown Montesano towards the waterway to the south*" (GeoEngineers, 2005 and 2007). GeoEngineers reported that during installation of the new system, "*it was observed that some of the subsurface soil and groundwater in Montesano contained petroleum contamination; although a complete investigation was not undertaken at that time. The gravity flow sanitary sewer was not abandoned by backfilling, so groundwater continues to infiltrate and flow within the former sanitary sewer pipes. Additionally, groundwater leaks into the City's stormwater system*" (GeoEngineers, 2007).

Subsurface Investigation -2005

In June 2005, Entrix and Advance Environmental excavated a series of test pits along the west side of the Site to delineate the extent of soil contamination. The results indicated that clean soil extended from ground surface to depths of between four feet at the northeast corner of the property to approximately eight feet in the middle of the property. Below these depths to the groundwater table, the soil appeared to contain petroleum hydrocarbons at concentrations greater than Ecology MTCA Method A cleanup levels. Groundwater depths ranged from approximately 11.5 feet to 12.3 feet below ground surface (bgs) at the time of investigation.

Interim Remedial Action (soil excavation) – 2005

On September 21, 2005, AEG and Advance Environmental excavated PCS at the Site. Libby Environmental (Libby) and Advanced Analytical (AA) were also present at the Site to provide analytical services via a mobile laboratory. A containment structure was constructed on the east side of the Site for stockpiling the overburden soil, and an area was designated on the southern edge of the property for stockpiling any contaminated soil encountered. The contaminated soil was identified at approximately 4 feet bgs to a total depth of 19 feet bgs. The excavation proceeded from the northwestern corner of the Site to approximately 37 feet east and 130 feet south. Over-excavation of PCS was completed, and a total of approximately 2,079 tons of PCS was excavated, removed, and disposed of at Wasco County Landfill in Vancouver, WA.

Additional UST Removal/Decommissioning - 2005

During the soil excavation activities, another UST, approximately 10,000 gallon in capacity, was discovered in the western area of the Site. On September 22, 2005, the overburden soil surrounding the top of the UST was removed. A tape measure dipped into a 4-inch fill opening at the western end of the tank revealed what appeared to be an oily substance in the tank. A sample of the product was submitted to the mobile laboratory for laboratory analysis. The results showed concentrations of oil range and gasoline range total petroleum hydrocarbons (TPH) and BTEX constituents.

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An MSA, Orion multi-gas meter was used to check the tank for explosive vapors and total oxygen in the tank. The sensor showed that it was safe to cut the tank. Cowlitz Clean Sweep (CCS) pumped residual product from the tank and transported it to a licensed facility for disposal. After removing the residual product, an attempt was made to lift the UST out of the excavation pit, but it was discovered that the tank contained a layer of concrete at the bottom and was too heavy to lift. It was necessary to dismantle the tank onsite using the excavator and remove the concrete from the tank. The removed concrete was transported and disposed of offsite with the PCS. The UST was cut and transported for disposal as scrap metal. Soils below the removed tank showed signs of being heavily impacted by petroleum hydrocarbon contamination and was subsequently excavated. Laboratory analytical results of confirmation soil samples, collected beneath the tank, showed no detectable concentrations of gasoline range TPH.

Supplemental Site & Offsite Remedial Investigation – 2005 & 2006

To fully characterize the Site, AEG continued to conduct subsurface explorations via test pits in the central and southern area of the Site during November and December 2005. AEG encountered additional PCS at approximately 12 feet bgs. AEG continued subsurface exploration activities in November and December 2005. During this period, test pits were excavated in order to characterize the remaining PCS. At the southern edge of the excavation, to a depth of 12 feet bgs, more PCS was identified. Laboratory analytical results indicated that the soils contained low levels of gasoline range TPH (below Ecology MTCA Method A soil cleanup level); however, benzene levels were above the soil cleanup level.

In April 2006 AEG and subcontractor Environmental Services Northwest (ESN) returned to the Site and advanced nine borings on Sylvia Street (adjacent west of the Site) to further characterize subsurface conditions in the area. Five borings on the east side of the street, closest to the Site, were evenly spaced in 60 foot intervals in the southward direction beginning from the corner of Pioneer Avenue. Four borings were advanced on the west side of the street; the placement of these were offset from the first five by starting 30 feet south of the intersection then spacing 60 feet apart moving south. Analytical results from soils collected during this phase of Supplemental Remedial Investigation at offsite areas indicated that the east side of Sylvia Street was impacted with a southerly extent to north of City of Montesano PUD property (near Boring B-3). The west side of Sylvia Street was also found to be impacted (near boring B-7) - to near the western property boundary of the Pick-Rite Thriftway grocery store (directly west of the Site across Sylvia Street). The locations of these borings and soil samples collected during various stages of subsurface investigation and Interim Remedial Action at the Site are shown in Figure 2, *Site Characterization*.

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Additionally, AEG completed the following tasks during the Supplemental RI: 1) conducted groundwater monitoring/sampling activities at the Site's existing wells (BTMW-1 through BTMW-3) and at two monitoring wells installed by Mr. Paul Stemen on Pioneer Avenue (adjacent south of the Montesano Fire Station); 2) installed two additional off-property monitoring wells (BTMW-5 and BTMW-6) on the west side of Sylvia Street, located downgradient to the southwest of the Site (refer to Figure 2). Note: in following Ecology's monitoring wells designation for the numerous facilities involved in the area-wide investigation in downtown Montesano, monitoring wells at the Site will have the initials "BT" followed by well designation, for example, BTMW-1. This designation for monitoring wells associated with the Site was not used previous to this Draft RI/FS report.

The results of the Supplemental RI indicated isolated petroleum hydrocarbons impacts to soil but off-property impact to groundwater that maybe partially attributable to offsite upgradient sources other than the Site.

Agreed Order – 2006

Subsequent to the source removal of the PCS at the Site, Mr. Kolb entered an Agreed Order with Ecology. As part of the Agreed Order, AEG conducted Supplemental Remedial Investigation to evaluate the extent of impacted soil and groundwater at areas offsite to the west and southwest of the Site. The findings from this investigation were presented in AEG's report entitled "*Remedial Investigation – Former Brumfield-Twidwell Site*", dated May 5, 2006. Ecology Project Managers for the Site have acknowledged the work completed as representative and that it met one of the requirements for the Agreed Order for the Site.

Groundwater Monitoring/Sampling Activities – 2006 through Present

AEG completed four consecutive quarterly groundwater monitoring and sampling events at the Site from February 2006 through March 2007. During these sampling events, groundwater analytical results for wells BTMW-1, BTMW-3, and BTMW-4 indicated either no detectable concentrations of the constituents of concern or concentrations below Ecology MTCA Method A groundwater cleanup levels for unrestricted land use. However, groundwater analytical results showed that elevated gasoline range TPH and benzene have been detected at MW-2 (located at the northwest corner of the Site), at concentrations above MTCA Method A groundwater cleanup levels since 2006 through 2009. These elevated detections are most likely due to the presence of residual impacted soil in the northwestern area of the Site.

Based on Ecology's Agreed Order for the Site, future groundwater monitoring/sampling events at the Site would be continued on an annual basis and would involve the monitoring and sampling at only wells BTMW-2, BTMW-5, and BTMW-6 in order to continue to monitor the constituents of concern, gasoline range TPH and BTEX constituents.

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Annual groundwater monitoring/sampling activities began in 2006. Of the six monitoring wells associated with the Site (BTMW-1 through BTMW-6) which have been monitored and sampled since February 2006, activities ceased at wells BTMW-1, BTMW-3, and BTMW-4 after the March 2007 event due no detectable concentrations of gasoline range TPH and associated volatile organic compounds or detections well below Ecology MTCA Method A groundwater cleanup levels for these constituents of concern during four consecutive quarterly events from February 2006 through March 2007.

Recent groundwater laboratory analytical results from April 2009 through May 2011 at the remaining wells monitored indicate a continuing decreasing trend in these constituents at the off-property wells downgradient to the southwest of the Site (BTMW-5 and BTMW-6) and at BTMW-2 (located at the northwest corner of the Site and downgradient of the Montesano Fire Station). This decreasing trend is associated with the successful Interim Remedial Action (removal of the petroleum contaminated soil) at the Site. Table 1, *Summary of Groundwater Analytical Results – Former Brumfield-Twidwell & Pick-Rite*, presents a compilation of these results at all monitoring wells from 2006 to 2010. Figure 3, *Groundwater Contour Map – March 2007*, shows the direction of groundwater flow at the Site and in the vicinity area (to the south-southwest), and locations of the wells, the Site, and the Montesano Fire Station.

1.3 Off-Property Upgradient Issues - Montesano Fire Station

The Montesano Fire Station is located directly upgradient to the north of the Site, across Pioneer Avenue in Montesano. Petroleum hydrocarbons contamination associated with this property has not been fully investigated. Ecology has acknowledged this situation exists due to Ecology's lack of budget for subsurface investigative work. It appears that the City of Montesano – Fire Department has also not followed up on the necessary subsurface investigation on the property nor at areas adjacent to the south of the Fire Station. Thus, a remedial investigation at this property and at off-property locales downgradient to the south (at Pioneer Ave and towards the former Brumfield-Twidwell property) and farther to the south-southwest along Sylvia Street is necessary and pertinent to the overall understanding of the petroleum hydrocarbons impact in this area of Montesano.

Additionally, AEG confirmed the presence of a former Mobile gasoline station, located adjacent to the east of the Montesano Fire Station, and the potential for this former gas station to be a contributing factor to the area-wide contamination and an upgradient facility to the Site.

AEG believes that the groundwater contamination exhibited at monitoring well BTMW-2 at the northwest corner of the Site is, on a more probable basis than not, associated with

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previous/residual contamination at the Site and from off-property upgradient sources to the north, northeast, and/or northwest of the Site. Of notable importance, the bulk of the contamination at the former Brumfield-Twidwell property was primarily in the central and southern areas of the property where the fuel tanks were located; these areas are located downgradient of well BTMW-2; over-excavation of petroleum contaminated soil and Site remediation occurred in 2005 yet fluctuating elevated concentrations of gasoline range petroleum hydrocarbons and associated volatile organic compounds have ensued since 2006 indicating it is probable and likely that other sources (off-property and upgradient of the Site) continue to contribute to the existing contamination exhibited at BTMW-2.

The location of the sanitary sewer line along Sylvia Street, as identified by GeoEngineers during its subsurface investigations and confirmed by AEG, is located near the center of Sylvia Street. AEG also noted the locations of the old and new sanitary lines between the former Mobile gasoline station and the Fire Station and similarly lines paralleling on Pioneer Avenue as presented in GeoEngineers (refer to Figure 4). The locations of these lines and the adjoining properties are significant with respect to the contamination observed and documented by GeoEngineers, AEG, and others.

It is apparent based on GeoEngineers' multiple phases of subsurface investigations, on behalf of Ecology, throughout this area of the City that several off-property upgradient sources have contributed to the gasoline petroleum hydrocarbons plume in the vicinity and along Sylvia Street area, including the former Brumfield-Twidwell property.

However, in this area of downtown Montesano (along Sylvia and Pioneer Avenue) remedial investigation and remedial action/site cleanup action have been completed only at the former Brumfield-Twidwell property.

1.4 Objectives – Final Remedial Investigation/Feasibility Study

The lateral extent of impacted off-property area associated with the former Brumfield-Twidwell property has been investigation by AEG during the Supplemental Remedial Investigation phase. However, the investigation did not extend beyond the western side of Sylvia Street (adjacent to the west of the Site). Therefore, the need to investigate areas farther to the west of Sylvia Street and farther to the south-southwest of the Site, beyond Brumfield-Twidwell monitoring well BTMW-4 (located in the southern stretch of Sylvia Street) exists.

Hence, the purpose of the Final Remedial Investigation was to investigate the nature and extent of contamination at nearby downgradient areas on the adjoining property to the west of the Site – the Pick-Rite Thriftway property and at the intersection of Sylvia Street and Wynoochee Avenue

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(south-southwest of the Site) to fully characterize the distal end of the plume. These points of investigation will represent the lateral and distal end of the plume associated with the former Brumfield-Twidwell facility.

Figure 5, *Off-Property Monitoring Wells Sylvia Street/Pick-Rite Property*, presents the locations of these points of compliance for investigation of the distal end of the plume. As agreed with Ecology Toxics Cleanup Program Manager for the Site, monitoring well PRMW-9 (located along the eastern property boundary of the Pick-Rite Thriftway property) will represent the western lateral point of the plume associated with the Site. Monitoring well PRMW-10 (located at the intersection of Sylvia Street and Wynoochee Avenue to the south-southwest of the Site) will represent the south-southwestern distal end of the plume associated with the Site.

As also agreed with Ecology, the property owner of the Pick-Rite Thriftway property (Mr. Mark Galland), and Mr. Bryan Kolb, these two monitoring wells previously installed on behalf of the Pick-Rite property will be added to the Site's list of wells to be monitored and sampled as part of the Site's/Off-Property Area ongoing groundwater assessment (i.e., groundwater monitoring/sampling activities).

These tasks will enable AEG, on behalf of Mr. Kolb, to fully investigate the extent of off-property contamination at the Site, identify cleanup and remediation levels for the contaminants and media of concern, and estimate volumes of contaminated media based on these cleanup and remediation levels. These tasks will also represent the final tasks for a Final Remedial Investigation for the Site.

The FS phase of the study was designed to evaluate remedial action alternatives associated with the contaminants, media, pathways, and receptors of concern at the Site to decrease unacceptable risks to human health or the environment due to environmental impacts at the Site. The FS was developed based on site characterization data generated from the Supplemental RI.

1.5 Site Geology and Hydrogeology

According to the *Geologic Map of Washington – Southwest Quadrant,* the subject site and vicinity area are underlain by non-glacial Quaternary age alluvium (Qa) consisting of "*silt, sand, and gravel deposited in streambeds and fans*" and glacial Quaternary age Undifferentiated Outwash Deposits (Qgo) consisting of "*recessional and pro-glacial stratified sand and gravel; part of the Vashon Drift*" (Walsh, T.J., Korosec, M.A., et al, 1987).

Subsurface conditions at the Site, at locations of investigation, generally consist of alluvium underlain by glacial outwash deposits. Alluvium, ranging up to 14 feet thick in areas explored,

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consisted of brown, moist, medium dense silty sand to medium stiff silty clay. Glacial outwash deposits encountered included brown, moist to wet, dense to very dense, sand with gravel to sandy gravel at varying thicknesses, to the maximum depth explored, at 19 feet bgs. The nature of the soils in the water-bearing zone appears to be medium dense sand. The depth to water at the Site during the March 2009 quarterly groundwater event ranges from 11 feet to 13 feet below ground surface (bgs).

The direction of shallow groundwater migration at the Site and adjoining vicinity area throughout quarterly groundwater events from 2006 through 2009 has been to the south-southwest based on surveyed groundwater elevation data measured at monitoring wells onsite and offsite (BTMW-1 through BTMW-6) – refer to Figure 3.

1.6 Conceptual Site Model and Constituents of Concern

In accordance with the Agreed Order, AEG developed a conceptual site model. The conceptual site model reflects the findings of previous environmental investigations and presents an exposure assessment for the Site. The exposure assessment involved evaluating the distribution of the dissolved and adsorbed phases of gasoline range petroleum hydrocarbons in soil and groundwater onsite and at adjacent downgradient locales, potential pathways, and potential receptors. The conceptual site model will be used to support an evaluation of feasible remediation technology for the cleanup of petroleum contaminated soil (PCS) and impacted groundwater at the Site and impacted areas off-property.

The primary conceptual release model for the Site consists of gasoline fuel leakage from the leaking underground storage tanks associated with the operation of the former Brumfield-Twidwell facility and subsequent incorporation of spilled gasoline fuel into the subsurface soils and groundwater.

Groundwater analytical results, groundwater potentiometric maps, and subsurface investigations conducted at the Pick-Rite Thriftway property by AEG indicate that the lateral western extent of dissolved phase gasoline petroleum hydrocarbons impact extends from the central-southwest area of the Site (in the vicinity of the previous USTs) to off-property areas west-southwest of the property including areas on Sylvia Street, and near the eastern property boundary of the Pick-Rite Thriftway property (near the eastern entrance to the grocery store). It appears, based on five years (2006 through 2011) of groundwater analytical results from monitoring wells BTMW-4 and BTMW-5 (located on Sylvia Street to the southwest of the Site) and three quarters of results (from December 2010 through June 2011) at monitoring well PRMW-10 (located at the intersection of Sylvia Street and Wynoochee Avenue) that the southern distal end of the plume, (associated with the Site) has been fully characterized (refer to Figure 5 and Table 1).

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The eastern area of the Pick-Rite property, as represented by monitoring well PRMW-9 will represent the western distal end of the plume associated with the Site.
Contaminant distribution and groundwater elevations (based on surveyed groundwater elevation data measured at the Site and off-property areas) indicate the direction of groundwater migration is generally to the south-southwest at the Site and nearby vicinity area. Presence of cohesionless soils at the Site including silty sand to sandy gravel enabled the vertical migration of dissolved phase gasoline range petroleum hydrocarbons to where groundwater was encountered (at approximately 11 feet to 13 feet bgs) and beyond the vadose zone. Contaminants may also spread laterally to the west and south-southwest area of the Site due to the gradient of groundwater flow in the area and due potentially to the presence of utility corridors on Sylvia Street.

The groundwater contamination exhibited at monitoring well BTMW-2 at the northwest corner of the Site is, on a more probable basis than not, associated with previous/residual contamination at the Site and from off-property upgradient sources to the north, northeast, and/or northwest of the Site. Of notable importance is the frequent and tremendous fluctuations in the elevated concentrations of gasoline range petroleum hydrocarbons and associated volatile organic compounds at BTMW-2 since Interim Remedial Action was completed in 2005/2006 (refer to Table 1). These fluctuations, from 59,000 ug/L in February 2006 to 1,970 ug/L in August 2006, and to 24,600 ug/L in March 2007 indicate, in our professional opinion, that it is probable and likely that other sources (off-property and upgradient of the Site) continue to contribute to the existing contamination exhibited at MW-2.

Petroleum hydrocarbons impact is also present at the eastern property boundary of the Pick-Rite Thriftway property (directly west-southwest of the Site) at well PRMW-9. The detections of dissolved phase gasoline petroleum hydrocarbons at this monitoring well reflect impact from off-property source(s) to the east-northeast which includes the Site. It is apparent that the dissolved phase gasoline petroleum hydrocarbons and VOC plume in this downtown area of Montesano involves the Site, sources to the north and northeast of the Site, and has extended off-property to the west-southwest. It appears that the utility corridors on Sylvia Street are affecting the local groundwater flow – potentially shifting the flow to a more south-southwesterly flow as opposed to a regional southeast direction.

The constituents of concern (COCs) for the soil and groundwater media at the Site and associated offsite areas downgradient to the west-southwest include the following:

- Gasoline range TPH – associated with gasoline fuel leaked from the Site's previous leaking USTs (associated with the former Brumfield-Twidwell facility);

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- Gasoline fuel associated VOC as per Ecology MTCA Cleanup Regulation Table 830–1, *Required Testing for Petroleum Releases*:
    - ❖ Specific aromatic hydrocarbons including benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), total naphthalenes, 1-2 dibromoethane (EDB), and 1-2 dichloroethane (EDC); and
- Total lead.

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2. FIELD ACTIVITIES FINAL RI

This section of the report details the subsurface investigation activities AEG completed on the Pick-Rite Thriftway property and associated right-of-way (ROW) on behalf of Mr. Mark Galland. As stated earlier, based on an agreement with the involved parties (Ecology, Mr. Kolb, and Mr. Galland) the work completed at the eastern and southeastern area of the Pick-Rite Thriftway property and associated ROW will represent the lateral extent of the dissolved phase gasoline plume associated with the Site and also represent the final subsurface investigation activities for the Final Remedial Investigation, associated with the Site.

A concise accounting of the work completed to drill and subsequently installed monitoring wells PRMW-9 and PRMW-10 is presented below (refer to Figure 5). A review of AEG's report, entitled "*Supplemental Remedial Investigation – Pick-Rite Thriftway Property*", dated January 11, 2011, in conjunction with this report is recommended for full details on environmental investigations completed at this adjoining property and these investigations' relevance to the Site's remedial investigation and proposed remedial action.

AEG supervised the advancement of borings PRMW-9 and PRMW-10 in November 2010. The borings were advanced via a CME-55 truck mounted hollow stem auger drilling rig operated by Western States Soil Conservation, Inc. of Hubbard, Oregon, and completed as monitoring wells. A 1 ½ inch inside diameter (I.D.), split spoon sampler with an overall length of 24 inches was utilized to collect soil samples during drilling. The maximum depth advanced was approximately 22 feet bgs. The wells are constructed of 2-inch diameter polyvinyl chloride casing and were installed utilizing a truck mounted hollow-stem auger drilling rig. These borings were advanced to characterize the potential petroleum hydrocarbons impact at the Pick-Rite property (eastern property boundary as represented by PRMW-9) and associated ROW (southeastern area as represented by PRMW-10) due to offsite sources to the east-northeast.

These monitoring wells were constructed to a depth of 20 feet bgs. Elevations of the wells were surveyed by Pacific Geomatic Services, Inc of Mountlake Terrace, Washington. Ground surface and casing elevations at each well were surveyed to the nearest 0.01 foot relative to an assigned benchmark to ascertain the direction of shallow groundwater migration at the Site and vicinity area.

AEG submitted select soil samples for the following primary constituents of concern: gasoline range TPH, and selected VOC - specifically BTEX constituents.

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2.1 Soil Sampling Procedures

Soil samples were collected and observed to document soil lithology, color, moisture content, and sensory evidence of impairment. Select intervals were screened for VOCs using a photo ionizing detector (PID) to aid in the selection of laboratory samples. Soil sampling methods for this work followed the protocols established by Ecology's Method 5035A, "*Collecting and Preparing Soil Samples for VOC Analysis*". The samples were collected using a 1 ½ foot split spoon sampler during the hollow stem auger drilling. Samplers were properly decontaminated between sampling intervals prior to the collection of laboratory samples. All soil samples were classified in the field and immediately transferred to laboratory provided pre-weighed 40-ml VOA glass vials with septum sealed Teflon-lined screw caps and 4 oz. glass jars. Soil sampling for VOC and field preservation methods followed methods set forth by Ecology's Method 5035A, "*Collecting and Preparing Soil Samples for VOC Analysis*" which minimizes VOC losses. The soil samples were placed in a portable chilled ice chest and transported to Libby Environmental Chemistry Laboratory, a Washington state certified analytical laboratory located in Olympia, Washington, for analysis following industry standard chain-of-custody procedures. Up to two soil samples were selected from each boring for laboratory analysis.

Selected soil samples were analyzed for gasoline range TPH and BTEX (refer to Table 2, *Summary of Soil Analytical Results – Selected Borings Pick-Rite Thriftway*). All analytical soil results were compared to Ecology MTCA Method A soil cleanup levels. Boring logs and soil laboratory analytical results are provided in Appendix B, *Supporting Documents.*

2.2 Monitoring Well Construction/Development

The monitoring well design and construction methods conformed to requirements and specifications outlined in Washington Administrative Code 173-160 for "*resource protection wells*" in the State of Washington. All monitoring wells were completed at 20 feet bgs based on the shallow depth-to-water observed at the time of drilling during this investigation and the previous investigations completed at the Pick-Rite Thriftway property by AEG, and groundwater fluctuations observed at established monitoring wells in the vicinity area. The monitoring wells were installed to a total depth of 20 feet with 15 feet of 2-inch diameter, 0.010-inch machine slotted PVC well screen mated to 2-inch diameter, threaded, flush joint PVC riser pipe to the surface. As-built schematics for the well logs are presented in Appendix B, *Supporting Documents*.

The annulus of each boring was additionally backfilled with a pre-sieved Colorado 10x20 grade annular silica sand pack from the bottom of the casing to approximately two feet above the top of the well screen. A two-foot thick bentonite seal was placed above the sand pack to prevent the

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infiltration of surface water along the well casing and to stabilize the upper section of the well. The wells were completed as flush-mounted monitoring wells.

All of the wells were mechanically developed by Western States Soil Conservation, Inc. using a surge block and surging and pumping ground water from each monitoring well. Well development was conducted to compact the filter pack, and remove fine-grained sediment from the filter pack and well bore. Development was considered complete when the well produced water that was clear and relatively free of sediment. Approximately 20 to 30 gallons of purge water was developed from each well. The completed monitoring wells were purged again prior to the collection of representative groundwater samples for laboratory analysis.

2.3 Groundwater Sampling Procedures

Groundwater monitoring and sampling activities at Pick-Rite Thriftway monitoring wells PRMW-9 and PRMW-10 occurred on December 1, 2010. Prior to sampling, depth-to-water measurements were obtained by using an electronic water level indicator. The static water level at PRMW-9 and PRMW-10 were 15.29 feet and 8.40 feet bgs, respectively.

Prior to sample collection, all monitoring wells were purged of a minimum of three well casing volumes of groundwater or until the field parameters, including pH, temperature, specific conductance, dissolved oxygen, and/or total dissolved solids have stabilized. The wells were sampled with dedicated polyethylene tubing using the peristaltic pump to mitigate cross contamination during groundwater sampling activities.

Groundwater samples were collected in laboratory provided containers including 40 milliliter (mL) glass VOAs (vials) for gasoline range TPH and VOC analyses. Table 1 presents the groundwater analytical results for these wells at Pick-Rite along with recent groundwater results from the former Brumfield-Twidwell facility. Table 3, *Summary of Groundwater Elevations – Selected Wells Pick-Rite Thriftway*, presents the depth-to-water measured at the monitoring wells. Field parameters monitored during the groundwater sampling event are presented in Table 4, *Summary of Water Quality Indicator Parameters – Selected Wells Pick-Rite Thriftway*. Groundwater laboratory analytical results are provided in Appendix B, *Supporting Documents*.

To reasonably ensure the purity of AEG's samples, the following actions were taken (1) nitrile gloves were used in handling all sampling jars and sampling devices; (2) the sampling equipment was scrubbed with Alconox detergent and rinsed with water prior to each sample extracted; and (3) the containers were then placed in a chilled cooler and transported under a chain-of-custody to Libby Environmental laboratory, a Washington State certified analytical laboratory located in Olympia, Washington with a standard five day laboratory turn-around-time.

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2.4 Monitoring Wells Survey

Monitoring wells at the Pick-Rite Thriftway property were surveyed by licensed surveyors from Pacific Geomatic Services of Mountlake Terrace, Washington on December 1, 2010. The purpose for the survey was to establish elevation data relating the land surface to the potentiometric surface of the shallow groundwater. Vertical and horizontal datum were established using the Washington State Department of Transportation monument identifiers in NAVD 88 and NAD 83/07, respectively. Horizontal datum is established using the Washington State Plane North Coordinate System. Ground surface and top of casing elevations were surveyed to the nearest 0.01 foot. The groundwater elevations were measured from the top of the PVC monitoring well casing (north side) – refer to Table 3.

2.5 Quality Controls

All soil and groundwater samples were collected in general accordance with industry protocols for the collection, documentation, and handling of samples. Descriptions of soil and sampling depths were carefully logged in the field, and the drillers and geologist confirmed sample depths as soil samples were collected. Boring location maps were completed prior to leaving the site to document sampling locations.

Soil samples were tightly packed into jars to eliminate sample headspace. Water samples were filled carefully in the sampling bottles to prevent volatilization. Upon sampling, all samples were placed immediately into chilled ice chests.

All samples were transported and submitted under standard chain-of-custody protocols and remained refrigerated until delivery to Libby Environmental analytical laboratory. The laboratory provided standard quality assurance/quality control (QA/QC) which included the following: surrogate recoveries for each sample, method blank results, duplicate analyses, matrix or blank spiked analyses, and duplicate spiked analyses.

2.6 Investigation Derived Waste

Investigation derived waste for this project consisted of soil cuttings from the subsurface exploration activities vicinity area, decontamination water from decontamination of the augers and associated equipment, and purge water. These wastes were separated and placed in Washington State Department of Transportation (DOT) approved 55 gallon drums. The drums were stored onsite for subsequent characterization and disposal.

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3. FEASIBILITY STUDY

The Feasibility Study (FS) portion of this report has been prepared in accordance with the Agreed Order. The FS encompassed the following tasks: 1) performed a scoping process to identify transport mechanisms and receptors; 2) identified media specific cleanup and remediation levels; 3) delineate areas and volumes of media with contaminant concentrations exceeding the cleanup and remediation levels; and 4) developed remedial action objectives for the protection of human health and the environment.

On the basis of the analysis of four remedial alternatives and their comparison to the MTCA criteria of WAC 173-340-360, Alternative 4 - Soil Source Removal with Disposal, Groundwater Treatment, and Monitoring, was selected and implemented at the Site. The soil excavation activities completed in 2006 was the Interim Remedial Action conducted for the Site. This alternative was chosen due to its protectiveness of both human health and the environment; consistent with current and anticipated future use of the Site, and is cost effective. The primary exposure pathways at the Site will be eliminated or substantially reduced (i.e., direct soil contact will be eliminated and groundwater deed restriction may be placed on the property deed). The remedial components of this alternative are technically implementable and are expected to meet administrative (agency) requirements.

AEG proposes a staged in-situ bioremediation as the final remedial action at the Site and nearby impacted downgradient areas. The in-situ bioremediation will involve chemical oxidation and aerobic biodegradation of petroleum hydrocarbons and associated VOC to remediate and expedite residual dissolved phase gasoline petroleum hydrocarbons and associated VOC present in vadose zone, saturated soil, and shallow groundwater at the Site and associated downgradient areas.

Constituents of concern in the groundwater are expected to be reduced over time through natural attenuation. Microbial degradation may be enhanced with the addition of nutrients to the subsurface via bioremediation technologies.

Monitoring wells BTMW-2, BTMW-5, BTMW-6, and newly added Pick Rite PRMW-9 and PRMW-10 will be sampled for four consecutive quarters after completion of in-situ bioremediation via injection of Regenesis ORC in accordance with the agreement stipulated between Ecology and Mr. Kolb. A corresponding quarterly groundwater monitoring/sampling report presenting analytical results and findings will be generated and submitted to Ecology for review.

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3.1 Candidate Technologies

With this as a framework, remediation technologies were identified and screened for Site specific contaminants and media of concern. The screening process included consideration for permanence, protectiveness, ability to be implemented, effectiveness, and cost of the technology including applied groundwater monitoring/sampling activities, soil excavation, treatment, and institutional controls components. The following four remedial alternatives were considered:

Alternative 1:	No Action
Alternative 2:	Soil Source Removal with Land Farming
Alternative 3:	Soil Source Removal with Disposal
Alternative 4:	Soil Source Removal with Disposal, Groundwater Treatment, and Monitoring for Natural Attenuation

Each alternative was screened with respect to the volume of contamination to be addressed, permitting requirements; estimated capital, operation and maintenance costs; and the estimated implementation timeframe. The alternatives were then evaluated against the Model Toxics Control Act evaluation criteria of WAC 173-340-350, which include the extent to which the remedial alternative protects human health and the environment, complies with cleanup standard and other applicable laws, uses permanent solutions to the maximum extent possible, and the relative cost to achieve these objectives. The alternatives were then compared, and a final remedial alternative was selected.

3.2 Alternative 1 - No Action

The No Action alternative is considered the least desirable alternative due to the fact that it would not address any of the potential contaminant receptors by leaving the property and the environment in a condition where human health and the environment are at the greatest risk.

3.3 Alternative 2 - Soil Removal with Land Farming

The Soil Removal with Land Farming alternative was originally the selected candidate as it would have met all criteria for the protection of the environment and human health. Land Farming the soil locally at the Site would have decreased the cost of the project, though it would have place considerable time constraints on the project as this form of remediation can take an indefinite amount of time to adequately reduce the levels of petroleum hydrocarbons. However, this method was not permitted by the Olympic Region Clean Air Authority (ORCAA) due to potential volatilization and migration of VOC into the air. The assumed amount of gasoline range TPH and BTEX constituents in the soil may have a significant impact on the quality of air in the immediate vicinity. Thus, this alternative was not a viable option.

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3.4 Alternative 3 - Soil Source Removal with Disposal

The Soil Source Removal with Disposal alternative meets all criteria for the protection of the environment and human health. Contaminated soils would be excavated and removed from the Site to be disposed at an approved facility. This method also meets requirements for cost and timeliness. However this alternative does not take into account that all contaminated soils could not be removed and that groundwater would still be impacted by the constituents of concern.

3.5 Alternative 4 - Soil Source Removal with Disposal, Treatment, and Monitoring of Natural Attenuation with Bioremediation Option - Selected Technology

The selected remedial action technology for the Site is the Soil Source Removal with Disposal, Treatment, and Monitoring of Natural Attenuation alternative which meets all criteria for the protection of the environment and human health. The soil source would be removed from the Site, transported, and disposed of at an approved facility. Remaining contaminated soil and impacted groundwater would be monitored for natural attenuation. Further supplemental remediation option has been considered in the event that gasoline range petroleum hydrocarbons and BTEX constituents do not biodegrade sufficiently with time.

Based on the conceptual site model, the selected supplemental remediation technology for the Site would involve a staged approach to in-situ bioremediation comprising of chemical oxidation and aerobic biodegradation of petroleum hydrocarbon. The primary components of this remedial action are as follows:

- In-Situ chemical oxidation using RegenOx to reduce sorbed and soil-matrix bound petroleum hydrocarbon in the vadose zone and saturated zone, as well as the dissolved phase in groundwater.

- Oxygen Release Compound (ORC) Advanced would be used to accelerate the microbial degradation of remaining petroleum hydrocarbon impacted vadose zone and groundwater.

RegenOx chemical oxidation involves injecting an oxidizer and activator directly into the source area, impacted soil areas, and the petroleum hydrocarbon plume onsite. The oxidants in the RegenOx are a mixture of sodium percarbonate, sodium carbonate, sodium silicate and silica gel. The oxidant chemicals react with the contaminants producing innocuous substances such as carbon dioxide ($C0_2$), water (H_20), and inorganic chloride.

RegenOx directly oxidizes contaminants and generates a range of highly oxidizing free radicals that remediates the constituents of concern - gasoline range petroleum hydrocarbon and its

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associated volatile organic compounds. These reactions can be propagated in the presence of RegenOx for periods of up to 30 days on a single injection.

ORC Advanced would be applied by direct injection into the source zone and the petroleum hydrocarbon plume onsite. ORC is a phosphate-intercalated magnesium peroxide, that when hydrated, produces a controlled release of oxygen for periods of up to 12 months on a single application. This controlled release of oxygen assists in accelerating the naturally occurring aerobic contaminant biodegradation in groundwater and saturated soils.

Both RegenOx and ORC Advanced will be injected into boreholes by a direct push probe drilling rig. Additional information on the injection procedures is presented in AEG's Cleanup Action Plan.

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4. SCHEDULE AND REPORTING

4.1 Schedule and Timeline

A tentative proposed timeline for the Final phase of Remedial Action at the Site and adjoining downgradient areas (to include the lateral western and southern extent of the dissolved phase gasoline petroleum hydrocarbons plume as previously outlined) is provided below. The final timeline will be amended by Ecology. Obtaining Right-of-Entry access to the current Anchor Bank at the Site, Pick-Rite Thriftway property, and ROW from the City of Montesano for work on Sylvia Street may impact the proposed timeline for the field work phase of the investigation.

The proposed timeline is as follows:

- July 20, 2011 – Draft Cleanup Action Plan submitted to Ecology for review
- September 29, 2011 – Approval from Ecology on CAP
- October 10 – October 31, 2011 – Off-property Access Right-of-Entry and City of Montesano Street Use Permit & private properties access
- November 1 – November 11, 2011 – Bioremediation products shipment & delivery
- November 14 – December 2, 2011 – Field work: In-situ bioremediation (RegenOx followed by ORC injection in separate stages)
- February 2, 2011 – 1st Final Compliance Quarterly Groundwater Event
- May 2, 2012 – 2nd Final Compliance Quarterly Groundwater Event
- August 2, 2012 – 3rd Final Compliance Quarterly Groundwater Event
- November 2, 2012 – 4th Final Compliance Quarterly Groundwater Event

A quarterly groundwater report will be presented for each Compliance Quarterly Event. A report presenting the findings from the in-situ bioremediation and subsequent four consecutive quarterly groundwater events will be submitted to Ecology for review.

As agreed between Ecology and Mr. Kolb, this Final Report will represent the final report submitted for this Site/Adjacent Areas of Concern with respect to environmental investigation and cleanup action conducted. Additional investigation will not ensue.

All reports will be presented to Ecology in both hard copy format and electronically. Additionally, all data will be submitted to Ecology EIM system database.

The above tentative timeline will be adjusted accordingly if Ecology requires additional or less review time.

5. REFERENCES

American Society for Testing and Materials (ASTM) Standard E 1903-97, *Standard Guide Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

Associated Environmental Group, LLC, 2010. *Supplemental Remedial Investigation – Pick-Rite Thriftway, 211 East Pioneer Avenue, Montesano, Washington.*

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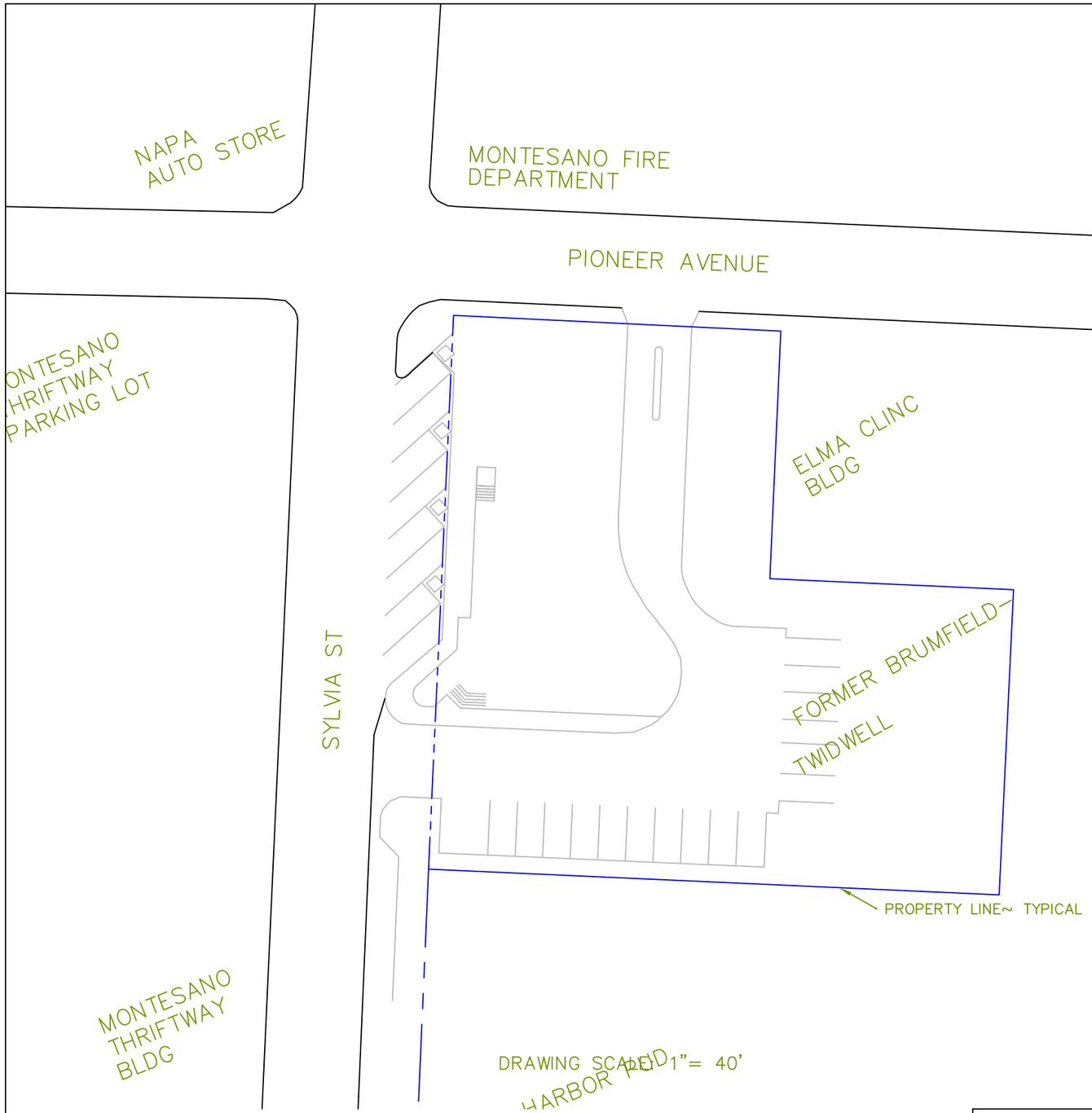
GeoEngineers, 2007. *White Paper – Leaking Underground Storage Tanks, Montesano, Washington File No. 0504-038-00.*

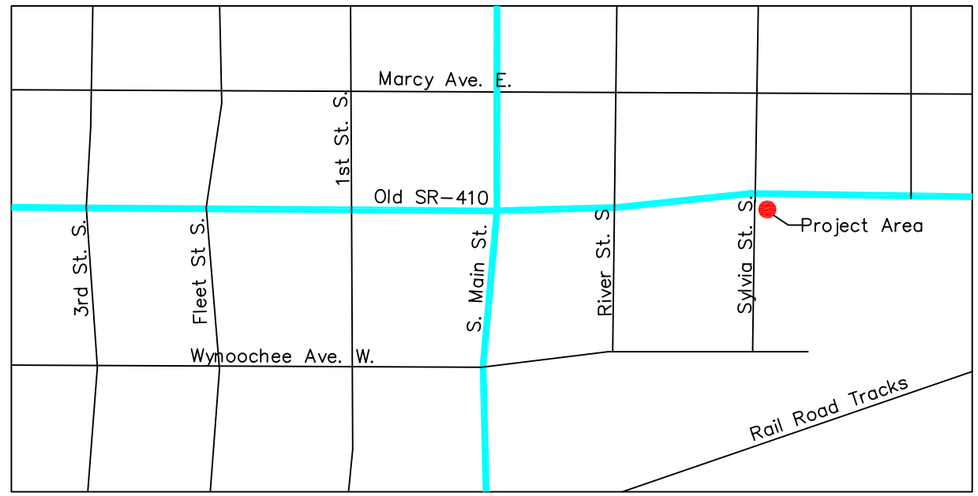
GeoEngineers, 2005. *Groundwater Investigation Downtown Montesano Data Management, Montesano, Washington*.

Walsh, T.J., Korosec, M.A., et al, 1987. *Geologic Map of Washington, Southwest Quadrant*, Washington Division of Geology and Earth Resources Geologic Map GM-34.

Washington State Department of Ecology, 2006. *Agreed Order No. AE DE2953.*

FIGURES





SITE VICINITY MAP (Not to Scale)

Notes: (a) The locations of all features shown are approximate.
(b) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

Reference: Drawing created from sketch provided by AEGs' personnel.

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Figure 1

SITE & VICINITY MAP

Former Brumfield-Twidwell
301 E. Pioneer Ave.
MONTESANO, WA

Project:	Date:
05-200	6/29/2011

MONTESANO FIRE DEPARTMENT

PIONEER AVENUE

MW-STEMAN

MW-STEMAN

MW-2

MW-1

B1

BT-S1-05

TP-1

BT-S3-05

BT-S4-10

BT-B1-17

BT-S2-10

BT-B3-15

BT-B2-17

TP-2

BT-B5-19

BT-S6-10

BT-S5-10

BT-B4-15

BT-B6-19

BT-B12-12

BT-S10-10

BT-S7-15

BT-B7-12

BT-B8-12

B6

BT-B7-19

BT-B11-12

BT-S11-10

BT-B9-8

BT-B10-8

BT-S8-10

BT-B16-12

B2

BT-S12-5

BT-S9-10

BT-B13-8

BT-B14-8

BT-TS-2

BT-TS-1

BT-B15-15

TP-6

BT-S13-5

B7

B-WW-10

B-SW-11

BT-B18-12

MW-6

TP-8

B-E-12

BT-S14-10

TP-5

BT-B20-12

B3

BT-B19-12

TP-7

B-EW-10

TP-4

B-SEW-11

BT-B21-12

BT-B17-12

TP-3

Test trench

TT-01

TT-02

MW-3

B8

MW-5

B4

B9

MW-4

B5

ELMA CLINC BLDG

SYLVIA ST

FORMER BRUMFIELD-TWIDWELL

LEGEND

- Soil/groundwater sample boring locations
- Excavation soil sample locations (Clearance)
- Groundwater monitoring well locations
- Approximate limit of PCS excavation
- Approximate limit of initial PCS excavation

Notes: (a) The locations of all features shown are approximate.
(b) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.

Reference: Drawing created from sketch provided by AEGs' personnel.

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Figure 2

Site Characterization

Former Brumfield--Twidwell
301 E. Pioneer Ave.
MONTESANO, WA

Project:	Date:
05-200	6/29/11

MONTESANO FIRE DEPARTMENT

PIONEER AVENUE

MW-STEMAN

MW-STEMAN

BTMW-2

BTMW-1

ELMA CLINC BLDG

25.5

25.5

BTMW-6

23

SYLVIA ST

FORMER BRUMFIELD-TWIDWELL

Test trench

BTMW-3

BTMW-5

BTMW-4

LEGEND

Groundwater flow direction

Groundwater monitoring well locations

Notes: (a) The locations of all features shown are approximate.
(b) This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.
Reference: Drawing created from sketch provided by AEGs' personnel.

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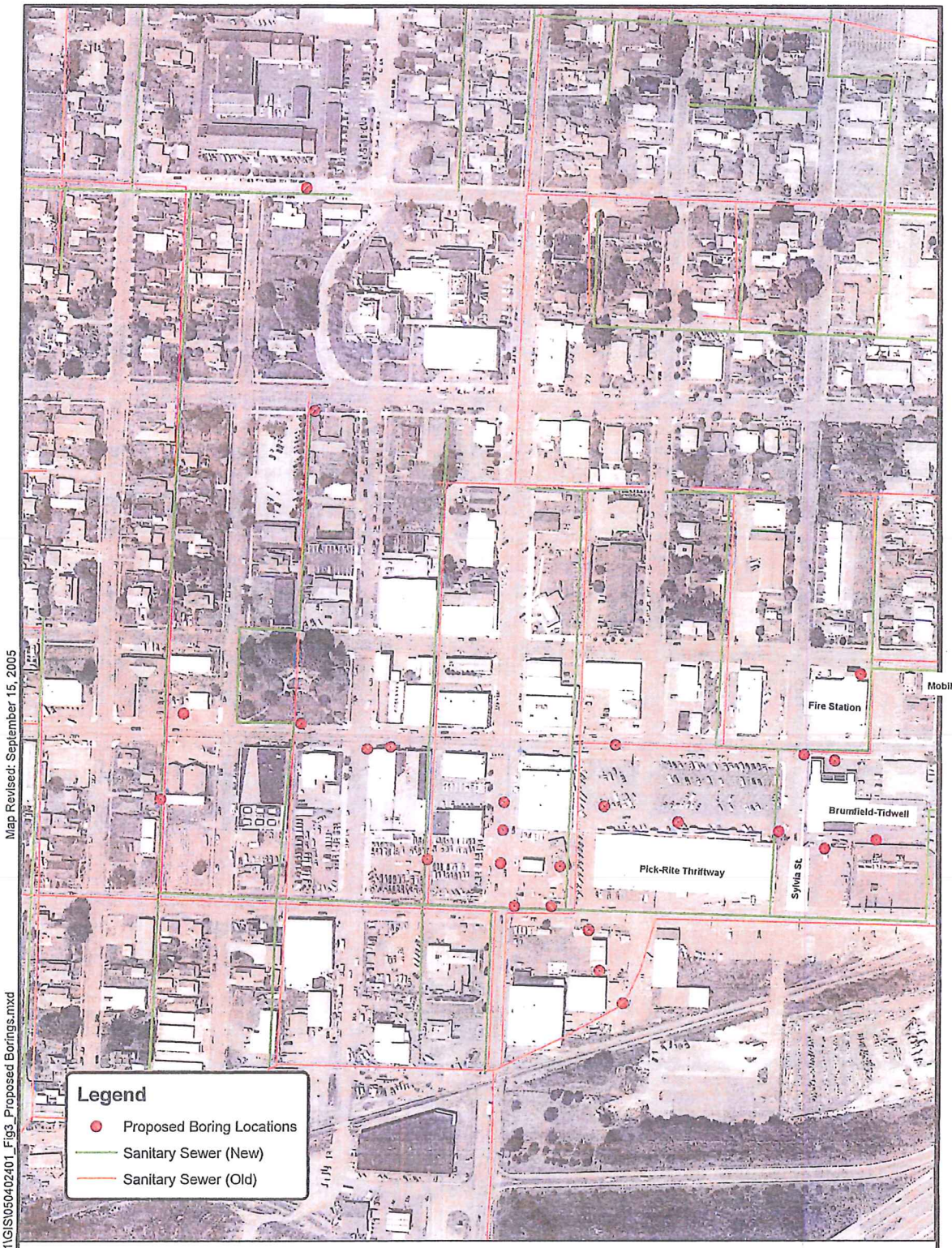
Figure 3 – Groundwater Potentiometric Map March 2007

Former Brumfield-Twidwell
301 E. Pioneer Ave.
MONTESANO, WA

Project:	Date:
05-200	03/15/07



Map Revised: September 15, 2005

Path: P:\01\05040241\01\GIS\05040241_Fig3_Proposed Borings.mxd

Office: TAC

Data Sources: Interstates, state routes, and roads from TIGER 2000.
County boundaries, cities, and waterbodies from Department of Ecology.

Lambert Conformal Conic
Washington State Plane South
North American Datum 1983

0 100 200
Feet

N

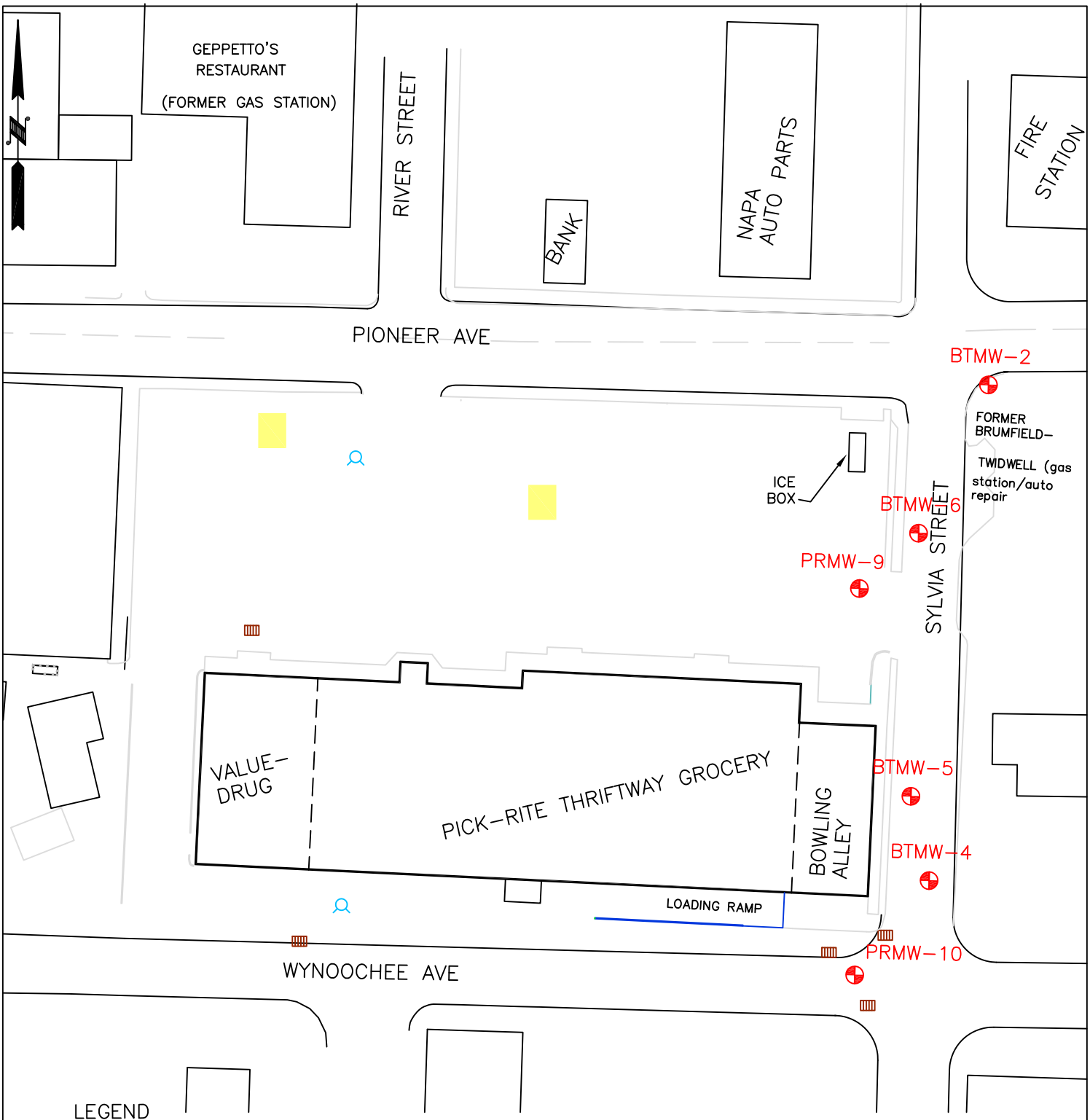
Note: This drawing is for informational purposes. It is intended to assist in showing features discussed in an attached document. All locations are approximate.

GeoEngineers

Outline of Sanitary Sewer Utility Corridors

Figure 4

Source: GeoEngineers, 2006



LEGEND

- MW-1 MONITORING WELLS BY AEG
- GROUNDWATER FLOW DIRECTION
- POTENTIAL ABANDONED UST LOCATIONS

DRAWING SCALE: 1"= 80'

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 surveyor's drawing by PACIFIC GEOMATIC SERVICES, Inc and notes provided by AEG, LLC.

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FIGURE 5 – Off-Property Monitoring Wells Sylvia St/ Pick-Rite Property

Former Brumfield-Twidwell
301 E. Pioneer Ave.
Montesano, WA

Project# 05-200	Date: 6/29/11
File: Kolb	Sheet 3 OF 3

TABLES

Table 1 Summary of Groundwater Analytical Results - Former Brumfield-Twidwell & Pick-Rite
Former Brumfield-Twidwell Property & Off-Property Monitoring Wells
Montesano, WA

Sample Number[1]	Date	BTEX[2] (µg/L)				Gasoline[3] (µg/L)	Table 830-1 Constituents[2] (µg/L)				
		Benzene	Toluene	Ethylbenzene	Total Xylenes		1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	Total Naphthalenes	MTBE	Total Lead [4]
BTMW-1*	2/8/2006	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
	8/17/2006	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<1.0
	1/9/2007	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<1.0
	3/15/2007	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
BTMW-2	2/8/2006	**550**	810	**1,280**	**10,100**	**58,000**	**--**	**--**	**--**	**--**	**--**
	8/17/2006	**136**	176	323	**1,570**	**1,970**	<1.0	<0.01	101	<5.0	**21**
	1/9/2007	**357**	482	**1,430**	**9,400**	**7,820**	<1.0	<0.01	88.5	<5.0	9
	3/15/2007	**355**	495	**828**	**4,970**	**24,600**	--	--	--	--	--
	4/1/2008	**12.8**	211	**503**	**4,040**	**7,730**	<1.0	<0.01	73.5	<5.0	7.3
	4/9/2009	**LNAPL present**									
	5/12/2010	<1.0	<1.0	<1.0	6.4	160	<1.0	<0.01	<5.0	<5.0	<5.0
	5/12/2011	1.1	5.8	36.5	477	**2,650**	<1.0	<0.01	11.6	<5.0	<5.0
BTMW-3*	2/8/2006	<1.0	<1.0	2.7	24	120	--	--	--	--	--
	8/17/2006	<1.0	<1.0	4.4	17	175	<1.0	<0.01	<5.0	<5.0	<1.0
	1/9/2007	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<1.0
	3/15/2007	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
BTMW-4*	2/8/2006	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
	8/17/2006	<1.0	<1.0	2.1	12	100	<1.0	<0.01	<5.0	<5.0	10
	1/9/2007	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<1.0
	3/15/2007	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
BTMW-5	4/26/2006	4.0	10.2	5.3	25	**1,100**	**--**	**--**	--	**--**	--
	8/17/2006	<1.0	<1.0	1.3	20	101	<1.0	<0.01	<5.0	<5.0	<1.0
	1/9/2007	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<1.0
	3/15/2007	<1.0	<1.0	<1.0	<1.0	<100	--	--	--	--	--
	4/1/2008	1.2	12.3	33.2	284	**1,040**	<1.0	<0.01	<5.0	<5.0	6.0
	4/8/2009	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<5.0
	5/12/2010	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<5.0
	5/12/2011	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<0.01	<5.0	<5.0	<5.0
BTMW-6	4/26/2006	**45**	41	170	365	**3,390**	**--**	**--**	--	**--**	--
	8/17/2006	**7.1**	7.9	1.5	116	611	<1.0	<0.01	8.0	<5.0	13
	1/9/2007	4.0	3.9	37	107	380	<1.0	<0.01	<5.0	<5.0	<1.0
	3/15/2007	4.99	7.3	33	70	450	--	--	--	--	--
	4/1/2008	1.8	8.5	143	211	**1,500**	<1.0	<0.01	8.2	<5.0	<1.0
	4/8/2009	1.3	4.1	168	120	**2,060**	<1.0	<0.01	55.5	<5.0	<5.0
	5/12/2010	<1.0	<1.0	11.5	16.3	320	<1.0	<0.01	16.3	<5.0	<5.0
	5/12/2011	<1.0	<1.0	<1.0	1.8	498	<1.0	<0.01	14	<5.0	<5.0
PRMW-9[6]	12/1/2010	**43.6**	75.8	232	413	**4,133**	--	--	--	--	--
	3/8/2011	**35.8**	63.2	500	**13,300**	**5,180**	--	--	--	--	--
	6/9/2011	<1	34.4	450	**1,460**	**9,240**	--	--	--	--	--
PRMW-10[6]	12/1/2010	<1	<2	<1	<3	<100	--	--	--	--	--
	3/8/2011	<1	<2	<1	<3	<100	--	--	--	--	--
	6/9/2011	<1	<2	<1	<3	<100	--	--	--	--	--
PQL		1.0	1.0	1.0	1.0	100	1.0	0.01	5.0	5.0	1.0 or 5.0
Method A Cleanup Levels		5	1,000	700	1,000	800 [5]	5	0.01	160	20	15

Notes:

[1]Approximate monitoring well locations are shown in Figure 5

[2]Analyzed by EPA Method 8021B.

[3]Analyzed by Northwest Method NWTPH-Gx

[4]Analyzed by EPA Method 7421

[5]Cleanup level with presence of benzene

[6]PRMW-9 & PRMW-10: monitoring wells on Pick-Rite Thriftway and Wynoochee Ave. ROW

µg/L = micrograms per liter

"<" not detected above laboratory detection limits.

MTBE = methyl tertiary-butyl ether

-- = not analyzed for this constituent

Bold indicates the detected concentration exceeds MTCA Method A cleanup levels

* = ceased groundwater monitoring/sampling activities at this well

Table 2 Summary of Soil Analytical Results - Selected Borings
Pick-Rite Thriftway -Supplemental RI
Montesano, WA

Sample Number[1]	Depth Sampled (feet)	Date Sampled	Gasoline TPH[2] (mg/Kg)	Select Volatile Organic Compounds[3] (mg/Kg)				Diesel Extended TPH[4] (mg/Kg)		
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Diesel	Heavy Oil	Mineral Oil
MW9-S1-10/11	10-11	11/18/2010	<10	<0.02	<0.10	<0.05	<0.15	--	--	--
MW10-S1-8.5/9	8.5-9	11/15/2010	<10	<0.02	<0.10	<0.05	<0.15	--	--	--
MW10-S2-14.5/15	14.5-15	11/15/2010	<10	<0.02	<0.10	<0.05	<0.15	--	--	--
PQL			10	0.02	0.10	0.05	0.15	25	40	40
Ecology MTCA Method A Clean Up Levels			30 [5]	0.03	7	6	9	2,000	2,000	4,000

Notes:
[1]Approximate sample locations are shown in figure 25
[2]Gasoline range total petroleum hydrocarbons (TPH). Analyzed by NWTPH-Gx
[3]Select Volatile Organic Compounds. Analyzed by EPA Method Method 8260C
[4] Diesel extended range TPH. Analyzed by Northwest Method NWTPH-D/Dx
[5]Cleanup level with presence of benzene
mg/Kg = milligrams per kilograms
-- = not analyzed for this constituent
< = not detected above laboratory limits
* Ecology has not designated a cleanup level for this constituent
Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level
PQL=Practical Quantitation Limits

Table 3 Summary of Groundwater Elevations – Selected Wells Pick-Rite Thriftway
Pick-Rite Thriftway
Montesano, WA

Well Number/ TOC Elevation (feet)	Date of Measurement	DTW (feet)	DT LPH (feet)	LPH (feet)	GW Elevation (feet)	Change in GW Elevation (feet)
MW-9						
33.93	12/01/10	15.29	--	--	18.64	--
	03/08/11	15.72	--	--	18.21	-0.43
	06/09/11	16.29	--	--	17.64	-0.57
MW-10						
24.85	12/01/10	8.40	--	--	16.45	--
	03/08/11	8.80	--	--	16.05	-0.40
	06/09/11	9.30	--	--	15.55	-0.50

TOC = Top of casing elevation relative to assigned benchmark.
DTW = Depth to water below top of casing.
DT LPH = Depth to liquid phase hydrocarbons
LPH = Liquid phase hydrocarbons (free product) thickness.
GW Elevation = Groundwater Elevation
-- = Not measured, not available, or not applicable

Table 4 Summary of Water Quality Indicator Parameters – Selected Wells Pick-Rite Thriftway
Pick-Rite Thriftway
Montesano, WA

Well Number[1]	Date of Measurement	Natural Attenuation Parameters					
		pH	Conductivity (mS/cm)	TDS	Dissolved Oxygen (mg/L)	Temp (°C)	Salinity (%)
MW-9	12/01/10	6.89	0.181	0.118	0.85	14.75	0.09
	03/08/11	7.75	0.199	0.129	0.71	13.07	0.09
	6/9/2011	6.14	0.135	0.087	-7.32 *	19.78*	0.06
MW-10	12/01/10	6.31	0.159	0.103	0.23	14.40	0.08
	03/08/11	6.45	0.175	0.114	0.37	13.51	0.08
	6/9/2011	6.78	0.198	0.129	-498 *	14.89	0.09

Notes:
[1]Groundwater monitoring well locations are shown on Figure 5
"--" Indicates specific parameter(s) were not measured or were unavailable.
* Unusual reading/most likely due to YSI malfunction

APPENDIX A
SITE PHOTOGRAPHS

ASSOCIATED
ENVIRONMENTAL
GROUP, LLC

SITE PHOTOGRAPHIC RECORD

Project No.: 10-126 **Project Name: Pick-Rite Thriftway, Montesano, WA – Supplemental RI**

Photo #1:	View of the northwestern area of the Pick-Rite Thriftway property – former Flying A gas station area. Geophysicist conducting an electromagnetic survey to identify locales of potential abandoned fuel tank.

Photo #2:	View of the subsequent identified potential fuel tank at the northwest area of the Site (former Flying A gas station).

Photo #3:	View of geophysicist conducting a ground penetrating radar survey to identify locales of potential abandoned fuel tank at the north-central area of the Site (former Boyer Phillips gas station).

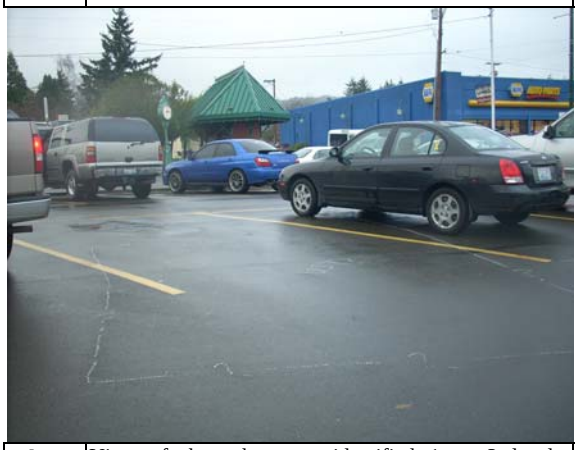

Photo #4:	View of the subsequent identified 1 or 2 locales identified as potential fuel tank at the former Boyer Phillips gas station).

Photo #5:	View of hollow stem auger drilling at MW-1, adjacent to potential abandoned fuel tank (outlined in foreground) at former Flying A gas station. View looking to the east.

Photo #6:	View of drilling at MW-2, southwest corner of Thriftway-Value Drug Building, along the alley of the City of Montesano sewer line/sewer lift stations.

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ASSOCIATED
ENVIRONMENTAL
GROUP, LLC

SITE PHOTOGRAPHIC RECORD

Project No.: 10-126 **Project Name: Pick-Rite Thriftway, Montesano, WA – Supplemental RI**

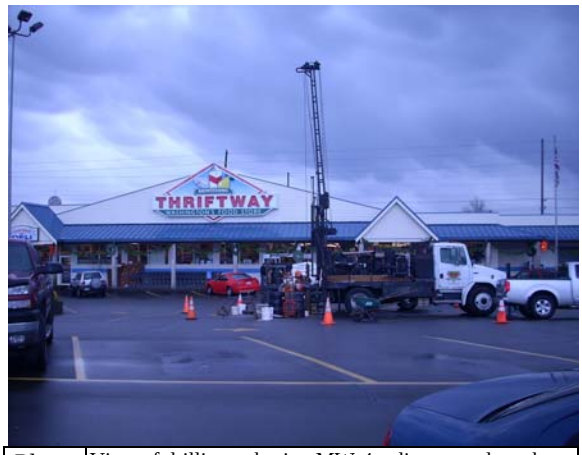

Photo #7:	View of drilling at boring MW-4, adjacent and southeast of potential abandoned fuel tank at the Site. Photo taken facing south.

Photo #8:	View of drilling at boring MW-5, adjacent north of the Pick-Rite Thriftway building, looking to the west.

Photo #9:	View of drilling at boring MW-6, adjacent south of a former gas station which is now occupied by Geppetto's Restaurant. Photo taken facing east.

Photo #10:	View of drilling at the eastern driveway of the Site, at boring MW-9. Photo taken facing west.

Photo #11:	View of drilling at boring MW-10, in the City's right-of-way on Wynoochee Ave.. Boring is south of the Pick-Rite property. Note abundance of overhead power lines

Photo #12:	View of pumping and purging as the second half of mechanical development activities at monitoring well MW-10. Mechanical swabbing and surging was already completed.

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APPENDIX B
SUPPORTING DOCUMENTS

BORING LOGS

ASSOCIATED ENVIRONMENTAL GROUP, LLC **LOG OF BOREHOLE**

PROJECT:	Pick-Rite Supplemental RI	**JOB #**	10-126	**BORING #** MW-9	**PAGE 1 OF 1**
Location:	211 East Pioneer, Montesano, WA	**Approximate Elevation:**			
Subcontractor/Equipment:	Western States Soil - Adonis Pablo	**Drilling Method:**	Hollow Stem Auger - CME 55 Drilling Rig		
Date:	11/18/2010	**Logged By:**	D. Brentlinger		

Depth (ft)	Soil Description	Unified Soil Symbol	Sample Type	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Monitoring Well
	Asphalt surface, 3 inches, underlain by Dark brown, moist, medium dense, silty SAND with local gravel (FILL)	SM				1415				
	Dark brown, moist, medium stiff, clayey SILT with fine grained sand, local iron and manganese oxidation (FILL)	ML								
5	grades to silty clay/clayey silt					1430	1/2/1/2	0.0	Not Observed	
	Light brown, moist, medium stiff, silty CLAY, medium plasticity, local iron oxidation.	CL								
10					MW9-S1-10.0/11.0	1446	3/2/3/3	0.0	Not Observed	
	at ~ 11 - 15 feet bgs: moderate to strong petroleum fuel odor.									
	at ~ 14 feet bgs: becomes moist to wet ▼									
15										
	Gray-brown, wet, dense, gravely SAND. Very hard drilling.	SP			MW9-S1-15.0/16.0	1500	15/11/14/20	0.0	Not Observed	
20						1645				
	TD at 20 feet bgs. Groundwater encountered at ~14 feet bgs ATD. Boring completed as Monitoring Well MW-9.									
	Well Schematics: 0.010 inch slot screen: 5 feet to 20 feet. Colorado Silica Sand, 10 x 20: 3 feet to 20 feet. Bentonite chips: 1 feet to 3 feet. Cement grout: 1/2 feet to 1 feet. Ecology Well Tag No. APL 784									
25										

Explanation

- 2-inch O.D. split spoon sample
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

Monitoring Well
- Clean Sand
- Bentonite
- Grout/Concrete
- Screened Casing
- Blank Casing

ASSOCIATED ENVIRONMENTAL GROUP, LLC **LOG OF BOREHOLE**

PROJECT:	Pick-Rite Supplemental RI	**JOB #** 10-126	**BORING #** MW-10	**PAGE 1 OF 1**
Location:	211 East Pioneer, Montesano, WA	**Approximate Elevation:**		
Subcontractor/Equipment:	Western States Soil - Adonis Pablo	**Drilling Method:**	Hollow Stem Auger - CME 55 Drilling Rig	
Date:	11/15/2010	**Logged By:**	Y. Van & D. Brentlinger	

Depth (ft)	Soil Description	Unified Soil Symbol	Sample Type	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Monitoring Well
	Asphalt surface, 2 inches to 3 inches, air knifed to 6 feet.					10:45				
5										
	Gray, moist, dense, silty gravelly SAND, well sorted fine to coarse grained sand, fine size gravel. No fuel odor.	SW			MW10-S1-8.5/9.0	1200	11/15/20/22	0.0		
10										
15	Gray, wet, very dense, Poorly Graded SAND, well sorted, local medium gravel.	SP			MW10-S2-14.5/15.0	1215	10/14/24/46	0.0		
	Gray-brown, moist to wet, very dense, silty GRAVEL with minor clay.	GW								
20	Gray-brown, wet, stiff, silty CLAY with gravel, medium to high plasticity, medium size gravel.	CL								
	TD at 20 feet bgs. Groundwater encountered at ~13 1/2 feet bgs ATD. Boring completed as Monitoring Well MW-10. Well Schematics: 0.010 inch slot screen: 5 feet to 20 feet. Colorado Silica Sand, 10 x 20: 3 feet to 20 feet. Bentonite chips: 1 feet to 3 feet. Cement grout: 1/2 feet to 1 feet. Ecology Well Tag No. APL 775									
25										

Explanation

- 2-inch O.D. split spoon sample
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

Monitoring Well
- Clean Sand
- Bentonite
- Grout/Concrete
- Screened Casing
- Blank Casing

SOIL ANALYTICAL RESULTS

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

Client: AEG
Address: 1018 Capitol Way Olympia
Phone: 352 9835 Fax:
Client Project # 10-126

Date: 11/17/2010 Page: 1 of 1
Project Manager: YV
Project Name: Pick Rite Thrift Way
Location: Montesano City:
Collector: SAB Date of Collection: 11/17/11/18 11/18/10

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260 - B	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 MW 6-S1	10-11	900	S		X				X		X	X					* 7-52 Gasin Sample
2 MW 6-S2	15-16	930	S		X				X								
3 MW 7-S1	10-11	130	S		X				X								
4 MW 7-S2	15-16	200	S		X	X			X								* 7-52 Slight dissolved gas in sample
5 MW 3-S1	10-11	420	S	NO Analysis	X				X								
6 MW 3-S2	15-16	445	S		X	X			X								
7 MW 4-S1	10-11	1045	S		X				X								* Replace 8021B to 8260B For 752, 352
8 MW 4-S2	15-16	1100	S		X				X								
9 MW 9-S1	~~10-11~~	300	S		X				X								
10 MW 9-S2	15-16	320	S		X				X								NO Sample
11	15-16																
12		1035															
13																	
14																	** MW 4, MW 9 Collected 11/18/10
15																	
16																	
17																	
18																	

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	11/18/10 6 PM	[signature]	11/19/10 9:00
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	STD

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

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

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	11/19/10	nd	nd	nd	nd	nd	88
LCS	11/19/10	90%	80%				86
MW6-S1-10/11	11/19/10	nd	nd	nd	nd	nd	90
MW6-S2-15/16	11/19/10	nd	nd	nd	nd	nd	91
MW7-S1-10/11	11/19/10	nd	nd	nd	nd	nd	85
MW3-S1-10/11	11/19/10	nd	nd	nd	nd	nd	87
MW4-S1-10/11	11/19/10	nd	nd	nd	nd	nd	86
MW4-S2-15/16	11/19/10	nd	nd	nd	nd	nd	88
MW9-S1-10/11	11/19/10	nd	nd	nd	nd	nd	87
MW7-S2-15/16 MS	11/19/10	88%	86%				107
Practical Quantitation Limit		0.02	0.10	0.05	0.15	10	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Toluene-d8): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

Analyses of Gasoline (NWTPH-Gx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)
Method Blank	11/20/10	95	nd
MW7-S2-15/16	11/20/10	85	1470
MW3-S2-15/16	11/20/10	89	nd
Practical Quantitation Limit			10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Toluene-d8): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

Analyses of Diesel & Oil (NWTPH-Dx/Dx Extended) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Oil (mg/kg)
Method Blank	11/19/2010	108	nd	nd	nd
MW6-S1-10/11	11/19/2010	102	nd	nd	nd
MW6-S1-10/11 Dup	11/19/2010	108	nd	nd	nd
Practical Quantitation Limit			25	40	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260C IN SOIL

Sample Description		Method Blank	MW7-S2 15/16	MW3-S2 15/16
Date Sampled	Reporting	N/A	11/17/10	11/17/10
Date Analyzed	Limits (mg/kg)	11/19/10 (mg/kg)	11/19/10 (mg/kg)	11/20/10 (mg/kg)
Dichlorodifluoromethane	0.06	nd	nd	nd
Chloromethane	0.06	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.09	nd	nd	nd
Chloroethane	0.06	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.02	nd	nd	nd
Methyl *tert*- Butyl Ether (MTBE)	0.02	nd	nd	nd
trans -1,2-Dichloroethene	0.02	nd	nd	nd
1,1-Dichloroethane	0.02	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
cis -1,2-Dichloroethene	0.02	nd	nd	nd
Chloroform	0.02	nd	nd	nd
1,1,1-Trichloroethane (TCA)	0.02	nd	nd	nd
Carbon tetrachloride	0.02	nd	nd	nd
1,1-Dichloropropene	0.02	nd	nd	nd
Benzene	0.028	nd	nd	nd
1,2-Dichloroethane (EDC)	0.03	nd	nd	nd
Trichloroethene (TCE)	0.03	nd	nd	nd
1,2-Dichloropropane	0.02	nd	nd	nd
Dibromomethane	0.04	nd	nd	nd
Bromodichloromethane	0.02	nd	nd	nd
cis-1,3-Dichloropropene	0.02	nd	nd	nd
Toluene	0.04	nd	nd	nd
Trans-1,3-Dichloropropene	0.03	nd	nd	nd
1,1,2-Trichloroethane	0.03	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.03	nd	nd	nd
1,2-Dibromoethane (EDB) *	0.005	nd	nd	nd
Chlorobenzene	0.02	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.03	nd	nd	nd
Ethylbenzene	0.04	nd	nd	nd
Total Xylenes	0.08	nd	nd	nd
Styrenes	0.02	nd	nd	nd

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260C IN SOIL

Sample Description		Method Blank	MW7-S2 15/16	MW3-S2 15/16
Date Sampled	Reporting	N/A	11/17/10	11/17/10
Date Analyzed	Limits (mg/kg)	11/19/10 (mg/kg)	11/19/10 (mg/kg)	11/20/10 (mg/kg)
Bromoform	0.02	nd	nd	nd
Isopropylbenzene	0.08	nd	0.12	nd
1,2,3-Trichloropropane	0.02	nd	nd	nd
Bromobenzene	0.03	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.02	nd	nd	nd
n-Propylbenzene	0.02	nd	nd	nd
2-Chlorotoluene	0.02	nd	nd	nd
4-Chlorotoluene	0.02	nd	nd	nd
1,3,5-Trimethylbenzene	0.02	nd	nd	nd
tert-Butylbenzene	0.02	nd	nd	nd
1,2,4-Trimethylbenzene	0.02	nd	0.75	nd
sec-Butylbenzene	0.02	nd	0.66	nd
1,3-Dichlorobenzene	0.02	nd	nd	nd
Isopropyltoluene	0.02	nd	0.34	nd
1,4-Dichlorobenzene	0.02	nd	nd	nd
1,2-Dichlorobenzene	0.02	nd	nd	nd
n-Butylbenzene	0.02	nd	0.62	nd
1,2-Dibromo-3-Chloropropane	0.03	nd	nd	nd
1,2,4-Trichlorolbenzene	0.05	nd	nd	nd
Hexachloro-1,3-butadiene	0.10	nd	nd	nd
Naphthalene	0.05	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd
Surrogate Recovery				
Dibromofluoromethane		97.9	92.4	90.4
1,2-Dichloroethane-d4		88.0	71.8	94.1
Toluene-d8		88.1	94.1	89.0
4-Bromofluorobenzene		95.5	93.6	92.4

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

* INSTRUMENT DETECTION LIMIT
ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101119-1

QA/QC Data - EPA 8260C Analyses

	Sample Identification: MW7-S2-15/16						
	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
1,1-Dichloroethene	0.50	0.59	118	0.50	0.62	124	5.0
Benzene	0.50	0.44	88	0.50	0.40	80	9.5
Toluene	0.50	0.43	86	0.50	0.41	82	4.8
Chlorobenzene	0.50	0.50	99	0.50	0.43	86	14.1
Trichloroethene (TCE)	0.50	0.50	100	0.50	0.47	94	6.2
Surrogate Recovery							
Dibromofluoromethane			101			87.1	
1,2-Dichloroethane-d4			88.5			75.3	
Toluene-d8			107			115	
4-Bromofluorobenzene			71.3			111	

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
1,1-Dichloroethene	0.50	0.65	130
Benzene	0.50	0.45	90
Toluene	0.50	0.40	80
Chlorobenzene	0.50	0.56	112
Trichloroethene (TCE)	0.50	0.43	86
Surrogate Recovery			
Dibromofluoromethane			94.0
1,2-Dichloroethane-d4			95.1
Toluene-d8			86.5
4-Bromofluorobenzene			92.6

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Sherry Chilcutt

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 11/15/2010 Page: 1 of 1

Client: AEG
Project Manager: VV
Address: 1018 Capitol Way South
Project Name: Pick Rite Thriftway
Phone: 360 352 9835 Fax:
Location: Montesano, WA
Client Project # 10-126
Collector: VV / Brent Hinger Date of Collection: 11/15/2010

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Note/# Containers
11/15/10	1 MW10S1-8½/9	7-9	12:00	S	VOA/4oz	X				X								3
	2 MW10S2-14½/15	14	12:15	S	VOA/4oz	X				X								3
	3 ~~MW1-S1~~	~~4-7~~	~~3:30~~	S	~~VOA/4oz~~	X				X			No Analysis					3 Gas Present
	4 MW1-S2	10½-11	3:45	S	VOA/4oz	X	X			X								3 Gas Present
	5 MW1-S3	15-17	4:00	S	VOA/4oz	X	W			X								3 Gas Present
11/16/10	6 MW2-S1	8-9	740	S	V/4oz	X	X	W		X								3
	7 MW2-S2	13-14	755	S	V/4oz	X				X								3 Gas in Sample
	8 MW8-S1	8-9	1045	S	V/4oz	X				X								3
	9 MW8-S2	14-15		S	V/4oz	X				X								3
	10 MW5-S1	10-11	200	S	V/4oz	X				X								3
	11 MW5-S2	15-16	225	S	V/4oz	X				X								3
	12																	
	13																	
	14																	
	15																	
	16																	
	17																	
	18																	

Relinquished by:	Date / Time	Received by	Date / Time
[signature]	11/16/2010	5:05 [signature]	11-11-10
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR (5-Day)

Distribution: White - Lab, Yellow - File, Pink - Originator

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

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

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	11/20/10	nd	nd	nd	nd	nd	95
LCS	11/20/10	89%	87%				95
MW10-S1-8.5/9	11/20/10	nd	nd	nd	nd	nd	85
MW10-S2-14.5/15	11/20/10	nd	nd	nd	nd	nd	89
MW10-S2-14.5/15 Dup	11/20/10	nd	nd	nd	nd	nd	77
MW1-S3-15/17	11/19/10	nd	nd	nd	nd	nd	87
MW2-S2-13/14	11/20/10	nd	3.30	4.02	18.3	303	93
MW8-S1-8/9	11/20/10	nd	nd	nd	nd	nd	83
MW8-S2-14/15	11/20/10	nd	nd	nd	nd	nd	83
MW5-S1-10/11	11/20/10	nd	nd	nd	nd	nd	88
MW5-S2-15/16	11/20/10	nd	nd	nd	0.25	23	85
MW10-S2-14.5/15 MS	11/20/10	81%	82%				87
Practical Quantitation Limit		0.02	0.10	0.05	0.15	10	

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Toluene-d8): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

Analyses of Gasoline (NWTPH-Gx) in Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)
Method Blank	11/20/10	95	nd
MW1-S2-10.5/11	11/20/10	83	2210
MW2-S1-8/9	11/20/10	90	nd
Practical Quantitation Limit			10

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Toluene-d8): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260C IN SOIL

Sample Description		Method Blank	MW1-S2 10.5/11	MW2-S1 8/9
Date Sampled	Reporting	N/A	11/15/10	11/15/10
Date Analyzed	Limits (mg/kg)	11/19/10 (mg/kg)	11/20/10 (mg/kg)	11/20/10 (mg/kg)
Dichlorodifluoromethane	0.06	nd	nd	nd
Chloromethane	0.06	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.09	nd	nd	nd
Chloroethane	0.06	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.02	nd	nd	nd
Methyl *tert*-Butyl Ether (MTBE)	0.02	nd	nd	nd
trans-1,2-Dichloroethene	0.02	nd	nd	nd
1,1-Dichloroethane	0.02	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
cis-1,2-Dichloroethene	0.02	nd	nd	nd
Chloroform	0.02	nd	nd	nd
1,1,1-Trichloroethane (TCA)	0.02	nd	nd	nd
Carbon tetrachloride	0.02	nd	nd	nd
1,1-Dichloropropene	0.02	nd	nd	nd
Benzene	0.028	nd	0.063	nd
1,2-Dichloroethane (EDC)	0.03	nd	nd	nd
Trichloroethene (TCE)	0.03	nd	nd	nd
1,2-Dichloropropane	0.02	nd	nd	nd
Dibromomethane	0.04	nd	nd	nd
Bromodichloromethane	0.02	nd	nd	nd
cis-1,3-Dichloropropene	0.02	nd	nd	nd
Toluene	0.04	nd	2.62	nd
Trans-1,3-Dichloropropene	0.03	nd	nd	nd
1,1,2-Trichloroethane	0.03	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.03	nd	nd	nd
1,2-Dibromoethane (EDB) *	0.005	nd	nd	nd
Chlorobenzene	0.02	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.03	nd	nd	nd
Ethylbenzene	0.04	nd	5.56	nd
Total Xylenes	0.08	nd	36.3	nd
Styrenes	0.02	nd	nd	nd

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260C IN SOIL

Sample Description		Method Blank	MW1-S2 10.5/11	MW2-S1 8/9
Date Sampled	Reporting	N/A	11/15/10	11/15/10
Date Analyzed	Limits	11/19/10	11/19/10	11/20/10
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Bromoform	0.02	nd	nd	nd
Isopropylbenzene	0.08	nd	0.89	nd
1,2,3-Trichloropropane	0.02	nd	nd	nd
Bromobenzene	0.03	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.02	nd	nd	nd
n-Propylbenzene	0.02	nd	2.09	nd
2-Chlorotoluene	0.02	nd	nd	nd
4-Chlorotoluene	0.02	nd	nd	nd
1,3,5-Trimethylbenzene	0.02	nd	6.24	nd
tert-Butylbenzene	0.02	nd	2.34	nd
1,2,4-Trimethylbenzene	0.02	nd	17.5	nd
sec-Butylbenzene	0.02	nd	0.23	nd
1,3-Dichlorobenzene	0.02	nd	nd	nd
Isopropyltoluene	0.02	nd	0.34	nd
1,4-Dichlorobenzene	0.02	nd	nd	nd
1,2-Dichlorobenzene	0.02	nd	nd	nd
n-Butylbenzene	0.02	nd	1.23	nd
1,2-Dibromo-3-Chloropropane	0.03	nd	nd	nd
1,2,4-Trichlorolbenzene	0.05	nd	nd	nd
Hexachloro-1,3-butadiene	0.10	nd	nd	nd
Naphthalene	0.05	nd	0.74	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd
Surrogate Recovery				
Dibromofluoromethane		127	96.4	99.0
1,2-Dichloroethane-d4		129	84.4	101
Toluene-d8		95.2	70.7	90.0
4-Bromofluorobenzene		103	118	86.0

"nd" Indicates not detected at listed detection limit.

"int" Indicates that interference prevents determination.

* INSTRUMENT DETECTION LIMIT

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

QA/QC Data - EPA 8260C Analyses

	Sample Identification: MW10-S2-14.5/15						
	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
1,1-Dichloroethene	0.50	0.59	118	0.50	0.62	124	5.0
Benzene	0.50	0.41	82	0.50	0.45	90	9.3
Toluene	0.50	0.41	82	0.50	0.44	88	7.1
Chlorobenzene	0.50	0.45	90	0.50	0.41	82	9.3
Trichloroethene (TCE)	0.50	0.43	86	0.50	0.44	88	2.3
Surrogate Recovery							
Dibromofluoromethane			91.7			91.2	
1,2-Dichloroethane-d4			91.9			95.9	
Toluene-d8			86.5			82.3	
4-Bromofluorobenzene			89.6			99.0	

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
1,1-Dichloroethene	0.50	0.59	118
Benzene	0.50	0.45	90
Toluene	0.50	0.43	86
Chlorobenzene	0.50	0.48	96
Trichloroethene (TCE)	0.50	0.41	82
Surrogate Recovery			
Dibromofluoromethane			111
1,2-Dichloroethane-d4			99.0
Toluene-d8			95.1
4-Bromofluorobenzene			97.3

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washington
AEG, LLC
Client Project # 10-126
Libby Project No. L101117-1

ANALYSES PERFORMED BY: Sherry Chilcutt

GROUNDWATER ANALYTICAL RESULTS

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 12/1/2010 Page: 1 of 1

Client: AEG

Project Manager: Ken V

Address: 1018 Capitol Way South

Project Name: Pick Rite Thriftway

Phone: 360 352 9835 Fax: 352 8164

Location: Montesano City:

Client Project # 10-126

Collector: dab / bs Date of Collection:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 MW2-W		1410	W	VOA (3)	X				X									
2 MW1-W		1155	W		X				X									
3 MW7-W		13:15	W		X				X									
4 MW3-W		1235	W		X				X									
5 MW4-W		1335	W		X				X									
6 MW5-W		1515	W		X				X									
7 MW6-W		1545	W		X				X									
8 MW8-W		1615	W		X				X									
9 MW9-W		1425	W		X				X									
10 MW10-W		1615	W		X				X									
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
	1:14pm 12/2/10		1:14 P 12/2/10
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:	
Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Std

Distribution: White - Lab, Yellow - File, Pink - Originator

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

PICK RITE THRIFTWAY PROJECT
Montesano, Washingtor
AEG, LLC
Client Project # 10-126
Libby Project No. L101202-4

Analyses of Gasoline (NWTPH-Gx) & BTEX (EPA Method 8021B) in Water

Sample Number	Date Analyzed	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	Gasoline (ug/l)	Surrogate Recovery (%)
Method Blank	12/3/10	nd	nd	nd	nd	nd	113
LCS	12/3/10	103%	122%				134
MW-2-W	12/3/10	11.1	281	76.1	676	4400	96
MW-1-W	12/3/10	19.7	34.1	7.6	70.2	1910	103
MW-7-W	12/3/10	50.9	19.8	13.2	48.7	2820	125
MW-3-W	12/3/10	22.4	7.6	8.2	18.2	1170	91
MW-4-W	12/3/10	nd	nd	nd	nd	nd	93
MW-5-W	12/3/10	nd	6.6	6.0	22.1	106	92
MW-6-W	12/3/10	nd	nd	1.7	9.2	nd	104
MW-6-W Dup	12/3/10	nd	nd	1.5	9.1	nd	104
MW-8-W	12/3/10	nd	nd	nd	nd	nd	118
MW-9-W	12/3/10	43.6	75.8	232	413	4130	115
MW-10-W	12/3/10	nd	nd	nd	nd	nd	110
MW-6-W MS	12/3/10	83%	72%				80
Practical Quantitation Limi		1	2	1	3	100	

"nd" Indicates not detected at the listed detection limit
"int" Indicates that interference prevents determinatio

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Trifluorotoluene): 65% TO 135%

ANALYSES PERFORMED BY: Sherry Chilcutt & Jamie Har