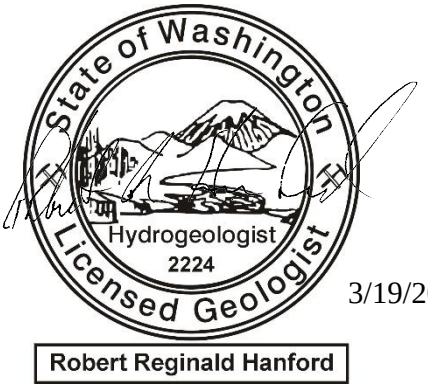
MEMORANDUM

Project No. 200433

March 19, 2021

To: Matthew Randish, Sun Pacific Energy

From:



3/19/2021

Robert R. Hanford
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Re: **Mercer Island Shell Interim Cleanup Action Plan**

Aspect Consulting, LLC (Aspect) has prepared this Interim Cleanup Action Plan (ICAP) for the Mercer Island Shell (Former BP) site (the Site) located at 7833 SE 28th Street on Mercer Island, Washington (the property). Information used to prepare this plan is based on the Remedial Investigation and Feasibility Study Report (RI/FS) completed by Puget Environmental (Puget) dated January 22, 2020 (Appendix A). The RI/FS was prepared to summarize previous investigation results and conclusions and provide recommendation for final cleanup and site closure under the Washington State Model Toxics Control Act (MTCA) Cleanup Regulations adopted by the Washington State Department of Ecology (Ecology) in Chapter 173-340 of the Washington Administrative Code (WAC).

1 Purpose

The purpose of this ICAP is to define the objectives of the cleanup activities that will be performed in conjunction with replacement of the gas station infrastructure on the property, identify additional engineering needs to meet MTCA objectives, and make recommendations for the current planning efforts where appropriate to meet those objectives. This ICAP will be used as a roadmap for setting expectations among stakeholders and facilitating insurance coverage for planning, design, and permitting activities considered reasonable and necessary for the cleanup.

2 Chemicals and Media of Concern

The chemicals of concern (COCs) for the Site are based on the occurrence of chemicals positively identified and confirmed at concentrations above MTCA Method A cleanup levels during Puget's remedial investigation (RI). The COCs for the Site include oil-, diesel-, and gasoline-range organics (ORO, DRO, and GRO), benzene, toluene, ethylbenzene, and xylenes (BTEX). Also, while not specifically mentioned in Puget's RI, naphthalene is considered an appropriate COC for this Site. 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), methyl tertiary-butyl ether (MTBE), and lead have not been detected at the Site, where sampled for by Puget.

The affected media at the Site includes soil and groundwater. Soil gas and air were not evaluated as part of the RI and remain as potential media of concern. The vapor exposure pathway remains to be evaluated following interim cleanup actions.

3 Applicable Cleanup Standards

This section presents the applicable cleanup standards by which evaluation of interim cleanup action will be measured.

3.1 Cleanup Levels

Applicable cleanup levels for the affected or potentially affected media at the Site are as follows:

- **Soil:** MTCA Method A cleanup levels for unrestricted land use.
- **Groundwater:** MTCA Method A cleanup levels for protection of drinking water as a beneficial use.
- **Air:** MTCA Method B cleanup levels for air. The cleanup levels for air may be adjusted for a commercial use scenario in accordance with 173-340-750 of the WAC as appropriate.

3.2 Points of Compliance

The standard points of compliance for the Site are as follows:

- **Soil *for protection from direct contact*:** from ground surface to a depth of 15 feet.
- **Soil *for protection of groundwater*:** throughout the Site.
- **Groundwater *for protection of drinking water*:** extending vertically from the uppermost level of the saturated zone to the lowest-most depth potentially affected.
- **Ambient and Indoor Air *for protection from inhalation*:** throughout the Site.

When it is not practicable to achieve cleanup levels in soil at the standard points of compliance, the cleanup action may involve containment of hazardous substances. Remedies involving containment may still be determined to comply with cleanup standards, provided:

1. The selected remedy is permanent to the maximum extent practicable.
2. The cleanup action is protective of human health and the environment.
3. Appropriate institutional controls, including compliance monitoring and periodic reviews, are implemented (173-340-740(6)(f) WAC).

Following the interim cleanup action, an additional feasibility study (FS) may be required to evaluate the potential for containment and/or setting conditional points of compliance.

4 Areas Requiring Remediation

The areas requiring remediation at this Site are defined by exceedances of the applicable cleanup standards discussed above for soil and groundwater.

4.1 Soil

Given the nature and extent of contamination presented in Puget's RI/FS, soil impacts exceeding Method A cleanup levels is present approximately 3 to 16 feet below ground surface (bgs) near and between the USTs and dispenser islands. These areas are shown in plan and cross-section views on Figures 5 through 8 of the RI/FS.

4.1.1 On-Property

The lateral extent of soil impacts exceeding Method A cleanup levels is shown on Figure 5 in the RI/FS. Given the uncertainty with respect to the lateral extent of soil impacts potentially extending under the existing convenience store building on the property, it may not be practicable in the context of MTCA to fully remove all soil impacts that are above cleanup levels on the property. A shoring system that maximizes flexibility with respect to chasing soil impacts up to and under the building, such as pin piles or micro piles, is recommended to increase the likelihood of successfully achieving cleanup levels on the property.

Pending the results of confirmation soil sampling below the building following excavation to the maximum extent practicable, engineering and institutional controls (i.e., capping and an environmental covenant) may be a necessary element for the final remedy at the Site to address inaccessible soil contamination below the building. Additionally, engineering controls in the form of a vapor mitigation system may be required if soil impacts exceed screening levels for a vapor intrusion risk.

4.1.2 Off-Property

The lateral extent of soil impacts exceeding Method A cleanup levels is shown on Figure 5 in the RI/FS. The potential for exceedances of gasoline and benzene extending off the property and into the right-of-way (ROW) to the north and east are acknowledged. However, excavation of SE 28th Street and 80th Avenue SE is not included in the scope of the interim cleanup action at this time because the cost is considered clearly disproportionate to the benefit in the context of MTCA. In other words, the cost of excavation and restoration of the ROW, given the number of sensitive utilities and potential disruption to traffic in the downtown core, is considered cost prohibitive and would not provide significant benefit to human health or the environment based on the current data and information provided in the RI/FS.

Pending the results of confirmation soil sampling at the property boundary following excavation, engineering and institutional controls (i.e., capping and an environmental covenant) may be a necessary element for the final remedy at the Site to address soil contamination in the ROW. An environmental covenant would need to be granted by the City of Mercer Island (the City). If the City will not accept the conditions for an environmental covenant, then an FS will be required to demonstrate the disproportionate cost analysis (DCA) in accordance with MTCA. If soil exceeding

Method A cleanup levels persists in the ROW, and it is not possible to negotiate an environmental convenant with the City, a no further action (NFA) will not be possible for the Site. However, a property-specific NFA may be an option pending the DCA.

4.2 Groundwater

Given the nature and extent of contamination presented in Puget's RI/FS, depth to groundwater at the Site ranges between 3 and 12 feet bgs and monitoring wells area screened as deep as 25 feet bgs. The inferred lateral extents of groundwater impacts exceeding Method A cleanup levels is shown in plan view on Figures 9 and 10 of the RI/FS.

Given the depth to groundwater, the excavation for the interim cleanup action will require dewatering to reach the vertical depth of soil contamination. This will result in the removal and disposal of some petroleum-impacted groundwater; however, it is anticipated that a period of natural attenuation will still be necessary following removal of soil impacts on the property before groundwater will attain cleanup levels both on and off the property.

Additionally, if soil impacts remain in place on and/or off the property as discussed in Section 4.1, a lengthy period of attenuation can be expected for groundwater. In that event, engineering and institutional controls (i.e., capping and an environmental covenant) may be a necessary element for the final remedy at the Site to address groundwater. Additionally, engineering controls in the form of a vapor mitigation system may be required if groundwater impacts exceed screening levels for a vapor intrusion risk.

Similar to soil, an environmental covenant for off-property groundwater impacts would need to be granted by the City. If the City will not accept the conditions of an environmental covenant, then an FS will be required to demonstrate the DCA in accordance with MTCA. If groundwater exceeding Method A cleanup levels persists in the ROW, and it is not possible to negotiate an environmental covenant with the City, an NFA will not be possible for the Site. However, a property-specific NFA may be an option pending the DCA.

4.3 Vapor

Soil gas and air were not evaluated as part of Puget's RI and remain as potential media of concern. The vapor exposure pathway remains to be evaluated following interim cleanup actions.

Pending the success of the interim cleanup action, a vapor assessment will be required if soil and groundwater impacts persist at the Site above Method A cleanup levels. Additionally, engineering controls in the form of a vapor mitigation system may be required as a necessary element of the final remedy at the Site if soil gas or indoor air impacts exceed screening levels for a vapor intrusion risk.

5 Interim Cleanup Action Plan

Given the current plans for redevelopment of the property, there is an opportunity to conduct an interim cleanup action to remove accessible soil and groundwater impacts from the property in conjunction with replacement of the underground storage tanks (USTs), pump islands, and canopy. This section presents the general approach and recommendations for the interim cleanup action to

meet the objectives of MTCA and comply with the regulation to the maximum extent practicable. The interim cleanup action will include for following elements:

- Decommissioning and removal of USTs, dispensers, piping, and ancillary equipment associated with the fueling system infrastructure, including demolition of the pump island canopy.
- Excavation and off-site disposal of petroleum impacted soil on the property to the maximum extent practicable.
- Groundwater management, dewatering, and disposal.
- Backfilling and site restoration.

These elements are described further below.

5.1 Decommissioning and Removal of USTs and Ancillary Equipment

The USTs and associated belowground piping and dispensers will be decommissioned and removed during the source removal action in accordance with Ecology's current UST regulations (WAC 173-360) and other applicable state or local regulations. The Contractor will be a Certified UST Decommissioner and responsible for completing Ecology's 30-Day Notice and Permanent Closure Notice for USTs. A Certified Site Assessor will collect the required soil samples and complete Ecology's Site Check/Site Assessment Checklist at the time of decommissioning.

5.2 Excavation and Off-Site Disposal of Petroleum Impacted Soil

The objective of the soil removal action is to remove the source of contamination in and around the UST basin, pump islands, and building to the maximum extent practicable.

5.2.1 Soil Cleanup Levels for Interim Cleanup Action

The MTCA Method A cleanup levels described in Section 3 are applicable for this interim cleanup action. Every effort should be made to remove impacted soil on the property exceeding unrestricted cleanup levels. The COCs for the Site are identified in Section 2.

It is recognized that exceedances of the Method A cleanup level for COCs may remain in the ROW to the north and east of the property, pending performance and confirmation soil sampling results. MTCA implications for potential off-property soil impacts exceeding cleanup levels are discussed in Section 4.1 in the context of the final remedy for the Site.

5.2.2 Excavation Extents and Shoring

Vertical shoring will be required along the north and east property boundaries to facilitate removal of the USTs and impacted soil up to the property line. Soil impacts to the south and west of the UST basin are delineated as shown on RI/FS Figure 5.

It is recognized that affected soil may extend under the east end of the building on the property and may require shoring to remove additional soil to the maximum extent practicable. If performance sampling indicates soil contamination extends a limited distance under the building, pin piles or micro piles are recommended to support the building and allow access for excavation.

The current shoring plan for construction is provided in Appendix B. To better meet the stated MTCA objectives of the interim cleanup action, it is recommended that the interior shoring alignment be eliminated and the shoring walls along the property lines be extended to the south and west to facilitate sloping of the excavation as necessary up to the south and west property boundary, pending performance soil sampling results.

It is also recommended that the vertical shoring along the north and east property boundaries be designed to facilitate excavation to a minimum depth of 16 feet for purposes of impacted soil removal around the UST basin. A vertical contingency of up to 2 feet is recommended to allow for additional soil removal at depth pending performance soil sampling results. The shoring design should also account for the depth of the planned UST replacement if deeper.

Detailed construction requirements for modifications to the shoring design to meet the interim cleanup action objectives, including permitting and shoring design, should be identified and performed by a structural engineer. The shoring design should also factor in considerations for dewatering of the excavation to achieve design excavation depths as discussed in Section 5.3.

The actual extent of the excavation, within the limitations of the shoring design, will be determined by collecting performance soil samples from the sidewalls and bottom of the excavation. Performance monitoring is described below in Section 5.2.3.

5.2.3 Performance Monitoring

Performance monitoring of the soil removal action will include field screening and collection of soil samples for laboratory analysis during the excavation. Soil samples will be collected for the following reasons:

- To document COC concentrations in soils that are excavated.
- To characterize soil for disposal or reuse.
- To determine whether contaminant concentrations in soils that are left in place comply with applicable cleanup standards.

Soil sampling and analysis will be conducted in accordance with a project-specific Sampling and Analysis Plan (SAP). In general, soil samples will be collected using U.S. Environmental Protection Agency (EPA) Method 5035 sampling kits for gasoline and volatile compounds. Discrete grab samples will be submitted for analysis so that contaminant variability can be evaluated. Field screening techniques will generally be used to help ensure that a "worst-case" sample is collected for analysis. If a backhoe is used to collect the sample (e.g., when it is unsafe for the sampler to enter the excavation), care will be taken to ensure the backhoe bucket is clean of other soil before sampling. "Fresh" soils will be exposed just prior to sampling (to limit contaminant loss to volatilization), and the soil sample will be collected from the middle of the bucket, from soils that have not contacted the sides of the bucket. If sampling personnel can safely access the sampling location, a hand auger or shovel will be used to expose fresh soils just prior to sampling. Laboratory analyses of soil samples will include the following:

- DRO and ORO by Northwest Method NWTPH-Dx.
- GRO by Northwest Method NWTPH-Gx.

- BTEX and naphthalene by EPA Method 8260.

The overall scope of soil sampling and analysis activities will depend on field screening results, soil volumes, and treatment/disposal facility profiling requirements. In general, performance monitoring will include field screening and laboratory analysis of both excavation sidewall and bottom samples. The distance between sidewall samples will not exceed 20 feet, and closer sample spacing may be necessary. A minimum of one sample for approximately every 100 square feet of bottom area will be collected. njurg

Where soil sampling results indicate cleanup level exceedances, soil may be over excavated and resampled, if feasible, until sampling results are at or below the proposed cleanup levels. However, the excavation extent will be constrained as described in Section 5.2.2.

5.2.4 Soil Management and Disposal

Based on the available soil characterization data, the excavated soils will be handled as:

- **Clean** (Category 1). Petroleum hydrocarbon contaminant concentrations are not detected and there is no odor, staining, or visible sheen. Generally, soils less than 3 feet bgs are expected to be clean.
- **Impacted** (Category 2). Petroleum hydrocarbon contaminants are detected below MTCA Method A cleanup levels.
- **Contaminated** (Categories 3 and 4). GRO and/or BTEX are detected above MTCA Method A cleanup levels. The soils between depths of 3 and 16 feet bgs are where the most contamination is expected to be located (i.e., around/below the USTs).

When evidence of petroleum hydrocarbon-contaminated soil is encountered (and no analytical data is available), visual and photoionization detector (PID) field screening techniques will be used to assess the extent of contamination and inform the segregation of impacted and contaminated soils. The segregation of soils will follow Ecology guidance (Ecology, 2016).

Given the limited space available on the Property, excavated soils that are known to be contaminated based on analytical data (or field-determined) will be direct loaded and hauled to a predetermined off-site treatment/disposal facility. It may be necessary to temporarily stockpile a limited amount of soil for final categorization and subsequent handling based on laboratory analytical results. Overburden soil screened as clean or impacted will be segregated and stockpiled for analytical testing and potential reuse. Stockpiling will include the following requirements:

- No material will be stockpiled in such a manner as to create surface water accumulation, impair access to adjacent sites of facilities, or be detrimental to the excavation in any way.
- Stockpiles will be constructed to isolate soils from the environment and encourage drainage of water from the soils. Stockpiles will be protected against erosion by wind and rain.
- Stockpiles will be underlain by plastic sheeting with a 10-millimeter minimum thickness, with adjacent sheeting sections overlapping a minimum of 3 feet.
- Berms will be constructed around each stockpile to a minimum height of 12 inches to prevent run-on of precipitation. Base liners of stockpiles will be bathtub construction to

collect excess water draining from the soil. Liquid accumulating in stockpiles will be collected and disposed of in accordance with applicable regulations at an approved treatment facility.

- Stockpiles will be covered with plastic sheeting of a 6-millimeter minimum thickness to prevent precipitation from entering the stockpile, and when not in use. The cover will be anchored to prevent it from being disturbed by wind.

5.3 Groundwater Management, Dewatering, and Disposal

As noted in Section 4.2, depth to groundwater at the Site ranges between 3 and 12 feet bgs. Given the targeted depths of the excavation, the proposed interim cleanup action will require dewatering to reach the vertical depth of soil contamination.

Detailed construction requirements for dewatering to meet the interim cleanup action objectives, including permitting and design, should be identified and performed by a state-licensed hydrogeologist or professional engineer in coordination with the shoring design and construction contractor's planned means and methods for the excavation approach. Recommended performance criteria for excavation dewatering include:

- Dewater excavations as needed to maintain unsaturated conditions to facilitate soil excavation/handling/loading for transport, confirmation soil sampling in the excavation, and excavation backfilling.
- Collect and treat all water generated during dewatering to meet water quantity and quality requirements for discharge to sanitary sewer under an Individual Discharge Authorization from the City of Mercer Island and/or other appropriate agencies.
- Alternatively, pumped water may be conveyed to a water storage system. Water storage will be sized appropriately to contain the necessary volume of water with consideration for disposal frequency. Collected water will be disposed of in accordance with applicable regulations at an approved treatment facility.

5.4 Backfilling and Site Restoration

Backfilling and site restoration activities are expected to be specified in the design for the UST system replacement. We recommend securing the appropriate permits and preparing a completed set of plans and specifications, stamped by a licensed professional engineer in the State of Washington, for replacement of the UST system. The UST system should be designed to meet or exceed current UST regulations (WAC 173-360). The existing dispensers, and automated tank monitoring system and associated sensors, may be reused unless prohibited by WAC 173-360.

As discussed in Section 5.2.2, it is recommended that the shoring system be designed to meet the objectives of the interim cleanup action action as well as the UST system replacement. Detailed construction requirements to accommodate UST replacement, including any additional permitting and shoring design beyond the scope of the interim cleanup action, should be identified and performed in conjunction with a structural engineer.

6 Conclusions and Recommendations

The purpose of this ICAP is to define the objectives of the cleanup activities that will be performed in conjunction with replacement of the gas station infrastructure on the property, identify additional

engineering needs to meet MTCA objectives, and make recommendations for the current planning efforts where appropriate to meet those objectives.

Based on the applicable cleanup levels and areas requiring remediation at the Site, the following engineering needs and planning efforts are recommended to provide a higher level of assurance that the interim cleanup action will meet MTCA requirements and result in closure:

- Recognizing there are multiple potential paths for achieving closure at this Site or property, and they are dependent on the outcome of the interim cleanup action. Future requirements may include vapor assessment and/or mitigation, capping areas of contamination, environmental covenants for potential residual impacts both on- and/or off-property, and an additional feasibility study to support selection of a final remedy.
- Engaging the City to review the potential outcomes of the interim cleanup action as discussed in Section 4 with respect to the potential need for engineering and institutional controls to address the potential for off-property contamination and closing the Site.
- Modifying the shoring approach as recommended in Section 5.2.2 to provide greater flexibility for achieving applicable cleanup standards during excavation.
- Preparing a SAP and soil management plan for performance sampling and management of soil during the excavation as recommended in Section 5.2.3 and 5.2.4.
- Preparing a dewatering plan as recommended in Section 5.3 to maximize the depth of excavation, within the limitations of the shoring design, and remove soil impacts to the maximum extent practicable.
- Preparing plans for replacement of the fueling system infrastructure and site restoration activities as recommended in Section 5.4.

To the extent these recommendations trigger additional permitting and/or design requirements with the City, the efforts related to meeting those requirements should be considered reasonable and necessary for the cleanup of the Site. It is recommended that the insurance policy holder engage the insurance company for review and a determination of coverage for those activities as necessary.

Limitations

Work for this project was performed for Sun Pacific Energy (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Please refer to Appendix C titled "Report Limitations and Guidelines for Use" for additional information governing the use of this report.

Attachments: Appendix A – Puget Environmental RI/FS
Appendix B – Allstructure Engineering Shoring Plan
Appendix C – Report Limitations and Guidelines for Use

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APPENDIX A

Puget Environmental RI/FS

PUGET
ENVIRONMENTAL P.L.L.C.

January 22, 2020

Mr. George Stokes
Mercer Island Shell Service Station
7833 Southeast 28th Street
Mercer Island, Washington

Subject: Remedial Investigation and Feasibility Study Report
Mercer Island Shell Service Station (Former BP)
7833 Southeast 28th Street
Mercer Island, Washington

Dear Mr. Stokes:

In accordance with your request, Puget Environmental, PLLC (Puget) has prepared this remedial investigation and feasibility study report for the Mercer Island Shell Service Station located at 7833 Southeast 28th Street, in Mercer Island, Washington. The report has been prepared to summarize previous investigation results and conclusions and provide recommendations for final cleanup and site closure under the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation, Chapter 173-340 WAC.

SITE DESCRIPTION

The site consists of an approximately 0.30 acre parcel located approximately 84 feet above mean seal level near the northern shore of Mercer Island. Lake Washington is present approximately 1,870 feet to the northwest. Luther Burbank Park is present approximately 1,470 feet to the north and west. The area around the site is relatively level. The site location is shown of Figure 1.

The site is bounded by Southeast 28th Street to the north and 80th Avenue Southeast to the east. A professional building is present on adjacent property to the south. A grocery store is present on the adjacent property to the west. Properties in remaining directions are occupied by a mix of commercial and professional facilities. Residences are present approximately 165 feet to the north and west. The site and areas of nearby property use are shown on Figure 2.

Records indicate the site has been operated as an automobile service station since the 1950s.The site is currently occupied by an active gasoline service station with four dispensers and three underground storage tanks (USTs) containing unleaded gasoline. A used oil UST was reportedly present on site at one time and removed prior to 1995. Washington State Department of Ecology (Ecology) records indicate the current USTs were installed in 1985 and 1986. A convenience store and auto repair shop are also present at the site. A total of 24 groundwater monitoring wells and 2 vapor extraction wells are present on and off site. Monitoring well locations and select site features are shown on Figure 3.

REMEDIAL INVESTIGATION

Following is a summary of historic and recent investigations and results based on review of previous consultants' reports as provided by the property owner as well as Puget's investigation results. A list of the references reviewed is attached.

Initial Investigation and Remediation System Operation

Petroleum hydrocarbon-impacted soil and groundwater at concentrations exceeding applicable cleanup levels were first identified beneath the site during a Phase II environmental site assessment conducted by AGRA Earth & Environmental, Inc. in December 1995.

Following discovery of the impacts, a combined soil-vapor extraction (SVE) and groundwater extraction (GWE) remediation system was reportedly installed to treat the impacts. The remediation system consisted of 3 extraction tranches that treated and discharged groundwater into the sanitary sewer system.

In December 2000, Camp Dresser & McKee (CDM) modified the remediation system and installed a 200-gallon aeration tank and modified the conveyance piping to eliminate discharge to storm sewer and into a new infiltration trench. SVE activities were discontinued at this time.

In January 2006, Delta Environmental Consultants Inc. (Delta) further modified the existing remediation system to utilize high vacuum dual phase extraction (HVDPE). Liquids and vapors were extracted from two of four on-site wells.

In June 2010, the remediation system operation was discontinued. The vapor and groundwater extraction equipment was subsequently dismantled and removed.

Additional Investigation

Following remediation system operation, additional investigations were subsequently conducted to further evaluate groundwater conditions and the extent of remaining impacted soil. Groundwater monitoring and sampling activities were reportedly conducted by Antea Group in 2012. Environmental Partners Inc. (EPI) subsequently advanced 12 soil borings (DP-1 through DP-12) and drilled and installed 7 additional monitoring wells (MW-5, MW-6, MW-7, MW-10 MW-11, MW12S and MW12D) and 2 soil vapor extraction wells (SVE-1 and SVE-2) in 2012 and 2013. Soil and groundwater analytical results are presented in EPI reports from February 2013 through January 2015.

Between 2015 and 2017, Puget conducted additional investigation to further evaluate the migration and extent of impacted soil and groundwater. A total of 8 additional monitoring wells (MW-13 through MW-20 were installed on and off site.

Following review by the Washington State Pollution Liability Insurance Agency (PLIA) 4 additional monitoring wells (MW-21 through MW-24) were installed to further evaluate shallow subsurface conditions. Results of the most recent monitoring and sampling events are presented in reports prepared by Puget dated February 8, 2019 and September 17, 2019.

GEOLOGIC AND HYDROGEOLOGIC SETTING

Geologic records indicate the site is underlain by Quaternary Vashon till deposits consisting of a compact diamict of silt, sand and subrounded to well-rounded gravel, glacially transported and deposited under ice.

Results of drilling and soil sampling conducted by CDM, Delta, EPI and Puget indicate the site is generally underlain by damp to wet, silty clay to clayey silt to approximately 15 to 20 feet below ground surface (bgs) where it is underlain by saturated fine-grained sand to the maximum depth explored of approximately 25 feet bgs. Groundwater in the underlying sandy zone appears to be partially confined by the overlying clay and silt.

Review of Ecology well log records indicates groundwater approximately 115 and 116.5 feet bgs in two water supply wells located approximately 1,300 feet southeast of the site.

Review of historic groundwater monitoring and sampling results indicate groundwater approximately 3 to 11 feet bgs beneath the site with a variable gradient generally directed toward the northwest at a magnitude of approximately 0.01. A groundwater contour map with results of the most recent sampling event conducted in August 2019 is shown on Figure 4 along with a rose diagram depicting historic groundwater gradient directions.

CONTAMINANTS OF CONCERN

The history of operations at the property and analytical results indicate the following contaminants of concern (COCs) for both soil and groundwater beneath the site:

- Total petroleum hydrocarbons as gasoline (TPH-G) and as diesel (TPH-D)
- Benzene, toluene, ethylbenzene and total xylenes (BTEX)

POINTS OF COMPLIANCE

- The point of compliance for soil based on protection of groundwater is all soil throughout the site.
- The point of compliance for groundwater is all groundwater from the uppermost level of the saturated zone extending vertically to the lowest depth that is affected by any of the COCs at the site.
- The point of compliance for air is all air throughout the site.

NATURE AND EXTENT OF CONTAMINATION

Soil

Results of previous and recent investigations indicates petroleum hydrocarbon-impacted soil at concentrations exceeding the MTCA Method A cleanup levels is present approximately 3 to 16 feet bgs near and between the USTs and dispenser islands. The estimated extent of impacted soil is shown on Figure 5. Cross-sections through the impacted areas are shown in Figures 6 through 8. Based on results of all known investigations to date, it appears up to approximately 1,500 cubic yards of soil may have been impacted.

Groundwater

Results of historical groundwater sampling activities conducted between 1995 and 2019 indicate groundwater samples collected from MW-1, MW-2, MW-4, MW-5, MW-7, MW-10, MW-11, MW-12S, MW-12D, MW-19, MW-21, SVE-1 and SVE-2 have historically contained TPH-G, TPH-D and/or BTEX concentrations exceeding the MTCA Method A cleanup levels. Sampling results do not reveal indications of off-site groundwater impacts and there are no indications that subsurface utilities have provided preferential pathways for contaminant migration. Based on results of the most recent groundwater monitoring and sampling events conducted by Puget in February and August 2019, it appears impacted groundwater is limited to the area immediately adjacent to the USTs. The estimated extent of gasoline- and benzene-impacted groundwater from the February 2019 sampling event is shown on Figures 9 and 10.

Historical groundwater results are shown on Tables 1 and 2.

CONCEPTUAL SITE MODEL

Based on investigation results, a Conceptual Site Model has been prepared in accordance with WAC 173-340-708(3)(e) to evaluate potential exposure pathways. Results of the Conceptual Site Model Evaluation indicate the following potential complete exposure pathways:

For Soil –

- Direct contact and ingestion by construction workers and terrestrial biota

For Groundwater –

- Direct contact and ingestion by construction workers and terrestrial biota

For Vapor –

- Inhalation by commercial and construction workers

TERRESTRIAL ECOLOGICAL EVALUATION

In accordance with WAC 173-340-7490, a Terrestrial Ecological Evaluation (TEE) has been conducted to determine cleanup levels that are applicable to the site for the protection of potential terrestrial receptors. Based on results, Puget proposes using the concentrations listed in Table 749-3 as cleanup levels, pending agency review and approval.

CONCLUSIONS

Soil

Review of drilling and sampling data indicate the site is generally underlain by damp to wet silty clay to clayey silt from the surface to approximately 15 to 20 feet bgs where it is underlain by saturated fine-grained sand to the maximum depth explored of approximately 25 feet bgs. Based on review of historic and recent investigation results, it appears up to approximately 1,500 cubic yards of petroleum hydrocarbon-impacted soil remains present approximately 3 to 16 feet bgs near and between the USTs and dispenser islands (Figures 5 through 7).

Groundwater

Review of historic groundwater monitoring and sampling results indicates groundwater approximately 3 to 11 feet bgs beneath the site with a variable gradient generally directed toward the northwest at a magnitude of approximately 0.01 (Table 1 and Figure 4). Groundwater in the underlying sandy zone appears to be partially confined by the overlying clay and silt.

Historic and recent laboratory results indicate groundwater immediately adjacent to the USTs is impacted with TPH-G and benzene at concentrations exceeding the MTCA Method A cleanup level (Figures 9 and 10).

FEASIBILITY STUDY

Soil and Groundwater Conditions

Results of previous investigations indicate approximately 1,500 cubic yards of impacted soil is present near and between the dispensers and USTs. Impacted soil consists primarily of silty clay and clayey silt with relatively low hydraulic conductivity in the range of approximately 10^{-8} to 10^{-9} centimeters per second.

Based on a review of historic remediation system operations and the low hydraulic conductivity properties of impacted soil, it appears prior in situ remediation techniques have removed contaminants from subsurface to the maximum extent practicable based on soil and groundwater conditions. Therefore, in order to complete cleanup within a reasonable timeframe, it appears more aggressive remediation will be needed.

Proposed Cleanup

<u>Soil</u>
Based on conditions, Puget has conducted a limited feasibility study to evaluate potential remedial options based on the soil conditions and the depth and location of contaminants. Based on technical considerations and results of disproportionate cost analysis conducted under WAC 173-340-360 (3)(e) Puget recommends excavation and removal of impacted soil near and between the USTs and dispensers as the preferred remedial option.

Based on over 30 years of operation and the documented presence of subsurface impacts, Puget recommends removal and replacement of the existing USTs and piping as part of the proposed cleanup of the site.

Once the existing USTs and piping have been removed, we recommend excavation and removal of remaining impacted soil near and between the dispenser islands and USTs.

Groundwater

Based on the depth to groundwater and the soil type and depth to impact, dewatering and removal of impacted groundwater will likely be needed during excavation and removal of impacted soil to be conducted in conjunction with UST replacement. Based on the relatively limited extent of impact, soil excavation along with dewatering and removal of impacted groundwater during will likely remove the majority of remaining contaminants. A brief period of natural attenuation monitoring may be needed to document and confirm soil and groundwater cleanup once excavation and tank replacement is completed.

Estimated costs for the proposed cleanup are shown on Table 3.

LIMITATIONS

The scope of work for this investigation was conducted in a manner that is consistent with the level of care and skill ordinarily exercised by other members of the profession practicing in the same locality and under similar conditions as of the date the services were provided. Results of our evaluation including conclusions, opinions and recommendations are based on a limited number of observations and data. Data from other areas may be different. Puget makes no representation, guarantee, or warranty, express or implied, regarding the services, communication, report, opinion, or instrument of service provided.

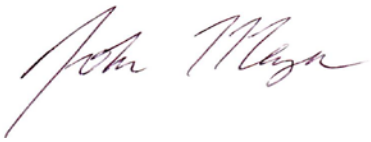
Puget provides various levels of service to meet the needs of varying clients. Evaluation of geologic and environmental conditions requires judgment leading to conclusions and recommendations that are generally based on incomplete knowledge of subsurface conditions due to the limitations of data from field studies. Although risk cannot be eliminated, more detailed and extensive studies yield more information which may help understand and manage the level of risk.

The work was conducted based on the scope and budget requirements, and site information provided by our client.

We appreciate the opportunity to provide service. Please do not hesitate to contact either of the undersigned if you have any questions.

Sincerely,

Puget Environmental, PLLC



John P. Meyer
Project Manager

John K. Meyer, L.HG.
Principal Hydrogeologist

Attachments
References Reviewed
Figures
Tables
Boring Logs and Well Construction Diagrams

REFERENCES REVIEWED

Agra Earth and Environmental, *Phase II Environmental Site Assessment BP Branded Service Station 7833 SE 28th Street, Mercer Island, Washington,* January 1996

Camp, Dresser and McKee *Startup of Modified Remedial System, Mercer Island BP Facility, 7833 SE 28th Street, KHM Project A20-23A, Mercer Island, Washington,* January 4, 2001

Delta Environmental Consultants Inc*. Remediation System Installation Former Mercer Island BP, 7833 SE 28th Street, Mercer Island, Washington, Delta Project STCG-014-1, Colony Claim 01-96-170* - January 20, 2006

Antea Group*, Quarterly Groundwater Monitoring Report Former Mercer Island BP, 7833 SE 28th Street, Mercer Island, Washington,* January 23, 2012

Antea Group*, Site Conceptual Model Former Mercer Island BP, 7833 SE 28th Street, Mercer Island, Washington,* April, 16 2012

Environmental Partners Inc*., Quarterly Ground Water Monitoring Report - December 2012 Mercer Island Shell (formerly BP), 7833 SE 29th Street, Mercer Island, Washington,* June 20, 2013

Environmental Partners Inc*., Results of Soil and Ground Water Investigation, Mercer Island Shell (formerly BP), 7833 SE 28th Street, Mercer Island, Washington,* February 1, 2013

Environmental Partners Inc*., Proposal for Site Testing and Additional Subsurface Characterization, Mercer Island Shell (formerly BP),* July 30, 2013

Environmental Partners Inc*., Quarterly Ground Water Monitoring Report, Mercer Island Shell (formerly BP) - March 2013,* August, 15, 2013

Environmental Partners Inc*., Results of Site Testing and Additional Subsurface Characterization, Mercer Island Shell (formerly BP),* July 22, 2014

Environmental Partners Inc*., Groundwater Monitoring Report, Mercer Island Shell (formerly BP),* July 24, 2015

Environmental Partners Inc*., Revised Potential Remedial Options and Costs, Mercer Island Shell (formerly BP),* January 27, 2015

Puget Environmental P.L.L.C*., Groundwater Monitoring Well Installation and Sampling, Mercer Island Shell (Formerly BP),* April 15, 2015

Puget Environmental P.L.C.C., *Monitoring Well Installation and Sampling, Mercer Island Shell (Formerly BP),* February 1, 2016

Puget Environmental P.L.L.C*., Groundwater Monitoring and Sampling, Mercer Island Shell (Formerly BP)* - July 18, 2016

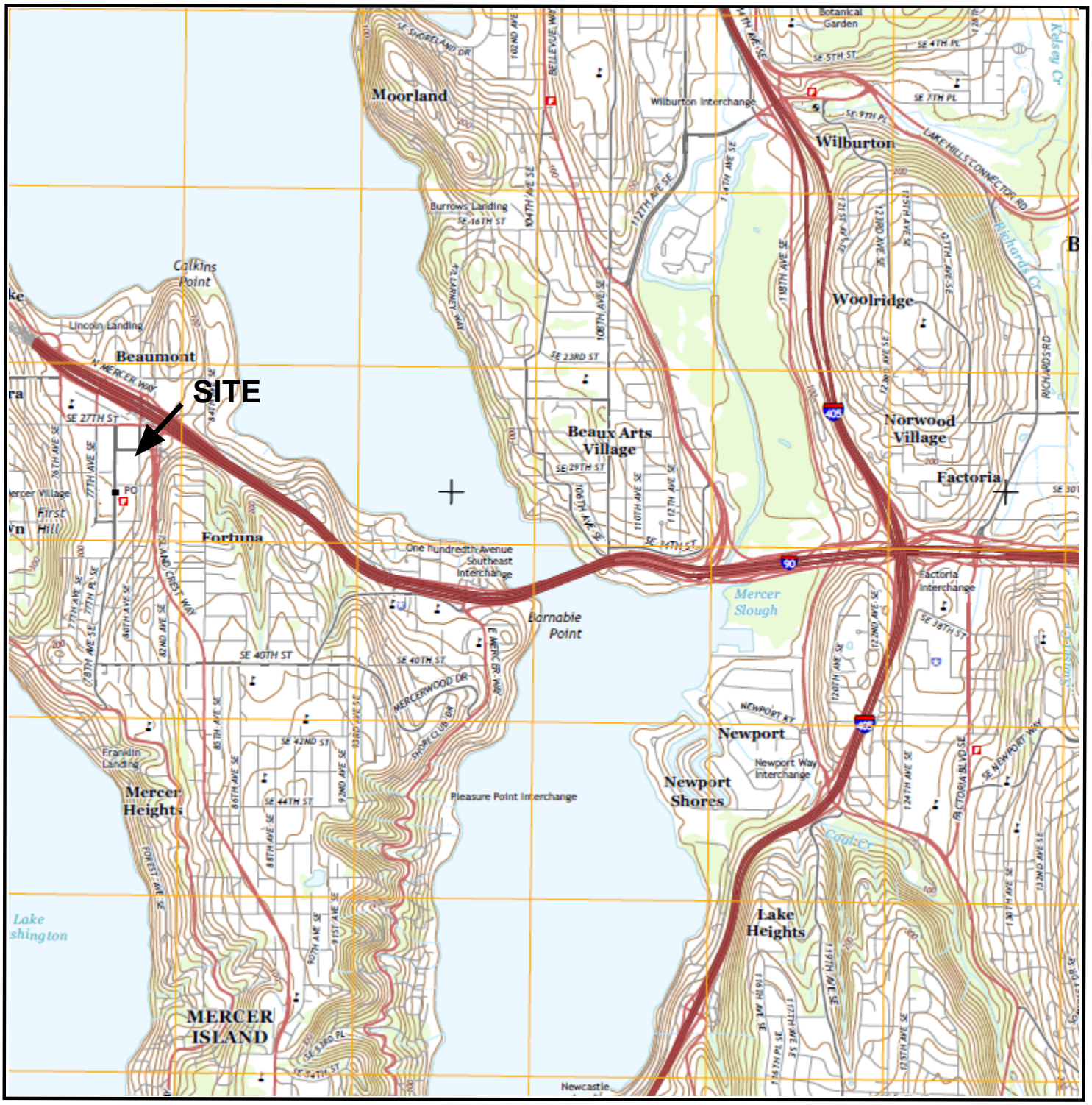
Puget Environmental P.L.L.C*., Monitoring Well Installation and Sampling, Mercer Island Shell (Formerly BP),* April 17, 2017

Puget Environmental P.L.L.C*., Monitoring Well Installation and Sampling, Mercer Island Shell (Formerly BP),* November 17, 2016

Puget Environmental P.L.L.C*., Groundwater Monitoring and Sampling, Mercer Island Shell (Formerly BP),* January 30, 2018

Puget Environmental P.L.L.C*., Groundwater Monitoring and Sampling, Mercer Island Shell (Formerly BP), Winter Quarter,* February 8, 2018

Puget Environmental P.L.L.C*., Groundwater Monitoring and Sampling, Mercer Island Shell (Formerly BP),* September 17, 2019



From the United States Geological Survey - Mercer Island Quadrangle, Washington-King Co., 7.5 Minute, Quadrangle, 2011

Dimensions and locations are approximate.

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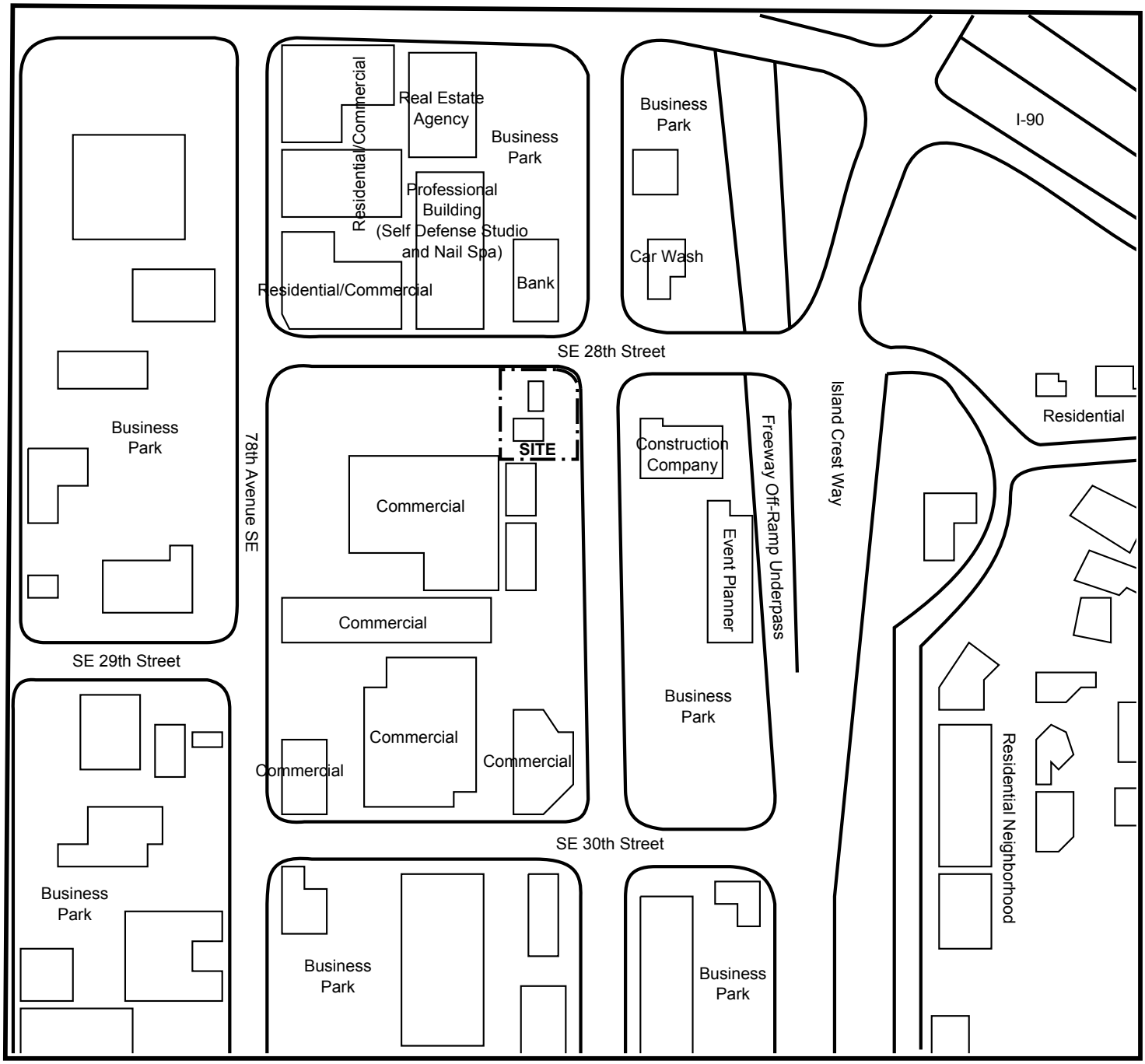
Project Number 15038: 2/1/16 JM

Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 1
SITE LOCATION



Dimensions and locations are approximate.

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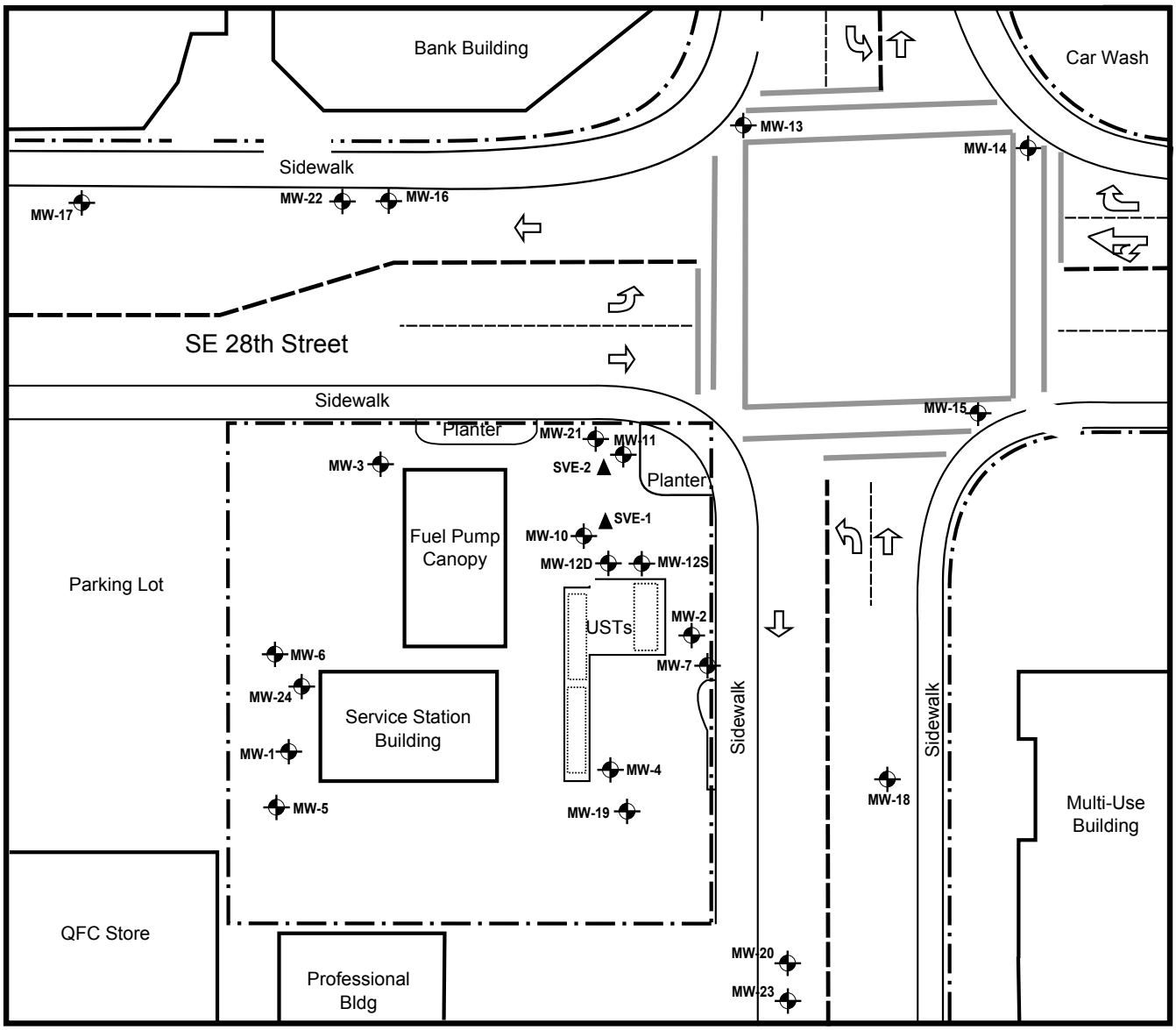
Project Number 15083: 10/30/15 JPM

Mercer Island Shell
7833 SE 28th Street
Mercer Island, Washington

FIGURE 2
AREA MAP



LEGEND

MW-1 — Groundwater Monitoring Well

SVE-1 — Soil Vapor Extraction Well Location

NORTH

0 40 80

Approximate Scale (Feet)

Dimensions and locations are approximate.

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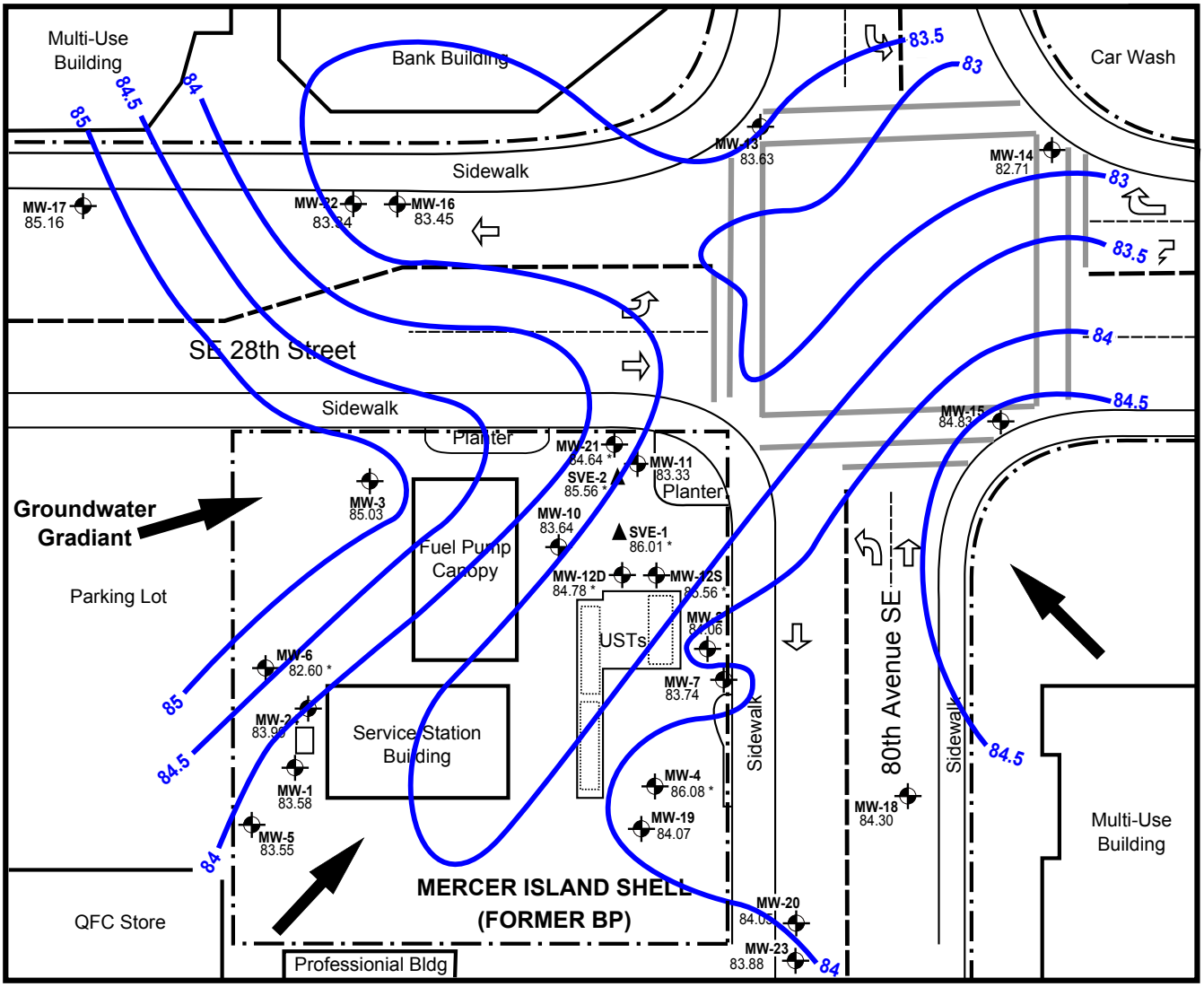
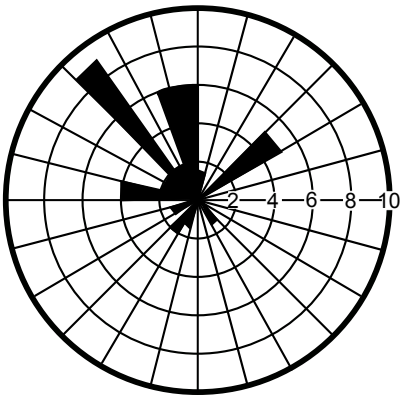
Mercer Island, Washington

FIGURE 3
SITE PLAN





HISTORIC GROUNDWATER GRADIENT DIRECTION

LEGEND

Concentric circles represent two monitoring events with determinable flow directions. First quarter 2001 through third quarter 2019. 27 monitoring events shown. Events prior to 2016 recorded from previous consultant reports.

	Groundwater Flow Direction
MW-1	Groundwater Monitoring Well
SVE-1	Soil Vapor Extraction Well Location
82.60	Groundwater Elevation
84.5	Groundwater Elevation Contour
*	Data Not Used in Contouring

NORTH

0 40 80

Approximate Scale (Feet)

Dimensions and locations are approximate.

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Mercer Island Shell
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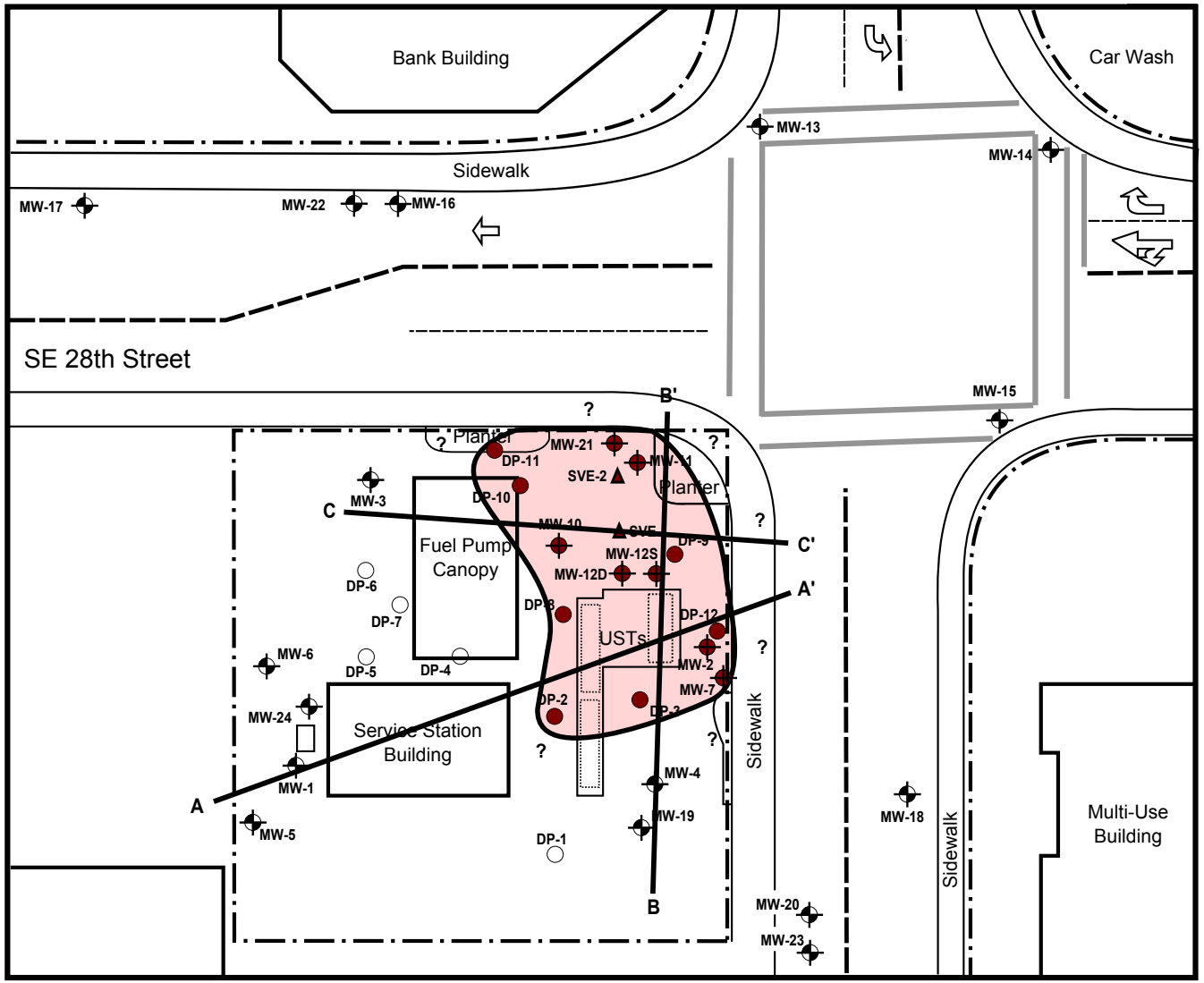
Mercer Island, Washington

FIGURE 4
GROUNDWATER ELEVATION
ROSE DIAGRAM
AUGUST 26, 2019



LEGEND

- Estimated Extent of Impacted Soil
- MW-1 — Monitoring Well Location
- DP-1 — Direct-Push Boring Location - Not Impacted
- DP-2 — Direct-Push Boring Location - Impacted
- SVE-1 — Soil Vapor Extraction Well Location - Impacted
- A — A' Line of Cross-Section

NORTH

0 40 80

Approximate Scale (Feet)

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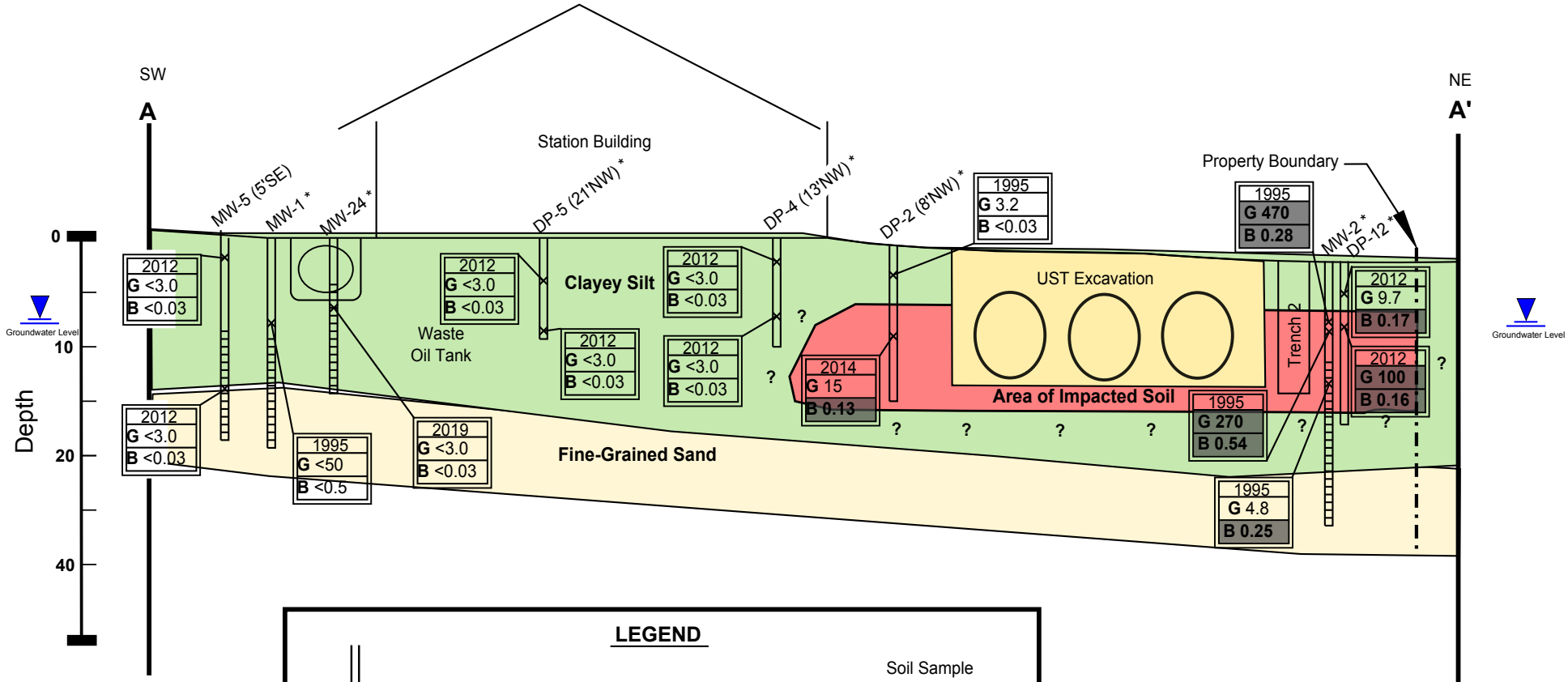
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 5
AREAS OF IMPACTED SOIL AND
LINES OF CROSS-SECTION



LEGEND

Screened Interval

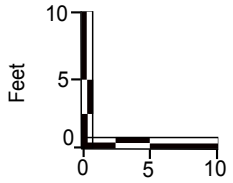
× = Soil Sample Location

* = Projected

Soil Sample Laboratory Results

2014
G <3.0
B <0.03

-Gasoline-Range Organics (G) concentrations in soil in Milligrams per Kilogram (mg/kg)
-Benzene (B) concentrations in soil in mg/kg
Bolded and shaded values exceed MTCA Method A Cleanup Levels



No Vertical Exaggeration

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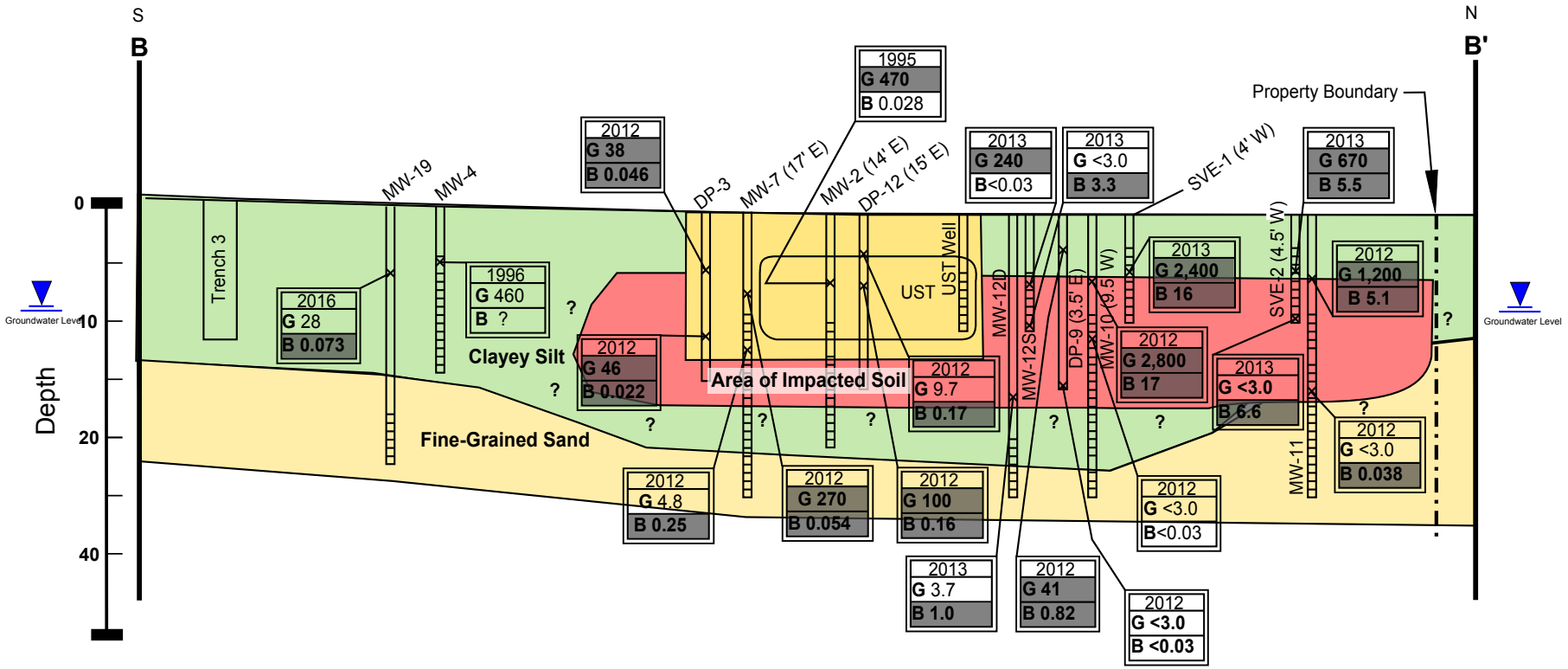
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 6
GENERALIZED SCHEMATIC
CROSS-SECTION
A - A'



LEGEND

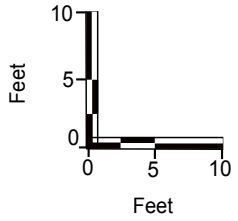
Screened Interval

× = Soil Sample Location

Soil Sample Laboratory Results

2014
G <3.0
B <0.03

-Gasoline-Range Organics (GRO) Concentration in soil in Milligrams per Kilogram (mg/kg)
-Benzene Concentration in soil in mg/kg
Bolded and shaded values exceed MTCA Method A Cleanup Levels



No Vertical Exaggeration

Not to Scale

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Mercer Island Shell
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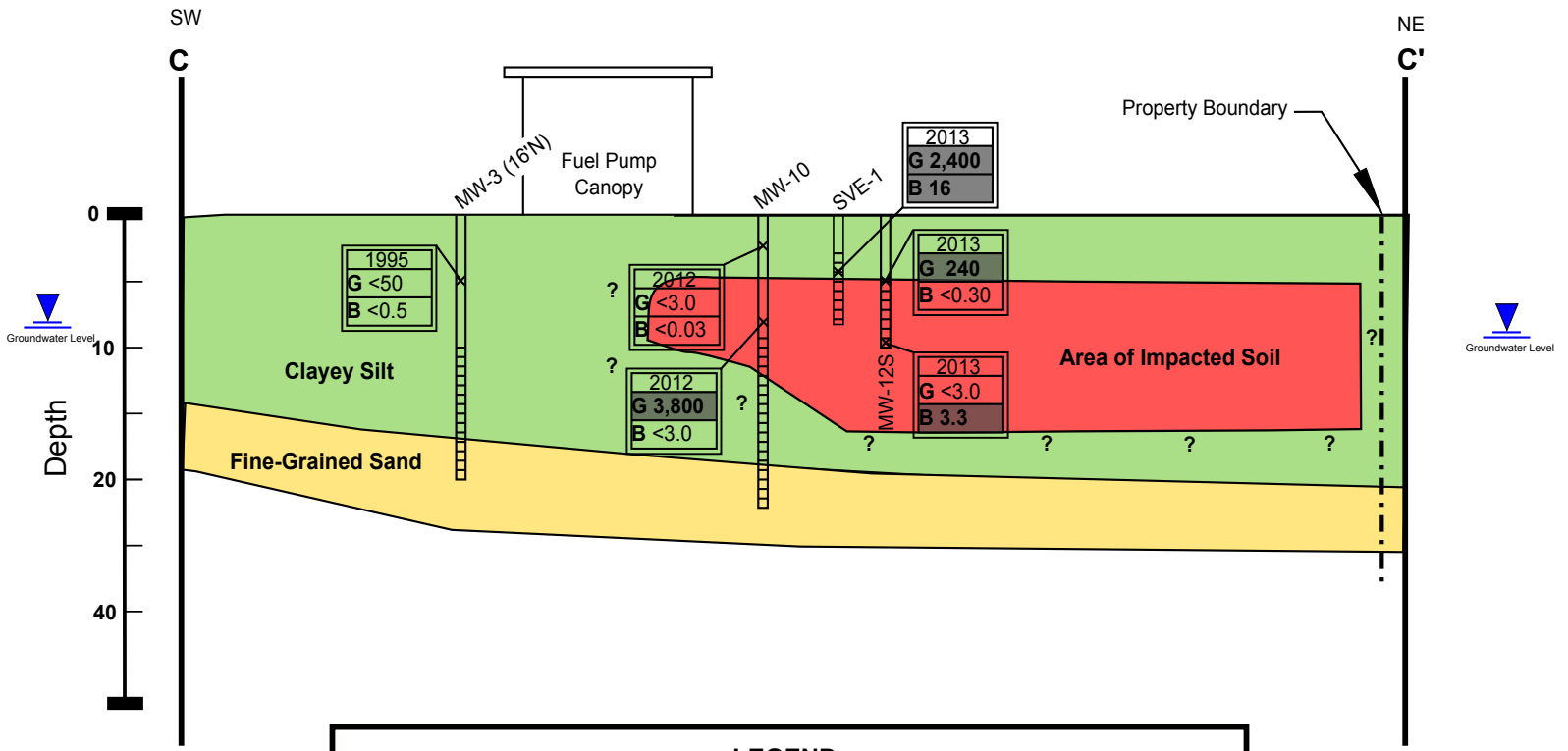
7833 SE 28th Street
Mercer Island, Washington

FIGURE 7
GENERALIZED SCHEMATIC
CROSS-SECTION
B - B'



LEGEND

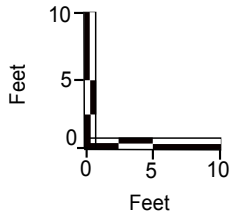
Screened Interval

× = Soil Sample Location

Soil Sample Laboratory Results

2014
G <3.0
B <0.03

-Gasoline-Range Organics (GRO) Concentration in soil in Milligrams per Kilogram (mg/kg)
-Benzene Concentration in soil in mg/kg
Bolded and shaded values exceed MTCA Method A Cleanup Levels



No Vertical Exaggeration

Not to Scale

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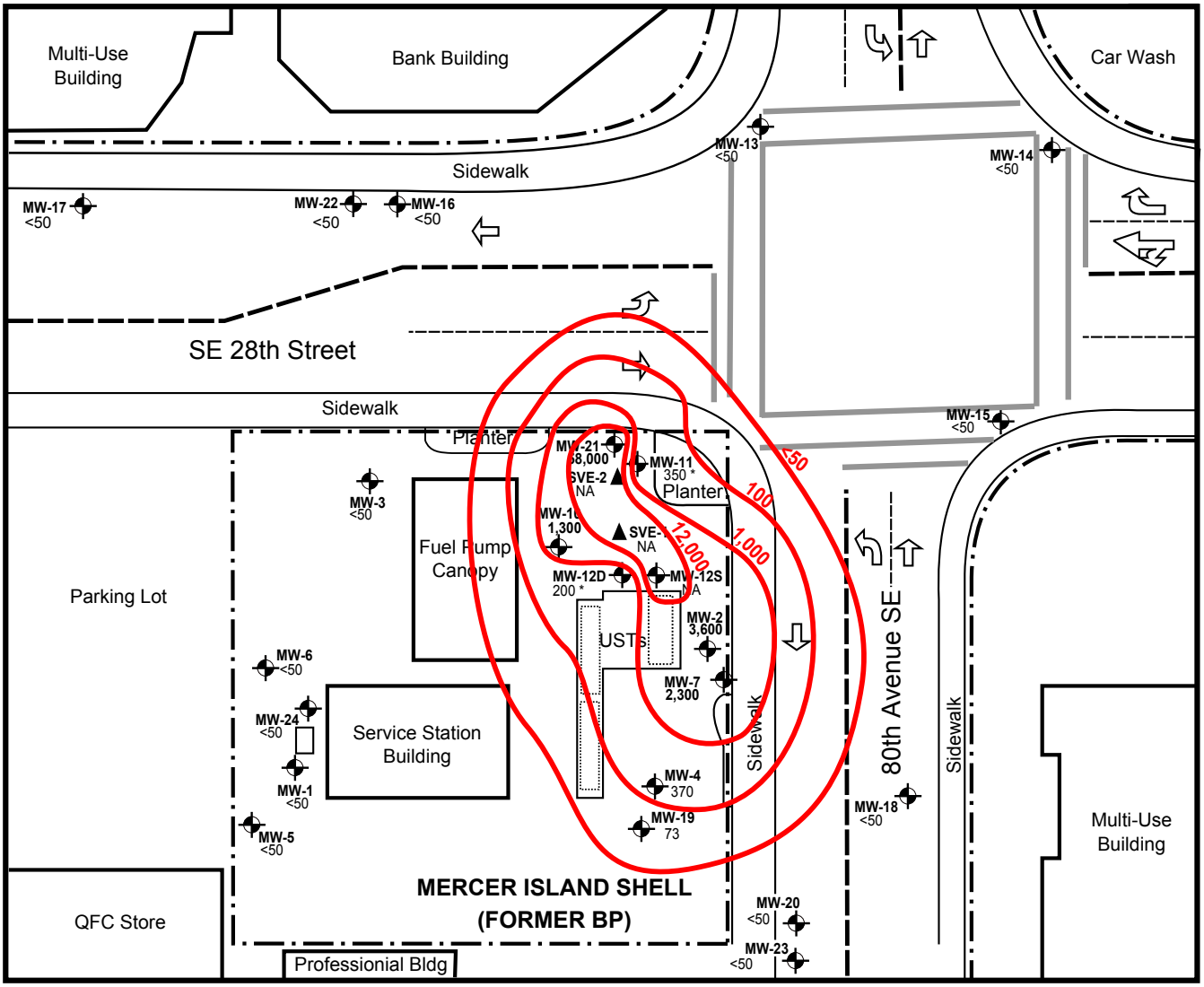
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 8
GENERALIZED SCHEMATIC
CROSS-SECTION
C - C'



LEGEND

MW-1	Groundwater Monitoring Well
SVE-1	Soil Vapor Extraction Well Location
<50	TPH-G Concentration (ug/L)
<50	TPH-G Concentration Contour
*	Data Not Used in Contouring

NORTH

0 40 80

Approximate Scale (Feet)

Dimensions and locations are approximate.

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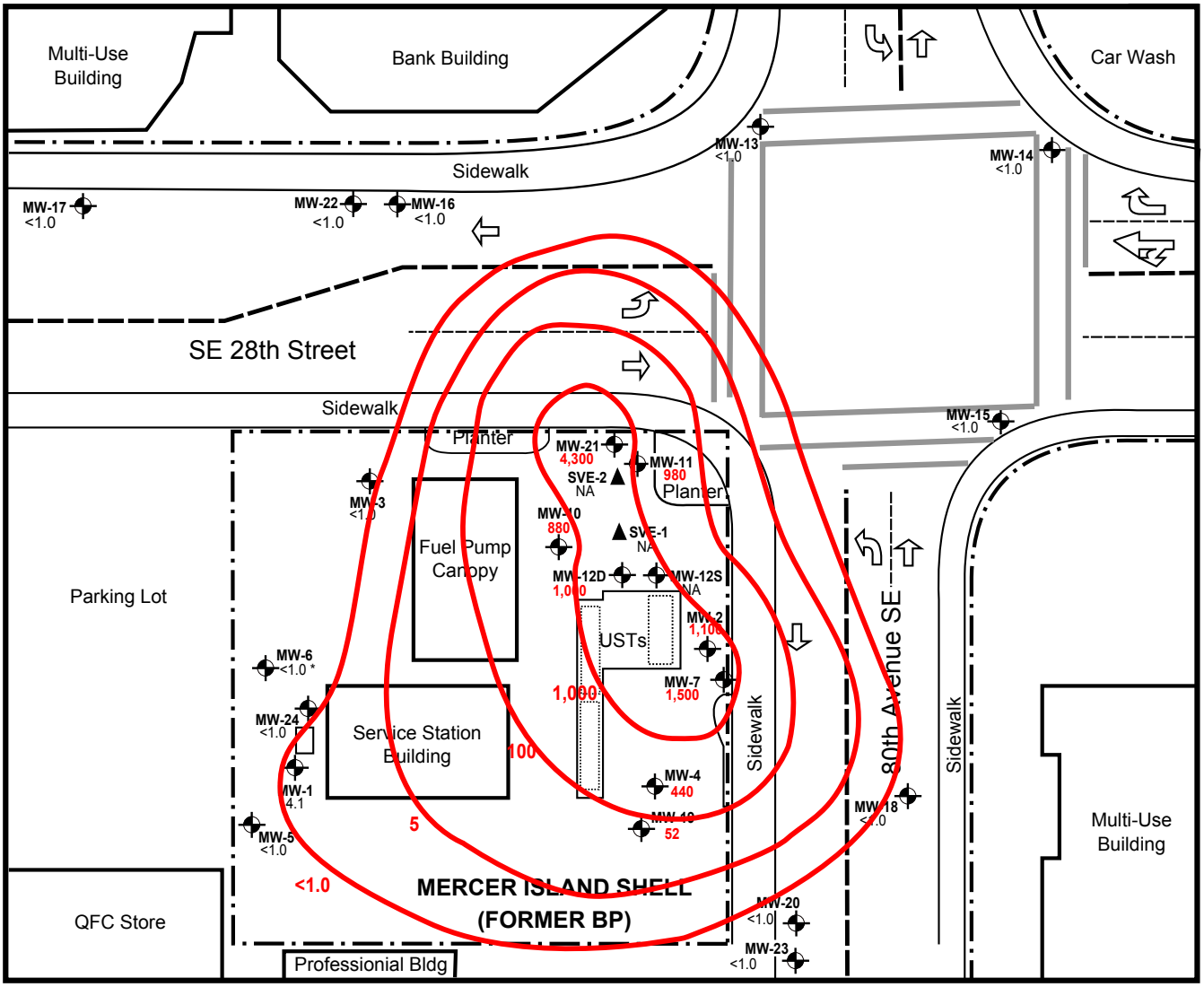
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 9
TPH-G CONCENTRATION
CONTOUR MAP
FEBRUARY 2019



LEGEND

MW-1	Groundwater Monitoring Well
SVE-1	Soil Vapor Extraction Well Location
<1.0	Benzene Concentration (ug/L)
<1.0	Benzene Concentration Contour
*	Data Not Used in Contouring

NORTH

0 40 80

Approximate Scale (Feet)

Dimensions and locations are approximate.

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Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

FIGURE 10
BENZENE CONCENTRATION
CONTOUR MAP
FEBRUARY 2019

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-1	12/29/95	--	--	ND	--	--	ND	ND	ND	ND	ND	--
94.07	04/19/96	--	--	ND	--	--	ND	ND	ND	ND	--	--
	05/16/97	7.39	86.68	ND	--	--	ND	ND	ND	ND	--	--
	04/06/00	7.76	86.31	ND	--	--	ND	ND	ND	ND	--	--
	07/20/00	8.91	85.16	ND	--	--	ND	ND	ND	ND	--	--
	11/17/00	9.09	84.98	ND	--	--	ND	ND	ND	ND	--	--
	02/27/01	8.05	86.02	ND	--	--	ND	ND	ND	ND	--	--
	06/04/01	8.14	85.93	ND	--	--	ND	ND	ND	ND	--	--
	09/27/01	8.19	85.88	ND	--	--	ND	ND	ND	ND	--	--
	12/28/01	8.30	85.77	ND	--	--	ND	ND	ND	ND	--	--
	03/13/02	7.29	86.78	ND	--	--	ND	ND	ND	ND	--	--
	06/14/02	7.81	86.26	ND	--	--	ND	ND	ND	ND	--	--
	09/26/02	9.19	84.88	ND	--	--	ND	ND	ND	ND	--	--
	12/05/02	9.10	84.97	ND	--	--	ND	ND	ND	ND	--	--
	03/06/03	8.15	85.92	200	--	--	**8**	ND	2	8	--	--
	06/04/03	8.21	85.86	ND	--	--	ND	ND	ND	ND	--	--
	09/10/03	8.61	85.46	ND	--	--	ND	ND	ND	ND	--	--
	11/25/03	7.59	86.48	ND	--	--	ND	ND	ND	ND	--	--
	02/26/04	7.70	86.37	NS	--	--	NS	NS	NS	NS	--	--
	03/11/04	7.39	86.68	ND	--	--	ND	ND	ND	ND	--	--
	06/16/05	9.15	84.92	ND	--	--	ND	ND	ND	ND	--	--
	09/15/05	9.15	84.92	ND	--	--	ND	ND	ND	ND	--	--
	12/15/05	9.42	84.65	ND	--	--	ND	ND	ND	ND	--	--
	03/16/06	8.88	85.19	ND	--	--	ND	ND	ND	ND	--	--
	06/12/06	9.37	84.70	ND	--	--	ND	ND	ND	ND	--	--
	09/20/06	9.85	84.22	ND	--	--	ND	ND	ND	ND	--	--
	12/14/06	8.47	85.60	ND	--	--	ND	ND	ND	ND	--	--
	03/16/07	12.10	81.97	ND	--	--	ND	ND	ND	ND	--	--
	06/21/07	9.95	84.12	ND	--	--	ND	ND	ND	ND	--	--
	09/25/07	10.28	83.79	ND	--	--	ND	ND	ND	ND	--	--
	12/21/07	9.16	84.91	ND	--	--	ND	ND	ND	ND	--	--
	03/17/08	9.39	84.68	ND	--	--	ND	ND	ND	ND	--	--
	06/16/08	9.84	84.23	ND	--	--	ND	ND	ND	ND	--	--
	10/02/08	10.11	83.96	ND	--	--	ND	ND	ND	ND	--	--
	12/04/08	9.77	84.30	ND	--	--	ND	ND	ND	ND	--	--
	03/02/09	9.21	84.86	ND	--	--	ND	ND	ND	ND	--	--
	06/11/09	9.85	84.22	<50	--	--	<1	<1	<1	<3	--	--

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-1	12/07/09	9.36	84.71	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
(Continued)	03/02/10	9.54	84.53	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	09/26/11	10.37	83.70	54	--	--	**9**	<1.0	1.0	<3.0	<0.030	--
	12/14/11	10.17	83.90	120	--	--	**47**	1.7	6.2	7.0	--	--
	03/15/12	9.69	84.38	150	--	--	**71**	1.2	5.6	<3.0	--	--
	09/24/12	10.83	83.24	<50	--	--	3	<1.0	1.2	<3.0	<1.0	--
	12/06/02	8.65	85.42	92	--	--	**31**	2.9	4.7	5	<1.0	--
	03/07/13	8.76	85.31	86	--	--	**61**	1.2	4.1	<3.0	<1.0	--
	10/01/13	9.50	84.57	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	07/06/15	10.14	83.93	<50	--	--	4	<1.0	<1.0	<3.0	--	--
	01/13/16	9.11	84.96	--	--	--	--	--	--	--	--	--
	06/15/16	9.81	84.26	<50	<130	<250	**5**	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	9.11	84.96	--	--	--	--	--	--	--	--	--
	02/15/17	8.25	85.82	66	<130	<250	**16**	<1.0	2.3	<3.0	<1.0	<1.0
	10/24/17	10.09	83.98	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	8.99	85.08	<50	<130	<250	**10**	<1.0	2.7	<3.0	--	--
	04/04/18	8.75	85.32	<50	<130	<250	5	<1.0	<1.0	<3.0	--	--
	07/24/18	10.34	83.75	--	--	--	--	--	--	--	--	--
	02/18/19	8.96	85.11	<50	160	<250	4.1	<1.0	<1.0	<3.0	<1.0	<1.0
	08/28/19	10.49	83.58	<50	130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-2	12/29/95	--	--	**15,000**	--	--	**6,300**	140	340	34	ND	--
90.97	04/19/96	--	--	**10,000**	--	--	**1,500**	400	**1,700**	**1,500**	--	--
	05/16/97	5.47	85.50	**8,700**	--	--	**11,400**	116	**1,410**	**1,240**	--	--
	04/06/00	5.49	85.48	**4,700**	--	--	**4,400**	ND	**990**	110	--	--
	07/20/00	7.37	83.60	**3,800**	--	--	**3,100**	ND	**760**	100	--	--
	11/17/00	7.23	83.74	**2,500**	--	--	**4,000**	10	290	90	--	--
	02/27/01	6.47	84.50	**2,800**	--	--	**2,300**	20	89	190	--	--
	06/04/01	5.24	85.73	**3,400**	--	--	**2,400**	240	140	310	--	--
	09/27/01	7.08	83.89	**2,400**	--	--	**2,900**	10	94	79	--	--
	12/28/01	7.43	83.54	**3,800**	--	--	**2,000**	38	100	250	--	--
	03/13/02	7.93	83.04	**3,800**	--	--	**2,700**	36	780	460	--	--
	06/14/02	5.70	85.27	**1,500**	--	--	**2,600**	11	30	87	--	--
	09/26/02	6.18	84.79	**2,200**	--	--	**2,700**	7	55	50	--	--
	12/05/02	5.64	85.33	**3,000**	--	--	**1,500**	14	130	190	--	--
	03/06/03	7.53	83.44	**2,300**	--	--	**2,000**	6	36	120	--	--
	06/04/03	5.45	85.52	**3,200**	--	--	**1,200**	40	140	230	--	--
	06/18/03	NM	--	**4,650**	--	--	**2,010**	16	12	75	--	--
	07/01/03	NM	--	**6,400**	--	--	**490**	110	150	820	--	--
	07/02/03	NM	--	**1,200**	--	--	**1,600**	13	5	49	--	--
	09/10/03	6.64	84.32	**1,400**	--	--	**2,000**	6	7	19	--	--

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-2	11/25/03	4.98	85.99	**35,000**	--	--	**8,900**	**9,400**	670	**2,700**	--	--
(Continued)	02/26/04	4.52	86.45	**24,000**	--	--	**1,700**	**2,700**	410	**2,600**	--	--
	03/11/04	4.60	86.39	**37,000**	--	--	**2,100**	**3,600**	**1,100**	**5,200**	--	--
	06/16/05	5.32	85.65	**2,700**	--	--	**1,700**	24	50	120	--	--
	09/15/05	6.38	84.59	**5,200**	--	--	**640**	110	120	420	--	--
	12/15/05	6.03	84.94	**2,800**	--	--	**1,200**	22	81	130	--	--
	03/16/06	3.58	87.39	**50,000**	--	--	**3,500**	400	**1,400**	**5,800**	--	--
	06/12/06	5.49	85.48	**7,600**	--	--	**1,200**	500	200	950	--	--
	09/20/06	6.43	84.54	**3,500**	--	--	**1,900**	13	34	330	--	--
	12/14/06	4.71	86.26	**3,100**	--	--	**880**	ND	31	300	--	--
	03/16/07	8.05	82.92	**3,500**	--	--	**270**	ND	42	270	--	--
	06/21/07	9.60	81.37	**920**	--	--	**1,600**	ND	24	89	--	--
	09/25/07	7.31	83.66	**3,200**	--	--	**460**	110	12	280	--	--
	12/21/07	4.78	86.19	**1,900**	--	--	**380**	ND	10	53	--	--
	03/17/08	5.61	85.36	**1,700**	--	--	**1,100**	5	18	22	--	--
	06/16/08	7.20	83.77	390	--	--	**1,300**	2	5	20	--	--
	10/02/08	7.40	83.57	**1,300**	--	--	**490**	3	8	40	--	--
	12/04/08	6.28	84.69	**1,200**	--	--	**890**	3	11	16	--	--
	03/02/09	5.85	85.12	**1,800**	--	--	**530**	4	26	60	--	--
	06/11/09	6.74	84.23	**840**	--	--	**580**	2	14	12	--	--
	09/21/09	7.69	83.28	**910**	--	--	**120**	2.1	26	110	--	--
	12/07/09	6.14	84.83	**1,100**	--	--	**140**	3.1	17	97	--	--
	03/02/10	5.85	85.12	**840**	--	--	**200**	1.5	22	31	--	--
	09/26/11	1.39	83.58	**1,500**	--	--	**740**	20	35	40	7.6	--
	12/14/11	6.60	84.37	**1,800**	--	--	**620**	9.9	41	41	--	--
	03/15/12	8.30	82.67	**2,600**	--	--	**760**	14	44	39	--	--
	09/25/12	7.35	83.62	**2,000**	--	--	**900**	17	14	23	<1.0	--
	12/06/12	6.05	84.92	**1,600**	--	--	**570**	7.3	17	20	<1.0	--
	03/08/13	5.10	85.87	**2,500**	--	--	**840**	16	50	52	<1.0	--
	10/02/13	6.04	84.93	**2,100**	--	--	**540**	6.9	20	30	--	--
	07/06/15	6.65	84.32	**1,700**	--	--	**540**	20	14	<30	--	--
	01/13/16	5.10	85.87	--	--	--	--	--	--	--	--	--
	06/16/16	5.97	85.00	**2,000**	**900**	<250	**940**	72	63	46	<1.0	<1.0
	09/21/16	5.10	85.87	--	--	--	--	--	--	--	--	--
	02/15/17	4.62	86.35	**4,300**	**880**	<250	**690**	28	55	120	<1.0	<1.0
	10/24/17	6.52	84.45	**3,300**	**860**	340	**720**	19	18	43	<1.0	<1.0
	01/17/18	4.91	86.06	--	--	--	--	--	--	--	--	--
	04/06/18	5.11	85.86	**3,700**	**1,300**	330	**1,000**	140	90	73	--	--
	07/24/18	6.75	84.22	--	--	--	--	--	--	--	--	--
	02/18/19	4.93	86.04	**3,600**	**1,600**	400	**1,100**	93	79	110	<1.0	<1.0
	08/27/19	6.91	84.06	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-3	04/19/96	--	--	ND	--	--	ND	ND	ND	ND	--	--
92.74	05/16/97	4.56	88.18	ND	--	--	ND	ND	ND	ND	--	--
	04/06/00	4.88	87.86	ND	--	--	ND	ND	ND	ND	--	--
	07/20/00	10.90	81.84	ND	--	--	ND	ND	ND	ND	--	--
	11/17/00	11.13	81.61	ND	--	--	ND	ND	ND	ND	--	--
	02/27/01	11.17	81.57	ND	--	--	ND	ND	ND	ND	--	--
	06/04/01	11.05	81.69	ND	--	--	ND	ND	ND	ND	--	--
	09/27/01	12.29	80.45	ND	--	--	ND	ND	ND	ND	--	--
	12/28/01	11.12	81.62	ND	--	--	ND	ND	ND	ND	--	--
	03/13/02	11.05	81.69	ND	--	--	ND	ND	ND	ND	--	--
	06/14/02	11.17	81.57	ND	--	--	ND	ND	ND	ND	--	--
	09/26/02	10.74	82.00	ND	--	--	ND	ND	ND	ND	--	--
	03/06/03	11.02	81.72	ND	--	--	ND	ND	ND	ND	--	--
	06/04/03	7.27	85.47	ND	--	--	ND	ND	ND	ND	--	--
	09/10/03	5.72	87.02	ND	--	--	ND	ND	ND	ND	--	--
	11/25/03	4.66	88.08	ND	--	--	ND	ND	ND	ND	--	--
	02/26/04	4.55	88.19	ND	--	--	ND	ND	ND	ND	--	--
	03/11/04	4.48	88.26	ND	--	--	ND	ND	ND	ND	--	--
	06/16/05	5.45	87.29	ND	--	--	ND	ND	ND	ND	--	--
	09/15/05	6.51	86.23	ND	--	--	ND	ND	ND	ND	--	--
	12/15/05	6.01	86.73	ND	--	--	ND	ND	ND	ND	--	--
	03/16/06	4.98	87.76	ND	--	--	ND	ND	ND	ND	--	--
	06/12/06	7.50	85.24	ND	--	--	ND	ND	ND	ND	--	--
	09/20/06	9.66	83.08	ND	--	--	ND	ND	ND	ND	--	--
	12/14/06	10.49	82.24	ND	--	--	ND	ND	ND	ND	--	--
	03/16/07	8.70	84.04	ND	--	--	ND	ND	ND	ND	--	--
	06/21/07	6.59	86.15	ND	--	--	ND	ND	ND	ND	--	--
	09/25/07	7.85	84.89	ND	--	--	ND	ND	ND	ND	--	--
	12/21/07	5.76	86.98	ND	--	--	ND	ND	ND	ND	--	--
	03/17/08	5.72	87.02	ND	--	--	ND	ND	ND	ND	--	--
	06/16/08	6.20	86.54	ND	--	--	ND	ND	ND	ND	--	--
	10/02/08	7.92	84.82	ND	--	--	ND	ND	ND	ND	--	--
	12/04/08	7.09	85.65	ND	--	--	ND	ND	ND	ND	--	--
	03/02/09	6.68	86.06	ND	--	--	ND	ND	ND	ND	--	--
	06/11/09	6.29	86.45	<50	--	--	<1	<1	<1	<3	--	--
	09/21/09	7.44	85.30	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	12/07/09	7.68	85.06	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	03/02/10	7.90	84.84	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	09/26/11	9.21	83.53	<50	--	--	<1.0	<1.0	<1.0	<3.0	0.30	--
	12/14/11	8.45	84.29	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--

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Historical Groundwater Monitoring Data
Mercer Island Shell
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7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-3	03/15/12	4.76	87.98	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
(Continued)	09/24/12	8.07	84.67	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
	12/06/12	5.96	86.78	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
	03/07/13	6.31	86.43	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
	10/01/13	7.04	85.70	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	07/06/15	7.39	85.35	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	01/13/16	5.26	87.48	--	--	--	--	--	--	--	--	--
	06/15/16	5.70	87.04	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	5.26	87.48	--	--	--	--	--	--	--	--	--
	02/16/17	4.98	87.76	<50	<130	<250	3.5	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	7.46	85.28	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	NM	--	--	--	--	--	--	--	--	--	--
	04/04/18	6.30	86.44	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	6.54	86.20	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	5.96	86.78	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/28/19	7.71	85.03	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-4	04/19/96	--	--	**34,000**	--	--	**7,000**	**1,800**	**1,800**	**5,100**	--	--
92.27	05/16/97	4.12	88.15	**11,300**	--	--	**3,800**	26	432	**1,490**	--	--
	04/06/00	4.17	88.10	**7,500**	--	--	**2,000**	25	130	110	--	--
	07/20/00	4.48	87.79	**1,600**	--	--	**2,500**	82	670	**1,900**	--	--
	11/17/00	4.63	87.64	**8,700**	--	--	**2,200**	20	210	130	--	--
	02/27/00	4.52	87.75	**13,000**	--	--	**850**	ND	290	**1,200**	--	--
	06/04/01	3.37	88.90	**2,800**	--	--	**490**	60	490	**3,100**	--	--
	09/27/01	5.82	86.45	**33,000**	--	--	**250**	20	550	**1,800**	--	--
	12/28/01	3.75	88.52	**22,000**	--	--	**490**	56	300	790	--	--
	03/13/02	4.55	87.72	**24,000**	--	--	**460**	57	440	**1,400**	--	--
	06/14/02	7.88	87.39	**23,000**	--	--	**270**	13	310	800	--	--
	09/26/02	5.37	86.90	**20,000**	--	--	**150**	9	100	300	--	--
	12/05/02	4.91	87.36	**16,000**	--	--	**590**	27	220	440	--	--
	03/06/03	3.92	88.35	**7,700**	--	--	**650**	15	130	180	--	--
	06/04/03	4.71	87.56	**10,000**	--	--	**840**	26	290	270	--	--
	06/18/03	NM	--	**76,900**	--	--	**2,310**	**8,290**	**3,900**	**19,800**	--	--
	07/01/03	NM	--	**70,000**	--	--	**1,000**	**2,900**	**1,700**	**9,000**	--	--
	07/02/03	NM	--	**97,000**	--	--	**1,700**	**4,800**	**2,900**	**14,000**	--	--
	09/10/03	7.47	84.88	NS	--	--	NS	NS	NS	NS	--	--
	11/25/03	4.05	88.23	NS	--	--	NS	NS	NS	NS	--	--
	02/26/04	4.40	87.87	NS	--	--	NS	NS	NS	NS	--	--
	03/11/04	3.74	88.54	NS	--	--	NS	NS	NS	NS	--	--
	06/16/05	4.00	88.27	**52,000**	--	--	**3,400**	300	**6,200**	**6,200**	--	--

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Mercer Island Shell
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7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-4	09/15/05	5.41	86.86	**27,000**	--	--	**3,900**	120	**1,300**	**1,300**	--	--
(Continued)	12/15/05	4.26	88.01	**38,000**	--	--	**4,200**	100	**1,500**	**2,200**	--	--
	03/16/06	6.62	85.65	**5,800**	--	--	**450**	36	160	610	--	--
	06/12/06	5.21	87.06	**18,000**	--	--	**3,600**	130	**1,400**	900	--	--
	09/26/06	5.61	86.66	**22,000**	--	--	**2,600**	54	**770**	610	--	--
	12/14/06	2.99	89.28	**41,000**	--	--	**1,100**	190	**910**	**2,800**	--	--
	03/16/07	6.79	85.48	**37,000**	--	--	**2,500**	550	**1,200**	**2,900**	--	--
	06/21/07	5.10	87.17	**41,000**	--	--	**2,300**	400	**1,500**	**3,000**	--	--
	09/25/07	7.03	85.24	**8,600**	--	--	**870**	42	410	270	--	--
	12/21/07	4.05	88.22	160	--	--	ND	ND	ND	ND	--	--
	03/17/08	4.08	88.19	**4,700**	--	--	**53**	8	47	35	--	--
	06/16/08	7.30	84.97	**7,700**	--	--	**670**	30	400	190	--	--
	10/02/08	7.13	85.14	Not sampled due to sediment								--
	12/04/08	7.41	84.86	**6,000**	--	--	**950**	25	220	68	--	--
	03/02/09	5.97	86.30	**5,200**	--	--	**1,200**	16	110	41	--	--
	06/11/09	6.40	85.87	**4,500**	--	--	**1,300**	200	170	66	--	--
	09/21/09	6.49	85.78	**3,100**	--	--	**890**	10	91	<15	--	--
	12/07/09	6.06	86.21	**2,900**	--	--	**920**	7.4	98	17	--	--
	03/02/09	4.64	87.63	610	--	--	**38**	<1.0	10	<3.0	--	--
	09/26/11	1.83	90.44	<50	--	--	<1.0	<1.0	<1.0	<3.0	<0.30	--
	12/14/11	5.13	87.14	250	--	--	**130**	<1.0	<1.0	<3.0	--	--
	03/15/12	5.12	87.15	370	--	--	**29**	1.5	1	<3.0	--	--
	09/25/12	6.72	85.55	**1,100**	--	--	**340**	25	7	15	<1.0	--
	12/06/12	4.44	87.83	780	--	--	**190**	13	14	49	2.4	--
	03/08/13	4.21	88.06	510	--	--	**120**	12	13	25	1.7	--
	10/02/13	5.46	86.81	**2,300**	--	--	**630**	65	17	67	--	--
	07/06/15	5.36	86.91	**1,300**	--	--	**530**	180	17	78	--	--
	01/13/16	4.56	87.71	--	--	--	--	--	--	--	--	--
	06/15/16	4.89	97.38	**1,300**	390	<250	**580**	56	19	130	<1.0	<1.0
	09/21/16	4.56	87.71	--	--	--	--	--	--	--	--	--
	02/16/17	4.01	88.26	530	250	270	**230**	23	11	46	<1.0	<1.0
	10/24/17	5.35	86.92	**1,500**	**560**	280	**710**	71	26	120	1.2	<1.0
	01/17/18	4.06	88.21	--	--	--	--	--	--	--	--	--
	04/05/18	4.16	88.11	**1,800**	460	290	**1,000**	270	29	130	--	--
	07/24/18	5.96	86.31		--	--	--	--	--	--	--	--
	02/18/19	3.01	89.26	370	**540**	**530**	**440**	37	8.4	35	<1.0	<1.0
	08/27/19	6.19	86.08	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	09/24/12	11.05	83.21	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
94.26	12/06/12	9.08	85.18	140	--	--	**42**	<1.0	<1.0	12	<1.0	--
	03/07/13	8.93	85.33	55	--	--	**21**	<1.0	<1.0	<3.0	<1.0	--

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Mercer Island Shell
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Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-5	10/01/13	9.76	84.50	53	--	--	**9**	<1.0	<1.0	<3.0	--	--
(Continued)	07/06/15	10.38	83.88	<50	--	--	2	<1.0	<1.0	<3.0	--	--
	01/13/16	9.02	85.24	--	--	--	--	--	--	--	--	--
	06/15/16	9.95	84.31	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	9.02	85.24	--	--	--	--	--	--	--	--	--
	02/15/17	8.65	85.61	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	10.29	83.97	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	8.85	85.41	<50	150	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/03/18	9.05	85.21	<50	<150	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	10.59	83.67	<50	<150	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	8.83	85.43	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/28/19	10.71	83.55	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-6	09/24/12	11.09	82.46	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
93.55	12/06/12	9.38	84.17	<50	--	--	<1.0	<1.0	<1.0	<3.0	<1.0	--
	03/07/13	9.51	84.04	<50	--	--	<1.0	<1.0	<1.0	<3.0	1.3	--
	10/01/13	10.13	83.42	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	07/06/15	10.49	83.06	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
	01/13/16	9.45	84.10	--	--	--	--	--	--	--	--	--
	06/15/16	10.09	83.46	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	9.45	84.10	--	--	--	--	--	--	--	--	--
	02/14/17	9.11	84.44	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	10.69	82.86	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	9.30	84.25	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/04/18	9.52	84.03	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	10.79	82.76	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	9.28	84.27	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/28/19	10.95	82.60	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-7	09/25/12	8.24	83.30	410	--	--	**2,100**	4.9	4.3	13	<1.0	--
91.54	12/06/12	6.09	85.45	800	--	--	**1,700**	6	12	18	<1.0	--
	03/08/13	6.21	85.33	**1,200**	--	--	**1,700**	7.3	17	21	<1.0	--
	10/02/13	6.88	84.66	**1,200**	--	--	**1,500**	6.7	13	16	--	--
	07/06/15	7.53	84.01	**1,200**	--	--	**1,400**	15	12	24	--	--
	01/13/16	6.09	85.45	--	--	--	--	--	--	--	--	--
	06/15/16	6.95	84.59	**2,000**	**660**	<250	**1,400**	30	24	39	<1.0	<1.0
	09/21/16	6.09	85.45	--	--	--	--	--	--	--	--	--
	02/16/17	5.94	85.60	**2,600**	**680**	<250	**1,600**	19	20	42	<1.0	<1.0
	10/24/17	7.43	84.11	**3,900**	**640**	<250	**1,000**	23	20	56	<1.0	<1.0
	01/17/18	5.98	85.56	--	--	--	--	--	--	--	--	--
	04/06/18	6.20	85.34	**2,700**	**1,100**	<250	**1,200**	48	26	<3.0	--	--
	07/24/18	7.71	83.83	--	--	--	--	--	--	--	--	--

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-7	02/18/19	5.92	85.62	**2,300**	**1,100**	270	**1,500**	37	25	47	<1.0	<1.0
(Continued)	08/27/19	7.80	83.74	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	09/25/12	8.87	83.26	**1,000**	--	--	**300**	68	39	120	<1.0	--
92.13	12/06/12	6.75	85.38	370	--	--	**320**	7.9	42	16	<1.0	--
	03/08/13	6.90	85.23	**830**	--	--	**530**	9.0	110	30	<1.0	--
	10/01/13	7.58	84.55	**840**	--	--	**540**	5.0	80	35	--	--
	07/06/15	8.19	83.94	**2,200**	--	--	**950**	80	160	290	--	--
	01/13/16	6.93	85.20	--	--	--	--	--	--	--	--	--
	06/16/16	7.16	84.97	**2,100**	<130	<250	**820**	24	120	190	<1.0	<1.0
	09/21/16	6.93	85.20	--	--	--	--	--	--	--	--	--
	02/16/17	6.39	85.74	**2,100**	210	<250	**930**	14	110	87	<1.0	<1.0
	10/24/17	8.26	83.87	**1,800**	210	<250	**920**	9.7	92	27	<1.0	<1.0
	01/17/18	6.90	85.23	--	--	--	--	--	--	--	--	--
	04/06/18	6.84	85.29	**1,600**	410	<250	**880**	9.2	89	38	--	--
	07/24/18	8.38	83.75	--	--	--	--	--	--	--	--	--
	02/18/19	6.43	85.70	**1,300**	450	<250	**880**	4.4	56	21	<1.0	<1.0
	08/27/19	8.49	83.64	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	09/25/12	8.70	82.93	270	--	--	**530**	11	6.3	27	<1.0	--
91.63	12/06/12	6.18	85.45	190	--	--	**1,500**	1.8	26	5.6	<1.0	--
	03/08/13	6.90	84.73	**930**	--	--	**1,900**	5.8	110	110	<1.0	--
	10/01/13	7.53	84.10	410	--	--	**1,600**	2.8	42	21	--	--
	07/06/15	8.14	83.49	460	--	--	**1,600**	3.4	38	60	--	--
	01/13/16	6.90	84.73	--	--	--	--	--	--	--	--	--
	06/16/16	7.68	83.95	620	<130	<250	**1,600**	3.0	18	59	<1.0	<1.0
	09/21/16	6.90	84.73	--	--	--	--	--	--	--	--	--
	02/16/17	6.45	85.18	300	<130	<250	**1,300**	1.0	1.9	5.2	<1.0	<1.0
	10/24/17	8.19	83.44	190	<130	<250	**980**	<5.0	<5.0	<15	<1.0	<1.0
	01/17/18	6.92	84.71	--	--	--	--	--	--	--	--	--
	04/05/18	6.73	84.90	380	330	<250	**1,100**	1.7	3.3	11	--	--
	07/24/18	8.24	83.39	--	--	--	--	--	--	--	--	--
	02/18/19	6.63	85.00	350	480	<250	**980**	7.8	4.1	11	<1.0	<1.0
	08/27/19	8.30	83.33	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12S	09/03/13	6.49	85.17	**1,300**	--	--	**650**	3	18	110	--	--
91.66	10/01/13	6.06	85.60	**4,600**	--	--	**630**	<10	170	410	--	--
	07/06/15	5.60	86.06	**7,600**	--	--	**540**	41	580	310	--	--
	01/13/16	4.56	87.10	--	--	--	--	--	--	--	--	--
	06/16/16	4.93	86.73	**10,000**	**1,400**	270	**750**	100	540	270	1.2	1.9
	09/21/16	4.56	87.10	--	--	--	--	--	--	--	--	--
	02/16/17	4.33	87.33	Not sampled due to heavy hydrocarbon sheen								
	10/24/17	6.31	85.35	**12,000**	**1,100**	<250	**960**	61	470	200	<1.0	<1.0

Table 1
Historical Groundwater Monitoring Data
Mercer Island Shell
(Former BP)
7833 SE 28th Street
Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-12S	01/17/18	4.33	87.33	--	--	--	--	--	--	--	--	--
(Continued)	04/03/18	4.21	87.45	--	--	--	--	--	--	--	--	--
	07/24/18	5.82	85.84	--	--	--	--	--	--	--	--	--
	02/18/19	3.62	88.04	Not sampled due to heavy hydrocarbon sheen								
	08/27/19	6.10	85.56	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12D	09/03/13	7.96	83.67	90	--	--	**1,500**	2.3	1.2	<3.0	--	--
91.63	10/01/13	7.10	84.53	65	--	--	**1,400**	2.0	<1.0	<3.0	--	--
	07/06/15	7.72	83.91	120	--	--	**1,200**	2.5	<1.0	3.3	--	--
	01/13/16	6.44	85.19	--	--	--	--	--	--	--	--	--
	06/16/16	7.19	84.44	110	140	<250	**980**	2.0	1.3	<3.0	<1.0	<1.0
	09/21/16	6.44	85.19	--	--	--	--	--	--	--	--	--
	02/16/17	6.00	85.63	220	180	<250	**1,200**	1.5	<1.0	4.4	<1.0	<1.0
	10/24/17	7.62	84.01	72	160	<250	**550**	<5.0	<5.0	<15	<1.0	<1.0
	01/17/18	6.18	85.45	--	--	--	--	--	--	--	--	--
	04/06/18	6.40	85.23	290	**870**	<250	**980**	1.8	<1.0	5.5	--	--
	07/24/18	7.90	83.73	--	--	--	--	--	--	--	--	--
	02/18/19	6.17	85.46	200	**850**	<250	**1,000**	2.0	<1.0	5.0	<1.0	<1.0
	08/27/19	6.85	84.78	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	01/13/16	5.56	84.75	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
90.31	06/14/16	6.01	84.30	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	5.56	84.75	--	--	--	--	--	--	--	--	--
	02/15/17	5.12	85.19	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	6.40	83.91	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	5.40	84.91	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/04/18	5.67	84.64	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	6.48	83.83	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	5.25	85.06	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/29/19	6.68	83.63	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-14	01/13/16	7.55	83.87	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
91.42	06/14/16	6.15	85.27	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	09/21/16	7.55	83.87	--	--	--	--	--	--	--	--	--
	02/15/17	7.03	84.39	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	8.10	83.32	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	04/05/18	7.53	83.89	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	8.79	82.63	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	6.91	84.51	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/29/19	8.71	82.71	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-15	01/17/18	7.08	84.34	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
90.62	01/13/16	4.96	85.66	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	06/14/16	6.19	84.43	<50	160	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0

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Mercer Island Shell
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Mercer Island, Washington

Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-15	09/21/16	4.96	85.66	--	--	--	--	--	--	--	--	--
(Continued)	02/15/17	4.91	85.71	<50	150	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	6.28	84.34	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	4.72	85.90	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/05/18	5.04	85.58	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	7.02	83.60	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	4.58	86.04	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/29/19	5.79	84.83	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-16	09/21/16	9.74	82.65	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
92.39	02/15/17	7.43	84.96	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	9.73	82.66	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	7.76	84.63	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/04/18	7.82	84.57	<50	220	300	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	8.83	83.56	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	8.30	84.09	<50	240	330	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/29/19	8.94	83.45	<50	150	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-17	09/21/16	8.89	84.95	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
93.84	02/14/17	7.61	86.23	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	7.88	85.96	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	7.62	86.22	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/04/18	8.22	85.62	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	8.85	84.99	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	12/18/19	7.42	86.42	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/29/19	8.68	85.16	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-18	09/21/16	8.62	82.75	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
91.37	02/15/17	5.13	86.24	<50	140	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	6.97	84.40	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	5.19	86.18	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/05/18	5.48	85.89	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	7.32	84.05	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	5.19	86.18	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/30/19	7.07	84.30	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-19	09/21/16	5.50	86.71	120	<130	<250	**200**	<1.0	<1.0	3.8	<1.0	<1.0
92.21	02/16/17	7.05	85.16	90	180	<250	**110**	<1.0	<1.0	<3.0	<1.0	<1.0
	10/24/17	9.03	83.18	74	140	<250	**88**	<1.0	<1.0	3.3	<1.0	<1.0
	01/17/18	6.39	85.82	--	--	--	--	--	--	--	--	--
	04/05/18	5.94	86.27	70	**600**	280	**63**	<1.0	<1.0	<3.0	--	--
	07/24/18	7.88	84.33	--	--	--	--	--	--	--	--	--
	02/18/19	6.30	85.91	73	730	<250	**52**	<1.0	<1.0	<3.0	<1.0	<1.0
	08/27/19	8.14	84.07	NS	NS	NS	NS	NS	NS	NS	NS	NS

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Well ID	Sample Date	Depth to Water	Groundwater Elevation	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Lead	Dissolved Lead
MW-20	02/15/17	5.70	86.17	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
91.87	10/24/17	7.23	84.64	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	01/17/18	5.81	86.06	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	04/05/18	6.06	85.81	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
	07/24/18	7.74	84.13	<50	<130	390	<1.0	<1.0	<1.0	<3.0	--	--
	02/18/19	5.56	86.31	<50	140	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
	08/30/19	7.82	84.05	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-21	02/18/19	5.16	86.67	**58,000**	**3,900**	320	**4,300**	**6,700**	**1,400**	**6,800**	1.1	<1.0
91.83	08/28/19	7.19	84.64	**200,000**	**3,100**	450	**14,000**	**23,000**	**4,300**	**24,000**	--	--
MW-22	02/18/19	11.12	81.44	<50	350 *	280 *	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
92.56	08/29/19	9.22	83.34	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-23	02/18/19	4.86	87.16	<50	190 *	<250 *	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
92.02	08/30/19	8.14	83.88	<50	<130	<250	<1.0	<1.0	<1.0	<3.0	--	--
MW-24	02/18/19	9.75	83.48	<50	180	<250	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0
93.23	08/28/19	9.24	83.99	<50	140	<250	<1.0	<1.0	<1.0	<3.0	--	--
SVE-1	10/01/13	5.63	85.68	**100,000**	--	--	**7,100**	**9,300**	**2,600**	**13,000**	--	--
91.31	07/06/15	4.69	86.62	Not sampled due to heavy hydrocarbon sheen								
	01/13/16	3.52	87.79	--	--	--	--	--	--	--	--	--
	06/16/16	4.03	87.28	**100,000**	**1,600**	290	**9,600**	**3,000**	**3,400**	**15,000**	2.1	3.4
	09/21/16	3.52	87.79	--	--	--	--	--	--	--	--	--
	02/17/17	2.98	88.33	Not sampled due to heavy hydrocarbon sheen								
	10/24/17	6.14	85.17	**65,000**	**1,500**	320	**7,800**	160	**2,800**	**6,900**	1.1	<1.0
	01/17/18	3.39	87.92	--	--	--	--	--	--	--	--	--
	04/03/18	3.49	87.82	--	--	--	--	--	--	--	--	--
	07/24/18	4.97	86.34	--	--	--	--	--	--	--	--	--
	02/18/19	2.91	88.40	Not sampled due to heavy hydrocarbon sheen								
	08/27/19	5.30	86.01	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVE-2	10/01/13	6.01	85.53	**140,000**	--	--	**11,000**	**13,000**	**3,100**	**19,000**	--	--
91.54	07/06/15	5.54	86.00	Not sampled due to heavy hydrocarbon sheen								
	01/13/16	4.35	87.19	--	--	--	--	--	--	--	--	--
	06/16/16	4.75	86.79	**120,000**	**1,900**	<250	**11,000**	**5,900**	**3,200**	**16,000**	<1.0	<1.0
	09/21/16	4.35	87.19	--	--	--	--	--	--	--	--	--
	02/17/17	3.99	87.55	Not sampled due to heavy hydrocarbon sheen								
	10/24/17	7.08	84.46	**80,000**	**2,500**	**1,000**	**8,700**	**1,600**	**2,200**	**9,400**	<1.0	<1.0
	01/17/18	4.35	87.19	--	--	--	--	--	--	--	--	--
	04/03/18	9.32	82.22	--	--	--	--	--	--	--	--	--
	07/28/18	5.69	85.85	--	--	--	--	--	--	--	--	--
	02/18/19	3.81	87.73	Not sampled due to heavy hydrocarbon sheen								
	08/27/19	5.98	85.56	NS	NS	NS	NS	NS	NS	NS	NS	NS

UST WELL	06/25/13	4.10	87.52	**16,000**	--	--	**40**	7.2	23	**1,100**		
91.62	10/01/13	4.93	86.69	**30,000**	--	--	**76**	13.0	56	**2,000**	--	--
	07/06/15	4.81	86.81	**7,300**	--	--	**88**	11.0	32	38	--	--
VAULT-1	10/02/13	5.63	85.79	210	--	--	**130**	1.5	5.4	<3.0	--	--
91.42	07/06/15	4.79	86.63	520	--	--	**630**	23	9.9	53	--	--
VAULT-2	10/02/13	4.74	85.35	**3,900**	--	--	**580**	51	110	220	--	--
90.09	07/06/15	4.33	85.76	440	--	--	**78**	12	18	30	--	--
VAULT-3	10/02/13	2.90	88.37	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
91.27	07/06/15	5.31	85.96	<50	--	--	<1.0	<1.0	<1.0	<3.0	--	--
MTCA Method A Cleanup Levels:				**1,000/800**[1]	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**15**	**15**

TPH-G	Total petroleum hydrocarbons as gasoline analysis using Ecology Method NWTPH-G
TPH-D	Total petroleum hydrocarbons as diesel analysis using Ecology Method NWTPH-Dx
TPH-O	Total petroleum hydrocarbons as oil analysis using Ecology Method NWTPH-Dx
	Benzene, toluene, ethylbenzene and total xylenes analysis using EPA Method 8021
	Total and dissolved lead analysis using EPA Method 200.8
ND<50	Not detected at or above the indicated method reporting limit
ND	Not detected. Method reporting limit not indicated in prior consultants' reports.
NM	Not measured
--	Not applicable or no data
1	Benzene detected/benzene not detected and the sum of toluene, ethylbenzene and total xylenes concentrations is less than 1% of the gasoline mixture
	Top of casing elevation indicated below Well ID
	Depths are in feet below top of casing
	Groundwater elevations are relative to an established datum at an assigned elevation of 100 feet above mean sea level.
	Results in micrograms per liter (ug/L)
	Bolded and shaded values exceed MTCA Method A cleanup levels
	Data prior to 1/13/16 are taken from prior consultants' reports
NS	Not sampled
*	Resampled on 2/23/19 due to laboratory breakage

Table 2
Groundwater Sample Analytical Results
Drilling and Well Installation
Mercer Island Shell (Former BP)
7833 SE 28th Street
Mercer Island, Washington

Sample Name	Sample Date	EDB	EDC	MTBE	PAHs	VOCs	PCBs	Pesticides
MW-1	01/30/19	NS	NS	NS	NS	NS	NS	NS
	08/24/19	<2.0	<2.0	ND	NS	NS	NS	NS
MW-5	01/30/19	NS	NS	NS	NS	NS	NS	NS
	08/24/19	<2.0	<2.0	ND	NS	NS	NS	NS
MW-6	01/30/19	NS	NS	NS	NS	NS	NS	NS
	08/24/19	<2.0	<2.0	ND	NS	NS	NS	NS
MW-24	01/30/19	<2.0	<2.0	2.6	ND	ND	ND	ND
	08/24/19	<2.0	<2.0	2.2	NS	NS	NS	NS
Model Toxics Control Act (MTCA) Method A Cleanup Level		0.01	5	20	Various	Various	Various	Various

EDB	Dibromomethane (EPA-8260)
EDC	Dichloroethane (EPA-8260)
MTBE	Methyl Tertiary-butyl Ether (EPA-8260)
PAHs	Polycyclic aromatic hydrocarbons (EPA-8270 SIM)
VOCs	Volatile organic compounds (EPA-8260)
PCBs	Polychlorinated biphenyls (EPA-8082)
DEHP	Bis (2-ethylhexyl) phthalate (EPA-8270)
<2.0	Not detected at or above the indicated method reporting limit
ND	Not detected
NS	Not sampled
	Results are in micrograms per liter (ug/kg)
	Depths are in feet below ground surface
	Bolded and shaded values exceed MTCA Method A cleanup levels

Table 3
Cost Estimate
Site Remediation
Mercer Island Shell
7833 SE 28th Street
Mercer Island, Washington

	Unit Type	Units	Unit Cost	Total
Scope of Work: Excavate and remove up to 1,500 cubic yards (2,000 tons) of impacted soil near and between the dispensers and USTs following removal of the existing tanks and piping; remove and replace existing groundwater monitoring wells in the excavated area; conduct 2 years of quarterly monitoring and sampling to document groundwater cleanup; compile data and submit to the Washington State Pollution Liability Insurance Agency for issuance of a No Further Action determination.				
Site Preparation				
Permitting, Fencing, Traffic Control, Concrete and Asphalt Removal	Estimate	1	$ 45,000.00	$ 45,000.00
Tank Decommissioning and Removal, Dispenser and Piping Removal*	Estimate	1	$ 60,000.00	$ 60,000.00
* Not including installation of new tanks and lines			Site Preparation Subtotal	$ 105,000.00
Soil Excavation and Cleanup				
Project Manager	Hrs	80	$ 110.00	$ 8,800.00
Field Supervisor	Hrs	80	$ 95.00	$ 7,600.00
Senior Technician	Hrs	80	$ 80.00	$ 6,400.00
Excavator	Day	10	$ 900.00	$ 9,000.00
Dumptucks (3 trucks with trailer each day)	Day	10	$ 2,400.00	$ 24,000.00
Shoring Materials and Foundation Supports (if needed)	Estimate	1	$ 80,000.00	$ 80,000.00
Disposal Fees	Ton	2,000	$ 55.00	$ 110,000.00
Backfill Material and Placement	Ton	1,600	$ 45.00	$ 72,000.00
Excavation Water	Gallon	10,000	$ 1.00	$ 10,000.00
Remove and Replace Monitoring Wells	Estimate	1	$ 60,000.00	$ 60,000.00
Quarterly Groundwater Monitoring	Estimate	1	$ 80,000.00	$ 80,000.00
Final Cleanup Oversight and Reporting, Well Decommissioning	Estimate	1	$ 60,000.00	$ 60,000.00
			Soil Excavation and Cleanup Subtotal	$ 527,800.00
			Subtotal	$ 632,800.00
			Contingency (10%)	$ 63,280.00
			Subtotal Before Taxes	$ 696,080.00
			Sales Tax (10.1%)	$ 70,304.08
			Total Estimated Cost	$ 766,384.08

PROJECT: BP Branded Service Station W.O. 11-10706-00 WELL NO. MW-1

Elevation reference: 100.00 foot temporary benchmark
Ground surface elevation: 99.01 feet
Well completed: 27 December 1995
Casing elevation: 98.84 feet

AS-BUILT DESIGN

Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	2.5' Asphalt Paving over soft, wet, brown, sandy SILT with some gravel and brick fragments (Fill)						
	Very stiff, moist, tan-gray mottled, fine sandy SILT (no odor)		S-1	30	0		
5							
	Becomes hard, with trace fine gravel (no odor)					12/29/95	
			S-2	38	0		WTPH-G WTPH-D Ext. Total Lead
						ATD	
10							
	Very stiff, moist, gray, fine sandy SILT grading to medium dense, wet, gray, silty, fine to medium SAND (no odor)		S-3	18	0		
15							
	Very dense, saturated, gray, fine SAND (no odor)						
			S-4	45	0		
20	Bottom of boring at 20 feet.						
25							
30							

Flush-mounted steel monument
Ground surface
Top of casing
Cement
Bentonite
Casing (Schedule-40 2-inch I.D. PVC)
10-20 sand filter pack
Screen (2-inch I.D. PVC with 0.01-inch slots)
Threaded end cap

LEGEND

- 2-inch O.D. split-spoon sample
- Grab sample
- Observed groundwater level ATD = at time of drilling
- Observed groundwater level 0/00/00 = date observed
- WTPH-G WTPH-D Ext. Total Lead — Analytical testing

AGRA Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: 27 December 1995 Drilling completed: 27 December 1995

AGRA Earth and Environmental Inc.

PROJECT: BP Branded Service Station W.O. 11-10706-00 WELL NO. MW-2

Elevation reference: 100.00 feet temporary benchmark
Ground surface elevation: 96.65 feet
Well completed: 27 December 1995
Casing elevation: 96.20 feet

AS-BUILT DESIGN

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	13" Asphalt Paving						
	Soft, wet, blue-gray, sandy, clayey SILT with fine gravel and wood fragments (slight gasoline-like odor)		3.0'		65		
5	Soft to medium stiff, wet, green-gray, clayey SILT with some fine sand and rootlets (slight gasoline-like odor)		S-1	5	42	12/27/95	WTPH-G WTPH-D Ext. Total Lead
	Very stiff, moist, gray SILT with trace sand and fine gravel (no odor)						
10			S-2	30	0		
15	Becomes hard, moist, sandy SILT (no odor)		S-3	32	0		
20	Becomes very hard, moist, fine, gravelly SILT with sand (no odor)		S-4	50/5"	0		
	Bottom of boring at 20.9 feet.						
25							
30							

Flush-mounted steel monument
Ground surface
Top of casing
Cement
Bentonite
Casing (Schedule-40 2-inch I.D. PVC)
10-20 sand filter pack
Screen (2-inch I.D. PVC with 0.01-inch slots)
Threaded end cap

LEGEND

- 2-inch O.D. split-spoon sample
- Grab sample
- ATD: Observed groundwater level, ATD = at time of drilling
- 0/00/00: Observed groundwater level, 0/00/00 = date observed
- WTPH-G / WTPH-D Ext. / Total Lead: Analytical testing

AGRA Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

AGRA Earth and Environmental, Inc.

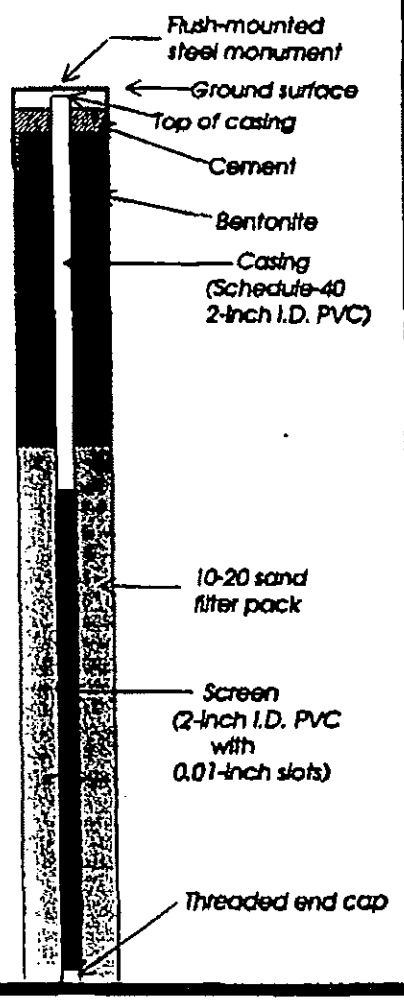
Drilling started: 27 December 1995

PROJECT: BP Branded Service Station W.O. 11-10706-00 WELL NO. MW-3

Elevation reference: 100.00 foot temporary benchmark
Ground surface elevation: 97.83 feet
Well completed: 28 December 1995
Casing elevation: 97.51 feet

AS-BUILT DESIGN

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	7" Asphalt Paving						
	Hard, moist, tan mottled SILT with trace gravel and sand (no odor)		S-1	42	0		WTPH-G WTPH-D Ext. Total Lead
5	Becomes dark gray (no odor)		S-2	37	0		
10			S-3	39	0		
15	Becomes very stiff (no odor)		S-4	29	0		
20	Bottom of boring at 20 feet.						
25							
30							



LEGEND

- 2-inch O.D. split-spoon sample
- Grab sample
- ATD: Observed groundwater level, ATD = at time of drilling
- 0/00/00: Observed groundwater level, 0/00/00 = date observed
- WTPH-G / WTPH-D Ext. / Total Lead: Analytical testing

AGRA Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: 28 December 1995

AGRA Earth and Environmental, Inc.

ENTERED

(MW-4)

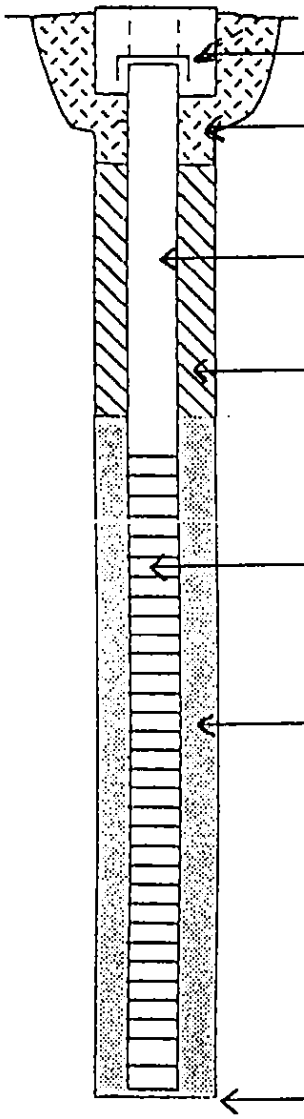
RESOURCE PROTECTION WELL REPORT 24/4/12A

START CARD NO. R27147

PROJECT NAME: B.P. - Mercer Island
WELL IDENTIFICATION NO. ACG 2101
DRILLING METHOD: HSA
DRILLER: Brent C. Maloy
FIRM: Cascade Drilling, Inc.
SIGNATURE:
CONSULTING FIRM: Geo Cliff Schmitt
REPRESENTATIVE:

COUNTY: King
LOCATION: NE¼ NE¼ Sec 12 Twn 24N R 4E
STREET ADDRESS OF WELL: 7833 SE 28th St. Mercer Island
WATER LEVEL ELEVATION:
GROUND SURFACE ELEVATION: N/A
INSTALLED: 4-18-96
DEVELOPED: YES

6169

AS-BUILT	WELL DATA	FORMATION DESCRIPTION
	WELL COVER CONCRETE SURFACE SEAL DEPTH = 2/ft PVC BLANK 2"x 5' BACKFILL 2 ft. TYPE: CENT CHIPS PVC SCREEN 2"x 10' SLOT SIZE: .010 GRAVEL PACK 4 ft. MATERIAL: 2/12 LONESTAR WELL DEPTH 15' "	0 - 1 ft. ASPHALT / COBBLE FILL 1 - 15 ft. SILTY / CLAY (LIGHT GREENISH) SOME GRAVEL - ft.

RECEIVED
MAY 13 1996
DEPT. OF ECOLOGY

SCALE: 1" = _____ PAGE _____ OF _____

ECY 050-12 (Rev. 11/89)

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-1

Client: Colony Specialty

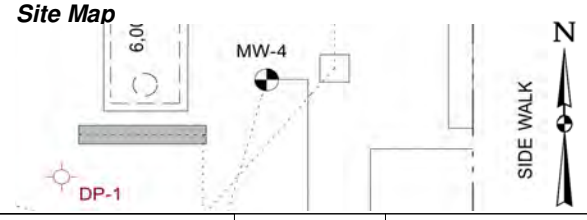
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 15' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
			Ground Surface						
0			***Crushed Rock***						
2		SM	***Silty Sand*** Gray-brown; moist; mostly sand with some silt			DP-1:2.5	21.6		
4		GP	***Pea Gravel*** Gray; dry; mostly fine gravel				14.7		
6		SM	***Sandy Silt*** Gray-brown; moist; mostly silt with some fine sand				7.6		
8		GP	***Fill*** Black; rust-stained; mostly gravel with some charcoal and debris				18.6		
10		SM	***Silty Sand*** Tan; dry; silty sand with few gravel; becomes moist and gray						
			Becomes gray-brown						
12		SM	***Silty Sand*** Gray; moist; mostly silt with little sand and trace clay				20.2		
14		SM	***Silty Sand*** Brown; moist; mostly fine to medium sand with some silt				50.0		
		MH	***Elastic Silt***				71.2		
		SP	Gray; damp; mostly silt			DP-1:15			Saturated at 14.8'
16			***Poorly-Graded Sand*** Gray; saturated; mostly fine to medium sand with trace silt						
			End of Boring						
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402.0

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-2

Client: Colony Specialty

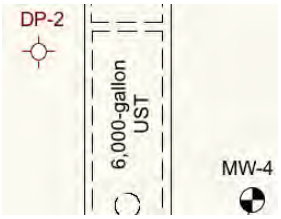
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 15'

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
		SM	***Silty Sand*** Gray-brown; moist; mostly fine to medium sand with some silt and little gravel				1.7		
2		GP	***Pea Gravel*** Odor			DP-2:3			DUP-1
4							31.6		
6			Strong odor						
						DP-2:9	34.5		
8		SP-SM	Strong odor				40.2		
			Poorly-Graded Sand with Silt Gray-brown; saturated; mostly coarse sand with some silt; strong odor						
10		MH	***Elastic Silt*** Gray; damp; hard; high plasticity; mostly silt/clay; no odor				0.9		
12									
14							1.1		Refusal at 15'
			End of Boring						
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-3

Client: Colony Specialty

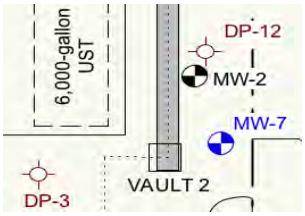
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 15' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
			Ground Surface						
0			***Asphalt***						
		SM	***Silty Sand with Gravel*** Gray-brown; moist; mostly fine to medium sand with some silt and few gravel				1.1		
2		SW	***Well-Graded Sand*** Gray; wet; mostly fine to coarse sand; odor from 2 to 12 feet						
4						DP-3:5			
							56.3		
6									
8									
							45.0		
10									
12		ML	***Silt*** Gray; moist; hard; moderate plasticity; mostly silt			DP-3:11	47.8		
14			Slight odor				23.2		
			End of Boring						
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-4

Client: Colony Specialty

Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map

SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Concrete						
		ML	***Silt with Sand*** Mottled gray; moist; mostly silt with few sand and trace gravel						
2									
			Slight odor						
4						DP-4:2.5	15.4		
		ML	***Silt with Sand*** Brown-gray; moist; mostly silt with few sand and few gravel				16.8		
6									
			No odor			DP-4:7.5			
8									
							0.4		Refusal at 10'
10			End of Boring						
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-5

Client: Colony Specialty

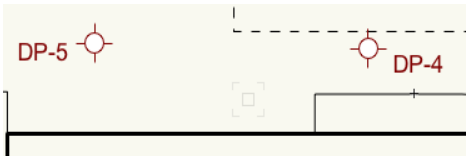
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
2		ML	***Sandy Silt*** Brown-gray; moist; mostly silt with some fine sand						
4		MH	***Elastic Silt*** Brown-gray; moist; mostly silt and/or clay			DP-5:4	0.0		
6		ML	***Silt with Sand*** Brown-gray; moist; mostly few silt with few sand						
8		MH	***Elastic Silt*** Brown-gray; moist; mostly silt and/or clay						
10			End of Boring			DP-5:9	0.0		
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-6

Client: Colony Specialty

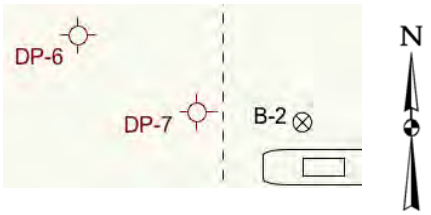
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10'

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
		SM	***Silty Sand*** Silty sand with gravel						
2		MH	***Elastic Silt*** Brown-gray; moist; mostly silt and/or clay moderate to high plasticity				0.0		
4						DP-6:4			
6									
8							0.0		
10			Becomes gray			DP-6:10			
			End of Boring						
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98;NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-7

Client: Colony Specialty

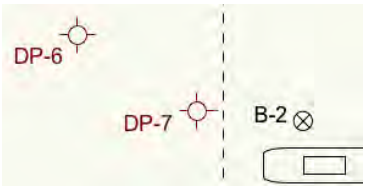
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
		ML	***Silt with Sand*** Brown-gray; moist; mottled; mostly silt with few fine sand						
2		CH	***Fat Clay*** Brown-gray; moist; hard; mostly clay; moderate plasticity; mottled						
4						DP-7:5	0.0		
6									
8									
		CH	***Fat Clay*** Gray; moist; hard; mostly clay			DP-7:10	0.0		
10			End of Boring						
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-8

Client: Colony Specialty

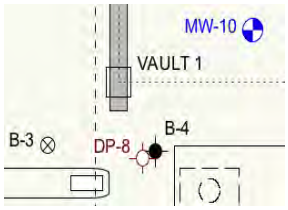
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
			Ground Surface						
0			***Concrete***						
		GW	***Sandy Gravel*** Brown; moist; mostly fine to coarse gravel with some sand				3.7		
2									
		MH	***Elastic Silt*** Gray; moist; mostly silt; odor; reworked silt; fill						
4						DP-8:4	399		
		MH	***Elastic Silt*** Gray; saturated; mostly silt and clay; strong odor; fill						
6							1729		DUP-2
						DP-8:7			
		MH	***Elastic Silt*** Brown-gray; moist; mostly silt and clay; no odor						
8									
10			End of Boring				0.2		
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-9

Client: Colony Specialty

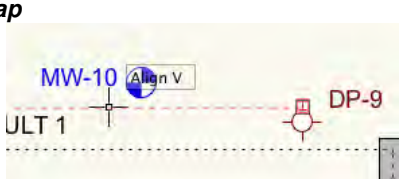
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 15' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
		CL	***Lean Clay*** Gray-green; moist; mostly lean clay						
2		OH	***Silt*** Black; moist; mostly organic silt; charcoal; odor			DP-9:3	2260 6800		
4		ML	***Silt*** Elastic silt; moist; brown-green with few sand, gravel and roots; odor				5200		
6			Becomes gray-green; odor						
		SM	***Silty Sand*** Gray; moist; very dense; mostly fine sand with some silt and few gravel			DP-9:7.5	2180		
8									
10		MH	***Elastic Silt*** Gray-green; moist; mostly elastic silt; slight odor						
12		MH	***Elastic Silt*** Gray; hard; mostly silt						
14						DP-9:15	1900		
			End of Boring						
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-10

Client: Colony Specialty

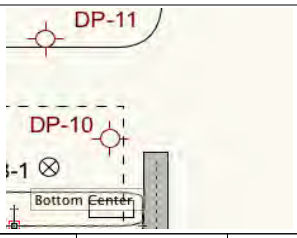
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Concrete						Hand cleared to 4'
		SM	***Silty Sand*** Gray-mottled; moist; mostly silt with some sand and few gravel			DP-10:2.5	56.9		
2									
4							2171		
6									
8						DP-10:8			
		ML	***Silt with Sand*** Tan; moist; mostly silt with some sand and trace gravel				3400		
10							2500		
			End of Boring						
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-11

Client: Colony Specialty

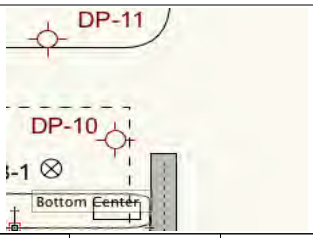
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Landscaping Bark						
		SM	***Silty Sand*** Tan; damp; mostly silty sand with trace gravel			DP-11:3	26		
2									
4		ML	***Silt with Sand*** Gray; moist; mostly silt with 2" sand seam at 4.5'				3		
6		ML	***Silt with Sand*** Brown; damp; mostly silt with 1" sand seam at 8'			DP-11:5			
8			Increasing gravel				4		
10			End of Boring				3		
12									
14									
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: DP-12

Client: Colony Specialty

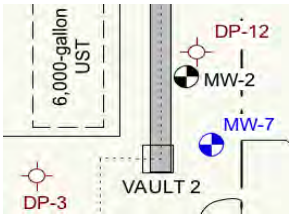
Location: 7833 SE 28th St Mercer Island

Date of Drilling: 9/6/12

Logged by: K. Addis

Total depth: 15'

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
			Asphalt						
2		SM	***Silty Sand*** Brown-mottled orange; damp; mostly fine to medium silty sand with gravel			DP-12:3	0.0		
4									
6		MH	***Elastic Silt*** Gray; moist; saturated; high plasticity; mostly silt			DP-12:6			
		SP	***Poorly-Graded Sand*** Gray; saturated; medium dense; mostly fine to medium sand				12.0		
8		SP	***Poorly-Graded Sand with Gravel*** Mottled gray; moist; very dense; mostly fine to medium sand with gravel				4.0		
10		MH	***Elastic Silt*** Gray; moist; high plasticity; mostly silt						
12							0.0		
14									
			End of Boring						
16									
18									
20									

Drilled By: Cascade
Drill Method: DPT
Project #: 63402

Hole Size: 2"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: HSA-1

Client: Colony Specialty

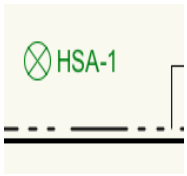
Location: 7833 SE 28th ST, Mercer Island, Wa

Date of Drilling: 9/10/12

Logged by: K. Addis

Total depth: 10' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE					
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Sample	PID	Sheen	Comments
0			Ground Surface						
		GP	***Poorly-Graded Gravel with Sand*** Brown; moist; mostly fine gravel with sand; no odor				0.0		
4		ML	***Silt*** Brown-gray; damp; mostly silt			HSA-1:4.5	0.0		
8						HSA-1:9	0.0		On Rock
10			End of Boring						Refusal at 10' feet
12									
14									
16									
18									
20									

Drilled By: Cascade Drilling

Drill Method: HSA

Project #: 63402.0

Hole Size: 8"

Datum: NAD83/98; NAVD88

Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: MW-5

Client: Colony Specialty

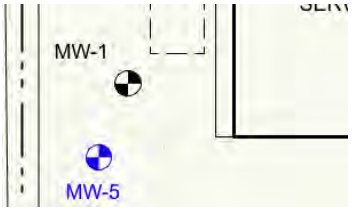
Location: 7833 SE 28th St Mercer Island, WA

Date of Drilling: 9/10/12

Logged by: K. Addis

Total depth: 20' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Blow Counts	Sample	PID	Well Completion Details	Comments
			Ground Surface							
0			***Asphalt***							
		ML	***Silt*** Gray; moist; very stiff; mostly silt					0.2		
2										
4										
						9 13 18	MW-5:2.5	7.8		
6										
8										
						18 24 29		0.2		
10			Becomes hard							
12										
14										
						21 50-6"	MW-5:15	0.3		
16		SP-SM	***Poorly-Graded Sand with Silt*** Gray; saturated; very dense; mostly fine sand with few silt							
18										
		SP-SM	***Poorly-Graded Sand with Silt*** Gray; saturated; very dense; mostly fine sand							
20						19 50-6"		0.0		
			End of Boring							
22										
24										

Well Completion Details: Concrete; Traffic-rated monument; 2" Sch. 40 PVC blank; Bentonite; 10/20 Silca Sand; 2" Sch 40 .010" PVC screen

Comments: 17' ATD

Drilled By: Cascade
Drill Method: HSA
Project #: 63402.0

Hole Size: 8"
Datum: NAD 83/98; NAVD 88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: MW-6

Client: Colony Specialty

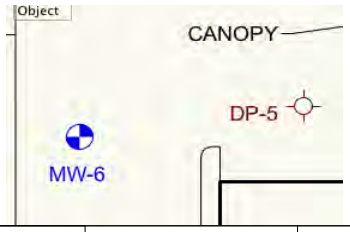
Location: 7833 SE 28th St Mercer Island WA

Date of Drilling: 9/10/12

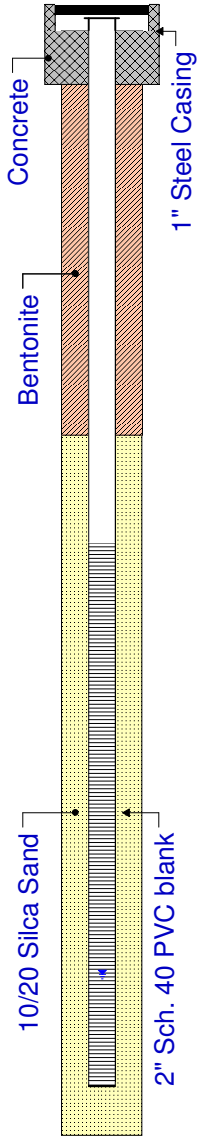
Logged by: K. Addis

Total depth: 21' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Blow Counts	Sample	PID	Well Completion Details	Comments
0			Ground Surface							
			Asphalt							
2		SP-SM	***Poorly-Graded Sand with Silt*** Brown; moist; sand with some silt							
4		ML	***Silt*** Gray-brown; damp; mostly silt							
6						19 29 43	MW-6:5	0.2		
8										
10		ML	***Silt*** Gray; damp; mostly silt and gravel			12 25 40		0.1		
12										
14		ML	***Silt*** Gray; wet; hard; mostly silt with some trace gravel							
16						12 19 30	MW-6:16.5	0.0		
18		SP	***Poorly-Graded Sand*** Gray; saturated; very dense mostly fine sand with trace silt at 20.5' graded to medium sand with trace silt.							18' ATD
20						22 50-6"		0.0		
			End of Boring							
22										
24										



Drilled By: Cascade

Drill Method: HSA

Project #: 63402.0

Hole Size: 8"

Datum: NAD 83/98; NAVD 88

Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: MW-7

Client: Colony Specialty

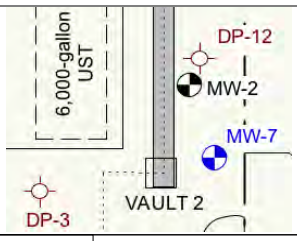
Location: 7833 SE 28th ST Mercer Island, Wa

Date of Drilling: 9/11/12

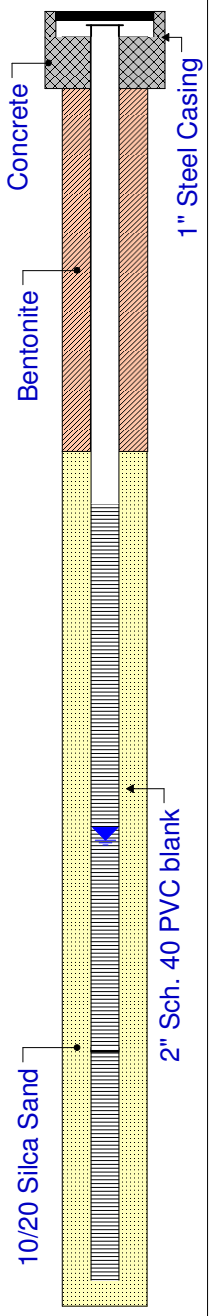
Logged by: K. Addis

Total depth: 25' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Blow Counts	Sample	PID	Well Completion Details	Comments
			SUBSURFACE PROFILE			***SAMPLE***				
0			Ground Surface							
			Asphalt							
			Fill							
2			***Asphalt***							
			Fill							
			Asphalt							
4			***Fill***							
		ML	***Silt with Sand*** Rust-stained; brown-gray; moist; mostly silt with some sand and few gravel			15 26 26	MW-7:6.5	174		
6										
8		SP-SM	***Poorly-Graded Sand with Silt*** Gray; moist-wet; very dense; mostly fine sand with some silt and few gravel							
10						27 50-5"	MW-7:11.5	12.5		
12		MH	***Elastic Silt*** Gray; saturated; rust-stained							
14										
16						50-4"		2.4		16' ATD
18										
20		SP	***Poorly-Graded Sand with Silt*** Gray; saturated; very dense; mostly fine to medium sand			50-6"				
22										
24						50-6"		0.6		
26			End of Boring							



Drilled By: Cascade
Drill Method: HSA
Project #: 63402.0

Hole Size: 8"
Datum: NAD83/98; NAVD 88
Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: MW-10

Client: Colony Specialty

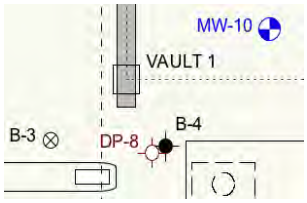
Location: 7833 SE 28th St, Mercer Island WA

Date of Drilling: 9/12/12

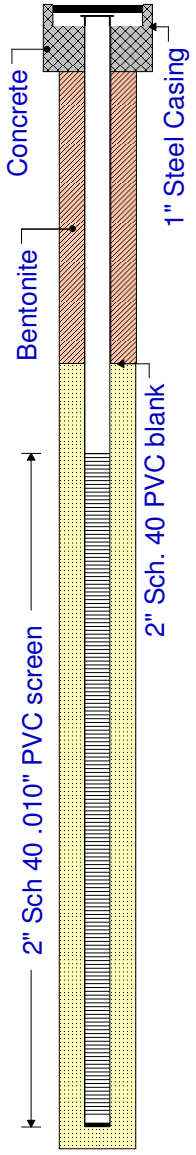
Logged by: K. Addis

Total depth: 25' bgs

Site Map



Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Blow Counts	Sample	PID	Well Completion Details	Comments
			SUBSURFACE PROFILE			**SAMPLE**				
0			Ground Surface							
0			***Asphalt***							
2		SW	***Well-Graded Sand with Gravel*** Brown; moist; mostly fine to coarse sand with some gravel and few silt					14		
4		ML	***Silt*** Brown-gray; rust-stained; moist; mostly silt and clay with few gravel and sand					153		
6		ML				27 50-6"	MW-10:6	1600		
8		ML	***Silt*** Gray; rust-stained; moist; hard; mostly silt and clay							
10		ML	***Silt*** Gray; damp; hard; mostly silt			22 50-6"	MW-10:11	14.6		
12										
14		ML	***Silt*** Gray; damp; hard; mostly silt							
16						50-6"				
18		ML	***Silt with Sand*** Gray; damp; hard; mostly silt with few gravel and trace sand							
20						27 50-6"	MW-10:21	18		
22		SP-SM	***Poorly-Graded Sand with Silt*** gray; saturated; mostly fine to medium sand with silty sand seams 2"							
24						29 50-6"		88		
			End of Boring							
26										
28										
30										



Drilled By: Cascade Drilling

Drill Method: HSA

Project #: 63402.0

Hole Size: 8"

Datum: NAD 83/98; NAVD 88

Sheet: 1 of 1

ENVIRONMENTAL PARTNERS INC

Boring/Well: MW-11

Client: Colony Specialty

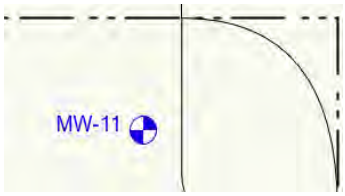
Location: 7833 SE 28th St Mercer Island, Wa

Date of Drilling: 9/11/12

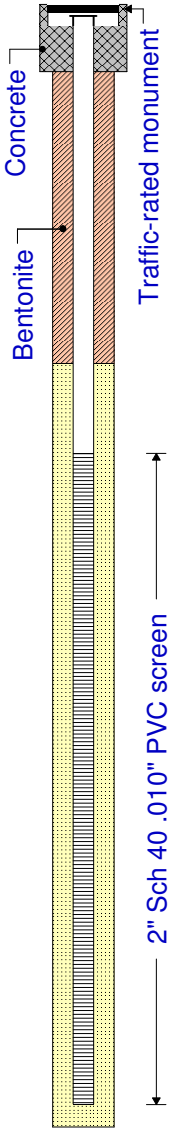
Logged by: K. Addis

Total depth: 25' bgs

Site Map



SUBSURFACE PROFILE				SAMPLE						
Depth (ft)	Lithology	USCS Name	Description	Interval	Recovery	Blow Counts	Sample	PID	Well Completion Details	Comments
0			Ground Surface							
			Asphalt							
2		SP-SM	***Poorly-Graded Sand with Silt*** Rust-stained gray; moist; mostly fine to medium sand with few silt							
							MW-11:3	12.6		
4		ML	***Silt with Sand*** Gray-blue; moist; hard; mostly silt with some sand and few gravel (fill)							
						50-6"	MW-11:5.5	2846		
6										
8		ML	***Silt with Sand*** Gray; moist; hard; mostly silt with little sand and trace gravel							
10						50-6"		52.6		
12										
14										
						50-6"	MW-11:15.5	14.0		
16		SM	***Silty Sand with Gravel*** Gray; moist; very dense; mostly fine sand with some silt and some gravel							
18										
20						50-4"		0.7		
22		SP	***Poorly-Graded Sand with Gravel*** Gray; saturated; very dense; mostly fine to medium sand and few gravel							
24										
						50-6"		0.4		
			End of Boring							
26										
28										
30										



Drilled By: Cascade
Drill Method: HSA
Project #: 63402.0

Hole Size: 8"
Datum: NAD 83/98; NAVD88
Sheet: 1 of 1

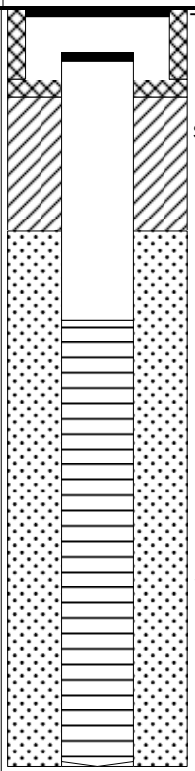
ENVIRONMENTAL PARTNERS INC

BORING ID: SVE-1

SITE ADDRESS	CLIENT:	CASING MATERIAL AND SIZE:
7833 SE 28th St, Mercer Island, WA	**Colony Specialty**	**4" Sch 40 PVC Blank**
DRILLING CONTRACTOR:	PROJECT #:	SCREEN SIZE:
Cascade Drilling, L.P.	**63402.2**	**0.010"**
DRILLING EQUIPMENT:	DATE:	SCREEN INTERVAL:
CME-75	**August 27, 2013**	**3.5'-8.5'**
DRILLING METHOD:	GROUND SURFACE ELEV. FT AMSL:	FILTER PACK:
Air Knife to 4'; HSA (10") to 8.5'	**92.14'**	**#2/12 Silica Sand**
LOGGED BY:	TOTAL DEPTH:	FILTER PACK INTERVAL:
K. Addis L.G.	**8.5'**	**2.5'-8.5"**

Depth (feet)	USCS	Description (USCS name; Color; Moisture; Density; Plasticity; Dilatancy; EPI description; Other)	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)
0		ASPHALT (2")				
		GRAVEL BASE (6")				
	MH	SANDY ELASTIC SILT; reddish brown; damp; very stiff; non plastic; mostly silt with some sand, minor clay, and few gravel (Roots at 1' to 3')				
2	MH					
	MH	ELASTIC SILT WITH SAND; reddish gray; damp; very stiff; no plasticity; no dilatancy; mostly silt with minor clay, minor sand, and few gravel				
4			80	6-10-11	SVE-1:5	1075
6						
	MH	ELASTIC SILT; dark gray; damp; hard; medium plasticity; no dilatancy; mostly silt with minor clay, trace sand and trace gravel				
8						62
			80	9-14-18		42
10						
12						
14						

Well Construction



Traffic-rated monument with concrete surface seal

Bentonite

PVC blank

Sand pack

Well screen

End Cap

NOTES: No groundwater at time of drilling.

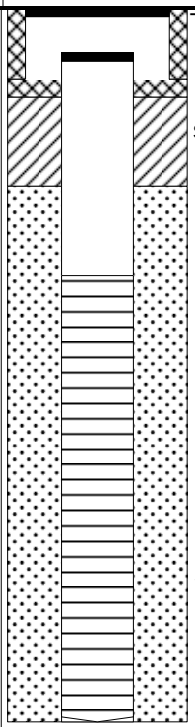
ENVIRONMENTAL PARTNERS INC

BORING ID: SVE-2

SITE ADDRESS	CLIENT:	CASING MATERIAL AND SIZE:
7833 SE 28th St, Mercer Island, WA	**Colony Specialty**	**4" Sch 40 PVC Blank**
DRILLING CONTRACTOR:	PROJECT #:	SCREEN SIZE:
Cascade Drilling, L.P.	**63402.2**	**0.010"**
DRILLING EQUIPMENT:	DATE:	SCREEN INTERVAL:
CME-75	**August 27, 2013**	**3'-8'**
DRILLING METHOD:	GROUND SURFACE ELEV. FT AMSL:	FILTER PACK:
Air Knife to 4'; HSA (10") to 8'	**92.37'**	**#2/12 Silica Sand**
LOGGED BY:	TOTAL DEPTH:	FILTER PACK INTERVAL:
K. Addis L.G.	**8'**	**2'-8'**

Depth (feet)	USCS	Description (USCS name; Color; Moisture; Density; Plasticity; Dilatancy; EPI description; Other)	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)
0		ASPHALT (3")				
		GRAVEL OVER ASPHALT (3")				
	MH	(Mottled)				
2	MH	ELASTIC SILT WITH SAND; grayish brown; damp; hard; medium plasticity; slow dilatancy; mostly silt with minor clay and minor sand, trace gravel				
4			80	10-19-25	SVE-2:5	330
6						
	MH	ELASTIC SILT; dark gray; damp; hard; medium plasticity; no dilatancy; mostly silt with minor clay and few sand				
8			80	18-22-28	SVE-2:9	56
10						
12						
14						

Well Construction



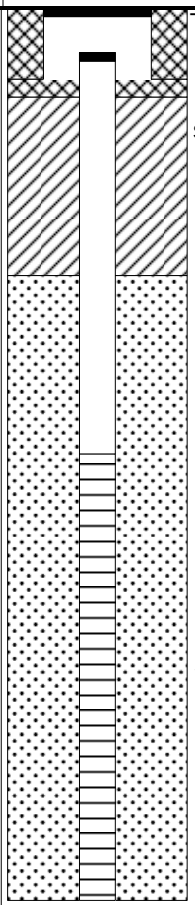
NOTES: No groundwater at time of drilling.

ENVIRONMENTAL PARTNERS INC

BORING ID: MW-12S

SITE ADDRESS **7833 SE 28th St, Mercer Island, WA**	CLIENT: **Colony Specialty**	CASING MATERIAL AND SIZE: **2" Sch 40 PVC Blank**
DRILLING CONTRACTOR: **Cascade Drilling, L.P.**	PROJECT #: **63402.2**	SCREEN SIZE: **0.010"**
DRILLING EQUIPMENT: **CME-75**	DATE: **August 27, 2013**	SCREEN INTERVAL: **5'-10'**
DRILLING METHOD: **Air Knife to 5.4'; HSA (10") to 10'**	GROUND SURFACE ELEV. FT AMSL: **92.02'**	FILTER PACK: **#2/12 Silica Sand**
LOGGED BY: **K. Addis L.G.**	TOTAL DEPTH: **10'**	FILTER PACK INTERVAL: **3'-10'**

Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatancy; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)
0		ASPHALT (2")				
		GRAVEL BASE (4")				
	SM	SILTY SAND WITH GRAVEL; dark greenish gray; moist; medium dense; mostly fine sand with some silt and minor gravel				
6			100	10-11-10	MW-12S:6	1465
8	MH	SANDY ELASTIC SILT; dark gray; moist; hard; medium plasticity; no dilantancy; mostly silt with some sand, minor clay, and trace gravel				
10			100	15-22-22	MW-12S:10	47
12						
14						



Well Construction

NOTES: No groundwater at time of drilling.

ENVIRONMENTAL PARTNERS INC

BORING ID: MW-12D

SITE ADDRESS **7833 SE 28th St, Mercer Island, WA**	CLIENT: **Colony Specialty**	CASING MATERIAL AND SIZE: **2" Sch 40 PVC Blank**
DRILLING CONTRACTOR: **Cascade Drilling, L.P.**	PROJECT #: **63402.2**	SCREEN SIZE: **0.010"**
DRILLING EQUIPMENT: **CME-75**	DATE: **August 28, 2013**	SCREEN INTERVAL: **20'-25'**
DRILLING METHOD: **Air Knife to 5'; HSA (14") to 15'; HSA (8") to 25'**	GROUND SURFACE ELEV. FT AMSL: **92.05'**	FILTER PACK: **#2/12 Silica Sand**
LOGGED BY: **K. Addis L.G.**	TOTAL DEPTH: **25'**	FILTER PACK INTERVAL: **18'-20'**

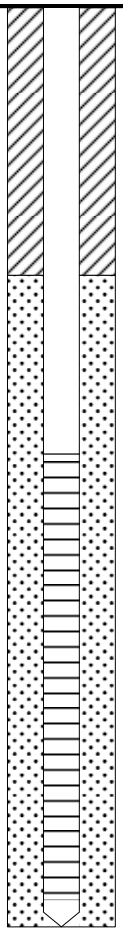
Depth (feet)	USCS	Description USCS name; Color; Moisture; Density; Plasticity; Dilatancy; EPI description; Other	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)	Well Construction
0		ASPHALT (2") WITH GRAVEL BASE (4")					Traffic-rated monument with concrete surface seal
	SM	SILTY SAND WITH GRAVEL; dark bluish gray; moist; medium dense; mostly fine sand with some silt and minor gravel					
2							
4							
						430	Bentonite
6			100	4-8-8			
						460	
							PVC blank
8		ELASTIC SILT WITH GRAVEL; dark gray; dry; hard; medium plasticity; no dilatancy; mostly silt with minor clay, few gravel, and few sand; silty sand lens at 10.2'-10.5'					
10	MH		100	11-31-30		6.5	
12							
14							Bentonite pellet seal

ENVIRONMENTAL PARTNERS INC

BORING ID: MW-12D

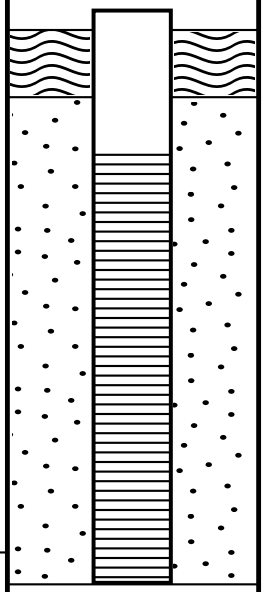
SITE ADDRESS	CLIENT:	CASING MATERIAL AND SIZE:
7833 SE 28th St, Mercer Island, WA	**Colony Specialty**	**2" Sch 40 PVC Blank**
DRILLING CONTRACTOR:	PROJECT #:	SCREEN SIZE:
Cascade Drilling, L.P.	**63402.2**	**0.010"**
DRILLING EQUIPMENT:	DATE:	SCREEN INTERVAL:
CME-75	**August 28, 2013**	**20'-25'**
DRILLING METHOD:	GROUND SURFACE ELEV. FT AMSL:	FILTER PACK:
Air Knife to 5'; HSA (14") to 15'; HSA (8") to 25'	**92.05'**	**#2/12 Silica Sand**
LOGGED BY:	TOTAL DEPTH:	FILTER PACK INTERVAL:
K. Addis L.G.	**25'**	**18'-20'**

Depth (feet)	USCS	Description (USCS name; Color; Moisture; Density; Plasticity; Dilatancy; EPI description; Other)	Interval & % Recovery	Blows per 6"	Sample	PID (ppm)
16	MH	SANDY ELASTIC SILT WITH GRAVEL; dark gray; moist; hard; medium plasticity; no dilatency; mostly silt with some sand and minor gravel; silty sand lens at 16.0-16.3' saturated lens	60	20-22-24	MW-12D:16	0.2
18						
20	MH	As above; low plasticity; more silt than clay	50	36-50/6"		0
22						
24	SP	POORLY-GRADED SAND; dark gray; wet; dense; mostly fine to medium sand with trace gravel; organics at 26.0'-26.5'				0
26			100	16-17-20		



NOTES: Groundwater at 8.5' after well installation

Date: 1/7/16	**Soil Boring Log**	**Boring Name: MW-13**
Project Name: Mercer Island Shell (Former BP)		Location: Northwest Corner of Intersection
Address: 7833 SE 28th Street, Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		7 12 15	0.0	ML/CL	Moist to wet, medium to dark gray, silty clay to clayey silt Sample MW13-7	
10		7 7 7	0.0		Moist to wet, grayish-green and tan mottled, silty clay	
15		50 24 50	0.0	SM	Saturated, medium gray, silty fine-grained sand	
					Dry to damp, greenish-gray, silty clay	
				ML/CL	Total depth drilled = 16 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 4 to 16 feet bgs 2/12 silica sand
20						
25						
30						
35						

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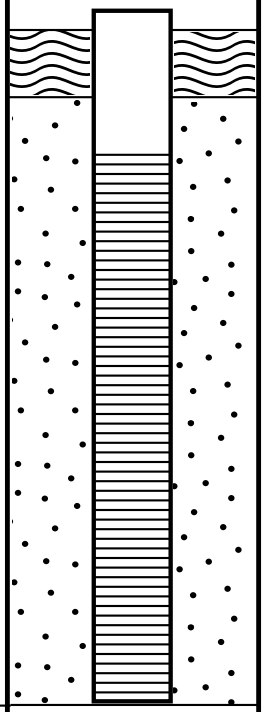
4616 25th Avenue NE #143
Seattle, Washington 98105

Project 15083-012916 JPM

Driller Name: Cascade Drilling/Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Limited Access Hollow Stem Auger	Weather Conditions: Cloudy, 40s
Diameter: 8 inches	

Date: 1/7/16	**Soil Boring Log**	**Boring Name: MW-14**
Project Name: Mercer Island Shell (Former BP)		Location: Northeast Corner of Intersection
Address: 7833 SE 28th Street, Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		10 12 17	0.0	ML/CL	Damp to moist greenish-gray and dark gray mottled, silty clay Sample MW14-7.5	
10						
15		4 5 6	0.0	▼	Wet, medium gray clay, medium plasticity	
		4 7 9			As above, saturated	
20					Total depth drilled = 19 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 4 to 19 feet bgs 2/12 silica sand
25						
30						
35						

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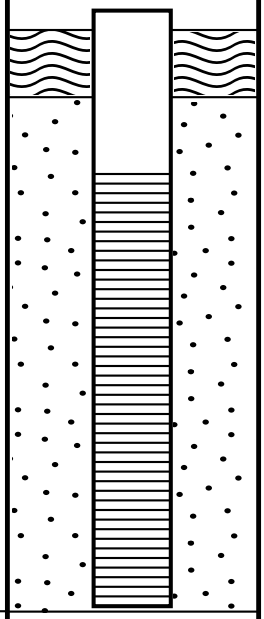
Project 15083-012916 JPM

Driller Name: Cascade Drilling/Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Limited Access Hollow Stem Auger	Weather Conditions: Cloudy, 40s
Diameter: 8 inches	

Date: 1/8/16	**Soil Boring Log**	**Boring Name: MW-15**
Project Name: Mercer Island Shell (Former BP)		Location: Southeast Corner of Intersection
Address: 7833 SE 28th Street, Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		10, 12, 17	0.0	ML/CL	Moist, blue-gray clay with silt, medium plasticity Sample MW15-7.5	
10		4, 7, 7	0.0		As above	
15		27, 50/6	0.0		As above with interbedded coarse sand and gravel Saturated at 15 feet	
					Total depth drilled = 15 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 5 to 15 feet bgs 2/12 silica sand
20						
25						
30						
35						

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Project 15083-012916 JPM

Driller Name: Cascade Drilling/Curtis

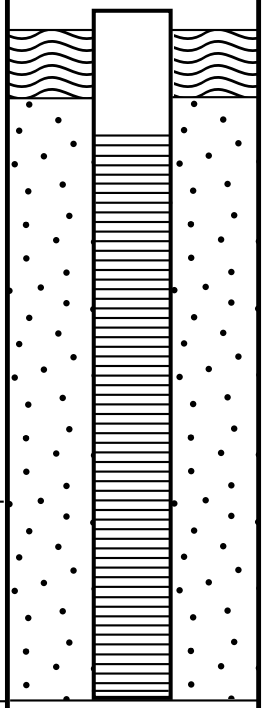
Drilling Method: Limited Access Hollow Stem Auger

Diameter: 8 inches

Sampling Method: 3-inch x 18-inch split spoon

Weather Conditions: Cloudy, 40s

Date: 8/31/16	**Soil Boring Log**	**Boring Name: MW-16**
Project Name: Mercer Island Shell (Former BP)		Location: North side of 28th Street
Address: 7833 SE 28th Street Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		11 50/6	0.0		Damp, medium grayish-brown, silty clay to clayey silt with trace gravel	
		45 50/6	0.0	ML/CL	Damp, medium grayish-brown with orange mottling, silty clay to clayey silt with trace gravel	
10		50/6	0.0		Damp to wet, medium grayish-brown, silty clay to clayey silt with trace gravel	
15		30 50/6	0.0	SM	Saturated, medium gray, clayey silty fine-grained sand	
		50/6			Saturated, medium gray, clayey silty fine-grained sand	
20					Total depth drilled = 19.5 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 4.5 to 19.5 feet bgs 2/12 silica sand
25						
30						
35						

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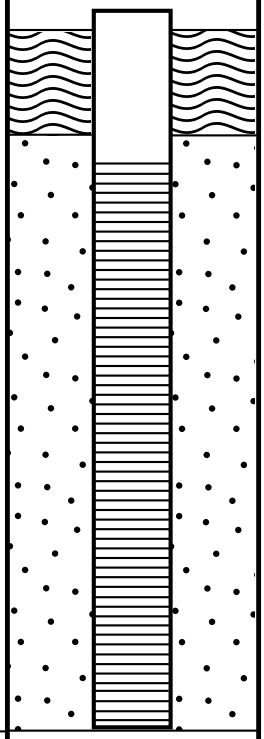
Project 15083-012916 JPM

Driller Name: Cascade Drilling/Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Limited Access Hollow Stem Auger	Weather Conditions: Cloudy, 50s
Diameter: 8 inches	

Date: 8/31/16	**Soil Boring Log**	**Boring Name: MW-17**
Project Name: Mercer Island Shell (Former BP)		Location: North side of 28th Street
Address: 7833 SE 28th Street, Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		11 20 20	0.0	ML/CL	Damp to moist, grayish-tan, silty clay to clayey silt	
		45 50/6	0.0			
10		40 50/6	0.0		Damp to moist, medium gray, silty clay to clayey silt	
15		30 50/6	0.0		Damp to moist, medium gray, silty clay to clayey silt	
		30 50/6			Damp to moist, medium gray, silty clay to clayey silt	
20					Total depth drilled = 19.5 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 4.5 to 19.5 feet bgs 2/12 silica sand
25						
30						
35						

PUGET ENVIRONMENTAL P.L.L.C. 4616 25th Avenue NE #143 Seattle, Washington 98105 Project 15083-012916 JPM	Driller Name: Cascade Drilling/Curtis Drilling Method: Limited Access Hollow Stem Auger Diameter: 8 inches	Sampling Method: 3-inch x 18-inch split spoon Weather Conditions: Cloudy, 50s

Date: 9/1/16

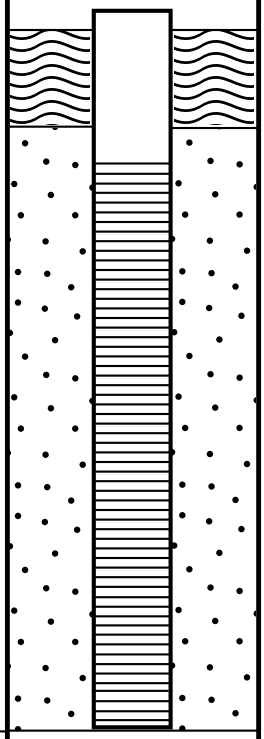
Soil Boring Log

Boring Name: MW-18

Project Name: Mercer Island Shell (Former BP)

Location: East side of 80th Street

Address: 7833 SE 28th Street
Mercer Island, Washington

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		11 11 10	3.0	ML/CL	Damp to moist, medium grayish-brown, silty clay to clayey silt with trace gravel	
10		4 9 10	0.5		Moist to wet, bluish-gray, silty clay to clayey silt	
15		3 3 15 3 20 20	0.0 0.0		Saturated, bluish-gray, silty clay to clayey silt Saturated, bluish-gray, silty clay to clayey silt	
20		50/6			Saturated, bluish-gray, fine-grained sandy clayey silt Total depth drilled = 20 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 5 to 20 feet bgs 2/12 silica sand
25						
30						
35						

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Project 15083-012916 JPM

Driller Name: Cascade Drilling/Curtis

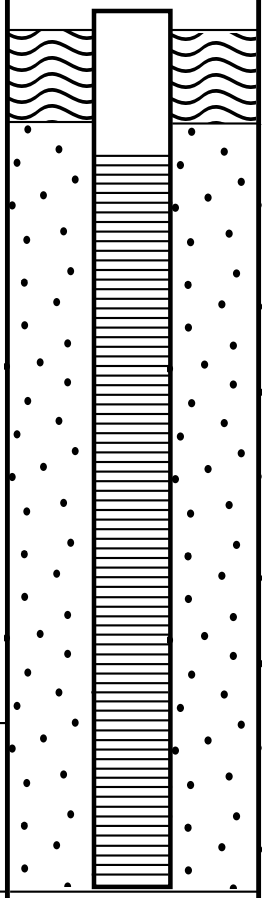
Sampling Method: 3-inch x 18-inch split spoon

Drilling Method: Limited Access Hollow Stem Auger

Weather Conditions: Cloudy, 50s

Diameter: 8 inches

Date: 2/8/17	**Soil Boring Log**	**Boring Name: MW-20**
Project Name: Mercer Island Shell (Former BP)		Location: West Side of 80th Avenue SE, South of Site
Address: 7833 SE 28th Street, Mercer Island, Washington		

Depth	Sample	Blows	PID	USCS	Description	Well Construction
					Air knifed to 5 feet	
5		14 20 25	0.0		Damp, greenigh-gray and brownish-orange mottled, silty clay	
		12 16 22	0.0	ML/CL	@ 8 feet, wet, grayish-green	
10			0.0			
15		8 12 15	0.0	▼	@ 16.5 feet, saturated	
		50/6			As above, with fine-grained sand	
20				SP	Saturated, dark gray, fine- to medium-grained sand, few fines	
		18 50/6				
25					Total depth drilled = 24 feet	Well constructed of 2-inch-diameter PVC well casing with 0.010-inch screen 4 to 24 feet bgs 2/12 silica sand
30						
35						

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4616 25th Avenue NE #143
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Project 15083-041417 JM

Driller Name: Cascade Drilling/Curtis

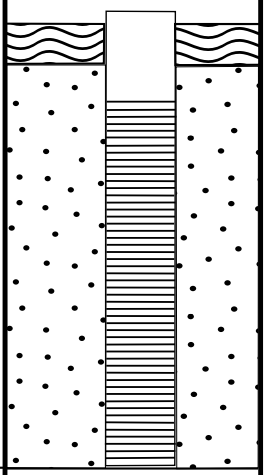
Sampling Method: 3-inch x 18-inch split spoon

Drilling Method: Limited Access Hollow Stem Auger

Weather Conditions: Rainy, 40s

Diameter: 8 inches

Date: 1/30/19	**Soil Boring Log**	**Boring Name: MW-21**
Project Name: Mercer Island Shell		Location: Northeast Corner
Address: 7833 SE 28th Street Mercer Island, Washington		

Depth	Sample	Blows	PID	Description	Well Construction
5		35 50/6	0.0	Air-knifed to approximately 5 feet Moist, bluish gray, silty clay, trace fine-grained sand Sample B21-6	
10				Moist to wet, bluish-gray silty clay with fine-grained sand.	
15				Total depth = 14 feet	Well constructed of 2-inch diameter PVC well casing with 0.010-inch screen 2/12 silica sand
20					
25					
30					
35					

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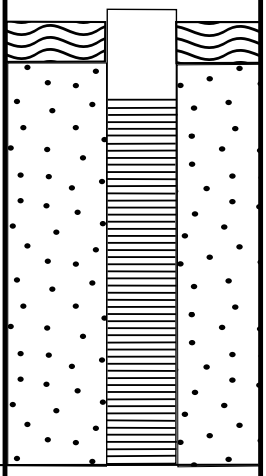
Driller Name: Cascade-Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Hollow Stem Auger	Weather Conditions: Cloudy
Diameter: 8 inches	Page 1 of 1

Date: 1/30/19	**Soil Boring Log**	**Boring Name: MW-22**
Project Name: Mercer Island Shell		Location: North Of Site In SE 28th Street
Address: 7833 SE 28th Street Mercer Island, Washington		

Depth	Sample	Blows	PID	Description	Well Construction
5		60/6	0.0	Air-knifed to approximately 5 feet Damp, light brown, fine-grained sand with cobbles and clay. Sample B22-6	
10					
15				Total depth = 14 feet	Well constructed of 2-inch diameter PVC well casing with 0.010-inch screen 2/12 silica sand
20					
25					
30					
35					

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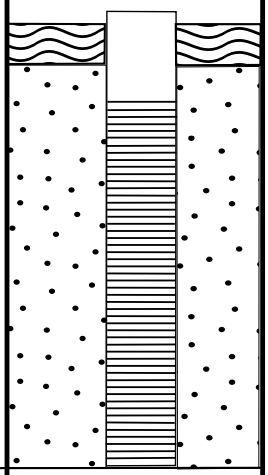
Driller Name: Cascade-Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Hollow Stem Auger	Weather Conditions: Cloudy
Diameter: 8 inches	

Date: 1/31/19	**Soil Boring Log**	**Boring Name: MW-23**
Project Name: Mercer Island Shell		Location: Southeast In 80th Avenue SE
Address: 7833 SE 28th Street Mercer Island, Washington		

Depth	Sample	Blows	PID	Description	Well Construction
				Air-knifed to approximately 5 feet	
5		14 15 17	0.0	Moist, bluish gray, silty clay, fine-grained sand. Sample B23-6	
10					
15				Total depth = 14 feet	Well constructed of 2-inch diameter PVC well casing with 0.010-inch screen 2/12 silica sand
20					
25					
30					
35					

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Driller Name: Cascade-Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Hollow Stem Auger	Weather Conditions: Cloudy
Diameter: 8 inches	

Date: 1/31/19	**Soil Boring Log**	**Boring Name: MW-24**
Project Name: Mercer Island Shell		Location: West Of Service Building
Address: 7833 SE 28th Street Mercer Island, Washington		

Depth	Sample	Blows	PID	Description	Well Construction
				Air-knifed to approximately 5 feet	
5		35,50/5	0.0	Wet, blueish-gray, silty clay, trace fine-grained sand. Sample B24-6, B24-7	
10				Dry, light brown with orange mottling, silty clay, trace fine-grained sand.	
				Moist to wet, bluish gray, silty clay with fine-grained sand.	
15				Total depth = 14 feet	Well constructed of 2-inch diameter PVC well casing with 0.010-inch screen 2/12 silica sand
20					
25					
30					
35					

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Driller Name: Cascade-Curtis	Sampling Method: 3-inch x 18-inch split spoon
Drilling Method: Hollow Stem Auger	Weather Conditions: Cloudy
Diameter: 8 inches	Page 1 of 1

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the Client. No other party may rely on this report or the product of our services without the express written consent of Aspect Consulting, LLC (Aspect). This limitation is to provide our firm with reasonable protection against liability claims by third parties with whom there would otherwise be no contractual conditions or limitations and guidelines governing their use of the report. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and recognized standards of professionals in the same locality and involving similar conditions.

Services for Specific Purposes, Persons and Projects

Aspect has performed the services in general accordance with the scope and limitations of our Agreement. This report has been prepared for the exclusive use of the Client and their authorized third parties, approved in writing by Aspect. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

This report is not, and should not, be construed as a warranty or guarantee regarding the presence or absence of hazardous substances or petroleum products that may affect the subject property. The report is not intended to make any representation concerning title or ownership to the subject property. If real property records were reviewed, they were reviewed for the sole purpose of determining the subject property's historical uses. All findings, conclusions, and recommendations stated in this report are based on the data and information provided to Aspect, current use of the subject property, and observations and conditions that existed on the date and time of the report.

Aspect structures its services to meet the specific needs of our clients. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and subject property. This report should not be applied for any purpose or project except the purpose described in the Agreement.

This Report Is Project-Specific

Aspect considered a number of unique, project-specific factors when establishing the Scope of Work for this project and report. You should not rely on this report if it was:

- Not prepared for you
- Not prepared for the specific purpose identified in the Agreement
- Not prepared for the specific real property assessed
- Completed before important changes occurred concerning the subject property, project or governmental regulatory actions

If changes are made to the project or subject property after the date of this report, Aspect should be retained to assess the impact of the changes with respect to the conclusions contained in the report.

Geoscience Interpretations

The geoscience practices (geotechnical engineering, geology, and environmental science) require interpretation of spatial information that can make them less exact than other engineering and natural science disciplines. It is important to recognize this limitation in evaluating the content of the report. If you are unclear how these "Report Limitations and Use Guidelines" apply to your project or site, you should contact Aspect.

Discipline-Specific Reports Are Not Interchangeable

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually address any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding the subject property.

Environmental Regulations Are Not Static

Some hazardous substances or petroleum products may be present near the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or petroleum products or do not otherwise present potential liability. Changes may occur in the standards for appropriate inquiry or regulatory definitions of hazardous substance and petroleum products; therefore, this report has a limited useful life.

Property Conditions Change Over Time

This report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time (for example, Phase I ESA reports are applicable for 180 days), by events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, slope failure or groundwater fluctuations. If more than six months have passed since issuance of our report, or if any of the described events may have occurred following the issuance of the report, you should contact Aspect so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Phase I ESAs – Uncertainty Remains After Completion

Aspect has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Aspect has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Aspect makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Aspect’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Aspect’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Aspect’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.