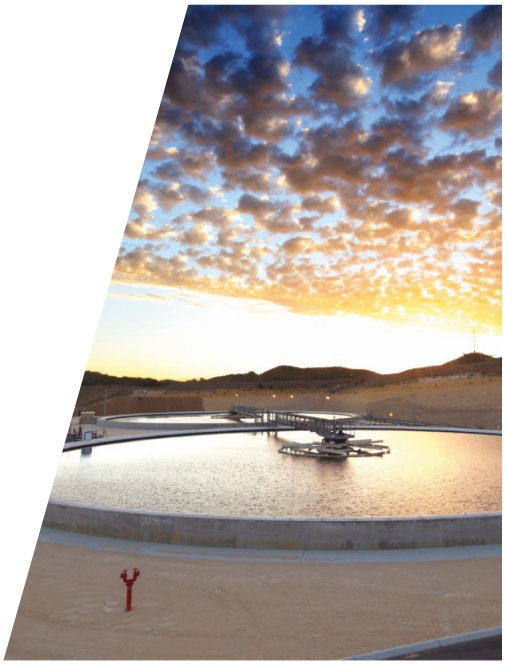


Cleanup Action Report

Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888 (Formerly 977)
511 East Lincoln Avenue
Sunnyside, Washington
Facility Site ID: 539
VCP Site ID: CE0467

Phillips 66 Company

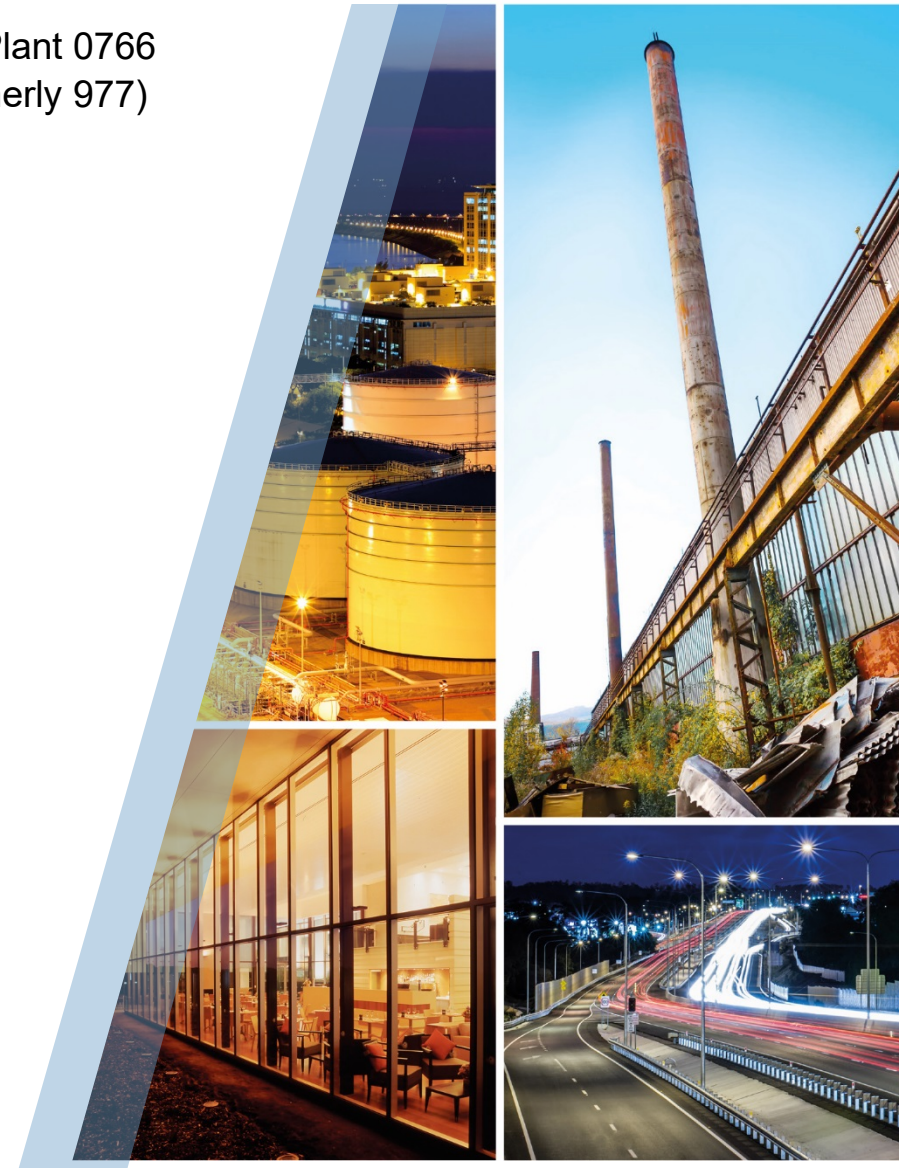


Table of Contents

Figure Index

Table Index

Appendix Index

1. Introduction

GHD is submitting this Cleanup Action Report (CAR) on behalf of Phillips 66 Company (P66) for the former Unocal facility located at 511 East Lincoln Avenue, Sunnyside, Yakima County, Washington (Yakima County Tax Parcel Number 221025-33524) (Property, Figure 1). This CAR was prepared to satisfy the requirements of the Washington Administrative Code (WAC) 173-340-350 and summarizes interim actions and remedial investigation findings for the release associated with the Property. This CAR also demonstrates that all the requirements under WAC 173-340 have been met for a No Further Action (NFA) determination based on conditions and all environmental investigation findings associated with the petroleum hydrocarbon release associated with the Property. A list of all documents reviewed in preparation of this report is included in Appendix A.

2. Site Summary

2.1 Site Discovery and Regulatory Status

In March 1989, GeoEngineers directed the installation of five monitoring wells and one hand auger boring in preparation for a potential property transfer. Petroleum impacted soil was discovered from boring MW-3, located next to a heating oil underground storage tank (UST). Light non-aqueous phase liquid (LNAPL) was also measured in well MW-3. GeoEngineers directed the removal of the heating oil UST in March 1989 and completed five test pits surrounding the UST to evaluate the extent of soil impacts. The release was reported to the Washington State Department of Ecology (Ecology) but a cleanup site ID was not recorded at that time. According to Ecology's records, a discovery/release report was received on January 15, 1993 and given cleanup site ID 1907. The Site was enrolled in the Voluntary Cleanup Program (VCP) in 2012 and assigned VCP # CE0380. The Site was later removed from the VCP in 2016 following inactivity. In 2017, Phillips 66 assumed responsibility for cleanup activities at the Site and re-enrolled the Site in the VCP. The Site was assigned VCP # CE0467.The current status of the Site with Ecology is "Cleanup Started".

Ecology's Model Toxics Control Act (MTCA) Method A cleanup levels for soil and groundwater and MTCA Method B screening levels for vapor intrusion will be used as screening levels for the purpose of discussing investigation results. Cleanup standards are more fully developed and discussed in Section 6.

2.2 Site and Property Location / Definition

The Property is a former Union Oil bulk fuel plant that is owned by Orbit Land LLC. Current facility features consist of former truck unloaders, loading rack, loading dock and office. A legal description of the Property, including past and present property owners and operators, is included as Appendix B.

The MTCA site (Site) is defined as all areas affected by contamination associated with the Property, as well as any potentially contaminated adjacent parcels and right of ways (ROWs). Based on current and historical investigation results, the extent of soil and groundwater impacts as well as former and current Property features and facilities are presented on Figure 2.

2.3 Neighborhood Setting

According to the City of Sunnyside Zoning Map (City of Sunnyside, 2012), the Property is zoned as Industrial. Land use in the immediate vicinity of the Property is zoned as industrial to the west, commercial to the north, and residential to the east and south. The following properties are located in close proximity of the Property:

- North: The Property is bounded by the East Lincoln Avenue ROW then a school district property.
- West: The Property is bounded by the Union Pacific Railroad ROW.
- South: The Property is bounded by residential properties.
- East: The Property is bounded by a multi-family residential property.

Nearby water bodies include a drainage ditch associated with the Sulfur Creek Wasteway, located approximately 400 feet west of the Site. An area map showing surrounding properties is included as Figure 3.

The Property is located at approximately 445 feet above mean sea level (amsl). The ground surface on the Property is relatively flat with a gentle slope to the south.

2.4 Utilities and Water Supply

Subsurface utilities present beneath the Property include sanitary sewer, water, and electric. Aboveground electric lines feeding power to the Property run to a power pole along the eastern edge of the Property, then underground to the Property building. The drainage system and product lines associated with the former facility are decommissioned in place. A sanitary sewer main runs east-west along Lincoln Avenue. A lateral connects the main office building to the sewer main at the northeast corner. A water line runs east-west along Lincoln Avenue with a lateral supplying a water main at the northeast corner of the building. Additional subsurface utilities may be present, but were not identified by GHD. Based on the depths to groundwater beneath the Site (greater than 9 feet below grade [fbg]), subsurface utilities are unlikely to act as conduits for preferential migration. Known utilities are presented on Figure 4.

Potable water at the Property is supplied by the City of Sunnyside (City of Sunnyside, 2017), sourced entirely from wells advanced in the unconsolidated alluvial deposits, and the deeper Saddle Mountain and Wanapum basalt formations. According to Ecology's Well Log Viewer, the following water supply wells are located within a 0.5-mile radius of the Property:

- Domestic supply well – located approximately 0.28 mile southeast, installed to a depth of 132 fbg.
- Domestic supply well – located 0.4 mile north-northeast, installed to a depth of 105 fbg.
- Domestic supply well – located 0.5 mile south-southeast, installed to a depth of 155 fbg.
- Municipal supply well #7 – located 0.4 mile south-southeast, installed to a depth of 1057 fbg.

2.5 Past Property Uses and Facilities

Based on available documentation, the Property was developed in the 1940s by Union Oil as a bulk fuel facility. According the Yakima County Assessor's Site, the current building was constructed in 1955 and included four 20,000-gallon aboveground storage tanks (ASTs) containing leaded gasoline, unleaded gasoline, diesel #1, and diesel #2; A truck loading rack; truck unloaders, underground product lines leading to a drum filling station at the loading dock, a heating oil UST, an oil/water separator UST, and a waste oil AST. Property records prior to 1955 were not available. In 1989, the heating oil UST located east of the building was decommissioned and removed. The Property ownership transferred from Union Oil to Tosco Corporation in 1998. Tosco sold the Property to Orbit Land, LLC in 1999. Orbit Land LLC operated the bulk fuel facility under the name Taylor Oil until 2016. In 2018, Orbit Land LLC began leasing the Property for fertilizer storage. In May 2020, the former ASTs were decommissioned and removed.

2.6 Current Property Use and Facilities

The Property is currently used for fertilizer storage, although remnants of the former bulk fuel facilities are still present. Currently, the facilities consist of an office/warehouse building, the former truck loading rack, and former truck unloaders. The Property is partially paved and partially gravel. The known locations of historical and current facilities are presented on Figure 2.

2.7 Potential Off-Property Sources of Contamination

GHD searched Ecology's Facility Site Search database and leaking UST (LUST) database and identified a total of four facilities within a 0.25-mile radius of the Property. Among these, two have received a no further action determination. Of the two remaining facilities, one is located approximately 0.1 mile southeast (cross-gradient) and one located approximately 0.2 mile south (down and cross-gradient). It is not likely that either site would be impacting the Site.

3. Natural Conditions

3.1 Geology

The Site is located in the eastern foothills of the Cascade Mountain Range in the Yakima River Valley. According to the Washington State Department of Natural Resources, the Site and the immediate surrounding area is comprised of quaternary alluvium consisting of unconsolidated to semi-consolidated alluvial clay, silt, sand, gravel, and/or cobbles. The alluvium is underlain by Pleistocene outburst flood deposits consisting of gravel and sandy gravel deposits with interbedded silt lenses. The outburst flood deposits are underlain by Columbia River basalt deposits. The surface elevation of the Site is approximately 445 feet amsl.

Based on historical environmental investigations and the most recent soil investigation, soils beneath the Site are described as silty sand with intermittent clayey sand from the ground surface to approximately 20 fbg, the maximum depth explored. All soil sample locations are presented on Figure 5. Boring logs are included as Appendix C. Cross-Sections are presented on Figures 6 and 7.

3.2 Groundwater

Groundwater at the Site for all wells except former well MW-5 generally ranges from between approximately 9 to 12 fbg and is influenced seasonally by local agricultural irrigation. Average groundwater depth is 10.1 fbg. Former monitoring well MW-5 was installed in the grassy area south of the facility at a slightly lower elevation than the other wells, resulting in shallow depth to water measurements. Historical depth to groundwater beneath the Site has been monitored since 1989 and has generally stayed consistent. Seasonal fluctuations at the Site are relatively minimal. Groundwater flow direction at the Site is predominantly to the south-southeast.

3.3 Surface Water

The Property is relatively flat. Surface runoff at the Site typically infiltrates the gravel surface at the Site. Nearby water bodies include a drainage ditch associated with the Sulfur Creek Wasteway, located approximately 400 feet west of the Site.

3.4 Natural Resources and Ecological Receptors

A Terrestrial Ecological Evaluation (TEE) form was completed for the Site indicating that no risk to ecological receptors exists from the on-Site release. The Site requires a simplified evaluation due to there being more than 1.5 acres of contiguous undeveloped land on or within 500 feet of any area of the Site. A contaminant analysis review was completed, and it was determined that the remaining concentrations do not exceed the concentrations listed in MTCA Table 749-2, therefore, further evaluation is not necessary. The following documents are presented in Appendix D, which excluded the Site from further TEE:

- Aerial Map showing a 500-foot radius surrounding the Site
- TEE evaluation documentation form
- TEE Contaminant Analysis Table

4. Contaminant Occurrence and Movement

4.1 Summary of Previous Investigations

A total of 13 monitoring wells, 40 soil borings, 6 test pit soil samples, 16 excavation soil samples and 2 soil vapor probes have been completed at the Site. A list of environmental documents detailing the environmental investigations which have been conducted at the Site is included as Appendix A. A complete chronological summary of work completed during the investigations completed at the Site is included as Appendix E. Reports summarized in Appendix E represent all available investigation reports obtained by or provided to GHD. A summary of historical soil analytical data is presented on Tables 1A, 1B, and 1C, a summary of groundwater monitoring and analytical data is presented on Table 2, and a summary of soil gas analytical data is presented on Table 3. All available historical boring logs for the previous investigations are included in Appendix C. A summary of the well construction details is presented on Table 4.

4.2 Soil

A total of 82 soil samples have been collected to date at depths ranging from approximately 3 to 16 fbg. Soil samples were collected primarily in the vicinity of the former heating oil tank and downgradient (south). Figure 5 depicts all historical soil sample locations and soil concentrations exceeding MTCA Method A screening levels.

In 1989, Site assessment activities associated removal of the heating oil UST were completed. Soil samples were collected from five monitoring well borings (MW-1 through MW-5) and one hand boring (HB-1). Subsequent assessment in 1989 included five test pits in the vicinity and downgradient of the former heating oil tank. Soil sample MW-3 contained Total Petroleum Hydrocarbons (TPH) above reporting limits and TPH as diesel (TPHd) above MTCA Method A screening levels. Free phase product was also measured in well MW-3. Approximately 90 cubic yards of contaminated soil was removed from the Site. Soil collected from test pit TP-5 at 8 fbg contained a concentration of total TPH of 15,000 mg/kg, indicating impacts were present southeast of the former heating oil tank.

In 1997, Site assessment activities associated with a baseline Site assessment were completed. Five soil borings (SB-1 through SB-5) were advanced to depths of 9 to 11 feet bgs and four soil borings (HB-1 through HB-4) were advanced using a hand auger to a depth of 3 fbg. Laboratory analytical results indicate all soil samples collected contained concentrations of analyzed constituents either below detection limits or below MTCA Method A screening levels.

In 1999, additional Site characterization was completed in the vicinity of the 1989 test pit TP-5, located down gradient of the former heating oil tank. One monitoring well (MW-6) was installed and two soil samples were collected from the boring. Laboratory analytical results indicate concentrations of all analyzed constituents were below MTCA Method A screening levels.

In 2001 and 2002, additional subsurface investigations were completed to delineate the extent of previously identified impacts associated with the former heating oil tank. Eleven soil borings and thirteen soil samples were completed and collected in the vicinity of the former heating oil UST. Samples were collected at depths ranging from 6 to 11 fbg. TPHd was detected at concentrations exceeding the MTCA Method A screening level in samples B-1-8.5 and B-10-7.5. In 2002, two soil borings (P3 and P-5) were advanced and two soil samples were collected. P-3 was completed off-Property to the north and P-5 was completed along the northern Property boundary. Laboratory analytical results indicate concentrations TPHd and TPH as oil (TPHo) were below the MTCA Method A screening levels in both samples.

In 2013, two soil vapor probes (VP-1 and VP-2) and one groundwater monitoring (MW-8) well were installed. Three soil samples were collected from each borehole. Laboratory analytical results indicate concentrations were either below the laboratory detection limit or below MTCA Method A screening levels for all analyzed constituents.

In 2018, GHD oversaw remedial excavation activities immediately east of the onsite office building in the northeast portion of the property. The excavation was completed to an approximate depth of 14 to 15 fbg and extended from the eastern edge of the office building to the east approximately 30 to 34 feet, and from the northern property boundary to the south approximately 57 feet.

Concentrations of TPH as gasoline (TPHg) and TPHd exceeding their respective MTCA Method A screening levels were reported at the excavation extents in the southwest, northeast, and western sidewalls and at the excavation base. At the completion of excavation activities approximately 120 pounds of Oxygen Release Compound® (ORC) was applied to the base of the excavation and the site was restored to its existing condition. A total of 901 tons of petroleum contaminated soil and 8,138 gallons of groundwater generated during dewatering activities were transported for offsite disposal.

Subsequent to remedial excavation activities, GHD advanced one soil boring (B-12) and five monitoring wells (MW-9 through MW-13) to evaluate the post remedial excavation conditions and further evaluate left in place soil impacts at the remedial excavation extents and to define the impacted soil and groundwater extents.

Laboratory analytical results of the soil samples collected did not report concentrations of TPHg, TPHd, TPHo, and benzene, toluene, ethylbenzene, and xylenes (BTEX) above laboratory reporting limits and/or MTCA Method A screening levels with the exception of one soil sample collected from MW-10 at approximately 11 feet bgs. Sample MW-10-11 had a TPHg concentration of 221 mg/kg. exceeding the MTCA Method A screening level of 100 mg/kg. Monitoring well MW-10 was advanced in the vicinity of former MW-3/3A and the former heating oil tank.

In 2020, GHD completed Petrofix™ injections. As part of the injection activities, one soil sample was collected from injection point IP-1 to confirm whether previous impacts at soil sample location TB2 had attenuated. Laboratory analytical results did not indicate concentrations of any of the analyzed constituents above laboratory detection limits. Following injections, GHD oversaw the advancement of one additional boring (B-13) to the south of the former heating oil tank excavation. Laboratory analytical results did not indicate concentrations of any analyzed constituents above the laboratory detection limits. Waste disposal documents for the recent investigation activities are included as Appendix F. Laboratory analytical reports for the recent investigation activities are included as Appendix G.

4.3 Groundwater

A total of 14 (MW-1 through MW-13, and MW-3A) monitoring wells have been installed and monitored at the Site. In 2015, Leidos abandoned all monitoring wells at the Site except well MW-3A. Well MW-3A was removed during 2018 excavation activities. Monitoring wells MW-9 through MW-13 were installed in 2019 and are currently active at the Site. Table 2 summarizes historical groundwater monitoring and analytical data as well as current data from the newly installed wells. Figures 8 and 9 depict groundwater contour and chemical concentration maps for the first quarter 2021 and second quarter 2021 sampling events, respectively.

Former wells MW-1, MW-2, MW-5 and current wells MW-9, and MW-13 have not had concentrations above MTCA Method A screening levels since sampling was started for each well. Former Monitoring wells MW-3/3A and MW-7, located in the source area associated with the former heating oil tank had concentrations exceeding MTCA Method A screening levels each quarter they were sampled. Former wells MW-6 and MW-8 had intermittent exceedances of MTCA Method A screening levels but were primarily below screening levels most quarters. Existing wells MW-10 and MW-11, installed in the former source area following excavation activities and well MW-12, downgradient, had concentrations of TPHd and TPHo exceeding MTCA Method A screening levels

prior to Petrofix™ injections. Following injections, concentrations in all wells have reduced to below MTCA Method A screening levels for a minimum of four consecutive quarters.

Ecology expressed concern that groundwater impacts may be present directly south of the former source area and requested additional groundwater data be collected from that area. In November 2020, GHD oversaw the advancement of boring B-13. A temporary well was installed in the boring and a grab groundwater sample was collected. Laboratory analytical results did not indicate concentrations above the laboratory detection limits, confirming no groundwater impacts are present south of the former source area. Groundwater impacts have been delineated and a minimum of four consecutive quarters of concentrations below MTCA Method A screening levels has been demonstrated for all wells at the Site. Laboratory analytical results for boring B-13 are presented on Table 2. Laboratory analytical reports are included as Appendix G.

4.4 Surface Water

No surface water has been sampled as there has been no indication that surface water has been impacted by the release at the Site.

4.5 Sediment

No indication of surface water impact has been identified in association with the Site; therefore, no sediment sampling has been conducted.

4.6 Air/Soil Vapor

An on-Property building is present on the northern portion of the Site. Soil and groundwater impacts have been present within the 30-foot lateral inclusion zone and above the 15-foot vertical separation distance historically. In 2013, two soil vapor probes (VP-1 and VP-2) were installed in the vicinity of the on-Property building and between the former heating oil tank and the adjacent residence to the east. Soil vapor samples were collected from both vapor probes in September 2013. Laboratory analytical results did not indicate concentrations above the laboratory detection limits for any of the analyzed constituents. A summary of the soil vapor analytical results is presented on Table 3. The location of the vapor probes is presented on Figure 2. Following remedial excavation activities in 2018 and Petrofix™ injections 2020, the remaining impacts were either removed or treated by ORC™ during excavation activities or treated in-situ and have attenuated. Groundwater concentrations in former source area wells MW-10 and MW-11 are now below the vapor intrusion groundwater screening levels. Based on previous soil vapor data collected at the Site and results of the interim remedial activities, soil vapor intrusion is not a pathway of concern at the Site.

5. Interim Actions

In 1989, the former heating oil UST was removed from the Site. Limited over-excavation was completed following removal of the tank in order to limit impacts to business activities. Approximately 90 cubic yards of impacted soil was removed from the Site for disposal.

LNAPL removal activities were completed on well MW-3A between 1990 and 2011. LNAPL removal activities included hand bailing product, a passive product skimmer, absorbent socks, and vacuum truck fluid recovery events. The exact amount of free product recovered is unknown.

In October 2018, GHD oversaw the excavation of petroleum impacted soil in the vicinity of the former heating oil tank. At the completion of excavation activities approximately 120 pounds of ORC was applied to the base of the excavation and the site was restored to its existing condition. A total of 901 tons of petroleum contaminated soil and 8,138 gallons of groundwater generated during dewatering activities were transported for offsite disposal.

In April 2020, GHD oversaw the injection of 6,400 pounds of Petrofix ® solution into 24 temporary injection points (IP-1 through IP-24) immediately east and southeast of the office building in the northeast portion of the Property. The injection points treated three specific areas of residual soil and groundwater impacts: near former MW-7 and residual soil impacts along the eastern edge of the onsite office building, and the western extent of the 2018 remedial excavation; surrounding MW-10 and residual soil impacts left in place at the base of the 2018 remedial excavation; surrounding MW-11 and residual soil impacts at the base and southern extent of the 2018 remedial excavation.

6. Conceptual Model

Petroleum hydrocarbons were released to the subsurface from the former heating oil tank sometime prior to 1989. The exact date of the release is unknown. The released product migrated through the vadose zone to the groundwater table, effecting groundwater quality in the vicinity of the former heating oil tank. Former monitoring well MW-3A, contained LNAPL until it was decommissioned in 2018. Soil and groundwater impacts were primarily limited to the immediate vicinity of the former heating oil tank. The vertical and horizontal extent of the soil impacts has been fully delineated.

The Site and the immediate surrounding area are comprised of quaternary alluvium consisting of unconsolidated to semi-consolidated alluvial clay, silt, sand, gravel, and/or cobbles. Based on historical environmental investigations and the most recent soil investigation, soils beneath the Site are described as silty sand with intermittent clayey sand from the ground surface to approximately 20 fbg; the maximum depth explored.

Groundwater at the Site for all wells except MW-5 generally ranges from between approximately 9 to 12 fbg and is influenced seasonally by local agricultural irrigation. Average groundwater depth is 10.1 fbg. Groundwater flow direction at the Site is predominantly to the south-southeast.

Remedial Excavation activities, completed in 2018, removed the majority of soil impacts at the Site. Residual soil impacts, unable to be excavated, were left in place. Petrofix™ injections were completed in April 2020 to treat the remaining residual impacts. Groundwater concentrations have decreased and are now below MTCA Method A screening levels.

Nearby water bodies include a drainage ditch associated with the Sulfur Creek Wasteway, located approximately 400 feet west of the Site. The Property is zoned as Industrial. Land use in the immediate vicinity of the Property is zoned as industrial to the west, commercial to the north, and residential to the east and south. Property use is not anticipated to change.

Based on the results of the 2020 soil vapor sampling, soil gas concentrations do not exceed MTCA Method B soil gas screening levels for shallow soil.

In accordance with MTCA, potential exposure pathways for human and environmental receptors based on the current and planned land use identified include the following:

- Human health protection from soil to groundwater (drinking water)
- Human health protection from direct soil contact
- Human health protection from groundwater to drinking water
- Human health protection from soil vapor inhalation
- Human health protection from soil to surface water
- Human health protection from groundwater to surface water
- Terrestrial ecological protection

Based on information provided previously in this report, the following conclusions can be made:

- The soil to groundwater (drinking water) pathway is complete because the soil impacts have been in contact with groundwater and did effect groundwater quality.
- The direct soil contact pathway is complete because soil impacted with petroleum hydrocarbons has historically been present above the direct contact point of compliance (15 fbg).
- The groundwater to drinking water pathway is complete because shallow groundwater is currently classified as a potential future drinking water resource.
- The soil vapor inhalation pathway is incomplete based on the soil vapor sampling results and the lack of volatile organic compounds and petroleum remaining at the Site.
- The soil to surface water and groundwater to surface water pathways are incomplete due to no soil or groundwater impacts being present and the physical distance to the nearest surface water.
- Terrestrial environments are not a risk based on the results of the TEE, which resulted in an exclusion from further evaluation.

Based on the information provided, the potential exposure pathways are limited to soil direct contact, soil leaching to groundwater for protection of drinking water, and groundwater to drinking water. Cleanup standards addressing these potential pathways are discussed below.

7. Cleanup Standards

In accordance with MTCA, development of cleanup levels includes identifying potential exposure pathways for humans and environmental receptors based on the planned land use. The Property is currently zoned for industrial use, and future zoning is not anticipated to change. Contaminants of potential concern (COPCs) for this Site include the compounds listed in MTCA 173-340-900 Table 830-1 *Required Testing for Petroleum Releases.*

Based on data collected during Site investigation activities, the following COPCs were detected above their respective MTCA Method A Screening level and, therefore, are considered to be Contaminants of Concern (COCs) for the Site:

- TPHg, TPHd, TPHo

7.1 Groundwater Cleanup Levels

Groundwater in the vicinity of the Site is not classified for drinking water beneficial use for the City of Sunnyside but could potentially be classified for future drinking water use. Therefore, MTCA Method A groundwater cleanup levels for COCs at the Site will be used. The point of compliance for this Site is defined as the point at which the groundwater cleanup level must be attained; thus, the point of compliance is the entire Site. The groundwater cleanup levels are presented in Table 2.

7.2 Soil Cleanup Levels

Based on the potential potable use of groundwater beneath the Site, MTCA Method A soil cleanup levels for the COCs at the Site are appropriate. The points of compliance for this Site are all soils throughout the Site and may include soil below the water table. However, based on the groundwater compliance monitoring completed at the Site, an empirical demonstration can be made to confirm that the remaining petroleum impacted soil above MTCA Method A cleanup levels is no longer affecting groundwater quality. Therefore, the appropriate cleanup level for the remaining petroleum impacted soil at the Site is MTCA Method B cleanup levels for the protection of human direct contact. As discussed below, the MTCA Site does not extend off property and therefore, use of a Model Remedy is appropriate for this Site. Site-specific direct contact cleanup levels have been calculated for the Site. MTCA Method B direct contact calculations are included as Appendix H. The point of compliance for soil cleanup levels based on direct contact soil from the ground surface to a depth of 15 feet bgs. Soil cleanup levels for Site COCs are presented in Table 1.

8. Areas Requiring Future Management

Concentrations of Site COCs measured during Site investigation activities were compared to the applicable Site cleanup standards discussed in Section 6. Areas where concentrations exceeded the Site cleanup standards are discussed below.

8.1 Soil Requiring Future Management

Current soil conditions are depicted on Figure 10. Shallow soil sample B-1, collected in 2001, near the northeast corner of the Property building, had reported soil impacted with petroleum hydrocarbon concentrations above MTCA Method A cleanup levels. During excavation activities in 2018, sidewall performance samples were collected from the northwest corner of the excavation near location B-1. Laboratory analysis of soil sample NW, confirmed soil impacts in the vicinity of B-1 have attenuated to below MTCA Method A cleanup levels. Sidewall soil sample TB-2, collected during 2018 excavation activities, reported soil impacted with TPHg above MTCA Method A cleanup levels. During 2020 injection activities, soil sample IP-1, was collected at the same location as TB-2. Laboratory analytical results for soil sample IP-1 were non-detect, indicating previous impacted soil at TB-2 has attenuated to below MTCA Method A cleanup levels. Sidewall soil sample 6, collected

during 2018 excavation activities, reported soil impacted with TPHg above MTCA Method A cleanup levels. During supplemental site assessment activities in 2019, soil sample B-12, was collected at the same location as sample 6. Laboratory analytical results for soil sample B-12 were non-detect, indicating previous impacted soil at sample 6 has attenuated to below MTCA Method A cleanup levels. Sidewall soil sample 22, collected during 2018 excavation activities, reported soil impacted with TPHg and TPHd above MTCA Method A cleanup levels. During supplemental site assessment activities in 2019, soil samples collected from boring MW-11, were collected in the immediate vicinity of the sample 22 location. Laboratory analytical results for soil samples from MW-11 were non-detect, indicating previous impacted soil at the sample 22 location has attenuated to below MTCA Method A cleanup levels. Soil samples 8, 24, and MW-10 were collected in the middle portions of the excavation and were collected at or below the water table. Following Petrofix™ injections in the vicinity of these sample locations in April 2020, groundwater concentrations have decreased to below MTCA Method A cleanup levels for a minimum of four consecutive quarters. This demonstrates empirically that the soil impacts in these areas are no longer impacting groundwater. Soil analytical results for samples 24 and MW-10 were compared to the Method B direct contact TPH cleanup level calculated for the Site and all three concentrations were below the Method B TPH cleanup level of 2,165 mg/kg. Sample 8, was collected during excavation activities from the bottom of the excavation. The excavation was advanced down the direct contact point of compliance (15 fbg) and the sample was collected below the point of compliance from approximately 15 – 15.5 fbg. Additionally, the area around sample 8 was treated with ORC prior to backfilling the excavation and later injected with Petrofix to treat any residual impacts. Well MW-10, in the immediate vicinity of the sample 8, has demonstrated groundwater is in compliance with MTCA Method A cleanup levels. Due to these factors, it has been demonstrated that soil at sample location 8 is in compliance with MTCA cleanup standards.

Based on the information provided in this report, all current soil at the Site has been demonstrated to be below MTCA method A cleanup levels and/or below the Site-Specific Method B cleanup level. Therefore, no further management of soil is necessary at the Site.

8.2 Groundwater Requiring Future Management

Groundwater conditions are depicted on Figures 8 and 9. Groundwater concentrations of petroleum constituents have been below MTCA Method A cleanup levels for four consecutive quarters following completion of excavation and injection activities. Groundwater impacts have been fully delineated. No future management of groundwater is necessary at the Site.

9. Request for No Further Action

Based on the environmental activities conducted to date, all soil and groundwater has been adequately characterized at the Site. The MTCA Site boundary is located within the Property boundary and therefore, the Site qualifies for use of Model Remedy No. 5, as identified in Ecology's *Model Remedies for Sites with Petroleum Impacts to Groundwater* (Publication No. 16-09-057, August 2016) based on the following:

- Remediation efforts have been completed as discussed in Section 5 of this report.

- Sufficient groundwater monitoring has been completed and groundwater quality is no longer affected, therefore an empirical demonstration can be used to establish Site-Specific MTCA Method B cleanup levels for soil.
- MTCA Method B soil cleanup levels are protective of the direct contact pathway.
- The vapor intrusion pathway has been adequately addressed.

No environmental covenant is necessary due to the absence of a vapor intrusion pathway based on data collected at the Site. All cleanup levels have been met at all points of compliance throughout the Site and therefore GHD is requesting a NFA determination for the Site. All site monitoring wells will be properly decommissioned once the NFA is received. All data will be uploaded to Ecology's EIM database in preparation for the NFA.

10. References

City of Sunnyside, *Zoning Map,* 2012, http://www.ci.sunnyside.wa.us/DocumentCenter/View/123/zoning-map?bidId=

City of Sunnyside, http://www.ci.sunnyside.wa.us/196/Water-Division

Yakima County. *Assessor Records*.

Campbell, N.P. *Geology of the Snipes Mountain Area, Yakima County, Washington: Washington Division of Geology and Earth Resources, Open File Report 77-8, scale 1:24,000*. 1977

GeoEngineers. *Subsurface Contamination Study.* August 25, 1989

Pacific Environmental Group (PEG). *Summary of Site Assessment Activities.* February 12, 1998

GeoEngineers. *Additional Site Characterization.* May 25, 1999

GeoEngineers. *Delineation Assessment Report.* January 10, 2003

Delta Environmental Consultants, Inc. (Delta). *Site Receptor Survey Report.* July 1, 2004

Arcadis. *Soil Vapor Investigation Report.* December 30, 2013

GHD. *Site Assessment Work Plan.* December 14, 2017

GHD. *Interim Action Report - Excavation.* September 24, 2019

GHD. *Interim Action Report – Injections.* October 7, 2020

Washington State Department of Ecology. *Facility Site Database Search*.

Washington State Department of Ecology. *Model Toxics Control Act*, Publication No. 94-06, Revised 2013

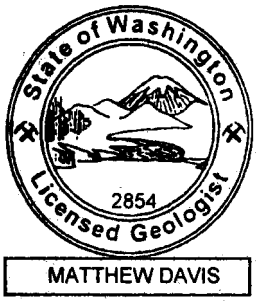
Washington State Department of Ecology. *Terrestrial Ecological Evaluation.* *http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm*.

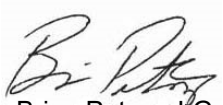
Washington State Department of Ecology. *Washington State Well Log Viewer*.

All of Which is Respectfully Submitted,

GHD

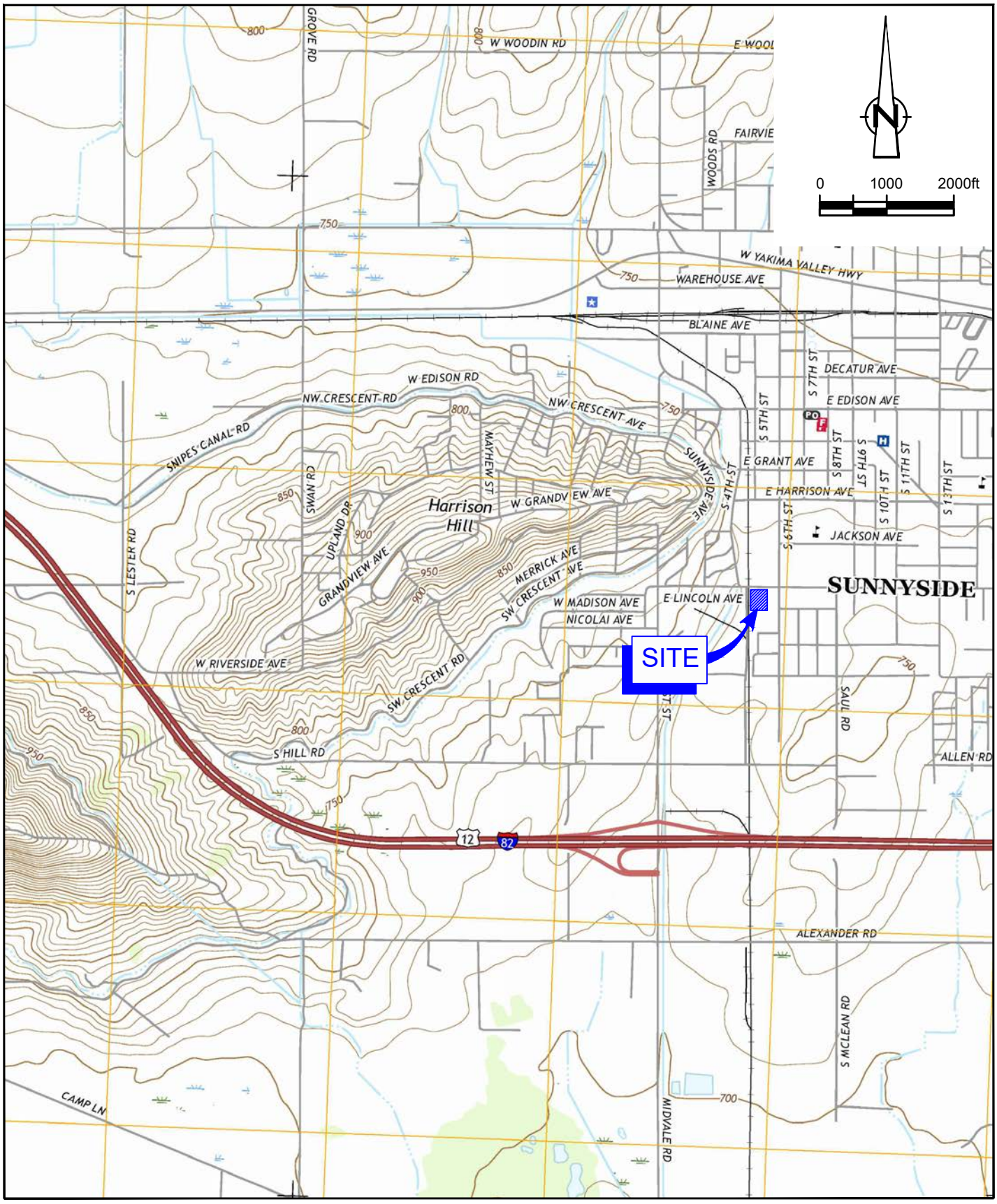
Matthew Davis, LG





Brian Peters, LG

Figures



Source: USGS QUADRANGLE MAP: SUNNYSIDE, WA. (2017).

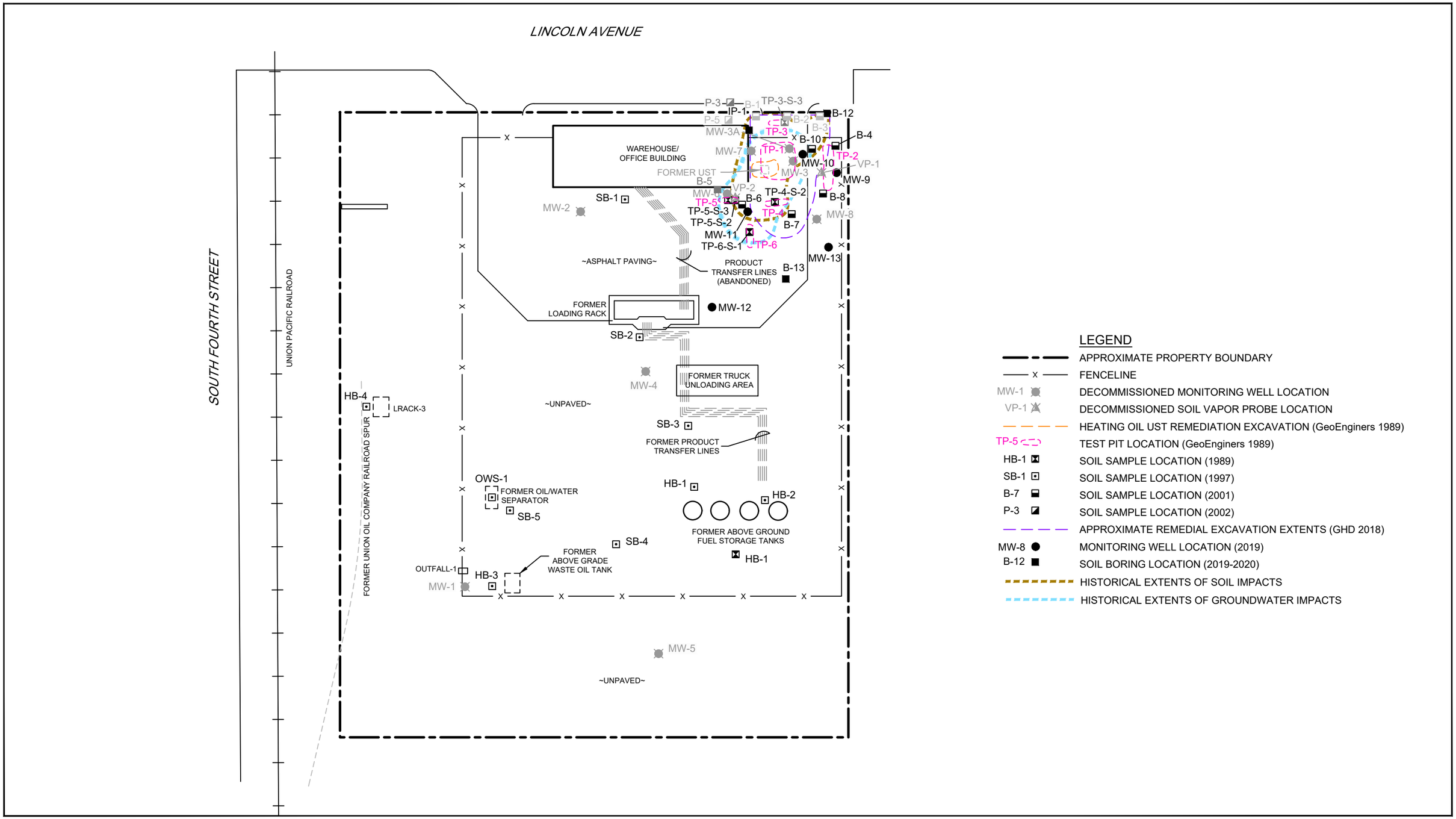
PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

11209892
May 14, 2021

SITE LOCATION MAP

FIGURE 1

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0101_WA-002.DWG



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCELINE
- MW-1 — DECOMMISSIONED MONITORING WELL LOCATION
- VP-1 — DECOMMISSIONED SOIL VAPOR PROBE LOCATION
- HEATING OIL UST REMEDIATION EXCAVATION (GeoEnginers 1989)
- TP-5 — TEST PIT LOCATION (GeoEnginers 1989)
- HB-1 — SOIL SAMPLE LOCATION (1989)
- SB-1 — SOIL SAMPLE LOCATION (1997)
- B-7 — SOIL SAMPLE LOCATION (2001)
- P-3 — SOIL SAMPLE LOCATION (2002)
- APPROXIMATE REMEDIAL EXCAVATION EXTENTS (GHD 2018)
- MW-8 — MONITORING WELL LOCATION (2019)
- B-12 — SOIL BORING LOCATION (2019-2020)
- HISTORICAL EXTENTS OF SOIL IMPACTS
- HISTORICAL EXTENTS OF GROUNDWATER IMPACTS

Source: ARCADIS, FIGURE 2, SITE PLAN.

0 20 40ft

Coordinate System:
WASHINGTON SOUTH
STATE PLANE NAD83 FEET

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

11209892

Jun 7, 2021

SITE PLAN

FIGURE 2

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0102_WA-002.DWG

Data Source: 10-2018 Imagery © 2019 Google Earth, Accessed: 2019.

0 50 100ft

Coordinate System:
WASHINGTON SOUTH
STATE PLANE NAD83 FEET

LEGEND

APPROXIMATE PROPERTY LINE

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

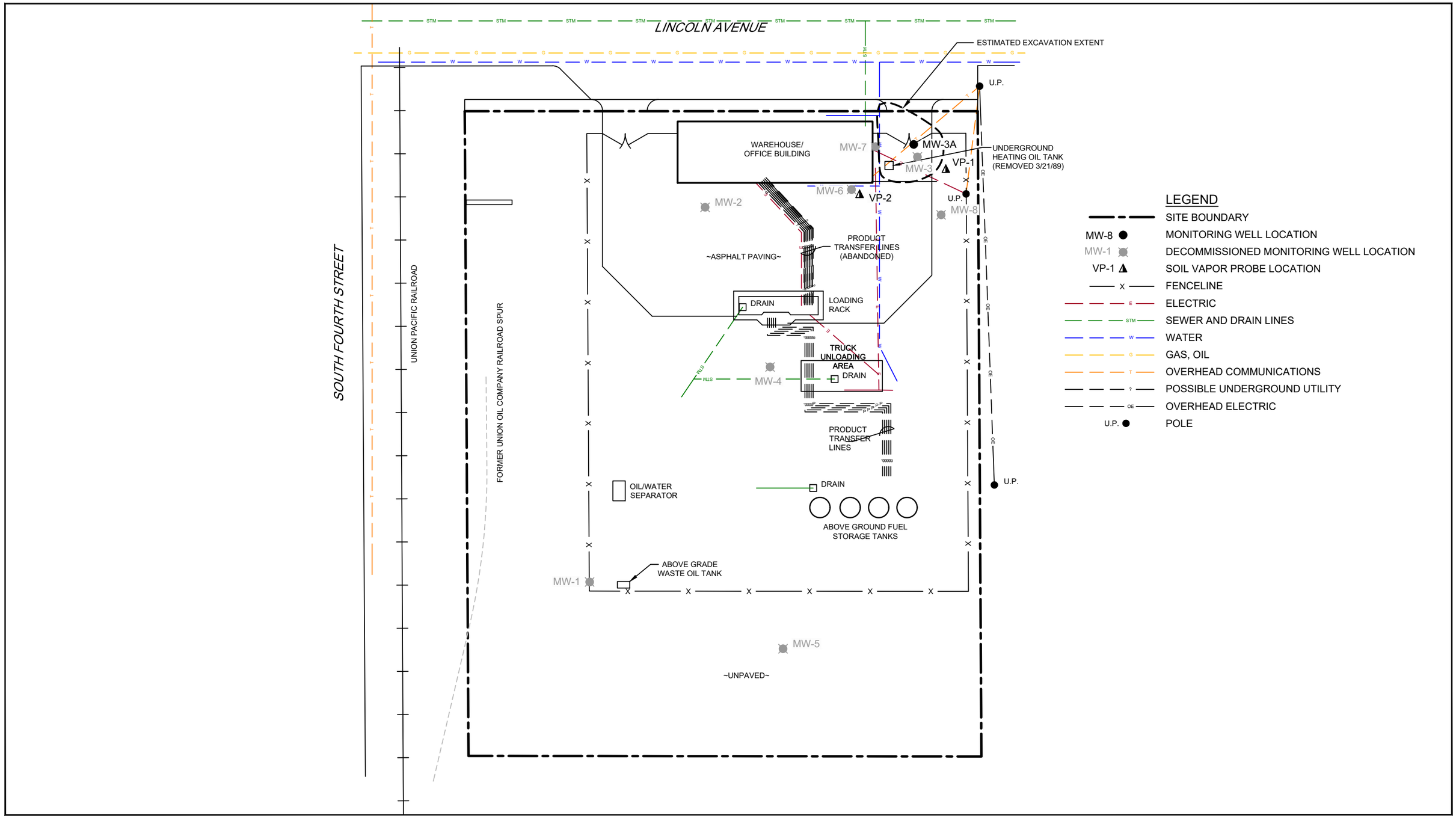
11209892

May 14, 2021

AREA MAP

FIGURE 3

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0103_WA-002.DWG



Source: ARCADIS, FIGURE 2, SITE PLAN.

0 20 40ft

Coordinate System:
WASHINGTON SOUTH
STATE PLANE NAD83 FEET

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

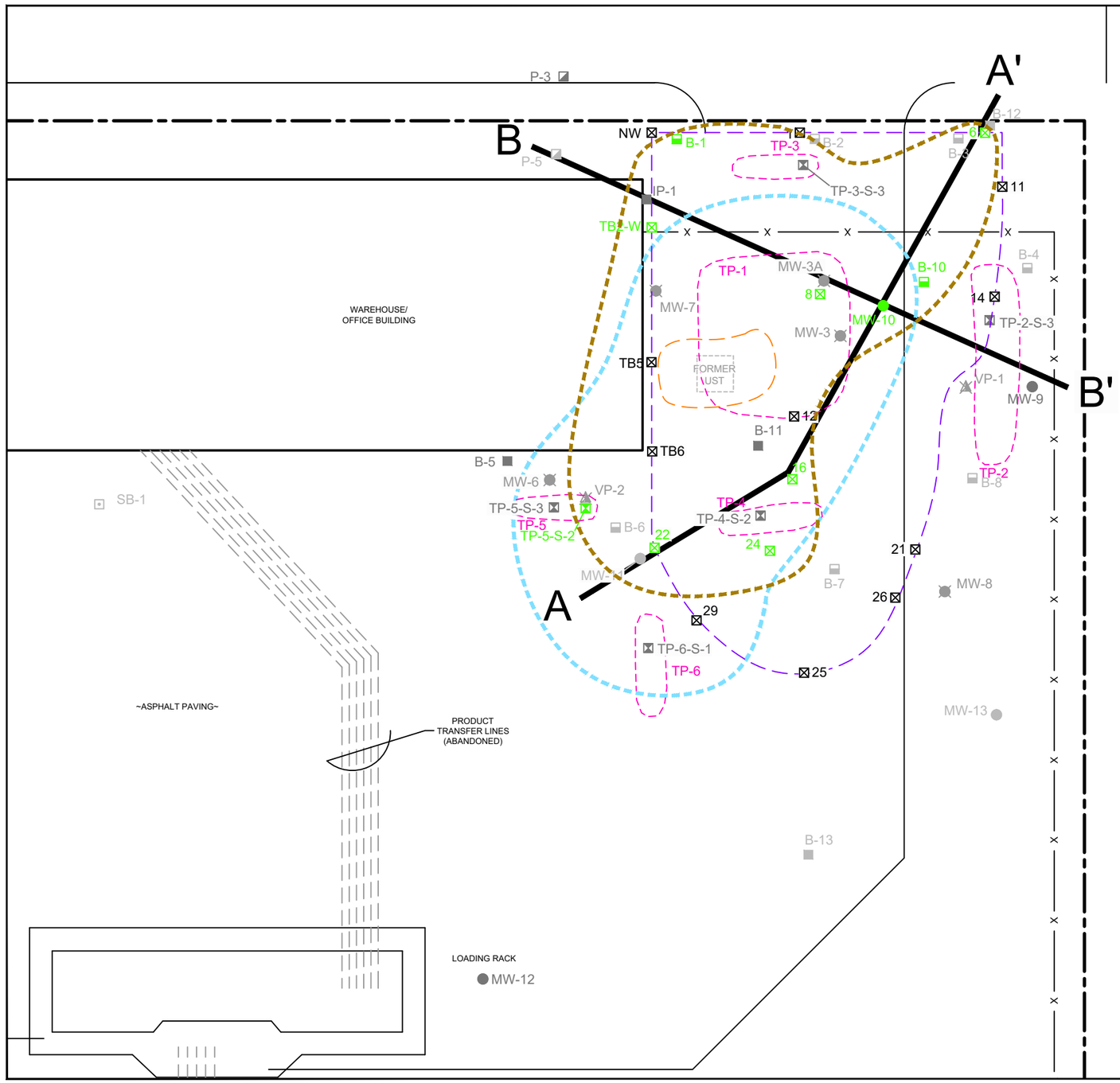
11209892

May 14, 2021

UTILITY MAP

FIGURE 4

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0104_WA-002.DWG



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- x FENCELINE
- MW-1 DECOMMISSIONED MONITORING WELL LOCATION
- VP-1 DECOMMISSIONED SOIL VAPOR PROBE LOCATION
- HEATING OIL UST REMEDIATION EXCAVATION (GeoEngineers 1989)
- TP-5 TEST PIT LOCATION (GeoEngineers 1989)
- HB-1 SOIL SAMPLE LOCATION (1989)
- SB-1 SOIL SAMPLE LOCATION (1997)
- B-7 SOIL SAMPLE LOCATION (2001)
- P-3 SOIL SAMPLE LOCATION (2002)
- APPROXIMATE REMEDIAL EXCAVATION EXTENTS (GHD 2018)
- 16 SOIL SAMPLE LOCATION (2018)
- MW-8 MONITORING WELL LOCATION (2019)
- B-12 SOIL BORING LOCATION (2019)
- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED MTCA METHOD A CLEANUP LEVELS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE MTCA METHOD A CLEANUP LEVELS
- HISTORICAL EXTENTS OF SOIL IMPACTS
- HISTORICAL EXTENTS OF GROUNDWATER IMPACTS
- CROSS-SECTION

Source: ARCADIS, FIGURE 2, SITE PLAN.

0 6 12ft

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

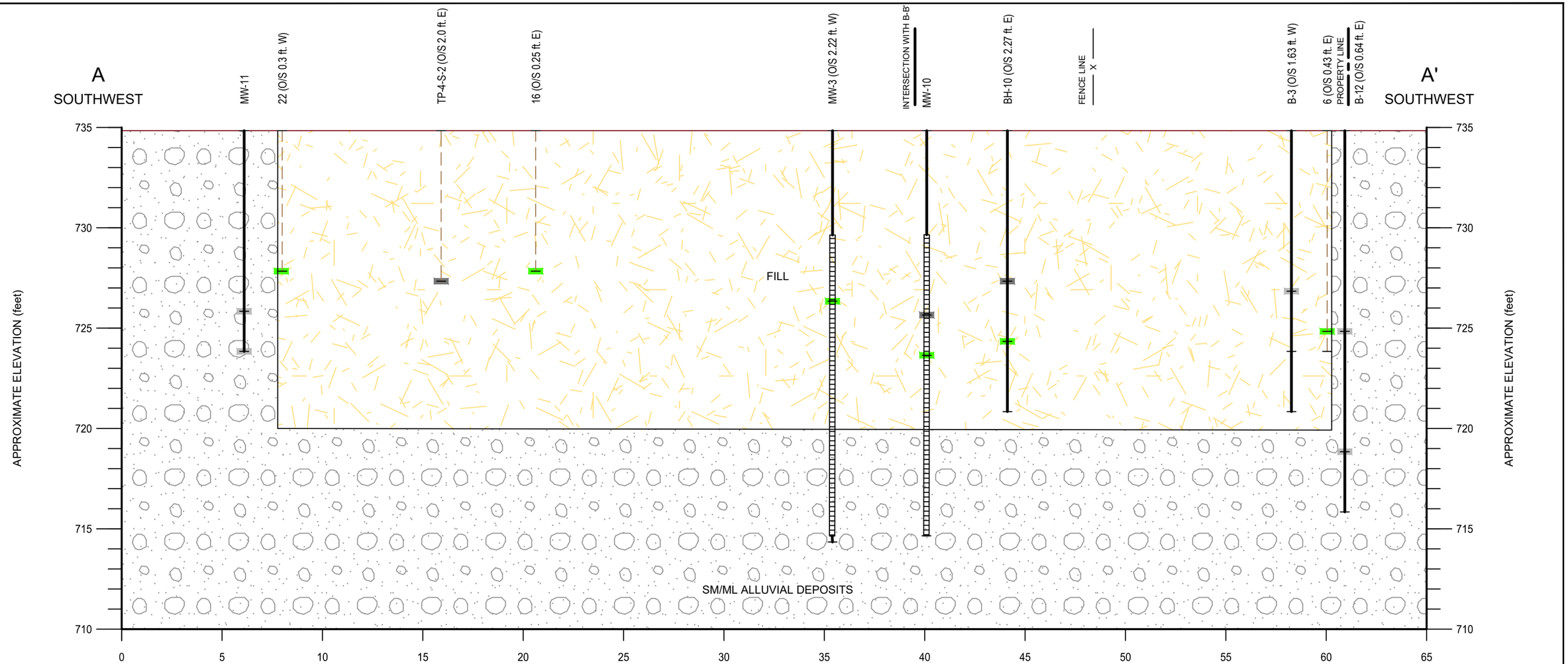
11209892

May 17, 2021

SOIL INVESTIGATION MAP

FIGURE 5

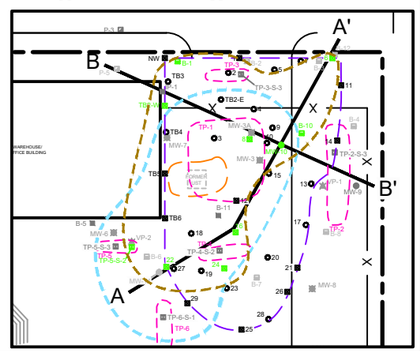
CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0108_WA-002.DWG



LEGEND

MW-2
- WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- SCREENED INTERVAL
- BOTTOM OF BORING

- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE MTCA A SCREENING LEVELS
- INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE MTCA METHOD A SCREENING LEVELS



Source: ARCADIS, FIGURE 2, SITE PLAN.

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

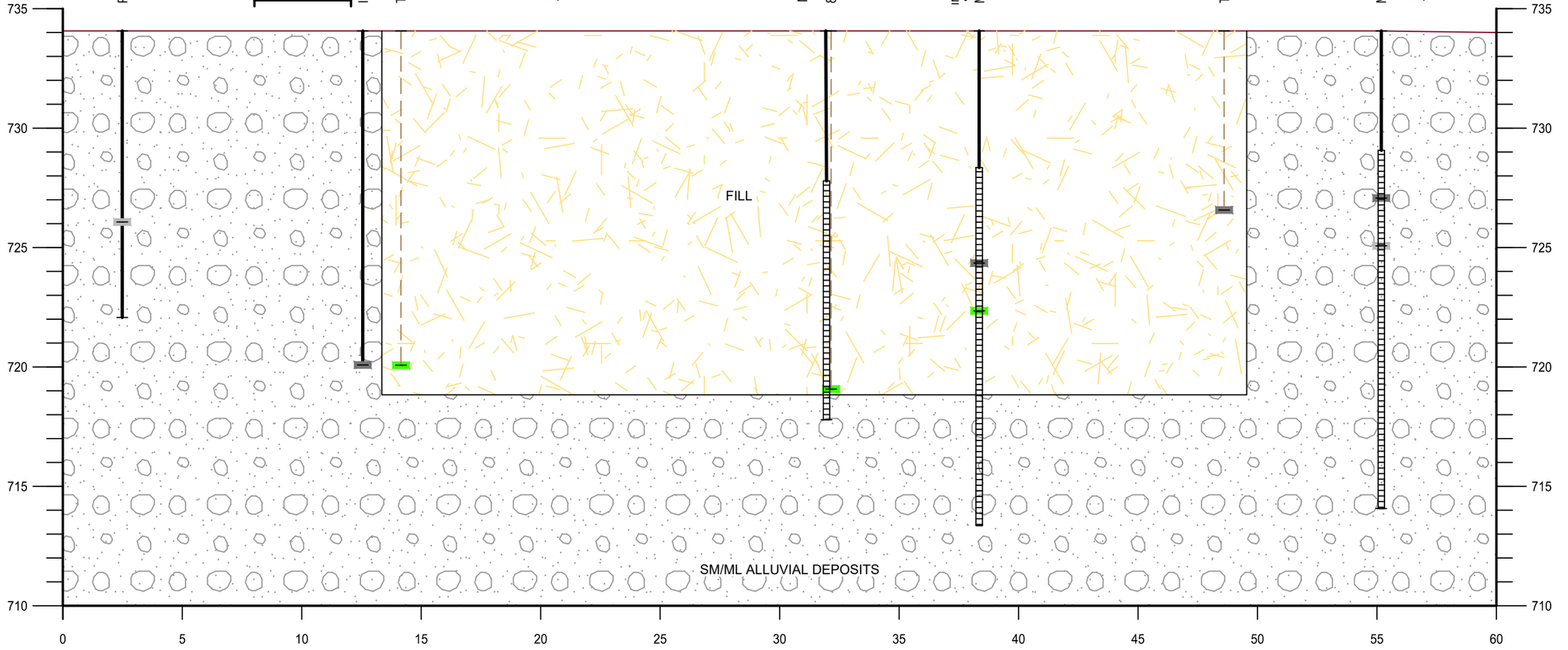
11209892

May 17, 2021

CROSS-SECTION A - A'

FIGURE 6

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0108_WA-002.DWG

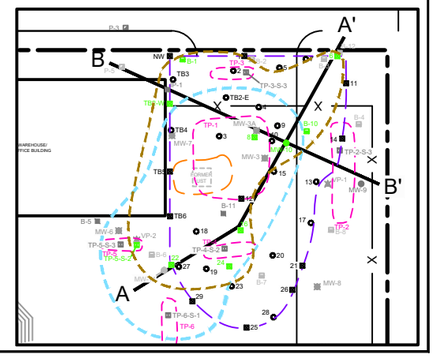


SCALE: HORZ. 1" = 1'
VERT. 1" = 5'

LEGEND

MW-2
- WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- SCREENED INTERVAL
- BOTTOM OF BORING

- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE MTCA A SCREENING LEVELS
- INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE MTCA METHOD A SCREENING LEVELS



Source: ARCADIS, FIGURE 2, SITE PLAN.

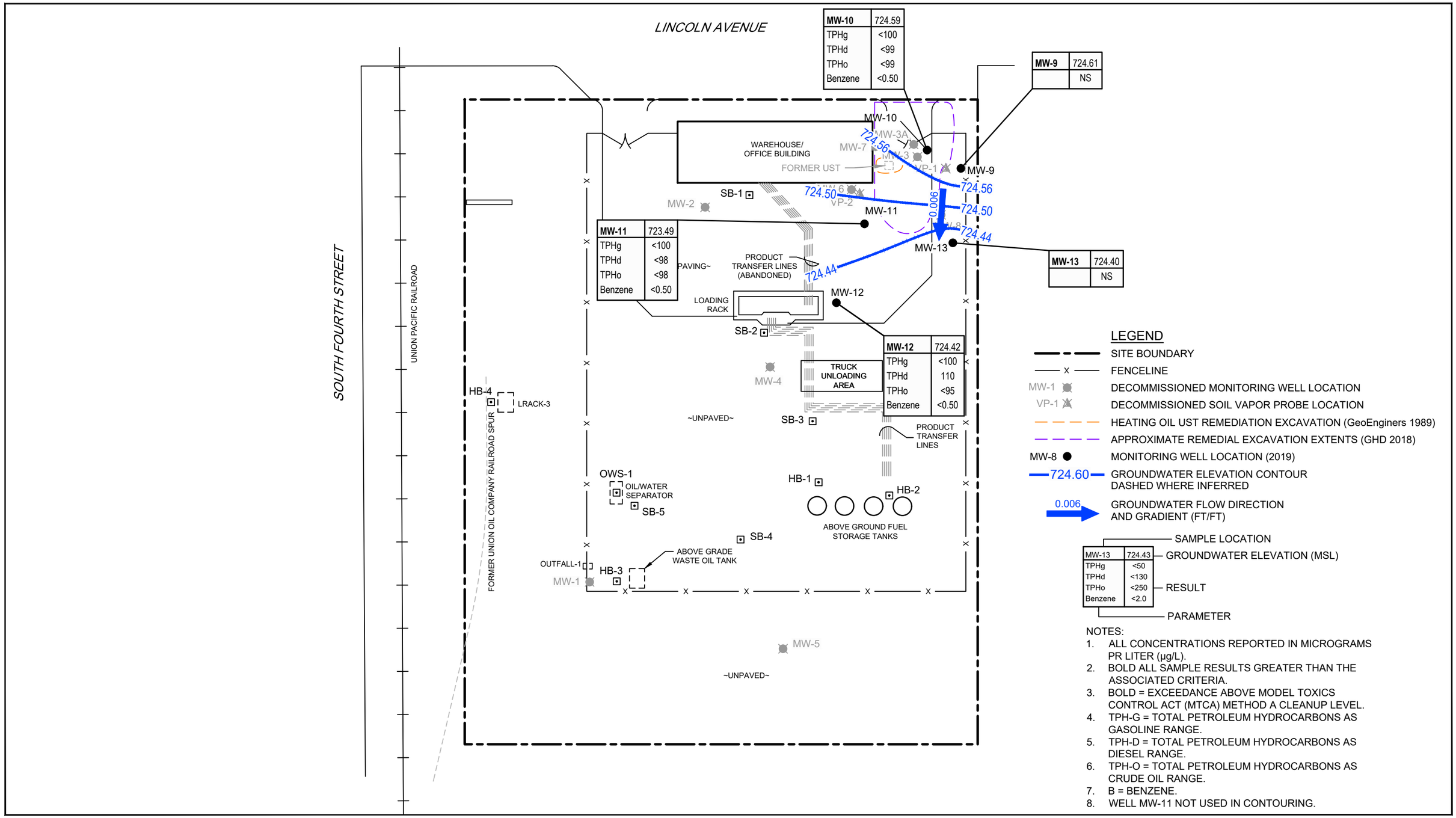
PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

11209892
May 17, 2021

CROSS-SECTION B - B'

FIGURE 7

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0108_WA-002.DWG



NOTES:
1. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PR LITER (µg/L).
2. BOLD ALL SAMPLE RESULTS GREATER THAN THE ASSOCIATED CRITERIA.
3. BOLD = EXCEEDANCE ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.
4. TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
5. TPH-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE.
6. TPH-O = TOTAL PETROLEUM HYDROCARBONS AS CRUDE OIL RANGE.
7. B = BENZENE.
8. WELL MW-11 NOT USED IN CONTOURING.

Source: LEIDOS, FIGURE 1, POTENTIOMETRIC MAP JANUARY 22, 2014., DATED 10/29/2014.

0 20 40ft

Coordinate System:
WASHINGTON SOUTH
STATE PLANE NAD83 FEET

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

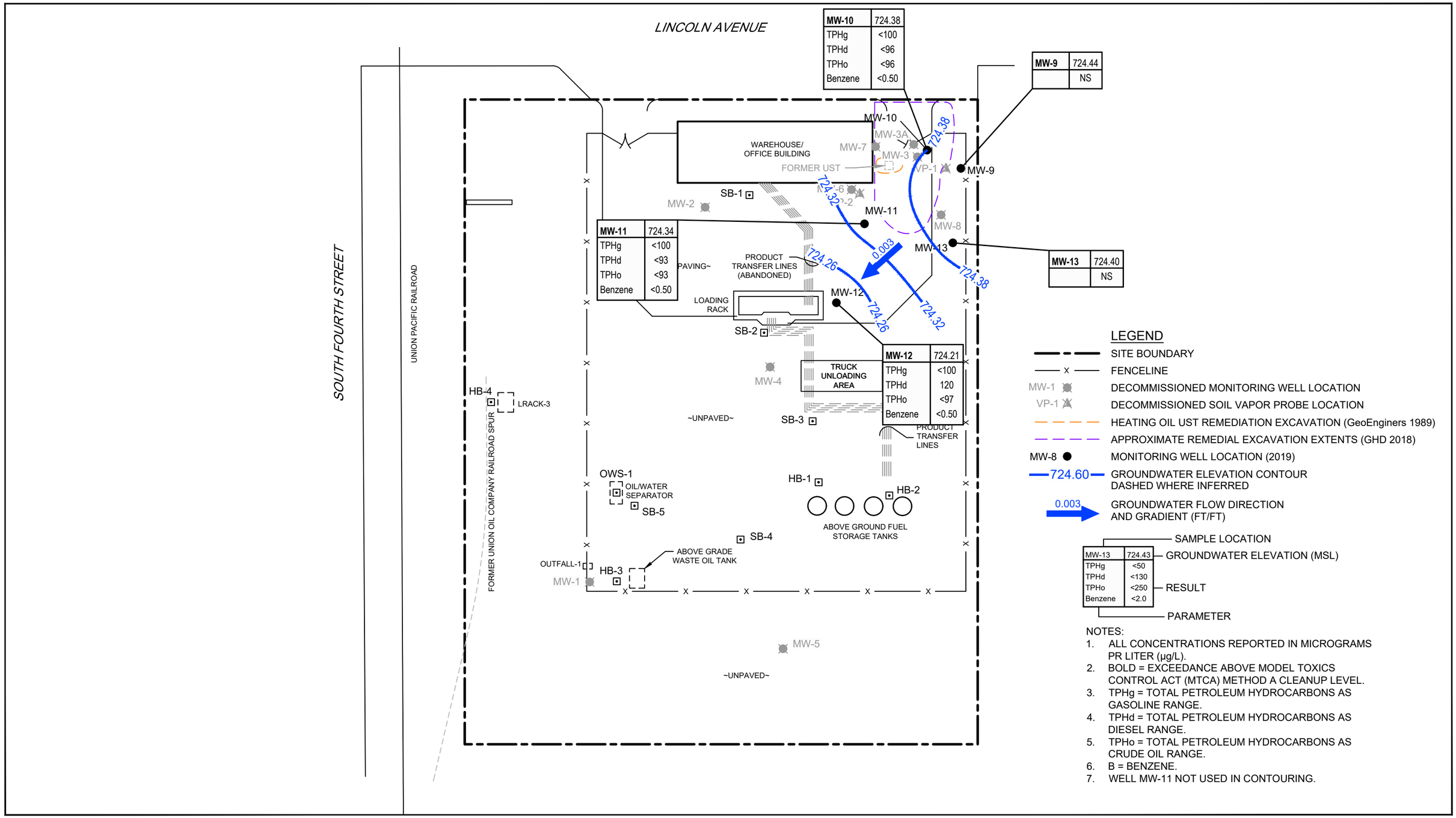
GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION MAP - FEBRUARY 24, 2021

11209892

May 14, 2021

FIGURE 8

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0109_WA-002.DWG



NOTES:
1. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PR LITER (µg/L).
2. BOLD = EXCEEDANCE ABOVE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.
3. TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
4. TPHd = TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE.
5. TPHo = TOTAL PETROLEUM HYDROCARBONS AS CRUDE OIL RANGE.
6. B = BENZENE.
7. WELL MW-11 NOT USED IN CONTOURING.

Source: LEIDOS, FIGURE 1, POTENTIOMETRIC MAP JANUARY 22, 2014., DATED 10/29/2014.

0 20 40ft

Coordinate System: WASHINGTON SOUTH STATE PLANE NAD83 FEET

PHILLIPS 66 (AOC 5888)
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

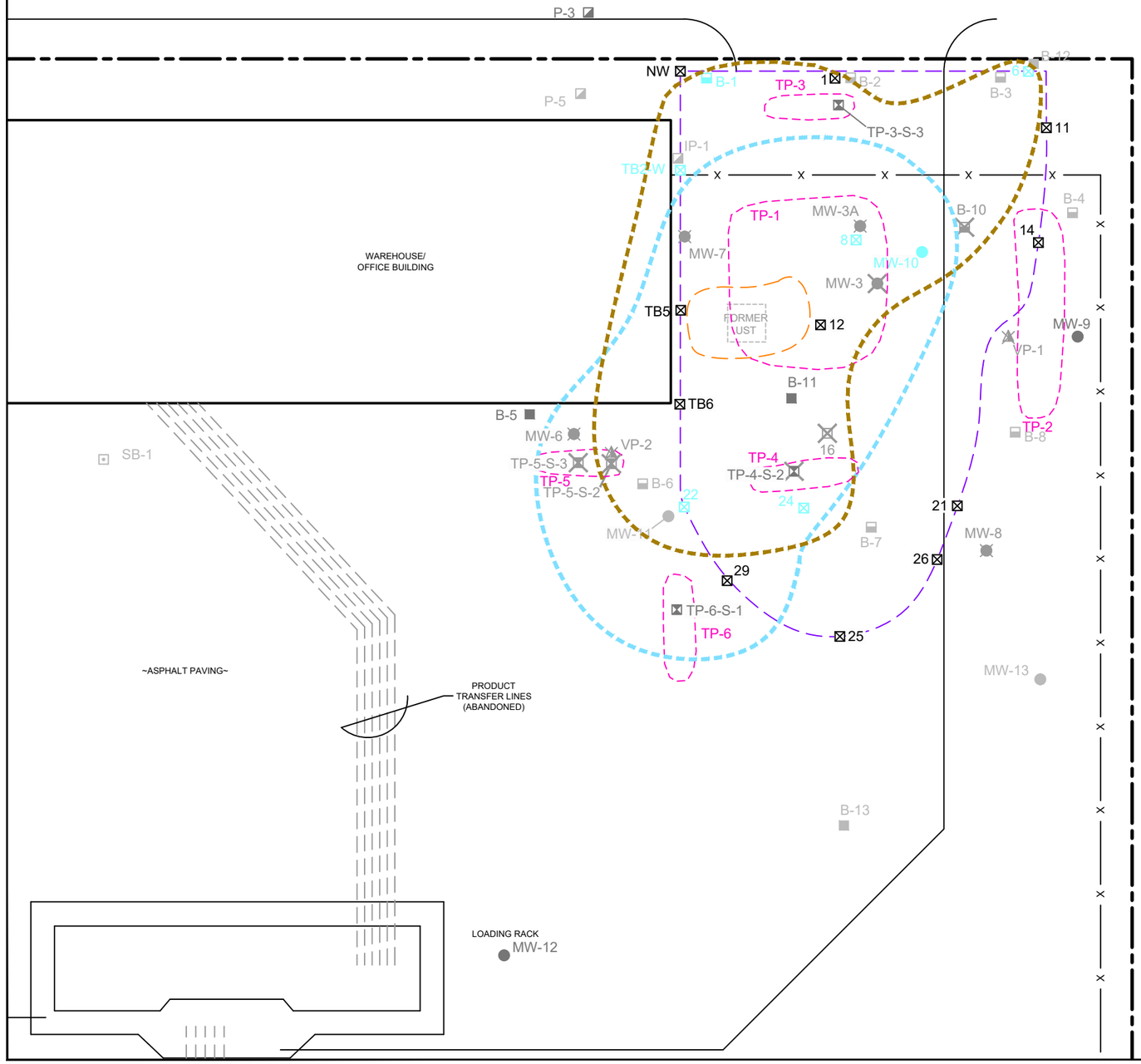
GROUNDWATER CONTOUR AND CHEMICAL CONCENTRATION MAP - MAY 5, 2021

11209892

May 17, 2021

FIGURE 9

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\11226601(formerly 11209892)\RPT001\11209892-GHD-0000-RPT-EN-0101_SO-001.DWG



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FENCELINE
- MW-1 — DECOMMISSIONED MONITORING WELL LOCATION
- VP-1 — DECOMMISSIONED SOIL VAPOR PROBE LOCATION
- HEATING OIL UST REMEDIATION EXCAVATION (GeoEnginers 1989)
- TP-5 — TEST PIT LOCATION (GeoEnginers 1989)
- HB-1 — SOIL SAMPLE LOCATION (1989)
- SB-1 — SOIL SAMPLE LOCATION (1997)
- B-7 — SOIL SAMPLE LOCATION (2001)
- P-3 — SOIL SAMPLE LOCATION (2002)
- APPROXIMATE REMEDIAL EXCAVATION EXTENTS (GHD 2018)
- 16 — SOIL SAMPLE LOCATION (2018)
- MW-8 — MONITORING WELL LOCATION (2019)
- B-12 — SOIL BORING LOCATION (2019)
- OVER EXCAVATED SAMPLE LOCATION
- INDICATES ALL CONCENTRATIONS WERE BELOW LABORATORY REPORTING LIMITS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED MTCA METHOD A CLEANUP LEVELS
- INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE MTCA METHOD A CLEANUP LEVELS BUT WAS LATER CONFIRMED BELOW CLEANUP LEVELS BY COLLECTION OF CONFIRMATION SOIL SAMPLES OR THROUGH EMPIRICAL DEMONSTRATION USING GROUNDWATER DATA.
- HISTORICAL EXTENTS OF SOIL IMPACTS
- HISTORICAL EXTENTS OF GROUNDWATER IMPACTS

Source: ARCADIS, FIGURE 2, SITE PLAN.

0 6 12ft

PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

11209892

May 17, 2021

CURRENT SOIL CONDITIONS MAP

FIGURE 10

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0106_WA-002.DWG

Tables

Table 1A

Summary of Soil Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Sample Location	Sample ID	Sample Date	Sample Depth	Sample Location	TPH	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	cPAHs	Naphthalene
	MTCA Method A Cleanup Levels:					**100**	**2,000**	**2,000**	**0.03**	**7.0**	**6.0**	**9.0**	**0.1**	**0.1**	**5.0**
	Site-Specific MTCA Method B Cleanup Level:						**2,165**								
			(ft bgs)			***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***
MW-1	MW-1	3/30/1989	3.5	---	820	ND	540	---	---	---	---	---	---	---	---
MW-2	MW-2	3/30/1989	8.5	---	2.5	ND	40	---	---	---	---	---	---	---	---
MW-3	MW-3	3/30/1989	8.5	---	33,000	<500	23,000	---	---	---	---	---	---	---	---
MW-4	MW-4	3/30/1989	8.5	---	57	ND	84	---	---	---	---	---	---	---	---
MW-5	MW-5	3/30/1989	3.5	---	ND	ND	ND	---	---	---	---	---	---	---	---
HB-1	HB-1	3/30/1989	5	---	1.3	ND	ND	---	---	---	---	---	---	---	---
TP-2	TP-2-S-3	8/25/1989	7.5	---	230	---	---	---	---	---	---	---	---	---	---
TP-3	TP-3-S-3	8/25/1989	10	---	14	---	---	---	---	---	---	---	---	---	---
TP-4	TP-4-S-2	8/25/1989	7.5	---	11	<50	780	---	---	---	---	---	---	---	---
	TP-4-S-3	8/25/1989	7.5	---	<1	---	---	---	---	---	---	---	---	---	---
TP-5	TP-5-S-2	8/25/1989	8	---	**15,000**	---	---	---	---	---	---	---	---	---	---
TP-5	TP-5-S-3	8/25/1989	10	---	940	---	---	---	---	---	---	---	---	---	---
TP-6	TP-6-S-1	8/25/1989	8	---	1.1	---	---	---	---	---	---	---	---	---	---
---	Stockpile	8/25/1989	---	---	7,000	<50	670	---	---	---	---	---	---	---	---
HB-1	HB-1@3	10/7/1997	3	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
HB-2	HB-2@3	10/7/1997	3	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
HB-3	HB-3@3	10/7/1997	3	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
HB-4	HB-4@3	10/7/1997	3	---	---	ND	23.3	ND	ND	ND	ND	ND	---	---	---
SB-1	SB-1@5	10/7/1997	5	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
SB-2	SB-2@5	10/7/1997	5	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
SB-3	SB-3@5	10/7/1997	5	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
SB-4	SB-4@5	10/7/1997	5	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
SB-5	SB-5@5	10/7/1997	5	---	---	ND	ND	ND	ND	ND	ND	ND	---	---	---
MW-6	MW-6-3-7.5	3/19/1999	7.5	---	---	51	241	<25	<0.05	<0.05	<0.0650	<0.120	<1	---	---
	MW-6-4-10	3/19/1999	10	---	---	<5	<10	<25	<0.05	<0.05	<0.0650	<0.100	<1	---	---
B-1	B-1-8.5[D]	4/1/2001	8.5	---	---	---	9,150	<1,020	---	---	---	---	---	---	---
	B-1-14	4/1/2001	14	---	---	---	45.6	<25	---	---	---	---	---	---	---
B-2	B-2-8.5	4/1/2001	8.5	---	---	---	<10	<25	---	---	---	---	---	---	---
B-3	B-3-8	4/1/2001	8	---	---	---	<10	<25	---	---	---	---	---	---	---
B-4	B-4-6.5	4/1/2001	6.5	---	---	---	<10	<25	---	---	---	---	---	---	---
B-5	B-5-6	4/1/2001	6	---	---	---	11.5	44.2	---	---	---	---	---	---	---
B-6	B-6-6.5	4/1/2001	6.5	---	---	---	<10	<25	---	---	---	---	---	---	---
B-7	B-7-7	4/1/2001	7	---	---	---	<10	<25	---	---	---	---	---	---	---
B-8	B-8-6.5	4/1/2001	6.5	---	---	---	<10	<25	---	---	---	---	---	---	---
B-9	B-9-11	4/1/2001	11	---	---	---	1,320	61.2	---	---	---	---	---	---	---
B-10	B-10-7.5	4/1/2001	7.5	---	---	---	16,200	<1,020	---	---	---	---	---	---	---
	B-10-10.5	4/1/2001	10.5	---	---	---	10.2	<25	---	---	---	---	---	---	---
B-11	B-11-8	4/1/2001	8	---	---	---	164	<25	---	---	---	---	---	---	---
P-3	P-3-5	10/25/2002	5	---	---	< 5	14.9	90	< 0.03	< 0.05	< 0.05	< 0.1	---	---	---
P-5	P-5-8	10/25/2002	8	---	---	< 5	<10	<25	< 0.03	< 0.05	< 0.05	< 0.1	---	---	---

Table 1A

Summary of Soil Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Sample Location	Sample ID	Sample Date	Sample Depth	Sample Location	TPH	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	cPAHs	Naphthalene
	MTCA Method A Cleanup Levels:					**100**	**2,000**	**2,000**	**0.03**	**7.0**	**6.0**	**9.0**	**0.1**	**0.1**	**5.0**
	Site-Specific MTCA Method B Cleanup Level:						**2,165**								
			(ft bgs)			***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***
	VP-1	08/20/13	1-1.1	---	---	< 1	< 3.1	< 10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.050	---	---
VP-1	VP-1	08/20/13	3-3.5	---	---	< 1.4	< 3.6	< 12	< 0.0069	< 0.0069	< 0.0069	< 0.021	< 0.069	---	---
	VP-1	08/20/13	5-5.5	---	---	< 1.3	< 3.6	< 12	< 0.0066	< 0.0066	< 0.0066	< 0.020	< 0.066	---	---
	VP-2	08/21/13	1-1.1	---	---	< 1.1	< 3.2	< 11	< 0.0054	< 0.0054	< 0.0054	< 0.016	< 0.054	---	---
VP-2	VP-2	08/21/13	3-3.5	---	---	< 1.3	< 3.6	< 12	< 0.0063	< 0.0063	< 0.0063	< 0.019	< 0.063	---	---
	VP-2	08/21/13	5-5.5	---	---	< 1.4	< 3.8	< 13	< 0.0071	< 0.0071	< 0.0071	< 0.021	< 0.071	---	---
	MW-8	08/20/13	1-1.1	---	---	2.1	98	< 10	< 0.0057	0.0088	< 0.0057	< 0.017	< 0.057	---	---
MW-8	MW-8	08/20/13	5-5.5	---	---	< 1.3	< 3.7	< 12	< 0.0063	< 0.0063	< 0.0063	< 0.019	< 0.063	---	---
	MW-8	08/20/13	9-9.5	---	---	< 1.1	< 4.0	< 13	< 0.0056	< 0.0056	< 0.0056	< 0.017	< 0.056	---	---
TB-6	S-100818-EM-TB6-14	10/08/18	14	West sidewall at excavation bottom	---	56.3	195	<4.71	0.00081	<0.00075	0.00118	<0.00677	---	---	---
6	S-100818-EM-6-10[b,e]	10/08/18	10	Sidewall at NE corner	---	160	1,200	10.3	<0.000508	0.00183	0.0245	0.35	<7.15	0.01	2.59
8	S-101018-EM-8-15[a,b,g]	10/10/18	15	Bottom middle	---	419	2,620	25.4	0.00601	0.00401	1.04	0.035	<7.15	0.01	4.76
14	S-101018-EM-14-13	10/10/18	13	East sidewall	---	1.79	<1.98	<4.96	<0.000596	<0.00186	0.00212	<0.00712	---	---	---
16	S-101018-EM-16-7	10/10/18	7	middle of southern portion of excavation	---	362	**10,300**	83.8	0.00295	0.00318	0.29	2.11	---	---	---
NW	S-101118-EM-NW-14	10/11/18	14	Sidewall, bottom at NW corner	---	22.2	106	<123	<0.00123	<0.00616	<0.00308	<0.00801	---	---	---
TB-5	S-101118-EM-TB5-14	10/11/18	14	West sidewall, bottom	---	1.66	<5.43	<13.6	0.000615	<0.00679	0.00424	<0.00883	---	---	---
11	S-101118-EM-11-6	10/11/18	6	East Sidewall	---	89.7	70.6	<13.1	<0.00131	<0.00657	0.0267	0.0701	---	---	---
24	S-101118-EM-24-14	10/11/18	14	Bottom	---	166	308	<14.3	0.000997	<0.00713	0.00115	<0.00927	---	---	---
25	S-101118-EM-25-8	10/11/18	8	South sidewall	---	2.1	<5.07	<12.7	<0.00127	<0.00633	<0.00317	<0.00823	---	---	---
25	S-101618-EM-25-12	10/16/18	12	South sidewall, bottom	---	54	94.6	<13.4	<0.00134	<0.0067	<0.00335	<0.00871	---	---	---
22	S-101618-EM-22-7[f]	10/16/18	7	Southwest sidewall	---	3,850	18,200	242	0.000692	<0.0062	0.0846	0.567	---	---	---
TB2	S-101618-EM-TB2-14[c]	10/16/18	14	(TB2-W) West sidewall, bottom	---	322	276	<13.1	0.00611	0.0207	0.728	0.303	---	---	---
29	S-101618-EM-29-13	10/16/18	13	Southwest sidewall, bottom	---	8.96	<5.24	<13.1	<0.00131	<0.00654	<0.00327	<0.00851	---	---	---
26	S-101618-EM-26-7	10/16/18	7	Southeast sidewall	---	1.84	28.3	<12	<0.0012	<0.00602	<0.00301	<0.00783	---	---	---
1	S-101618-EM-1-8	10/16/18	8	North sidewall	---	1.7	<5.24	<13.1	<0.00131	<0.00654	<0.00327	<0.00851	---	---	---
---	S-100618-EM-SP1	10/06/18	---	Stockpile	---	1.73	26.6	62	0.000459	<0.00561	<0.0028	<0.00729	---	---	---
---	S-100818-EM-SP2	10/08/18	---	Stockpile	---	2.1	20.2	131	<0.00108	<0.00542	<0.00271	<0.00705	---	---	---
---	S-101518-EM-SP3	10/15/18	---	Stockpile	---	2.33	<86.6	123	<0.00115	0.0018	0.000879	<0.00746	---	---	---
B-12	SO-11145922-040419-BP-B-12-10	04/04/19	10	---		<0.82	<3.0	<5.4	<0.0035	<0.0034	<0.015	<0.015	---	---	---
	SO-11145922-040419-BP-B-12-16	04/04/19	16	---		<1.0	<3.1	<5.6	<0.004	<0.0042	<0.019	<0.018	---	---	---
MW-9	SO-11145922-040419-BP-MW-9-7	04/04/19	7	---		<0.73	<2.7	4.8J	<0.0031	<0.0030	<0.013	<0.013	---	---	---
	SO-11145922-040419-BP-MW-9-9	04/04/19	9			<0.86	<3.0	<5.4	<0.0037	<0.0036	<0.016	<0.015	---	---	---
MW-10	SO-11145922-040419-BP-MW-10-9	04/04/19	9	---		<0.91	16.8	60.7	<0.0039	<0.0038	<0.017	<0.016	---	---	---
	SO-11145922-040419-BP-MW-10-11	04/04/19	11	---		221	415	24	<0.0038	<0.0036	<0.016	<0.016	---	---	---
MW-11	SO-11145922-040419-BP-MW-11-9	04/04/19	9	---		<0.89	<3.2	<5.7	<0.0038	<0.0037	<0.017	<0.016	---	---	---
	SO-11145922-040419-BP-MW-11-11	04/04/19	11	---		<0.90	<3.1	<5.6	<0.0038	<0.0037	<0.017	<0.016	---	---	---
MW-12	SO-11145922-040419-BP-MW-12-7	04/04/19	7	---		<1.3	<3.3	18.1	<0.0056	<0.0054	<0.024	<0.023	---	---	---
	SO-11145922-040419-BP-MW-12-11	04/04/19	11	---		<0.086	<3.2	<5.6	<0.0037	<0.0035	<0.016	<0.015	---	---	---

Table 1A

Summary of Soil Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Sample Location	Sample ID	Sample Date	Sample Depth	Sample Location	TPH	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	cPAHs	Naphthalene
MTCA Method A Cleanup Levels:						**100**	**2,000**	**2,000**	**0.03**	**7.0**	**6.0**	**9.0**	**0.1**	**0.1**	**5.0**
Site-Specific MTCA Method B Cleanup Level:							**2,165**								
			(ft bgs)			***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***
MW-13	SO-11145922-040419-BP-MW-13-7	04/04/19	7	---		<1.1	<3.1	<5.5	<0.0046	<0.0044	<0.020	<0.019	---	---	---
	SO-11145922-040419-BP-MW-13-9	04/04/19	9	---		<1.1	<3.4	<6.0	<0.0048	<0.0047	<0.021	<0.020	---	---	---
IP-1	S.11145922.041520.DT.IP1-14'	04/15/20	14	---		<3.0	470	<50	<0.0050	<0.010	<0.010	<0.020	---		---
B-13	S-11209892-110920-NA-B13-10	11/09/20	10	---		<3.0	<25	<50	<0.0050	<0.010	<0.010	<0.020	---		---

Notes:

Bolded values indicate detected concentrations above MTCA Method A Cleanup Levels
Shaded cells indicate soil sample was subsequently over excavated or later confirmed clean.
MTCA = Model Toxics Control Act
USEPA = United States Environmental Protection Agency
ft bgs = feet below ground surface
< = Less than the stated laboratory reporting limit
TPH = Total Petroleum Hydrocarbons by EPA Method 418
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl tertiary butyl ether (MTBE) , naphthaleneanalyzed by USEPA Method 8260B.
analyzed by USEPA Method 8260B.
Total and Dissolved lead analized by USEPA Method 6020.
Total petroleum hydrocarbon as gasoline (TPH-G) analyzed by Northwest Method NWTPH-Gx.
Total petroleum hydrocarbons as diesel (TPH-D) analyzed by Norhtwest Method NWTPH-Dx.
Total Petroleum hydrocarbons as oil (TPH-O) analyzed by Northwest Method NWTPH-Dx

[a] Indicates sample is additionally analyzed for polychlorinated biphenyls (PCBs) by EPA Method 8082. All analytical results were eith less than laboratory reporting limits and/or their respective MTCA Method A screening levels.

[b] Indicates sample was additionally analyzed for extractable petroleum hydrocarbons (EPH) by method NWEPH, and volatile petroleum hydrocarbons (VPH) by method NWVPH.

[c] Indicates sample was subsequently confirmed to be under MTCA Method A cleanup levels by S.11145922.041520.DT.IP1-14' sampled on 4/15/2020.

[d] Indicates sample was subsequently confirmed to be under MTCA Method A cleanup levels by sample S-101118-EM-NW-14 sampled on 10/11/2018.

[e] Indicates sample was subsequently confirmed to be under MTCA Method A cleanup levels by sample SO-11145922-040419-BP-B-12-10 sampled on 4/4/2019.

[f] Indicates sample was subsequently confirmed to be under MTCA Method A cleanup levels by sample SO-11145922-040419-BP-MW-11-9 sampled on 4/4/2019.

[g] Indicates sample is above the MTCA Method B cleanup level but is below the direct contact point of compliance. An empirical demonstration based on groundwater from well MW-10 demonstrates soil impacts are either no longer present or are not partitioning to groundwater.

Table 1B

Summary of Soil Analytical Data - cPAHs
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

				Polycyclic Aromatic Hydrocarbons (PAHs)										
Sample ID	**Consultant**	**Sample Date**	**Sample Depth**	**Benzo(a) anthracene**	**Benzo(a) pyrene**	**Benzo(b) fluoranthene**	**Benzo(k) fluoranthene**	**Chrysene**	**Dibenz(a,h) anthracene**	**Indeno(1,2,3-cd)pyrene**	**Naphthalene**	**2-Methyl-naphthalene**	**1-Methyl-naphthalene**
			(ft)	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***	***(mg/kg)***
6-10	GHD	10/8/2018	10	0.00155	<0.00762	<0.00762	<0.00762	0.00542	<0.00762	<0.00762	2.59	8.06	7.49
8-15	GHD	10/10/2018	15	0.00375	<0.00765	0.0013	<0.00765	0.0159	<0.00765	<0.00765	4.76	20.9	17.5

Notes:
PAHs = polycyclic aromatic hydrocarbons
cPAHS = carcinogenic polycyclic promatic hydrocarbons
PAHs analyzed by EPA Method 8270-SIM
< = not detected above laboratory reporting limit

Table 1C

Summary of Soil Analytical Data - EPH/VPH
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

				EPH										VPH						
Sample ID	Consultant	Sample Date	Sample Depth	C_8-C_{10} Aliphatics	C_{10}-C_{12} Aliphatics	C_{12}-C_{16} Aliphatics	C_{16}-C_{21} Aliphatics	C_{21}-C_{34} Aliphatics	C_8-C_{10} Aromatics	C_{10}-C_{12} Aromatics	C_{12}-C_{16} Aromatics	C_{16}-C_{21} Aromatics	C_{21}-C_{34} Aromatics	C_5-C_6 Aliphatics	C_6-C_8 Aliphatics	C_8-C_{10} Aliphatics	C_{10}-C_{12} Aliphatics	C_8-C_{10} Aromatics	C_{10}-C_{12} Aromatics	C_{12}-C_{13} Aromatics
			(ft)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
6-10	GHD	10/8/2018	10	6.76	114	925	935	119	0.603	10.6	116	306	33.4	<62.6	<62.6	<62.6	150	<62.6	171	179
8-15	GHD	10/10/2018	15	58.5	109	514	461	52.8	4.73	67.1	519	1200	130	<71.5	<71.5	92.6	250	146	564	611

Notes:
EPH = extractable petroleum hydrocarbons
VPH = volatile petroleum hydrocarbons
EPH analyzed by EPA 3546
VPH analyzed by EPA 5035
< = not detected above laboratory reporting limit

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation	Depth to Water	SPH	GW Elevation	TPH	TPH-G	TPH-D	TPH-D[a]	TPH-D[b]	TPH-O	TPH-O[a]	TPH-O[b]	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	EDC	EDB	Total Lead	Dissolved Lead	Ethanol	Nitrate	Sulfate
MTCA Method A Cleanup Levels:		*(feet)*	*(feet)*	*(feet)*	*(feet)*	1,000 *(ug/L)*	800 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	5 *(ug/L)*	1,000 *(ug/L)*	700 *(ug/L)*	1,000 *(ug/L)*	20 *(ug/L)*	5 *(ug/L)*	0.01 *(ug/L)*	15 *(ug/L)*	15 *(ug/L)*	NE *(ug/L)*	NE *(ug/L)*	NE *(ug/L)*
MW-1	3/14/1989	--	--	--	--	<1,000	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	8/25/1989	--	--	--	--	0.31	--		--	--		--	--	<0.500	<0.500	<0.500	<1.0	--	2.3	--	--	--	--	--	--
MW-1	2/7/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	8/12/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	11/20/1991	--	--	--	717.01	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	2/17/1992	--	--	--	716.93	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	8/21/1992	--	--	--	716.06	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	2/23/1993	--	7.19	--	717.1	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	8/5/1993	--	8.53	--	715.76	--	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	2/15/1994	--	7.93	--	716.36	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	8/24/1994	--	8.99	--	715.3	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-1	2/24/1995	--	7.37	--	717.12	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-1	8/24/1995	--	8.6	--	715.79	--	--		<250	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	9/25/1997	--	7.6	--	716.79	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	3/18/1998	--	7.56	--	716.83	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	9/27/1998	--	8.29	--	716.1	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/24/99[3]	724.39	7.8	--	716.59	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--
MW-1	9/23/1999	724.39	8.16	--	716.23	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/22/00	724.39	7.32	--	724.43	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/14/00	731.75	7.90	--	723.85	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	04/12/01	731.75	7.97	--	723.78	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/13/01	731.75	8.53	--	723.22	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/19/02	731.75	7.96	--	723.79	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/25/02	731.75	8.41	--	723.34	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/11/03	731.75	7.36	--	724.39	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/24/03	731.75	8.43	--	723.32	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	10/23/03	731.75	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/10/04	731.75	7.45	--	724.30	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/15/04	731.75	8.10	--	723.65	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	04/07/05[5]	731.75	7.97	--	723.78	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/27/05	731.75	8.89	--	722.86	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/23/06	731.75	12.13	--	719.62	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/26/06	731.75	13.27	--	718.48	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/29/07	731.75	8.97	--	722.78	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	09/27/07	731.75	8.86	--	722.89	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/05/07	731.75	7.94	--	723.81	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	03/31/08	731.75	8.09	--	723.66	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	07/08/08	731.75	8.22	--	723.53	--	<50		<76	--		<95	--	<0.5	<0.7	<0.8	<0.8	0.6	--	--	--	--	--	--	--
MW-1	09/17/08	731.75	8.62	--	723.13	--	<50		<80	--		<100	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-1	04/07/09	731.75	8.12	--	723.63	--	<50.0		<82	--		<410	--	<1.0	<1.0	<1.0	<3.0	1.8	<1.0	<0.010	2.21	<1.00	--	--	--
MW-1	06/23/09	731.75	8.93	--	722.82	--									--										
MW-1	09/21/09	731.75	9.00	--	722.75	--									Gauge only										
MW-1	12/01/09	731.75	8.25	--	723.50	--									Gauge only										
MW-1	03/03/10	731.75	7.60	--	724.15	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	2.4	<1.0	<0.0095 MO	5.8	0.28	--	--	--
MW-1	06/15/10	731.75	7.85	--	723.90	--									Gauge only										
MW-1	09/01/10	731.75	8.71	--	723.04	--									Gauge only										
MW-1	12/16/10	731.75	7.45	--	724.30	--									Gauge only										
MW-1	03/07/11	731.75	7.72	--	724.03	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-1	05/11/11	731.75	7.93	--	723.82	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-1	08/03/11	731.75	8.39	--	723.36	--	<50.0		<80.0	--		<400	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-1	12/09/11	731.75	8.03	--	723.72	--	<50		<29	<30		<68	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-1	01/09/12	731.75	8.11	--	723.64	--	<50		360	51		<68	95	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-1	07/24/12	731.75	8.47	--	723.28	--	<50		<30	<30		<70	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-1	01/08/13	731.75	7.30	--	724.45	--	<50		<30	<30		<70	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-1	09/30/13	731.75	8.30	--	723.45	--	<50		<31	<31		<73	<73	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-1	01/22/14	731.75	8.55	--	723.20	--	<50		<28	<28		<66	<66	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-1	07/30/14	731.75	9.05	--	722.70	--	<50		<28	<28		<66	<66	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
MW-2	3/14/1989	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	8/25/1989	--	--	--	--	0.73	--		--	--		--	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-2	2/7/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	8/12/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	11/20/1991	--	--	--	717.53	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	2/17/1992	--	--	--	717.47	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	8/21/1992	--	--	--	716.58	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	2/23/1993	--	9.72	--	717.57	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	8/5/1993	--	10.93	--	716.36	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	2/15/1994	--	10.43	--	716.86	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	8/24/1994	--	11.39	--	715.9	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-2	2/24/1995	--	10.02	--	717.53	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-2	8/24/1995	--	11.21	--	716.34	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	9/25/1997	--	10.2	--	717.35	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	3/18/1998	--	10.18	--	717.37	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	9/27/1998	--	10.85	--	716.7	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/24/99[3]	727.55	10.4	--	717.15	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation	Depth to Water	SPH	GW Elevation	TPH	TPH-G	TPH-D	TPH-D[a]	TPH-D[b]	TPH-O	TPH-O[a]	TPH-O[b]	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	EDC	EDB	Total Lead	Dissolved Lead	Ethanol	Nitrate	Sulfate
	MTCA Method A Cleanup Levels:					1,000	800	500	500	500	500	500	500	5	1,000	700	1,000	20	5	0.01	15	15	NE	NE	NE
		(feet)	*(feet)*	*(feet)*	*(feet)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*	*(ug/L)*
MW-2	9/23/1999	727.55	10.76	--	716.79	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/22/00	727.39	9.95	--	724.79	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/14/00	734.74	10.48	--	724.26	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	04/12/01	734.74	10.58	--	724.16	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/13/01	734.74	11.04	--	723.70	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/19/02	734.74	10.58	--	724.16	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/25/02	734.74	10.81	--	723.93	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/11/03	734.74	10.10	--	724.64	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/24/03	734.74	10.85	--	723.89	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	10/23/03	734.74	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/10/04	734.74	9.88	--	724.86	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/15/04	734.74	10.55	--	724.19	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	04/07/05[5]	734.74	10.44	--	724.30	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/27/05	734.74	11.31	--	723.43	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/23/06	734.74	13.94	--	720.80	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/26/06	734.74	15.01	--	719.73	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/29/07	734.74	11.36	--	723.38	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	09/27/07	734.74	11.25	--	723.49	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/05/07	734.74	10.42	--	724.32	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	03/31/08	734.74	10.51	--	724.23	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2	07/08/08	734.74	11.09	--	723.65	--	<50		<75	--		<94	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-2	09/17/08	734.74	11.00	--	723.74	--	<50		<79	--		<98	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-2	04/07/09	734.74	10.60	--	724.14	--	<50.0		<82	--		<410	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	<1.00	1.58	--	--	--
MW-2	06/23/09	734.74	11.32	--	723.42	--									Gauge only										
MW-2	09/21/09	734.74	11.50	--	723.24	--									Gauge only										
MW-2	12/01/09	734.74	10.75	--	723.99	--									Gauge only										
MW-2	03/03/10	734.74	10.03	--	724.71	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.0096 MO	0.45	0.20	--	--	--
MW-2	06/15/10	734.74	10.33	--	724.41	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-2	09/01/10	734.74	11.11	--	723.63	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-2	12/16/10	734.74	10.01	--	724.73	--	<50.0		<77.7	--		<388	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-2	03/07/11	734.74	10.15	--	724.59	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-2	05/11/11	734.74	10.30	--	724.44	--	<50.0		<77.7	--		<388	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-2	08/03/11	734.74	10.76	--	723.98	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-2	12/09/11	734.74	10.50	--	724.24	--	<50		<30	<31		<70	<72	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	01/09/12	734.74	10.55	--	724.19	--	<50		<28	77		<66	260	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	07/24/12	734.74	10.91	--	723.83	--	<50		<30	<30		<70	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-2	01/08/13	734.74	9.78	--	724.96	--	<50		<30	<30		<71	<71	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-2	09/30/13	734.74	10.70	--	724.04	--	<50		<30	<30		<69	<69	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-2	01/22/14	734.74	10.80	--	723.94	--	<50		<33	<33		<77	<77	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-2	07/30/14	734.74	11.29	--	723.45	--	<50		<29	<29		<67	<67	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
MW-3A[1]	11/20/1991	--	--	--	717.69	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	2/17/1992	--	--	--	717.59	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	8/21/1992	--	--	--	716.68	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	2/23/1993	--	9.82	--	717.87	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	8/5/1993	--	13.08	--	716.35	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	2/15/1994	--	12.04	--	716.11	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	8/24/1994	--	13.35	--	715.06	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	2/24/1995	--	10.52	--	717.31	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	8/24/1995	--	12.56	--	715.68	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	9/25/1997	--	11.17	--	716.45	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	3/18/1998	--	10.94	--	716.7	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	9/27/1998	--	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/24/99[3]	--	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/22/00[2]	727.46	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/14/00	727.46	--	0.02	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	04/12/01	727.46	--	0.01	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/13/01	727.46	--	0.18	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/19/02[2]	727.46	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/12/02	727.46	--	0.16	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/25/02[2]	727.46	--	trace	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/11/03[2]	727.46	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/24/03[2]	727.46	--	0.75	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	10/23/03	727.46	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/10/04	727.46	10.53	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/15/04	727.46	11.10	Sheen	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	04/07/05[5]	727.46	10.33	Sheen	--	--	--		**134,000**	--		**5,270**	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/27/05	727.46	12.51	0.60	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	12/07/05	727.46	13.08	0.73	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	02/03/06	727.46	13.49	0.34		--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/23/06	727.46	14.39	0.85	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	SPH (feet)	GW Elevation (feet)	TPH 1,000 (ug/L)	TPH-G 800 (ug/L)	TPH-D 500 (ug/L)	TPH-D[a] 500 (ug/L)	TPH-D[b] 500 (ug/L)	TPH-O 500 (ug/L)	TPH-O[a] 500 (ug/L)	TPH-O[b] 500 (ug/L)	Benzene 5 (ug/L)	Toluene 1,000 (ug/L)	Ethyl- benzene 700 (ug/L)	Total Xylenes 1,000 (ug/L)	MTBE 20 (ug/L)	EDC 5 (ug/L)	EDB 0.01 (ug/L)	Total Lead 15 (ug/L)	Dissolved Lead 15 (ug/L)	Ethanol NE (ug/L)	Nitrate NE (ug/L)	Sulfate NE (ug/L)
		MTCA Method A Cleanup Levels:																							
MW-3A[1]	04/26/06	727.46	14.08	0.29	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	05/24/06	727.46	14.17	0.19	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/26/06	727.46	--	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/29/07	727.46	11.45	0.04	723.36	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	09/27/07	727.46	12.48	0.01	722.35	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	12/05/07	727.46	11.50	sheen	723.34	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	03/31/08	727.46	10.45	--	724.39	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3A[1]	07/08/08	727.46	12.25	--	722.59	--	**1,300**		**360,000**	--		<24,000	--	2	<0.7	10	2	<0.5	--	--	--	--	--	--	--
MW-3A[1]	09/17/08	727.46	11.55	--	723.29	--	540		**120,000**	--		<9,900	--	2	<0.7	8	1	<0.5	--	--	--	--	--	--	--
MW-3A[1]	04/07/09	727.46	10.61	--	724.23	--	**1,720**		**25,000**	--		**620**	--	2.3	<1.0	13	3.3	<1.0	<1.0	<0.010	2.43	<1.00 R,N	--	--	--
MW-3A[1]	06/23/09	727.46	11.34	--	723.50	--	**6,020 2n,B+**		**176,000**	--		**3,500**	--	2.0	<1.0	7.8	1.1J	<1.0	--	--	--	--	--	--	--
MW-3A[1]	09/21/09	727.46	11.70	--	723.14	--	**1,270**		**9,600**	--		380	--	2.1	<1.0	12.7	1.5J	<1.0	--	--	--	--	--	--	--
MW-3A[1]	12/01/09	727.46	10.80	0.05	724.00	--	**1,350 2n,Z2**		**107,000**	--		**2,000**	--	2.5	<1.0	18.3	2.1J	<1.0	--	--	--	--	--	--	--
MW-3A[1]	03/03/10	727.46	10.02	--	724.82	--	**4,910**		**83,600**	--		**2,090**	--	2.4	<1.0	13.2	3.3	<1.0	<1.0	<0.0096 MO	2.2	1.5	--	--	--
MW-3A[1]	06/15/10	727.46	10.95	--	723.89	--	**1,890**		**89,100**	--		**7,940**	--	2.8	<1.0	13.3	<3.0	<1.0	--	--	--	--	--	--	--
MW-3A[1]	09/01/10	727.46	11.15	--	723.69	--	**1,640**		**17,000**	--		**513**	--	3.4	<1.0	14.9	<3.0	--	--	--	--	--	--	--	--
MW-3A[1]	12/16/10	727.46	10.10	--	724.74	--	**3,110**		**32,400**	--		**1,070**	--	2.4	<1.0	14.2	<3.0	--	--	--	--	--	--	--	--
MW-3A[1]	03/07/11	727.46	10.14	--	724.70	--	**2,990**		**46,100**	--		**1,190**	--	2.0	<1.0	12.7	<3.0	--	--	--	--	--	--	--	--
MW-3A[1]	05/11/11	727.46	10.31	--	724.53	--	**2,980**		**32,700**	--		**1,080**	--	1.8	<1.0	11.8	<3.0	--	--	--	--	--	--	--	--
MW-3A[1]	08/03/11	727.46	10.72	--	724.12	--	**1,830**		**29,300**	--		**921**	--	1.1	<1.0	6.1	<3.0	--	--	--	--	--	--	--	--
MW-3A[1]	12/09/11	727.46	10.70	--	724.14	--	**1,700**		**170,000**	**38,000**		<6,900	<1,800	3	0.8	13	1	--	--	--	--	--	--	--	--
MW-3A[1]	01/09/12	727.46	10.66	--	724.18	--	**1,600**		**120,000**	**38,000**		<3,300	<690	2	0.9	11	1	--	--	--	--	--	--	--	--
MW-3A[1]	07/24/12	727.46	10.91	sheen	723.93	--	**2,700**		**69,000**	**37,000**		**11,000**	**1,800**	2	1	11	1	--	--	--	--	--	--	--	--
MW-3A[1]	01/08/13	727.46	9.77	sheen	725.07	--	**5,400**		**86,000**	**40,000**		**18,000**	<1,700	1	0.5	10	1	--	--	--	--	--	<50	--	--
MW-3A[1]	09/30/13	734.84	11.00	--	723.84	--	**1,500**		**82,000**	**32,000**		<7,800	<780	2	0.5	15	1	--	--	--	--	--	<50	--	--
MW-3A[1]	01/22/14	734.84	11.20	--	723.64	--	**3,700**		**61,000**	**20,000**		<8,000	<400	0.7	<0.5	10	0.7	--	--	--	--	--	<50	--	--
MW-3A[1]	07/30/14	734.84	12.05	--	722.79	--	SPH detected during purging, no sample colleted.																		
Decommissioned November 2015																									
MW-4	3/14/1989	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	8/25/1989	--	--	--	--	0.73	--		--	--		--	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	2/7/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	8/12/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	11/20/1991	--	--	--	717.37	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	0.97	--	--	--	--	--	--	--	--
MW-4	2/17/1992	--	--	--	717.33	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	8/21/1992	--	--	--	716.48	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	2/23/1993	--	8.18	--	717.41	--	--		--	--		1,400	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	8/5/1993	--	9.42	--	716.17	--	--		340	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	2/15/1994	--	8.88	--	716.71	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	8/24/1994	--	9.85	--	715.74	--	--		380	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-4	2/24/1995	--	8.44	--	717.37	--	<50		260	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	8/24/1995	--	9.65	--	716.16	--	--		450	--		<750	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	9/25/1997	--	8.61	--	71.2	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	3/18/1998	--	8.64	--	717.17	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	9/27/1998	--	9.32	--	718.54	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	03/24/99[3]	--	8.88	--	718.98	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-4	9/23/1999	--	9.24	--	718.62	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/22/00[3]	727.86	8.41	--	724.68	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--
MW-4	09/14/00	727.86	8.96	--	724.13	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	04/12/01	725.75	9.06	--	724.03	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/13/01	725.75	9.54	--	723.55	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/19/02	725.75	9.05	--	724.04	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/25/02	725.75	9.33	--	723.76	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/11/03	725.75	8.55	--	724.54	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/24/03	725.75	9.39	--	723.70	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	10/23/03	725.75	--	--	--	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/10/04	725.75	8.40	--	724.69	--	--		<118	--		<237	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/15/04	725.75	9.00	--	724.09	--	--		<252	--		<504	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	04/07/05[5]	725.75	8.91	--	724.18	--	--		<252	--		<503	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/27/05	725.75	9.82	--	723.27	--	--		<79	--		<99	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/23/06	725.75	12.71	--	720.38	--	--		<800	--		<1,000	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/26/06	725.75	13.76	--	719.33	--	--		<79	--		<99	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/29/07	725.75	9.86	--	723.23	--	--		154	--		<100	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	09/27/07	725.75	9.75	--	723.34	--	--		<79	--		<99	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/05/07	725.75	8.93	--	724.16	--	--		<76	--		<95	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	03/31/08	725.75	9.02	--	724.07	--	--		<77	--		<96	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	07/08/08	725.75	9.35	--	723.74	--	<50		<75	--		<94	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-4	09/17/08	725.75	9.52	--	723.57	--	<50		<78	--		<97	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-4	04/07/09	725.75	9.11	--	723.98	--	<50.0		<82	--		<410	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	1.06	<1.00 R,N	--	--	--
MW-4	06/26/09	725.75	9.80	--	723.29	--									Gauge only										
MW-4	09/21/09	725.75	9.92	--	723.17	--									Gauge only										
MW-4	12/01/09	725.75	9.24	--	723.85	--									Gauge only										

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation	Depth to Water	SPH	GW Elevation	TPH	TPH-G	TPH-D	TPH-D[a]	TPH-D[b]	TPH-O	TPH-O[a]	TPH-O[b]	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	EDC	EDB	Total Lead	Dissolved Lead	Ethanol	Nitrate	Sulfate
MTCA Method A Cleanup Levels:		*(feet)*	*(feet)*	*(feet)*	*(feet)*	1,000 *(ug/L)*	800 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	500 *(ug/L)*	5 *(ug/L)*	1,000 *(ug/L)*	700 *(ug/L)*	1,000 *(ug/L)*	20 *(ug/L)*	5 *(ug/L)*	0.01 *(ug/L)*	15 *(ug/L)*	15 *(ug/L)*	NE *(ug/L)*	NE *(ug/L)*	NE *(ug/L)*
MW-4	03/03/10	725.75	8.50	--	724.59	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.0098 MO	1.4	0.18	--	--	--
MW-4	06/15/10	725.75	8.49	--	724.60	--	<50.0		<77.7	--		<388	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-4	09/01/10	725.75	9.62	--	723.47	--	<50.0		<77.7	--		<388	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-4	12/16/10	725.75	8.41	--	724.68	--	<50.0		99.2	--		<388	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-4	03/07/11	725.75	8.64	--	724.45	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-4	05/11/11	725.75	8.76	--	724.33	--	444		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-4	08/03/11	725.75	9.24	--	723.85	--	<50		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-4	12/09/11	725.75	9.00	--	724.09	--	<50		160	<30		<69	<71	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	01/09/12	725.75	9.10	--	723.99	--	<50		140	31		<67	100	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	07/24/12	725.75	9.41	--	723.68	--	<50		120	<30		110	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-4	01/08/13	725.75	8.30	--	724.79	--	<50		110	<31		<72	<72	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-4	09/30/13	733.09	8.97	--	724.12	--	<50		85	<29		<68	<68	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-4	01/22/14	733.09	9.30	--	723.79	--	<50		180	<39		<91	<91	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-4	07/30/14	733.09	9.83	--	723.26	--	<50		110	<29		<67	<67	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
MW-5	3/14/1989	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	8/25/1989	--	--	--	--	0.88	--		--	--		--	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-5	2/7/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	8/12/1991	--	--	--	--	<1,000	--		--	--		--	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	11/20/1991	--	--	--	717.12	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	2/17/1992	--	--	--	717.03	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	8/21/1992	--	--	--	716.11	--	--		--	--		<1,000	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	2/23/1993	--	6.02	--	717.21	--	--		--	--		<1,000	--	<0.500	11	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	8/5/1993	--	7.39	--	715.84	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	2/15/1994	--	6.79	--	716.44	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	8/24/1994	--	7.78	--	715.45	--	--		<250	--		<750	--	<0.500	<0.500	<0.500	<0.500	--	--	--	--	--	--	--	--
MW-5	2/24/1995	--	6.29	--	717.09	--	<50		<250	--		<750	--	<0.500	<0.500	<0.500	<1.0	--	--	--	--	--	--	--	--
MW-5	8/24/1995	--	5.33	--	718.05	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/25/1997	--	6.41	--	716.97	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	3/18/1998	--	6.45	--	716.93	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	9/27/1998	--	7.16	--	716.22	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/24/99[3]	723.38	6.68	--	716.7	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--
MW-5	9/23/1999	723.38	7.03	--	716.35	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/22/00	723.38	6.09	--	724.56	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/14/00	723.32	6.84	--	723.81	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	04/12/01	723.32	6.88	--	723.77	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/13/01	723.32	7.42	--	723.23	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/19/02[4]	723.32	6.88	--	723.77	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/25/02	723.32	7.25	--	723.40	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/11/03	723.32	6.35	--	724.30	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/24/03	723.32	7.30	--	723.35	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	10/23/03	723.32	--	--	--	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/10/04	723.32	6.38	--	724.27	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/15/04	723.32	6.94	--	723.71	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	04/07/05[5]	723.32	6.81	--	723.84	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/27/05	723.32	7.77	--	722.88	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/23/06	723.32	11.03	--	719.62	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/26/06	723.32	12.11	--	718.54	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/29/07	723.32	7.84	--	722.81	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	09/27/07	723.32	7.72	--	722.93	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	12/05/07	723.32	6.80	--	723.85	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	03/31/08	723.32	7.03	--	723.62	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	07/08/08	723.32	8.29	--	722.36	--	<50		<76	--		<95	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-5	09/17/08	723.32	7.50	--	723.15	--	<50		<77	--		<97	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-5	04/07/09	723.32	6.98	--	723.67	--	<50.0		<84	--		<420	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	1.00	<1.00 R,N	--	--	--
MW-5	06/23/09	723.32	7.82	--	722.83	--									Gauge only										
MW-5	09/21/09	723.32	7.90	--	722.75	--									Gauge only										
MW-5	12/01/09	723.32	7.11	--	723.54	--									Gauge only										
MW-5	03/03/10	723.32	6.45	--	724.20	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.0096 MO	0.56	0.13	--	--	--
MW-5	06/15/10	723.32	6.77	--	723.88	--									Gauge only										
MW-5	09/01/10	723.32	7.59	--	723.06	--									Gauge only										
MW-5	12/16/10	723.32	6.30	--	724.35	--									Gauge only										
MW-5	03/07/11	723.32	6.54	--	724.11	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-5	05/11/11	723.32	6.77	--	723.88	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-5	08/03/11	723.32	7.28	--	723.37	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-5	12/09/11	723.32	6.99	--	723.66	--	<50		32	<31		<67	<71	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-5	01/09/12	723.32	6.92	--	723.73	--	<50		<29	<29		<68	80	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-5	07/24/12	723.32	7.30	--	723.35	--	<50		<30	<30		<70	<70	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-5	01/08/13	723.32	6.15	--	724.50	--	<50		<31	<31		<72	<72	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-5	09/30/13	730.85	9.09	--	721.56	--	<50		140	93		<69	<69	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-5	01/22/14	730.85	7.30	--	723.35	--	<50		<31	<31		<72	<72	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-5	07/30/14	730.85	7.88	--	722.77	--	<50		<28	<28		<66	<66	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
SB-1@9W	10/07/97	--	--	--	--	--	ND		**511**	--		ND	--	ND	0.595	ND	ND	ND	--	--	--	--	--	--	--
SB-2@11W	10/06/97	--	--	--	--	--	ND		**599**	--		ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation	Depth to Water	SPH	GW Elevation	TPH	TPH-G	TPH-D	TPH-D[a]	TPH-D[b]	TPH-O	TPH-O[a]	TPH-O[b]	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	EDC	EDB	Total Lead	Dissolved Lead	Ethanol	Nitrate	Sulfate
	MTCA Method A Cleanup Levels:					1,000	800	500	500	500	500	500	500	5	1,000	700	1,000	20	5	0.01	15	15	NE	NE	NE
		(feet)	(feet)	(feet)	(feet)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
SB-3@9W	10/07/97	--	--	--	--	--	ND		305	--		ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--
SB-4@9W	10/07/97	--	--	--	--	--	ND		411	--		ND	--	ND	0.617	ND	ND	ND	--	--	--	--	--	--	--
SB-5@9W	10/07/97	--	--	--	--	--	ND		ND	--		ND	--	ND	ND	ND	ND	ND	--	--	--	--	--	--	--
MW-6	03/24/99	--	10.10	--	717.94	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--
MW-6	09/23/99	--	10.50	--	717.54	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/22/00[3]	727.94	9.66	--	724.87	--	<50		<250	--		<500	--	<0.500	<0.500	<0.500	<1.00	--	--	--	--	--	--	--	--
MW-6	09/14/00	727.94	10.20	--	724.33	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	04/12/01	727.17	10.29	--	724.24	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/13/01	727.17	10.65	--	723.88	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/19/02[4]	727.17	10.20	--	724.33	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/25/02	727.17	10.50	--	724.03	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/11/03	727.17	9.69	--	724.84	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/24/03	727.17	10.57	--	723.96	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	10/23/03	727.17	--	--	--	--	--		<250	--		<500	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/10/04	727.17	9.60	--	724.93	--	--		<125	--		<249	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/15/04	727.17	10.21	--	724.32	--	--		<249	--		<498	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	04/07/05[5]	727.17	10.14	--	724.39	--	--		<247	--		<494	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/27/05	727.17	10.99	--	723.54	--	--		**440**	--		**120**	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/23/06	727.17	13.56	--	720.97	--	--		<800	--		<1,000	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/26/06	727.17	14.65	--	719.88	--	--		100	--		<98	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/29/07	727.17	11.04	--	723.49	--	--		110	--		<99	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	09/27/07	727.17	11.55	--	722.98	--	--		110	--		<99	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	12/05/07	727.17	10.11	--	724.42	--	--		300	--		<97	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	03/31/08	727.17	10.20	--	724.33	--	--		260	--		<97	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	07/08/08	727.17	10.82	--	723.71	--	<50		430	--		<500	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-6	09/17/08	727.17	10.70	--	723.83	--	<50		160	--		<96	--	<0.5	<0.7	<0.8	<0.8	<0.5	--	--	--	--	--	--	--
MW-6	04/07/09	727.17	10.30	--	724.23	--	<50.0		<84	--		<420	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.010	2.04	<1.00 R,N	--	--	--
MW-6	06/23/09	727.17	11.03	--	723.50	--									Gauge only										
MW-6	09/21/09	727.17	11.19	--	723.34	--									Gauge only										
MW-6	12/01/09	727.17	10.45	--	724.08	--									Gauge only										
MW-6	03/03/10	727.17	9.72	--	724.81	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.0097 MO	4.2	0.16	--	--	--
MW-6	06/15/10	727.17	9.96	--	724.57	--	<50.0		182	--		<388	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-6	09/01/10	727.17	10.82	--	723.71	--	<50.0		<76.9	--		<385	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-6	12/16/10	727.17	9.74	--	724.79	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-6	03/07/11	727.17	9.84	--	724.69	--	<50.0		102	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-6	05/11/11	727.17	9.96	--	724.57	--	<50.0		<77.7	--		<388	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-6	08/03/11	727.17	10.45	--	724.08	--	<50.0		<78.4	--		<392	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-6	12/09/11	727.17	10.23	--	724.30	--	<50		**600**	<28		72	<66	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	01/09/12	727.17	10.22	--	724.31	--	<50		260	<30		<69	74	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	07/24/12	727.17	10.62	--	723.91	--	<50		**430**	<30		**160**	<69	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
MW-6	01/08/13	727.17	9.48	--	725.05	--	<50		460	<31		<72	<72	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-6	09/30/13	734.53	10.61	--	723.92	--	<50		290	<29		<68	<68	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-6	01/22/14	734.53	10.65	--	723.88	--	<50		250	<30		<71	<71	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-6	07/30/14	734.53	11.11	--	723.42	--	<50		280	<28		<66	<66	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
P-3	10/25/02	--	--	--	--	--	--		<532	--		<1,060	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	04/07/05[5]	727.79	10.70	--	--	--	--		**7,040**	--		<520	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	09/27/05	727.79	11.57	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	03/23/06	735.16	12.39	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	09/26/06	735.16	12.37	--	--	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	03/29/07	735.16	11.67	--	723.49	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	12/05/07	735.16	10.70	--	724.46	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	03/31/08	735.16	10.79	--	724.37	--	--		--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	07/08/08	735.16	11.22	--	723.94	--	450		**18,000**	--		<2,100	--	1	<0.7	4	7	<0.5	--	--	--	--	--	--	--
MW-7	09/17/08	735.16	11.30	--	723.86	--	**3,500**		**3,300,000**	--		<200,000	--	1	<0.7	9	17	<0.5	--	--	--	--	--	--	--
MW-7	04/07/09	735.16	10.88	--	724.28	--	**1,380**		**1,300**	--		<420	--	1.1	<1.0	5.5	12	<1.0	<1.0	<0.010	<1.00	<1.00	--	--	--
MW-7	06/23/09	735.16	11.74	--	723.42	--	**3,350 2n,B+**		**16,200,000**	--		**322,000**	--	1.1	<1.0	7.1	13.9	<1.0	--	--	--	--	--	--	--
MW-7	09/21/09	735.16	11.78	--	723.38	--	**3,030**		**--**	--		**--**	--	1.1	<1.0	6.0	9.7	<1.0	--	--	--	--	--	--	--
MW-7	12/01/09	735.16	11.05	--	724.11	--	**1,250 2n,Z2**		**2,100**	--		210 J	--	1.3	<1.0	9.6	17.4	<1.0	--	--	--	--	--	--	--
MW-7	03/03/10	735.16	10.34	--	724.82	--	**1,090**		**1,470**	--		<385	--	1.3	<1.0	8.2	13.9	<1.0	<1.0	<0.0098 MO	0.90	0.36	--	--	--
MW-7	06/15/10	735.16	10.61	--	724.55	--	863		**4,010**	--		**696**	--	1.5	<1.0	5.6	8.1	<1.0	--	--	--	--	--	--	--
MW-7	09/01/10	735.16	11.40	--	723.76	--	**1,210**		**7,150**	--		<690	--	2.1	<1.0	7.6	9.5	--	--	--	--	--	--	--	--
MW-7	12/16/10	735.16	10.25	--	724.91	--	**1,240**		**2,390**	--		<392	--	1.2	<1.0	8.0	8.3	--	--	--	--	--	--	--	--
MW-7	03/07/11	735.16	10.42	--	724.74	--	**2,280**		**2,930**	--		492	--	1.6	<1.0	8.1	8.4	--	--	--	--	--	--	--	--
MW-7	05/11/11	735.16	10.56	--	724.60	--	**1,700**		**2,810**	--		<408	--	1.4	<1.0	7.1	6.9	--	--	--	--	--	--	--	--
MW-7	08/03/11	735.16	11.03	--	724.13	--	**2,270**		**1,870**	--		<392	--	1.7	<1.0	5.3	4.4	--	--	--	--	--	--	--	--
MW-7	12/09/11	735.16	10.80	--	724.36	--	**1,500**		**14,000**	**730**		**2,000**	<66	1	<0.5	6	5	--	--	--	--	--	--	--	--
MW-7	01/09/12	735.16	10.83	--	724.33	--	**990**		**16,000**	**840**		**740**	79	1	<0.5	6	5	--	--	--	--	--	--	--	--
MW-7	07/24/12	735.16	11.22	--	723.94	--	**1,100**		**3,000**	300		240	150	1	<0.5	4	3	--	--	--	--	--	--	--	--
MW-7	01/08/13	735.16	10.03	--	725.13	--	**1,400**		**12,000**	**1,300**		**1,500**	<70	1	<0.5	9	8	--	--	--	--	--	<50	--	--
MW-7	09/30/13	735.16	11.00	--	724.16	--	**990**		**20,000**	**11,000**		**470**	170	1	<0.5	7	4	--	--	--	--	--	<50	--	--
MW-7	01/22/14	735.16	11.05	--	724.11	--	**1,300**		**21,000**	**17,000**		<740	<370	0.9	<0.5	6	3	--	--	--	--	--	<50	--	--
MW-7	07/30/14	735.16	12.08	--	723.08	--								Insufficient water to collect sample											
Decommissioned November 2015																									

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation	Depth to Water	SPH	GW Elevation	TPH	TPH-G	TPH-D	TPH-D[a]	TPH-D[b]	TPH-O	TPH-O[a]	TPH-O[b]	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	EDC	EDB	Total Lead	Dissolved Lead	Ethanol	Nitrate	Sulfate
MTCA Method A Cleanup Levels:		*(feet)*	*(feet)*	*(feet)*	*(feet)*	**1,000** *(ug/L)*	**800** *(ug/L)*	**500** *(ug/L)*	**500** *(ug/L)*	**500** *(ug/L)*	**500** *(ug/L)*	**500** *(ug/L)*	**500** *(ug/L)*	**5** *(ug/L)*	**1,000** *(ug/L)*	**700** *(ug/L)*	**1,000** *(ug/L)*	**20** *(ug/L)*	**5** *(ug/L)*	**0.01** *(ug/L)*	**15** *(ug/L)*	**15** *(ug/L)*	**NE** *(ug/L)*	**NE** *(ug/L)*	**NE** *(ug/L)*
MW-8	09/30/13	733.65	9.60	--	724.05	--	71		**1,700**	**1,100**		<71	<71	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-8	01/22/14	733.65	9.77	--	723.88	--	<50		91	34		<75	<75	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
MW-8	07/30/14	733.65	10.19	--	723.46	--	<50		31	<29		<67	<67	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	<50	--	--
Decommissioned November 2015																									
MW-9	5/2/2019	734.67	9.94	--	724.73		<100	<400	--	--	<400	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-9	8/9/2019	734.67	10.55	--	724.12	--	<100	<417	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-9	11/22/2019	734.67	10.33	--	724.34	--	<100	<417	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-9	2/7/2020	734.67	10.18	--	724.49	--	<50	<130	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-9	5/7/2020	734.67	10.49	--	724.18	--	<50	<130	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	16,000	65,000
MW-9	7/8/2020	734.67	10.67	--	724.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13,000	78,000
MW-9	8/27/2020	734.67	10.60	--	724.07	--	<100	<100	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-9	11/24/2020	734.67	10.05	--	724.62	--	<100	<96	--	--	<96	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-9	2/24/2021	734.67	10.06	--	724.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	5/5/2021	734.67	10.23	--	724.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	5/2/2019	734.65	9.92	--	724.73		218	**3,480**	--	--	**705**	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-10	8/9/2019	734.65	10.63	--	724.02	--	<100	**990**	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10 Dup	08/09/19	734.23	10.30	--	723.93	--	<100	**933**	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10	11/22/2019	734.65	13.22	--	721.43	--	<100	<400	--	--	<400	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10 Dup	11/22/2019	734.65	13.22	--	721.43	--	<100	**586**	--	--	<400	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10	2/7/2020	734.65	10.02	--	724.63	--	<50	**530**	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-10	4/13/2020	734.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1,500	34,000
MW-10	5/7/2020	734.65	10.33	--	724.32	--	<50	**620**	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	96,000	110,000
MW-10	7/8/2020	734.65	10.73	--	723.92	--	--	330	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	4,700	45,000
MW-10 Dup	7/8/2020	734.65	10.73	--	723.92	--	--	340	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10	8/27/2020	734.65	10.70	--	723.95	--	<100	270	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-10	11/24/2020	734.65	10.04	--	724.61	--	<100	<91	--	--	<91	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-10 Dup	11/24/2020	--	--	--	--	--	<100	<100	--	--	<100	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-10	2/24/2021	734.65	10.06	--	724.59	--	<100	<99	--	--	<99	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-10 Dup	2/24/2021	734.65	10.06	--	724.59	--	<100	<91	--	--	<91	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-10	5/5/2021	734.65	10.27	--	724.38	--	<100	<96	--	--	<96	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-11	5/2/2019	734.23	9.6	--	724.63		<100	**1,830**	--	--	<426	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-11	8/9/2019	734.23	10.30	--	723.93	--	<100	**1,810**	--	--	474	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-11	11/22/2019	734.23	10.02	--	724.21	--	<100	**1,080**	--	--	<392	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-11	2/7/2020	734.23	9.81	--	724.42	--	<50	**2,700**	--	--	**1,300**	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-11 Dup	2/7/2020	734.23	9.81	--	724.42	--	<50	**2,400**	--	--	**1,200**	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-11	4/13/2020	734.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	31,000	65,000
MW-11	5/7/2020	734.23	10.16	--	724.07	--	<50	270	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	53,000	230,000
MW-11	7/8/2020	734.23	10.37	--	723.86	--	--	<100	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	6,700	100,000
MW-11	8/27/2020	734.23	10.27	--	723.96	--	<100	<100	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-11	11/24/2020	734.23	9.72	--	724.51	--	<100	<95	--	--	<95	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-11	2/24/2021	734.23	10.74	--	723.49	--	<100	<98	--	--	<98	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-11	5/5/2021	734.23	9.89	--	724.34	--	<100	<93	--	--	<93	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--

Table 2

Summary of Groundwater Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	SPH (feet)	GW Elevation (feet)	TPH 1,000 (ug/L)	TPH-G 800 (ug/L)	TPH-D 500 (ug/L)	TPH-D[a] 500 (ug/L)	TPH-D[b] 500 (ug/L)	TPH-O 500 (ug/L)	TPH-O[a] 500 (ug/L)	TPH-O[b] 500 (ug/L)	Benzene 5 (ug/L)	Toluene 1,000 (ug/L)	Ethyl- benzene 700 (ug/L)	Total Xylenes 1,000 (ug/L)	MTBE 20 (ug/L)	EDC 5 (ug/L)	EDB 0.01 (ug/L)	Total Lead 15 (ug/L)	Dissolved Lead 15 (ug/L)	Ethanol NE (ug/L)	Nitrate NE (ug/L)	Sulfate NE (ug/L)
	MTCA Method A Cleanup Levels:																								
MW-12	5/2/2019	733.22	8.68	--	724.54		<100	<426	--	--	<426	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-12	8/9/2019	733.22	9.40	--	723.82	--	<100	<417	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-12	11/22/2019	733.22	9.07	--	724.15	--	<100	<417	--	--	<417	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-12	2/7/2020	733.22	8.90	--	724.32	--	<50	**840**	--	--	**360**	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-12	5/7/2020	733.22	9.30	--	723.92	--	<50	**780**	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	17,000	140,000
MW-12 Dup	5/7/2020	733.22	9.30	--	723.92	--	<50	**760**	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	19,000	160,000
MW-12	7/8/2020	733.22	9.42	--	723.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,900	130,000
MW-12	8/27/2020	733.22	9.50	--	723.72	--	<100	300	--	--	<100	--	--	<1.0	<2.0	<2.0	<6.0	--	--	--	--	--	--	--	--
MW-12 Dup	08/27/20	733.22	9.50	--	723.72	--	<100	320	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-12	11/24/2020	733.22	8.79	--	724.43	--	<100	260	--	--	<99	--	--	<1.0	<2.0	<2.0	<4.0	--	--	--	--	--	--	--	--
MW-12	2/24/2021	733.22	8.80	--	724.42	--	<100	110	--	--	<95	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-12	5/5/2021	733.22	9.01	--	724.21	--	<100	120	--	--	<97	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-12 Dup	5/5/2021	733.22	9.01	--	724.21	--	<100	<99	--	--	<99	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-13	5/2/2019	733.66	9	--	724.66		<100	<392	--	--	<392	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--	--	--	--	--	--	--
MW-13	8/9/2019	733.66	9.66	--	724.00	--	<100	<400	--	--	<400	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-13	11/22/2019	733.66	9.38	--	724.28	--	<100	<408	--	--	<408	--	--	<1.0	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-13	2/7/2020	733.66	9.23	--	724.43	--	<50	<130	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-13	5/7/2020	733.66	9.57	--	724.09	--	<50	<130	--	--	<250	--	--	<2.0	<2.0	<2.0	<2.0	--	--	--	--	--	--	--	--
MW-13	7/8/2020	733.66	9.73	--	723.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	8/27/2020	733.66	9.73	--	723.93	--	<100	<100	--	--	<100	--	--	<0.50	<1.0	<1.0	<3.0	--	--	--	--	--	--	--	--
MW-13	11/24/2020	733.66	9.12	--	724.54	--	<100	<93	--	--	<93	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--
MW-13	2/24/2021	733.66	9.26	--	724.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	5/5/2021	733.66	9.26	--	724.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B13	11/09/20	--	--	--	--	--	<100	250 [h,z]	--	--	130 [h,z]	--	--	<0.50	<1.0	<1.0	<2.0	--	--	--	--	--	--	--	--

Notes:

Groundwater monitoring data, top of casing elevations, and laboratory analytical results prior to January 22, 2014 provided by Arcadis. Bolding indicates a concentration greater than MTCA Method A Cleanup level.
Well TOC elevations were resurveyed on September 12, 2013 in reference to North American Vertical Datum of 1988.
Previous TOC elevations relative to a site benchmark of assumed elevation of 730 feet. All GW elevations were calculated using the 2013 survey data.
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) analyzed by USEPA Method 8260B.
1,2-Dibromoethane (EDB) analyzed by USEPA Method 8260B.
1,2-Dichloroethane (EDC) analyzed by USEPA Method 8260B.
Methyl tertiary butyl ether (MTBE) analyzed by USEPA Method 8260B.
Total and Dissolved lead analized by USEPA Method 6020.
Total petroleum hydrocarbon as gasoline (TPH-G) analyzed by Northwest Method NWTPH-Gx.
Total petroleum hydrocarbons as diesel (TPH-D) analyzed by Norhtwest Method NWTPH-Dx.
Total Petroleum hydrocarbons as oil (TPH-O) analyzed by Northwest Method NWTPH-Dx
ft = feet
MTCA = Model Toxic Control Act
ND = Not detected above the laboratory reporting limits.
NE = Not established

SPH = Liquid-phase hydrocarbon thickness
< = Less than the stated laboratory reporting limit
µg/L = micrograms per liter
a quick acid-silica gel cleanup method used
b 10-gram column acid-silica gel cleanup method used
c MTCA Method A Cleanup Level for TPH-G is 800 µg/L if benzene is detectable in groundwater. 1 Top-of-casing elevation was first surveyed in January 2007.
2 A product trap was present in the well on this date. The product trap was removed prior to measuring the potential product thickness. 3 This sample was also analyzed for methyl tert-butyl ether (MTBE) by EPA Method 8021B. MTBE was not detected.
4 This sample was also analyzed for polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270-SIM. PAHs were not detected. 5 Sampling for first quarter 2005 was postponed until the first week of the second quarter due to inclement weather.
N Associated MS and /or MSD recovery result outside established control limits. R Associated MS/MSD RPD outside established control limits.
2n Result confirmed by second analysis.
B+ Analyte was detected in the associated method blank as well as in the sample.
J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit. MO Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
Z2 Analyte present in the associated method blank above the detection limit.

Table 3

Summary of Soil Vapor Analytical Data
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Sample ID	Sample Date	TPHg (ug/m^3)	Benzene (ug/m^3)	Toluene (ug/m^3)	Ethylbenzene (ug/m^3)	Total Xylenes (ug/m^3)	Naphthalene (ug/m^3)	Oxygen (%)	Methane (%)	Carbon Dioxide (%)	Helim (%)
MTCA Method B Soil Gas Screening Levels		**4,700**	**10.7**	**76,000**	**15,000**	**1500**	**2.50**	**--**	**--**	**--**	**--**
VP-1	09/12/13	< 280	< 4.4	< 5.2	< 6.0	< 12.0	< 29	11	< 0.00028	8.2	< 0.14
VP-2	09/12/13	< 280	< 4.4	< 5.1	< 5.9	< 11.8	< 29	15	< 0.00027	4.2	< 0.14
BD-1 (VP-2	09/12/13	< 280	< 4.3	< 5.1	< 5.8	< 11.6	< 28	15	< 0.00027	4.1	< 0.13

Notes:

Concentrations are comparted to the Department of Ecology Model Toxics Control Act (MTCA) Method B Sub-slab or shallow soil gas screening levels for soil gas collected just beneath a building or less than 15 feet below existi

Hydrocarbons: TPHg, benzene, toluene, ethylbenzene, total xylenes, naphthalene analyzed by modified USEPA method TO-15

Fixed Gases: oxygen, methane, carbon dioxide, and nitrogen analyzed by American Standard of Testing and Materials (ASTM) method D 1946-90.

< = Less than the stated laboratory reporting limit

% + percent

ug/m3 = micrograms per cubic meter.

Table 4

Well Construction Details
Former Unocal Bulk Fuel Plant 0766
Phillips 66 Site 5888
Sunnyside, Washington

Boring/Well I.D.	Installation Date	Boring Depth (feet bgs)	Casing Diameter (inches)	Casing Material	Screen Top (feet bgs)	Screen Bottom (feet bgs)	Screen Size (inches)	Filter Pack Top (feet bgs)	Filter Pack Bottom (feet bgs)	TOC Elevation (feet, amsl)
MW-1	03/06/89	20	2	PVC	5	20	0.020	3	20	731.75
MW-2	03/06/89	26	2	PVC	5.6	25.6	0.020	3	26	734.74
MW-3	03/07/89	20.5	2	PVC	5.2	20.2	0.020	3	20.5	727.66
MW-3A	03/30/89	15	2	PVC	5	15	0.020	5	15	734.84
MW-4	03/07/89	20	2	PVC	5	20	0.020	3	20	733.09
MW-5	03/08/89	20	2	PVC	5	20	0.020	3	20	730.85
MW-6	04/27/99	20	2	PVC	5	20	0.020	3	20	734.53
MW-7	10/29/04	13	2	PVC	4	13	0.010	3	13	735.16
MW-8	08/22/13	20	2	PVC	5	20	0.010	3	20	733.65
MW-9	04/04/19	20	2	PVC	5	20	0.010	4	20	734.67
MW-10	04/03/19	20	2	PVC	5	20	0.010	4	20	734.65
MW-11	04/04/19	20	2	PVC	5	20	0.010	4	20	734.23
MW-12	04/04/19	19	2	PVC	4	19	0.010	3	19	733.22
MW-13	04/04/19	20	2	PVC	5	20	0.010	4	20	733.66

Notes:

amsl = above mean sea level

bgs = below ground surface

TOC = Top of Casing

-- = not applicable or not available

Appendices

Appendix A
Environmental Document List

Appendix A Environmental Document List

Title	Author	Date	Submitted to Ecology	
			Y/N	Date
Subsurface Contamination Study	GeoEngineers	8/25/1989	Y	8/25/1989
Summary of Site Assessment Activities	PEG	2/12/1998	Y	2/12/1998
Additional Site Characterization	GeoEngineers	5/25/1999	Y	5/25/1999
Remedial Excavation	GeoEngineers	11/8/2001	Y	11/8/2001
Delineation Assessment Report	GeoEngineers	1/10/2003	Y	1/10/2003
Site Receptor Survey Report	Delta Consultants	7/1/2004	Y	7/1/2004
Soil Vapor Investigation Report	Arcadis	12/30/2013	Y	12/30/2013
Site Assessment Work Plan	GHD	12/14/2017	Y	12/14/2017
Interim Action Work Plan	GHD	5/15/2018	Y	5/16/2018
Interim Action Report - Excavation	GHD	9/24/2019	Y	9/24/2019
Interim Action Report - Injections	GHD	10/7/2020	Y	10/7/2020
Quarterly, Semi-annual and Annual Groundwater Monitoring and Sampling Reports	Various	1990-2020	Y	Various

Appendix B
Legal Description of Property, Present Owner and Operation, Known Past Owners and Operators

Appendix B Listing of Known Owners and Operators

Owner	*Business Operations*	*Approximate Years of Site Occupation*
Union Oil Company	Developed in 1940s as a Bulk terminal and operated by Union Oil until Tosco purchased the property.	1940s -1998
TOSCO	Bulk Terminal	1998 – 1999
Orbit Land LLC	Bulk Terminal until 2012. Vacant until 2018 and currently a fertilizer storage facility.	1999 - Current

Parcel Number: 221036-21464 View Map | Property Tax | View Web Version | Print Page
Situs Address: 510 E Lincoln Ave Sunnyside
Property Use: 51 Wholesale Trade
Tax Code Area: 460
Property Size: 1.81
Neighborhood: C231
Owners: Orbit Land
Abbreviated Legal Description:
ROSELAWN SUBD: W 250 FT OF LOT 1 BLK 8

Utility Information: *(indicates utility is available at parcel boundary)*

Gas:	Yes	**Electricity:**	Yes	**Water:**	Public
Sewer/Septic:	Public				

Site Information:

Property Type:	Commercial	**Zoning:**	M1	**Street Type:**	Two-Way
Street Finish:	Paved/Asphlt	**Traffic:**	Medium	**Side Walk:**	Yes
Curbs:	Yes	**Location:**	Road-Frntage		

Details for Land Record #1

Land Flag:	C	**Soil Class:**		**Calc CU:**	No
Water Source:	Public	**Sewer Source:**	Public	**Flood Plain:**	No
Lot Shape:	Rectangle	**Topography:**	Level	**Land View:**	No View
Landscaping:	None	**Value Method:**	Sq-Feet	**Lots:**	0
SquareFeet:		**Acre(s):**	1.810		

Details for Detached Structure #1

Structure Type:	Tanks (Com Only)	**Quality:**	Average	**Condition:**	Average
Construction:		**Const. Type:**		**Foundation:**	
Ext. Wall Type:		**Roof Type:**		**Roofing Material:**	
Flooring:		**Year Built:**	1955	**Stories:**	0
Measure1:	80,000				

Details for Commercial Section #101

Building Type:	Storage Warehouse	**Quality:**	Fair	**Condition:**	Fair
Ext. Wall Type:	Block	**Year Built:**	1955	**Ground Floor:**	1,556
Stories:	1	**Foundation:**	Yes	**Construction:**	Masonry-Wall
Heat/Cool Type:	Forced-Air				

Excise Transactions on Parcel Number 221036-21464

Excise #	Grantor Name	Excise Date	Sale Price	Document Type	Portion (Y/N)	Parcel(s) Sold
315864	Tosco	Dec 24, 1998	$19,750	Statutory Warranty Deed	No	1
301564	Union Oil	Mar 31, 1997	$19,750	Statutory Warranty Deed	No	1

Tax Breakdown Information*

Details for Tax Year 2020

District	Regular Rate	Regular Value	Regular Tax	Excess Rate	Excess Value	Excess Tax
County Ems	0.21308552	$112,900	$24.06	0.00000000	$112,900	$0.00
County Flood Control	0.07748694	$112,900	$8.75	0.00000000	$112,900	$0.00
State School Levy	2.06205763	$112,900	$232.81	0.00000000	$112,900	$0.00
State School Levy Part 2	1.11858386	$112,900	$126.29	0.00000000	$112,900	$0.00
Sunnyside City	2.49828942	$112,900	$282.06	0.00000000	$112,900	$0.00
Sunnyside City Bonds	0.00000000	$112,900	$0.00	0.47766020	$112,900	$53.93
Sunnyside Port Regular	0.35903307	$112,900	$40.53	0.00000000	$112,900	$0.00
Sunnyside School	0.00000000	$112,900	$0.00	1.61246466	$112,900	$182.05
Sunnyside School Bonds	0.00000000	$112,900	$0.00	0.57790444	$112,900	$65.25
Yakima County	1.43558517	$112,900	$162.08	0.00000000	$112,900	$0.00

District	Regular Rate	Regular Value	Regular Tax	Excess Rate	Excess Value	Excess Tax
Yakima Valley Regional Library	0.41164661	$112,900	$46.47	0.00000000	$112,900	$0.00
Total	**8.17576823**	**$112,900**	**$923.05**	**2.66802930**	**$112,900**	**$301.23**

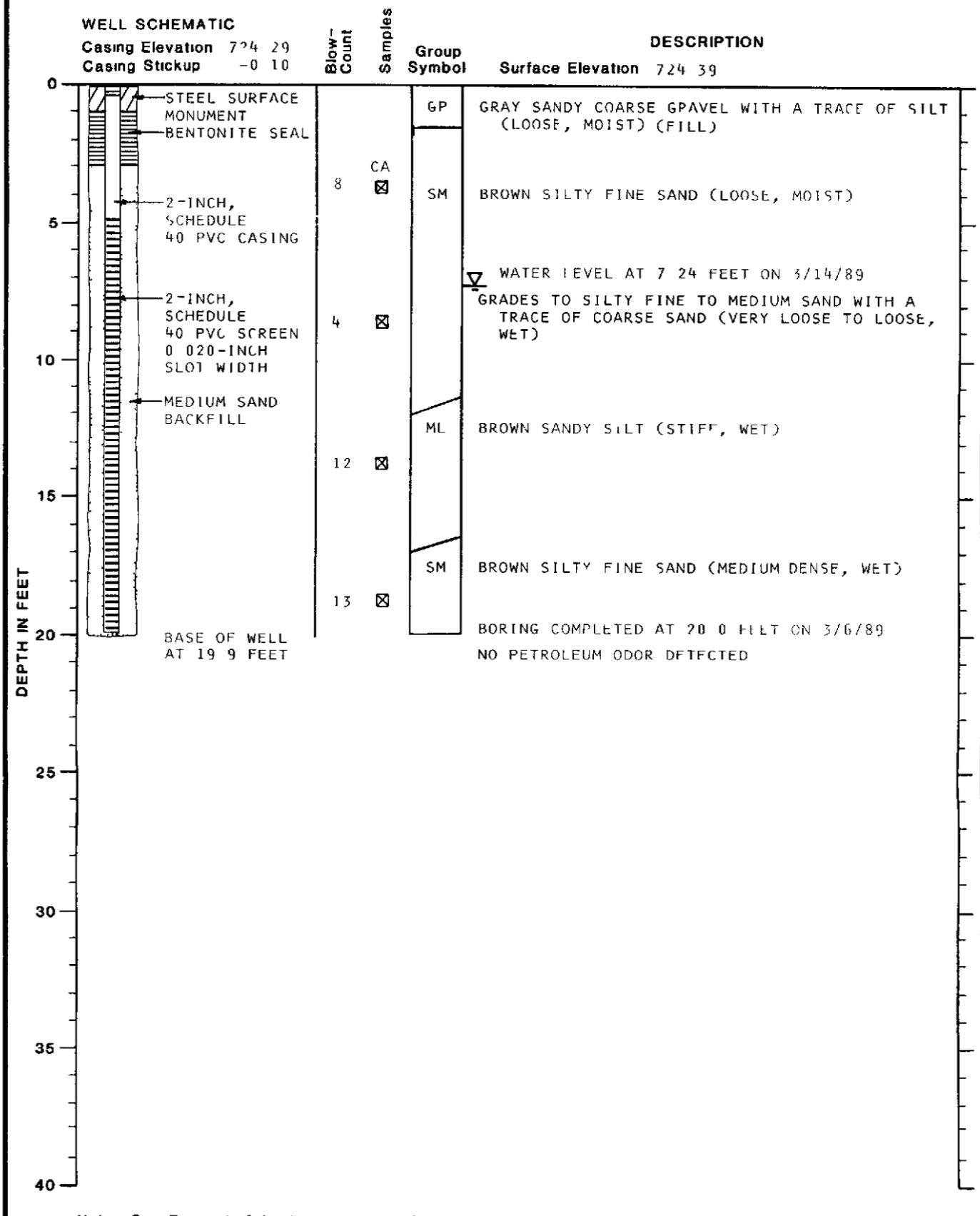
**Please Note: These are not guaranteed tax amounts and are only provided for convenience. Tax amounts above may have rounding errors and are only provided as an indication of what taxes would be if the parcel were taxed at 100% Assessed values for the full tax year. In addition, no assessments are included in these lists and may be included in the property tax bill. If you want exact current tax amounts please view this property on the County Treasurer Tax Portal.*

Value Breakdown Information

Value Type	2021	2020	2019	2018	2017	2016	2015
Taxable Value Regular	$114,200	$112,900	$121,600	$68,800	$68,800	$68,800	$69,000
Taxable Value Excess	$114,200	$112,900	$121,600	$68,800	$68,800	$68,800	$69,000
Market Land	$59,300	$59,300	$59,300	$59,300	$59,300	$59,300	$59,300
Market Improvement	$54,900	$53,600	$62,300	$9,500	$9,500	$9,500	$9,700

Appendix C
Available Historical Soil Boring Logs

MONITOR WELL NO. MW-1



Note See Figure A-2 for Explanation of Symbols

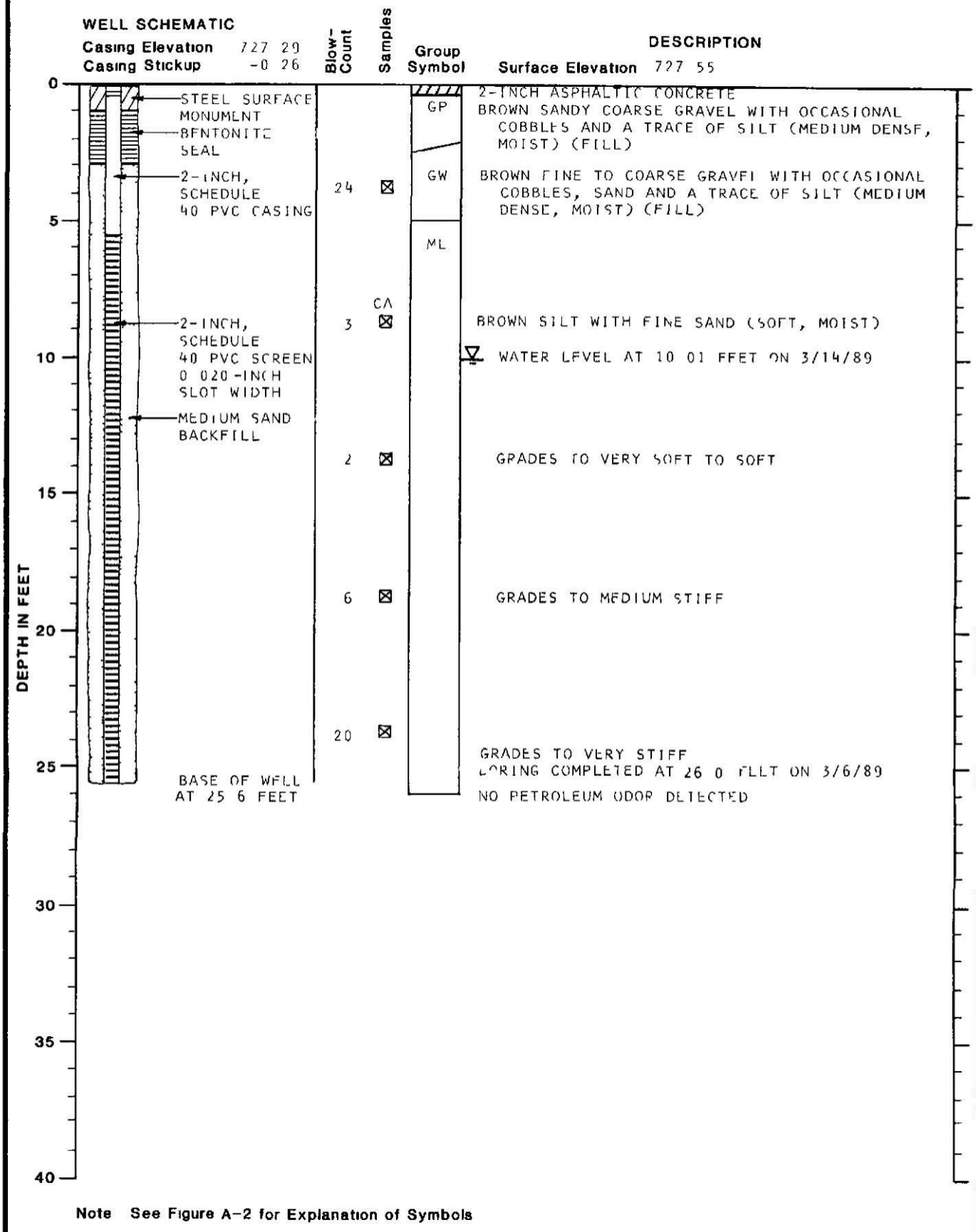
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-3

0161 -65-4 WSL TTF DK 3/24/89

MONITOR WELL NO. MW-2



Note See Figure A-2 for Explanation of Symbols

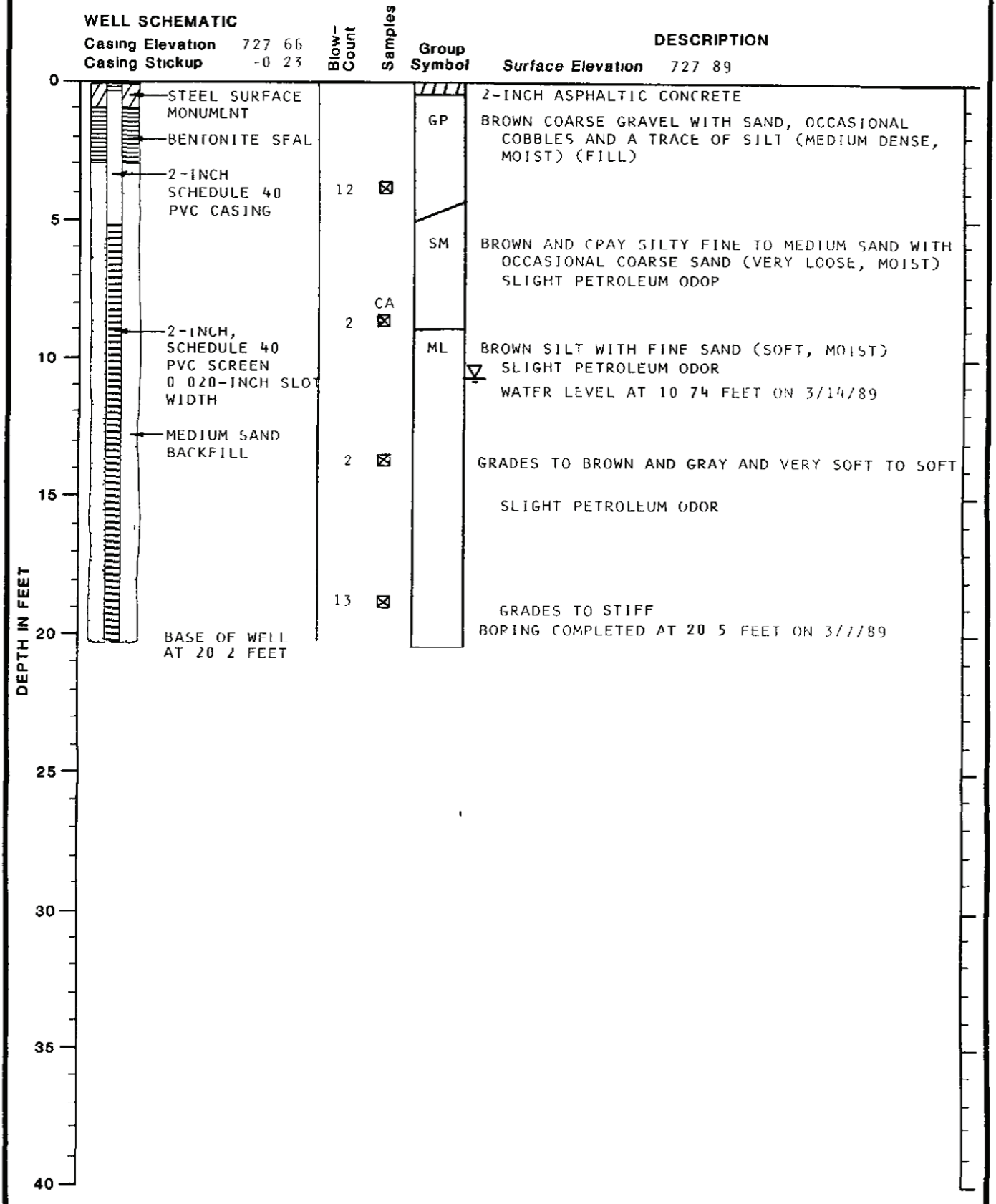
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-4

0161-165-4 WSL TTF DK 3/24/89

MONITOR WELL NO. MW-3



Note See Figure A-2 for Explanation of Symbols

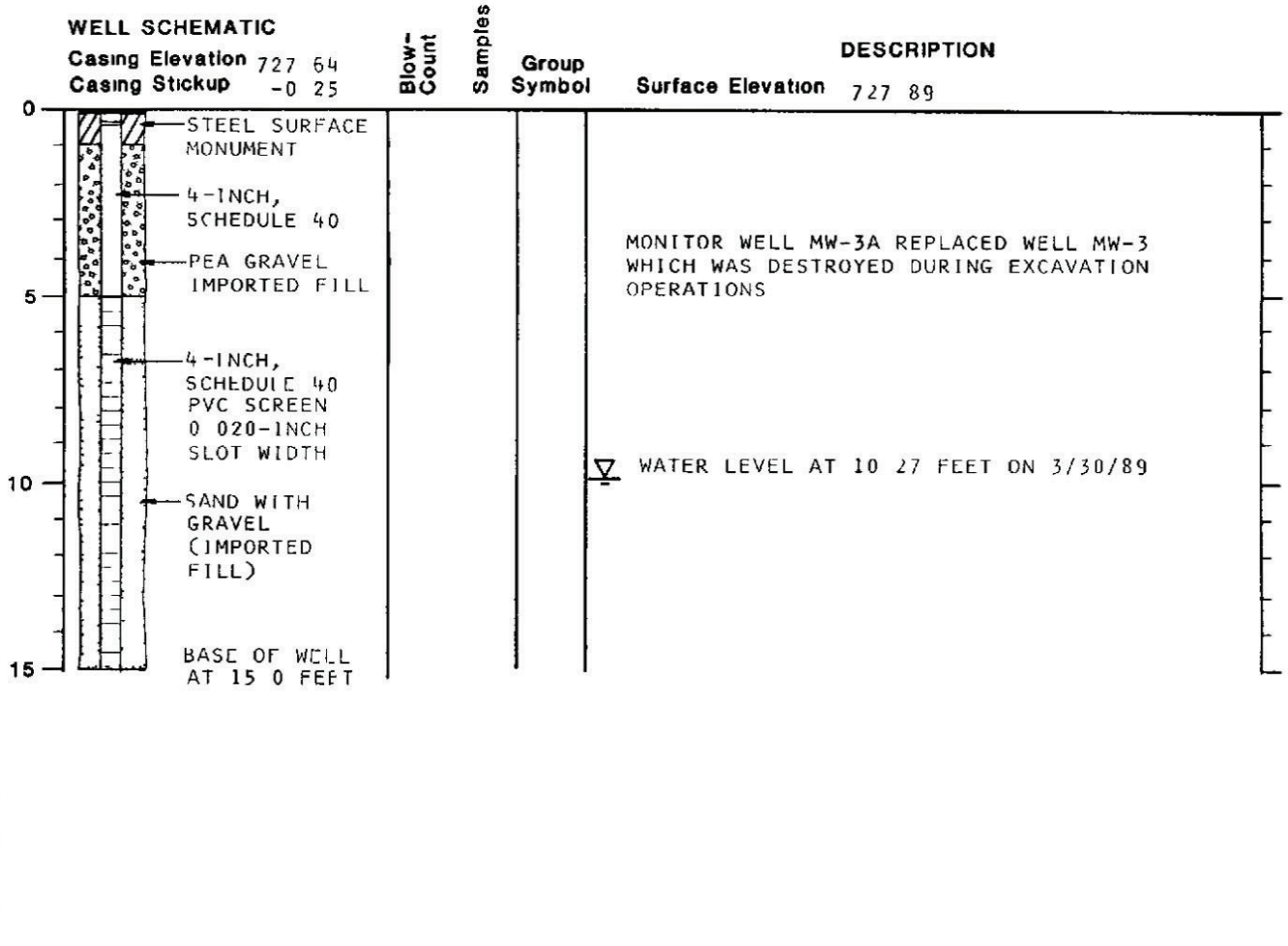
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-5

0161-165-4 WSL TTF DK 3/24/89

MONITOR WELL NO. MW-3A



Note See Figure A-2 for Explanation of Symbols

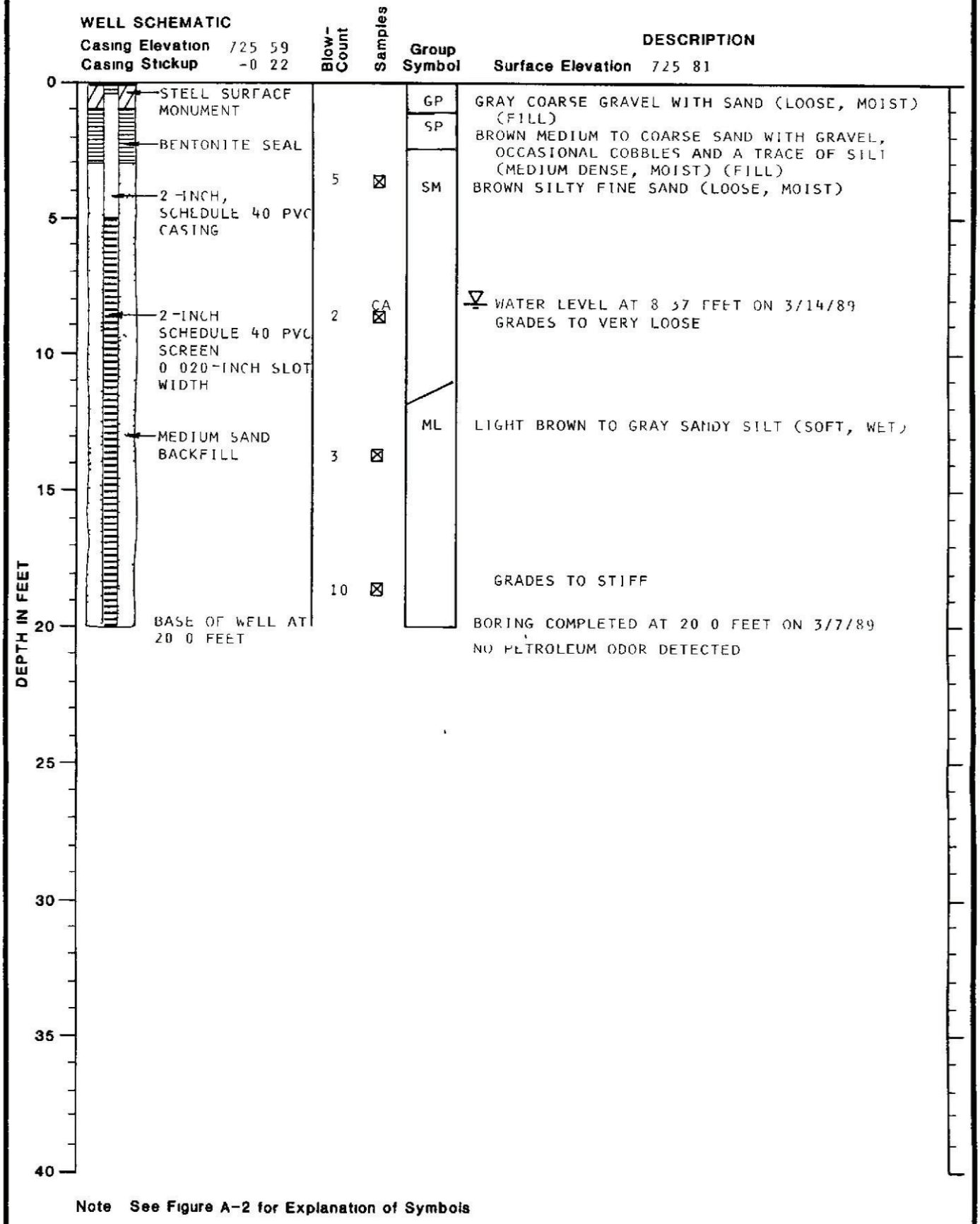
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-6

161-165-4 WSL TTF DK 3/23/89

MONITOR WELL NO. MW-4



Note See Figure A-2 for Explanation of Symbols

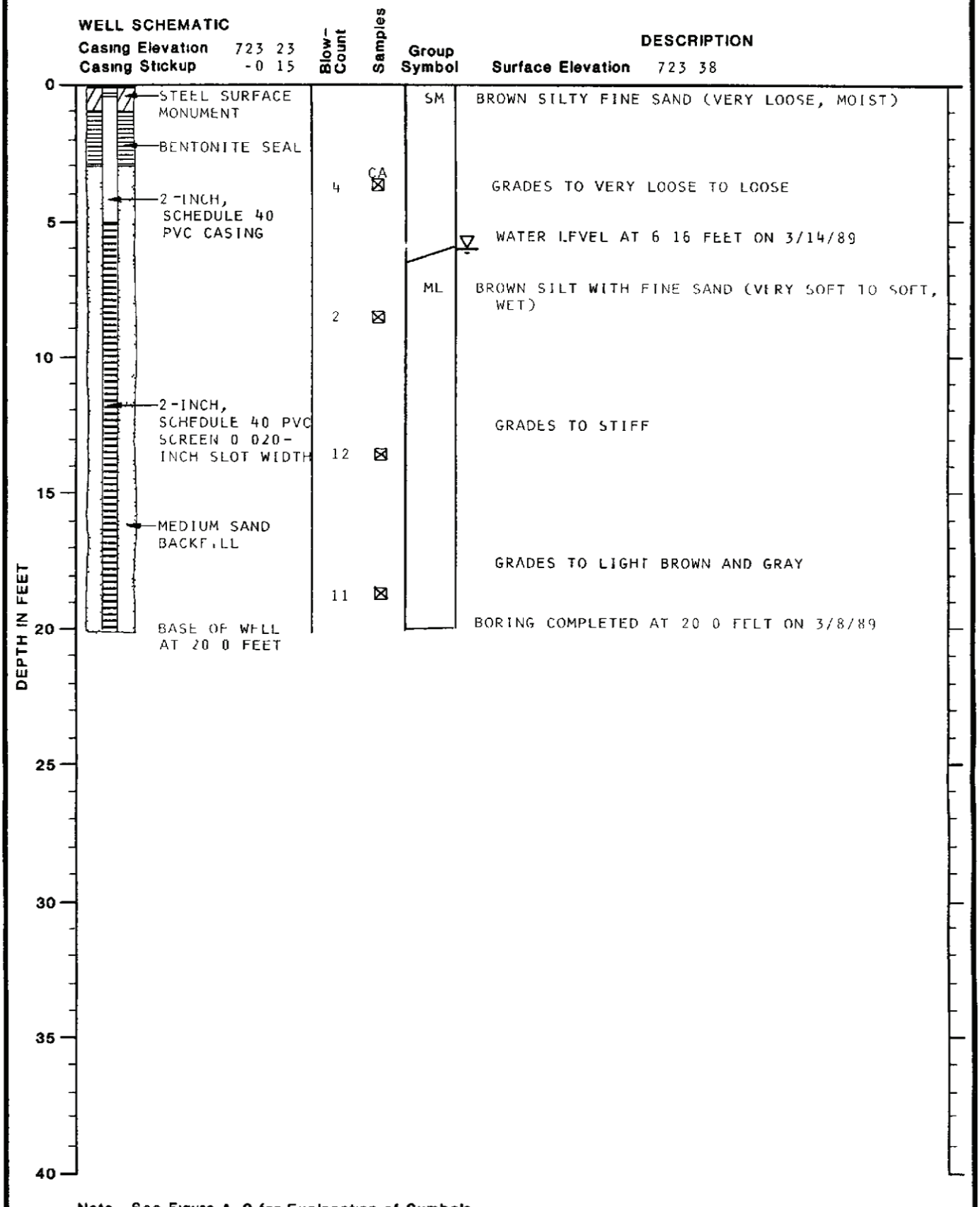
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-7

0161-165-4 WJ1 TTF DK 3/24/89

MONITOR WELL NO. MW-5



Note See Figure A-2 for Explanation of Symbols

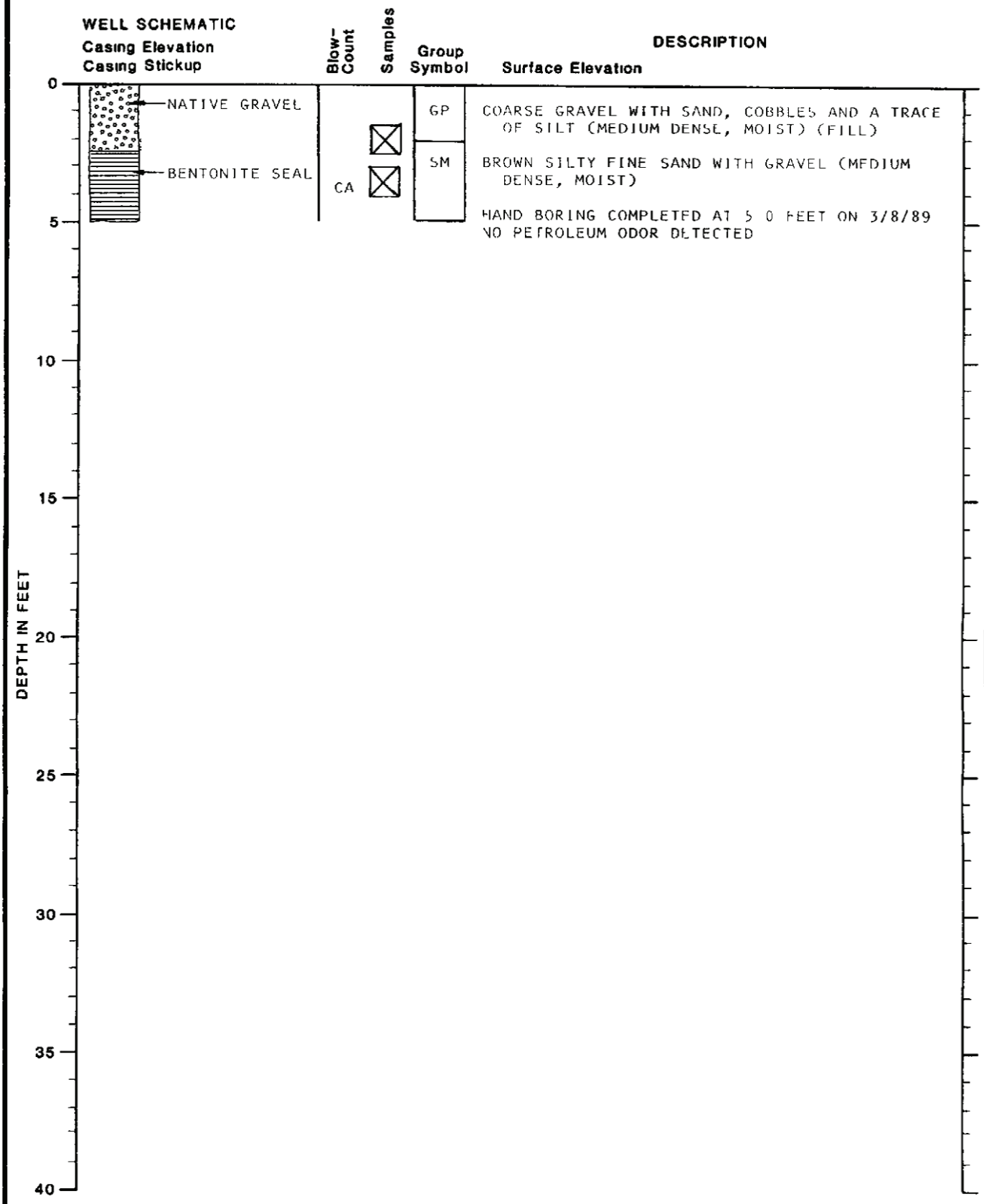
Geo Engineers

LOG OF MONITOR WELL

FIGURE A-8

0161-165-4 WSL TTF DK 3/24/89

LOG OF HAND BORING HB-1



Note See Figure A-2 for Explanation of Symbols

Geo Engineers

LOG OF HAND BORING

FIGURE A-9

0161-165-4 WSL TTF DK 3/24/89

PACIFIC ENVIRONMENTAL GROUP, INC.

BORING NO. SB-1
PAGE 1 OF 1

PROJECT NO. 304-016.1A
LOGGED BY: R. LESHER
DRILLER: CASCADE
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: GRAB
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: TOSCO
DATE DRILLED: 10/7/97
LOCATION: BP 0766, Sunnyside, WA
HOLE DIAMETER: 3"
HOLE DEPTH: 9'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID (ppm)	PENETRATION (BLOWS/ FOOT)	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Backfilled With Bentonite				1				GM	SILTY GRAVEL WITH COBBLES: 15% silt, 85% coarse gravel and cobbles up to 7" in diameter; basaltic; no staining; no odor.
	Dp			2					
				3				ML	SANDY SILT: dark yellowish-brown; low plasticity; 20% fine sand, 80% silt; rapid dilatancy; low dry strength; no staining; no odor.
				4					
	Mst	411		5					@ 5': as above; increasing moisture.
▽	Sat			6					
				7					
				8					
				9					BOTTOM OF BORING 9'
				10					Groundwater encountered at 6'
				11					Groundwater sample collected
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					
				21					
				22					

PACIFIC ENVIRONMENTAL GROUP, INC.

BORING NO. SB-2
PAGE 1 OF 1

PROJECT NO. 304-016.1A
LOGGED BY: R. LESHER
DRILLER: CASCADE
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: DIRECT PUSH
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: TOSCO
DATE DRILLED: 10/6/97
LOCATION: BP 0766, Sunnyside, WA
HOLE DIAMETER: 1 1/2"
HOLE DEPTH: 11'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID (ppm)	PENETRATION (BLOWS/ FOOT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Backfilled With Bentonite				1–22			ML	SANDY SILT: brown; 15% fine sand; rapid delatancy; low dry strength and toughness; no staining; no odor.
	Dp	10.4		5				@ 5': as above.
▽	Sat	3.8		9				@ 9': as above; increasing moisture.
				11				BOTTOM OF BORING 11'

Groundwater encountered at 9.5'
Groundwater sample collected

PACIFIC ENVIRONMENTAL GROUP, INC.

BORING NO. SB-3
PAGE 1 OF 1

PROJECT NO. 304-016.1A
LOGGED BY: R. LESHER
DRILLER: CASCADE
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: GRAB
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: TOSCO
DATE DRILLED: 10/6/97
LOCATION: BP 0766, Sunnyside, WA
HOLE DIAMETER: 3"
HOLE DEPTH: 9'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

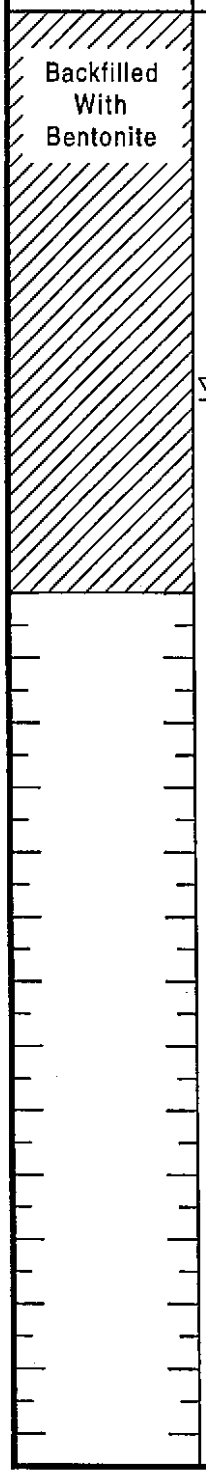
WELL COMPLETION	MOISTURE CONTENT	PID (ppm)	PENETRATION (BLOWS/ FOOT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL / GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Backfilled With Bentonite				1		GM	SILTY GRAVEL: brown; 80% medium to coarse gravel, 20% silt; basaltic in composition; sub angular to angular.
				2		ML	SANDY SILT: brown; 75% silt, 25% fine sand; rapid delatancy; firm; no staining; no odor.
	Dp			3			
				4			
	Mst	3.5		5			@ 5': as above; increasing moisture.
▽	Sat			6			
				7			
				8			
				9			BOTTOM OF BORING 9'
				10			Groundwater encountered at 6'
				11			Groundwater sample collected
				12			
				13			
				14			
				15			
				16			
				17			
				18			
				19			
				20			
				21			
				22			

PACIFIC ENVIRONMENTAL GROUP, INC.

BORING NO. SB-4
PAGE 1 OF 1

PROJECT NO. 304-016.1A
LOGGED BY: R. LESHER
DRILLER: CASCADE
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: GRAB
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: TOSCO
DATE DRILLED: 10/6/97
LOCATION: BP 0766, Sunnyside, WA
HOLE DIAMETER: 3"
HOLE DEPTH: 9'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA



MOISTURE CONTENT	PID (ppm)	PENETRATION (BLOWS/FOOT)	DEPTH (FEET)	SOIL TYPE	LITHOLOGY/REMARKS
			1	GM	SILTY GRAVEL: 85% gravels up to 4", 15% silt; basaltic in composition; no staining; no odor.
Dp			2	ML	SANDY SILT: dark yellowish-brown; 80% silt, 20% fine sand; no staining; no odor.
			3		
			4		
Mst	8.2		5		@ 5': as above.
Sat ▽			6		
			7		
			8		
			9		BOTTOM OF BORING 9'
			10		Groundwater encountered at 6'
			11		Groundwater sample collected
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		

PACIFIC ENVIRONMENTAL GROUP, INC.

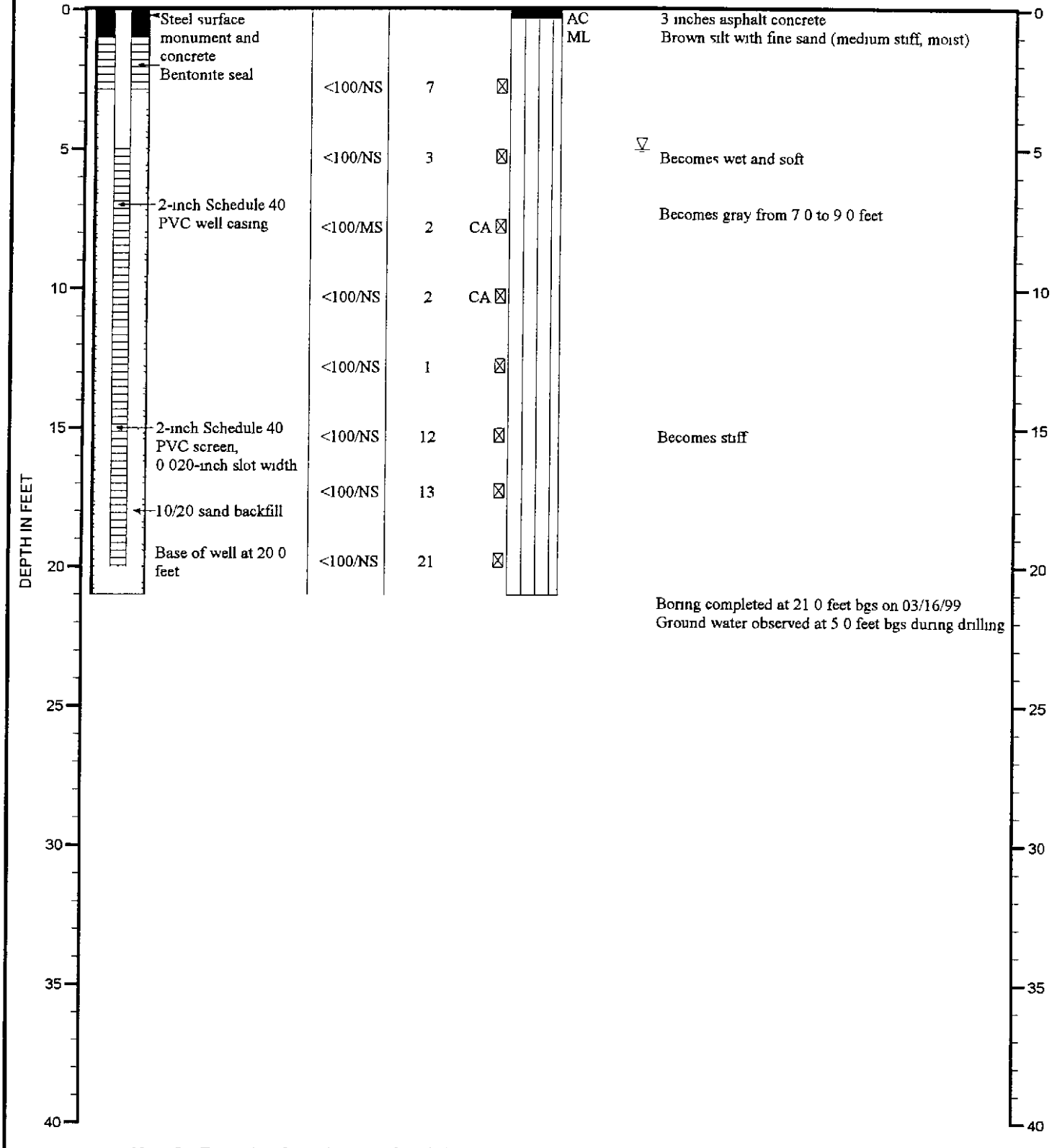
BORING NO. SB-5
PAGE 1 OF 1

PROJECT NO. 304-016.1A
LOGGED BY: R. LESHER
DRILLER: CASCADE
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: GRAB
CASING TYPE: NA
SLOT SIZE: NA
GRAVEL PACK: NA

CLIENT: TOSCO
DATE DRILLED: 10/6/97
LOCATION: BP 0766, Sunnyside, WA
HOLE DIAMETER: 3"
HOLE DEPTH: 9'
WELL DIAMETER: NA
WELL DEPTH: NA
CASING STICKUP: NA

WELL COMPLETION	MOISTURE CONTENT	PID (ppm)	PENETRATION (BLOWS/ FOOT)	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Backfilled With Bentonite	Dp			1–2			GM	SILTY GRAVEL WITH COBBLES: 75% gravels and cobbles up to 6" in diameter, 25% silt; gravel is predominantly coarse, basaltic in composition; no staining; no odor.
				3–4			ML	SANDY SILT: brown; 70% silt, 30% fine sand; rapid dilatancy; firm; low dry strength and toughness; no staining; no odor.
▽	Mst Sat	219		5				@ 5': as above; increasing moisture.
				6–9				
				10–22				BOTTOM OF BORING 9' Groundwater encountered at 5.5' Goundwater sample collected

MONITORING WELL MW-6



Note See Figure A- 2 for explanation of symbols

TNO ja 4/16/99

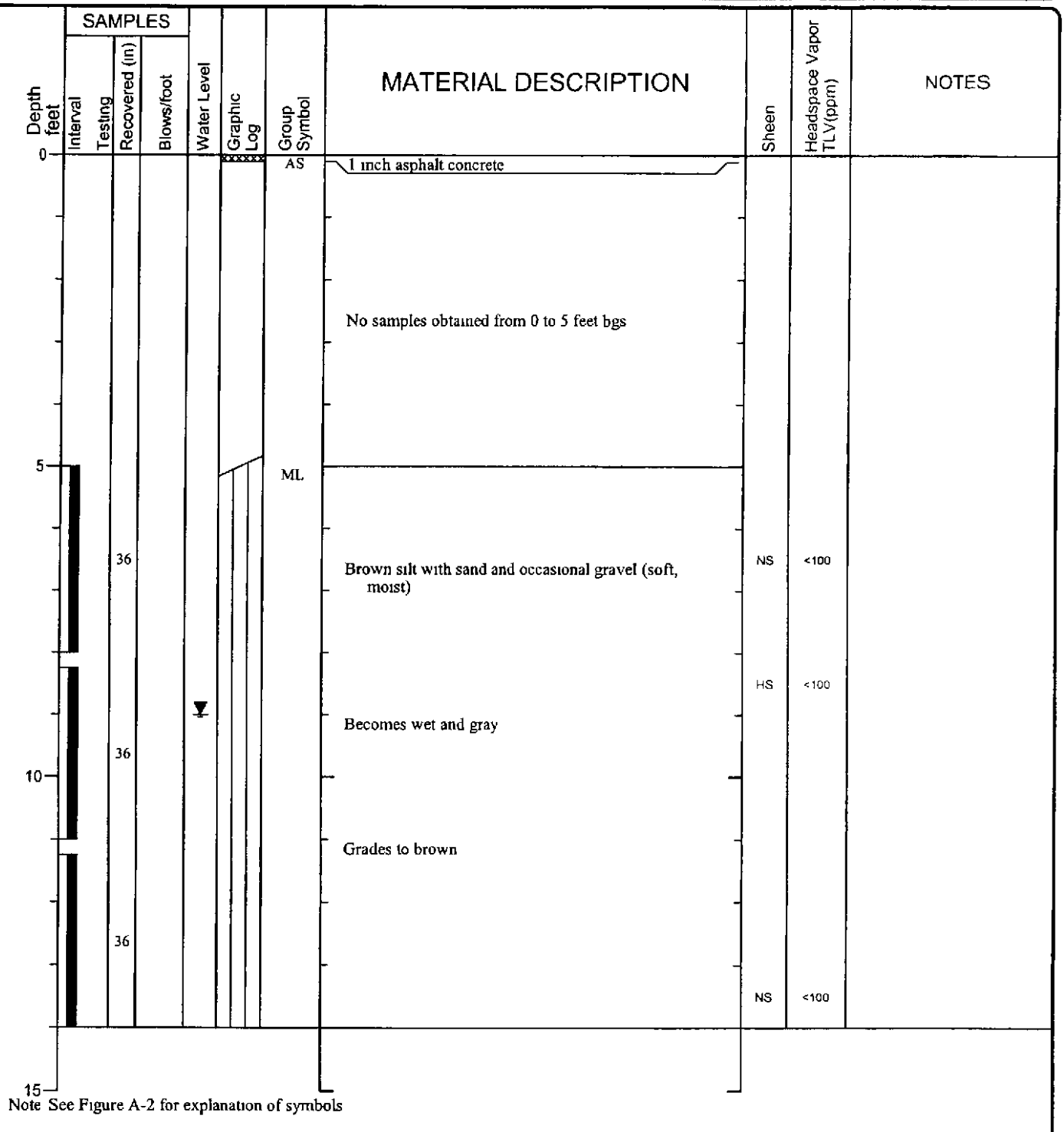
4823-165-01a

Geo Engineers

LOG OF MONITORING WELL

FIGURE A-3

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	14	Surface Elevation (ft)		Ground Water Level (ft bgs)	9
Datum/ System					



Note See Figure A-2 for explanation of symbols

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

LOG OF BORING B-1

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-3
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	14	Surface Elevation (ft)		Ground Water Level (ft bgs)	9
Datum/ System					

Depth feet	SAMPLES Interval	Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							AS	1 inch asphalt concrete			
								No samples obtained from 0 to 5 feet bgs			
5			36				ML	Brown silt with sand and occasional gravel (soft, moist)	SS	<100	
					▼			Becomes wet	SS	<100	
10			36						NS	<100	
			36					No recovery from 11 5 to 14 0 feet bgs			
15											

Note See Figure A-2 for explanation of symbols

4823-165-06 GEI ENVBORING 2 1 0 P \PHILLI~1\4823165\06\FINALS\4823165 GPJ GEIV2_1 GDT 11/26/02

LOG OF BORING B-2

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-4
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11	Surface Elevation (ft)		Ground Water Level (ft bgs)	9
Datum/ System					

Depth feet	SAMPLES Interval Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0						AS	1 inch asphalt concrete			
							No samples obtained from 0 to 5 feet bgs			
5							No recovery			
		36								
						ML	Brown silt with sand and occasional gravel (soft, moist)	NS	<100	
							Becomes wet			
10		36						NS	<100	
15										

Note See Figure A-2 for explanation of symbols

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\006\FINAL\SW4823165 6 GPJ GEIV2_1 GDT 11/26/02

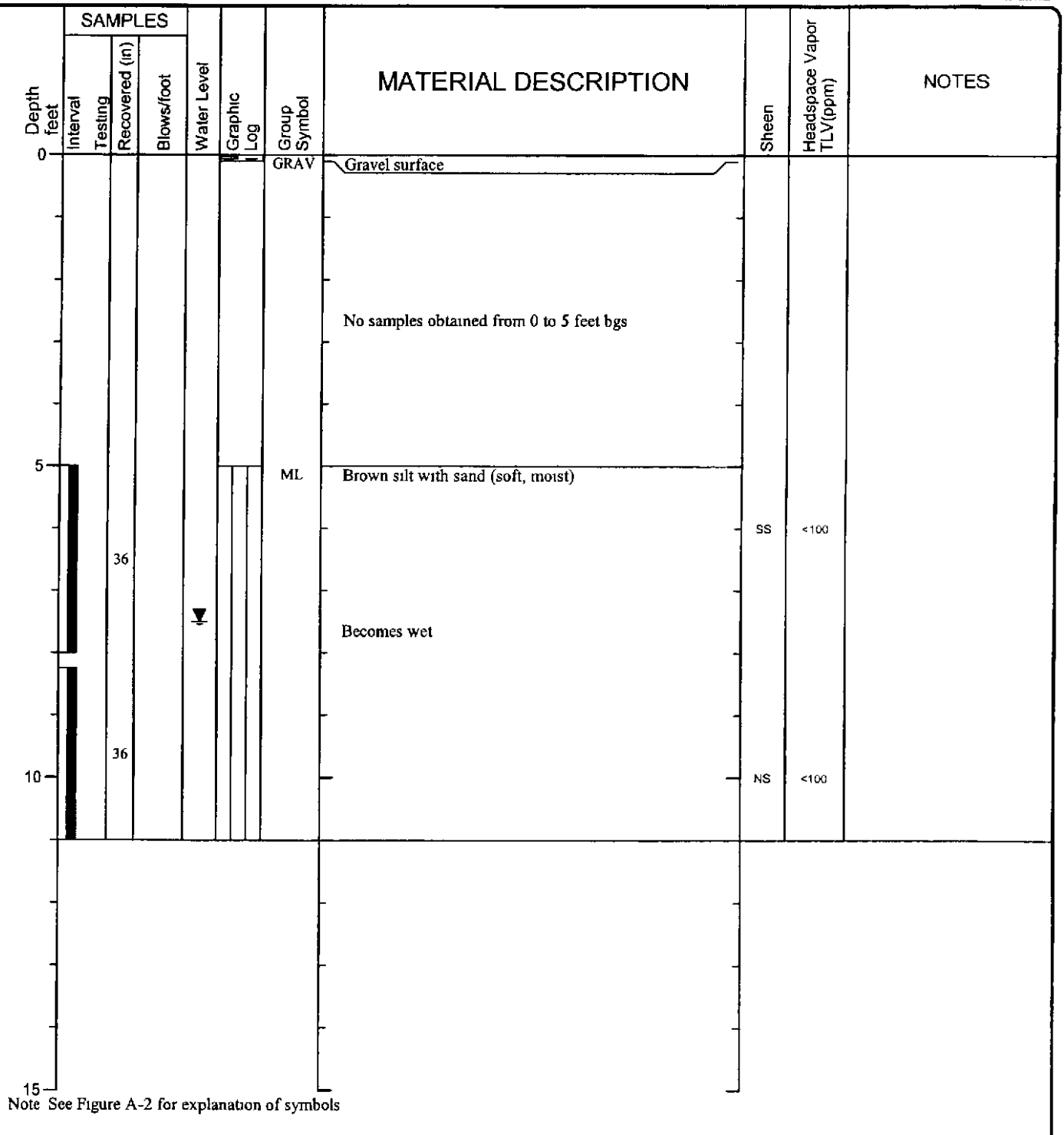
LOG OF BORING B-3

Geo Engineers

Project 76 Branded Bulk Plant No 0766
Project Location Sunnyside, Washington
Project Number 4823-165-06

Figure A-5
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11	Surface Elevation (ft)		Ground Water Level (ft bgs)	7 5
Datum/ System					



Note See Figure A-2 for explanation of symbols

LOG OF BORING B-4

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-6
Sheet 1 of 1

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11 5	Surface Elevation (ft)		Ground Water Level (ft bgs)	7
Datum/ System					

Depth feet	SAMPLES Interval Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0						AS	1 inch asphalt concrete			
							No samples obtained from 0 to 5 feet bgs			
5		36		▼		ML	Brown silt with sand and occasional fine gravel (soft, moist)	SS	<100	
							Becomes wet			
10		3						NS	<100	
15										

Note See Figure A-2 for explanation of symbols

4823 165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 06 GPJ GEIV2_1 GDT 11/26/02

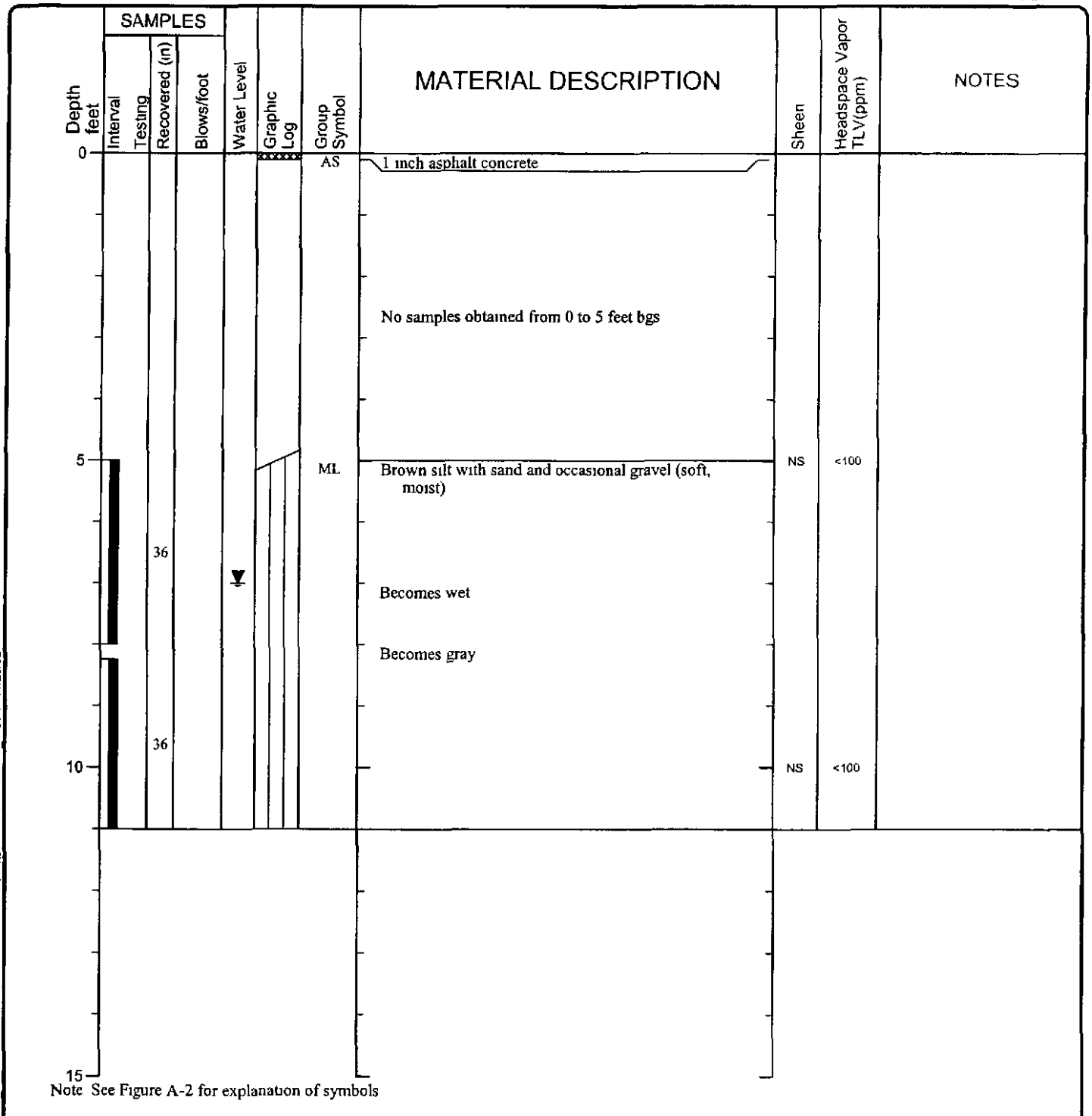
LOG OF BORING B-5

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-7
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11	Surface Elevation (ft)		Ground Water Level (ft bgs)	7
Datum/ System					



Note See Figure A-2 for explanation of symbols

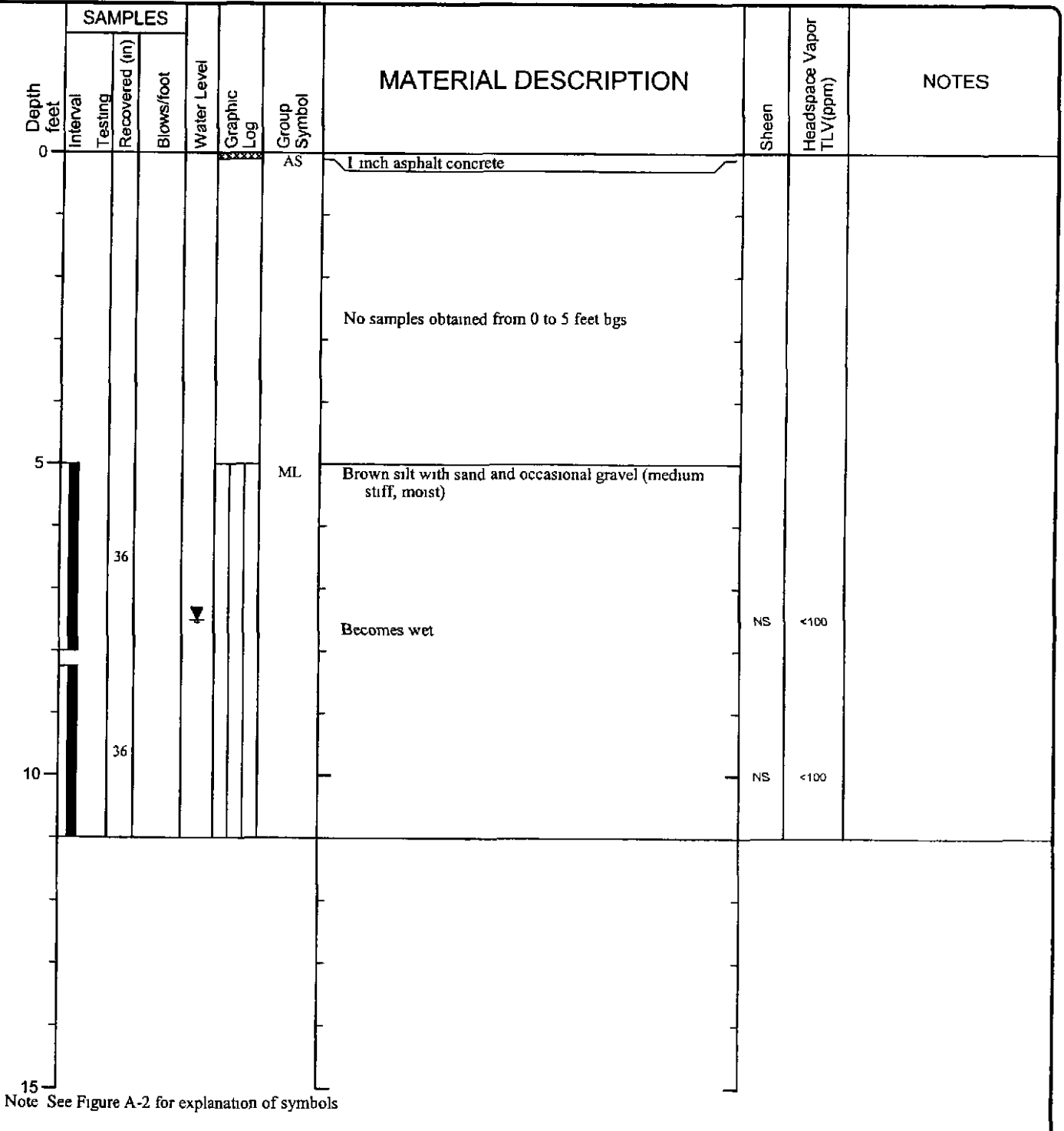
LOG OF BORING B-6

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-8
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11	Surface Elevation (ft)		Ground Water Level (ft bgs)	7 5
Datum/ System					



Note See Figure A-2 for explanation of symbols

LOG OF BORING B-7

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-9
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	11	Surface Elevation (ft)		Ground Water Level (ft bgs)	7 5
Datum/ System					

Depth feet	SAMPLES Interval	Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							AS	1 inch asphalt concrete			
								No samples obtained from 0 to 5 feet bgs			
5			36				ML	Brown silt with sand and occasional gravel (medium stiff, moist)	SS	<100	
								Becomes wet			
10			36						SS	<100	
15											

Note See Figure A-2 for explanation of symbols

4823 165 06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 06 GPJ GEIV2_1 GDT 11/26/02

LOG OF BORING B-8

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-10
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	15	Surface Elevation (ft)		Ground Water Level (ft bgs)	10
Datum/ System					

Depth feet	SAMPLES Interval	Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							AS	1 inch asphalt concrete			
								No samples obtained from 0 to 5 feet bgs			
5			36				ML	Brown silt with sand and occasional gravel (soft, moist)	MS	<100	
10			36		▼			Becomes wet and gray	HS	-	
								No recovery below 11 5 feet			
15											

Note See Figure A-2 for explanation of symbols

LOG OF BORING B-9

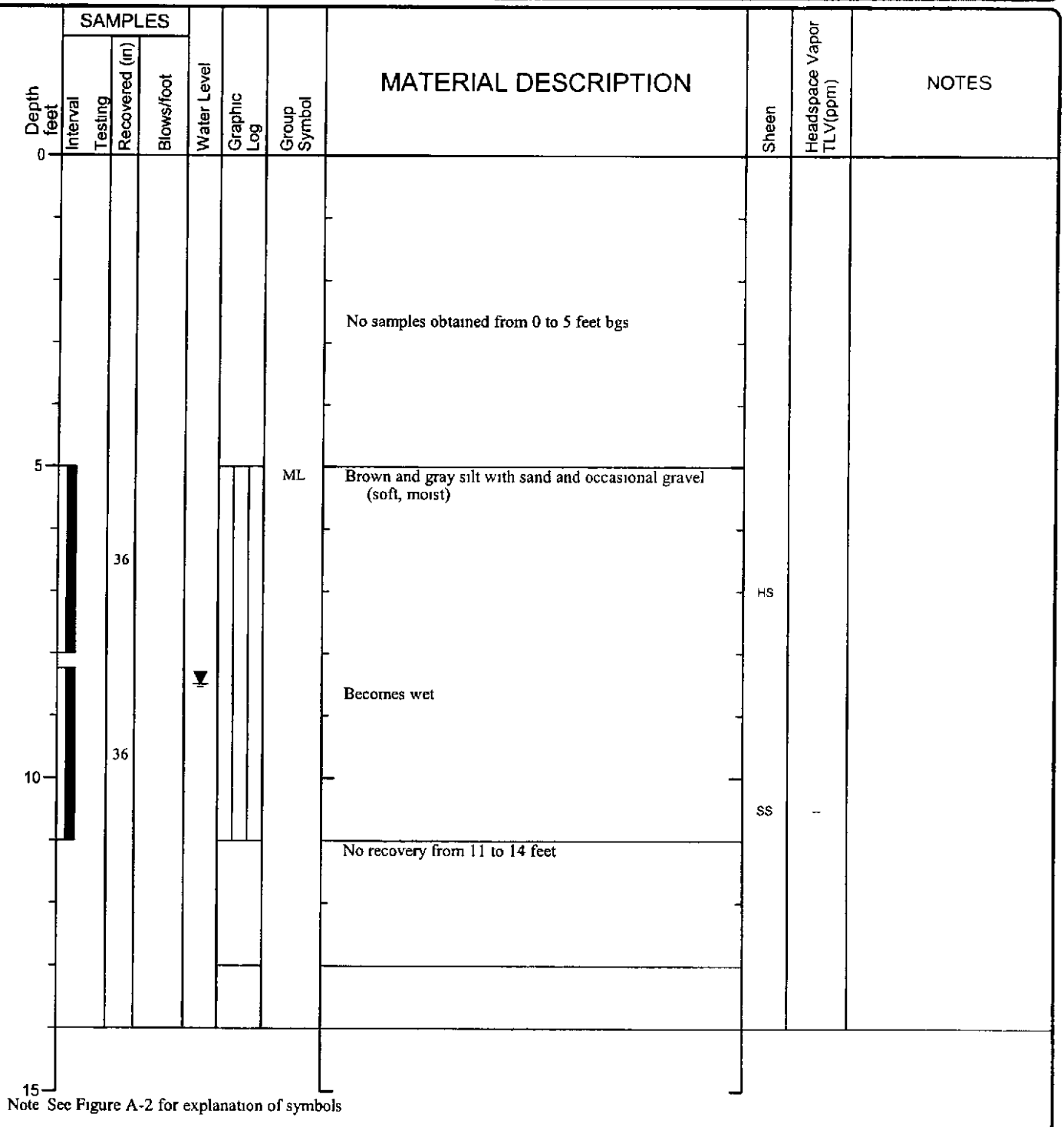
Geo Engineers

Project 76 Branded Bulk Plant No 0766
Project Location Sunnyside, Washington
Project Number 4823-165-06

Figure A-11
Sheet 1 of 1

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	14	Surface Elevation (ft)		Ground Water Level (ft bgs)	8 5
Datum/ System					



Note See Figure A-2 for explanation of symbols

LOG OF BORING B-10

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-12
Sheet 1 of 1

Date(s) Drilled	11/04/02	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	18	Surface Elevation (ft)		Ground Water Level (ft bgs)	9
Datum/ System					

Depth feet	SAMPLES Interval Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							No samples obtained from 0 to 5 feet bgs			
5		36		▼		ML	Brown and gray silt with sand and occasional gravel (medium stiff, moist)	NS	-	
							Becomes wet and gray	MS	-	
10		36				ML	No recovery from 9 to 12 feet			
		36						MS		
15		36					Becomes brown and stiff	NS		
20										

Note See Figure A-2 for explanation of symbols

4823 165 06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

LOG OF BORING B-11

Geo Engineers

Project 76 Branded Bulk Plant No 0766
Project Location Sunnyside, Washington
Project Number 4823-165-06

Figure A-13
Sheet 1 of 1

Date(s) Drilled	04/04/01	Logged By	Orme	Checked By	Bona
Drilling Contractor	ESN Drilling	Drilling Method	Direct-push	Sampling Methods	1 5-inch split-barrel sampler
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted strataprobe
Total Depth (ft)	4	Surface Elevation (ft)		Ground Water Level (ft bgs)	
Datum/ System					

Depth feet	SAMPLES Interval	Testing	Recovered (in)	Blows/6in	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							GP	Pea gravel - no recovery with three attempts			
								Boring completed at 4 feet bgs on 04/04/01 Ground water was not encountered during drilling			
5											
10											
15											
20											

Note See Figure A-2 for explanation of symbols

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINAL\SB-14 PDF GEIV2_1 GDT 11/25/02

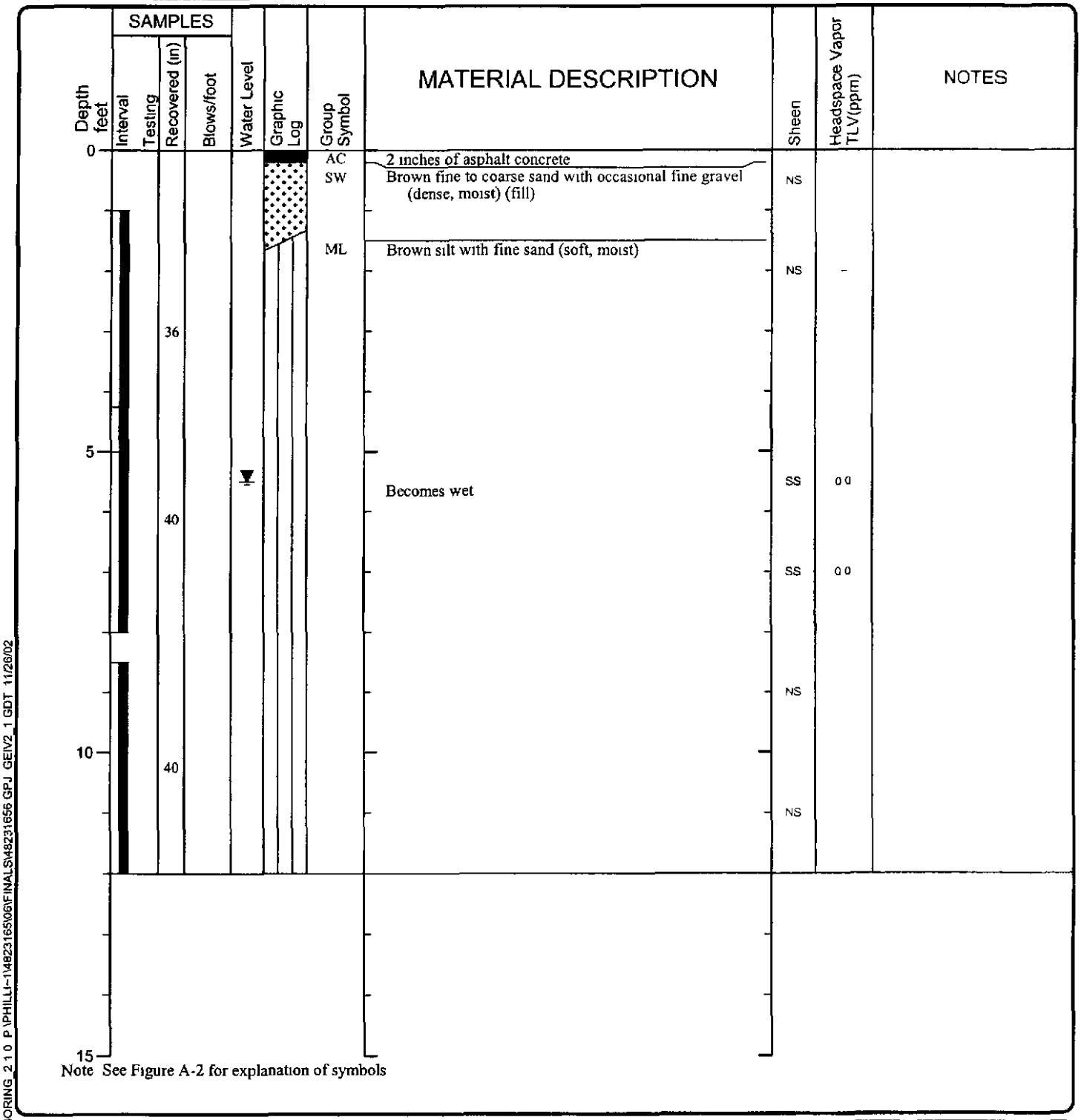
LOG OF BORING B-12

Geo Engineers

Project	Former Unocal Bulk Plant 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-03

Figure A-14
Sheet 1 of 1

Date(s) Drilled	10/25/02	Logged By	Robertson	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch SPT w/ 4'x2" macrocoreliner
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)		Ground Water Level (ft bgs)	5 5
Datum/ System					



Note See Figure A-2 for explanation of symbols

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

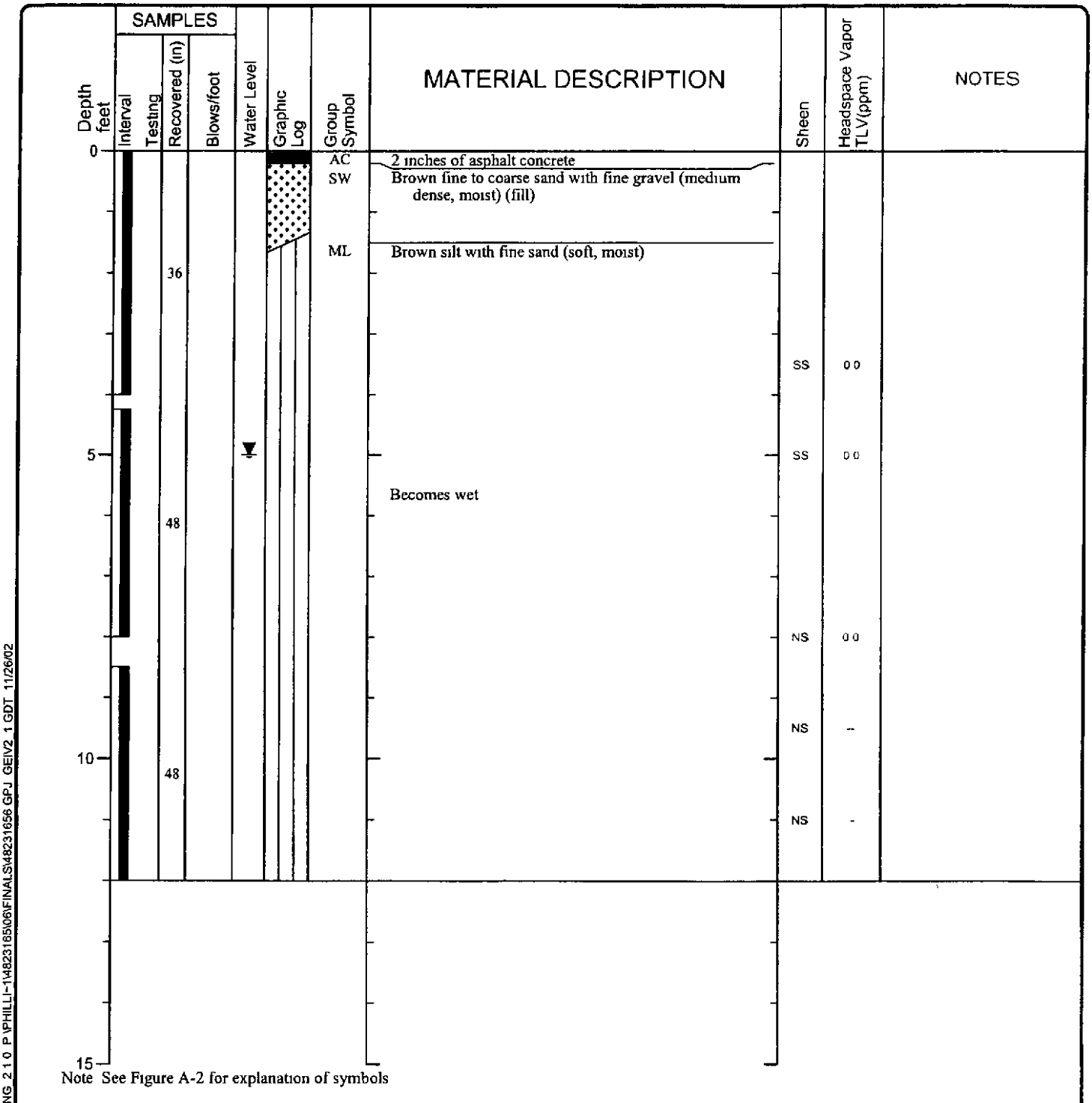
LOG OF BORING P-1

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-16
Sheet 1 of 1

Date(s) Drilled	10/25/02	Logged By	Robertson	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch SPT w/ 4'x2" macrocoreliner
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)		Ground Water Level (ft bgs)	5
Datum/ System					



Note See Figure A-2 for explanation of symbols

LOG OF BORING P-2

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-17
Sheet 1 of 1

Date(s) Drilled	10/25/02	Logged By	Robertson	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch SPT w/ 4'x2" macrocoreliner
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)		Ground Water Level (ft bgs)	5 5
Datum/ System					

Depth feet	SAMPLES Interval	Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0							AC	2 inches of asphalt concrete			
							SW	Brown fine to coarse sand with fine gravel (medium dense, moist) (fill)	NS	0 0	
			36				ML	Brown silt with fine sand (soft, moist)	NS	0 0	
5					▼			Becomes wet	SS	0 0	CA
			48				SP	Brown fine sand with silt (loose, wet)			
							ML	Brown silt with fine sand (very soft, wet)	NS	0 0	
10			40						NS		
									NS		
15											

Note See Figure A-2 for explanation of symbols

LOG OF BORING P-3

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-18
Sheet 1 of 1

4823-165-06 GEI_ENVBORING_2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 GPJ GEIV2_1 GDT 11/26/02

Date(s) Drilled	10/25/02	Logged By	Robertson	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch SPT w/ 4'x2" macrocoreliner
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)		Ground Water Level (ft bgs)	5 5
Datum/ System					

Depth feet	SAMPLES Interval Testing	Recovered (in)	Blows/foot	Water Level	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV(ppm)	NOTES
0						AC	2 inches of fine to coarse gravel (fill)			
						SW	Brown fine to coarse sand with fine gravel (medium dense, moist) (fill)			
						ML	Brown silt with fine sand (soft, moist)	NS	–	
		30						NS	0 0	
5				▼		SP	Brown fine to medium sand (loose, wet)			
		40				SM	Brown silt with fine sand (soft, wet)	NS	0 0	
								MS	7 8	
10								HS	14 5	
		10								
15										

Note See Figure A-2 for explanation of symbols

LOG OF BORING P-4

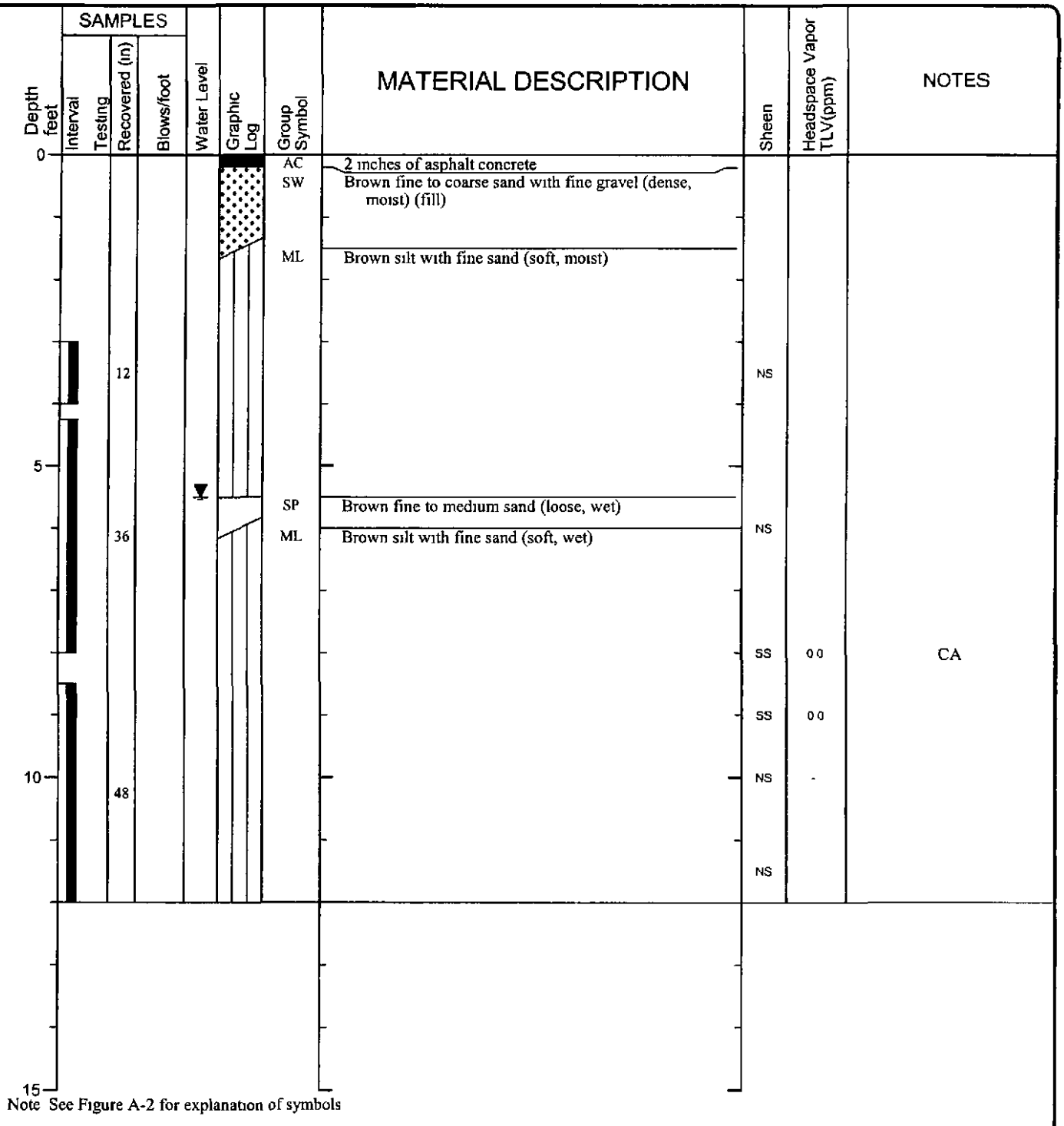
Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-19
Sheet 1 of 1

4823-165-06 GEI ENVBORING 2 1 0 P:\PHILLI~1\4823165\06\FINALS\4823165 6 GPJ GEIV2_1 GDT 11/26/02

Date(s) Drilled	10/25/02	Logged By	Robertson	Checked By	Bona
Drilling Contractor	ESN	Drilling Method	Direct-push	Sampling Methods	1-1/2-inch SPT w/ 4'x2" macrocoreliner
Auger Data		Hammer Data		Drilling Equipment	Truck-mounted Strataprobe
Total Depth (ft)	12	Surface Elevation (ft)		Ground Water Level (ft bgs)	5 5
Datum/ System					



Note See Figure A-2 for explanation of symbols

LOG OF BORING P-5

Geo Engineers

Project	76 Branded Bulk Plant No 0766
Project Location	Sunnyside, Washington
Project Number	4823-165-06

Figure A-20
Sheet 1 of 1

Date Start/Finish: 8/20/2013
Drilling Company: Cascade Drilling, LP
Driller's Name:
Drilling Method: Hand Auger/ Air Knife
Sampling Method: Hand Auger

Northing: NM
Easting: NM
Surface Elevation: NA

Bore Hole Depth: 5 ft 8 in

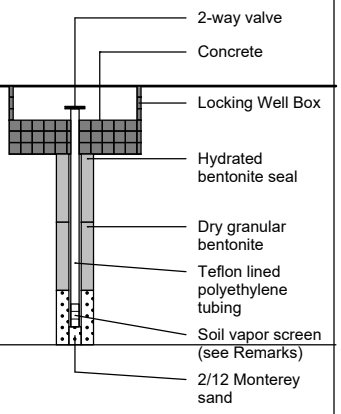
Descriptions By: CSK/JA

Well/Boring ID: VP-1

Client: Chevron Environmental Management Company

Location: Former Unocal No. 0766
511 E Lincoln Avenue, Sunnyside, WA

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0						
				0.7			Gravel roadbase.
				0.8	X		Yellowish brown (10YR 5/4) fine SAND and GRAVEL (2mm-6 cm), well sorted, subrounded Gravel, medium dense.
				0.8			Yellowish brown (10YR 5/4) fine SAND and GRAVEL (0.2mm-small cobble), well sorted, subrounded Gravel, medium dense.
		1	0-5.7	0.6	X		Yellowish brown (10YR 5/4) fine SAND and GRAVEL (0.2mm-small cobble), trace Organics (roots), well sorted, subrounded Gravel, medium dense.
				0.7			
5	-5			0.0	X		Brown (10 YR 5/3) sandy SILT, very fine Sand, non-plastic, soft, dry.
							End of boring at 5 ft 8 in bgs.
10	-10						
15	-15						



Well/Boring Construction

ARCADIS
Infrastructure · Water · Environment · Buildings

Remarks: NA = Not Available
PID = Photoionization Detector
in = inch
bgs = below ground surface
NM = Not Measured
ppm = Parts Per Million
ft = foot

Soil vapor screen is a 6-inch, 0.250-inch outer diameter stainless steel screen.
Soil vapor probe installed at 5 ft bgs.

Date Start/Finish: 8/21/2013
Drilling Company: Cascade Drilling, LP
Driller's Name:
Drilling Method: Hand Auger/ Air Knife
Sampling Method: Hand Auger

Northing: NM
Easting: NM
Surface Elevation: NA

Bore Hole Depth: 5 ft 9 in

Descriptions By: CSK/JA

Well/Boring ID: VP-2

Client: Chevron Environmental Management Company

Location: Former Unocal No. 0766
511 E Lincoln Avenue, Sunnyside, WA

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0						Asphalt	2-way valve; Concrete; Locking Well Box
		1	0-5.7	0.1			Brown (10YR 5/3) fine SAND and GRAVEL (2mm-64 mm), well sorted, subrounded Gravel, loose, dry.	Hydrated bentonite seal
				0.2				
				0.4				Dry granular bentonite
				0.3			Dark yellowish brown (10 YR 4/4) SILT, some very fine Sand, low plasticity, soft, dry.	Teflon lined polyethylene tubing
5	-5			0.3			Dark yellowish brown (10 YR 4/4) SILT, some very fine Sand, low plasticity, soft, moist.	Soil vapor screen (see Remarks)
							End of boring at 5 ft 9 in bgs.	2/12 Monterey sand
10	-10							
15	-15							

ARCADIS
Infrastructure · Water · Environment · Buildings

Remarks: NA = Not Available
PID = Photoionization Detector
in = inch
bgs = below ground surface
NM = Not Measured
ppm = Parts Per Million
ft = foot

Soil vapor screen is a 6-inch, 0.250-inch outer diameter stainless steel screen.
Soil vapor probe installed at 5 ft bgs.

Date Start/Finish: 8/20/2013 - 8/22/13
Drilling Company: Cascade Drilling, LP
Driller's Name:
Drilling Method: Air Knife / HSA
Auger Size:
Rig Type: CME 8500 HSA
Sampling Method: Hand Auger/ Splitspoon

Northing: NM
Easting: NM
Casing Elevation: NM

Borehole Depth: 21 ft 3 in bgs
Surface Elevation: NM

Descriptions By: CSK/JA

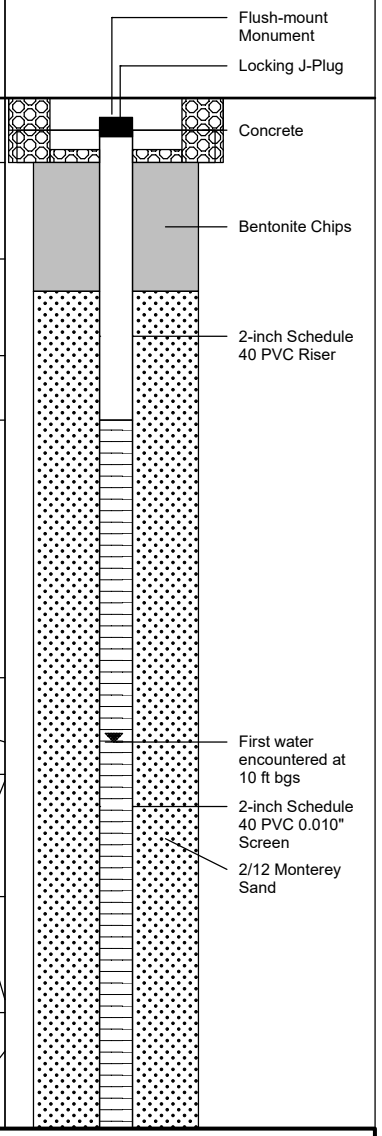
Well/Boring ID: **MW-8**

Client: Chevron Environmental Management Company

Location: Former Unocal No. 0766
511 E Lincoln Avenue, Sunnyside, WA

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0									Gravel roadbase.
							0.8	X		Yellowish brown (10YR 5/4) fine SAND and GRAVEL (2mm-20 cm diameter), well sorted, loose, dry.
							0.0			Brown (10YR 4/3) sandy SILT, non-plastic, very fine Sand, soft, dry.
							0.0			
							0.0			Brown (10YR 4/3) sandy SILT, non-plastic, very fine Sand, soft, moist.
5	-5	1	0-10				0.0	X		Dark yellowish brown (10YR 3/4) SILT, some very fine Sand, low plasticity, rapid dilatancy, very soft, moist.
							0.0			
							0.0			
							0.0			
							0.0	X		Dark yellowish brown (10YR 3/4) SILT, some very fine Sand, low plasticity, rapid dilatancy, very soft, wet at 10 ft bgs.
10	-10				6 3 2		0.0			No Recovery.
		2	10-12	1/1.5		5	0.0			GRAVEL (possible slough).
										Dark yellowish brown (10YR 3/4) SILT, some very fine Sand, low plasticity, rapid dilatancy, very soft, wet.
					1 3 3		0.0			
		3	12-14	1.5/1.5		6	3.0			Dark gray (10YR 4/1) SILT, low plasticity, rapid dilatancy, trace very fine Sand, wet.
										Dark yellowish brown (10YR 3/4) SILT, some very fine Sand, low plasticity, rapid dilatancy, very soft, wet (possible slough).
					1 4 10		4.6			Dark gray (10 YR 4/1) SILT with brown (10YR 4/3) mottling, low plasticity, rapid dilatancy, trace very fine Sand, soft, wet, hydrocarbon-like odor.
15	-15	4	14-16	1.5/1.5		14	0.0			Gray (10 YR 5/1) SILT, low plasticity, trace fine Sand, trace Gravel (1-2 cm diameter), medium stiff, wet.

Well/Boring Construction



ARCADIS
Infrastructure, environment, facilities

Remarks:

NA = Not Available
PID = Photoionization Detector
ft = foot
ppm = Parts Per Million
NM = Not Measured
in = inch
bgs = below ground surface
PVC = Polyvinyl Chloride

Date Start/Finish: 8/20/2013 - 8/22/13
Drilling Company: Cascade Drilling, LP
Driller's Name:
Drilling Method: Air Knife / HSA
Auger Size:
Rig Type: CME 8500 HSA
Sampling Method: Hand Auger/ Splitspoon

Northing: NM
Easting: NM
Casing Elevation: NM

Borehole Depth: 21 ft 3 in bgs
Surface Elevation: NM

Descriptions By: CSK/JA

Well/Boring ID: **MW-8**

Client: Chevron Environmental Management Company

Location: Former Unocal No. 0766
511 E Lincoln Avenue, Sunnyside, WA

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
				4 9 16		0.3			Gray (10 YR 5/1) SILT, low plasticity, trace fine Sand, trace Gravel (1-2 cm diameter), very soft, wet.	
	5	16-18	1.5/1.5		25	0.0			Dark gray (10YR 4/1) CLAY, medium plasticity, no dilatancy, trace very fine Sand, trace Silt, moist.	
				8 15 24		0.0			No Recovery.	
	6	18-20	1.2/1.5		39	0.0			Dark gray (10YR 4/1) CLAY, medium plasticity, no dilatancy, trace very fine Sand, trace Silt, wet.	
20 -20									Dark gray (10YR 4/1) CLAY, medium plasticity, no dilatancy, trace very fine Sand, trace Silt, moist.	
	7	20-21.3							No description. End of boring at 21 ft 3 in bgs.	

ARCADIS
Infrastructure, environment, facilities

Remarks:

NA = Not Available
PID = Photoionization Detector
ft = foot
ppm = Parts Per Million
NM = Not Measured
in = inch
bgs = below ground surface
PVC = Polyvinyl Chloride

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: A (MW-10)
DATE COMPLETED: April 3, 2019
DRILLING METHOD: Air Knife/Direct Push
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	734.82						
0	GP-GRAVEL (Fill Material)							
2								0.0
	SM-SILTY SAND, with gravel, brown, no odor	731.82	Bentonite					
4								
	- cobble at 5.0ft BGS							
6								
8								
	- slough, gravel at 9.0ft BGS			MW-10-9				
10								
	SM-SILTY SAND, with gravel, very dark gray, saturated, sheen, odor	723.82		MW-10-11				8.2
12			Sand Pack					
			Well Screen					
14								
	- odor at 15.0ft BGS							12.1
16								
	SC-CLAYEY SAND, with silt, gray	717.82						1.4
18	SM-SILTY SAND, brown, no odor	716.82						0.1
20	END OF BOREHOLE @ 20.0ft BGS	714.82						0.0
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
729.82 to 714.82ft BGS
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: #10
Material: PVC
Sand Pack:
730.82 to 714.82ft BGS
4.00 to 20.00ft BGS
Material: Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (MW-10-9, MW-10-11)

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: B (MW-9)
DATE COMPLETED: April 4, 2019
DRILLING METHOD: Air Knife/Direct Push
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	734.90						
0	GP-GRAVEL (Fill Material)							
2	SM-SILTY SAND, brown, no odor	732.90	Bentonite					0.0
4	- no odor at 5.0ft BGS							0.0
6				MW-9-7				
8								0.0
10	- saturated, no odor at 9.0ft BGS		▽	MW-9-9				
12			Sand Pack Well Screen					0.0
14								0.0
16	SC-CLAYEY SAND, with silt, gray	718.90						0.0
18	- brown, no odor at 19.0ft BGS							0.0
20	END OF BOREHOLE @ 20.0ft BGS	714.90						0.0
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
729.90 to 714.90ft BGS
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: #10
Material: PVC
Sand Pack:
730.90 to 714.90ft BGS
4.00 to 20.00ft BGS
Material: Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: C (MW-11)
DATE COMPLETED: April 4, 2019
DRILLING METHOD: Air Knife/Vac/Direct Push
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	734.41						
0	GP-GRAVEL (Fill Material)							
2	SM-SILTY SAND, with gravel, brown, no odor	732.41	Bentonite					0.0
4								
6	- wet, no odor at 5.0ft BGS							0.0
8								
10	SM-SILTY SAND, with gravel, brown, no odor	725.41	▽	MW-11-9				0.0
12	SM-SILTY SAND, saturated, no odor	723.41	Sand Pack Well Screen	MW-11-11				0.0
14	SC-CLAYEY SAND, gray, no odor	720.41						0.0
16	SC-CLAYEY SAND, gray, no odor	718.41						0.0
18	SC-CLAYEY SAND, light brownish gray, no odor	716.41 715.41						0.0
20	SC-CLAYEY SAND, brown, no odor END OF BOREHOLE @ 20.0ft BGS	714.41						0.0
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
729.41 to 714.41ft BGS
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: #10
Material: PVC
Sand Pack:
730.41 to 714.41ft BGS
4.00 to 20.00ft BGS
Material: Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: D (MW-13)
DATE COMPLETED: April 4, 2019
DRILLING METHOD: Air Knife
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	734.09						
0	GP-GRAVEL (Fill Material)							
2								
	SM-SILTY SAND, brown, no odor	731.09	Bentonite					
4								
	CL-SILTY CLAY, very soft, brown, no odor	729.09						
6								
	SM-SILTY SAND, brown, wet, no odor	727.09		MW-13-7				0.0
8								
	- saturated at 9.0ft BGS		▽	MW-13-9				
10								
	- saturated at 11.0ft BGS							
12			Sand Pack Well Screen					
14	SM-SILTY SAND, gray, wet, no odor	720.09						
16	SC-CLAYEY SAND, gray, no odor	718.09						0.0
18	SC-CLAYEY SAND, dark grayish brown, no odor	716.09						0.0
20	END OF BOREHOLE @ 20.0ft BGS	714.09						0.0
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
729.09 to 714.09ft BGS
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: #10
Material: PVC
Sand Pack:
730.09 to 714.09ft BGS
4.00 to 20.00ft BGS
Material: Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: E (MW-12)
DATE COMPLETED: April 4, 2019
DRILLING METHOD: Air Knife/Direct Push
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	733.53						
0	GP-GRAVEL (Fill Material)							
2	SM-SILTY SAND, brown, no odor	731.53	Bentonite					0.0
4								
6	- no odor at 5.0ft BGS							0.0
8	SM-SILTY SAND, brown, no odor	726.53		MW-12-7				0.0
10								
12	SM-SILTY SAND, saturated, no odor	722.53	Sand Pack Well Screen	MW-12-11				0.0
14	SC-CLAYEY SAND, with silt, gray	719.53						
16	SC-CLAYEY SAND, gray, saturated	718.53						0.0 0.0
18	SC-CLAYEY SAND, grayish brown, no odor	716.53						0.0
20	- Refusal, dark grayish brown at 19.0ft BGS END OF BOREHOLE @ 19.0ft BGS	714.53						0.0
22								
24								
26								
28								
30								
32								
34								

WELL DETAILS
Screened interval:
729.53 to 714.53ft BGS
4.00 to 19.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: #10
Material: PVC
Sand Pack:
730.53 to 714.53ft BGS
3.00 to 19.00ft BGS
Material: Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽
CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 511 Lincoln Ave., Sunnyside 977
PROJECT NUMBER: 11145922
CLIENT: Phillips 66 Company
LOCATION: 511 East Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: F (B-12)
DATE COMPLETED: April 4, 2019
DRILLING METHOD: Air Knife/Direct Push
FIELD PERSONNEL: B. Pauley

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	734.92						
0	GP-GRAVEL (Fill Material)							
2	SM-SILTY SAND, wth gravel, brown, no odor	732.92						0.0
4								0.0
6								
8								
10	SM-SILTY SAND, brown	724.92	Bentonite	B-12-10				0.0
12								
14								
16	SC-CLAYEY SAND, gray, no odor	718.92		B-12-16				0.0
18	SC-CLAYEY SAND, dark grayish brown, no odor	716.92						0.0
20	- brown clay seam at 20.0ft BGS	714.92						0.0
	END OF BOREHOLE @ 20.0ft BGS							
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (B-12-10, B-12-16)

OVERBURDEN LOG 11145922.GPJ CRA_CORP.GDT 8/14/19

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 Sunnyside
PROJECT NUMBER: 11209892
CLIENT: Phillips 66 Company
LOCATION: Sunnyside, Washington
DRILLING CONTRACTOR: Holt Services

HOLE DESIGNATION: IP-1
DATE COMPLETED: April 15, 2020
DRILLING METHOD: Vac/Geoprobe
FIELD PERSONNEL: D. Trudeau

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	INJECTION POINT	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	FILL, crushed gravel, silt							
	SM-SILTY SAND, with gravel, trace cobbles, compact, brown, moist - no cobbles at 2.0ft BGS	1.00		1VAC				0.0
	SM-SILTY SAND, with gravel, compact, brown, moist	5.00	6" Ø borehole					0.0
	- Approximately 55 gallons of Petrofix injected at 8.0ft BGS			2GP				0.0
	- Approximately 55 gallons of Petrofix injected at 10.0ft BGS		Backfilled with hydrated bentonite chips					0.1
	ML-SILT, with sand and gravel, compact, brown, wet, slight fuel oil odor - Approximately 55 gallons of Petrofix injected at 12.0ft BGS	11.00						5.7
	- Approximately 55 gallons of Petrofix injected at 14.0ft BGS			3GP (14')				20.0
	ML-SILT, trace sand, compact, gray-tan, moist, no odor - Approximately 55 gallons of Petrofix injected at 16.0ft BGS	16.00						7.8 0.1
	END OF BOREHOLE @ 20.0ft BGS	20.00		4GP				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (14')

OVERBURDEN LOG 11209892-CO.GPJ GHD_Corp 9/30/20

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Sunnyside 977
PROJECT NUMBER: 11209892
CLIENT: Phillips 66
LOCATION: 511 Lincoln Avenue, Sunnyside, WA

HOLE DESIGNATION: B-13
DATE COMPLETED: 9 November 2020
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. Adamowski

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	SOIL BORING	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	GRAVEL, loose	0.10						0.0
	GRAVEL, few cobble, compact	1.20						
2	ML-SILT, trace sand, compact, green, moist, no odor							0.0
4								0.0
6	SM-GRAVELLY SAND, trace silt, compact, green-tan, moist, no odor	5.50						0.0
8			Bentonite Chips					0.0
10	ML-SILT, trace sand, compact, tan, wet, no odor	9.50 10.00		B13-10'				0.0
12	SM-GRAVELLY SAND, trace silt, compact, brown-gray, dry, no odor							0.0 0.2
14	ML-SILT, trace sand, compact, gray, moist, no odor	14.00						0.1
16	END OF BOREHOLE @ 15.00ft BGS Note: Soil Boring completed as a temporary well for collection of a groundwater grab sample prior to abandonment	15.00						0.0
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (B13-10')

File: C:\USERS\CACHILDS\DESKTOP\11209892-MI.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 6/1/21

Appendix D
Terrestrial Ecological Evaluation Form

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: P66 Site No. 5888	
Facility/Site Address: 511 E Lincoln Avenue, Sunnyside, WA	
Facility/Site No: 539	VCP Project No.: CE0467

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Matthew Davis			Title: Project Manager
Organization: GHD			
Mailing address: 20818 44th Avenue W. Suite 190			
City: Lynnwood		State: WA	Zip code: 98036
Phone: 4255636541	Fax:	E-mail: matthew.davis@ghd.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2**.*

☒ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☒ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☒ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

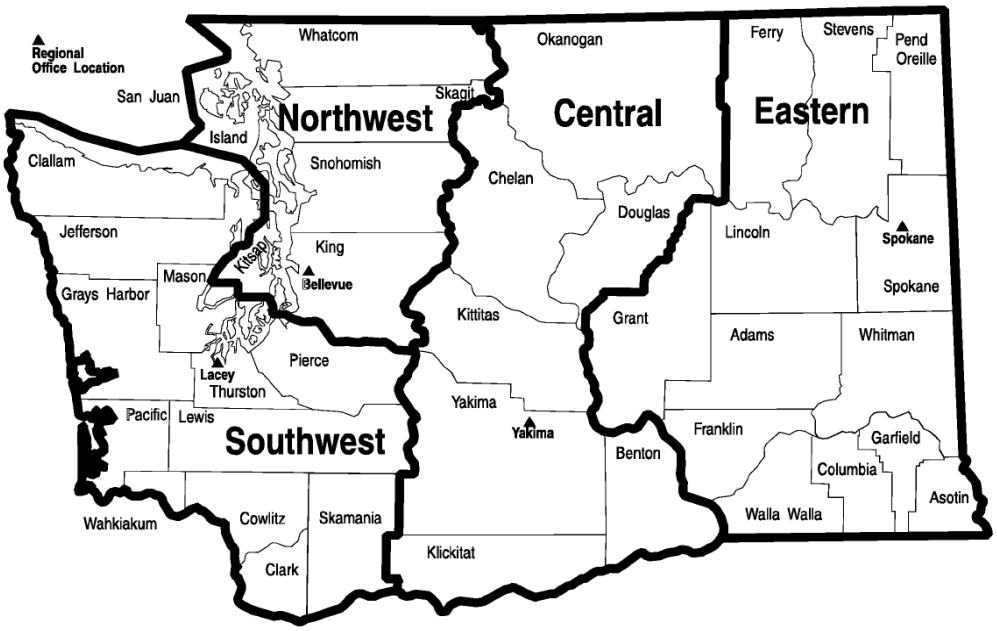
☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295



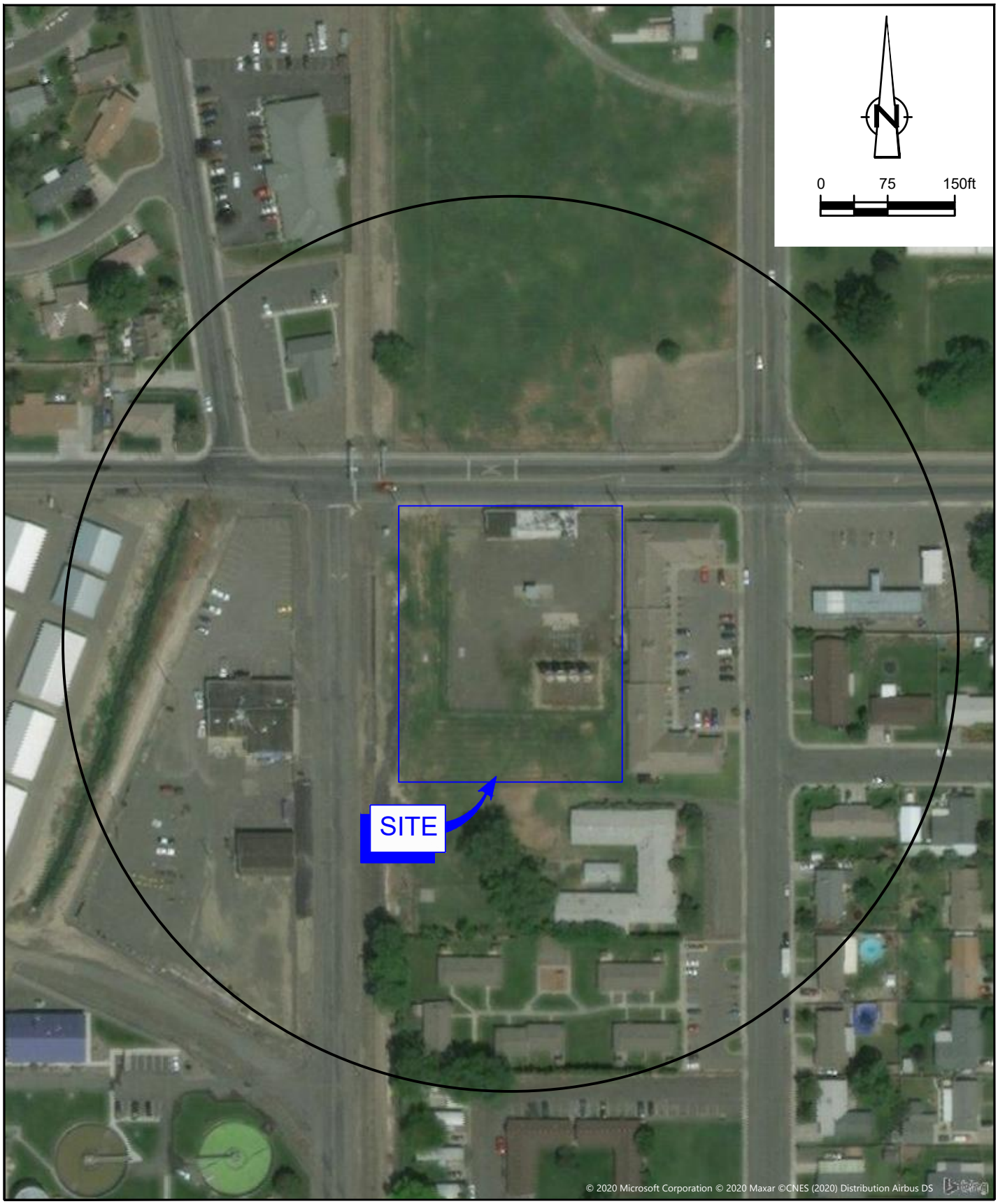
Appendix D TEE Contaminant Analysis

TEE Contaminant Analysis

Priority Contaminant	Maximum Current Concentration (mg/kg)	Protective TEE Concentration for Industrial or Commercial Use* (mg/kg)
TPHg	89.7	12,000
TPHd	1,320	15,000

Notes/Abbreviations:

* Protective TEE Concentration is obtained from Table 749-2, Model Toxics Control Act Cleanup Regulation, chapter 173-340 WAC, revised 2013.
TPHg = Total petroleum hydrocarbons as gasoline range organics analyzed by Northwest TPH-Gx
TPHd = Total petroleum hydrocarbons as diesel range organics analyzed by Northwest TPH-Dx



PHILLIPS 66 AOC 5888
511 E LINCOLN AVENUE
SUNNYSIDE, WASHINGTON

11209892

May 14, 2021

500 FOOT RADIUS MAP

FIGURE D.1

CAD File: N:\US\Lynnwood\Projects\663\11209892\Digital_Design\ACAD 2020\Figures\REPORT\RPT-002\11209892-GHD-0000-RPT-EN-0107_WA-002.DWG

Appendix E
Summary of Previous Investigations and Remedial Activities

Appendix E Summary of Previous Site Investigations and Remedial Activities

1989 Subsurface Investigation and UST Removal: In March 1989, GeoEngineers conducted exploration and contaminated soil and storage tank removal activities at the Site which included the following:

- Installed five groundwater monitoring wells and collected soil samples from the borings at depths ranging from 3.5 to 8.5 feet below ground surface (bgs). Soil sample MW-3 contained Total Petroleum Hydrocarbons (TPH) above reporting limits and TPH as diesel (TPH-D) above MTCA Method A cleanup levels. Free phase product was also witnessed in MW-3.
- Collected one soil sample from a hand auger boring. All analyzed constituents were below MTCA Method A levels.
- Collected groundwater samples from the five monitoring wells. All analyzed constituents were below MTCA Method A levels.
- Removed the underground heating oil tank in close proximity to MW-3 and approximately 90 cubic yards of contaminated soil.
- Excavated five test pits in the vicinity of the heating oil tank excavation. Soil samples collected from the test pits had detections of TPH and TPH-D above reporting limits.

More information can be found in GeoEngineers' *Report of Geotechnical Services* dated August 25, 1989.

1997 Site Assessment: In October 1997, Pacific Environmental Group Inc. (Pacific) conducted a subsurface assessment of soil contamination at the Site. Five soil borings were advanced to depths of 9 to 11 feet bgs and four soil borings were advanced using a hand auger to a depth of 3 feet bgs. All soil samples collected and laboratory analyzed had concentrations of screened constituents that were below detection limits except for HB-4 which had a concentration of TPH-D below the MTCA Method A cleanup level. Groundwater samples were collected from the five deeper soil borings. SB-1 and SB-2 groundwater samples had concentrations of TPH-D above the MTCA Method A cleanup level. More information is available in Pacific's *Summary of Assessment Activities,* dated February 12, 1998.

1999 Additional Site Investigation: In March 1999, GeoEngineers performed additional Site characterization in the vicinity of the 1989 test pit TP-5, located down gradient of the former heating oil tank. One monitoring well was installed and two soil samples were collected from the boring. Laboratory analysis of the soil samples detected concentrations of constituents below MTCA Method A cleanup levels. For more information see GeoEngineers' *Additional Site Characterization*, dated May 25, 1999.

2001 and 2002 Site Delineation Assessment: In April 2001 and October 2002, GeoEngineers completed additional subsurface investigations at the Site. In 2001, 11 soil borings and 13 soil samples were completed and collected in the vicinity of the former heating oil UST. Samples were collected at depths ranging from 6 to 11 feet bgs. TPH-D was detected at concentrations exceeding the MTCA Method A cleanup level in samples B-1-8.5 and B-10-7.5. In 2002, two soil borings were advanced and two soil samples collected. P-3 was completed off-Site to the north and P-5 was completed along the northern Site boundary. Both soil samples collected from the borings had concentrations of TPH-D and TPH-O below the MTCA Method A cleanup levels. Additional information can be found in GeoEngineers' *Delineation Assessment Report,* dated January 10, 2003.

2013 Soil Vapor Investigation: In August 2013, ARCADIS oversaw the installation of two soil vapor probes and one groundwater monitoring well. A probe was installed along the eastern Site boundary and in the vicinity of MW-3A and MW-7. Three soil samples were collected from each soil vapor probe borehole. All six soil samples collected from the probe boreholes had concentrations of constituents below the MTCA Method A cleanup levels. In September, ARCADIS sampled the two soil vapor probes. Concentrations of TPH-G, benzene, toluene, ethylbenzene, total xylenes and naphthalene were all below laboratory reporting limits for both vapor samples.

MW-8 was installed along the eastern Site boundary. Three soil samples were collected from the boring at depths of 1, 5 and 9 feet bgs. Concentrations of screened constituents were below MTCA Method A cleanup levels in the three soil samples. More information is available in ARCADIS' *Soil Vapor* Investigation Report, dated December 30, 2013.

2018 Remedial Excavation Activities: On October 2 through 16, 2018, GHD oversaw remedial excavation activities immediately east of the onsite office building in the northeast portion of the property. The excavation was completed to an approximate depth of 14 to 15 feet bgs and extended from the eastern edge of the office building to the east approximately 30 to 34 feet, and from the northern property boundary to the south approximately 57 feet. As part of the excavation monitoring well MW-3A was destroyed.

Concentrations of TPHg and TPHd exceeding their respective MTCA Method A screening levels were reported at the excavation extents in southwest, northeast, and western sidewalls and at the excavation base. At the completion of excavation activities approximately 120 pounds of Oxygen Release Compound (ORC) ® was applied to the base of the excavation and the site was restored to its existing condition. A total of 901 tons of petroleum contaminated soil and 8,138 gallons of groundwater generated during dewatering activities were transported for offsite disposal.

2019 Post Excavation Assessment Activities: Subsequent to remedial excavation activities, GHD advanced one soil boring (B-12) and five monitoring wells (MW-9 through MW-13) to evaluate the post remedial excavation groundwater conditions and further evaluate left in place soil impacts at the remedial excavation extents and to define the impacted soil and groundwater extents.

Laboratory analytical results of the soil samples collected did not report concentrations of TPHg, TPHd, TPHo, and BTEX above laboratory reporting limits and/or MTCA Method A screening levels with the exception of one soil sample collected from MW-10 at approximately 11 feet bgs. Sample MW-10-11 had a TPHg concentration of 221 milligrams per kilogram (mg/kg). exceeding the MTCA Method A screening level of 30 mg/kg. Monitoring well MW-10 was advanced in the vicinity of former MW-3/3A and the former waste oil tank.

Laboratory analytical results of groundwater samples collected from the monitoring wells indicated detections of TPHd and/or TPHo in samples from MW-10 and MW-11 at concentrations of 4,185 micrograms per liter (ug/L) and 1,830 ug/L, respectively, exceeding the MTCA Method A screening level of 500 ug/L. Monitoring well MW-10 is located within the central portion of the remedial excavation where soil impacts were left in place at the base of the excavation and MW-11 is located immediately down gradient of the remedial excavation.

2020 Petrofix™ Injection Activities: In April 2020, GHD oversaw the injection of 6,400 pounds of Petrofix ® solution into 24 temporary injection points (IP-1 through IP-24) immediately east and southeast of the office building in the northeast portion of the Property. The injection points were advanced by Holt Services, Inc. of Edgewood, Washington. Injection points treated three specific areas of residual soil and groundwater impacts: near former MW-7 and residual soil impacts along the eastern edge of the onsite

office building, and western extent of the 2018 remedial excavation; surrounding MW-10 and residual soil impacts left in place at the base of the 2018 remedial excavation; surrounding MW-11 and residual soil impacts at the base and southern extent of the 2018 remedial excavation.

All injection points were then advanced to a termination depth of approximately 18-20 feet bgs using a track mounted direct push drill rig. A soil sample was collected from injection point IP-1 to confirm whether previous impacts at TB2-W had attenuated. Laboratory analytical results did not indicate detection of any of the analyzed constituents. After boring advancement approximately 265 gallons of Petrofix ® solution (Approximate 39/1 ratio of water to Petrofix ®) was delivered in 2-foot lifts between 8 and 18 feet bgs (approximately 52 gallons per lift).

Post-injection groundwater monitoring was completed on May 7, 2020 and July 8, 2020 and then quarterly. Groundwater concentrations have been reduced to non-detect in wells MW-10 and MW-11, where impacted groundwater was present prior to injections.

November 2020 Supplemental Site Assessment: In November 2020, GHD oversaw the installation of a temporary well directly south of the former excavation area. The intent was to confirm no groundwater impacts were present directly south of the former impacted area. Laboratory analytical results did not indicate an exceedance of the MTCA Method A screening levels.

Appendix F
Waste Disposal Documentation

479624

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number: NA	2. Page 1 of: 1	3. Emergency Response Phone: (866) 812-9565	4. Waste Tracking Number: AOC977 12150-02

GENERATOR

5. Generator's Name and Mailing Address: Phillips 66
3900 Airport Way, Ste 210
Long Beach, CA 90806
(562) 290-1537 Attn: Bi Quinn

Generator's Site Address (if different than mailing address):
551 E Lincoln Avenue
Sunnyside, WA 98944

Generator's Phone:

6. Transporter: Environmental, Inc. — U.S. EPA ID Number: WAH000047217

7. Transporter: Chemical Waste Management of the Northwest — U.S. EPA ID Number: CRD089452353

8. Designated Facility: Chemical Waste Management of the Northwest
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
U.S. EPA ID Number: CRD089452353

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Material Not Regulated by DOT (non-regulated NOW soil)	01	DM	75	P	X004
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
1 OR341752 -1R01/STAB01
AOC 977

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Eric Maise on behalf of Phillips 66 — Signature: Eric Maise — Month: 12 Day: 22 Year: 20

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Leonard J. Warnock — Signature: Leonard J Warnock — Month: 12 Day: 22 Year: 20

Transporter 2 Printed/Typed Name: G. Pineda — Signature: — Month: 12 Day: 23 Year: 20

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month: 12 Day: 29 Year: 20

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Dawn Darby — Signature: — Month: 12 Day: 29 Year: 20

CWMI

479624

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number	20. Page 2 of 2	21. Waste Tracking Number
			AOC977-121520-02

22. Generator's Name PHILLIPS 66 AOC 977
UNION PACIFIC RAILROAD NED001792910
COLUMBIA RIDGE LANDFILL ORD987173457

23. Transporter _____ Company Name — U.S. EPA ID Number

24. Transporter _____ Company Name — U.S. EPA ID Number

GENERATOR

	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
	CONTAINER # WMXU 970884					

29. Special Handling Instructions and Additional Information

TRANSPORTER

30. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name Galtheimer — Signature — Month 12 Day 23 Year 20

31. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name PN Williams — Signature — Month — Day — Year

DESIGNATED FACILITY

32. Discrepancy

170-BLC-O 6 10502 (Rev. 8/06)

DESIGNATED FACILITY TO GENERATOR

Appendix G
Recent Site Investigation – Laboratory Analytical Reports

November 16, 2020

Mr. Arthur Clauss
GHD Services
20818 - 44th Ave W., Suite 190
Lynnwood, WA 98036

Dear Mr. Clauss,

On November 12th, 1 sample was received by our laboratory and assigned our laboratory project number EV20110055. The project was identified as your P66 Sunnyside - 11209892(AOC977). The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Glen Perry
Laboratory Manager

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 20818 - 44th Ave W., Suite 190 Lynnwood, WA 98036	DATE:	11/16/2020
		ALS JOB#:	EV20110055
		ALS SAMPLE#:	EV20110055-01
CLIENT CONTACT:	Arthur Clauss	DATE RECEIVED:	11/12/2020
CLIENT PROJECT:	P66 Sunnyside - 11209892(AOC977)	COLLECTION DATE:	11/9/2020 12:00:00 PM
CLIENT SAMPLE ID	S-11209892-110920-NA-B13	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/12/2020	KLS
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	11/13/2020	JNF
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	11/13/2020	JNF
Benzene	EPA-8260	U	0.0050	1	MG/KG	11/12/2020	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	11/12/2020	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	11/12/2020	DLC
Xylenes	EPA-8260	U	0.020	1	MG/KG	11/12/2020	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**117**	11/12/2020	KLS
C25	NWTPH-DX	**100**	11/13/2020	JNF
Toluene-d8	EPA-8260	**90.7**	11/12/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 20818 - 44th Ave W., Suite 190 Lynnwood, WA 98036	DATE:	11/16/2020
		ALS SDG#:	EV20110055
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Arthur Clauss		
CLIENT PROJECT:	P66 Sunnyside - 11209892(AOC977)		

LABORATORY BLANK RESULTS

MBG-111220S - Batch 159557 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	11/12/2020	KLS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-111220S - Batch 159638 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	11/13/2020	JNF
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	11/13/2020	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

MB-111220S - Batch 159621 - Soil by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene	EPA-8260	U	MG/KG	0.010	11/12/2020	DLC
Benzene	EPA-8260	U	MG/KG	0.0050	11/12/2020	DLC
Toluene	EPA-8260	U	MG/KG	0.010	11/12/2020	DLC
Ethylbenzene	EPA-8260	U	MG/KG	0.010	11/12/2020	DLC
Xylenes	EPA-8260	U	MG/KG	0.020	11/12/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 20818 - 44th Ave W., Suite 190 Lynnwood, WA 98036	DATE:	11/16/2020
		ALS SDG#:	EV20110055
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Arthur Clauss		
CLIENT PROJECT:	P66 Sunnyside - 11209892(AOC977)		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 159557 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**106**			66.5	122.7	11/12/2020	KLS
TPH-Volatile Range - BSD	NWTPH-GX	**112**	**6**		66.5	122.7	11/12/2020	KLS

ALS Test Batch ID: 159638 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**107**			75.5	122.1	11/13/2020	JNF
TPH-Diesel Range - BSD	NWTPH-DX	**108**	**1**		75.5	122.1	11/13/2020	JNF

ALS Test Batch ID: 159621 - Soil by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1-Dichloroethene - BS	EPA-8260	**92.0**			70	130	11/12/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	**96.6**	**5**		70	130	11/12/2020	DLC
Benzene - BS	EPA-8260	**106**			75	138	11/12/2020	DLC
Benzene - BSD	EPA-8260	**105**	**0**		75	138	11/12/2020	DLC
Toluene - BS	EPA-8260	**104**			71.6	122.1	11/12/2020	DLC
Toluene - BSD	EPA-8260	**102**	**1**		71.6	122.1	11/12/2020	DLC
Ethylbenzene - BS	EPA-8260	**110**			50	150	11/12/2020	DLC
Ethylbenzene - BSD	EPA-8260	**108**	**2**		50	150	11/12/2020	DLC

APPROVED BY

Laboratory Manager

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV20110055

Date 11.9.20 Page 1 Of 1

PROJECT ID:	966 Sunnyside - 1120989.2 (AOC 977)
REPORT TO COMPANY:	GHD
PROJECT MANAGER:	Arthur Clauss
ADDRESS:	9725 3rd Ave NE ste 204
	Seattle, WA 98115
PHONE:	206-563-6520 P.O. #:
E-MAIL:	Arthur.Clauss@GHD.com
INVOICE TO COMPANY:	GHD
ATTENTION:	--
ADDRESS:	--

ANALYSIS REQUESTED

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☒	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. S-1209892-110920-NA-B13	11.9.20	1200	Soil G	1		X	X	X												4	
2.																					
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Nicholas Adamowski GHD 11.9.20 1700
   Received By: Ben Ruiz ALS 11/12/20 10:10AM
2. Relinquished By: _____
   Received By: _____

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: (10) Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: (5) Standard | 3 | 1 | SAME DAY

OTHER: Specify: _____

*Turnaround request less than standard may incur Rush Charges

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-43512-1
Client Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

For:
GHD Services Inc.
3600 Port of Tacoma Road
Tacoma, Washington 98424

Attn: Matt Davis

Vik Patel

Authorized for release by:
11/18/2020 11:13:01 AM

Vikas Patel, Project Manager I
(714)895-5494
vikas.patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: GHD Services Inc. Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
Z	The chromatographic response does not resemble a typical fuel pattern.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc. Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Job ID: 570-43512-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative
570-43512-1

Comments
No additional comments.

Receipt
The sample was received on 11/11/2020 9:45 AM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.0º C.

Receipt Exceptions

The laboratory received 250 ml plastic w/HNO3 container for Metal analysis that was not requested on the Chain-of-Custody on the following sample: GW-11209892-110920-NA-B13 (570-43512-1).

GC/MS VOA
Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-109511.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method NWTPH-Dx: The following sample was prepared outside of preparation holding time : GW-11209892-110920-NA-B13 (570-43512-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-110241. LCS/LCSD was performed to meet QC requirement.

Method 3510C: The following sample was prepared outside of preparation holding time due to <Technican error> : GW-11209892-110920-NA-B13 (570-43512-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Client Sample ID: GW-11209892-110920-NA-B13
Lab Sample ID: 570-43512-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
TPH as Diesel Range	250	H Z	100		ug/L	1		NWTPH-Dx	Total/NA
TPH as Motor Oil Range	130	H Z	100		ug/L	1		NWTPH-Dx	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-11209892-110920-NA-B13
Lab Sample ID: 570-43512-1
Date Collected: 11/09/20 16:00
Matrix: Water
Date Received: 11/11/20 09:45

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			11/13/20 23:36	1
Ethylbenzene	ND		1.0		ug/L			11/13/20 23:36	1
o-Xylene	ND		1.0		ug/L			11/13/20 23:36	1
m,p-Xylene	ND		2.0		ug/L			11/13/20 23:36	1
Toluene	ND		1.0		ug/L			11/13/20 23:36	1
Xylenes, Total	ND		2.0		ug/L			11/13/20 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 129*		*11/13/20 23:36*	*1*
4-Bromofluorobenzene (Surr)	*101*		*77 - 120*		*11/13/20 23:36*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 128*		*11/13/20 23:36*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/13/20 23:36*	*1*

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Client Sample ID: GW-11209892-110920-NA-B13
Lab Sample ID: 570-43512-1
Date Collected: 11/09/20 16:00
Matrix: Water
Date Received: 11/11/20 09:45

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			11/14/20 02:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*50 - 150*		*11/14/20 02:44*	*1*

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Client Sample ID: GW-11209892-110920-NA-B13
Lab Sample ID: 570-43512-1
Date Collected: 11/09/20 16:00
Matrix: Water
Date Received: 11/11/20 09:45

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	250	H Z	100		ug/L		11/17/20 12:43	11/17/20 18:08	1
TPH as Motor Oil Range	130	H Z	100		ug/L		11/17/20 12:43	11/17/20 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*135*		*50 - 150*	*11/17/20 12:43*	*11/17/20 18:08*	*1*

Surrogate Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-129)	(77-120)	(80-128)	(80-120)
570-43512-1	GW-11209892-110920-NA-B13	107	101	101	102
LCS 570-109511/3	Lab Control Sample	107	102	103	101
LCSD 570-109511/4	Lab Control Sample Dup	108	104	102	101
MB 570-109511/7	Method Blank	107	100	102	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(50-150)
570-42958-D-8 MS	Matrix Spike	102
570-42958-D-8 MSD	Matrix Spike Duplicate	93
570-43512-1	GW-11209892-110920-NA-B13	79
LCS 570-109497/29	Lab Control Sample	100
LCSD 570-109497/30	Lab Control Sample Dup	75
MB 570-109497/31	Method Blank	85

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN
Lab Sample ID	Client Sample ID	(50-150)
570-43512-1	GW-11209892-110920-NA-B13	135
LCS 570-110241/2-A	Lab Control Sample	95
LCSD 570-110241/3-A	Lab Control Sample Dup	94
MB 570-110241/1-A	Method Blank	96

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-109511/7
Matrix: Water
Analysis Batch: 109511

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			11/13/20 22:41	1
Ethylbenzene	ND		1.0		ug/L			11/13/20 22:41	1
o-Xylene	ND		1.0		ug/L			11/13/20 22:41	1
m,p-Xylene	ND		2.0		ug/L			11/13/20 22:41	1
Toluene	ND		1.0		ug/L			11/13/20 22:41	1
Xylenes, Total	ND		2.0		ug/L			11/13/20 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 129*		*11/13/20 22:41*	*1*
4-Bromofluorobenzene (Surr)	*100*		*77 - 120*		*11/13/20 22:41*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 128*		*11/13/20 22:41*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/13/20 22:41*	*1*

Lab Sample ID: LCS 570-109511/3
Matrix: Water
Analysis Batch: 109511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	50.97		ug/L		102	78 - 120		
Ethylbenzene			50.0	52.75		ug/L		106	80 - 120		
o-Xylene			50.0	54.00		ug/L		108	80 - 125		
m,p-Xylene			100	112.7		ug/L		113	80 - 125		
Toluene			50.0	52.01		ug/L		104	80 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 129*
4-Bromofluorobenzene (Surr)	*102*		*77 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 128*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 570-109511/4
Matrix: Water
Analysis Batch: 109511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	48.46		ug/L		97	78 - 120	5	21
Ethylbenzene			50.0	51.09		ug/L		102	80 - 120	3	20
o-Xylene			50.0	52.16		ug/L		104	80 - 125	3	20
m,p-Xylene			100	107.0		ug/L		107	80 - 125	5	30
Toluene			50.0	48.96		ug/L		98	80 - 122	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*80 - 129*
4-Bromofluorobenzene (Surr)	*104*		*77 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 128*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-109497/31
Matrix: Water
Analysis Batch: 109497

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			11/13/20 21:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*50 - 150*		*11/13/20 21:39*	*1*

Lab Sample ID: LCS 570-109497/29
Matrix: Water
Analysis Batch: 109497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)			2020	2100		ug/L		104	76 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*

Lab Sample ID: LCSD 570-109497/30
Matrix: Water
Analysis Batch: 109497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)			2020	1963		ug/L		97	76 - 128	7	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*75*		*50 - 150*

Lab Sample ID: 570-42958-D-8 MS
Matrix: Water
Analysis Batch: 109497

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)	ND		2020	2023		ug/L		100	69 - 132		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*50 - 150*

Lab Sample ID: 570-42958-D-8 MSD
Matrix: Water
Analysis Batch: 109497

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-110241/1-A
Matrix: Water
Analysis Batch: 110311

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 110241

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		100		ug/L		11/17/20 12:43	11/17/20 17:07	1
TPH as Motor Oil Range	ND		100		ug/L		11/17/20 12:43	11/17/20 17:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*96*		*50 - 150*	*11/17/20 12:43*	*11/17/20 17:07*	*1*

Lab Sample ID: LCS 570-110241/2-A
Matrix: Water
Analysis Batch: 110311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 110241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			800	675.5		ug/L		84	68 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*95*		*50 - 150*

Lab Sample ID: LCSD 570-110241/3-A
Matrix: Water
Analysis Batch: 110311

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 110241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			800	671.4		ug/L		84	68 - 120	1	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*94*		*50 - 150*

QC Association Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

GC/MS VOA

Analysis Batch: 109511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-43512-1	GW-11209892-110920-NA-B13	Total/NA	Water	8260B	
MB 570-109511/7	Method Blank	Total/NA	Water	8260B	
LCS 570-109511/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 570-109511/4	Lab Control Sample Dup	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 109497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-43512-1	GW-11209892-110920-NA-B13	Total/NA	Water	NWTPH-Gx	
MB 570-109497/31	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 570-109497/29	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 570-109497/30	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
570-42958-D-8 MS	Matrix Spike	Total/NA	Water	NWTPH-Gx	
570-42958-D-8 MSD	Matrix Spike Duplicate	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 110241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-43512-1	GW-11209892-110920-NA-B13	Total/NA	Water	3510C	
MB 570-110241/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-110241/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-110241/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 110311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-43512-1	GW-11209892-110920-NA-B13	Total/NA	Water	NWTPH-Dx	110241
MB 570-110241/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	110241
LCS 570-110241/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	110241
LCSD 570-110241/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	110241

Lab Chronicle

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Client Sample ID: GW-11209892-110920-NA-B13
Lab Sample ID: 570-43512-1
Date Collected: 11/09/20 16:00
Matrix: Water
Date Received: 11/11/20 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	109511	11/13/20 23:36	NET3	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	109497	11/14/20 02:44	Z9SI	ECL 2
	Instrument ID: GC22									
Total/NA	Prep	3510C			500.1 mL	5 mL	110241	11/17/20 12:43	UFLU	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			110311	11/17/20 18:08	N5Y3	ECL 1
	Instrument ID: GC48									

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

Method Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ECL 2
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: GHD Services Inc.
Job ID: 570-43512-1
Project/Site: P66 Sunnyside GWM / 11209892 (AOC 977)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-43512-1	GW-11209892-110920-NA-B13	Water	11/09/20 16:00	11/11/20 09:45	

43512

eurofins | Calscience

570-43512 Chain of Custody

CHAIN OF CUSTODY RECORD

DATE: 11 · 9 · 20

PAGE: 1 OF 1

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

LABORATORY CLIENT: GHD

ADDRESS: 9725 3rd Ave NE Ste 204

CITY: Seattle STATE: WA ZIP: 98115

TEL: 206 · 563 · 6520 E-MAIL: Arthur.Clauss@GHD.com

CLIENT PROJECT NAME / NUMBER: Sunnyside-P66/11209892 (AOC977)

P.O. NO.:

PROJECT CONTACT: Arthur Clauss

SAMPLER(S): (PRINT) N. Adamowski

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☐ GRO	TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH (O)	(BTEX) MTBE ☒ 8260 ☐	VOCs (8260)	Oxygenates (8260)	Prep (5035): ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs: ☐ 8270 ☐ 8270 SIM	T22 Metals: ☐ 6010/747X ☐ 6020/747X	Cr(VI): ☐ 7196 ☐ 7199 ☐ 218.6	VOA				
	GW-11209892-110920-NA-B13	11·9·20	1600	GW	9	X	X		X	X		X	X														

Relinquished by: (Signature) N. Adamowski	11·9·20 1700	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)		Received by: (Signature/Affiliation)	Date: 11/11/2020	Time: 0945
Relinquished by: (Signature)		Received by: (Signature/Affiliation)	Date:	Time:

5-8/5-0

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 570-43512-1

Login Number: 43512
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-52382-1
Client Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

For:
GHD Services Inc.
3600 Port of Tacoma Road
Tacoma, Washington 98424

Attn: Matt Davis

Vik Patel

Authorized for release by:
3/8/2021 11:34:12 AM

Vikas Patel, Project Manager I
(714)895-5494
vikas.patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: GHD Services Inc. Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-52382-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative
570-52382-1

Comments
No additional comments.

Receipt
The samples were received on 2/27/2021 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.2º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Number of containers not specified.

GC/MS VOA
Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-134004.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: MW-10
Lab Sample ID: 570-52382-1

No Detections.

Client Sample ID: MW-11
Lab Sample ID: 570-52382-2

No Detections.

Client Sample ID: MW-12
Lab Sample ID: 570-52382-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
TPH as Diesel Range	110		95		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: TB-1
Lab Sample ID: 570-52382-4

No Detections.

Client Sample ID: Dup-1
Lab Sample ID: 570-52382-5

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-10
Date Collected: 02/24/21 12:20
Date Received: 02/27/21 10:15
Lab Sample ID: 570-52382-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 07:18	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 07:18	1
o-Xylene	ND		1.0		ug/L			03/06/21 07:18	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 07:18	1
Toluene	ND		1.0		ug/L			03/06/21 07:18	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 07:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 123*		*03/06/21 07:18*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/06/21 07:18*	*1*
Dibromofluoromethane (Surr)	*89*		*78 - 120*		*03/06/21 07:18*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*03/06/21 07:18*	*1*

Client Sample ID: MW-11
Date Collected: 02/24/21 14:07
Date Received: 02/27/21 10:15
Lab Sample ID: 570-52382-2
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 07:46	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 07:46	1
o-Xylene	ND		1.0		ug/L			03/06/21 07:46	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 07:46	1
Toluene	ND		1.0		ug/L			03/06/21 07:46	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 07:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 123*		*03/06/21 07:46*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/06/21 07:46*	*1*
Dibromofluoromethane (Surr)	*91*		*78 - 120*		*03/06/21 07:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/06/21 07:46*	*1*

Client Sample ID: MW-12
Date Collected: 02/24/21 13:37
Date Received: 02/27/21 10:15
Lab Sample ID: 570-52382-3
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 08:15	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 08:15	1
o-Xylene	ND		1.0		ug/L			03/06/21 08:15	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 08:15	1
Toluene	ND		1.0		ug/L			03/06/21 08:15	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 08:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 123*		*03/06/21 08:15*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*03/06/21 08:15*	*1*
Dibromofluoromethane (Surr)	*88*		*78 - 120*		*03/06/21 08:15*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*03/06/21 08:15*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-1 **Lab Sample ID: 570-52382-4**
Date Collected: 02/24/21 07:30 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 01:15	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 01:15	1
o-Xylene	ND		1.0		ug/L			03/06/21 01:15	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 01:15	1
Toluene	ND		1.0		ug/L			03/06/21 01:15	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*70 - 123*		*03/06/21 01:15*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*03/06/21 01:15*	*1*
Dibromofluoromethane (Surr)	*92*		*78 - 120*		*03/06/21 01:15*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/06/21 01:15*	*1*

Client Sample ID: Dup-1 **Lab Sample ID: 570-52382-5**
Date Collected: 02/24/21 12:00 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 08:44	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 08:44	1
o-Xylene	ND		1.0		ug/L			03/06/21 08:44	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 08:44	1
Toluene	ND		1.0		ug/L			03/06/21 08:44	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 08:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 123*		*03/06/21 08:44*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*03/06/21 08:44*	*1*
Dibromofluoromethane (Surr)	*91*		*78 - 120*		*03/06/21 08:44*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/06/21 08:44*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Client Sample ID: MW-10 **Lab Sample ID: 570-52382-1**
Date Collected: 02/24/21 12:20 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*50 - 150*		*03/03/21 18:20*	*1*

Client Sample ID: MW-11 **Lab Sample ID: 570-52382-2**
Date Collected: 02/24/21 14:07 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*		*50 - 150*		*03/03/21 19:35*	*1*

Client Sample ID: MW-12 **Lab Sample ID: 570-52382-3**
Date Collected: 02/24/21 13:37 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*50 - 150*		*03/03/21 20:00*	*1*

Client Sample ID: TB-1 **Lab Sample ID: 570-52382-4**
Date Collected: 02/24/21 07:30 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*67*		*50 - 150*		*03/03/21 21:08*	*1*

Client Sample ID: Dup-1 **Lab Sample ID: 570-52382-5**
Date Collected: 02/24/21 12:00 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*50 - 150*		*03/03/21 21:58*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Client Sample ID: MW-10 **Lab Sample ID: 570-52382-1**
Date Collected: 02/24/21 12:20 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		99		ug/L		03/03/21 17:46	03/04/21 23:42	1
TPH as Motor Oil Range	ND		99		ug/L		03/03/21 17:46	03/04/21 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*99*		*50 - 150*	*03/03/21 17:46*	*03/04/21 23:42*	*1*

Client Sample ID: MW-11 **Lab Sample ID: 570-52382-2**
Date Collected: 02/24/21 14:07 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		98		ug/L		03/03/21 17:46	03/05/21 00:03	1
TPH as Motor Oil Range	ND		98		ug/L		03/03/21 17:46	03/05/21 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*79*		*50 - 150*	*03/03/21 17:46*	*03/05/21 00:03*	*1*

Client Sample ID: MW-12 **Lab Sample ID: 570-52382-3**
Date Collected: 02/24/21 13:37 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	**110**		95		ug/L		03/03/21 17:46	03/05/21 00:24	1
TPH as Motor Oil Range	ND		95		ug/L		03/03/21 17:46	03/05/21 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*96*		*50 - 150*	*03/03/21 17:46*	*03/05/21 00:24*	*1*

Client Sample ID: Dup-1 **Lab Sample ID: 570-52382-5**
Date Collected: 02/24/21 12:00 **Matrix: Water**
Date Received: 02/27/21 10:15

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		91		ug/L		03/03/21 17:46	03/05/21 00:44	1
TPH as Motor Oil Range	ND		91		ug/L		03/03/21 17:46	03/05/21 00:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*83*		*50 - 150*	*03/03/21 17:46*	*03/05/21 00:44*	*1*

Surrogate Summary

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-123)	(80-120)	(78-120)	(80-120)
570-52382-1	MW-10	84	93	89	99
570-52382-2	MW-11	86	94	91	98
570-52382-3	MW-12	85	94	88	100
570-52382-4	TB-1	87	96	92	104
570-52382-5	Dup-1	85	93	91	98
LCS 570-134004/4	Lab Control Sample	88	93	94	99
LCSD 570-134004/5	Lab Control Sample Dup	86	93	93	101
MB 570-134004/8	Method Blank	84	95	85	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(50-150)
570-52382-1	MW-10	72
570-52382-1 MS	MW-10	97
570-52382-1 MSD	MW-10	96
570-52382-2	MW-11	68
570-52382-3	MW-12	71
570-52382-4	TB-1	67
570-52382-5	Dup-1	71
LCS 570-133392/3	Lab Control Sample	90
LCSD 570-133392/4	Lab Control Sample Dup	92
MB 570-133392/5	Method Blank	69

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN
Lab Sample ID	Client Sample ID	(50-150)
570-52382-1	MW-10	99
570-52382-2	MW-11	79
570-52382-3	MW-12	96
570-52382-5	Dup-1	83
LCS 570-133453/2-A	Lab Control Sample	86
LCSD 570-133453/3-A	Lab Control Sample Dup	100
MB 570-133453/1-A	Method Blank	90

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-134004/8 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134004

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			03/06/21 00:17	1
Ethylbenzene	ND		1.0		ug/L			03/06/21 00:17	1
o-Xylene	ND		1.0		ug/L			03/06/21 00:17	1
m,p-Xylene	ND		2.0		ug/L			03/06/21 00:17	1
Toluene	ND		1.0		ug/L			03/06/21 00:17	1
Xylenes, Total	ND		2.0		ug/L			03/06/21 00:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*70 - 123*		*03/06/21 00:17*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*03/06/21 00:17*	*1*
Dibromofluoromethane (Surr)	*85*		*78 - 120*		*03/06/21 00:17*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*03/06/21 00:17*	*1*

Lab Sample ID: LCS 570-134004/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134004

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	51.76		ug/L		104	76 - 120		
Ethylbenzene			50.0	52.51		ug/L		105	80 - 120		
o-Xylene			50.0	50.89		ug/L		102	80 - 121		
m,p-Xylene			100	102.9		ug/L		103	74 - 122		
Toluene			50.0	51.31		ug/L		103	76 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 123*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*78 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: LCSD 570-134004/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134004

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	57.20		ug/L		114	76 - 120	10	20
Ethylbenzene			50.0	56.89		ug/L		114	80 - 120	8	20
o-Xylene			50.0	54.22		ug/L		108	80 - 121	6	20
m,p-Xylene			100	109.0		ug/L		109	74 - 122	6	20
Toluene			50.0	56.60		ug/L		113	76 - 120	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 123*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*78 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-133392/5
Matrix: Water
Analysis Batch: 133392

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			03/03/21 17:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*		*50 - 150*		*03/03/21 17:54*	*1*

Lab Sample ID: LCS 570-133392/3
Matrix: Water
Analysis Batch: 133392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)			1990	1794		ug/L		90	76 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*50 - 150*

Lab Sample ID: LCSD 570-133392/4
Matrix: Water
Analysis Batch: 133392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)			1990	1876		ug/L		95	76 - 128	5	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*

Lab Sample ID: 570-52382-1 MS
Matrix: Water
Analysis Batch: 133392

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)	ND		1990	2203		ug/L		111	69 - 132		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*

Lab Sample ID: 570-52382-1 MSD
Matrix: Water
Analysis Batch: 133392

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)	ND		1990	2285		ug/L		115	69 - 132	4	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-133453/1-A
Matrix: Water
Analysis Batch: 133621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 133453

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		100		ug/L		03/03/21 17:46	03/04/21 22:41	1
TPH as Motor Oil Range	ND		100		ug/L		03/03/21 17:46	03/04/21 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*90*		*50 - 150*	*03/03/21 17:46*	*03/04/21 22:41*	*1*

Lab Sample ID: LCS 570-133453/2-A
Matrix: Water
Analysis Batch: 133621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 133453

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			800	723.3		ug/L		90	68 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane (Surr)	*86*		*50 - 150*

Lab Sample ID: LCSD 570-133453/3-A
Matrix: Water
Analysis Batch: 133621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 133453

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			800	826.3		ug/L		103	68 - 120	13	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane (Surr)	*100*		*50 - 150*

QC Association Summary

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

GC/MS VOA

Analysis Batch: 134004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-52382-1	MW-10	Total/NA	Water	8260B	
570-52382-2	MW-11	Total/NA	Water	8260B	
570-52382-3	MW-12	Total/NA	Water	8260B	
570-52382-4	TB-1	Total/NA	Water	8260B	
570-52382-5	Dup-1	Total/NA	Water	8260B	
MB 570-134004/8	Method Blank	Total/NA	Water	8260B	
LCS 570-134004/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 570-134004/5	Lab Control Sample Dup	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 133392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-52382-1	MW-10	Total/NA	Water	NWTPH-Gx	
570-52382-2	MW-11	Total/NA	Water	NWTPH-Gx	
570-52382-3	MW-12	Total/NA	Water	NWTPH-Gx	
570-52382-4	TB-1	Total/NA	Water	NWTPH-Gx	
570-52382-5	Dup-1	Total/NA	Water	NWTPH-Gx	
MB 570-133392/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 570-133392/3	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 570-133392/4	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
570-52382-1 MS	MW-10	Total/NA	Water	NWTPH-Gx	
570-52382-1 MSD	MW-10	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 133453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-52382-1	MW-10	Total/NA	Water	3510C	
570-52382-2	MW-11	Total/NA	Water	3510C	
570-52382-3	MW-12	Total/NA	Water	3510C	
570-52382-5	Dup-1	Total/NA	Water	3510C	
MB 570-133453/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-133453/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-133453/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 133621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-52382-1	MW-10	Total/NA	Water	NWTPH-Dx	133453
570-52382-2	MW-11	Total/NA	Water	NWTPH-Dx	133453
570-52382-3	MW-12	Total/NA	Water	NWTPH-Dx	133453
570-52382-5	Dup-1	Total/NA	Water	NWTPH-Dx	133453
MB 570-133453/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	133453
LCS 570-133453/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	133453
LCSD 570-133453/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	133453

Lab Chronicle

Client: GHD Services Inc. Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: MW-10 — Lab Sample ID: 570-52382-1
Date Collected: 02/24/21 12:20 — **Matrix: Water**
Date Received: 02/27/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	134004	03/06/21 07:18	OH1	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	133392	03/03/21 18:20	P1R	ECL 2
	Instrument ID: GC25									
Total/NA	Prep	3510C			504.1 mL	5 mL	133453	03/03/21 17:46	N5Y3	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			133621	03/04/21 23:42	N5Y3	ECL 1
	Instrument ID: GC48									

Client Sample ID: MW-11 — Lab Sample ID: 570-52382-2
Date Collected: 02/24/21 14:07 — **Matrix: Water**
Date Received: 02/27/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	134004	03/06/21 07:46	OH1	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	133392	03/03/21 19:35	P1R	ECL 2
	Instrument ID: GC25									
Total/NA	Prep	3510C			509 mL	5 mL	133453	03/03/21 17:46	N5Y3	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			133621	03/05/21 00:03	N5Y3	ECL 1
	Instrument ID: GC48									

Client Sample ID: MW-12 — Lab Sample ID: 570-52382-3
Date Collected: 02/24/21 13:37 — **Matrix: Water**
Date Received: 02/27/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	134004	03/06/21 08:15	OH1	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	133392	03/03/21 20:00	P1R	ECL 2
	Instrument ID: GC25									
Total/NA	Prep	3510C			525.7 mL	5 mL	133453	03/03/21 17:46	N5Y3	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			133621	03/05/21 00:24	N5Y3	ECL 1
	Instrument ID: GC48									

Client Sample ID: TB-1 — Lab Sample ID: 570-52382-4
Date Collected: 02/24/21 07:30 — **Matrix: Water**
Date Received: 02/27/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	134004	03/06/21 01:15	OH1	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	133392	03/03/21 21:08	P1R	ECL 2
	Instrument ID: GC25									

Lab Chronicle

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: Dup-1
Lab Sample ID: 570-52382-5
Date Collected: 02/24/21 12:00
Matrix: Water
Date Received: 02/27/21 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	134004	03/06/21 08:44	OH1	ECL 2
	Instrument ID: GCMSJJ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	133392	03/03/21 21:58	P1R	ECL 2
	Instrument ID: GC25									
Total/NA	Prep	3510C			547.9 mL	5 mL	133453	03/03/21 17:46	N5Y3	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			133621	03/05/21 00:44	N5Y3	ECL 1
	Instrument ID: GC48									

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ECL 2
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: GHD Services Inc.
Job ID: 570-52382-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-52382-1	MW-10	Water	02/24/21 12:20	02/27/21 10:15	
570-52382-2	MW-11	Water	02/24/21 14:07	02/27/21 10:15	
570-52382-3	MW-12	Water	02/24/21 13:37	02/27/21 10:15	
570-52382-4	TB-1	Water	02/24/21 07:30	02/27/21 10:15	
570-52382-5	Dup-1	Water	02/24/21 12:00	02/27/21 10:15	

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494 Fax: 714-894-7501

Chain of Custody Record

570-52382 Chain of Custody

eurofins Environment Testing America

52382

Client Information

Client Contact: Lee Bures	Sampler: Adam High	Lab PM: Patel, Vikas	COC No: 570-26984-4547 1
Company: Blaine Tech Services Inc	Phone:	E-Mail: vikas.patel@eurofinset.com	State of Origin: WA
Address: 215 Clay St NW, Suite B-1	PWSID:	Due Date Requested:	Page: Page 1 of 1
City: Auburn		TAT Requested (days):	Job #: 210224-AH1
State, Zip: WA, 98001		Compliance Project: Δ Yes Δ No	
Phone:		PO #: 34050370	
Email: lbures@blainetech com		WO #: 11209892-5RM00-200 80	
Project Name: P66 Sunnyside GWM / 11209892-4RM00-200 8		Project #: 57005256	
Site: 511 Lincoln Ave, Sunnyside, WA		SSOW#:	

Analysis Requested

Preservation Codes:

A - HCL	M Hexane
B - NaOH	N None
C - Zn Acetate	O AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q Na2SO3
F - MeOH	R Na2S2O3
G - Amchlor	S H2SO4
H - Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U Acetone
J - DI Water	V MCAA
K - EDTA	W pH 4-5
L - EDA	Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	NWTPH_Dx - (MOD) TPH as Diesel	8260B, NWTPH_Gx	BTEX	TPH-D	Total Number of containers	Special Instructions/Note
			Preservation Code:				N	A				
MW-10	2/24/21	1220	G	Water			X	X	X	X		
MW-11	2/24/21	1407	G	Water			X	X	X	X		
MW-12	2/24/21	1337	G	Water			X	X	X	X		
~~MW-13~~ TB-1	2/24/21	0730	G	Water				X	X			
~~MW-9~~ Dup-1	~~2/24/21~~	1200	G	Water			X	X	X	X		
~~TB-1~~	~~2/24/21~~											

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time	Method of Shipment:
Relinquished by: Adam High	Date/Time: 2/26/21 0430	Company: BTS	Received by: Shipped by Fedex
Relinquished by:	Date/Time:	Company:	Received by: [signature] ecn
Relinquished by:	Date/Time:	Company:	Received by:

		Date/Time:	Company
		Date/Time: 2/27/2021 1015	Company: Ecn
		Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No: 421619

Cooler Temperature(s) °C and Other Remarks: 3.3/2.2 Slp

Ver 11/01/2020

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 570-52382-1

Login Number: 52382
List Number: 1
Creator: Ramos, Maribel

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-58427-1
Client Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

For:
GHD Services Inc.
3600 Port of Tacoma Road
Tacoma, Washington 98424

Attn: Matt Davis

Vik Patel

Authorized for release by:
5/13/2021 3:35:44 PM

Vikas Patel, Project Manager I
(714)895-5494
vikas.patel@eurofinset.com

Table of Contents

Definitions/Glossary

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Job ID: 570-58427-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative
570-58427-1

Comments
No additional comments.

Receipt
The samples were received on 5/6/2021 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-149923. LCS/LCSD was performed to meet QC requirement.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: MW-10
Lab Sample ID: 570-58427-1

No Detections.

Client Sample ID: MW-11
Lab Sample ID: 570-58427-2

No Detections.

Client Sample ID: MW-12
Lab Sample ID: 570-58427-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
TPH as Diesel Range - RA	120		97		ug/L	1		NWTPH-Dx	Total/NA

Client Sample ID: DUP-1
Lab Sample ID: 570-58427-4

No Detections.

Client Sample ID: TB01
Lab Sample ID: 570-58427-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-10 **Lab Sample ID: 570-58427-1**
Date Collected: 05/05/21 09:36 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 16:31	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 16:31	1
o-Xylene	ND		1.0		ug/L			05/10/21 16:31	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 16:31	1
Toluene	ND		1.0		ug/L			05/10/21 16:31	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 123*		*05/10/21 16:31*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/10/21 16:31*	*1*
Dibromofluoromethane (Surr)	*93*		*78 - 120*		*05/10/21 16:31*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/10/21 16:31*	*1*

Client Sample ID: MW-11 **Lab Sample ID: 570-58427-2**
Date Collected: 05/05/21 10:11 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 16:57	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 16:57	1
o-Xylene	ND		1.0		ug/L			05/10/21 16:57	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 16:57	1
Toluene	ND		1.0		ug/L			05/10/21 16:57	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 123*		*05/10/21 16:57*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/10/21 16:57*	*1*
Dibromofluoromethane (Surr)	*94*		*78 - 120*		*05/10/21 16:57*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/10/21 16:57*	*1*

Client Sample ID: MW-12 **Lab Sample ID: 570-58427-3**
Date Collected: 05/05/21 10:45 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 17:22	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 17:22	1
o-Xylene	ND		1.0		ug/L			05/10/21 17:22	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 17:22	1
Toluene	ND		1.0		ug/L			05/10/21 17:22	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 123*		*05/10/21 17:22*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/10/21 17:22*	*1*
Dibromofluoromethane (Surr)	*94*		*78 - 120*		*05/10/21 17:22*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/10/21 17:22*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: DUP-1 **Lab Sample ID: 570-58427-4**
Date Collected: 05/05/21 12:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 17:48	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 17:48	1
o-Xylene	ND		1.0		ug/L			05/10/21 17:48	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 17:48	1
Toluene	ND		1.0		ug/L			05/10/21 17:48	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 123*		*05/10/21 17:48*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/10/21 17:48*	*1*
Dibromofluoromethane (Surr)	*93*		*78 - 120*		*05/10/21 17:48*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/10/21 17:48*	*1*

Client Sample ID: TB01 **Lab Sample ID: 570-58427-5**
Date Collected: 05/05/21 08:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 18:14	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 18:14	1
o-Xylene	ND		1.0		ug/L			05/10/21 18:14	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 18:14	1
Toluene	ND		1.0		ug/L			05/10/21 18:14	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 123*		*05/10/21 18:14*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*05/10/21 18:14*	*1*
Dibromofluoromethane (Surr)	*92*		*78 - 120*		*05/10/21 18:14*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*05/10/21 18:14*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Client Sample ID: MW-10 **Lab Sample ID: 570-58427-1**
Date Collected: 05/05/21 09:36 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/09/21 06:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*		*50 - 150*		*05/09/21 06:57*	*1*

Client Sample ID: MW-11 **Lab Sample ID: 570-58427-2**
Date Collected: 05/05/21 10:11 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/09/21 08:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*		*50 - 150*		*05/09/21 08:09*	*1*

Client Sample ID: MW-12 **Lab Sample ID: 570-58427-3**
Date Collected: 05/05/21 10:45 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/09/21 08:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*		*50 - 150*		*05/09/21 08:33*	*1*

Client Sample ID: DUP-1 **Lab Sample ID: 570-58427-4**
Date Collected: 05/05/21 12:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/09/21 08:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*		*50 - 150*		*05/09/21 08:57*	*1*

Client Sample ID: TB01 **Lab Sample ID: 570-58427-5**
Date Collected: 05/05/21 08:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/11/21 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*50 - 150*		*05/11/21 19:09*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Client Sample ID: MW-10 **Lab Sample ID: 570-58427-1**
Date Collected: 05/05/21 09:36 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		96		ug/L		05/12/21 10:19	05/12/21 22:16	1
TPH as Motor Oil Range	ND		96		ug/L		05/12/21 10:19	05/12/21 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*135*		*50 - 150*	*05/12/21 10:19*	*05/12/21 22:16*	*1*

Client Sample ID: MW-11 **Lab Sample ID: 570-58427-2**
Date Collected: 05/05/21 10:11 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		93		ug/L		05/12/21 10:19	05/12/21 22:37	1
TPH as Motor Oil Range	ND		93		ug/L		05/12/21 10:19	05/12/21 22:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*139*		*50 - 150*	*05/12/21 10:19*	*05/12/21 22:37*	*1*

Client Sample ID: DUP-1 **Lab Sample ID: 570-58427-4**
Date Collected: 05/05/21 12:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		99		ug/L		05/12/21 10:19	05/12/21 23:20	1
TPH as Motor Oil Range	ND		99		ug/L		05/12/21 10:19	05/12/21 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*140*		*50 - 150*	*05/12/21 10:19*	*05/12/21 23:20*	*1*

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RA

Client Sample ID: MW-12 **Lab Sample ID: 570-58427-3**
Date Collected: 05/05/21 10:45 **Matrix: Water**
Date Received: 05/06/21 11:00

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	**120**		97		ug/L		05/12/21 10:19	05/13/21 12:18	1
TPH as Motor Oil Range	ND		97		ug/L		05/12/21 10:19	05/13/21 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*123*		*50 - 150*	*05/12/21 10:19*	*05/13/21 12:18*	*1*

Surrogate Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-123)	(80-120)	(78-120)	(80-120)
570-58427-1	MW-10	89	96	93	97
570-58427-2	MW-11	89	96	94	98
570-58427-3	MW-12	90	95	94	97
570-58427-4	DUP-1	90	95	93	98
570-58427-5	TB01	88	95	92	99
LCS 570-149331/6	Lab Control Sample	90	95	96	98
LCSD 570-149331/7	Lab Control Sample Dup	88	96	93	98
MB 570-149331/10	Method Blank	89	96	94	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		BFB1
Lab Sample ID	Client Sample ID	(50-150)
570-58427-1	MW-10	64
570-58427-1 MS	MW-10	74
570-58427-1 MSD	MW-10	74
570-58427-2	MW-11	63
570-58427-3	MW-12	64
570-58427-4	DUP-1	63
570-58427-5	TB01	79
LCS 570-149231/34	Lab Control Sample	75
LCS 570-149671/3	Lab Control Sample	90
LCSD 570-149231/35	Lab Control Sample Dup	75
LCSD 570-149671/4	Lab Control Sample Dup	88
MB 570-149231/36	Method Blank	66
MB 570-149671/5	Method Blank	76

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		OTCSN
Lab Sample ID	Client Sample ID	(50-150)
570-58427-1	MW-10	135
570-58427-2	MW-11	139
570-58427-3 - RA	MW-12	123
570-58427-4	DUP-1	140
LCS 570-149923/2-A	Lab Control Sample	120
LCSD 570-149923/3-A	Lab Control Sample Dup	124
MB 570-149923/1-A	Method Blank	127

Surrogate Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-149331/10
Matrix: Water
Analysis Batch: 149331

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/10/21 13:59	1
Ethylbenzene	ND		1.0		ug/L			05/10/21 13:59	1
o-Xylene	ND		1.0		ug/L			05/10/21 13:59	1
m,p-Xylene	ND		2.0		ug/L			05/10/21 13:59	1
Toluene	ND		1.0		ug/L			05/10/21 13:59	1
Xylenes, Total	ND		2.0		ug/L			05/10/21 13:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 123*		*05/10/21 13:59*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*05/10/21 13:59*	*1*
Dibromofluoromethane (Surr)	*94*		*78 - 120*		*05/10/21 13:59*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/10/21 13:59*	*1*

Lab Sample ID: LCS 570-149331/6
Matrix: Water
Analysis Batch: 149331

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	53.07		ug/L		106	76 - 120		
Ethylbenzene			50.0	53.92		ug/L		108	80 - 120		
o-Xylene			50.0	54.46		ug/L		109	80 - 121		
m,p-Xylene			100	107.6		ug/L		108	74 - 122		
Toluene			50.0	54.86		ug/L		110	76 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*70 - 123*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*78 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 570-149331/7
Matrix: Water
Analysis Batch: 149331

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	52.54		ug/L		105	76 - 120	1	20
Ethylbenzene			50.0	53.35		ug/L		107	80 - 120	1	20
o-Xylene			50.0	53.96		ug/L		108	80 - 121	1	20
m,p-Xylene			100	106.8		ug/L		107	74 - 122	1	20
Toluene			50.0	53.37		ug/L		107	76 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*70 - 123*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*78 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-149231/36
Matrix: Water
Analysis Batch: 149231

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/09/21 02:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*		*50 - 150*		*05/09/21 02:08*	*1*

Lab Sample ID: LCS 570-149231/34
Matrix: Water
Analysis Batch: 149231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)			1990	1852		ug/L		93	76 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*75*		*50 - 150*

Lab Sample ID: LCSD 570-149231/35
Matrix: Water
Analysis Batch: 149231

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)			1990	1797		ug/L		91	76 - 128	3	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*75*		*50 - 150*

Lab Sample ID: 570-58427-1 MS
Matrix: Water
Analysis Batch: 149231

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)	ND		1990	1759		ug/L		89	69 - 132		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*74*		*50 - 150*

Lab Sample ID: 570-58427-1 MSD
Matrix: Water
Analysis Batch: 149231

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)	ND		1990	1811		ug/L		91	69 - 132	3	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*74*		*50 - 150*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 570-149671/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 149671

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Gasoline (C4-C13)	ND		100		ug/L			05/11/21 14:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*50 - 150*		*05/11/21 14:00*	*1*

Lab Sample ID: LCS 570-149671/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 149671

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH as Gasoline (C4-C13)			1990	2324		ug/L		117	76 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*50 - 150*

Lab Sample ID: LCSD 570-149671/4 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 149671

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH as Gasoline (C4-C13)			1990	2337		ug/L		118	76 - 128	1	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 570-149923/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 150072 — **Prep Batch: 149923**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
TPH as Diesel Range	ND		100		ug/L		05/12/21 10:19	05/12/21 20:28	1
TPH as Motor Oil Range	ND		100		ug/L		05/12/21 10:19	05/12/21 20:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane (Surr)	*127*		*50 - 150*	*05/12/21 10:19*	*05/12/21 20:28*	*1*

Lab Sample ID: LCS 570-149923/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 150072 — **Prep Batch: 149923**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			800	934.2		ug/L		117	68 - 120		

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 570-149923/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 150072 **Prep Batch: 149923**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane (Surr)	*120*		*50 - 150*

Lab Sample ID: LCSD 570-149923/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 150072 **Prep Batch: 149923**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			800	955.2		ug/L		119	68 - 120	2	14

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane (Surr)	*124*		*50 - 150*

QC Association Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

GC/MS VOA

Analysis Batch: 149331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-58427-1	MW-10	Total/NA	Water	8260B	
570-58427-2	MW-11	Total/NA	Water	8260B	
570-58427-3	MW-12	Total/NA	Water	8260B	
570-58427-4	DUP-1	Total/NA	Water	8260B	
570-58427-5	TB01	Total/NA	Water	8260B	
MB 570-149331/10	Method Blank	Total/NA	Water	8260B	
LCS 570-149331/6	Lab Control Sample	Total/NA	Water	8260B	
LCSD 570-149331/7	Lab Control Sample Dup	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 149231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-58427-1	MW-10	Total/NA	Water	NWTPH-Gx	
570-58427-2	MW-11	Total/NA	Water	NWTPH-Gx	
570-58427-3	MW-12	Total/NA	Water	NWTPH-Gx	
570-58427-4	DUP-1	Total/NA	Water	NWTPH-Gx	
MB 570-149231/36	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 570-149231/34	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 570-149231/35	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
570-58427-1 MS	MW-10	Total/NA	Water	NWTPH-Gx	
570-58427-1 MSD	MW-10	Total/NA	Water	NWTPH-Gx	

Analysis Batch: 149671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-58427-5	TB01	Total/NA	Water	NWTPH-Gx	
MB 570-149671/5	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 570-149671/3	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 570-149671/4	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 149923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-58427-1	MW-10	Total/NA	Water	3510C	
570-58427-2	MW-11	Total/NA	Water	3510C	
570-58427-3 - RA	MW-12	Total/NA	Water	3510C	
570-58427-4	DUP-1	Total/NA	Water	3510C	
MB 570-149923/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-149923/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-149923/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 150072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-58427-1	MW-10	Total/NA	Water	NWTPH-Dx	149923
570-58427-2	MW-11	Total/NA	Water	NWTPH-Dx	149923
570-58427-3 - RA	MW-12	Total/NA	Water	NWTPH-Dx	149923
570-58427-4	DUP-1	Total/NA	Water	NWTPH-Dx	149923
MB 570-149923/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	149923
LCS 570-149923/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	149923
LCSD 570-149923/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	149923

Lab Chronicle

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: MW-10 — Lab Sample ID: 570-58427-1

Date Collected: 05/05/21 09:36 — **Matrix: Water**
Date Received: 05/06/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	149331	05/10/21 16:31	J78Y	ECL 2
	Instrument ID: GCMSQQ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	149231	05/09/21 06:57	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			522.2 mL	5 mL	149923	05/12/21 10:19	UFLU	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			150072	05/12/21 22:16	N1A	ECL 1
	Instrument ID: GC48									

Client Sample ID: MW-11 — Lab Sample ID: 570-58427-2

Date Collected: 05/05/21 10:11 — **Matrix: Water**
Date Received: 05/06/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	149331	05/10/21 16:57	J78Y	ECL 2
	Instrument ID: GCMSQQ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	149231	05/09/21 08:09	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			536.4 mL	5 mL	149923	05/12/21 10:19	UFLU	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			150072	05/12/21 22:37	N1A	ECL 1
	Instrument ID: GC48									

Client Sample ID: MW-12 — Lab Sample ID: 570-58427-3

Date Collected: 05/05/21 10:45 — **Matrix: Water**
Date Received: 05/06/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	149331	05/10/21 17:22	J78Y	ECL 2
	Instrument ID: GCMSQQ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	149231	05/09/21 08:33	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C	RA		514.8 mL	5 mL	149923	05/12/21 10:19	UFLU	ECL 1
Total/NA	Analysis	NWTPH-Dx	RA	1			150072	05/13/21 12:18	N1A	ECL 1
	Instrument ID: GC48									

Client Sample ID: DUP-1 — Lab Sample ID: 570-58427-4

Date Collected: 05/05/21 12:00 — **Matrix: Water**
Date Received: 05/06/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	149331	05/10/21 17:48	J78Y	ECL 2
	Instrument ID: GCMSQQ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	149231	05/09/21 08:57	P1R	ECL 2
	Instrument ID: GC1									
Total/NA	Prep	3510C			503.2 mL	5 mL	149923	05/12/21 10:19	UFLU	ECL 1
Total/NA	Analysis	NWTPH-Dx		1			150072	05/12/21 23:20	N1A	ECL 1
	Instrument ID: GC48									

Lab Chronicle

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Client Sample ID: TB01 Lab Sample ID: 570-58427-5

Date Collected: 05/05/21 08:00 **Matrix: Water**
Date Received: 05/06/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	149331	05/10/21 18:14	J78Y	ECL 2
	Instrument ID: GCMSQQ									
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	149671	05/11/21 19:09	P1R	ECL 2
	Instrument ID: GC53									

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0161	11-19-21
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-30-22
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 2
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	ECL 2
NWTPH-Dx	Northwest - Semi-Volatile Petroleum Products (GC)	NWTPH	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
5030C	Purge and Trap	SW846	ECL 2

Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

ECL 2 = Eurofins Calscience LLC Lampson, 7445 Lampson Ave, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: GHD Services Inc.
Job ID: 570-58427-1
Project/Site: P66 Sunnyside GWM / 11209892-5RM00-200.8

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-58427-1	MW-10	Water	05/05/21 09:36	05/06/21 11:00	
570-58427-2	MW-11	Water	05/05/21 10:11	05/06/21 11:00	
570-58427-3	MW-12	Water	05/05/21 10:45	05/06/21 11:00	
570-58427-4	DUP-1	Water	05/05/21 12:00	05/06/21 11:00	
570-58427-5	TB01	Water	05/05/21 08:00	05/06/21 11:00	

58427

eurofins | Calscience

570-58427 Chain of Custody

CHAIN OF CUSTODY RECORD

DATE: 5/5/21

PAGE: 1 OF 1

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

LABORATORY CLIENT: GHD

ADDRESS: 511 LINCOLN AVE

CITY: SUNNYSIDE STATE: WA ZIP:

TEL. (253) 302-8281 E-MAIL.

CLIENT PROJECT NAME / NUMBER: P66 SUNNYSIDE / 11209892

P.O. NO.

PROJECT CONTACT: MATT DAVIS

SAMPLER(S): (PRINT) A. WASER

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE.

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☒ TPH(g) ☐ GRO	☒ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH -O	BTEX / ~~MTBE~~ ☒ 8260 ☐	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs. ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI). ☐ 7196 ☐ 7199 ☐ 218.6
1	MW-10	5/5/21	0936	W	8	X	X		X	X		X	X									
2	MW-11	↓	1011	W	8	X	X		X	X		X	X									
3	MW-12		1045	W	8	X	X		X	X		X	X									
4	DUP-1		1200	W	8	X	X		X	X		X	X									
5	TB01	5/5/21	0800	W	3		X		X				X									

Relinquished by: (Signature)	Received by: (Signature/Affiliation) SHIPPED VIA FedEx	Date: 5/5/21	Time 1600
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 5/6/21	Time 11:00
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time

* C-S 3-1/3-5 SCT

06/02/14 Revision

5/13/2021

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 570-58427-1

Login Number: 58427
List Number: 1
Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix H
Site Specific Soil Cleanup Level Calculations

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/08/18
Site Name: P66 Sunnyside
Sample Name: 6-10

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	31.3	1.19%
AL_EC >6-8	31.3	1.19%
AL_EC >8-10	6.76	0.26%
AL_EC >10-12	114	4.33%
AL_EC >12-16	925	35.15%
AL_EC >16-21	935	35.53%
AL_EC >21-34	119	4.52%
AR_EC >8-10	0.233	0.01%
AR_EC >10-12	10.6	0.40%
AR_EC >12-16	100.45	3.82%
AR_EC >16-21	306	11.63%
AR_EC >21-34	33.4	1.27%
Benzene	0	0.00%
Toluene	0.00183	0.00%
Ethylbenzene	0.0245	0.00%
Total Xylenes	0.35	0.01%
Naphthalene	2.59	0.10%
1-Methyl Naphthalene	8.06	0.31%
2-Methyl Naphthalene	7.49	0.28%
n-Hexane		0.00%
MTBE		0.00%
Ethylene Dibromide (EDB)		0.00%
1,2 Dichloroethane (EDC)		0.00%
Benzo(a)anthracene	0.00155	0.00%
Benzo(b)fluoranthene	0	0.00%
Benzo(k)fluoranthene	0	0.00%
Benzo(a)pyrene	0	0.00%
Chrysene	0.00542	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00%
Sum	2631.5663	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
Enter site-specific information here……..

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date: 10/8/2018
Site Name: P66 Sunnyside
Sample Name: 10-Jun
Measured Soil TPH Concentration, mg/kg: **2,631.566**

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	2,352	2.02E-09	1.45E+00	Fail
	Method C	37,028	5.01E-10	7.11E-02	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	2.28E-12	2.68E-01	Pass
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**2,351.54**	**37,027.89**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	2.35E+03	1.39E-09	1.00E+00	YES	3.70E+04	7.05E-09	1.00E+00
Total Risk=1E-5	*NO*	1.69E+07	1.00E-05	7.17E+03	*NO*	5.25E+07	1.00E-05	1.42E+03
Risk of Benzene= 1E-6	NA	NA	NA	NA	NA			
Risk of cPAHs mixture= 1E-6	*NO*	1.69E+06	1.00E-06	7.17E+02				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	**NA**
Protective Ground Water Concentration, ug/L	**NA**
Protective Soil Concentration, mg/kg	**Soil-to-Ground Water is not a critical pathway!**

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	1.06E+02	2.26E-12	2.77E-01	100% NAPL
Total Risk = 1E-5	YES	1.06E+02	2.26E-12	2.77E-01	100% NAPL
Total Risk = 1E-6	YES	1.06E+02	2.26E-12	2.77E-01	100% NAPL
Risk of cPAHs mixture= 1E-5	YES	1.06E+02	2.26E-12	2.77E-01	100% NAPL
Benzene MCL = 5 ug/L	NA	NA	NA	NA	NA
MTBE = 20 ug/L	NA	NA	NA	NA	NA

Note: 100% NAPL is 70000 mg/kg TPH.

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	1.06E+02	2.26E-12	2.77E-01	**100% NAPL**

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

1. Enter Site Information

Date: 10/08/18
Site Name: P66 Sunnyside
Sample Name: 8-15

2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc dry basis mg/kg	Composition Ratio %
Petroleum EC Fraction		
AL_EC >5-6	0	0.00%
AL_EC >6-8	0	0.00%
AL_EC >8-10	58.5	1.85%
AL_EC >10-12	109	3.45%
AL_EC >12-16	514	16.26%
AL_EC >16-21	461	14.59%
AL_EC >21-34	52.8	1.67%
AR_EC >8-10	4.73	0.15%
AR_EC >10-12	67.1	2.12%
AR_EC >12-16	519	16.42%
AR_EC >16-21	1200	37.97%
AR_EC >21-34	130	4.11%
Benzene	0.00601	0.00%
Toluene	0.00401	0.00%
Ethylbenzene	1.04	0.03%
Total Xylenes	0.035	0.00%
Naphthalene	4.76	0.15%
1-Methyl Naphthalene	20.9	0.66%
2-Methyl Naphthalene	17.5	0.55%
n-Hexane	0	0.00%
MTBE	0	0.00%
Ethylene Dibromide (EDB)	0	0.00%
1,2 Dichloroethane (EDC)	0	0.00%
Benzo(a)anthracene	0.00375	0.00%
Benzo(b)fluoranthene	0.0013	0.00%
Benzo(k)fluoranthene	0.00765	0.00%
Benzo(a)pyrene	0	0.00%
Chrysene	0.0159	0.00%
Dibenz(a,h)anthracene	0	0.00%
Indeno(1,2,3-cd)pyrene	0	0.00%
Sum	3160.40362	100.00%

Notes for Data Entry | Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

REMARK:
Enter site-specific information here……..

3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

4. Target TPH Ground Water Concentation (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here:	500	ug/L

A2 Soil Cleanup Levels: Calculation and Summary of Results. Refer to WAC 173-340-720, 740, 745, 747, 750

Site Information

Date:
Site Name:
Sample Name:
Measured Soil TPH Concentration, mg/kg:

1. Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B				
	Method C				
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection				
	Target TPH GW Conc. @ 500 ug/L		NA	NA	

2. Results for Protection of Soil Direct Contact Pathway: Human Health

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	**1,979.42**	**27,314.40**
Most Stringent Criterion	**HI =1**	**HI =1**

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI =1	YES	1.98E+03	7.19E-09	1.00E+00	YES	2.73E+04	3.00E-08	1.00E+00
Total Risk=1E-5	*NO*	2.75E+06	1.00E-05	1.39E+03	*NO*	9.12E+06	1.00E-05	3.34E+02
Risk of Benzene= 1E-6	*NO*	1.17E+07	4.27E-05	5.93E+03	NA			
Risk of cPAHs mixture= 1E-6	*NO*	2.82E+05	1.02E-06	1.42E+02				
EDB	NA	NA	NA	NA				
EDC	NA	NA	NA	NA				

3. Results for Protection of Ground Water Quality (Leaching Pathway)

3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection

Most Stringent Criterion	
Protective Ground Water Concentration, ug/L	
Protective Soil Concentration, mg/kg	

Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1					
Total Risk = 1E-5					
Total Risk = 1E-6					
Risk of cPAHs mixture= 1E-5					
Benzene MCL = 5 ug/L					
MTBE = 20 ug/L					

3.2 Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L				

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Matthew Davis
Matthew.Davis@ghd.com
425.563.6541

Brian Peters
Brian.Peters@ghd.com
425.563.6500

www.ghd.com