

**Remedial Investigation Report**

West Olympia Landfill Site  
Olympia, Washington

*for*  
**City of Olympia**

July 27, 2018



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# Remedial Investigation Report

## West Olympia Landfill Site Olympia, Washington

File No. 0415-071-00

July 27, 2018

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## Abbreviations and Acronyms

afy	acre-feet per year
AO	Agreed Order No. 13797
ASTM	ASTM International
bgs	below ground surface
CAP	Cleanup Action Plan
City	City of Olympia
COC	contaminants of concern
CSM	conceptual site model
DWPA	drinking water protection area
E&E	Ecology and Environment, Inc.
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ESN	ESN Northwest, Inc.
ft/day	feet per day
ft/ft	feet per foot
ft/year	feet per year
FS	Feasibility Study
IDW	investigation-derived waste
IHS	Indicator Hazardous Substance
LAI	Landau Associates, Inc.
LEL	lower explosive limit
µg/L	micrograms per liter
µg/m <sup>3</sup>	micrograms per cubic meter
mg/kg	milligram per kilogram
mL	milliliters
MTCA	Model Toxics Cleanup Act
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
PGG	Pacific Groundwater Group
ppm	parts per million
PQL	practical quantification limit

RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
Site	West Olympia Landfill
SLs	screening levels
SVOC	semivolatile organic compound
TBA	Targeted Brownfields Assessment
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TEE	Terrestrial Ecological Evaluation
Thurston PUD	Thurston County Public Utility District
TPH	total petroleum hydrocarbons
USGS	United States Geological Survey
Vashon	Vashon Stage of the Fraser Glaciation
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WHPA	wellhead protection area

DRAFT

## INTRODUCTION

The purpose of this Remedial Investigation (RI) report is to document the nature and extent of contaminants of concern (COCs) at the City of Olympia (City) West Olympia Landfill Site (Site) for media including landfill waste, soil, soil gas, and groundwater as required under the Washington State Department of Ecology (Ecology) Model Toxics Cleanup Act (MTCA) cleanup regulation<sup>1</sup>. This RI report satisfies the requirements of Agreed Order No. DE 13797 (AO) established between the City and Ecology on October 2, 2017 and supports preparation of the Feasibility Study (FS) and Cleanup Action Plan (CAP) to guide Site cleanup in accordance with the MTCA process. MTCA defines the Site (or facility) as any place where contaminants have been stored, deposited or come to be located<sup>2</sup>. For the purposes of this RI report, the Site is defined as the parcel owned by the City of Olympia, inclusive of the former landfill property (Figure 1-1). As discussed in this report, the former landfill is the source of the COCs for the Site cleanup required under the AO. The City is invested in putting this property back into economic use for the benefit of the community through sale to a private developer.

### 1.1. General Site Information

Project Contacts	
Property Owner (City of Olympia) Project Manager	Donna Buxton, LHG City of Olympia PO Box 1967 Olympia, WA 98504-1967 <a href="mailto:dbuxton@ci.olympia.wa.us">dbuxton@ci.olympia.wa.us</a> (360) 753-8793
Department of Ecology Project Manager	Mohsen Kourehdar, P.E. Department of Ecology Southwest Regional Office PO Box 47775 Olympia, WA 98504-7775 <a href="mailto:Mkou461@ecy.wa.gov">Mkou461@ecy.wa.gov</a> (360) 407-6256
Site Location and Description	
Site Name	West Olympia Landfill Site
Site Address	1305 Cooper Point Road SW Olympia, WA 98502
Latitude/Longitude	47.0352611N, -122.9428472W
Reference Point for Coordinates	Approximate center of Site
Horizontal Collection Method	Global Positioning System

<sup>1</sup> Washington Administrative Code (WAC) 173-340.

<sup>2</sup> WAC 173-340-200

Horizontal Reference Datum	WGS84
Location Description	Township 18N, Range 2W, Section 21
Parcel Number	12821240103
Size (in acres)	12.3
Site Owner	City of Olympia 601 4 <sup>th</sup> Avenue East PO Box 1967 ATTN: Legal Department Olympia, WA 98507-1967
Department of Ecology Facility/Site ID	1425
Department of Ecology Cleanup Site ID	4807

The Site includes the 12.3-acre former landfill property that is located within the city limits of Olympia, Washington northwest of the intersection of Black Lake Boulevard/Cooper Point Road and US Highway 101. The Site is surrounded by residential property to the north and commercial properties to the east and south. US Highway 101 is located just west of the Site's western boundary (Figure 1-1).

As discussed in Section 2.3, the Site is located northeast of the Black Hills, about ¼ mile north of Ken (Simmons) Lake, the nearest surface water body, and within the 10-year time of travel zone boundary of the City's Allison Springs wellhead protection area (WHPA).

## 1.2. Site History

The City acquired the parcels that included the landfill property in two separate purchases in 1939 (from David Gammell) and in 1942 (from David and Jessie Gammell) (E&E 2017). Over time, portions of the original 27.5-acre property were subdivided by the City and sold in 1987, resulting in the current 12.3-acre landfill property portion of the Site that is the focus of this RI.

Prior to the City's purchase, the original property was used as a domestic waste dump by local residents. After acquisition, the City continued to operate the landfill property as a municipal landfill for residential and industrial waste. Waste was routinely burned and buried during the landfill operations. After the landfill ceased operations in about 1968, the City continued to use the landfill property to store construction debris, power poles, concrete pipe, tree trimmings, and other similar non-hazardous materials (E&E 2017). Currently, the landfill property is vacant and not actively used by the City. All stored materials have been removed and the landfill property is routinely patrolled by City enforcement to monitor and control trespassing. Based on the investigations described in this report, the 12.3-acre landfill property encompasses the full extent of the historical dumping and landfilling operation.

## 1.3. Current and Proposed Future Site Use

The Site is zoned General Commercial. Adjacent and nearby zoning includes High Density Corridor, Professional Office/Residential Multi-Family, Medical Service, Residential Multi-Family, Single Family Residential, and Residential Low-Impact.

The Site is in West Olympia, which is a rapidly growing commercial center in the Thurston County region. The Site is the last large undeveloped tract in the area and has a high potential for redevelopment due to

its prime location at the intersection of US Highway 101 and two major City arterials: Black Lake Boulevard and Cooper Point Road. According to the City, West Olympia is a significant employment and commercial center with over 17,000 jobs and taxable retail sales comprising more than 50 percent of the City's retail tax revenue. Several large employers and two colleges support commerce in the area.

The City plans to sell the landfill property for private development after receiving Ecology's approval of a Site final cleanup action plan. The undeveloped landfill property currently attracts nuisance activities (illegal dumping and homeless encampments). When developed, the Site will become a community amenity.

#### **1.4. Regulatory Framework**

Operation of the landfill ceased in about 1968, prior to the effective date of original solid waste regulations<sup>3</sup>. Therefore, the Site was never permitted and is not required to go through Ecology's formal landfill closure process. The Thurston County Public Health Department and Ecology expressed no immediate concerns related to potential environmental impacts from the Site. Ecology assigned a ranking of 4 (out of 5, with 1 being the highest priority for additional activity) on the Hazardous Sites List under the MTCA cleanup regulation. The landfill does not pose an imminent threat to human health or the environment and is currently recognized as a brownfield by Ecology.

Discussions in the early 2000s between the City and Ecology, stemming from proposed development of the property, resulted in a determination that the Site could be cleaned up and developed as an independent action under the Ecology Voluntary Cleanup Program (VCP) since the improvements associated with development (i.e., structures and paved parking/driving areas) could effectively serve as capping/containment of the former landfill materials. Subsequently, in 2004, the City entered the Site in the VCP. After review of information available at that time, Ecology recommended that the City install additional groundwater monitoring wells at down-gradient off-site locations. As of 2007, the Site was no longer active in the VCP because the City was unable to obtain the owner's permission to install monitoring wells on the adjacent, down-gradient properties. The Site was withdrawn from the VCP at that time. Further discussions in 2016 between the City and Ecology eventually resulted in an Agreed Order that requires the current RI/FS activity and this report.

## **2.0 FIELD INVESTIGATIONS**

This section summarizes environmental and applicable hydrogeologic and geotechnical investigations completed at the Site. Section 2.1 "Previous Investigations" summarizes field activities completed at the Site that provide much of the data used for this RI. Section 2.2 "Supplemental Site Characterization" summarizes the additional soil gas investigation completed in June 2018. Locations sampled in previous and current investigations used to support this RI are shown on Figure 2-1.

### **2.1. Previous Investigations**

Environmental, hydrogeologic, and geotechnical investigations were conducted at the Site from approximately 1984 to 2016. Ecology and Environment, Inc. (E&E) provided a comprehensive summary of these previous investigations in the Targeted Brownfields Assessment (TBA) report for the Site (E&E 2017).

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<sup>3</sup> WAC 173-301

Additionally, a chronological summary of previous investigations at the Site that includes details regarding each investigation (i.e., media investigated, type and number of subsurface explorations completed, and samples submitted for chemical analysis) is provided in Table 2-1.

Based on a review of the scope, focus, timing and quality of available chemical analytical data from each investigation relative to various Site media (i.e., soil/waste, groundwater, and soil gas), the following data sets were selected to characterize the nature and extent of contamination at the Site:

- **Soil and Waste**—Data from 2000 to present:
  - Environmental Investigation for Proposed Home Depot (LAI 2000)
  - Drilling, Deep Well Installation, and Groundwater Sampling Activities, West Olympia Landfill Property (LAI 2005a)
- **Groundwater**—Data from 2014 to 2015 (most recent rounds):
  - Targeted Brownfields Assessment (E&E 2017)
- **Soil Gas**—Data from 2014 to present:
  - Targeted Brownfields Assessment (E&E 2017)
  - Current Supplemental Site Characterization (as described in Section 2.2)

The complete data for each media that are included in this RI are provided in Appendix A. Summaries of the reports associated with the selected data sets are provided below.

#### **2.1.1. Environmental Investigation for Proposed Home Depot by Landau Associates, Inc.**

In July and September 2000, Landau Associates, Inc. (LAI) conducted a geotechnical and environmental subsurface investigation at the Site for The Home Depot. LAI completed 14 test pits (TP-1 through TP-14), and 19 borings (LAI-1 through LAI-19) at the Site. Three of the borings (LAI-1 through LAI-3) were completed as monitoring wells and screened within the first continuous groundwater zone (Qga aquifer discussed in Section 2.3) from approximately 69 to 76 feet below ground surface (bgs).

Landfill waste was identified at all but six of the 33 boring or test pit locations; waste thickness varies from absent or thin near the Site boundaries, to a thickness of at least 17 feet toward the center of the Site (based on observations in boring LAI-19) where waste appeared to be mounded with little to no fill cover.

Discrete soil and landfill waste (if encountered) samples were collected from each of the borings and test pits, and groundwater samples were collected from the monitoring wells using low flow sampling techniques. The soil, waste, and groundwater samples were analyzed for one or more of the following:

- Total petroleum hydrocarbons (TPH) by Northwest Methods NWTPH-Gx and NWTPH-Dx;
- Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260;
- Semivolatile organic compounds (SVOCs) by EPA Method 8270;
- Polychlorinated biphenyls (PCBs) by EPA Method 8081; and
- Total, dissolved, and toxicity characteristic leaching procedure (TCLP) metals (arsenic, cadmium, chromium, lead, and mercury) by EPA Methods 6010/7000 and 200.8.

Constituents that were detected in the various media at concentrations greater than the MTCA Method A or B cleanup levels for unrestricted land uses (the screening levels used by LAI) were:

- Soil: arsenic, chromium, and lead;
- Waste: arsenic, chromium, lead, PAHs, PCBs, and diesel- and heavy oil-range petroleum hydrocarbons;
- Groundwater: arsenic and trichloroethene (TCE).

Based on the detected concentrations and frequency of screening level exceedances, LAI concluded that the major COCs for the landfill waste and soil were metals (arsenic, chromium and lead) and heavy oil-range petroleum hydrocarbons. Although arsenic exceeded the screening levels in groundwater, concentrations were low (i.e., less than the current MTCA Method A value of 5 micrograms per liter [ $\mu\text{g/L}$ ]). LAI stated that the groundwater arsenic detections may have been representative of area background concentrations because of the depth to groundwater (50 feet bgs). TCE was identified as a COC for groundwater at the Site.

#### **2.1.2. Environmental and Hydrogeologic Investigation by Landau Associates, Inc.**

In September of 2005, LAI installed a deep monitoring well (LAI-5d) in the northwestern portion of the Site near existing monitoring well LAI-1. TCE had been identified in groundwater sampled from monitoring well LAI-1 in 2000, which is screened from approximately 55 to 76 feet bgs in the shallower Qga aquifer. Monitoring well LAI-5d was installed to verify the existence of the deeper Qpg aquifer beneath the Site, and to evaluate the vertical extent of TCE in groundwater. The Qpg aquifer was encountered and monitoring well LAI-5d was set and screened from approximately 142 to 152 feet bgs. The Qga and Qpg are discussed further in Section 2.3.

During drilling, three soil samples were collected for chemical analyses to document conditions at the following locations: 1) base of Qga aquifer, 2) top of Qpg aquifer, and 3) within the well screen interval. A grab groundwater sample was also collected during drilling from the Qga aquifer. Groundwater from the Qpg aquifer was sampled after the well was completed and developed.

Soil and groundwater samples were submitted for the following analyses:

- TPH by Northwest Methods NWTPH-Gx and NWTPH-Dx;
- VOCs by EPA Method 8260;
- SVOCs by EPA Method 8270;
- PCBs by EPA Method 8081; and
- Total and dissolved metals (arsenic, cadmium, chromium, lead, mercury, silver, and zinc) by EPA Methods 6010/7000 and 200.8.

COCs were not detected at concentrations greater than analytical reporting limits in any of the three soil samples collected, or in the groundwater sample from monitoring well LAI-5d screened in the deep Qpg aquifer. TCE was detected in the groundwater grab sample from the shallower Qga aquifer at a concentration similar to those historically detected in Site wells screened in the Qga aquifer including LAI-1.



### 2.1.3. Targeted Brownfields Assessment by Ecology and Environment, Inc.

E&E conducted a multi-phase investigation as part of the TBA from 2014 through 2016 to collect additional groundwater and soil gas data at the Site. Investigation elements included:

#### **Groundwater**

- Baseline groundwater sampling of 10 existing on-site wells (LAI-1 through LAI-3, LAI-MW-1 through LAI-MW-4, LAI-5d, PGG-1 and PGG-2) and one off-site well (MW-23).
- Installation of two wells (OLY-1 and OLY-2) downgradient from the Site.
- Four quarters of groundwater sampling (from March to December 2015) of two on-site wells (LAI-1 and LAI-MW-2) where TCE was detected at concentrations greater than the screening levels during baseline sampling and two off-site downgradient wells (OLY-1 and OLY-2).

Baseline groundwater samples were analyzed for a suite of water quality parameters (ammonia, chloride/sulfate, nitrite-nitrate, total organic carbon and total dissolved solids) and the following:

- TPH by Northwest Methods NWTPH-Gx and NWTPH-Dx;
- VOCs by EPA Method 8260;
- SVOCs by EPA Method 8270;
- PCBs by EPA Method 8081; and
- Total and dissolved metals (including arsenic, cadmium, chromium, lead, mercury, silver, and zinc) by EPA Methods 6010/7000 and 200.8.

Subsequent quarterly groundwater samples were analyzed for VOCs only. In general, the groundwater samples were collected using low-flow techniques.

#### **Soil Gas**

- Soil gas sampling from 14 existing and temporary on-site locations; and
- Passive soil gas grid-sampling from 64 temporary on-site locations.

Soil gas samples were submitted for analysis of VOCs and methane by EPA Method TO-15 and ASTM International (ASTM) Method D-1946. Refer to E&E's TBA report for active and passive soil gas sampling methodologies.

Chemicals detected at concentrations greater than the MTCA Method A cleanup levels for groundwater or Method B soil gas screening levels for shallow soil gas (that is, less than 15 feet bgs) (the screening levels used by E&E) were:

- **Groundwater:** TCE in one or more samples from two wells near the northeast corner of the Site (LAI-1 and LAI-MW-2) and one downgradient well to the north/northwest of the Site (OLY-2); and
- **Soil Gas:** VOCs including TCE, tetrachloroethene (PCE), hexane, benzene, and 1,3-butadiene. TCE in only two locations (GP-5 and GP-9) on the north half of the Site. PCE and other VOCs were identified across the Site.

Based on the results of this investigation, E&E identified VOCs as the primary contaminants of concern in groundwater and soil gas at the Site.

## 2.2. Supplemental Site Characterization

In 2018, as requested by Ecology, LAI conducted additional investigation to further evaluate the nature and extent of VOCs in soil gas at the Site, including where VOCs were detected at concentrations above screening levels during previous soil gas investigations. The investigation included the installation of 10 permanent soil gas monitoring points (GP-15 through GP-24) in February and May of 2018, and soil gas sample collection at the newly installed soil gas monitoring points and the five existing soil gas monitoring points (GP-1 through GP-5). The investigation was conducted in accordance with the procedures approved by Ecology, as presented in the work plan (LAI 2017) and Ecology's draft vapor intrusion guidance document (Ecology 2018a).

As stated above, additional data were collected to:

- Confirm concentrations of constituents previously detected above screening levels in soil gas (1,3-butadiene; 1,4-dichlorobenzene [1,4-DCB]; 1,1,1,2-tetrachloroethane; benzene; carbon tetrachloride; hexane; PCE; and TCE).
- Define the soil gas concentrations at the boundaries of the landfill property.
- Define the extent of previously high TCE and PCE soil gas concentrations.

### 2.2.1. Permanent Soil Gas Probe Installation

Ten soil gas probes were installed using direct-push drilling techniques by ESN Northwest, Inc. (ESN) of Olympia, Washington. GP-15 through GP-20 were installed on February 1 and 2, 2018 and GP-21 through GP-24 were installed on May 17, 2018<sup>4</sup>. GP-15, GP-16, and GP-19 were installed within the extent of the landfill waste. The remaining probes were installed along the perimeter of the landfill property outside of the extent of the waste. The perimeter probes were placed as close to the parcel boundary as feasible given uneven terrain and accessibility limited by thick vegetation and wet surface conditions. Prior to the start of drilling activities, all locations were determined to be clear of utilities through a public utility locate and a private utility locate. Soil gas probe boring logs and construction details are provided in Appendix B. The 2018 soil gas sampling locations are shown on Figure 2-2 (see Figure 2-1 for these soil gas sampling locations relative to other explorations).

The 2.5-inch diameter borings were each drilled to a depth of approximately 7 feet bgs. Soil gas probes were constructed in accordance with the procedures described in the work plan, and generally:

- A vapor implant (¼-inch diameter, 6-inch length stainless steel) was attached to a length of ¼-inch diameter Teflon tubing.
- Sand was placed above and below the vapor implant to create a filter pack.
- Approximately 0.5 feet of dry granular bentonite was installed above the filter pack and hydrated bentonite grout was placed to approximately 2 feet below the surface.
- The surface was completed with concrete and a 6-inch stick-up monument to approximately 3-feet above ground surface with three protective bollards.

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<sup>4</sup> The drilling of the last four soil gas probes was delayed due to high water levels in the perched groundwater at the site.

### **2.2.2. Soil Gas Sample Collection**

Soil gas samples were collected on May 29 and 30, 2018 and June 18, 2018. The samples were collected from GP-1 through GP-5 (previously installed) and GP-15 through GP-24 (newly installed). For quality assurance purposes, leak testing was conducted prior to sample collection, confirming an air-tight seal and sample integrity. The leak tests included a shut-in test and a helium leak test, as described in the work plan (LAI 2017).

Prior to sampling, the air in the sample train was purged. For the LAI gas probes, a syringe was used to purge three volumes from the sample train (approximately 6 milliliters [mL] per foot of ¼-inch sample tubing). Due to the larger diameter of the Pacific Groundwater Group (PGG) gas probes (¾ inch), and the larger volume of air required to purge, the purge was completed using the LandTech GEM 2000 meter while monitoring gas quality parameters for stability prior to sampling at these locations.

#### ***Volatile Organic Compound Monitoring***

Soil gas samples were collected into 1-liter Summa canisters for VOC analysis. Samples were collected slowly (at a flow rate less than 200 mL per minute) to prevent sample dilution. The samples were transported under proper chain-of-custody procedures to TestAmerica laboratory in Sacramento, California. Samples were analyzed for VOCs using EPA Method TO-15. The VOCs analyzed for were those detected previously at the Site at concentrations above the screening levels (1,3-butadiene; 1,4-DCB; 1,1,1,2-tetrachloroethane; benzene; carbon tetrachloride; hexane; PCE; and TCE). Results for the 2018 and the previously collected soil gas samples are discussed in Section 3.0.

#### ***Fixed Gas Monitoring***

Fixed gases associated with landfill gas (methane, carbon dioxide, and oxygen) were monitored at each sample location using a handheld landfill gas analyzer (LandTech GEM 5000) meter. Results of the 2018 and previous landfill gas monitoring are discussed in Section 3.0

### **2.2.3. Equipment Decontamination and Investigation-Derived Waste**

Non-dedicated sampling equipment and downhole drilling equipment was decontaminated between locations using an Alconox®/tap water solution, followed by a tap water rinse and a de-ionized water rinse. Investigation-derived waste (IDW) soil generated as part of the subsurface investigation was contained, properly labeled, and stored onsite. One composite soil sample was collected for waste disposal characterization. TestAmerica analyzed the composite soil sample for Resource Conservation and Recovery Act (RCRA) 8 metals<sup>5</sup> using EPA Method 6010C/7471A. The IDW generated from the Site was disposed of offsite as non-hazardous waste.

## **2.3. Geology and Hydrogeology**

This section provides a summary of Site geology and hydrogeology to provide background information needed for the conceptual site model and contaminant fate and transport evaluation. Geologic and hydrogeologic information was summarized from the reports listed below:

- West Olympia Landfill Site Targeted Brownfield Assessment (E&E 2017)
- City of Olympia 2015–2020 Water System Plan, Chapter 7: Groundwater Protection (City of Olympia 2015)

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<sup>5</sup> RCRA 8 metals are arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

- Survey of Existing Wells Within Allison Springs Drinking Water Protection Area (PGG 2011)
- Ground Water Level Measurement Project (TCEH 2009)
- Hydrogeologic Conditions in the City of Olympia Wellfield Areas, Thurston County, Washington (Golder Associates 2008)
- Hydrogeologic Conditions of Allison Springs (Horsley Witten Group 2007)
- West Olympia Landfill Groundwater Investigation (PGG 2006)
- Drilling, Deep Well Installation, and Groundwater Sampling Activities, West Olympia Landfill Property (LAI 2005a)
- Groundwater Monitoring Data – March 2005 sampling event, Former West Olympia Landfill Property (LAI 2005b)
- Well Installation and Groundwater Sampling Activities, West Olympia Landfill Property (LAI 2004a)
- Summary of Hydrogeologic Conditions, West Olympia Landfill Property (LAI 2004b)
- Geologic Map of Tumwater 7.5-minute Quadrangle, Thurston County, Washington (Walsh et al. 2003)
- August 2003 Groundwater Monitoring and Sampling Letter Report (Zipper Zeman Associates 2003a)
- Environmental Investigations, Proposed Home Depot Store, Olympia, Washington (LAI 2000)
- Conceptual Model and Numerical Simulation of the Ground-Water-Flow System in the Unconsolidated Sediments of Thurston County, Washington (Drost et al. 1999)
- On-Site Review and Testing, 27-Acre Site, Black Lake Blvd. and Cooper Point Road (Hart Crowser 1986)
- Report of Geotechnical Services, City of Olympia Landfill (Dames & Moore 1984)
- State of Washington Water Supply Bulletin No. 10: Geology and Ground-Water Resources of Thurston County, Washington, Volume 2 (Noble and Wallace 1966)

### **2.3.1. Regional Physiography and Surface Water**

The Site is located at the southern portion of a local geographic area with somewhat distinct physical attributes. The southern boundary of this area is roughly identified by local outcroppings of bedrock that form the Black Hills, Bush Mountain, and Tumwater Hill. The western boundary of the area is formed by Eld Inlet and Mud Bay. The eastern boundary is formed by Budd Inlet and Capitol Lake. Budd and Eld Inlets coalesce to the north to define a distinct peninsula.

Several small lakes and wetland areas are located within the local geographic area. Some of these lakes and wetlands drain to Green Cove Creek, a small water course that flows north into Eld Inlet. Otherwise, numerous small creeks drain off the uplands directly into either Eld Inlet or Budd Inlet. Black Lake Ditch drains surface water flow in the southern portion of the local geographic area south toward Black Lake. The locations of physiographic and surface water features in the local geographic area are shown on Figure 2-3.

### **2.3.2. Geology**

A regional geologic conceptual model was developed based on the relevant reports listed in Section 2.3. The regional geologic model provides a framework to interpret the specific geology observed at the Site.

### 2.3.2.1. Regional Geology

The regional geology identified near the Site consists of a sequence of unconsolidated sediments above Tertiary bedrock (Golder Associates 2008). The near-surface deposits are dominated by the geology of the most recent Puget Sound glaciation (the Vashon Stade of the Fraser Glaciation [Vashon]). These deposits typically consist of recessional and advance outwash separated by dense glacial till. Beneath the Vashon-age deposits are older interglacial (non-glacial origin) fluvial and lacustrine deposits underlain by older glacial sand and gravel. This entire sequence of unconsolidated deposits is underlain by Tertiary age bedrock consisting primarily of basalt. Locally, outcroppings of Tertiary bedrock occur in areas southwest of US Highway 101. The bedrock is covered by unconsolidated sediments northeast of US Highway 101 and beneath the Site. Surficial geology of the local geographic area is presented on Figure 2-4. A description of geologic units, from youngest to oldest, is presented below:<sup>6</sup>

- **Vashon Recessional Outwash, Qgo (formerly Qvr):** Typically consists of permeable sand and gravel but can include silt and peat. Deposits were formed from streams emanating from the melting and receding Vashon glacier. This unit occasionally includes perched groundwater that varies in occurrence locally and seasonally. The thickness of this unit in the local geographic area is reportedly greater than 25 feet (Drost et al. 1999).
- **Vashon Till, Qgt (formerly Qvt):** Typically consists of sand and gravel in a dense matrix of silt and clay. Glacial till is either lodgment (i.e., sub-glacial) till or ablation till. Lodgment till is deposited at the base of the glacier and tends to be gray and very dense. Ablation till is deposited from melting stagnant ice and can form a brown, less dense mantle over the typically thicker lodgment till. Till is a low permeability deposit that acts as an aquitard. The thickness of this unit is highly variable regionally but is reportedly greater than 50 feet thick in places within the local geographic area (Drost et al. 1999).
- **Vashon Advance Outwash, Qga (formerly Qva):** Consists of sand and gravel deposited from melt waters emanating from the leading edge of the advancing Vashon ice sheet. This unit is a locally significant water supply aquifer. The majority of Site monitoring wells are screened in this aquifer unit. The City of Olympia Kaiser Well 1 water supply well is interpreted to be screened in this unit (Golder Associates 2008). Drost et al. (1999) document the Qga as typically being less than 50 feet thick in the local geographic area; however, this unit was observed to be almost 100 feet thick at Site boring LAI-5d.
- **Pre-Vashon Glaciolacustrine Deposits, Qpf (formerly Kitsap Formation, Qf):** Consists of clay and silt with zones of sand, gravel, peat, and wood deposited in shallow lakes and wetlands prior to the Vashon glaciation. This unit serves as an aquitard that separates the overlying Vashon age deposits from underlying pre-Vashon deposits. Drost et al. (1999) estimate that the Qpf is more than 50 feet thick in most of the local geographic area. However, this unit was only about 17 feet thick at Site boring LAI-5d and appears to be absent at the City's Allison Spring wells (Figure 2-3) near Mud Bay.
- **Pre-Vashon Gravel, Qpg (formerly Penultimate Deposits, Qc):** Consists predominantly of glacial sand and gravel deposits. Locally this unit contains silty zones. The coarse-grained portions of this unit form a regionally significant aquifer. This aquifer is reportedly the primary supply source for the City's Allison

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<sup>6</sup> The geologic nomenclature (i.e., Qgt for glacial till) follows the designations defined Washington Department of Natural Resources in the most recent surficial geologic map (Walsh et al. 2003) and adopted by the City of Olympia (Golder Associates 2008). Previously used designations by the US Geological Survey and others are presented in parentheses (i.e., Qvt for glacial till).

Springs Well 13 and 19 (Golder Associates 2008). Drost et al. (1999) estimate that the Qpg is less than 25 feet thick within most of the local geographic area. The unit is at least 14 feet thick beneath the northwest corner of the Site based on conditions encountered during the drilling for monitoring well LAI-5d.

- **Undifferentiated Quaternary and Tertiary Deposits (TQu):** Fine- to coarse-grained unconsolidated sediments extending to bedrock. Consists of a sequence of aquifers and aquitards. This unit is an important water-bearing unit in Thurston County, but its thickness and extent are not well characterized in the local geographic area where the unit is assumed to be absent or of limited thickness.
- **Crescent Formation basalt (bedrock), lower to middle Eocene (Evc):** The Black Hills, Bush Mountain and Tumwater Hill located south and southwest of the Site (see Figures 2-3 and 2-4) all represent basalt bedrock that protrudes above the surrounding unconsolidated deposits. The outcroppings of this bedrock unit form the southern boundary of the local geographic area, but the unit is not exposed within the local geographic area.

The thickness and occurrence of these geologic units are variable in the local geographic area. Some of this variability is due to the difficulty in distinguishing the various Vashon-age geologic units from each other based on boring log descriptions. The glacial till, for example, is often locally described as grey or brown with a similar soil texture to the overlying and underlying outwash deposits. There also appears to be a transitional zone at the base of the glacial till where advanced outwash is incorporated into the till deposits. The stratigraphic relationships of the geologic units encountered in borings drilled in the Site vicinity are presented on a geologic cross-section based on descriptions from the available monitoring well logs. The cross-section location and the locations of monitoring wells used to construct the cross-section are shown on Figure 2-5. The regional geologic cross-section is presented on Figure 2-6. Monitoring well details are summarized in Table 2-2. Boring logs for the Site wells and explorations are provided in Appendix B.

#### **2.3.2.2. Site Geology**

The stratigraphy beneath most of the Site consists of landfill waste overlying the regional stratigraphic sequence of Vashon and pre-Vashon deposits. The landfill waste varies from absent or thin near the Site boundaries, to a thickness of at least 17 feet toward the center of the property based on boring LAI-19. The thickness of landfill waste identified in each of the Site explorations is presented in Table 2-3. The extent of the landfill waste and associated borings, test pits, and wells used to define the stratigraphy at the Site, and the site-specific cross-section alignment are shown on Figure 2-7. The waste extent is presented on the site-specific cross-section (Figure 2-8).

Both residential and industrial wastes were reportedly disposed at the landfill. The waste consists of a heterogeneous mixture of fill dirt, burned household garbage, ash, partially burned wood, glass fragments, rusted metal, and some brick and concrete fragments. This waste material was routinely burned and buried (Dames & Moore 1984). The ash fill was observed at the surface of the landfill at several locations and is fine-grained but varies in density from loose to dense.

A thin, discontinuous veneer (up to 5 feet thick) of recessional outwash (unit Qgo) appears to underlie the landfill waste. The recessional outwash is underlain by a relatively thick sequence of Vashon Till (unit Qgt). The till beneath the Site consists of a very dense silty, sandy gravel that varies from brown to gray. This till sequence may be a combination of ablation till overlying lodgment till. The till varies in thickness from about 5 feet to 40 feet. Vashon Advance Outwash (unit Qga) sand and gravel underlie the till. The Qga beneath the Site is described as a brown sand or gravel with varying amounts of silt. Most of the monitoring wells at



the Site extend at least 20 feet into the Qga. The one deep monitoring well at the Site (LAI-5d) extends through the Qga and the underlying pre-Vashon glaciolacustrine deposits (unit Qpf) into the pre-Vashon Gravel (unit Qpg). At LAI-5d, the Qga was 95 feet thick and the Qpf was 17 feet thick. The Qpf is described as a grey silt with varying amounts of sand. The boring for monitoring well LAI-5d was advanced into the Qpg unit approximately 14 feet. The Qpg unit is described as a grey sand with gravel and silt.

### **2.3.3. Hydrogeology**

The primary regional aquifers within the local geographic area are the Qga and Qpg aquifers (Golder Associates 2008, LAI 2004b). The Qga is unconfined (i.e., the water table is below the bottom of the glacial till unit) near the Site but is probably confined beneath till in other portions of the local geographic area. The Qpg is confined beneath the Site by the Qpf layer. In places where the Qpf is missing (such as at the Allison Springs wells) the Qga and Qpg likely form a continuous aquifer system. Both of these aquifers pinch out near the south end of the local geographic area where unconsolidated strata abut relatively impermeable bedrock (Golder Associates 2008). The Qgo (recessional outwash) aquifer is also identified as a significant aquifer in Thurston County but appears to be a relatively thin, perched near-surface water-bearing zone within the local geographic area. The Qgo is likely important as a recharge source to surface water features in the local geographic area but appears to have little potential as a water supply aquifer (Figure 2-6). The TQu aquifer is also identified as a significant aquifer in Thurston County but is largely uncharacterized in the local geographic area.

Recharge to the Qga and Qpg aquifer system is from infiltrating precipitation through the glacial till. Another likely significant source of recharge is from interflow and surface water run-on coming off the basalt uplands at the south end of the local geographic area. Discharge from this aquifer system is predominantly to Budd and Eld Inlets (Figure 2-4).

#### **2.3.3.1. Groundwater Levels and Groundwater Flow**

Groundwater flow paths and rates affect where contaminants released to soil can potentially migrate and what resources or receptors could potentially be impacted. Regional groundwater flow within the local geographic area in the Qga was identified by Golder Associates (2008) as being from the center of the local geographic area toward Eld Inlet and Mud Bay to the west, and toward Budd Inlet and Capitol Lake to the east. PGG (2011) defined the Qga groundwater flow direction in the vicinity of the site as being to the northwest based on an evaluation of measured groundwater levels. Similarly, PGG defined groundwater flow direction in the Qpg as being to the west-northwest along the north end of the Black Hills toward Allison Springs (Figure 2-3)

As part of historical Site investigations, the 10 existing wells were installed within the Site property boundary.<sup>7</sup> Two wells (OLY-1 and OLY-2) were also installed approximately 1,300 feet northwest of the Site in 2015. City monitoring well MW-23, located approximately 2,500 feet northwest of the Site was also used to evaluate local geographic area conditions. Depth to water is approximately 40 to 70 feet bgs in the wells screened in the Qga aquifer and 50 to 60 feet bgs in one well (LAI-5d) screened in the deeper Qpg aquifer. Water levels between 2004 and 2018 fluctuated between 6.54 and 16.93 feet for wells screened in the Qga aquifer, and 10.68 feet for the well screened in the lower Qpg aquifer. The highest water level elevations generally occur in the spring (March/April) and the lowest water elevations generally occur in the

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<sup>7</sup> Three monitoring wells (MW-1 through MW-3) were installed by Dames & Moore in 1984 but are assumed to have been decommissioned.

fall (September/October). Groundwater levels were collected from local monitoring wells periodically between 2004 and 2018. Maximum and minimum groundwater elevations are shown in Table 2-4. A summary of water level measurements for Site wells (including OLY-1, OLY-2, and MW-23) are provided in Appendix C.

Groundwater flow directions at the Site were evaluated by PGG in July 2006 (PGG 2006). Based on measured water levels, there appeared to be a groundwater mound beneath the Site, with groundwater flow to both the southwest and northwest. The mounding could be due to the location of the Site near a groundwater divide. Groundwater flow in a portion of the Site may be toward Ken Lake to the southwest. Ken Lake is a small kettle lake connected to stormwater features that flow south via the Black Lake Ditch to Percival Creek and ultimately Budd Inlet. Groundwater flow in the remainder of the Site appeared to be to the northwest toward Eld Inlet. Based on synoptic water levels collected in March 2018 from the Site and from off-site monitoring wells OLY-1, OLY-2, and City monitoring well MW-23. The groundwater levels measured at the Site in 2018 were variable, but overall, they indicate a clear groundwater gradient to the northwest (Figure 2-6). Groundwater level contour maps from 2006 and 2018 are presented on Figures 2-9 and 2-10, respectively.

Hydraulic gradients were calculated to support the assessment of the direction and rate of groundwater flow both horizontally (i.e., within and from the Site) and vertically (i.e., between water-bearing zones at the Site) to assess the potential for contaminant migration in the subsurface. Horizontal hydraulic gradients in the Qga aquifer were calculated at about 0.007 feet per foot (ft/ft) to the northwest based on the groundwater level contours shown on Figures 2-9 and 2-10. Groundwater level elevations indicate that there is a slight downward vertical gradient between the Qga and Qpg aquifers beneath the Site. Based on data from monitoring wells LAI-1 and LAI-5d, the minimum vertical gradient was 0.01245 ft/ft and the maximum vertical gradient was 0.02660 ft/ft. Calculated vertical gradients are presented in Table 2-5.

#### **2.3.3.2. Hydraulic Conductivity and Groundwater Velocity**

Hydraulic conductivity is a measure of how easily water moves through various types of soil and, along with hydraulic gradient and porosity, is used to calculate groundwater velocity. Groundwater velocity is used to assess the potential rate of contaminant migration at the Site through advective groundwater flow.

Horizontal hydraulic conductivity estimates for the Qga and Qpg aquifers were summarized by Golder Associates (2008) based on a review of specific capacity values at individual wells in the local geographic area. Horizontal hydraulic conductivity was estimated at 28 to 47 feet per day (ft/day) in the Qga aquifer based on data from the City's Kaiser Road Well 1. Horizontal hydraulic conductivity was estimated at between 117 to 440 feet per day (ft/day) in the Qpg aquifer based on data from the City's Allison Springs wells (Figure 2-3). The United States Geological Survey (USGS; Drost et al. 1999) presented horizontal hydraulic conductivity estimates based on specific capacity. Golder Associates (2008) summarized these data for the local geographic area. Based on this summary, the median horizontal hydraulic conductivity of the Qga aquifer was 135 ft/day, and the median horizontal hydraulic conductivity of the Qpg aquifer was 130 ft/day. In addition, the USGS provided horizontal hydraulic conductivity values for the upper confining units (Qgt and Qpf). The median horizontal hydraulic conductivity was 14 ft/day in the Qgt and 17 ft/day in the Qpf (Drost et al. 1999).



An estimate of groundwater velocity in the Qga aquifer can be calculated from Darcy's Law as described below. Groundwater velocities in the Qga range from 0.65 to 1.1 ft/day.

$$V = ki/n$$

k (hydraulic conductivity) = 28 ft/day to 47 ft/day (based on data from Golder Associates 2008)

i (horizontal gradient) = 0.007 ft/ft (based on Figures 2-9 and 2-10)

n (porosity) = 0.3 (assumed)

Data were not available to calculate horizontal gradients for the Qpg. However, the Site is located at the far eastern, upgradient edge of the Allison Springs drinking water protection area's (DWPA's) 10-year time-of-travel zone (City of Olympia 2015). The DWPA was calculated using the USGS Thurston County Model (Drost et al. 1999). The 10-year time-of-travel zone extends approximately 11,700 feet upgradient of the wellfield. This time of travel is equivalent to an average Qpg groundwater velocity of 3.2 ft/day. Similarly, a DWPA was defined for the Kaiser Well #1 screened in the Qga. The 10-year time-of-travel zone extends about 1,680 feet upgradient of the well, which is equivalent to a groundwater velocity of about 0.5 ft/day. The Allison Springs wells and Kaiser Well 1 DWPAs are shown on Figure 2-11.

The available and calculated hydraulic conductivity and groundwater velocity estimates are variable and likely reflect variations in soil texture and uncertainty associated with specific capacity data used to calculate these values. The groundwater velocity estimates for the Qga aquifer between 0.5 and 1.1 ft/day are reasonable for sand and gravel aquifers in the Puget Sound area. The groundwater velocity estimate of 3.2 feet per year (ft/year) for the Qpg aquifer appears to be on the high end of expected values but this may be due in part to the pumping impacts of the Allison Springs wells. Since groundwater contamination only occurs in the Qga aquifer beneath the site, groundwater velocity values for the Qga aquifer should be used in assessing contaminant migration potential.

#### **2.3.4. Groundwater Use Near the Site**

Groundwater use near the Site was evaluated to determine the potential for human exposure to contaminated groundwater. Groundwater users consist of public water systems (Group A and Group B wells<sup>8</sup>) in the vicinity of the Site (Washington Department of Health 2018). In addition, water rights and Ecology well logs were reviewed to evaluate if there are private drinking water wells near the Site that suggest the potential for human exposure to Site contaminants in downgradient wells (i.e., groundwater as drinking water as a potential exposure pathway).

##### **2.3.4.1. Group A Wells**

The City operates a large municipal Group A water supply system within 2 miles downgradient of the Site (Allison Springs Wellfield). As noted above and shown on Figure 2-11, the Site is located at the far eastern, upgradient edge of the Allison Springs DWPA's 10-year time-of-travel zone (City of Olympia 2015). The Allison Springs Wellfield consists of two City wells (Wells 13 and 19), which in combination with another

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<sup>8</sup> Washington Department of Health defines Group A public water systems as those serving more than 15 connections and more than 25 people per day; large municipal purveyors fall in this category. Group B public water systems serve fewer than 15 connections and fewer than 25 people per day.

City well (Shana Park Well 11), provide up to 26 percent of the City's total water supply. The wells are typically utilized between May and October, with occasional year-round use. Additionally, the City operates another well as part of the Allison Springs wellfield area (Kaiser Road Well 1) for emergency use. The Allison Springs DWPA and the Kaiser Well DWPA are shown on Figure 2-11.

There are five other Group A wells within a 2-mile radius to the north/northwest of the Site (downgradient). These Group A wells are listed below and are shown on Figure 2-11:

- Coach Post Mobile Park: two groundwater wells with depths of 78 feet bgs and 128 feet bgs
- Olympia Bible: one groundwater well at a depth of 138 feet bgs
- Heritage West: one groundwater well at a depth of 122 feet bgs
- West Olympia Medical Park: one groundwater well at a depth of 118 feet bgs

#### **2.3.4.2. Group B Wells**

There are four Group B wells within a 2-mile radius to the north/northwest of the Site (downgradient). These Group B wells are listed below and shown on Figure 2-11:

- Kaiser Industrial Park: one groundwater well at a depth of 320 feet bgs with three connections
- Bob Lemon: one groundwater well at a depth of 140 feet bgs with four connections
- The 14<sup>th</sup> Street Community: one groundwater well at a depth of 100 feet bgs with four connections
- Kessler Water Supply: One groundwater well at an unknown depth with four connections.

#### **2.3.4.3. Possible Private Wells**

A large portion of the local geographic area is within the City's service area (Figure 2-3). Thurston County Public Utility District (Thurston PUD) serves part of the remaining local geographic area (although not all [Thurston PUD 2018]). A review of the Ecology Well Report Viewer (Ecology 2018b) indicates that new domestic wells have been drilled within the local geographic area outside the City service area in the last couple of years. Golder Associates (2008) documented several water rights in the local geographic area ranging from 0 to 907 acre-feet per year (afy). According to Ecology's water right tracking system (Ecology 2018c), there are 63 water rights within a 2-mile downgradient direction of the Site. Of those water rights, 15 are certificates, and 48 are claims<sup>9</sup>. Of the 15 certificates, seven are documented as partial or complete domestic use and could be possible private wells. The groundwater claims represent pre-1945 groundwater use and are relatively unlikely to still represent active water use within the City's service area. The water right certificates are presumably associated with Group A and B wells discussed above or have been relinquished due to non-use. For the purposes of this report, it is assumed that all potable water supply within the City service area is supplied by the City with the exception of the other Group A and Group B wells listed above.

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<sup>9</sup> A water right claim represents water that was put to beneficial use prior to the 1945 groundwater water law that set up the certificated water right system.

### 3.0 SCREENING LEVELS AND INDICATOR HAZARDOUS SUBSTANCES

The nature and extent of contamination at the Site was evaluated and documented by comparing the concentrations of contaminants detected in the various Site media to screening levels developed following regulatory guidance. This comparison allows for the elimination of those hazardous substances that contribute a small percentage of the overall threat to human health and the environment and identifies the contaminants that pose the greatest potential risk to people and ecological receptors, which are termed Indicator Hazardous Substances (IHSs). The selected IHSs are not only representative of those chemicals that pose the greatest risk, but collectively encompass the footprint of other (non-IHS) chemicals. The identification of the Site IHSs ultimately informs the technologies and remedies evaluated in the FS for Site cleanup.

The screening levels developed for each Site media (soil, groundwater, and soil gas) are based, in part, on: 1) contaminants present in each media; 2) potential land-use, and 3) potential receptors and exposure pathways present at the Site.

#### 3.1. Screening Levels

This section summarizes the development of screening levels (SLs) for soil, groundwater, and soil gas at the Site. The SLs have been developed in accordance with the MTCA requirements<sup>10</sup>.

Contaminant-specific SLs were developed based on available numerical regulatory standards or toxicity data that were used to calculate protective criteria. The soil, groundwater, and soil gas SLs were developed based on the unrestricted land use scenario for all constituents analyzed at the Site and for the various exposure pathways.

The development and selection of SLs for the constituents detected in soil, groundwater, and soil gas for the various exposure pathways is summarized in Tables 3-1 to 3-3.

##### 3.1.1. Soil

The SLs for the constituents detected in soil are presented in Table 3-1. The soil SLs were selected from the following criteria:

- **Human Direct Contact:** MTCA standard Method B soil cleanup levels protective of human health for unrestricted land use<sup>11</sup>, obtained from Ecology's "CLARC Master Spreadsheet.xlsx" dated August 2015 (CLARC database<sup>12</sup>) or calculated using equations in MTCA<sup>13</sup>. MTCA Method A soil cleanup levels for unrestricted land use<sup>14</sup> obtained from MTCA Table 740-1 are used for analytes without Method B soil cleanup levels (TPH and lead).

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<sup>10</sup> WAC 173-340-720 and 740

<sup>11</sup> WAC 173-340-740[3][b]

<sup>12</sup> <https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>

<sup>13</sup> WAC 173-340-740(3)(b)(iii)(B)

<sup>14</sup> WAC 173-340-740[2]

- **Terrestrial Ecological Evaluation (TEE):** A simplified TEE was conducted for the Site (see Appendix D). The Site does not qualify for any of the TEE MTCA exceptions; therefore, the simplified TEE soil screening levels for unrestricted land use in MTCA Table 749-2 are included in Table 3-1.
- **Groundwater Protection:** Soil criteria protective of groundwater quality (based on the lowest groundwater criteria that are presented in Table 3-2 and discussed below in Section 3.1.2). These criteria were only calculated for soil constituents that were detected in groundwater at concentrations greater than the respective groundwater SLs. These soil criteria address the soil to groundwater pathway and were calculated using the MTCA fixed parameter three-phase partitioning model<sup>15</sup>. Default assumptions provided in MTCA Equation 747-1 and Equation 747-2<sup>16</sup> for vadose and saturated zone soils were used in the calculations, and model input parameter values ( $K_{oc}$  and Henry's Law constants) were taken directly from Ecology's CLARC database.

The default  $f_{oc}$  of 0.001 was used to calculate MTCA Method B soil cleanup levels based on the protection of groundwater.

MTCA specifies that the screening level for a given constituent shall not be set at a level lower than the natural background concentration or the practical quantification limit (PQL), whichever is higher<sup>17</sup>. Soil SLs were selected based on the lowest of the applicable numerical criteria. The SLs were then adjusted upward, as warranted, based on background concentrations (metals) and PQLs. The background metals concentrations are the Puget Sound region 90<sup>th</sup> percentile values reported by Ecology (1994), except for arsenic; the natural background concentration for arsenic is based on MTCA Table 740-1. The PQLs listed in Table 3-1 are the lowest PQLs reported by LAI during the 2000 and 2005 soil sampling events at the Site.

The soil SLs listed in the columns titled "Preliminary Soil Screening Level" in Table 3-1 are the lowest risk-based concentration and have not been adjusted for background or PQLs. The SLs for vadose and saturated zone soil presented in the last two columns of Table 3-1 are after adjustment for background and PQL.

### 3.1.2. Groundwater

The SLs for the constituents detected in groundwater are presented in Table 3-2. The groundwater SLs are based on protection of the following media/exposure scenarios:

- **Protection of Drinking Water.** Groundwater numerical criteria are based on the standard for potable groundwater<sup>18</sup>. MTCA Method B standard formula values, based on the protection of human health via the consumption of drinking water, were obtained from Ecology's "CLARC Master Spreadsheet.xlsx" dated August 2015. As noted in MTCA<sup>19</sup>, the standard formula values are necessary when sufficiently protective criteria have not been established under applicable state and federal laws. Ecology considers a criterion sufficiently protective if the excess cancer risk is not greater than  $1 \times 10^{-5}$  or the hazard quotient is not greater than 1 (Ecology 2005). State or federal criteria that are not sufficiently protective were adjusted to a cancer risk of  $1 \times 10^{-5}$  or a hazard quotient of 1. These adjusted values are presented in Table 3-2 in the columns "Carc. Adjusted" and "Non-Carc. Adjusted," respectively.

<sup>15</sup> WAC 173-340-747[4]

<sup>16</sup> WAC 173-340-747(4)(b)

<sup>17</sup> WAC 173-340-705[6]

<sup>18</sup> WAC 173-340-720[4][b]

<sup>19</sup> WAC 173-340-730(3)(b)(iii)

- **Protection of Indoor Air.** Groundwater numerical criteria protective of indoor air (via the vapor intrusion pathway) were obtained from Ecology’s August 2015 “CLARC Master Spreadsheet.xlsx.”

MTCA<sup>20</sup> specifies that the screening level for a given constituent shall not be set at a value below the natural background concentration or analytical PQL, whichever is higher. Preliminary groundwater SLs were selected based on the lowest of the applicable numerical criteria described above. The SLs were then adjusted as necessary based on background concentrations (arsenic only) and PQLs. The background value for arsenic in groundwater is based on the MTCA Method A groundwater cleanup level, which is identified as the regulatory background concentration for arsenic in Washington state. The PQLs listed in Table 3-2 are the lowest, regularly attained PQLs from groundwater samples obtained at the Site by LAI, PGG, and E&E.

The groundwater SLs listed in the column titled “Preliminary Groundwater Screening Level” in Table 3-2 are the lowest risk-based concentration and have not been adjusted for background or PQLs. The SLs for groundwater presented in the last column of Table 3-2 are after adjustment for background or PQL.

### 3.1.3. Soil Gas

The SLs for the constituents detected in soil gas are presented in Table 3-3. The soil gas SLs are based on protection of the following media/exposure scenarios:

- **Protection of Indoor Air.** The concentrations of VOCs detected in shallow soil gas samples are compared to MTCA Method B sub-slab soil gas screening levels developed for protection of indoor air. These screening levels are used for samples collected between 5 and 15 feet bgs (Ecology 2018). Soil gas numerical criteria protective of indoor air (via the vapor intrusion pathway) were obtained from Ecology’s August 2015 “CLARC Master Spreadsheet.xlsx.”

MTCA<sup>21</sup> specifies that the screening level for a given constituent shall not be set at a value below the natural background concentration or analytical PQL, whichever is higher. Natural background concentrations are not applicable to soil gas and the soil gas PQLs are lower than the soil gas SLs; therefore, no adjustments were necessary. The PQLs listed in Table 3-3 are from TestAmerica.

The soil gas SLs listed in the columns titled “Preliminary Soil Gas Screening Level” and “Soil Gas Screening Level (After PQL Adjustment)” of Table 3-3 are the same since no adjustments were necessary.

Methane results are compared to the lower explosive limit (LEL) of 5 percent by volume to determine if hazardous conditions are present.

## 3.2. Indicator Hazardous Substances

IHSs for the Site were selected according to WAC 173-340-703 to focus the evaluation of the nature and extent of contaminants and to inform the technologies and remedies evaluated in the FS for Site cleanup. This process eliminated hazardous substances that contribute a small percentage of the overall threat to human health and the environment. The selected IHSs are not only representative of those chemicals that pose the greatest risk, but collectively encompass the footprint of other (non-IHS) chemicals. Remedial alternatives that address the IHSs will also address other chemicals that exceed SLs but were not selected as IHSs.

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<sup>20</sup> WAC 173-340-705[6]

<sup>21</sup> WAC 173-340-705[6]

The first step in selecting the IHSs for each medium was to identify the frequency and magnitude at which individual constituents exceed their respective SLs. Table 3-4 presents the RI soil data (from Appendix A, Table A-2) screened against the respective SLs. Table 3-5 presents the RI groundwater data (from Appendix A, Table A-3) screened against the respective SLs. Table 3-6 presents the RI soil gas data (from Appendix A, Table A-4 through A-7) screened against the respective SLs. The frequency at which a constituent exceeds its SL is termed the “frequency of exceedance.” The magnitude by which a constituent exceeds its SL is termed the “exceedance ratio,” and is derived by dividing the detected concentration by the SL concentration. Constituents were initially considered as potential IHSs if they met either of the following criteria (based on soil compliance monitoring criteria in WAC 173-340-740[7][e]):

1. The constituent had a frequency of exceedance of at least 10 percent, or
2. The constituent had an exceedance ratio of 2 or more.

The selection of soil, groundwater and soil gas IHSs are discussed below. Tables 3-4 to 3-6 present selected soil, groundwater and soil gas summary statistics and information for the constituents detected in each medium, as well as comments and rationale for IHS selection. The data sets used to identify the IHSs are explained in Sections 2.1 and 2.2.

### **3.2.1. Soil Indicator Hazardous Substances**

Two constituents were selected as soil IHSs (Table 3-4) and are listed below, with a description of the basis for selection:

- Chromium -- exceeds the SL in 52 percent of the samples with an exceedance ratio of up to 67 times the SL.
- Lead -- exceeds the SL in 66 percent of the samples with an exceedance ratio of up to 12 times the SL.

Constituents that were detected in soil but that did not meet the initial IHS selection criteria were evaluated to determine if they should be retained as IHSs. Diesel-range hydrocarbons was detected in soil at a concentration greater than the SL in one out of 29 samples (frequency of exceedance equals 3.4 percent) and the maximum detected diesel-range hydrocarbons concentration of 480 mg/kg is only slightly greater than the simplified TEE-based SL of 460 mg/kg (maximum exceedance ratio equals 1.0). In addition, the maximum detected concentration is from a sample obtained at a depth of 7.5- to 8.0-feet bgs, which is below the conditional point of compliance for ecological receptors (6 feet bgs). Diesel-range hydrocarbons were not detected at concentrations greater than the next lowest soil SL of 2,000 mg/kg. The remaining constituents that were detected in soil samples were not detected at concentrations greater than applicable soil SLs. This evaluation confirmed that it was appropriate to eliminate these constituents from further consideration as IHSs in soil based on the initial selection criteria.

The effect of elevated analytical reporting limits on the IHS selection process was also evaluated. TCE, which was retained as a groundwater IHS, had elevated reporting limits in the soil samples obtained from LAI-5D at depths ranging from 119- to 148-feet bgs. However, because the TCE screening level is based on the protection of groundwater and TCE was not detected in monitoring well LAI-5D, which was screened from 142- to 152-feet bgs, the elevated reporting limits in the LAI-5D soil samples is not a data gap. The TCE reporting limits in soil samples obtained from LAI-5 (0.0011 milligram per kilogram [mg/kg]) and LAI-7 (0.0012 mg/kg) are greater than the soil screening level of 0.001 mg/kg but are not considered elevated because the screening level is set at the laboratory PQL, which is adjusted on a sample-by-sample basis to account for the moisture content of soil.



### 3.2.2. Groundwater Indicator Hazardous Substances

Only one constituent was selected as a groundwater IHS (see Table 3-5). The selected IHS is listed below, with a description of the basis for selection:

- TCE – exceeds the SL in 52 percent of the samples with a maximum exceedance ratio of 32 times the SL.

Constituents that were detected in groundwater but that did not meet the initial IHS selection criteria were evaluated to determine if they should be retained as IHSs. Total and dissolved manganese were detected in groundwater concentrations greater than the SL in one out of 13 samples (frequency of exceedance equals 7.7 percent) and the maximum manganese concentrations of 2,370 µg/L (dissolved) and 2,420 µg/L (total) are only slightly greater than the MTCA Method B drinking water-based SL of 2,200 µg/L (maximum exceedance ratio equals 1.1). These maximum detected manganese concentrations were detected in groundwater samples from LAI-5d, which is screened in the underlying Qpg aquifer, indicating that the manganese detected in LAI-5d are not related to the former landfill. The remaining constituents that were detected in groundwater were not detected at concentrations greater than applicable groundwater SLs. This evaluation confirmed that it was appropriate to eliminate these constituents from further consideration as IHSs in groundwater based on the initial selection criteria.

The effect of elevated analytical reporting limits on the IHS selection process was also evaluated. As shown in Table 3-5, there were no elevated reporting limits for constituents that were detected in groundwater in at least one sample. Elevated reporting limits, therefore, do not adversely affect the evaluation of nature and extent of groundwater contamination at the Site.

### 3.2.3. Soil Gas Indicator Hazardous Substances

Development of IHSs for soil gas emphasized the 2018 sampling data for three primary reasons:

- State of the practice soil sampling techniques were used that included leak testing
- The data are the most recent and therefore reflect current conditions
- The scope of 2018 sampling included good geographic coverage of the Site.

The contaminants that exceeded the screening levels during the recent 2018 soil gas sampling are included as IHSs: 1,4-DCB, PCE, and TCE (see Table 3-6). Methane was also retained as a soil gas IHS because it has been detected historically at the Site at concentrations up to 10 percent by volume in soil gas probes, which is greater than the LEL of 5 percent.

Constituents that were previously detected in soil gas above screening levels include 1,1,1,2-tetrachloroethane, hexane, 1,3-butadiene, benzene and carbon tetrachloride. These constituents were not included as IHSs for the following reasons:

- None of these five constituents were detected above screening levels during the 2018 soil gas sampling event
- PCE (which is an IHS) was detected at higher concentrations (except for hexane) and at more locations (larger spatial footprint) than these other compounds (see Nature and Extent section). Addressing PCE in soil gas will address these other constituents.

- 1,3-butadiene and benzene are common constituents in background air due to wood burning and vehicle admissions (Puget Sound Clean Air Agency (PSCAA) 2010). The location of the site adjacent to US Route 101 may make it more susceptible to high concentrations of these constituents. These constituents were not detected during 2018 sampling.
- 1,1,1,2-tetrachloroethane was only detected above screening levels once in 2016 and was co-located with a PCE exceedance. This constituent was not detected during 2018 sampling.
- Carbon tetrachloride was only detected above screening levels at three locations during passive soil sampling in 2016. Carbon tetrachloride is a common constituent in background air due to its persistence and historical use as a household and industrial chemical (PSCAA 2010).
- Hexane was only detected slightly above its screening level once in a temporary soil gas probe in 2014 and was co-located with a PCE exceedance.

The effect of elevated analytical reporting limits on the IHS selection process was also evaluated for the 2018 data. As shown in Table 3-6, there were no elevated reporting limits for constituents that were detected in at least one soil gas sample. Elevated reporting limits, therefore, do not adversely affect the evaluation of nature and extent of soil gas at the Site

## 4.0 NATURE AND EXTENT OF CONTAMINATION

This section describes the nature and extent of contamination in the various media at the Site including waste, soil, groundwater, and soil gas based on the IHSs identified in the previous section. The locations of the IHSs define the vertical and lateral extent of the contamination at the Site and allow for evaluation of the risk posed by contaminants to Site receptors and the environment. The IHSs also allow for the evaluation of potential cross-media impacts in the context of the conceptual site model (CSM) presented in Section 5.0. Chemical analytical results for the IHSs in waste, soil, groundwater, and soil gas are presented in Tables 4-1 through 4-4, respectively. As discussed in Section 2.1, data sets from the investigations conducted at the Site to date were selected, based on the age and quality of available chemical analytical data, to characterize the nature and extent of the contamination in Site media. The data sets used as part of this analysis included soil and waste data from 2000 to present, groundwater data from 2014 to 2015, and soil gas data from 2014 to present.

### 4.1. Waste

As outlined in Section 2.1, the waste material at the Site has been investigated to document its lateral and vertical occurrence and was sampled for the COCs as part of previous studies (primarily Landau 2000). The thickness of the waste material encountered at the Site ranged from 0 feet (absent) near the Site property boundaries to 17.5 feet thick near the central and northern portions of the property where the waste was placed in a mound with little to no fill cover. The IHSs for soil (chromium and lead) were used to evaluate the waste to identify potential sources of contamination to the underlying soil and groundwater. (Specific IHSs were not identified for the waste). The lateral extent of the waste and the extent of the IHSs (chromium and lead) are shown on Figures 4-1 and 4-2. The analytical results are presented in Table 4-1.

The nature and extent of the waste at the Site is represented by chemical analytical data from 12 borings where sample depths ranged from 2.5 to 11.5 feet bgs. Waste was also characterized using qualitative information like descriptions provided in exploration logs from other Site borings and test pits - many of which were completed to depths of 15 to 25 feet bgs to also allow evaluation of underlying native soil conditions.



Chromium was detected at concentrations greater than the SL of 48 mg/kg in waste material in 12 samples from nine borings across the Site at depths ranging from 5 to 11.5 feet bgs. The detected chromium concentrations greater than the SL ranged from 49 to 90 mg/kg in 11 of the 12 samples with chromium detected in the 12<sup>th</sup> sample at a concentration of 3,210 mg/kg (LAI-14 from 7.5 to 9 feet bgs). The chromium concentrations detected in the underlying native soil were less than the SL in four of the boring locations at depths ranging from 13 to 19 feet bgs (Table 4-1 and Figure 4-1).

Lead was detected at concentrations greater than the SL of 220 mg/kg in waste material in 13 samples from 10 borings) across the Site at depths ranging from 2.5 to 11.5 feet bgs. The detected lead concentrations greater than the SL ranged from 256 to 1,330 mg/kg in 11 of the 13 samples with the remaining two samples indicating concentrations of 2,330 mg/kg (LAI-13 at 8 to 9 feet bgs) and 2,630 mg/kg (LAI-9 at 5.5 to 6.5 feet bgs). The lead concentrations detected in the underlying native soil samples (from five borings at depths ranging from 13 to 25 feet bgs) were less than the SL (Table 4-1 and Figure 4-2).

#### **4.2. Soil**

The extent of the IHSs in soil at the Site is shown on Figure 4-3 and was evaluated based on samples collected during previous investigations from 2000 to the present (as discussed in Section 2.1). The soil data for the IHSs are provided in Table 4-2. The soil conditions at the Site are characterized using chemical analytical data from nine explorations with sample depths ranging from 13 to 50 feet bgs. Most of the borings were completed to depths ranging from approximately 12 to 34 feet bgs to evaluate the waste material, fill, and shallow native soil conditions. Four borings were advanced from 72 to 156 feet bgs to evaluate deep native soil and groundwater conditions beneath the Site. Specific details of RI investigation activities and previous Site investigations are discussed in Section 2.1.

Chromium was detected at concentrations greater than the SL of 48 mg/kg in soil at three locations (LAI-5, LAI-7, and LAI-15) across the Site from approximately 17.5 to 26 feet bgs at concentrations ranging from 50 to 88 mg/kg. Soil in this horizon was interpreted to be native advance outwash (sand and gravel) that underlies landfill waste material except at location LAI-15 which is just southeast of the interpreted extent of the waste. Lead was detected at concentrations greater than the SL of 220 mg/kg at two of the same locations (LAI-5; 391 mg/kg and LAI-7; 501 mg/kg) where chromium was detected at concentrations greater than the SL. The concentrations of both lead and chromium were greater than the SLs (by approximately 1 to 2 times) in the native soil underlying the landfill waste in these two locations. Based on the interpreted base depth of the waste material in boring LAI-7 (16.5 bgs), the sample collected from 17.5 to 19 feet bgs in boring LAI-7 may have contained some waste material that contributed to the lead and chromium exceedances in that sample.

#### **4.3. Groundwater**

The nature and extent of contamination in groundwater at the Site was evaluated based on samples collected from 2014 to 2015 (as discussed in Section 2.1), which includes 18 groundwater samples collected from 10 monitoring wells on Site, and nine groundwater samples collected from three monitoring wells downgradient from the Site (OLY-1, OLY-2, and MW-23). All of the wells sampled, except well LAI-5d, are screened in the upper Qga aquifer. Well LAI-5d is screened in the underlying Qpg aquifer.

As discussed in Sections 3.1.2 and 3.2.2, TCE is the only IHS identified for groundwater at the Site. TCE was selected as an IHS for groundwater at the Site based on the frequency and magnitude at which it was detected at concentrations greater than the SL of 1.6 µg/L. The analytical results for TCE in groundwater are presented in Table 4-3 and shown on Figure 4-4.

The detected concentrations of TCE range from 0.27J to 50 µg/L in samples from four Site property monitoring wells (PGG-1, LAI-1, LAI-2, and LAI-MW-2) that are screened in the Qga aquifer at depths ranging from 45 to 77 feet bgs (Table 2-2). The highest concentrations of TCE were detected in the samples from monitoring wells LAI-1 and LAI-MW-2 near the northwest corner of the property just outside of the estimated extent of the waste material. Monitoring well LAI-5d is also located in the northwest corner of the property directly adjacent to LAI-1 but is screened at approximately 142 to 152 feet bgs within the underlying Qpg aquifer. TCE was not detected at LAI-5d.

TCE has been detected at concentrations from 0.11J to 6.1 µg/L in samples from two of the three off-site downgradient wells (OLY-1 and OLY-2). The single detection in OLY-1 from December 2015 was flagged by the laboratory as an estimated value because the detected concentration was below the reporting limit, but above the detection limit. Therefore, this single detection may not be representative of groundwater at OLY-1. The detected concentrations of TCE in the groundwater samples from OLY-2, which is located approximately 0.28 miles downgradient (north-northwest) from on-site property monitoring wells LAI-1 and LAI-MW-2 (wells with the highest concentrations of TCE on the property), ranged from 2.6 µg/L (March 2015) to 6.1 µg/L (December 2015).

Using the available data for wells LAI-1 and LAI-MW-2 (11 data points from 2000 to 2015), a Mann-Kendall statistical analysis was conducted to assess the TCE concentration trend over time at individual wells. A statistically significant trend over time was not identified for either well (Figure 4-5).

#### 4.4. Soil Gas

The following sections summarize the nature and extent of soil gas contamination. The soil gas IHSs identified (Section 3.2.3) include hazardous conditions associated with methane, and specific VOCs.

##### 4.4.1. Methane

Methane has been detected historically at the Site at concentrations up to 10 percent by volume; however, more recent data indicate methane concentrations in and near the landfill were below the LEL of 5 percent by volume or not detected. Appendix A, Tables A-4 through A-7 summarize methane data from 2006 to 2018. Figure 4-6 shows the locations soil gas monitoring locations from 2006 through 2018. A summary of previous detected methane concentrations is provided below:

- During a 1986 investigation by Hart Crowser, methane was measured at a concentration of 500 parts per million (ppm; 0.05 percent by volume) toward the center of the waste. No methane was detected in the other gas probe locations (Hart Crowser 1986). During a subsequent investigation in 1987, Hart Crowser detected methane concentrations up to 12 percent by volume in test pits within the refuse and up to 10 percent in gas probes (Zipper Zeman Associates 2003b). The gas probes were presumably decommissioned after the 1987 investigation. Due to the age of the data, locations are not shown on Figure 4-6 and data are not included in Appendix A.
- In 2006, permanent soil gas wells (GP-1 through GP-5) were installed and soil gas was measured in the field for methane, oxygen, and carbon dioxide. Methane was not detected (PGG 2006b). The 2006 methane results are presented in Appendix A, Table A-4.
- In 2014, methane was detected at concentrations ranging from 0.00089 to 3.6 percent. The highest methane concentrations were detected at GP-5 and GP-6 (0.51 percent and 3.6 percent, respectively). Methane was also detected in samples GP-8, and GP-10 through GP-14, though at lower concentrations. The 2014 methane results are presented in Appendix A, Table A-5.

- During the 2018 LAI soil gas sampling, methane was either not detected or detected at 0.1 percent. The 2018 methane results are presented in Appendix A, Table A-7.

All of the methane concentrations detected since 2006 are well below the LEL of 5 percent by volume (50,000 ppm). The monitoring results indicate landfill gas generation is limited, which is expected based on the age of the landfill. Results are also consistent with waste that was often burned before it was buried. The trace amounts of methane detected during the most recent sampling event indicate methane gas does not currently appear to be causing hazardous conditions.

#### **4.4.2. Volatile Organic Compounds**

VOCs in soil gas were measured at the Site in October 2014, July 2016, May 2018, and June 2018. Soil gas sampling events conducted in 2014 and 2018 used active soil gas sampling techniques, while the 2016 event used passive soil gas sampling techniques. Comprehensive results for the 2014, 2016, and 2018 sampling events are presented in Appendix A, Tables A-5 through A-7, respectively. The 2014 to 2018 results for the soil gas IHSs are presented in Table 4-4.

##### **2014 Sampling Event**

In October 2014, active soil gas samples were collected from five existing soil gas sampling locations and nine temporary soil gas sampling locations. Five VOCs (1,3-butadiene, benzene, hexane, PCE, and TCE) were detected at concentrations above the MTCA Method B screening levels. The VOC concentrations detected above the screening levels are shown on Figure 4-7 and summarized below:

- At four locations (GP-6, GP-10, GP-11, and GP-14), 1,3-butadiene was detected above the SL (2.8 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]) at concentrations ranging from 6.6 to 38  $\mu\text{g}/\text{m}^3$ .
- At six locations (GP-6, GP-8, GP-10, GP-11, GP-12, and GP-14), benzene was detected above the screening level (10.7  $\mu\text{g}/\text{m}^3$ ) at concentrations ranging from 11 to 56  $\mu\text{g}/\text{m}^3$ .
- At one location (GP-8), hexane was detected just above the screening level (10,700  $\mu\text{g}/\text{m}^3$ ) at a concentration of 11,000  $\mu\text{g}/\text{m}^3$ .
- At four locations (GP-2, GP-4, GP-8, and GP-9), PCE was detected above the screening level (321  $\mu\text{g}/\text{m}^3$ ) at concentrations ranging from 360 to 1800  $\mu\text{g}/\text{m}^3$ .
- At two locations (GP-5 and GP-9), TCE was detected above the screening level (12.3  $\mu\text{g}/\text{m}^3$ ) at concentrations of 150 and 180  $\mu\text{g}/\text{m}^3$ .

##### **2016 Sampling Event**

In July 2016, passive soil gas samples were collected from 64 locations. The passive samplers were placed in a grid configuration covering the northwest portion of the landfill. The grid points were labeled A through H in the west to east direction and 1 through 8 in the south to north direction. Six VOCs (benzene, carbon tetrachloride, PCE, TCE, 1,1,1,2-tetrachloroethane, and 1,4-DCB) were detected at concentrations above the screening levels. VOC concentrations detected above screening levels are shown on Figure 4-8 and summarized below:

- At two locations (D8 and H8), benzene was detected above the screening level (10.7  $\mu\text{g}/\text{m}^3$ ) at concentrations of 39.9 and 40.6  $\mu\text{g}/\text{m}^3$ , respectively. It is also noted that the benzene reporting limit (up to 32.2  $\mu\text{g}/\text{m}^3$ ) for all samples was about three times greater than the screening level.

- At three locations (B4, E1, and G1), carbon tetrachloride was detected above the screening level (13.9  $\mu\text{g}/\text{m}^3$ ) at concentrations ranging from 55.9 to 546  $\mu\text{g}/\text{m}^3$ . It is also noted that the carbon tetrachloride reporting limit (up to 38.7  $\mu\text{g}/\text{m}^3$  in the 2016 sampling event) for all samples was greater than screening level.
- At one location (G7), 1,1,1,2-tetrachloroethane was detected above the screening level (11.3  $\mu\text{g}/\text{m}^3$ ) at a concentration of 16.3  $\mu\text{g}/\text{m}^3$ .
- At one location (E6), 1,4-DCB was detected above the screening level (7.6  $\mu\text{g}/\text{m}^3$ ) at a concentration of 90.9  $\mu\text{g}/\text{m}^3$ .
- At 22 locations, PCE was detected above the screening level (321  $\mu\text{g}/\text{m}^3$ ) at concentrations ranging from 354  $\mu\text{g}/\text{m}^3$  to 2,860  $\mu\text{g}/\text{m}^3$ . There are apparently four PCE hot spots based on data presented on Figure 4-8. These hot spots are:
  - Two areas of elevated PCE concentrations are in the northern portion of the grid, one encompassing grid points A6, B6, and C7, and the other encompassing grid points F6, F7, G6, G7, and H7. Samples collected from locations F6 and F7 exhibited the highest PCE concentrations; with the addition of H7, these three sample locations were the only three where TCE was similarly detected.
  - One hotspot is in the eastern portion of the sample grid encompassing grid points G4 and H4.
  - One hotspot is at the southern boundary of the sample grid encompassing grid points B2, C1, D1, D2, D3, D4, E1, E2, F1, and F2. The southern hotspot appears to be centered on E1.
- At six locations, TCE was detected above the screening level (12.3  $\mu\text{g}/\text{m}^3$ ) at concentrations ranging from 28.2 to 871  $\mu\text{g}/\text{m}^3$ . It is also noted that the TCE reporting limit (up to 14.5  $\mu\text{g}/\text{m}^3$ ) for all samples was greater than screening level.
  - The highest TCE concentrations were in two locations (hotspots) in the northeast portion of the sample grid, encompassing grid points F6 and F7, and H6 and H7. These grid points are located near sample locations GP-5 and GP-9, where TCE was detected at concentrations above the screening level during the October 2014 soil gas sampling event.

#### **2018 Sampling Events**

During the May and June 2018 sampling events, soil gas samples were collected from 15 locations. Samples were analyzed only for those VOC constituents that exceeded screening levels in previous investigations (1,3-butadiene; 1,4-DCB; 1,1,1,2-tetrachloroethane; benzene; carbon tetrachloride; hexane; PCE; and TCE). The soil gas results are presented in Table 4-4. Three VOCs (1,4-DCB, TCE, and PCE) were detected above MTCA Method B shallow soil gas screening levels protective of indoor air. Exceedances are shown on Figure 4-9 and summarized below:

- 1,4-DCB was detected at a concentration above the screening level (7.6  $\mu\text{g}/\text{m}^3$ ) at two locations (8.5  $\mu\text{g}/\text{m}^3$  and 13  $\mu\text{g}/\text{m}^3$  at GP-2 and GP-3, respectively).
- PCE was detected at concentrations above the screening level (321  $\mu\text{g}/\text{m}^3$ ) at four locations (GP-2, GP-4, GP-15 and GP-16) ranging from 470  $\mu\text{g}/\text{m}^3$  to 1,200  $\mu\text{g}/\text{m}^3$ . The highest concentration was detected at G-16.
- TCE was detected at concentrations above the screening level (12.3  $\mu\text{g}/\text{m}^3$ ) at four locations (GP-2, GP-5, GP-15 and GP-21) ranging from 21  $\mu\text{g}/\text{m}^3$  to 210  $\mu\text{g}/\text{m}^3$ . The highest concentration was detected at GP-5.

## 5.0 CONCEPTUAL SITE MODEL

A CSM has been developed for the Site based on historical Site data and the additional soil gas investigation completed as part of this RI as discussed in Sections 2.1 and 2.2. Based on review of the available data, Site conditions, including the lateral and vertical extents of soil, soil gas, and groundwater with contaminant concentrations greater than the SLs, have been sufficiently documented to develop the CSM. The CSM describes physical Site conditions, contaminant sources for the Site, contaminants of concern, impacted media, fate and transport of these chemicals, and exposure pathways that could affect human or environmental health (receptors). The CSM supports the development and evaluation of remedial alternatives in the FS.

The following sections summarize the geology and hydrogeology that serve as a basis for identifying transport pathways and presents the sources of contamination, transport and exposure pathways, and receptors.

### 5.1. Geology and Hydrogeology

The Site geology and hydrogeology are summarized to help identify existing transport pathways. As described in Section 2.3, the Site is in West Olympia between the Black Hills and Puget Sound (Figure 2-3). The Site was operated by the City of Olympia as an active landfill after they purchased the property in 1939, and from 1942 to the late 1960s; waste was placed at the Site and periodically burned and covered with fill or gravel. Prior to the City's operation the Site was used as a dump by local residents (E&E 2017).

The landfill waste varies from 0 feet thick near the Site landfill property boundaries to 17.5 feet thick toward the center, and overlies the regional stratigraphic sequence of Vashon and pre-Vashon deposits (as shown on Figure 5-1) that generally consist of alternating aquifers and aquitard units including:

1. Recessional outwash (Qgo) aquifer—relatively thin, discontinuous, perched near-surface water-bearing zone. Likely important as a recharge source to local surface water features but is not known to be used as a drinking water supply aquifer in the Study area.
2. Vashon till (Qgt) aquitard—a very dense silty, sandy gravel that varies from brown to gray ranging in thickness from about 5 feet to 40 feet.
3. Vashon advance outwash (Qga) aquifer—a brown sand or gravel with varying amounts of silt that underlies the Qgt unit. The Qga is unconfined (i.e., the water table is below the bottom of the glacial till unit) at and near the Site but is probably confined beneath till in other portions of the Study area. Most of the monitoring wells at the Site extend at least 20 feet into the Qga, which is at least 95 feet thick beneath the Site.
4. Pre-Vashon glaciolacustrine deposits (Qpf) aquitard—a grey silt with varying amounts of sand that is at least 17 feet thick beneath the Site.
5. Pre-Vashon gravel (Qpg) aquifer—a grey sand water-bearing unit with gravel and silt that is confined beneath the Site by the Qpf layer. In places where the Qpf is missing (such as at the Allison Springs wells) the Qga and Qpg likely form a continuous aquifer system. This aquifer serves as a drinking water source for the City in the Allison Springs area, which is located approximately 1.7 miles northwest of the Site.

Groundwater elevations in the Qgo and Qga aquifers vary seasonally, and recharge occurs from rainfall infiltration. Recharge may also occur from interflow and surface water run-on coming off the bedrock

uplands to the south (Figure 2-4). The groundwater flow direction is generally from the southeast to the northwest in the Qga and Qpg aquifers, although Qga groundwater level contours suggest the presence of a local groundwater divide at the Site near monitoring well LAI-1 (see Figures 2-9 and 2-10).

The shallowest aquifer (Qgo), while likely discontinuous, provides a transport pathway for soluble contaminants in fill and waste in the unsaturated zone through rainwater infiltration or contact with shallow groundwater. Additionally, direct groundwater exchange between the recessional and advance outwash units (Qgo and Qga) may occur in areas where the Vashon till aquitard (Qgt) is discontinuous or thin. Contaminant transport from the Qga aquifer to the deeper Qpg aquifer beneath the Site is unlikely due to the vertical separation, the presence of the Qpf aquitard, and only a slight downward vertical gradient based on water levels measured at the Site (Section 2.3.3.1).

## 5.2. Sources of Contamination

The primary sources of contamination at the Site include landfilled waste and fill from undocumented sources that were historically placed at the Site. Primary sources have contaminated soil and groundwater that act as secondary sources of IHSs (chromium, lead and TCE) at concentrations greater than the SLs.

The data indicate that the detections of the soil IHSs (chromium and lead) are relatively widespread in shallow soil and/or waste across the Site, but the detections of the groundwater IHS (TCE) are limited to samples from the Qga in the northwest corner of the Site near monitoring wells LAI-1 and LAI-MW-2. TCE has also been detected above the SL in one downgradient well to the north in groundwater from Qga monitoring well OLY-2.

## 5.3. Transport Pathways

The soil, groundwater, and soil gas transport pathways are identified in this section and shown on Figure 5-1. The specific transport pathways applicable to each medium and IHS are presented as part of the description of the CSM for the Site. Environmental chemistry affecting fate and transport of IHSs is presented in Appendix E.

### 5.3.1. Soil

Areas of Site soil contain IHSs (chromium and lead) at concentrations greater than the SLs as described in Section 4.2. Potential transport pathways for the soil IHSs include the following:

- Transport from soil to groundwater via leaching (through contact with infiltrating precipitation or shallow groundwater); and
- Transport from soil to soil gas/air via volatilization, diffusion, and advection.

### 5.3.2. Groundwater

Locally, groundwater contains the IHS (TCE) at concentrations greater than the SL described in Section 4.3. Potential transport pathways for the groundwater IHS include the following:

- Transport from groundwater to air via volatilization, diffusion, and advection; and,
- Transport from shallow groundwater to deep groundwater via advection (where aquitards are not present or thin) and diffusion.
- Transport from air to the groundwater table.



### 5.3.3. Soil Gas

Soil gas contains IHSs (PCE, TCE and 1,4-DCB) at concentrations greater than the SLs as described in Section 4.4. Potential transport pathways for soil gas IHSs include the following:

- Transport from soil gas to ambient air via diffusion and advection.

## 5.4. Site Exposure Model

### 5.4.1. Habitat

The Site is in West Olympia in an area that is zoned for commercial and residential uses. Approximately circular in shape, the landfill parcel is bounded by transportation corridors (US Highway 101 to the southwest), retail businesses and parking (to the east and southeast) and a large mobile home park (north). An undeveloped parcel is located along the northwest Site boundary.

Although much of the Site is covered with vegetation, some construction debris and other materials that were dumped at the Site over the years is exposed at the landfill property surface. The center of the Site is higher in elevation than the periphery and other portions of the Site. No perennial surface water features or runoff areas are present at the Site; however, low-lying areas collect rainwater during winter months and two small areas have some vegetation characteristic of wetlands.

Within the Site, the habitat is typical of disturbed Puget Sound lowland habitat. Big leaf maple, cottonwood, alder, Douglas fir, and to a lesser extent hemlock and cedar are present, primarily along the outer property boundary. Himalayan blackberry and reed canary grass dominate open areas. Understory trees in areas not choked by blackberry include hawthorn, hazelnut, Indian plum, cherry, and willow. Oregon grape, snowberry, salal, red current, bracken and sword ferns, thistle and dock are also present. Although the habitat quality was rated low as part of the simplified TEE procedure (Appendix D), it likely attracts birds (song birds, raptors), small mammals (e.g., rabbit, mice, voles), deer, amphibians and reptiles because of the heavy vegetated cover the Site provides, acting as a habitat “island” in a developed area. Various species of bats are noted by the Washington Department of Fish and Wildlife (WDFW) as occurring in the area; however, according the Priority Habitats and Species map details provided by WDFW, they do not appear to use the Site (no colonies or roosts have been documented as present).

Site photographs taken during the November 15, 2017 Site visit are included in Appendix F.

### 5.4.2. Exposure Pathways

Exposure pathways are how people or ecological receptors can be exposed to contaminants, either directly or indirectly. Exposure requires that contaminants partition from a contaminated medium (e.g., soil) across a biological membrane (e.g., skin, gut wall, lung surface) of a receptor following contact. Contact may involve touching or accidentally ingesting contaminated soil or inhaling vapors rising through the soil. The receptors for this Site are trespassers, City maintenance or remediation workers, vegetation, soil organisms and wildlife. These receptors may be exposed to contaminated media via several key pathways. The following are current exposure pathways that pose a risk of exposure to contaminants for Site receptors, as illustrated in Figure 5-1:

- People touching or accidentally ingesting contaminated soil as they trespass or work on the Site (direct contact pathway)

- People drinking groundwater or ponded water, and animals drinking ponded water
- Both people and organisms inhaling soil gases (considered a minor pathway for the open conditions on-site with no structures where vapors could collect)
- Vegetation roots contacting landfill waste or contaminated soil
- Soil invertebrates (e.g., worms) contacting or ingesting contaminated soil (direct contact pathway)
- Small mammals incidentally ingesting contaminated soil during foraging or preening/cleaning their fur
- Small mammals and birds ingesting contaminated prey (bioaccumulation pathway)

The primary pathways representing a risk at the landfill are the direct contact pathway and drinking water pathway. The inhalation pathway is likely minor or incomplete. The bioaccumulation pathway is incomplete because the IHSs are not bioaccumulative.

### 5.5. Areas to be Evaluated in the FS

Areas requiring remediation represent a combination of portions of the Site with active transport pathways and potential exposure pathways. The area of the landfill footprint represents the primary area requiring remediation; groundwater within the aquifers beneath the Site will also need to be addressed in the FS.

## 6.0 SUMMARY AND CONCLUSIONS

A remedial investigation was completed to document physical conditions and the nature and extent of COCs at the City West Olympia Landfill Site for media including landfill waste, soil, soil gas, and groundwater. As discussed in this report, the former landfill property owned by the City is the source of the COCs for the Site cleanup required under the AO. The City is invested in putting the former landfill property back into economic use for the benefit of the community through sale to a private developer.

This RI reviewed and considered all of the available historical data for the Site that has been collected since 1984 but focused on the data collected for the Site from 2000 through 2018. The available data for each media provide the information required to characterize the nature and extent of contamination. The data also supported development of a CSM to illustrate the physical Site conditions, impacted media, COCs and their fate and transport, and exposure pathways that could affect human or environmental health (receptors). The understanding of the nature and extent of contamination and the CSM will be used to identify and evaluate cleanup action alternatives in the feasibility study.

### 6.1. Nature and Extent of Contamination

The findings of the RI regarding the nature and extent of contamination include:

- **Waste:** The thickness of the landfill waste material at the landfill property ranges from 0 feet (absent) near the property boundaries to 17.5 feet thick near the central and northern portions of the property where the waste was placed in a mound with little to no fill cover. Specific IHSs were not identified for the waste. The IHSs for soil (chromium and lead) were used to evaluate the waste to identify potential sources of contamination to the underlying soil and groundwater (Figures 4-1 and 4-2). Chromium was detected at concentrations greater than the SL of 48 mg/kg in waste material in 12 samples from nine borings across the Site at depths ranging from 5 to 11.5 feet bgs. Lead was detected at concentrations greater than the SL of 220 mg/kg in waste material in 13 samples from 10 borings across the Site at depths ranging from 2.5 to 11.5 feet bgs (Table 4-1).



- **Soil:** The extent of the IHSs in soil (chromium and lead) at the Site is shown on Figure 4-3. The soil conditions at the Site are characterized by samples from nine explorations at depths ranging from 13 to approximately 148 feet bgs. Most of the borings were completed to depths ranging from approximately 20 to 25 feet bgs to evaluate the waste material, fill, and shallow native soil conditions. Four borings were advanced from 72 to 156 feet bgs to evaluate deep native soil and groundwater conditions beneath the Site. Chromium was detected at concentrations greater than the SL of 48 mg/kg in soil at three locations (LAI 5, LAI-7, and LAI-15) across the Site from approximately 17.5 to 26 feet bgs at concentrations ranging from 50 to 88 mg/kg. Lead was detected at concentrations greater than the SL of 220 mg/kg at two of the locations (LAI-5; 391 mg/kg and LAI-7; 501 mg/kg) where chromium was detected at concentrations greater than the SL (Table 4-2).
- **Groundwater:** The VOC TCE is the only IHS identified for groundwater at the Site, and the nature and extent of contamination in groundwater was evaluated based on samples collected from 2014 to 2015 from 10 monitoring wells on the landfill property and from 3 monitoring wells located downgradient (Figure 4-4).

TCE has only been detected at concentrations greater than the analytical reporting limits in four of the 10 monitoring wells on the landfill property (PGG-1, LAI-1, LAI-2, and LAI-MW-2). Only the samples from the two wells (LAI-1 and LAI-MW-2) located near the northwest corner of the landfill property just outside of the estimated extent of the waste material had concentrations of TCE greater than the SL (Table 4-3). The detected concentrations of TCE in the samples from these on-property wells, which are all screened in the shallow Qga aquifer at depths ranging from 45 to 77 feet bgs, range from 0.27J to 50 µg/L. TCE has not been detected at concentrations greater than the laboratory reporting limit in the samples from monitoring well LAI-5d that is also located in the northwest corner of the landfill property directly adjacent to LAI-1, but is screened at approximately 142 to 152 feet bgs within the underlying Qpg aquifer. The TCE results from LAI-5d indicate that the TCE in the shallow Qga aquifer has not reached the underlying Qpg aquifer.

TCE has been detected at concentrations greater than the screening level (from 2.6 to 6.1 µg/L) in samples from one of the three off-property, downgradient wells (OLY-2). TCE was also detected in the December 2015 sample from OLY-1, but the detected concentration was below the screening level. This TCE concentration was qualified as an estimate (J) because the concentration fell between the reporting limit and the detection limit.

A statistically significant TCE concentration trend was not identified based on evaluation of the available data (2000 to 2015) for wells LAI-1 and LAI-MW-2 indicating that the TCE has not attenuated significantly over time (Figure 4-5). This likely explains why TCE breakdown products have not been identified in groundwater at significant concentrations.

- **Soil Gas:** The soil gas investigation identified and evaluated three IHSs [the VOCs 1,4-DCB, PCE, and TCE] and the potential for hazardous conditions associated with landfill gas, primarily methane, based on the sampling and analysis conducted to date at the Site (Figure 4-6). Methane has been detected historically at the Site at concentrations up to 10 percent by volume in gas probes; however, all the concentrations detected within and near the waste footprint at the landfill property since 2006 are well below the lower explosive limit of 5 percent by volume (50,000 ppm). The monitoring results indicate that landfill gas generation is limited, which is expected based on the age of the landfill. Results are also consistent with waste that was often burned before it was buried. The trace amounts of methane detected during the most recent 2018 sampling event indicate methane gas does not currently appear to be causing hazardous conditions.

VOCs in soil gas were measured at the Site in October 2014 (Figure 4-7), July 2016 (Figure 4-8), and May and June 2018 (Figure 4-9), and consisted of active soil gas sampling in 2014 and 2018, and passive sampling in 2016. During the May and June 2018 sampling events, the three IHSs were detected at concentrations greater than the SLs; PCE was the most frequently detected IHS.

As shown on Figure 6-1, PCE exceedances measured since 2014 occurred primarily within the former landfill footprint. These exceedances are bounded by acceptable concentrations at the property boundary.

## 6.2. Conceptual Site Model

The following sections summarize the geology and hydrogeology that serve as a basis for identifying transport pathways and present the sources of contamination, transport and exposure pathways, and receptors as part of the CSM.

**Geology and Hydrogeology:** The Site was operated by the City of Olympia as an active landfill after they purchased the property in 1939 and from 1942 to the late 1960s; waste was placed at the Site and periodically burned and covered with fill or gravel. The landfill waste overlies the regional stratigraphic sequence of Vashon and pre-Vashon deposits that generally consist of alternating aquifers and aquitard units including:

- Recessional outwash (Qgo) aquifer—relatively thin, discontinuous, perched near-surface water bearing zone.
- Vashon till (Qgt) aquitard—a very dense silty, sandy gravel ranging in thickness from about 5 feet to 40 feet.
- Vashon advance outwash (Qga) aquifer—an at least 95 feet thick unconfined aquifer (i.e., the water table is below the bottom of the glacial till unit) at and near the Site. Most of the monitoring wells at the Site extend at least 20 feet into the Qga.
- Pre-Vashon glaciolacustrine deposits (Qpf) aquitard—a silt with varying amounts of sand that is at least 17 feet thick beneath the Site.
- Pre-Vashon gravel (Qpg) aquifer—a sand water-bearing unit with gravel and silt that is confined beneath the Site by the Qpf layer. This aquifer serves as a drinking water source for the City in the Allison Springs area, which is located approximately 1.7 miles north of the Site.

The shallowest aquifer (Qgo), while likely discontinuous, provides a transport pathway for soluble contaminants in fill and waste in the unsaturated zone through rainwater infiltration or contact with shallow groundwater. Additionally, groundwater exchange between the recessional outwash units (Qgo and Qga) may occur in areas where the Vashon till aquitard (Qgt) is discontinuous or thin. Contaminant transport from the Qga aquifer to the deeper Qpg aquifer beneath the Site is unlikely due to the vertical separation, the presence of the Qpf aquitard, and only a slight downward vertical gradient based on water levels measured at the Site.

**Sources of Contamination:** The primary sources of contamination at the Site include landfilled waste and fill from undocumented sources that were historically placed at the Site. These primary sources have contaminated soil, soil gas and groundwater that subsequently act as secondary sources for the IHSs (chromium, lead, TCE, PCE, and 1,4-DCB) at concentrations greater than the SLs.

**Transport Pathways:** The soil, groundwater, and soil gas transport pathways are identified in this section and shown on Figure 5-1.

- Soil - Transport from soil to groundwater via leaching (through contact with infiltrating precipitation or shallow groundwater); and transport from soil to soil gas/air via volatilization, diffusion, and advection.
- Groundwater - Transport from groundwater to air via volatilization, diffusion, and advection.
- Soil Gas - Transport from soil gas to ambient air via diffusion and advection.

**Site Exposure Model:** The Site area is zoned for commercial and residential uses and is bounded by transportation corridors, retail businesses and parking, and a large mobile home park. The landfill property surface contains some exposed construction debris and other materials. No perennial surface water features or runoff areas are present at the Site; however, low-lying areas collect rainwater during winter months and two small areas have vegetation characteristic of wetlands. The habitat is typical of disturbed Puget Sound lowland habitat. Although the habitat quality was rated low as part of the simplified TEE procedure (Appendix D), it likely attracts birds (song birds, raptors), small mammals (e.g., rabbit, mice, voles), deer, amphibians and reptiles. The heavy vegetated cover provides a habitat “island” in a developed area.

Exposure pathways are how people or ecological receptors can be exposed to contaminants, either directly or indirectly. The following are exposure pathways that may pose a risk of exposure to contaminants for Site receptors, as illustrated in Figure 5-1:

- People touching or accidentally ingesting contaminated soil as they trespass or work on the Site (direct contact pathway)
- People drinking groundwater or ponded water, or animals drinking ponded water
- Both people and organisms inhaling soil gas contaminants that may be present in air (considered a minor pathway for the open conditions on-site with no structures where vapors could collect)
- Vegetation roots contacting landfill waste or contaminated soil
- Soil invertebrates (e.g., worms) contacting or ingesting contaminated soil (direct contact pathway)
- Small mammals incidentally ingesting contaminated soil during foraging or preening/cleaning their fur
- Small mammals and birds ingesting contaminated prey (bioaccumulation pathway)

The primary pathways that currently represent a potential risk at the landfill are the direct contact pathway and drinking water pathways. The inhalation pathway is minor or incomplete. The bioaccumulation pathway is incomplete because the IHSs do not bioaccumulate.

### 6.3. Conclusions

The RI has documented the nature and extent of the IHSs at the West Olympia Landfill Site, and the pathways of concern and potential receptors as identified through the CSM. The conclusions of the RI are as follows:

- The waste and undocumented fill placed at the landfill property as part of the former landfilling operations are the source of the IHSs.

- The IHSs chromium and lead are locally present in the shallow soils at the landfill property, the IHS TCE is present in shallow groundwater at and downgradient of the property, and the IHSs TCE, PCE, and 1,4-DCB are locally present in soil gas at the landfill property. These IHSs are present at concentrations greater than the SLs.
- Direct contact is the primary pathway of concern for the localized chromium and lead concentrations in shallow soil.
- Ingestion is the primary pathway of concern for the TCE concentrations in shallow groundwater (from the Qga aquifer); there is no evidence that TCE from the Site has affected the deeper Qpg groundwater aquifer, which is a drinking water source for the area.
- Inhalation is a potential pathway of concern due to the localized TCE, PCE, and 1,4-DCB concentrations in soil gas, if structures are constructed where vapors might collect.
- Based on the occurrence of the IHSs, the current landfill property use, and the availability of publicly supplied drinking water, the IHSs do not pose an imminent threat to human health or the environment.

#### **6.4. Feasibility Study Development**

The nature and extent of contamination in media at the West Olympia Landfill Site has been characterized in accordance with the AO and the Ecology MTCA cleanup regulation. Based on the results of the RI, there is sufficient data to prepare the FS, and to identify and evaluate cleanup alternatives for contaminated media at the Site. During development of the FS, cleanup levels will be established based on current and future site use and applicable exposure pathways and receptors. The FS will identify and evaluate applicable remedial technologies and alternatives for cleanup of the West Olympia Landfill Site to the cleanup levels identified in the FS.

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## 8.0 LIMITATIONS

We have prepared this report for the exclusive use of the City of Olympia for West Olympia Landfill Site. City of Olympia may distribute copies of this report to authorized agents and regulatory agencies as may be required for the Project.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. The conclusions and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty, express or implied, applies to this report.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments should be considered a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

**Table 2-1**  
**Previous Site Investigations**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Year	Title	Consultant	Investigation Summary	Number of Explorations Completed and Corresponding Depth(s)								Number of Samples Submitted for Chemical Analysis <sup>1</sup>			
				Test Pits	Depth (ft bgs)	Borings (not including wells)	Depth (ft bgs)	Monitoring Wells	Depth (ft bgs)	Soil Vapor Probes (temporary or permanent)	Depth (ft bgs)	Waste	Soil Vapor	Soil	Groundwater
1984	Report of Geotechnical Services – City of Olympia Landfill – Olympia, Washington	Dames and Moore	Completed a geotechnical investigation. Borings and test pits were completed to determine the extent of landfill waste and to install monitoring wells. Waste included burned household garbage, ash, partially burned wood, glass fragments, rusted metal, and some brick and concrete fragments. A waste thickness of approximately 10 to 15 feet was observed. Methane was detected in the some of the test pits.	38	5 - 15	5 (B-1 through B-5)	12 - 34.5	3 (MW-1 through MW-3)	29.5	--	--	--	--	--	0; groundwater not encountered
1986	Dames & Moore - Letter Report Recommendations for Methane and Leachate Management - Proposed Costco Store, Olympia, Washington	Dames and Moore	Report was not available for review.	--	--	--	--	--	--	--	--	--	--	--	--
1986	Onsite Review and Testing – 27-Acre Site Black Lake Boulevard and Cooper Point Road – Olympia,	Hart-Crowser & Associates	Completed exploratory test pits to further delineate the extent of waste material. One groundwater sample from a previously installed monitoring well was submitted for chemical analysis. Concentrations of arsenic, chromium, iron, and manganese exceeded federal drinking water standards. Four gas probes were installed. Methane was detected in one of the gas probes.	7 (HC-1 through HC-6, HC-6A)	4 - 9.5	--	--	--	--	4 (HC-1 through HC-4)	5	visual classification only	Field screening of test pits and probes, no collected samples	visual classification only	1 (MW-2)
1987	Ground Water and Methane Evaluations – 27-Acre Site Black Lake Boulevard and Cooper Point Road – Olympia, WA	Hart-Crowser & Associates	This report was summarized by Zipper Zeman Associates (2003b) but was not available for review. Activities included installation of three new monitoring wells within the landfill waste area (well information and locations are unknown), completion of four test pits and installation of four gas probes. Groundwater samples were collected during three subsequent sampling events. A complete list of tested analytes was not available, but concentrations of arsenic, chromium, iron, and manganese were greater than the federal drinking water standards (assumed to be primary MCLs) at MW-2.	4	not available	--	--	3 (GW-1 through GW-3)	18, 39, 34	4	not available	not available	not available	not available	3 wells for 3 rounds (MW-2, GW-2 and GW-3)
1989	Letter Report Recommendations for Methane and Leachate Management - Proposed Costco Store, Olympia, Washington	Dames and Moore	Report was not available for review.	--	--	--	--	--	--	--	--	--	--	--	--
1992	West Olympia Landfill Test Pit Samples	Parametrix, Inc. 1992	The report has been summarized in E&E 2017 but was not available for review. Test pits were completed through landfill waste to native soil; composite soil samples were collected at shallow and deep intervals. Most of the landfill waste material at the site exceeded MTCA cleanup levels, Dangerous Waste Regulation levels, and High Risk Waste Levels established by Thurston County for total petroleum hydrocarbons and metals.	8 (TP-1 through TP-8)	8 - 18	--	--	--	--	--	--	not available; composite sampling likely included soil and waste	--	not available; composite sampling likely included soil and waste	--
2000	Environmental Investigation for Proposed Home Depot	Landau Associates	Completed borings and test pits and installed three additional monitoring wells. Soil, landfill waste, and groundwater samples were collected. Most landfill waste samples had concentrations of total lead, arsenic and chromium and oil-range petroleum hydrocarbons above MTCA Method A or B cleanup levels for unrestricted land use. Arsenic concentrations were greater than MTCA Method B cleanup level for all three wells. TCE was greater than MTCA Method B in LAI-1.	14 (TP-1 through TP-14)	15.5 - 26.5	16 (LAI-4 though LAI-19)	4.5 - 14	3 (LAI-1 through LAI-3)	76, 69, 72.5	--	--	23	--	8	3



Year	Title	Consultant	Investigation Summary	Number of Explorations Completed and Corresponding Depth(s)								Number of Samples Submitted for Chemical Analysis <sup>1</sup>			
				Test Pits	Depth (ft bgs)	Borings (not including wells)	Depth (ft bgs)	Monitoring Wells	Depth (ft bgs)	Soil Vapor Probes (temporary or permanent)	Depth (ft bgs)	Waste	Soil Vapor	Soil	Groundwater
2003a	Ground Water Monitoring and Sampling Letter Report- Former Olympia Landfill, Black Lake Boulevard - Olympia, Washington	Zipper Zeman Associates, Inc.	Conducted a groundwater monitoring event on three onsite monitoring wells (LAI-1, LAI-2 and LAI-3). Trichloroethene (TCE) concentrations in LAI-1 exceeded MTCA Method A cleanup level of 5 ug/L for groundwater. TCE was detected in monitoring well LAI-2 below MTCA and was not detected in LAI-3.	--	--	--	--	--	--	--	--	--	--	--	3 wells for 3 rounds (LAI-1, LAI-2, LAI-3)
2003b	Summary Letter Report- Former Olympia Landfill, Black Lake Boulevard - Olympia, Washington	Zipper Zeman Associates, Inc.	Provided a historical site summary detailing prior site investigations.	--	--	--	--	--	--	--	--	--	--	--	--
2004	Summary of Hydrologic Conditions West Olympia Land Fill Property - Olympia, Washington	Landau Associates	Installed four additional groundwater monitoring wells (LAI-MW-1 through LAI-MW-4) outside the landfill footprint. TCE was detected in wells located along the northern margin of the landfill property (LAI-1, LAI-MW-2, and LAI-2).	--	--	--	--	4 (LAI-MW-1 through LAI-MW-4)	55 - 70	--	--	--	--	--	7
2005	Drilling, Deep Well Installation and Groundwater Sampling Activities for Southridge Properties	Landau Associates	Monitoring well installed outside the landfill footprint into deep Qc aquifer to further document hydrogeologic conditions at the Site and determine the vertical extent of TCE contamination in groundwater from the Qva aquifer.	--	--	--	--	1 (LAI-5d)	152	--	--	--	--	--	--
2006a	West Olympia Landfill 2006 Q3 (3rd Quarter) Sampling Results	Pacific Groundwater Group	Conducted a groundwater monitoring event. TCE detected above the Washington State Ground Water Contaminant Level (GWCL) in wells LAI-MW-2 and LAI-1. TCE was detected in monitoring well PGG-1 at a concentration less than the GWCL.	--	--	--	--	--	--	--	--	--	--	--	5 (LAI-1, LAI-MW-2, LAI-5d, PGG-1 and PGG-2)
2006b	West Olympia Landfill Ground Water Investigation	Pacific Groundwater Group	Installed five gas probes and two monitoring wells along the western boundary of the site, just outside the extent of waste. Gas samples were collected and methane was not detected. Groundwater was sampled in two subsequent sampling events. TCE concentrations were detected above GWCL in monitoring wells LAI-MW-2 and LAI-1. TCE was detected in monitoring well PGG-1 and LAI-2 at a concentration less than GWCL.	--	--	--	--	2 (PGG-1 and PGG-2)	45, 83	5 (GP-1 through GP-5)	13 - 17	--	Field screening only	--	5 wells for two rounds (LAI-1, LAI-MW-2, LAI-5d, PGG-1 and PGG-2)
2008	2008 Wellhead Protection Area Delineation for the City of Olympia Wellfield Areas - Thurston County, Washington	Golder Associates, Inc	The report was not available for review but was summarized in E&E 2017. Completed a wellhead protection area delineation for the City of Olympia. The updated Allison Springs wellhead protection area was found to encompass the landfill property.	--	--	--	--	--	--	--	--	--	--	--	--
2009	West Olympia Landfill Groundwater Sampling Fourth Quarter, 2008 (2008 Q4)	Pacific Groundwater Group	Conducted a groundwater monitoring event for 5 wells (LAI-1, LAI-2, LAI-MW-2, LAI-5d, PGG-1, and PGG-2). TCE (LAI-1 and LAI-MW-2), and Bis(2-ethylhexyl) phthalate (LAI-1and PGG-2) were detected above their respective GWCLs.	--	--	--	--	--	--	--	--	--	--	--	6 wells for one round (LAI-1, LAI-2, LAI-MW-2, LAI-5d, PGG-1 and PGG-2)
2009	Report on GW Level Measurements	Thurston County Environmental Health	The report provides a review of measured groundwater elevations and corresponding flow direction(s); no sampling was conducted.	--	--	--	--	--	--	--	--	--	--	--	--
2010	West Olympia Landfill Groundwater Sampling Fourth Quarter, 2010 (2010 Q4)	Pacific Groundwater Group	Collected groundwater samples from 5 monitoring wells (LAI-1, LAI-MW-2, LAI-5d, and PGG-1). Analytes detected above their respective GWCLs included dissolved iron in LAI-MW-2 and TCE in LAI-1 and LAI-MW-2.	--	--	--	--	--	--	--	--	--	--	--	4 wells for one round (LAI-1, LAI-MW-2, LAI-5d, PGG-1)

Year	Title	Consultant	Investigation Summary	Number of Explorations Completed and Corresponding Depth(s)								Number of Samples Submitted for Chemical Analysis <sup>1</sup>			
				Test Pits	Depth (ft bgs)	Borings (not including wells)	Depth (ft bgs)	Monitoring Wells	Depth (ft bgs)	Soil Vapor Probes (temporary or permanent)	Depth (ft bgs)	Waste	Soil Vapor	Soil	Groundwater
2017	West Olympia Landfill Site Targeted Brownfields Assessment	Ecology and Environment, Inc.	Conducted additional subsurface investigations as part of an EPA Targeted Brownfields Assessment. Collected groundwater samples from 10 existing on-Site wells (LAI-1 through LAI-3, LAI-MW-1 through LAI-MW-4, LAI-5d, PGG-1 and PGG-2) and one off-Site well (MW-23). Installed two wells downgradient from the Site. Conducted 4 quarters of groundwater sampling from wells (LAI-1 and LAI-MW-2). Collected soil vapor samples from 14 existing and temporary points on Site, and collected 64 passive soil vapor samples using a grid across the Site. TCE was detected in groundwater above MTCA Method A in wells LAI-1 and LAI-MW-2 in the northwest corner of the Site, and was detected less than MTCA in downgradient well OLY-2. Five VOCs were detected in soil vapor samples from across the Site.	--	--	--	--	2 (OLY-01 and OLY-02)	90 and 75	14 active samples (GP-6 through GP-14); 68 passive sampling points (grid)	13 - 18	--	82	--	18

Notes:

<sup>1</sup>The listed number of samples submitted for chemical analysis does not include samples collected for QA/QC purposes (duplicates, MS/MSDs) or samples collected specifically collected to characterize investigation derived waste.

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**Table 2-2**  
**Monitoring Well Details**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Monitoring Well ID	Ecology Well ID	Aquifer	Northing	Easting	Date Installed	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Total Depth of Boring (ft bgs)	Screened Interval (ft bgs)	Bottom of Screen Elevation (ft)
LAI-1	NA	Upper (Qga)	630396.1501	1031099.2898	7/20/2000	170.75	173.35	76.5	56 - 76	94.75
LAI-2	NA	Upper (Qga)	630428.9873	1031535.1242	7/20/2000	167.00	169.07	71.5	49 - 69	98.00
LAI-3	NA	Upper (Qga)	629979.3885	1031701.8149	7/19/2000	176.12	178.52	73.0	52 - 72	104.12
LAI-5d	NA	Lower (Qpg)	630404.0047	1031081.3223	9/23/2005	170.06	172.07	156.0	142 - 152	18.06
LAI-MW-1	ALB-467	Upper (Qga)	629674.1574	1031472.0781	6/7/2004	160.97	163.21	55.5	35 - 55	105.97
LAI-MW-2	ALB-468	Upper (Qga)	630425.7084	1031275.8292	6/7/2004	170.62	170.23	65.4	45 - 65	105.62
LAI-MW-3	NA	Upper (Qga)	630199.9484	1031837.8684	6/8/2004	170.01	171.89	66.0	45 - 65	105.01
LAI-MW-4	ALB-470	Upper (Qga)	629863.9395	1031282.3711	6/9/2004	169.77	172.21	70.5	50 - 70	99.77
MW-23	BHF-999	Upper (Qga)	632235.6451	1029298.3843	12/1/2012	--	188.79	113	NA	NA
OLY-1	NA	Upper (Qga)	631612.2825	1030606.6546	3/17/2015	186.68	186.38	90.0	70 - 90	96.68
OLY-2	NA	Upper (Qga)	631832.2122	1031056.9943	3/18/2015	171.08	170.78	75.0	55 - 75	96.08
PGG-1	ALJ-756	Upper (Qga)	630266.9335	1031041.8988	6/21/2006	167.36	169.54	83.0	72 - 77	90.36
PGG-2	APN-757	Upper (Qga)	630048.3434	1031054.3322	6/20/2006	166.70	169.50	82.0	46 - 56	110.70

**Notes:**

bgs = below ground surface

Ecology = Washington State Department of Ecology

NA = not available

ft = feet

ID = identification

Source of TOC elevations: PGG 2006 Report for all wells except OLY-1, OLY-2, and MW-23 which were surveyed by the City of Olympia's surveyor and converted to NGVD29 from NAVD88.

Horizontal Datum: NAD83 Washington State Plane South (ft)

Vertical Datum: NGVD29

**Table 2-3**  
**Exploration Details**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Exploration	Type of Exploration	Consultant	Completion Date	Exploration Depth (ft)	Ground Elevation (ft)	Waste Material Top Depth (ft)	Waste Material Base Depth (ft)	Waste Material Base Elevation (ft)	Waste Material Thickness (ft)
LAI-1	Monitoring Well	Landau Associates	7/20/2000	76.5	170.8	NA	0	--	0.0
LAI-2	Monitoring Well	Landau Associates	7/20/2000	71.5	167.0	NA	0	--	0.0
LAI-3	Monitoring Well	Landau Associates	7/19/2000	73.0	176.1	4.5	15.5	160.6	11.0
LAI-4	Soil Boring	Landau Associates	9/7/2000	15.5	174.0	7.0	9.0	165.0	2.0
LAI-5	Soil Boring	Landau Associates	9/7/2000	26.0	179.0	5.5	17.0	162.0	11.5
LAI-6	Soil Boring	Landau Associates	9/6/2000	20.2	172.0	8.0	14.0	158.0	6.0
LAI-7	Soil Boring	Landau Associates	9/7/2000	25.5	181.0	0.0	16.5	164.5	16.5
LAI-8	Soil Boring	Landau Associates	9/7/2000	20.9	175.0	3.0	16.0	159.0	13.0
LAI-9	Soil Boring	Landau Associates	9/6/2000	26.5	175.0	0.0	11.0	164.0	11.0
LAI-10	Soil Boring	Landau Associates	9/7/2000	20.4	169.0	2.5	8.0	161.0	5.5
LAI-11	Soil Boring	Landau Associates	9/8/2000	22.9	176.0	7.5	15.5	160.5	8.0
LAI-12	Soil Boring	Landau Associates	9/6/2000	25.5	167.0	0.0	15.5	151.5	15.5
LAI-13	Soil Boring	Landau Associates	9/6/2000	26.5	176.0	0.0	15.0	161.0	15.0
LAI-14	Soil Boring	Landau Associates	9/8/2000	26.0	176.0	1.5	14.5	161.5	13.0
LAI-15	Soil Boring	Landau Associates	9/8/2000	22.8	168.0	NA	0	--	0.0
LAI-16	Soil Boring	Landau Associates	9/11/2000	20.5	140.0	NA	0	--	0.0
LAI-17	Soil Boring	Landau Associates	9/6/2000	16.6	176.0	0.0	10.0	166.0	10.0
LAI-18	Soil Boring	Landau Associates	9/11/2000	21.5	170.0	5.0	12.5	157.5	7.5
LAI-19	Soil Boring	Landau Associates	9/8/2000	25.3	176.0	2.0	17.5	158.5	15.5
TP-1	Test Pit	Landau Associates	9/12/2000	14.0	170.0	0.0	>14.0	<156.0	14.0
TP-2	Test Pit	Landau Associates	9/12/2000	4.5	160.0	0.0	3.0	157.0	3.0
TP-3	Test Pit	Landau Associates	9/13/2000	13.5	177.0	0.0	12.0	165.0	12.0
TP-4	Test Pit	Landau Associates	9/12/2000	8.0	167.0	0.0	7.5	159.5	7.5
TP-5	Test Pit	Landau Associates	9/13/2000	12.5	175.0	0.0	11.0	164.0	11.0
TP-6	Test Pit	Landau Associates	9/13/2000	13.5	173.0	4.5	13.0	160.0	8.5
TP-7	Test Pit	Landau Associates	9/12/2000	13.0	176.0	0.0	>13.0	<163.0	13.0
TP-8	Test Pit	Landau Associates	9/12/2000	12.0	179.0	3.0	>12.0	<167.0	9.0
TP-9	Test Pit	Landau Associates	9/13/2000	14.0	178.0	4.0	>14.0	<164.0	10.0
TP-10	Test Pit	Landau Associates	9/12/2000	7.5	170.0	0.0	7.0	163.0	7.0
TP-11	Test Pit	Landau Associates	9/12/2000	9.5	172.0	0.0	9.0	163.0	9.0
TP-12	Test Pit	Landau Associates	9/12/2000	4.5	165.0	0.0	2.0	163.0	2.0
TP-13	Test Pit	Landau Associates	9/12/2000	4.5	164.0	NA	0	--	0.0
TP-14	Test Pit	Landau Associates	9/12/2000	9.5	157.0	NA	0	--	0.0
LAI-MW-1	Monitoring Well	Landau Associates	6/7/2004	55.5	160.97	NA	0	--	0.0
LAI-MW-2	Monitoring Well	Landau Associates	6/7/2004	65.4	170.62	NA	0	--	0.0
LAI-MW-3	Monitoring Well	Landau Associates	6/8/2004	66.0	170.01	NA	0	--	0.0
LAI-MW-4	Monitoring Well	Landau Associates	6/9/2004	70.5	169.77	0.00	5	164.77	5.0
LAI-5d	Monitoring Well	Landau Associates	9/23/2005	156.0	170.06	NA	0	--	0.0
PGG-1	Monitoring Well	Pacific Groundwater Group	6/21/2006	83	167.36	NA	0	--	0.0
PGG-2	Monitoring Well	Pacific Groundwater Group	6/20/2006	82	166.70	NA	0	--	0.0
GP-1	Gas Probe	Pacific Groundwater Group	6/19/2006	16	172.16	NA	0	--	0.0
GP-2	Gas Probe	Pacific Groundwater Group	6/21/2006	13	166.64	NA	0	--	0.0
GP-3	Gas Probe	Pacific Groundwater Group	6/19/2006	14.5	176.76	NA	0	--	0.0
GP-4	Gas Probe	Pacific Groundwater Group	6/20/2006	17	176.87	0	6	170.87	6.0
GP-5	Gas Probe	Pacific Groundwater Group	6/20/2006	16	166.24	0	13	153.24	13.0
1-1	Test Pit	Dames & Moore	7/26/1984	10.5	170	NA	0	--	0.0
1-2	Test Pit	Dames & Moore	7/26/1984	10	183	not available	>10	<173	>10
1-3	Test Pit	Dames & Moore	7/26/1984	10	172	not available	>10	<172	>10
1-4	Test Pit	Dames & Moore	7/26/1984	5	166	NA	0	--	0.0
1-5	Test Pit	Dames & Moore	7/26/1984	5	166	NA	0	--	0.0
2-1	Test Pit	Dames & Moore	7/26/1984	10	176	not available	5	171	5.0
2-2	Test Pit	Dames & Moore	7/26/1984	15	176	not available	13	163	13.0
2-3	Test Pit	Dames & Moore	7/26/1984	15	176	not available	>15	<161	>15
2-4	Test Pit	Dames & Moore	7/26/1984	10	178	not available	>10	<168	>10
2-5	Test Pit	Dames & Moore	7/26/1984	5	170	not available	1.5	168.5	1.5
3-1	Test Pit	Dames & Moore	7/26/1984	10	171	not available	6	165	6.0
3-2	Test Pit	Dames & Moore	7/26/1984	12.5	175	not available	11.5	163.5	11.5
3-3	Test Pit	Dames & Moore	7/26/1984	15	175	not available	14	161	14.0
3-4	Test Pit	Dames & Moore	7/26/1984	15	176	not available	14	162	14.0
3-5	Test Pit	Dames & Moore	7/26/1984	10	176	not available	>10	<166	>10
4-1	Test Pit	Dames & Moore	7/26/1984	10	169	not available	6	163	6.0
4-2	Test Pit	Dames & Moore	7/26/1984	10.5	172	not available	10	162	10.0
4-3	Test Pit	Dames & Moore	7/26/1984	10	169	not available	>10	<159	>10
4-4	Test Pit	Dames & Moore	7/26/1984	10	175	not available	>10	<165	>10
4-5	Test Pit	Dames & Moore	7/26/1984	10	172	not available	>10	<162	>10
5-0	Test Pit	Dames & Moore	7/26/1984	>11	NA	not available	11	NA	11.0
5-2	Test Pit	Dames & Moore	7/26/1984	10	172	not available	>10	<162	>10
5-3	Test Pit	Dames & Moore	7/26/1984	10	170	not available	>10	<160	>10
5-4	Test Pit	Dames & Moore	7/26/1984	10	171	not available	>10	<161	>10
5-5	Test Pit	Dames & Moore	7/26/1984	6	160	NA	0	--	0.0
B-1	Soil Boring	Dames & Moore	7/31/1984	34	179	1.5	13.5	165.5	12.0
B-2	Soil Boring	Dames & Moore	8/1/1984	25	175	2	8	167	6.0
B-3	Soil Boring	Dames & Moore	8/1/1984	29.5	175	1.5	10	165	8.5
B-4	Soil Boring	Dames & Moore	8/1/1984	15.5	175	3	13	162	10.0
B-5	Soil Boring	Dames & Moore	8/1/1984	12	170	2.5	5.5	164.5	3.0
TP-1	Test Pit	Dames & Moore	7/25/1984	7.5	168	NA	0	--	0.0
TP-2	Test Pit	Dames & Moore	7/25/1984	6.5	156	NA	0	--	0.0
TP-3	Test Pit	Dames & Moore	7/25/1984	6	163	NA	0	--	0.0
TP-4	Test Pit	Dames & Moore	7/25/1984	6	152	NA	0	--	0.0
TP-5	Test Pit	Dames & Moore	7/25/1984	6.5	154	NA	0	--	0.0
TP-6	Test Pit	Dames & Moore	7/25/1984	5	157	NA	0	--	0.0
TP-7	Test Pit	Dames & Moore	7/25/1984	10.5	157	NA	0	--	0.0
TP-8	Test Pit	Dames & Moore	7/25/1984	10.5	NA	NA	0	--	0.0
TP-9	Test Pit	Dames & Moore	7/25/1984	10	NA	NA	0	--	0.0
TP-10	Test Pit	Dames & Moore	7/25/1984	11	157	NA	0	--	0.0
TP-11	Test Pit	Dames & Moore	7/25/1984	6	157	NA	0	--	0.0
TP-12	Test Pit	Dames & Moore	7/25/1984	11	157	NA	0	--	0.0
TP-13	Test Pit	Dames & Moore	7/25/1984	11	NA	NA	0	--	0.0
MW-1	Monitoring Well	Dames & Moore	7/30/1984	29.5	168	NA	0	--	0.0
MW-2	Monitoring Well	Dames & Moore	7/31/1984	29.5	161	NA	0	--	0.0
MW-3	Monitoring Well	Dames & Moore	7/31/1984	29.5	161	NA	0	--	0.0
HC-1	Test Pit	HartCrowser	5/29/1986	9	157	NA	0	--	0.0
HC-2	Test Pit	HartCrowser	5/29/1986	9.5	174	2	>9.5	--	>7.5
HC-3	Test Pit	HartCrowser	5/29/1986	9.5	157	NA	0	--	0.0
HC-4	Test Pit	HartCrowser	5/29/1986	8	170	NA	0	--	0.0
HC-5	Test Pit	HartCrowser	5/29/1986	5	172	NA	0	--	0.0
HC-6	Test Pit	HartCrowser	5/29/1986	6	162	0	1	--	1.0
HC-6A	Test Pit	HartCrowser	5/29/1986	4	161	NA	0	--	0.0

**Notes:**  
-- = No Waste Material Present  
ft = feet  
NA = No information available  
Vertical Datum: NGVD29  
Ground elevations for Dames & Moore and HartCrowser explorations are estimated.

**Table 2-4**  
**Minimum and Maximum Groundwater Elevations**  
 West Olympia Landfill Site  
 Olympia, Washington

Well ID	Aquifer	Minimum Groundwater Elevation Date	Minimum Groundwater Elevations (ft)	Maximum Groundwater Elevation Date	Maximum Groundwater Elevations (ft)	Fluctuation (ft)
LAI-1	Upper (Qga)	10/24/2006	111.45	3/29/2018	121.35	9.90
LAI-2	Upper (Qga)	6/18/2004	109.63	3/29/2018	121.70	12.07
LAI-3	Upper (Qga)	10/13/2008	116.53	3/29/2018	126.60	10.07
LAI-5d	Lower (Qpg)	10/24/2006	109.28	3/29/2018	119.96	10.68
LAI-MW-1	Upper (Qga)	10/13/2008	112.89	3/29/2018	125.92	13.03
LAI-MW-2	Upper (Qga)	9/23/2015	108.09	3/26/2015	125.02	16.93
LAI-MW-3	Upper (Qga)	10/13/2008	116.62	3/26/2018	126.58	9.96
LAI-MW-4	Upper (Qga)	10/13/2008	111.54	3/29/2018	123.64	12.10
OLY-1	Upper (Qga)	9/23/2015	106.60	3/29/2018	118.63	12.03
OLY-2	Upper (Qga)	9/23/2015	106.52	3/29/2018	118.32	11.80
PGG-1	Upper (Qga)	10/24/2006	111.95	3/29/2018	124.05	12.10
PGG-2	Upper (Qga)	10/13/2008	112.60	3/29/2018	124.01	11.41

**Notes:**

ft = feet

ID = identification

Note: MW-23 not included because only one water level was collected from this well.

Vertical Datum: NGVD29

**Table 2-5**  
**Vertical Hydraulic Gradient - LAI-1 to LAI-5d**  
**West Olympia Landfill Site**  
**Olympia, Washington**

<b>Date</b>	<b>LAI-1 Groundwater Elevation (ft) (Qva)</b>	<b>LAI-5d Groundwater Elevation (ft) (Qc)</b>	<b>Water Level Difference (ft)</b>	<b>Vertical Gradient (ft/ft)</b>
7/11/2006	114.3	113.28	1.02	0.01245 Downward
10/24/2006	111.47	109.29	2.18	0.02660 Downward
10/13/2008	111.5	109.63	1.87	0.02282 Downward
12/3/2008	112.75	111.33	1.42	0.01733 Downward
2/26/2009	116.63	115.16	1.47	0.01794 Downward
1/15/2014	114.05	112.71	1.34	0.01635 Downward
3/29/2018	121.37	119.97	1.4	0.01709 Downward

**Notes:**

bgs = below ground surface

ft = feet

ft/ft = feet per foot

Center of Screen Elevations: LAI-1 = 105 ft and LAI-5d = 23.06 ft

Vertical Datum: NGVD29

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**Table 3-1**  
Soil Screening Levels  
West Olympia Landfill Site  
Olympia, Washington

Analyte	CAS Number	Human Health Direct Contact		Ecological	Concentrations Protective of Groundwater					Preliminary Soil Screening Level		Modifying Factors		Soil Screening Level (After adjustment for background and PQL)	
		MTCA Method B Standard Formula Value for Unrestricted Land Use <sup>1</sup>		Simplified TEE Ecological Indicator Soil Concentrations (MTCA Table 749-2) mg/kg	Koc <sup>2</sup> L/kg	Kd <sup>3</sup> L/kg	H <sup>4</sup> (-)	Soil Concentration Protective of Groundwater Screening Level <sup>5</sup>		Vadose mg/kg	Saturated mg/kg	Background Concentration <sup>6</sup> mg/kg	Practical Quantitation Limit <sup>7</sup> (PQL) mg/kg	Vadose mg/kg	Saturated mg/kg
		Carcinogen mg/kg	Non-Carcinogen mg/kg					Vadose Zone Soil mg/kg	Saturated Soil mg/kg						
<b>Petroleum Hydrocarbons</b>															
Gasoline-Range Hydrocarbons W/Benzene	NA	-	-	2.0E+02	-	-	-	3.0E+01	3.0E+01	3.0E+01	3.0E+01	-	5.0E+00	3.0E+01	3.0E+01
Gasoline-Range Hydrocarbons	NA	-	-	2.0E+02	-	-	-	1.0E+02	1.0E+02	1.0E+02	1.0E+02	-	5.0E+00	1.0E+02	1.0E+02
Diesel-Range Hydrocarbons <sup>5</sup>	NA	-	-	4.6E+02	-	-	-	2.0E+03	2.0E+03	4.6E+02	4.6E+02	-	2.5E+01	4.6E+02	4.6E+02
Lube Oil-Range Hydrocarbons <sup>5</sup>	NA	-	-	-	-	-	-	2.0E+03	2.0E+03	2.0E+03	2.0E+03	-	5.0E+01	2.0E+03	2.0E+03
<b>Metals</b>															
Arsenic	7440-38-2	6.7E-01	2.4E+01	2.0E+01	-	2.9E+01	0.0E+00	Not a GW COC	Not a GW COC	6.7E-01	6.7E-01	2.0E+01	4.3E+00	2.0E+01	2.0E+01
Cadmium	7440-43-9	-	8.0E+01	2.5E+01	-	6.7E+00	0.0E+00	Not a GW COC	Not a GW COC	2.5E+01	2.5E+01	1.0E+00	4.9E-01	2.5E+01	2.5E+01
Chromium III / Total	16065-83-1	-	1.2E+05	4.2E+01	-	1.0E+03	0.0E+00	Not a GW COC	Not a GW COC	4.2E+01	4.2E+01	4.8E+01	not reported	4.8E+01	4.8E+01
Lead <sup>1</sup>	7439-92-1	2.5E+02		2.2E+02	-	1.0E+04	0.0E+00	Not a GW COC	Not a GW COC	2.2E+02	2.2E+02	1.7E+01	not reported	2.2E+02	2.2E+02
Mercury (mercuric chloride)	7439-97-6	-	2.4E+01	9.0E+00	-	5.2E+01	4.7E-01	Not a GW COC	Not a GW COC	9.0E+00	9.0E+00	7.0E-02	1.9E-02	9.0E+00	9.0E+00
Nickel	7440-02-0	-	1.6E+03	1.0E+02	-	6.5E+01	0.0E+00	Not a GW COC	Not a GW COC	1.0E+02	1.0E+02	4.8E+01	2.4E+01	1.0E+02	1.0E+02
Silver	7440-22-4	-	4.0E+02	-	-	8.3E+00	0.0E+00	Not a GW COC	Not a GW COC	4.0E+02	4.0E+02	-	1.7E+00	4.0E+02	4.0E+02
Zinc	7440-66-6	-	2.4E+04	2.7E+02	-	6.2E+01	0.0E+00	Not a GW COC	Not a GW COC	2.7E+02	2.7E+02	8.5E+01	not reported	2.7E+02	2.7E+02
<b>Semivolatile Organic Compounds (SVOCs)</b>															
2,4,5-Trichlorophenol	95-95-4	-	8.0E+03	-	1.6E+03	1.6E+00	1.8E-04	2.9E+01	Not a GW COC	2.9E+01	8.0E+03	-	6.7E-03	2.9E+01	8.0E+03
2,4,6-Trichlorophenol	88-06-2	9.1E+01	8.0E+01	-	3.8E+02	3.8E-01	3.2E-04	5.8E-02	Not a GW COC	5.8E-02	8.0E+01	-	6.7E-03	5.8E-02	8.0E+01
2,4-Dichlorophenol	120-83-2	-	2.4E+02	-	1.5E+02	1.5E-01	1.3E-04	1.7E-01	Not a GW COC	1.7E-01	2.4E+02	-	6.7E-03	1.7E-01	2.4E+02
2,4-Dimethylphenol	105-67-9	-	1.6E+03	-	2.1E+02	2.1E-01	8.2E-05	1.3E+00	Not a GW COC	1.3E+00	1.6E+03	-	6.7E-03	1.3E+00	1.6E+03
2,4-Dinitrophenol	51-28-5	-	1.6E+02	-	1.0E-02	1.0E-05	1.8E-05	1.3E-01	Not a GW COC	1.3E-01	1.6E+02	-	6.7E-03	1.3E-01	1.6E+02
2,4-Dinitrotoluene	121-14-2	3.2E+00	1.6E+02	-	9.6E+01	9.6E-02	3.8E-06	3.0E-02	Not a GW COC	3.0E-02	3.2E+00	-	6.7E-03	3.0E-02	3.2E+00
2,6-Dinitrotoluene	606-20-2	6.7E-01	2.4E+01	-	6.9E+01	6.9E-02	3.1E-05	2.7E-02	Not a GW COC	2.7E-02	6.7E-01	-	6.7E-03	2.7E-02	6.7E-01
2-Chloronaphthalene	91-58-7	-	6.4E+03	-	-	-	-	-	-	6.4E+03	6.4E+03	-	6.7E-03	6.4E+03	6.4E+03
2-Chlorophenol	95-57-8	-	4.0E+02	-	3.9E+02	3.9E-01	7.3E-03	4.7E-01	Not a GW COC	4.7E-01	4.0E+02	-	6.7E-03	4.7E-01	4.0E+02
2-Methylnaphthalene	91-57-6	-	3.2E+02	-	-	-	-	Not a GW COC	Not a GW COC	3.2E+02	3.2E+02	-	7.1E-02	3.2E+02	3.2E+02
2-methylphenol (o-Cresol)	95-48-7	-	4.0E+03	-	9.1E+01	9.1E-02	4.9E-05	Not a GW COC	Not a GW COC	4.0E+03	4.0E+03	-	6.7E-03	4.0E+03	4.0E+03
2-Nitroaniline	88-74-4	-	8.0E+02	-	-	-	-	Not a GW COC	Not a GW COC	8.0E+02	8.0E+02	-	6.7E-03	8.0E+02	8.0E+02
2-Nitrophenol	88-75-5	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
3 & 4 Methylphenol	108-39-4	-	4.0E+03	-	-	-	-	Not a GW COC	Not a GW COC	4.0E+03	4.0E+03	-	6.7E-03	4.0E+03	4.0E+03
3,3'-Dichlorobenzidine	91-94-1	2.2E+00	-	-	7.2E+02	7.2E-01	1.6E-07	Not a GW COC	Not a GW COC	2.2E+00	2.2E+00	-	6.7E-03	2.2E+00	2.2E+00
3-Nitroaniline	99-09-2	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4,6-Dinitro-2-Methylphenol	534-52-1	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4-Bromophenyl phenyl ether	101-55-3	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4-Chloro-3-Methylphenol	59-50-7	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4-Chloroaniline	106-47-8	5.0E+00	3.2E+02	-	6.6E+01	6.6E-02	1.4E-05	Not a GW COC	Not a GW COC	5.0E+00	5.0E+00	-	6.7E-03	5.0E+00	5.0E+00
4-Chlorophenyl-Phenylether	7005-72-3	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4-Nitroaniline	100-01-6	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
4-Nitrophenol (p-Nitrophenol)	100-02-7	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
Acenaphthene	83-32-9	-	4.8E+03	-	4.9E+03	4.9E+00	2.1E-03	Not a GW COC	Not a GW COC	4.8E+03	4.8E+03	-	7.1E-02	4.8E+03	4.8E+03
Acenaphthylene	208-96-8	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Anthracene	120-12-7	-	2.4E+04	-	2.3E+04	2.3E+01	2.7E-03	Not a GW COC	Not a GW COC	2.4E+04	2.4E+04	-	7.1E-02	2.4E+04	2.4E+04
Benzo(a)anthracene	56-55-3	cPAH TEC	-	-	3.6E+05	3.6E+02	1.4E-04	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Benzo(a)pyrene	50-32-8	cPAH TEC	2.4E+01	3.0E+01	9.7E+05	9.7E+02	4.6E-05	Not a GW COC	Not a GW COC	2.4E+01	2.4E+01	-	7.1E-02	2.4E+01	2.4E+01
Benzo(b)fluoranthene	205-99-2	cPAH TEC	-	-	1.2E+06	1.2E+03	7.7E-04	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE



Analyte	CAS Number	Human Health Direct Contact		Ecological	Concentrations Protective of Groundwater					Preliminary Soil Screening Level		Modifying Factors		Soil Screening Level (After adjustment for background and PQL)	
		MTCA Method B Standard Formula Value for Unrestricted Land Use <sup>1</sup>		Simplified TEE Ecological Indicator Soil Concentrations (MTCA Table 749-2) mg/kg	Koc <sup>2</sup> L/kg	Kd <sup>3</sup> L/kg	H <sup>4</sup> (-)	Soil Concentration Protective of Groundwater Screening Level <sup>5</sup>		Vadose mg/kg	Saturated mg/kg	Background Concentration <sup>6</sup> mg/kg	Practical Quantitation Limit <sup>7</sup> (PQL) mg/kg	Vadose mg/kg	Saturated mg/kg
		Carcinogen mg/kg	Non-Carcinogen mg/kg					Vadose Zone Soil mg/kg	Saturated Soil mg/kg						
Benzo(ghi)perylene	191-24-2	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Benzo(k)fluoranthene	207-08-9	cPAH TEC	-	-	1.2E+06	1.2E+03	3.4E-05	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Benzoic Acid	65-85-0	-	3.2E+05	-	6.0E-01	6.0E-04	6.3E-05	Not a GW COC	Not a GW COC	3.2E+05	3.2E+05	-	6.7E-03	3.2E+05	3.2E+05
Benzyl Alcohol	100-51-6	-	8.0E+03	-	-	-	-	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	-	6.7E-03	8.0E+03	8.0E+03
Bis(2-Chloroethoxy)Methane	111-91-1	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
Bis(2-Chloroethyl)Ether	111-44-4	9.1E-01	-	-	7.6E+01	7.6E-02	2.9E-04	Not a GW COC	Not a GW COC	9.1E-01	9.1E-01	-	6.7E-03	9.1E-01	9.1E-01
Bis(2-Chloroisopropyl)Ether	39638-32-9	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
Bis(2-Ethylhexyl)phthalate	117-81-7	7.1E+01	1.6E+03	-	1.1E+05	1.1E+02	4.2E-06	Not a GW COC	Not a GW COC	7.1E+01	7.1E+01	-	6.7E-03	7.1E+01	7.1E+01
Butyl benzyl Phthalate	85-68-7	5.3E+02	1.6E+04	-	1.4E+04	1.4E+01	5.2E-05	Not a GW COC	Not a GW COC	5.3E+02	5.3E+02	-	6.7E-03	5.3E+02	5.3E+02
Chrysene	218-01-9	cPAH TEC	-	-	4.0E+05	4.0E+02	7.1E-04	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Dibenzo(a,h)anthracene	53-70-3	cPAH TEC	-	-	1.8E+06	1.8E+03	6.0E-07	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Dibenzofuran	132-64-9	-	8.0E+01	-	-	-	-	Not a GW COC	Not a GW COC	8.0E+01	8.0E+01	-	7.1E-02	8.0E+01	8.0E+01
Dibutyl phthalate	84-74-2	-	8.0E+03	-	1.6E+03	1.6E+00	3.9E-08	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	-	6.7E-03	8.0E+03	8.0E+03
Diethyl phthalate	84-66-2	-	6.4E+04	-	8.2E+01	8.2E-02	1.9E-05	Not a GW COC	Not a GW COC	6.4E+04	6.4E+04	-	6.7E-03	6.4E+04	6.4E+04
Dimethyl phthalate	131-11-3	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
Di-n-octylphthalate	117-84-0	-	8.0E+02	-	8.3E+07	8.3E+04	2.7E-03	Not a GW COC	Not a GW COC	8.0E+02	8.0E+02	-	6.7E-03	8.0E+02	8.0E+02
Fluoranthene	206-44-0	-	3.2E+03	-	4.9E+04	4.9E+01	6.6E-04	Not a GW COC	Not a GW COC	3.2E+03	3.2E+03	-	7.1E-02	3.2E+03	3.2E+03
Fluorene	86-73-7	-	3.2E+03	-	7.7E+03	7.7E+00	8.6E-04	Not a GW COC	Not a GW COC	3.2E+03	3.2E+03	-	7.1E-02	3.2E+03	3.2E+03
Hexachlorobenzene	118-74-1	6.3E-01	6.4E+01	-	8.0E+04	8.0E+01	1.4E-02	Not a GW COC	Not a GW COC	6.3E-01	6.3E-01	-	6.7E-03	6.3E-01	6.3E-01
Hexachlorobutadiene	87-68-3	1.3E+01	8.0E+01	-	5.4E+04	5.4E+01	1.4E-01	Not a GW COC	Not a GW COC	1.3E+01	1.3E+01	-	6.7E-03	1.3E+01	1.3E+01
Hexachlorocyclopentadiene	77-47-4	-	4.8E+02	-	2.0E+05	2.0E+02	4.2E-01	Not a GW COC	Not a GW COC	4.8E+02	4.8E+02	-	6.7E-03	4.8E+02	4.8E+02
Hexachloroethane	67-72-1	2.5E+01	5.6E+01	-	1.8E+03	1.8E+00	7.2E-02	Not a GW COC	Not a GW COC	2.5E+01	2.5E+01	-	6.7E-03	2.5E+01	2.5E+01
Indeno(1,2,3-cd)pyrene	193-39-5	cPAH TEC	-	-	3.5E+06	3.5E+03	6.6E-05	Not a GW COC	Not a GW COC	NE	NE	-	7.1E-02	NE	NE
Isophorone	78-59-1	1.1E+03	1.6E+04	-	4.7E+01	4.7E-02	2.7E-04	Not a GW COC	Not a GW COC	1.1E+03	1.1E+03	-	6.7E-03	1.1E+03	1.1E+03
Naphthalene	91-20-3	-	1.6E+03	-	1.2E+03	1.2E+00	8.2E-03	Not a GW COC	Not a GW COC	1.6E+03	1.6E+03	-	7.1E-02	1.6E+03	1.6E+03
Nitrobenzene	98-95-3	-	1.6E+02	-	1.2E+02	1.2E-01	4.0E-04	Not a GW COC	Not a GW COC	1.6E+02	1.6E+02	-	6.7E-03	1.6E+02	1.6E+02
N-nitrosodi-n-propylamine	621-64-7	1.4E-01	-	-	2.4E+01	2.4E-02	9.2E-05	Not a GW COC	Not a GW COC	1.4E-01	1.4E-01	-	6.7E-03	1.4E-01	1.4E-01
Ni-nitrosodiphenylamine	86-30-6	2.0E+02	-	-	1.3E+03	1.3E+00	2.1E-04	Not a GW COC	Not a GW COC	2.0E+02	2.0E+02	-	6.7E-03	2.0E+02	2.0E+02
Pentachlorophenol	87-86-5	2.5E+00	4.0E+02	-	5.9E+02	5.9E-01	1.0E-06	Not a GW COC	Not a GW COC	2.5E+00	2.5E+00	-	6.7E-03	2.5E+00	2.5E+00
Phenanthrene	85-01-8	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	6.7E-03	NE	NE
Phenol	108-95-2	-	2.4E+04	-	2.9E+01	2.9E-02	1.6E-05	Not a GW COC	Not a GW COC	2.4E+04	2.4E+04	-	6.7E-03	2.4E+04	2.4E+04
Pyrene	129-00-0	-	2.4E+03	-	6.8E+04	6.8E+01	1.1E-04	Not a GW COC	Not a GW COC	2.4E+03	2.4E+03	-	6.7E-03	2.4E+03	2.4E+03
cPAH TEC	NA	1.9E-01	-	-	9.7E+05	9.7E+02	4.6E-05	Not a GW COC	Not a GW COC	1.9E-01	1.9E-01	-	1.1E-01	1.9E-01	1.9E-01
<b>Volatile Organic Compounds (VOCs)</b>															
1,1,1,2-Tetrachloroethane	630-20-6	3.8E+01	2.4E+03	-	-	-	-	Not a GW COC	Not a GW COC	3.8E+01	3.8E+01	-	1.0E-03	3.8E+01	3.8E+01
1,1,1-Trichloroethane	71-55-6	-	1.6E+05	-	1.4E+02	1.4E-01	4.2E-01	Not a GW COC	Not a GW COC	1.6E+05	1.6E+05	-	1.0E-03	1.6E+05	1.6E+05
1,1,2,2-Tetrachloroethane	79-34-5	5.0E+00	1.6E+03	-	7.9E+01	7.9E-02	7.0E-03	Not a GW COC	Not a GW COC	5.0E+00	5.0E+00	-	1.0E-03	5.0E+00	5.0E+00
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76-13-1	-	2.4E+06	-	-	-	-	Not a GW COC	Not a GW COC	2.4E+06	2.4E+06	-	1.0E-03	2.4E+06	2.4E+06
1,1,2-Trichloroethane	79-00-5	1.8E+01	3.2E+02	-	7.5E+01	7.5E-02	2.0E-02	Not a GW COC	Not a GW COC	1.8E+01	1.8E+01	-	1.0E-03	1.8E+01	1.8E+01
1,1-Dichloroethane	75-34-3	1.8E+02	1.6E+04	-	5.3E+01	5.3E-02	1.4E-01	Not a GW COC	Not a GW COC	1.8E+02	1.8E+02	-	1.0E-03	1.8E+02	1.8E+02
1,1-Dichloroethene	75-35-4	-	4.0E+03	-	6.5E+01	6.5E-02	7.1E-01	Not a GW COC	Not a GW COC	4.0E+03	4.0E+03	-	1.0E-03	4.0E+03	4.0E+03
1,1-Dichloropropene	563-58-6	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	1.0E-03	NE	NE
1,2,3-Trichlorobenzene	87-61-6	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	1.0E-03	NE	NE
1,2,3-Trichloropropane	96-18-4	3.3E-02	3.2E+02	-	-	-	-	Not a GW COC	Not a GW COC	3.3E-02	3.3E-02	-	1.0E-03	3.3E-02	3.3E-02
1,2,4-Trichlorobenzene	120-82-1	3.4E+01	8.0E+02	-	1.7E+03	1.7E+00	2.4E-02	Not a GW COC	Not a GW COC	3.4E+01	3.4E+01	-	1.0E-03	3.4E+01	3.4E+01
1,2,4-Trimethylbenzene	95-63-6	-	-	-	-	-	-	Not a GW COC	Not a GW COC	NE	NE	-	1.0E-03	NE	NE
1,2-Dibromo-3-Chloropropane	96-12-8	1.3E+00	1.6E+01	-	-	-	-	Not a GW COC	Not a GW COC	1.3E+00	1.3E+00	-	5.0E-03	1.3E+00	1.3E+00
1,2-dibromoethane (EDB)	106-93-4	5.0E-01	7.2E+02	-	-	-	-	Not a GW COC	Not a GW COC	5.0E-01	5.0E-01	-	1.0E-03	5.0E-01	5.0E-01

Analyte	CAS Number	Human Health Direct Contact		Ecological	Concentrations Protective of Groundwater					Preliminary Soil Screening Level		Modifying Factors		Soil Screening Level (After adjustment for background and PQL)	
		MTCA Method B Standard Formula Value for Unrestricted Land Use <sup>1</sup>		Simplified TEE Ecological Indicator Soil Concentrations (MTCA Table 749-2) mg/kg	Koc <sup>2</sup> L/kg	Kd <sup>3</sup> L/kg	H <sup>4</sup> (-)	Soil Concentration Protective of Groundwater Screening Level <sup>5</sup>		Vadose mg/kg	Saturated mg/kg	Background Concentration <sup>6</sup> mg/kg	Practical Quantitation Limit <sup>7</sup> (PQL) mg/kg	Vadose mg/kg	Saturated mg/kg
		Carcinogen mg/kg	Non-Carcinogen mg/kg					Vadose Zone Soil mg/kg	Saturated Soil mg/kg						
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	--	7.2E+03	--	3.8E+02	3.8E-01	3.5E-02	Not a GW COC	Not a GW COC	7.2E+03	7.2E+03	--	1.0E-03	7.2E+03	7.2E+03
1,2-Dichloroethane (EDC)	107-06-2	1.1E+01	4.8E+02	--	3.8E+01	3.8E-02	2.3E-02	Not a GW COC	Not a GW COC	1.1E+01	1.1E+01	--	1.0E-03	1.1E+01	1.1E+01
1,2-Dichloropropane	78-87-5	2.8E+01	7.2E+03	--	4.7E+01	4.7E-02	6.5E-02	Not a GW COC	Not a GW COC	2.8E+01	2.8E+01	--	1.0E-03	2.8E+01	2.8E+01
1,3,5-Trimethylbenzene	108-67-8	--	8.0E+02	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+02	8.0E+02	--	1.0E-03	8.0E+02	8.0E+02
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
1,3-Dichloropropane	142-28-9	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	1.9E+02	5.6E+03	--	6.2E+02	6.2E-01	4.6E-02	Not a GW COC	Not a GW COC	1.9E+02	1.9E+02	--	1.0E-03	1.9E+02	1.9E+02
2,2-Dichloropropane	594-20-7	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
2-Butanone (MEK)	78-93-3	--	4.8E+04	--	--	--	--	Not a GW COC	Not a GW COC	4.8E+04	4.8E+04	--	5.0E-03	4.8E+04	4.8E+04
2-Chloroethyl vinyl ether	110-75-8	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	5.0E-03	NE	NE
2-Chlorotoluene	95-49-8	--	1.6E+03	--	--	--	--	Not a GW COC	Not a GW COC	1.6E+03	1.6E+03	--	1.0E-03	1.6E+03	1.6E+03
2-Hexanone	591-78-6	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	5.0E-03	NE	NE
4-Chlorotoluene	106-43-4	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	108-10-1	--	6.4E+03	--	--	--	--	Not a GW COC	Not a GW COC	6.4E+03	6.4E+03	--	5.0E-03	6.4E+03	6.4E+03
Acetone	67-64-1	--	7.2E+04	--	5.8E-01	5.8E-04	9.7E-04	Not a GW COC	Not a GW COC	7.2E+04	7.2E+04	--	5.0E-03	7.2E+04	7.2E+04
Acrolein	107-02-8	--	4.0E+01	--	--	--	--	Not a GW COC	Not a GW COC	4.0E+01	4.0E+01	--	5.0E-02	4.0E+01	4.0E+01
Acrylonitrile	107-13-1	1.9E+00	3.2E+03	--	--	--	--	Not a GW COC	Not a GW COC	1.9E+00	1.9E+00	--	5.0E-03	1.9E+00	1.9E+00
Benzene	71-43-2	1.8E+01	3.2E+02	--	6.2E+01	6.2E-02	1.3E-01	Not a GW COC	Not a GW COC	1.8E+01	1.8E+01	--	1.0E-03	1.8E+01	1.8E+01
Bromobenzene	108-86-1	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
Bromochloromethane	74-97-5	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
Bromodichloromethane	75-27-4	1.6E+01	1.6E+03	--	5.5E+01	5.5E-02	3.7E-02	Not a GW COC	Not a GW COC	1.6E+01	1.6E+01	--	1.0E-03	1.6E+01	1.6E+01
Bromoethane	593-60-2	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	2.0E-03	NE	NE
Bromoform (Tribromomethane)	75-25-2	1.3E+02	1.6E+03	--	1.3E+02	1.3E-01	1.2E-02	Not a GW COC	Not a GW COC	1.3E+02	1.3E+02	--	1.0E-03	1.3E+02	1.3E+02
Bromomethane	74-83-9	--	1.1E+02	--	9.0E+00	9.0E-03	1.8E-01	Not a GW COC	Not a GW COC	1.1E+02	1.1E+02	--	1.0E-03	1.1E+02	1.1E+02
Carbon Disulfide	75-15-0	--	8.0E+03	--	4.6E+01	4.6E-02	8.0E-01	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03
Carbon Tetrachloride	56-23-5	1.4E+01	3.2E+02	--	1.5E+02	1.5E-01	7.4E-01	Not a GW COC	Not a GW COC	1.4E+01	1.4E+01	--	1.0E-03	1.4E+01	1.4E+01
Chlorobenzene	108-90-7	--	1.6E+03	--	2.2E+02	2.2E-01	7.9E-02	Not a GW COC	Not a GW COC	1.6E+03	1.6E+03	--	1.0E-03	1.6E+03	1.6E+03
Chloroethane	75-00-3	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
Chloroform	67-66-3	3.2E+01	8.0E+02	--	5.3E+01	5.3E-02	9.2E-02	Not a GW COC	Not a GW COC	3.2E+01	3.2E+01	--	1.0E-03	3.2E+01	3.2E+01
Chloromethane	74-87-3	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
cis-1,2-Dichloroethene	156-59-2	--	1.6E+02	--	3.6E+01	3.6E-02	1.0E-01	Not a GW COC	Not a GW COC	1.6E+02	1.6E+02	--	1.0E-03	1.6E+02	1.6E+02
cis-1,3-Dichloropropene	542-75-6	1.0E+01	2.4E+03	--	2.7E+01	2.7E-02	4.0E-01	Not a GW COC	Not a GW COC	1.0E+01	1.0E+01	--	1.0E-03	1.0E+01	1.0E+01
Dibromochloromethane	124-48-1	1.2E+01	1.6E+03	--	6.3E+01	6.3E-02	2.1E-02	Not a GW COC	Not a GW COC	1.2E+01	1.2E+01	--	1.0E-03	1.2E+01	1.2E+01
Dibromomethane	74-95-3	--	8.0E+02	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+02	8.0E+02	--	1.0E-03	8.0E+02	8.0E+02
Ethylbenzene	100-41-4	--	8.0E+03	--	2.0E+02	2.0E-01	3.2E-01	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03
Hexachlorobutadiene	87-68-3	1.3E+01	8.0E+01	--	5.4E+04	5.4E+01	1.4E-01	Not a GW COC	Not a GW COC	1.3E+01	1.3E+01	--	5.0E-03	1.3E+01	1.3E+01
Isopropylbenzene (Cumene)	98-82-8	--	8.0E+03	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03
Methyl Iodide (Iodomethane)	74-88-4	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
Methylene Chloride	75-09-2	5.0E+02	4.8E+02	--	1.0E+01	1.0E-02	5.7E-02	Not a GW COC	Not a GW COC	4.8E+02	4.8E+02	--	3.0E-03	4.8E+02	4.8E+02
Naphthalene	91-20-3	--	1.6E+03	--	1.2E+03	1.2E+00	8.2E-03	Not a GW COC	Not a GW COC	1.6E+03	1.6E+03	--	5.0E-03	1.6E+03	1.6E+03
n-Butylbenzene	104-51-8	--	4.0E+03	--	--	--	--	Not a GW COC	Not a GW COC	4.0E+03	4.0E+03	--	2.0E-03	4.0E+03	4.0E+03
n-Propylbenzene	103-65-1	--	8.0E+03	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03
p-Isopropyltoluene	99-87-6	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	1.0E-03	NE	NE
Sec-Butylbenzene	135-98-8	--	8.0E+03	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03
Styrene	100-42-5	--	1.6E+04	--	9.1E+02	9.1E-01	5.6E-02	Not a GW COC	Not a GW COC	1.6E+04	1.6E+04	--	1.0E-03	1.6E+04	1.6E+04
Tert-Butylbenzene	98-06-6	--	8.0E+03	--	--	--	--	Not a GW COC	Not a GW COC	8.0E+03	8.0E+03	--	1.0E-03	8.0E+03	8.0E+03

Analyte	CAS Number	Human Health Direct Contact		Ecological	Concentrations Protective of Groundwater					Preliminary Soil Screening Level		Modifying Factors		Soil Screening Level (After adjustment for background and PQL)	
		MTCA Method B Standard Formula Value for Unrestricted Land Use <sup>1</sup>		Simplified TEE Ecological Indicator Soil Concentrations (MTCA Table 749-2) mg/kg	Koc <sup>2</sup> L/kg	Kd <sup>3</sup> L/kg	H <sup>4</sup> (-)	Soil Concentration Protective of Groundwater Screening Level <sup>5</sup>		Vadose mg/kg	Saturated mg/kg	Background Concentration <sup>6</sup> mg/kg	Practical Quantitation Limit <sup>7</sup> (PQL) mg/kg	Vadose mg/kg	Saturated mg/kg
		Carcinogen mg/kg	Non-Carcinogen mg/kg					Vadose Zone Soil mg/kg	Saturated Soil mg/kg						
Tetrachloroethene	127-18-4	4.8E+02	4.8E+02	--	2.7E+02	2.7E-01	4.0E-01	Not a GW COC	Not a GW COC	4.8E+02	4.8E+02	--	1.0E-03	4.8E+02	4.8E+02
Toluene	108-88-3	--	6.4E+03	--	1.4E+02	1.4E-01	1.5E-01	Not a GW COC	Not a GW COC	6.4E+03	6.4E+03	--	1.0E-03	6.4E+03	6.4E+03
Trans-1,2-Dichloroethene	156-60-5	--	1.6E+03	--	3.8E+01	3.8E-02	2.4E-01	Not a GW COC	Not a GW COC	1.6E+03	1.6E+03	--	1.0E-03	1.6E+03	1.6E+03
Trans-1,3-Dichloropropene	542-75-6	1.0E+01	2.4E+03	--	2.7E+01	2.7E-02	4.0E-01	Not a GW COC	Not a GW COC	1.0E+01	1.0E+01	--	1.0E-03	1.0E+01	1.0E+01
Trans-1,4-Dichloro-2-butene	110-57-6	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	5.0E-03	NE	NE
Trichloroethene	79-01-6	1.2E+01	4.0E+01	--	9.4E+01	9.4E-02	2.4E-01	9.8E-03	5.9E-04	9.8E-03	5.9E-04	--	1.0E-03	9.8E-03	1.0E-03
Trichlorofluoromethane (CFC-11)	75-69-4	--	2.4E+04	--	--	--	--	Not a GW COC	Not a GW COC	2.4E+04	2.4E+04	--	1.0E-03	2.4E+04	2.4E+04
Vinyl Acetate	108-05-4	--	8.0E+04	--	5.3E+00	5.3E-03	1.2E-02	Not a GW COC	Not a GW COC	8.0E+04	8.0E+04	--	5.0E-03	8.0E+04	8.0E+04
Vinyl Chloride	75-01-4	6.7E-01	2.4E+02	--	1.9E+01	1.9E-02	8.1E-01	Not a GW COC	Not a GW COC	6.7E-01	6.7E-01	--	1.0E-03	6.7E-01	6.7E-01
Xylene, m-	108-38-3	--	1.6E+04	--	2.0E+02	2.0E-01	1.5E-01	Not a GW COC	Not a GW COC	1.6E+04	1.6E+04	--	1.0E-03	1.6E+04	1.6E+04
Xylene, p-	95-47-6	--	1.6E+04	--	2.4E+02	2.4E-01	1.1E-01	Not a GW COC	Not a GW COC	1.6E+04	1.6E+04	--	1.0E-03	1.6E+04	1.6E+04
Xylene, o-	106-42-3	--	1.6E+04	--	3.1E+02	3.1E-01	1.6E-01	Not a GW COC	Not a GW COC	1.6E+04	1.6E+04	--	1.0E-03	1.6E+04	1.6E+04
<b>Polychlorinated Biphenyls (PCBs)</b>															
Aroclor 1016	12674-11-2	1.4E+01	5.6E+00	--	--	--	--	Not a GW COC	Not a GW COC	5.6E+00	5.6E+00	--	3.6E-02	5.6E+00	5.6E+00
Aroclor 1221	11104-28-2	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	7.2E-02	NE	NE
Aroclor 1232	11141-16-5	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	3.6E-02	NE	NE
Aroclor 1242	53269-21-9	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	3.6E-02	NE	NE
Aroclor 1248	12672-29-6	--	--	--	--	--	--	Not a GW COC	Not a GW COC	NE	NE	--	3.6E-02	NE	NE
Aroclor 1254	11097-69-1	5.0E-01	1.6E+00	--	--	--	--	Not a GW COC	Not a GW COC	5.0E-01	5.0E-01	--	3.6E-02	5.0E-01	5.0E-01
Aroclor 1260	11096-82-5	5.0E-01	--	--	--	--	--	Not a GW COC	Not a GW COC	5.0E-01	5.0E-01	--	3.6E-02	5.0E-01	5.0E-01
Total PCBs	1336-36-3	5.0E-01	--	2.0E+00	--	1.0E+00	1.0E+00	Not a GW COC	Not a GW COC	5.0E-01	5.0E-01	--	3.6E-02	5.0E-01	5.0E-01

**Notes:**

<sup>1</sup> The MTCA Method A Cleanup Level was used for lead as no MTCA Method B Cleanup Level is available for lead.

<sup>2</sup> Values for Koc are from Ecology's "CLARC Master Spreadsheet.xlsx" dated August 2015.

<sup>3</sup> For ionizing and non-ionizing organics,  $K_d = K_{oc} \times f_{oc}$  and uses the MTCA default  $f_{oc}$  of 0.1% in upland soil. Metals Kd values are from Ecology's "CLARC Master Spreadsheet.xlsx" dated August 2015.

<sup>4</sup> Values for H are from Ecology's "CLARC Master Spreadsheet.xlsx" dated August 2015. Values are temperature-adjusted based on 13 degrees Celsius when available; otherwise values are based on 25 degrees Celsius.

<sup>5</sup> Soil concentrations protective of groundwater calculated per WAC 173-340-740(3)(b)(iii)(A) using Equations 747-1 and 747-2 referencing preliminary groundwater cleanup levels presented in RI Table 3-2. The Method A Soil Cleanup Level is used for the gasoline-, diesel- and oil-range total petroleum hydrocarbon concentrations protective of groundwater. Groundwater screening levels are presented in RI Table 3-2.

<sup>6</sup> Metals background values (Puget Sound Region 90th percentile values) are from *Natural Background Soil Metals Concentrations in Washington State* (Ecology Publication #94-115, 1994). Arsenic value from MTCA Table 740-1 (natural background for soil in Washington).

<sup>7</sup> PQL is the lowest PQL reported by LAI.

cPAH = Carcinogenic polycyclic aromatic hydrocarbon

EPA = Environmental Protection Agency

$f_{oc}$  = Sediment fraction of organic carbon

$k_d$  = Distribution coefficient

$k_{oc}$  = Soil organic carbon-water partitioning coefficient

L/kg = Liter per kilogram

Not a GW COC = Analyte is not a groundwater contaminant of concern (COC); analyte was not detected in groundwater at a concentration greater than its groundwater screening level (see RI Table 3-2).

Grayshading identifies the basis for the preliminary soil screening level.

Blue shading identifies the basis for the soil screening level (after PQL adjustment)

Green shading identifies the soil screening level after adjustment for background and the PQL.

mg/kg = Milligram per kilogram

MTCA = Washington State Model Toxics Control Act

NE = Not Established

PQL = Practical quantitation limit

RI = Remedial investigation

TEC = Toxic equivalent concentration

-- = No screening criteria available

**Table 3-2**  
**Groundwater Screening Levels**  
 West Olympia Landfill Site  
 Olympia, Washington

Analyte	CAS Number	Drinking Water Criteria						Vapor Intrusion <sup>5</sup>		Preliminary Groundwater Screening Level $\mu\text{g/L}$	Modifying Factor	Groundwater Screening Level (After PQL Adjustment) $\mu\text{g/L}$
		Federal MCL <sup>1</sup> $\mu\text{g/L}$	State MCL <sup>2</sup> $\mu\text{g/L}$	MTCA Method B Standard Formula Value <sup>3,4</sup>				Carc. $\mu\text{g/L}$	Non-Carc. $\mu\text{g/L}$			
				Carc. $\mu\text{g/L}$	Carc. Adjusted $\mu\text{g/L}$	Non-Carc. $\mu\text{g/L}$	Non-Carc. Adjusted $\mu\text{g/L}$					
<b>Petroleum Hydrocarbons</b>												
Gasoline-Range Hydrocarbons <sup>3</sup>	NA	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	2.5E+02	8.0E+02
Diesel-Range Hydrocarbons <sup>8</sup>	NA	--	--	--	--	5.0E+02	5.0E+02	--	--	5.0E+02	2.5E+02	5.0E+02
Heavy Oil-Range Hydrocarbons <sup>8</sup>	NA	--	--	--	--	5.0E+02	5.0E+02	--	--	5.0E+02	5.0E+02	5.0E+02
<b>Metals</b>												
Aluminum	7429-90-5	--	--	--	--	1.6E+04	1.6E+04	--	--	1.6E+04	2.0E+02	1.6E+04
Antimony	7440-36-0	6.0E+00	6.0E+00	--	--	6.4E+00	--	--	--	6.0E+00	2.0E+00	6.0E+00
Arsenic <sup>7</sup>	7440-38-2	1.0E+01	1.0E+01	5.8E-02	5.8E-01	4.8E+00	4.8E+00	--	--	5.8E-01	1.0E+00	5.0E+00
Barium	7440-39-3	2.0E+03	2.0E+03	--	--	3.2E+03	--	--	--	2.0E+03	1.0E+01	2.0E+03
Beryllium	7440-41-7	4.0E+00	4.0E+00	--	--	3.2E+01	--	--	--	4.0E+00	1.0E+00	4.0E+00
Cadmium	7440-43-9	5.0E+00	5.0E+00	--	--	8.0E+00	--	--	--	5.0E+00	1.0E+00	5.0E+00
Chromium (Total)	7440-47-3	1.0E+02	1.0E+02	--	--	2.4E+04	--	--	--	1.0E+02	2.0E+00	1.0E+02
Cobalt	7440-48-4	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
Copper	7440-50-8	1.3E+03	1.3E+03	--	--	6.4E+02	6.4E+02	--	--	6.4E+02	2.0E+00	6.4E+02
Iron	7439-89-6	--	--	--	--	1.1E+04	1.1E+04	--	--	1.1E+04	1.0E+02	1.1E+04
Lead	7439-92-1	1.5E+01	1.5E+01	--	--	--	--	--	--	1.5E+01	1.0E+00	1.5E+01
Manganese	7439-96-5	--	--	--	--	2.2E+03	2.2E+03	--	--	2.2E+03	1.0E+00	2.2E+03
Mercury (mercuric chloride)	7439-97-6	2.0E+00	2.0E+00	--	--	--	--	--	8.9E-01	8.9E-01	2.0E-01	8.9E-01
Nickel	7440-02-0	--	1.0E+02	--	--	3.2E+02	--	--	--	1.0E+02	2.0E+00	1.0E+02
Selenium	7782-49-2	5.0E+01	5.0E+01	--	--	8.0E+01	--	--	--	5.0E+01	5.0E+00	5.0E+01
Silver	7440-22-4	--	--	--	--	8.0E+01	8.0E+01	--	--	8.0E+01	1.0E+00	8.0E+01
Thallium	7440-28-0	2.0E+00	2.0E+00	--	--	1.6E-01	1.6E-01	--	--	1.6E-01	1.0E+00	1.0E+00
Vanadium	7440-62-2	--	--	--	--	8.0E+01	8.0E+01	--	--	8.0E+01	5.0E+00	8.0E+01
Zinc	7440-66-6	--	--	--	--	4.8E+03	4.8E+03	--	--	4.8E+03	1.0E+01	4.8E+03
<b>Semivolatile Organic Compounds (SVOCs)</b>												
1,1-Biphenyl	92-52-4	--	--	5.5E+00	5.5E+00	4.0E+03	4.0E+03	--	--	5.5E+00	5.0E+00	5.5E+00
1,2,4,5-Tetrachlorobenzene	95-94-3	--	--	--	--	4.8E+00	4.8E+00	--	--	4.8E+00	5.0E+00	5.0E+00
1,2,4-Trichlorobenzene	120-82-1	7.0E+01	7.0E+01	1.5E+00	1.5E+01	8.0E+01	--	--	3.9E+01	1.5E+01	5.0E-01	1.5E+01
1,2-Dichlorobenzene	95-50-1	6.0E+02	6.0E+02	--	--	7.2E+02	--	--	2.6E+03	6.0E+02	2.0E-01	6.0E+02
1,3-Dichlorobenzene	541-73-1	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
1,4-Dichlorobenzene	106-46-7	7.5E+01	7.5E+01	8.1E+00	--	5.6E+02	--	4.9E+00	7.8E+03	4.9E+00	2.0E-01	4.9E+00
1-Methylnaphthalene	90-12-0	--	--	1.5E+00	1.5E+00	5.6E+02	5.6E+02	--	--	1.5E+00	1.0E+00	1.5E+00
2,2'-Oxybis[1-chloropropane]	108-60-1	--	--	6.3E-01	6.3E-01	3.2E+02	3.2E+02	--	--	6.3E-01	1.0E+00	1.0E+00
2,3,4,6-Tetrachlorophenol	58-90-2	--	--	--	--	4.8E+02	4.8E+02	--	--	4.8E+02	5.0E+00	4.8E+02
2,4,5-Trichlorophenol	95-95-4	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	5.0E+00	8.0E+02
2,4,6-Trichlorophenol	88-06-2	--	--	4.0E+00	4.0E+00	8.0E+00	8.0E+00	--	--	4.0E+00	5.0E+00	5.0E+00
2,4-Dichlorophenol	120-83-2	--	--	--	--	2.4E+01	2.4E+01	--	--	2.4E+01	5.0E+00	2.4E+01
2,4-Dimethylphenol	105-67-9	--	--	--	--	1.6E+02	1.6E+02	--	--	1.6E+02	1.0E+00	1.6E+02
2,4-Dinitrophenol	51-28-5	--	--	--	--	3.2E+01	3.2E+01	--	--	3.2E+01	1.0E+01	3.2E+01
2,4-Dinitrotoluene	121-14-2	--	--	2.8E-01	2.8E-01	3.2E+01	3.2E+01	--	--	2.8E-01	5.0E+00	5.0E+00
2,6-Dinitrotoluene	606-20-2	--	--	5.8E-02	5.8E-02	4.8E+00	4.8E+00	--	--	5.8E-02	5.0E+00	5.0E+00
2-Chloronaphthalene	91-58-7	--	--	--	--	6.4E+02	6.4E+02	--	--	6.4E+02	1.0E+00	6.4E+02
2-Chlorophenol	95-57-8	--	--	--	--	4.0E+01	4.0E+01	--	--	4.0E+01	1.0E+00	4.0E+01
2-Methylnaphthalene	91-57-6	--	--	--	--	3.2E+01	3.2E+01	--	--	3.2E+01	1.0E-01	3.2E+01
2-methylphenol (o-Cresol)	95-48-7	--	--	--	--	4.0E+02	4.0E+02	--	--	4.0E+02	1.0E+00	4.0E+02
2-Nitroaniline	88-74-4	--	--	--	--	1.6E+02	1.6E+02	--	--	1.6E+02	5.0E+00	1.6E+02
2-Nitrophenol	88-75-5	--	--	--	--	--	--	--	--	NE	5.0E+00	NE
3 & 4 Methylphenol	108-39-4	--	--	--	--	4.0E+02	4.0E+02	--	--	4.0E+02	4.2E+00	4.0E+02
3,3'-Dichlorobenzidine	91-94-1	--	--	1.9E-01	1.9E-01	--	--	--	--	1.9E-01	5.0E+00	5.0E+00
3-Nitroaniline	99-09-2	--	--	--	--	--	--	--	--	NE	5.0E+00	NE
4,6-Dinitro-2-Methylphenol	534-52-1	--	--	--	--	--	--	--	--	NE	1.0E+01	NE
4-Bromophenyl phenyl ether	101-55-3	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
4-Chloro-3-Methylphenol	59-50-7	--	--	--	--	--	--	--	--	NE	5.0E+00	NE



Analyte	CAS Number	Drinking Water Criteria						Vapor Intrusion <sup>5</sup>		Preliminary Groundwater Screening Level µg/L	Modifying Factor	Groundwater Screening Level (After PQL Adjustment) µg/L
		Federal MCL <sup>1</sup> µg/L	State MCL <sup>2</sup> µg/L	MTCA Method B Standard Formula Value <sup>3,4</sup>				Carc. µg/L	Non-Carc. µg/L			
				Carc. µg/L	Carc. Adjusted µg/L	Non-Carc. µg/L	Non-Carc. Adjusted µg/L					
4-Chloroaniline	106-47-8	--	--	2.2E-01	2.2E-01	3.2E+01	3.2E+01	--	--	2.2E-01	5.0E+00	5.0E+00
4-Chlorophenyl-Phenylether	7005-72-3	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
4-methylphenol (p-Cresol)	106-44-5	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	1.0E+00	8.0E+02
4-Nitroaniline	100-01-6	--	--	--	--	--	--	--	--	NE	5.0E+00	NE
4-Nitrophenol (p-Nitrophenol)	100-02-7	--	--	--	--	--	--	--	--	NE	5.0E+00	NE
Acenaphthene	83-32-9	--	--	--	--	9.6E+02	9.6E+02	--	--	9.6E+02	1.0E-01	9.6E+02
Acenaphthylene	208-96-8	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Anthracene	120-12-7	--	--	--	--	4.8E+03	4.8E+03	--	--	4.8E+03	1.0E-01	4.8E+03
Atrazine	1912-24-9	3.0E+00	3.0E+00	3.8E-01	--	5.6E+02	--	--	--	3.0E+00	5.0E+00	5.0E+00
Benzaldehyde	100-52-7	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	5.0E+00	8.0E+02
Benzo(a)anthracene	56-55-3	--	--	cPAH TEC	--	--	--	--	--	NE	1.0E-01	NE
Benzo(a)pyrene	50-32-8	cPAH TEC	cPAH TEC	cPAH TEC	--	4.8E+00	4.8E+00	--	--	4.8E+00	1.0E-01	4.8E+00
Benzo(b)fluoranthene	205-99-2	--	--	cPAH TEC	--	--	--	--	--	NE	1.0E-01	NE
Benzo(ghi)perylene	191-24-2	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Benzo(k)fluoranthene	207-08-9	--	--	cPAH TEC	--	--	--	--	--	NE	1.0E-01	NE
Benzoic Acid	65-85-0	--	--	--	--	6.4E+04	6.4E+04	--	--	6.4E+04	1.0E+01	6.4E+04
Benzyl Alcohol	100-51-6	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	5.0E+00	8.0E+02
Bis(2-Chloroethoxy)Methane	111-91-1	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
Bis(2-Chloroethyl)Ether	111-44-4	--	--	4.0E-02	4.0E-02	--	--	2.6E+01	--	4.0E-02	1.0E+00	1.0E+00
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	--	--	--	--	--	--	NE	2.1E+00	NE
Bis(2-Ethylhexyl)phthalate	117-81-7	6.0E+00	6.0E+00	6.3E+00	--	3.2E+02	--	--	--	6.0E+00	1.0E+00	6.0E+00
Butyl benzyl Phthalate	85-68-7	--	--	4.6E+01	4.6E+01	3.2E+03	3.2E+03	--	--	4.6E+01	1.0E+00	4.6E+01
Caprolactam	105-60-2	--	--	--	--	8.0E+03	8.0E+03	--	--	8.0E+03	5.0E+00	8.0E+03
Carbazole	86-74-8	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
Chrysene	218-01-9	--	--	cPAH TEC	--	--	--	--	--	NE	1.0E-01	NE
Dibenzo(a,h)anthracene	53-70-3	--	--	cPAH TEC	--	--	--	--	--	NE	1.0E-01	NE
Dibenzofuran	132-64-9	--	--	--	--	1.6E+01	1.6E+01	--	--	1.6E+01	1.0E+00	1.6E+01
Dibutyl phthalate	84-74-2	--	--	--	--	1.6E+03	1.6E+03	--	--	1.6E+03	1.0E+00	1.6E+03
Diethyl phthalate	84-66-2	--	--	--	--	1.3E+04	1.3E+04	--	--	1.3E+04	1.0E+00	1.3E+04
Dimethyl phthalate	131-11-3	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
Di-n-octylphthalate	117-84-0	--	--	--	--	1.6E+02	1.6E+02	--	--	1.6E+02	1.0E+00	1.6E+02
Ethanone, 1-Phenyl- (Acetophenone)	98-86-2	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	5.0E+00	8.0E+02
Fluoranthene	206-44-0	--	--	--	--	6.4E+02	6.4E+02	--	--	6.4E+02	1.0E-01	6.4E+02
Fluorene	86-73-7	--	--	--	--	6.4E+02	6.4E+02	--	--	6.4E+02	1.0E-01	6.4E+02
Hexachlorobenzene	118-74-1	1.0E+00	1.0E+00	5.5E-02	5.5E-01	1.3E+01	--	--	--	5.5E-01	1.0E+00	1.0E+00
Hexachlorobutadiene	87-68-3	--	--	5.6E-01	5.6E-01	8.0E+00	8.0E+00	8.1E-01	--	5.6E-01	5.0E-01	5.6E-01
Hexachlorocyclopentadiene	77-47-4	5.0E+01	5.0E+01	--	--	4.8E+01	4.8E+01	--	--	4.8E+01	5.0E+00	4.8E+01
Hexachloroethane	67-72-1	--	--	1.1E+00	1.1E+00	5.6E+00	5.6E+00	3.1E+00	1.9E+02	1.1E+00	1.0E+00	1.1E+00
Indeno(1,2,3-cd)pyrene	193-39-5	--	--	cPAH TEC	cPAH TEC	--	--	--	--	NE	1.0E-01	NE
Isophorone	78-59-1	--	--	4.6E+01	4.6E+01	1.6E+03	1.6E+03	--	--	4.6E+01	1.0E+00	4.6E+01
Naphthalene	91-20-3	--	--	--	--	1.6E+02	1.6E+02	8.9E+00	1.7E+02	8.9E+00	1.0E-01	8.9E+00
Nitrobenzene	98-95-3	--	--	--	--	1.6E+01	1.6E+01	1.6E+02	1.1E+04	1.6E+01	1.0E+00	1.6E+01
N-nitrosodi-n-propylamine	621-64-7	--	--	1.3E-02	1.3E-02	--	--	--	--	1.3E-02	2.0E+00	2.0E+00
Ni-nitrosodiphenylamine	86-30-6	--	--	1.8E+01	1.8E+01	--	--	--	--	1.8E+01	1.0E+00	1.8E+01
Pentachlorophenol	87-86-5	1.0E+00	1.0E+00	2.2E-01	--	8.0E+01	--	--	--	1.0E+00	2.0E-01	1.0E+00
Phenanthrene	85-01-8	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Phenol	108-95-2	--	--	--	--	2.4E+03	2.4E+03	--	--	2.4E+03	1.0E+00	2.4E+03
Pyrene	129-00-0	--	--	--	--	4.8E+02	4.8E+02	--	--	4.8E+02	1.0E-01	4.8E+02
cPAH TEC	n/a	2.0E-01	2.0E-01	2.3E-02	--	--	--	--	--	2.0E-01	2.0E-01	2.0E-01
<b>Volatile Organic Compounds (VOCs)</b>												
1,1,1,2-Tetrachloroethane	630-20-6	--	--	1.7E+00	1.7E+00	2.4E+02	2.4E+02	7.4E+00	--	1.7E+00	2.0E-01	1.7E+00
1,1,1-Trichloroethane	71-55-6	2.0E+02	2.0E+02	--	--	1.6E+04	--	--	5.2E+03	2.0E+02	2.0E-01	2.0E+02
1,1,2,2-Tetrachloroethane	79-34-5	--	--	2.2E-01	2.2E-01	1.6E+02	1.6E+02	6.2E+00	--	2.2E-01	2.0E-01	2.2E-01
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76-13-1	--	--	--	--	2.4E+05	2.4E+05	--	1.1E+03	1.1E+03	2.0E-01	1.1E+03
1,1,2-Trichloroethane	79-00-5	5.0E+00	5.0E+00	7.7E-01	--	3.2E+01	--	7.7E+00	4.5E+00	4.5E+00	2.0E-01	4.5E+00
1,1-Dichloroethane	75-34-3	--	--	7.7E+00	7.7E+00	1.6E+03	1.6E+03	1.1E+01	--	7.7E+00	2.0E-01	7.7E+00

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		Federal MCL <sup>1</sup> µg/L	State MCL <sup>2</sup> µg/L	MTCA Method B Standard Formula Value <sup>3,4</sup>				Carc. µg/L	Non-Carc. µg/L			
				Carc. µg/L	Carc. Adjusted µg/L	Non-Carc. µg/L	Non-Carc. Adjusted µg/L					
1,1-Dichloroethene	75-35-4	7.0E+00	7.0E+00	--	--	4.0E+02	--	--	1.3E+02	7.0E+00	2.0E-01	7.0E+00
1,1-Dichloropropene	563-58-6	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
1,2,3-Trichlorobenzene	87-61-6	--	--	--	--	--	--	--	--	NE	5.0E-01	NE
1,2,3-Trichloropropane	96-18-4	--	--	1.5E-03	1.5E-03	3.2E+01	3.2E+01	--	--	1.5E-03	5.0E-01	5.0E-01
1,2,4-Trichlorobenzene	120-82-1	7.0E+01	7.0E+01	1.5E+00	1.5E+01	8.0E+01	--	--	3.9E+01	1.5E+01	5.0E-01	1.5E+01
1,2,4-Trimethylbenzene	95-63-6	--	--	--	--	--	--	--	2.8E+01	2.8E+01	2.0E-01	2.8E+01
1,2-Dibromo-3-Chloropropane	96-12-8	2.0E-01	2.0E-01	5.5E-02	--	1.6E+00	--	--	--	2.0E-01	5.0E-01	5.0E-01
1,2-dibromoethane (EDB)	106-93-4	5.0E-02	5.0E-02	2.2E-02	--	7.2E+01	--	2.8E-01	2.8E+02	5.0E-02	2.0E-01	2.0E-01
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	6.0E+02	6.0E+02	--	--	7.2E+02	--	--	2.6E+03	6.0E+02	2.0E-01	6.0E+02
1,2-Dichloroethane (EDC)	107-06-2	5.0E+00	5.0E+00	4.8E-01	4.8E+00	4.8E+01	--	4.2E+00	1.4E+02	4.2E+00	2.0E-01	4.2E+00
1,2-Dichloropropane	78-87-5	5.0E+00	5.0E+00	1.2E+00	--	7.2E+02	--	3.9E+00	2.8E+01	3.9E+00	2.0E-01	3.9E+00
1,3,5-Trichlorobenzene	108-70-3	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
1,3,5-Trimethylbenzene	108-67-8	--	--	--	--	8.0E+01	8.0E+01	--	--	8.0E+01	2.0E-01	8.0E+01
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
1,3-Dichloropropane	142-28-9	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.5E+01	7.5E+01	8.1E+00	--	5.6E+02	--	4.9E+00	7.8E+03	4.9E+00	2.0E-01	4.9E+00
2,2-Dichloropropane	594-20-7	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
2-Butanone (MEK)	78-93-3	--	--	--	--	4.8E+03	4.8E+03	--	1.7E+06	4.8E+03	1.0E+00	4.8E+03
2-Chloroethyl vinyl ether	110-75-8	--	--	--	--	--	--	--	--	NE	5.0E-01	NE
2-Chlorotoluene	95-49-8	--	--	--	--	1.6E+02	1.6E+02	--	--	1.6E+02	2.0E-01	1.6E+02
2-Hexanone	591-78-6	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
4-Chlorotoluene	106-43-4	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	108-10-1	--	--	--	--	6.4E+02	6.4E+02	--	4.7E+05	6.4E+02	1.0E+00	6.4E+02
Acetic Acid, Methyl Ester (Methyl acetate)	79-20-9	--	--	--	--	8.0E+03	8.0E+03	--	--	8.0E+03	5.0E-01	8.0E+03
Acetone	67-64-1	--	--	--	--	7.2E+03	7.2E+03	--	--	7.2E+03	1.0E+00	7.2E+03
Acrolein	107-02-8	--	--	--	--	4.0E+00	4.0E+00	--	2.9E+00	2.9E+00	5.0E+00	5.0E+00
Acrylonitrile	107-13-1	--	--	8.1E-02	8.1E-02	3.2E+02	3.2E+02	1.6E+01	4.0E+02	8.1E-02	1.0E+00	1.0E+00
Benzene	71-43-2	5.0E+00	5.0E+00	8.0E-01	--	3.2E+01	--	2.4E+00	1.0E+02	2.4E+00	2.0E-01	2.4E+00
Bromobenzene	108-86-1	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
Bromochloromethane	74-97-5	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
Bromodichloromethane	75-27-4	8.0E+01	8.0E+01	7.1E-01	7.1E+00	1.6E+02	--	1.8E+00	--	1.8E+00	2.0E-01	1.8E+00
Bromoethane	593-60-2	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
Bromoform (Tribromomethane)	75-25-2	8.0E+01	8.0E+01	5.5E+00	5.5E+01	1.6E+02	--	2.0E+02	--	5.5E+01	2.0E-01	5.5E+01
Bromomethane	74-83-9	--	--	--	--	1.1E+01	1.1E+01	--	1.3E+01	1.1E+01	2.0E-01	1.1E+01
Carbon Disulfide	75-15-0	--	--	--	--	8.0E+02	8.0E+02	--	4.0E+02	4.0E+02	2.0E-01	4.0E+02
Carbon Tetrachloride	56-23-5	5.0E+00	5.0E+00	6.3E-01	--	3.2E+01	--	5.4E-01	5.9E+01	5.4E-01	2.0E-01	5.4E-01
Chlorobenzene	108-90-7	1.0E+02	1.0E+02	--	--	1.6E+02	--	--	2.9E+02	1.0E+02	2.0E-01	1.0E+02
Chloroethane	75-00-3	--	--	--	--	--	--	--	1.8E+04	1.8E+04	2.0E-01	1.8E+04
Chloroform	67-66-3	8.0E+01	8.0E+01	1.4E+00	1.4E+01	8.0E+01	--	1.2E+00	4.9E+02	1.2E+00	2.0E-01	1.2E+00
Chloromethane	74-87-3	--	--	--	--	--	--	--	1.5E+02	1.5E+02	2.0E-01	1.5E+02
cis-1,2-Dichloroethene	156-59-2	7.0E+01	7.0E+01	--	--	1.6E+01	1.6E+01	--	--	1.6E+01	2.0E-01	1.6E+01
cis-1,3-Dichloropropene	542-75-6	--	--	4.4E-01	4.4E-01	2.4E+02	2.4E+02	1.6E+00	2.3E+01	4.4E-01	2.0E-01	4.4E-01
Cyclohexane	110-82-7	--	--	--	--	--	--	--	--	NE	5.0E-01	NE
Cyclohexane, Methyl-	108-87-2	--	--	--	--	--	--	--	--	NE	5.0E-01	NE
Dibromochloromethane	124-48-1	8.0E+01	8.0E+01	5.2E-01	5.2E+00	1.6E+02	--	4.5E+00	--	4.5E+00	2.0E-01	4.5E+00
Dibromomethane	74-95-3	--	--	--	--	8.0E+01	8.0E+01	--	--	8.0E+01	2.0E-01	8.0E+01
Dichlorodifluoromethane (CFC-12)	75-71-8	--	--	--	--	1.6E+03	1.6E+03	--	5.7E+00	5.7E+00	5.0E-01	5.7E+00
Ethylbenzene	100-41-4	7.0E+02	7.0E+02	--	--	8.0E+02	--	--	2.8E+03	7.0E+02	2.0E-01	7.0E+02
Hexachlorobutadiene	87-68-3	--	--	5.6E-01	5.6E-01	8.0E+00	8.0E+00	8.1E-01	--	5.6E-01	5.0E-01	5.6E-01
Isopropylbenzene (Cumene)	98-82-8	--	--	--	--	8.0E+02	8.0E+02	--	7.2E+02	7.2E+02	2.0E-01	7.2E+02
Methyl Iodide (Iodomethane)	74-88-4	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
Methyl t-butyl ether	1634-04-4	--	--	2.4E+01	2.4E+01	--	--	6.1E+02	8.7E+04	2.4E+01	5.0E-01	2.4E+01
Methylene Chloride	75-09-2	5.0E+00	5.0E+00	2.2E+01	--	4.8E+01	--	4.4E+03	4.9E+03	5.0E+00	3.0E-01	5.0E+00

Analyte	CAS Number	Drinking Water Criteria						Vapor Intrusion <sup>5</sup>		Preliminary Groundwater Screening Level µg/L	Modifying Factor PQL <sup>6</sup> µg/L	Groundwater Screening Level (After PQL Adjustment) µg/L
		Federal MCL <sup>1</sup> µg/L	State MCL <sup>2</sup> µg/L	MTCA Method B Standard Formula Value <sup>3,4</sup>				Carc. µg/L	Non-Carc. µg/L			
				Carc. µg/L	Carc. Adjusted µg/L	Non-Carc. µg/L	Non-Carc. Adjusted µg/L					
Naphthalene	91-20-3	--	--	--	--	1.6E+02	1.6E+02	8.9E+00	1.7E+02	8.9E+00	5.0E-01	8.9E+00
n-Butylbenzene	104-51-8	--	--	--	--	4.0E+02	4.0E+02	--	--	4.0E+02	2.0E-01	4.0E+02
n-Propylbenzene	103-65-1	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	2.0E-01	8.0E+02
p-Isopropyltoluene	99-87-6	--	--	--	--	--	--	--	--	NE	2.0E-01	NE
Sec-Butylbenzene	135-98-8	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	2.0E-01	8.0E+02
Styrene	100-42-5	1.0E+02	1.0E+02	--	--	1.6E+03	--	--	8.1E+03	1.0E+02	2.0E-01	1.0E+02
Tert-Butylbenzene	98-06-6	--	--	--	--	8.0E+02	8.0E+02	--	--	8.0E+02	2.0E-01	8.0E+02
Tetrachloroethene	127-18-4	5.0E+00	5.0E+00	2.1E+01	--	4.8E+01	--	2.3E+01	4.4E+01	5.0E+00	2.0E-01	5.0E+00
Toluene	108-88-3	1.0E+03	1.0E+03	--	--	6.4E+02	6.4E+02	--	1.6E+04	6.4E+02	2.0E-01	6.4E+02
Trans-1,2-Dichloroethene	156-60-5	1.0E+02	1.0E+02	--	--	1.6E+02	--	--	--	1.0E+02	2.0E-01	1.0E+02
Trans-1,3-Dichloropropene	542-75-6	--	--	4.4E-01	4.4E-01	2.4E+02	2.4E+02	1.6E+00	2.3E+01	4.4E-01	2.0E-01	4.4E-01
Trans-1,4-Dichloro-2-butene	110-57-6	--	--	--	--	--	--	--	--	NE	1.0E+00	NE
Trichloroethene	79-01-6	5.0E+00	5.0E+00	5.4E-01	--	4.0E+00	4.0E+00	1.6E+00	3.8E+00	1.6E+00	2.0E-01	1.6E+00
Trichlorofluoromethane (CFC-11)	75-69-4	--	--	--	--	2.4E+03	2.4E+03	--	1.2E+02	1.2E+02	2.0E-01	1.2E+02
Vinyl Acetate	108-05-4	--	--	--	--	8.0E+03	8.0E+03	--	7.8E+03	7.8E+03	2.0E-01	7.8E+03
Vinyl Chloride	75-01-4	2.0E+00	2.0E+00	2.9E-02	2.9E-01	2.4E+01	--	3.5E-01	5.7E+01	2.9E-01	2.0E-01	2.9E-01
Xylene, m-	108-38-3	--	--	--	--	1.6E+03	1.6E+03	--	3.1E+02	3.1E+02	2.0E-01	3.1E+02
Xylene, o-	95-47-6	--	--	--	--	1.6E+03	1.6E+03	--	4.4E+02	4.4E+02	2.0E-01	4.4E+02
Xylene, p-	106-42-3	--	--	--	--	1.6E+03	1.6E+03	--	2.9E+02	2.9E+02	2.0E-01	2.9E+02
<b>Polychlorinated Biphenyls (PCBs)</b>												
Aroclor 1016	12674-11-2	--	--	1.3E+00	1.3E+00	1.1E+00	1.1E+00	--	--	1.1E+00	1.0E-01	1.1E+00
Aroclor 1221	11104-28-2	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Aroclor 1232	11141-16-5	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Aroclor 1242	53269-21-9	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Aroclor 1248	12672-29-6	--	--	--	--	--	--	--	--	NE	1.0E-01	NE
Aroclor 1254	11097-69-1	--	--	4.4E-02	4.4E-02	3.2E-01	3.2E-01	--	--	4.4E-02	1.0E-01	1.0E-01
Aroclor 1260	11096-82-5	--	--	4.4E-02	4.4E-02	--	--	--	--	4.4E-02	1.0E-01	1.0E-01
Total PCBs	1336-36-3	5.0E-01	5.0E-01	4.4E-02	4.4E-01	--	--	--	--	4.4E-01	1.0E-01	4.4E-01

**Notes:**

- <sup>1</sup> National Primary Drinking Water Regulation; <http://water.epa.gov/drink/contaminants.index.cfm>; CLARC Master Spreadsheet.xlsx dated August 2015.
- <sup>2</sup> Washington Primary Drinking Water Standards, WAC 246-290-130; CLARC Master Spreadsheet.xlsx dated August 2015.
- <sup>3</sup> MTCA Method B groundwater screening levels calculated according to WAC-173-340-720(3)(b)(iii)(A)(equation 720-1) and WAC-173-340-720(3)(b)(iii)(B)(equation 720-2); CLARC Master Spreadsheet.xlsx dated August 2015.
- <sup>4</sup> "Carc. Adjusted" (i.e., carcinogenic adjusted) and "Non-Carc. Adjusted" (i.e., non-carcinogenic adjusted) columns are applicable when a state or federal groundwater standard is available, but is not considered to be "sufficiently protective" under MTCA (that is, the standard is based on a hazard quotient greater than 1 or a cancer risk greater than 1 x 10<sup>-5</sup>). In these cases WAC 173-340-720(7)(b) allows the standard to be adjusted downward to a hazard quotient of 1 or a cancer risk of 1 x 10<sup>-5</sup>. For this table, the "Carc. Adjusted" and "Non-Carc. Adjusted" column are also used in cases where no state or federal standards are available.
- <sup>5</sup> MTCA Method B groundwater screening levels protective of indoor air; CLARC Master Spreadsheet.xlsx dated August 2015.
- <sup>6</sup> PQL is the lowest, regularly attained PQL from groundwater samples obtained by LAI, PGG, and E&E.
- <sup>7</sup> Groundwater screening level set at background level for groundwater in Washington (MTCA Table 720-1).
- <sup>8</sup> The MTCA Method A Cleanup Level was used for the petroleum hydrocarbon fractions as MTCA Method B Cleanup Levels are not available for these analytes.

cPAH = Carcinogenic polycyclic aromatic hydrocarbon  
EPA = Environmental Protection Agency  
MCL = Maximum contaminant level  
MTCA = Washington State Model Toxics Control Act

NE = Not established  
PQL = Practical quantitation limit  
TEC = Toxic equivalent concentration  
µg/L = Microgram per liter  
-- = No screening criteria available

Grayshading identifies the basis for the preliminary groundwater screening level.  
Blue shading identifies the basis for the groundwater screening level (after PQL adjustment)  
Green shading identifies the groundwater screening level after adjustment for background and the PQL.



**Table 3-3**  
**Soil Gas Screening Levels**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Analyte	CAS Number	Vapor Intrusion <sup>1</sup>		Preliminary Soil Gas Screening Level µg/m <sup>3</sup>	Modifying Factor PQL <sup>2</sup> µg/m <sup>3</sup>	Soil Gas Screening Level (After PQL Adjustment) µg/m <sup>3</sup>
		Carc. µg/m <sup>3</sup>	Non-Carc. µg/m <sup>3</sup>			
<b>Volatile Organic Compounds (VOCs)</b>						
1,1,1,2-Tetrachloroethane	630-20-6	1.1E+01	--	1.1E+01	2.7E+00	1.1E+01
1,3-Butadiene	106-99-0	2.8E+00	3.0E+01	2.8E+00	1.8E+00	2.8E+00
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.6E+00	1.2E+04	7.6E+00	2.4E+00	7.6E+00
Benzene	71-43-2	1.1E+01	4.6E+02	1.1E+01	1.3E+00	1.1E+01
Carbon Tetrachloride	56-23-5	1.4E+01	1.5E+03	1.4E+01	5.0E+00	1.4E+01
Hexane	110-54-3	--	1.1E+04	1.1E+04	2.8E+00	1.1E+04
Tetrachloroethene	127-18-4	3.2E+02	6.1E+02	3.2E+02	2.7E+00	3.2E+02
Trichloroethene	79-01-6	1.2E+01	3.0E+01	1.2E+01	2.0E+00	1.2E+01

**Notes:**

<sup>1</sup> MTCA Method B shallow soil gas screening levels protective of indoor air; CLARC Master Spreadsheet.xlsx dated August 2015.

<sup>2</sup> PQL is the lowest, regularly attained PQL from TestAmerica of Sacramento, California.

MTCA = Washington State Model Toxics Control Act

PQL = Practical quantitation limit

µg/m<sup>3</sup> = Microgram per cubic meter

-- = No screening criteria available

Grayshading identifies the basis for the preliminary soil gas screening level.

Blue shading identifies the basis for the soil gas screening level (after PQL adjustment)

Green shading identifies the soil gas screening level after adjustment for the PQL.

**Table 3-4**  
**Selection of Soil Indicator Hazardous Substances (IHS)**  
 West Olympia Landfill Site  
 Olympia, Washington

Analyte	Screening Level (mg/kg)	Sample Number	Detection Frequency (%)	Results Below Reporting Limits	Detected Results			IHS Selection Considerations				
				Frequency of SL Exceedance by Reporting Limit	Maximum Concentration	Frequency of SL Exceedances (%)	Maximum Exceedance Ratio	Meet Initial Selection Criteria?	Groundwater IHS?	Soil Gas IHS?	Proposed Soil IHS?	Comments/Rationale
<b>Initial IHS Selection Criteria<sup>1</sup></b>						<b>&gt;=10</b>	<b>&gt;2x</b>					
<b>Total Petroleum Hydrocarbons</b>												
Diesel-range hydrocarbons	460	29	62.1	0	480	3.4	1.0	No	No	No	No	None
<b>Metals</b>												
Chromium	48	29	100	0	3210	52	67	Yes	No	No	Yes	Chromium and lead were selected as soil IHSs because of the high frequency of exceedances and maximum exceedance ratio.
Lead	220	29	100	0	2630	66	12	Yes	No	No	Yes	
<b>Analytes Detected with No Exceedances</b>												
<b>Total Petroleum Hydrocarbons</b>												
Lube Oil-range Hydrocarbons	2,000	29	62.1	0	1000	0	0	No	No	No	No	None
<b>Metals</b>												
Arsenic	20	29	10.3	21	20	0	1.0	No	No	No	No	None
Nickel	48	3	66.7	0	33.1	0	<1	No	No	No	No	None
Zinc	86	3	100	0	30.9	0	<1	No	No	No	No	None
<b>Semivolatile Organic Compounds</b>												
2-Methylnaphthalene	320	28	3.6	0	0.2	0	<1	No	No	No	No	None
Acenaphthene	4,800	28	3.6	0	0.96	0	<1	No	No	No	No	None
Benzo(a)anthracene	NE	28	7.1	NE	1	NE	NE	No	No	No	No	None
Benzo(a)pyrene	24	28	10.7	0	0.11	0	<1	No	No	No	No	None
Benzo(b)fluoranthene	NE	28	14.3	NE	0.12	NE	NE	No	No	No	No	None
Benzo(g,h,i)perylene	NE	28	7.1	NE	0.11	NE	NE	No	No	No	No	None
Benzo(k)fluoranthene	NE	28	10.7	NE	0.1	NE	NE	No	No	No	No	None
Chrysene	NE	28	17.9	NE	0.12	NE	NE	No	No	No	No	None
Fluoranthene	3,200	28	17.9	0	1	0	<1	No	No	No	No	None
Indeno(1,2,3-c,d)pyrene	NE	28	3.6	NE	0.081	NE	NE	No	No	No	No	None
Naphthalene	1,600	28	10.7	0	0.92	0	<1	No	No	No	No	None
Phenanthrene	NE	28	10.7	NE	0.1	NE	NE	No	No	No	No	None
Pyrene	2,400	28	21.4	0	0.16	0	<1	No	No	No	No	None
Total cPAH TEQ (ND=0.5RL)	0.19	28	21.4	3.6	0.156	0	<1	No	No	No	No	None
<b>Volatile Organic Compounds</b>												
Acetone	72,000	3	100	0	0.012	0	<1	No	No	No	No	None
Styrene	16,000	6	16.7	0	0.001	0	<1	No	No	No	No	None
Tetrachloroethene	480	6	16.7	0	0.001	0	<1	No	No	Yes	No	Not selected as an IHS because there were no SL exceedances
Toluene	200	6	33.3	0	0.001	0	<1	No	No	No	No	None
Trichloroethene	0.001	6	16.7	83	0.001	0	1.0	No	Yes	Yes	No	Not selected as an IHS because there were no SL exceedances
<b>Polychlorinated Biphenyls</b>												
PCB-Aroclor 1248	NE	29	24.1	NE	0.41	NE	NE	No	No	No	No	None
PCB-Aroclor 1254	0.5	29	24.1	0	0.33	0	<1	No	No	No	No	None
PCB-Aroclor 1260	0.5	29	6.9	0	0.075	0	<1	No	No	No	No	None

**Notes:**

<sup>1</sup>IHS selection conducted using soil samples collected from the waste material and from the soil beneath the waste material.

cPAH = carcinogenic polycyclic aromatic hydrocarbon

NE = A Screening Level was not established for this analyte (See Table 3-1)

mg/kg = milligram per kilogram

TEQ = toxicity equivalency concentration

Frequency of Screening Level Exceedances = (# of samples with an analyte detected at a concentration greater than Screening Level)/(total # of samples analyzed for the analyte)

Exceedance Ratio (max) = ratio of maximum detected concentration divided by Screening Level

Analyte meets initial IHS selection criteria (Exceedance Frequency ≥ 10% or Exceedance Factor > 2)

Analyte identified as an IHS based on both satisfaction of initial selection criteria and consideration of other selection criteria, or on consideration of other selection criteria alone.

**Table 3-5**  
**Selection of Groundwater Indicator Hazardous Substances (IHSs)**  
 West Olympia Landfill Site  
 Olympia, Washington

Analyte	Screening Level (mg/kg)	Sample Number	Detection Frequency (%)	Results Below Reporting Limits	Detected Results			IHS Selection Considerations				
				Frequency of SL Exceedance by Reporting Limit (%)	Maximum Concentration (µg/L)	Frequency of SL Exceedances (%)	Maximum Exceedance Ratio	Meet Initial Selection Criteria?	Soil IHS?	Soil Gas IHS?	Proposed Groundwater IHS?	Comments/Rationale
<b>Initial IHS Selection Criteria</b>						<b>&gt;=10</b>	<b>&gt;2x</b>					
<b>Metals</b>												
Manganese (Total)	2,240	13	100	0	2,420	7.7	1.1	No	No	No	No	None
Manganese (Dissolved)	2,240	13	100	0	2,370	7.7	1.1	No	No	No	No	None
<b>Volatile Organic Compounds</b>												
Trichloroethene	1.55	27	63	0	50	52	32	Yes	No	Yes	Yes	Trichloroethene was selected as a groundwater IHS because of the high frequency of exceedance and maximum exceedance ratio.
<b>Analytes Detected with No Exceedances</b>												
<b>Metals</b>												
Aluminum (Total)	16,000	13	53.8	0	549	0	<1	No	No	No	No	None
Aluminum (Dissolved)	16,000	13	23.1	0	456	0	<1	No	No	No	No	None
Arsenic (Total)	5	13	23.1	0	0.93	0	<1	No	No	No	No	None
Arsenic (Dissolved)	5	13	15.4	0	0.98	0	<1	No	No	No	No	None
Barium (Total)	2,000	13	76.9	0	73.3	0	<1	No	No	No	No	None
Barium (Dissolved)	2,000	13	76.9	0	72.5	0	<1	No	No	No	No	None
Cadmium (Total)	5	13	7.7	0	0.21	0	<1	No	No	No	No	None
Calcium (Total)	NE	13	100	0	118,000	NE	NE	No	No	No	No	None
Calcium (Dissolved)	NE	13	100	0	117,000	NE	NE	No	No	No	No	None
Chromium (Total)	100	13	92.3	0	37.6	0	<1	No	Yes	No	No	Not selected as an IHS because there were no SL exceedances
Chromium (Dissolved)	100	13	92.3	0	1.7	0	<1	No	Yes	No	No	Not selected as an IHS because there were no SL exceedances
Cobalt (Total)	100	13	46.2	0	1.4	0	<1	No	No	No	No	None
Cobalt (Dissolved)	100	13	15.4	0	1.3	0	<1	No	No	No	No	None
Copper (Dissolved)	640	13	7.7	0	2.1	0	<1	No	No	No	No	None
Iron (Total)	11,200	13	76.9	0	2410	0	<1	No	No	No	No	None
Iron (Dissolved)	11,200	13	15.4	0	2250	0	<1	No	No	No	No	None
Lead (Total)	15	13	76.9	0	2.7	0	<1	No	Yes	No	No	Not selected as an IHS because there were no SL exceedances
Lead (Dissolved)	15	13	76.9	0	0.78	0	<1	No	Yes	No	No	Not selected as an IHS because there were no SL exceedances
Magnesium (Total)	NE	13	100	0	58,900	NE	NE	No	No	No	No	None
Magnesium (Dissolved)	NE	13	100	0	58,200	NE	NE	No	No	No	No	None
Mercury (Total)	0.89	13	7.7	0	0.012	0	<1	No	No	No	No	None
Nickel (Total)	100	13	100	0	23.1	0	<1	No	No	No	No	None
Nickel (Dissolved)	100	13	100	0	2.8	0	<1	No	No	No	No	None
Potassium (Dissolved)	NE	13	61.5	NE	7,320	NE	NE	No	No	No	No	None
Potassium (Total)	NE	13	53.8	NE	7,360	NE	NE	No	No	No	No	None
Selenium (Total)	50	13	7.7	0	2.6	0	<1	No	No	No	No	None
Selenium (Dissolved)	50	13	7.7	0	2.5	0	<1	No	No	No	No	None
Silver (Total)	80	13	46.2	0	0.15	0	<1	No	No	No	No	None
Silver (Dissolved)	80	13	15.4	0	0.11	0	<1	No	No	No	No	None
Sodium (Total)	NE	13	100	0	27,600	NE	NE	No	No	No	No	None
Sodium (Dissolved)	NE	13	100	0	26,900	NE	NE	No	No	No	No	None
Vanadium (Total)	80	13	15.4	0	1.3	0	<1	No	No	No	No	None
Vanadium (Dissolved)	80	13	15.4	0	0.91	0	<1	No	No	No	No	None
Zinc (Total)	4,800	13	100	0	54.6	0	<1	No	No	No	No	None
Zinc (Dissolved)	4,800	13	100	0	9.1	0	<1	No	No	No	No	None

Analyte	Screening Level (mg/kg)	Sample Number	Detection Frequency (%)	Results Below Reporting Limits	Detected Results			IHS Selection Considerations					
				Frequency of SL Exceedance by Reporting Limit (%)	Maximum Concentration (µg/L)	Frequency of SL Exceedances (%)	Maximum Exceedance Ratio	Meet Initial Selection Criteria?	Soil IHS?	Soil Gas IHS?	Proposed Groundwater IHS?	Comments/Rationale	
<b>Initial IHS Selection Criteria</b>						>=10	>2x						
<b>Semivolatile Organic Compounds</b>													
Benzo(g,h,i)perylene	NE	11	27.3	NE	0.13	NE	NE	No	No	No	No	None	
<b>Volatile Organic Compounds</b>													
Acetone	7,200	27	14.8	0	14	0	<1	No	No	No	No	None	
Bromomethane	11.2	27	3.7	0	0.35	0	<1	No	No	No	No	None	
cis-1,2-Dichloroethene	16	27	37	0	2.2	0	<1	No	No	No	No	None	
Dichlorodifluoromethane (CFC-12)	5.66	27	3.7	0	0.34	0	<1	No	No	No	No	None	
Methylene Chloride	5	27	7.4	0	0.13	0	<1	No	No	No	No	None	
Tetrachloroethene	5	27	3.7	0	0.22	0	<1	No	No	Yes	No	Not selected as an IHS because there were no SL exceedances	
Trans-1,2-Dichloroethene	100	27	3.7	0	0.12	0	<1	No	No	No	No	None	

**Notes:**

cPAH = carcinogenic polycyclic aromatic hydrocarbon

mg/kg = milligram per kilogram

Frequency of Screening Level Exceedances = (# of samples with an analyte detected at a concentration greater than Screening Level)/(total # of samples analyzed for the analyte)

Exceedance Ratio (max) = ratio of maximum detected concentration divided by Screening Level

Analyte meets initial IHS selection criteria (Exceedance Frequency ≥ 10% or Exceedance Factor > 2)

Analyte identified as an IHS based on both satisfaction of initial selection criteria and consideration of other selection criteria , or on consideration of other selection criteria alone.

NE = A Screening Level was not established for this analyte (See Table 3-2)

TEQ = toxicity equivalency concentration

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**Table 3-6**  
**Selection of Soil Gas Indicator Hazardous Substances (IHS)**  
 West Olympia Landfill Site  
 Olympia, Washington

Analyte	Screening Level (µg/m <sup>3</sup> )	Sample Number	Detection Frequency (%)	Results Below Reporting Limits	Detected Results			IHS Selection Considerations				
				Frequency of SL Exceedance by Reporting Limit	Maximum Concentration	Frequency of SL Exceedances (%)	Maximum Exceedance Ratio	Meet Initial Selection Criteria?	Soil IHS?	Groundwater IHS?	Proposed Soil Gas IHS?	Comments/Rationale
<b>Initial IHS Selection Criteria<sup>1</sup></b>						<b>&gt;=10</b>	<b>&gt;2x</b>					
<b>Volatile Organic Compounds</b>												
1,4-Dichlorobenzene	7.58	15	47%	0	13	13%	1.7	Yes	No	No	Yes	None
Tetrachloroethene	321	15	60%	0	1,200	27%	3.7	Yes	No	No	Yes	None
Trichloroethene	12.3	15	33%	0	210	27%	17	Yes	No	Yes	Yes	None
<b>Analytes Detected with No Exceedances</b>												
<b>Volatile Organic Compounds</b>												
Carbon Tetrachloride	13.9	15	13%	0	8.7	0	<1	No	No	No	No	None
Hexane	10,700	15	6.7%	0	3.8	0	<1	No	No	No	No	None

**Notes:**

<sup>1</sup> IHS selection conducted using 2018 soil gas data.

µg/m<sup>3</sup> = microgram per cubic meter

Frequency of Screening Level Exceedances = (# of samples with an analyte detected at a concentration greater than Screening Level)/(total # of samples analyzed for the analyte)

Exceedance Ratio (max) = ratio of maximum detected concentration divided by Screening Level

Analyte meets initial IHS selection criteria (Exceedance Frequency ≥ 10% or Exceedance Factor > 2)

Analyte identified as an IHS based on both satisfaction of initial selection criteria , or on consideration of other selection criteria alone.

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**Table 4-1**  
**IHS Concentrations in Waste**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Exploration Location <sup>1</sup>	Sample ID	Sample Date	Depth (feet bgs)	Metals <sup>2</sup> (mg/kg)	
				Chromium	Lead
LAI-4	LAI-4/D/7.5-9	9/7/2000	7.5 - 9	<b>50</b>	<b>1,300</b>
LAI-6	LAI-6/D/5-6	9/6/2000	5 - 6	<b>25.1</b>	<b>988</b>
LAI-8	LAI-8/D/7.5-9	9/7/2000	7.5 - 9	<b>51</b>	<b>256</b>
	LAI-8/D/10-11.5	9/7/2000	10 - 11.5	<b>63</b>	<b>1,070</b>
LAI-9	LAI-9/D/5.5-6.5	9/6/2000	5.5 - 6.5	<b>79</b>	<b>2,630</b>
	LAI-9/D/7.5-9	9/6/2000	7.5 - 9	<b>30.5</b>	<b>78</b>
	LAI-9/D/10-11	9/6/2000	10 - 11	<b>33.2</b>	<b>194</b>
LAI-10	LAI-10/D/5-5.5	9/7/2000	5 - 5.5	<b>66</b>	<b>1,460</b>
	LAI-10/D/7.5-8.0	9/7/2000	7.5 - 8	<b>49</b>	<b>343</b>
LAI-11	LAI-11/D/7.5-9	9/8/2000	7.5 - 9	<b>62</b>	<b>1,140</b>
	LAI-11/D/10.5-11	9/8/2000	10.5 - 11	<b>29.7</b>	<b>98</b>
LAI-13	LAI-13/D/8-9	9/6/2000	8 - 9	<b>89</b>	<b>2,330</b>
LAI-14	LAI-14/D/7.5-9	9/8/2000	7.5 - 9	<b>3,210</b>	<b>1,330</b>
	LAI-14/D/10.5-11	9/8/2000	10.5 - 11	<b>66</b>	<b>720</b>
LAI-15	LAI-15/C/2.5-7.5	9/8/2000	2.5 - 7.5	<b>29.9</b>	<b>22</b>
LAI-17	LAI-19/D/7.5-8.5 <sup>3</sup>	9/6/2000	7.5 - 8.5	<b>58</b>	<b>978</b>
LAI-18	LAI-20/D/7.5-8.0 <sup>3</sup>	9/11/2000	7.5 - 8	<b>90</b>	<b>1,230</b>
LAI-19	LAI-21/C/2.5-7.5 <sup>3</sup>	9/8/2000	2.5 - 7.5	<b>30.4</b>	<b>60</b>
<b>Site-specific Screening Level</b>				48	220

**Notes:**

<sup>1</sup>Approximate exploration locations shown on Figures 4-1 and 4-2.

<sup>2</sup>Total metals analyzed by EPA 6010.

<sup>3</sup>An incorrect location was included in the Sample ID on the original laboratory chain-of-custody. For example, the Sample ID for the soil sample at Location LAI-17 should have been LAI-17/D/7.5-8.5 and not LAI-19/D/7.5-8.5.

mg/kg = milligrams per kilogram

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentration greater than the screening level.

**Table 4-2**  
**IHS Concentrations in Soil**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Exploration Location <sup>1</sup>	Sample ID	Sample Date	Depth (feet bgs)	Metals <sup>2</sup> (mg/kg)	
				Chromium	Lead
LAI-4	LAI-4/D/15-15.5	9/7/2000	15 - 15.5	<b>26.8</b>	<b>29</b>
LAI-5	LAI-5/D/25-26	9/7/2000	25 - 26	<b>50</b>	<b>391</b>
LAI-5d	LAI-5D (146-148)	9/26/2005	21 - 23	<b>18.9</b>	<b>2.04</b>
	LAI-5D (136-138)	9/26/2005	31 - 33	<b>18.8</b>	<b>1.85</b>
	LAI-5D (119-121)	9/26/2005	48 - 50	<b>27.5</b>	<b>1.77</b>
LAI-7	LAI-7/D/17.5-19	9/7/2000	17.5 - 19	<b>88</b>	<b>501</b>
LAI-11	LAI-11/D/17.5-19	9/8/2000	17.5 - 19	<b>26.1</b>	<b>4</b>
LAI-15	LAI-15/D/22.5-24	9/8/2000	22.5 - 24	<b>54.5</b>	<b>13</b>
LAI-17	LAI-19/D/16-16.5 <sup>3</sup>	9/6/2000	16 - 16.5	<b>23.9</b>	<b>35</b>
LAI-18	LAI-20/D/13-14 <sup>3</sup>	9/11/2000	13 - 14	<b>27.5</b>	<b>6</b>
LAI-19	LAI-21/C/20.5-25 <sup>3</sup>	9/8/2000	20.5 - 25	<b>25.1</b>	<b>3</b>
<b>Site-specific Screening Level</b>				48	220

**Notes:**

<sup>1</sup>Approximate exploration locations shown on Figure 4-3.

<sup>2</sup>Total metals analyzed by EPA 6010.

<sup>3</sup>An incorrect location was included in the Sample ID on the original laboratory chain-of-custody. For example, the Sample ID for the soil sample at Location LAI-17 should have been LAI-17/D/7.5-8.5 and not LAI-19/D/7.5-8.5.

mg/kg = milligrams per kilogram

Bolding indicates analyte was detected. Shading indicates analyte was detected at a concentration greater than the screening level.



**Table 4-3**  
**IHS Concentrations in Groundwater**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Exploration Location <sup>1</sup>	Sample ID	Sample Date	VOCs <sup>2</sup> (µg/L)
			TCE
LAI-1	JGLX0	1/15/2014	<b>17</b>
	JGWEODL	3/25/2015	<b>27</b>
	JG5R0	6/24/2015	<b>20</b>
	JHAY0	9/23/2015	<b>19</b>
	JHEH0	12/16/2015	<b>21</b>
LAI-2	JGLX2	1/14/2014	<b>1.1</b>
LAI-3	JGLX4	1/13/2014	0.5 U
LAI-5d	JGLX6	1/15/2014	0.5 U
LAI-MW-1	JGLX8	1/13/2014	0.5 U
LAI-MW-2	JGLY0DL	1/15/2014	<b>41</b>
	JGWE1DL	3/26/2015	<b>22</b>
	JG5R1	6/24/2015	<b>50</b>
	JHAY1	9/23/2015	<b>19</b>
	JHEH1	12/16/2015	<b>43</b>
LAI-MW-3	JGLY2	1/14/2014	0.5 U
LAI-MW-4	JGLY4	1/13/2014	0.5 U
MW-23	JGLZ0	1/23/2014	0.5 U
OLY-01	JGWE2	3/25/2015	0.5 U
	JG5R2	6/24/2015	0.5 U
	JHAY2	9/23/2015	0.5 U
	JHEH2	12/16/2015	<b>0.11 J</b>
OLY-02	JGWE3	3/25/2015	<b>2.6</b>
	JG5R3	6/24/2015	<b>2.8</b>
	JHAY3	9/23/2015	<b>4.5</b>
	JHEH3	12/17/2015	<b>6.1</b>
PGG-1	JGLY6	1/14/2014	<b>0.27 J</b>
PGG-2	JGLY8	1/14/2014	0.5 U
<b>Site-specific Screening Level</b>			1.6

**Notes:**

<sup>1</sup>Approximate exploration locations shown on Figure 4-4.

<sup>2</sup>Volatile organic compounds (VOCs) analyzed by EPA 8260.

J = analyte was positively identified and the value is an estimated quantity because the concentration was below the Contract-Required Quantitation Limits (CRQLs).

TCE = trichloroethene

U = analyte not detected, laboratory reporting limit shown.

µg/L = micrograms per liter

Detected analyte value is bolded. Detected value greater than screening level is shaded.

**Table 4-4**  
**Indicator Hazardous Substances Concentrations in Soil Gas**  
**West Olympia Landfill Site**  
**Olympia, Washington**

Exploration Location (a)	Sample ID	Sample Date	VOCs ( $\mu\text{g}/\text{m}^3$ )		
			1,4-DCB	PCE	TCE
GP-1	14414101	10/13/2014	1.0 U	1.1 U	0.90 U
	320-39906-4	5/29/2018	<b>5.6</b>	2.7 U	2.1 U
GP-2	14414102	10/13/2014	5.4 U	<b>1500</b>	4.9 U
	320-40405-3	6/18/2018	<b>8.5</b>	<b>1,000</b>	<b>21</b>
GP-3	14414103	10/14/2014	1.0 U	<b>20</b>	0.92 U
	320-40405-2	6/18/2018	<b>13</b>	<b>22</b>	2.1 U
GP-4	14414104	10/15/2014	1.8 U	<b>430</b>	1.6 U
	320-39906-12	5/30/2018	<b>2.8</b>	<b>470</b>	2.1 U
GP-5	14414105	10/16/2014	110 U	120 U	<b>180</b>
	320-39906-10	5/30/2018	2.4 U	<b>30</b>	<b>210</b>
GP-6	14414106	10/14/2014	10 U	12 U	9.4 U
GP-7	14414107	10/14/2014	1.1 U	<b>37</b>	0.97 U
GP-8	14414108	10/14/2014	68 U	<b>360</b>	60 U
GP-9	14414109	10/14/2014	5.3 U	<b>1500</b>	<b>110</b>
GP-9	14414115	10/14/2014	5.4 U	<b>1800</b>	<b>150</b>
GP-10	14414110	10/14/2014	2.2 U	2.5 U	2 U
GP-11	14414111	10/14/2014	1.1 U	<b>3.6</b>	1 U
GP-12	14414112	10/14/2014	1 U	<b>2.9</b>	0.94 U
GP-13	14414113	10/15/2014	1.1 U	<b>98</b>	0.95 U
GP-14	14414114	10/15/2014	1.3 U	<b>270</b>	<b>12</b>
A1	16294242	7/17/2016	1.49 U	2.95 U	14.3 U
A2	16294243	7/17/2016	1.49 U	2.95 U	14.3 U
A3	16294244	7/17/2016	1.5 U	2.96 U	14.3 U
A3	16294244D	7/17/2016	1.5 U	2.96 U	14.3 U
A4	16294223	7/17/2016	1.46 U	2.88 U	14.1 U
A5	16294216	7/17/2016	1.45 U	<b>128</b>	14 U
A6	16294215	7/17/2016	1.45 U	<b>689</b>	14 U
A7	16294200	7/17/2016	1.44 U	<b>14.9</b>	14 U
A8	16284208	7/16/2016	1.44 U	2.85 U	14 U
B1	16294236	7/17/2016	1.46 U	<b>102</b>	14.1 U
B2	16294234	7/17/2016	1.46 U	<b>1070</b>	14.1 U
B3	16294224	7/17/2016	1.46 U	<b>51.1</b>	14.1 U
B4	16294222	7/17/2016	1.46 U	<b>124</b>	14.1 U
B5	16294217	7/17/2016	1.45 U	<b>15.2</b>	14 U
B6	16294214	7/17/2016	1.45 U	<b>978</b>	14 U
B7	16294201	7/17/2016	1.44 U	<b>165</b>	14 U
B8	16284209	7/17/2016	1.45 U	2.87 U	14 U
C1	16294237	7/17/2016	1.46 U	<b>557</b>	14.1 U
C2	16294235	7/17/2016	1.46 U	<b>54.0</b>	14.1 U

Exploration Location (a)	Sample ID	Sample Date	VOCs ( $\mu\text{g}/\text{m}^3$ )		
			1,4-DCB	PCE	TCE
C3	16294225	7/17/2016	1.46 U	242	14.1 U
C4	16294221	7/17/2016	1.46 U	26.0	14.1 U
C5	16294218	7/17/2016	1.45 U	4.29	14 U
C6	16294213	7/17/2016	1.45 U	161	14 U
C7	16294202	7/17/2016	1.44 U	878	14 U
C8	16284210	7/17/2016	1.45 U	6.07	14 U
D1	16294238	7/17/2016	1.46 U	751	14.1 U
D2	16294233	7/17/2016	1.46 U	562	14.1 U
D3	16294226	7/17/2016	1.46 U	354	14.1 U
D4	16294220	7/17/2016	1.46 U	811	14.1 U
D4	16294220D	7/17/2016	1.46 U	791	14.1 U
D5	16294219	7/17/2016	1.45 U	71.6	14 U
D6	16294212	7/17/2016	1.45 U	37.2	14 U
D7	16294203	7/17/2016	1.44 U	184	14 U
D8	16284212	7/16/2016	1.45 U	3.73	14.1 U
E1	16294239	7/17/2016	1.46 U	1390	14.1 U
E2	16294232	7/17/2016	1.46 U	525	14.1 U
E3	16294227	7/17/2016	1.46 U	50.2	14.1 U
E4	16294249	7/17/2016	1.53 U	101	14.5 U
E5	16294248	7/17/2016	1.52 U	202	14.5 U
E6	16294211	7/17/2016	90.9	7.66	14 U
E7	16294204	7/17/2016	1.44 U	70.7	14 U
E8	16284211	7/16/2016	1.45 U	4.79	14 U
F1	16294240	7/17/2016	1.46 U	732	14.1 U
F2	16294231	7/17/2016	1.46 U	965	14.1 U
F3	16294228	7/17/2016	1.46 U	87.7	14.1 U
F4	16294247	7/17/2016	1.51 U	85.3	14.4 U
F5	16294250	7/17/2016	5.03	16.3	14.5 U
F6	16294210	7/17/2016	1.45 U	2560	428
F6	16294210D	7/17/2016	1.45 U	2520	439
F7	16294205	7/17/2016	2.02	2860	871
F8	16294208	7/17/2016	1.45 U	138	14 U
G1	16294241	7/17/2016	1.46 U	248	14.1 U
G2	16294230	7/17/2016	1.46 U	15.7	14.1 U
G3	16294229	7/17/2016	1.46 U	161	14.1 U
G4	16294246	7/17/2016	1.51 U	401	14.4 U
G5	16294245	7/17/2016	1.51 U	63.2	47.0
G6	16294209	7/17/2016	1.45 U	443	14 U
G7	16294206	7/17/2016	1.44 U	720	14 U
G8	16294207	7/17/2016	1.44 U	13.0	14 U
H1	16284200	7/12/2016	1.44 U	42.8	14 U
H1	16284200D	7/12/2016	1.44 U	45.6	14 U
H2	16284201	7/12/2016	1.44 U	97.5	14 U
H3	16284202	7/12/2016	1.45 U	15.4	14 U

Exploration Location (a)	Sample ID	Sample Date	VOCs ( $\mu\text{g}/\text{m}^3$ )		
			1,4-DCB	PCE	TCE
H4	16284203	7/12/2016	1.45 U	<b>945</b>	14 U
H5	16284204	7/12/2016	1.45 U	<b>42.2</b>	14 U
H6	16284205	7/12/2016	1.45 U	<b>48.4</b>	<b>456</b>
H7	16284206	7/12/2016	1.46 U	<b>427</b>	<b>28.2</b>
H8	16284207	7/12/2016	1.46 U	2.89 U	14.1 U
GP-15	320-39906-2	5/29/2018	<b>3.3</b>	<b>570</b>	<b>92</b>
GP-16	320-39906-7	5/29/2018	2.4 U	<b>1,200</b>	2.1 U
GP-17	320-39906-8	5/30/2018	2.4 U	2.7 U	2.1 U
GP-18	320-39906-9	5/30/2018	<b>2.6</b>	2.7 U	2.1 U
GP-19	320-40405-1	6/18/2018	2.4 U	<b>12</b>	<b>8.3</b>
GP-20	320-39906-15	5/29/2018	<b>4.0</b>	<b>21</b>	2.1 U
GP-21	320-39906-1	5/29/2018	2.4 U	2.7 U	<b>25</b>
GP-22	320-39906-6	5/29/2018	2.4 U	<b>21</b>	2.1 U
GP-23	320-39906-5	5/29/2018	2.4 U	2.7 U	2.1 U
GP-24	320-39906-3	5/29/2018	2.4 U	2.7 U	2.1 U
<b>Site-Specific Screening Level</b>			7.6	320	12

**Notes:**

(a) Approximate exploration locations shown on Figures 4-5 through 4-8.

1,4-DCB = 1,4-dichlorobenzene

ID = identification

$\mu\text{g}/\text{m}^3$  = micrograms per meter cubed

PCE = tetrachloroethene

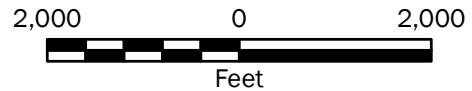
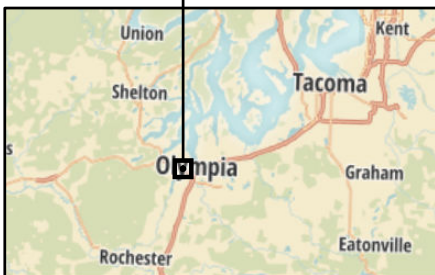
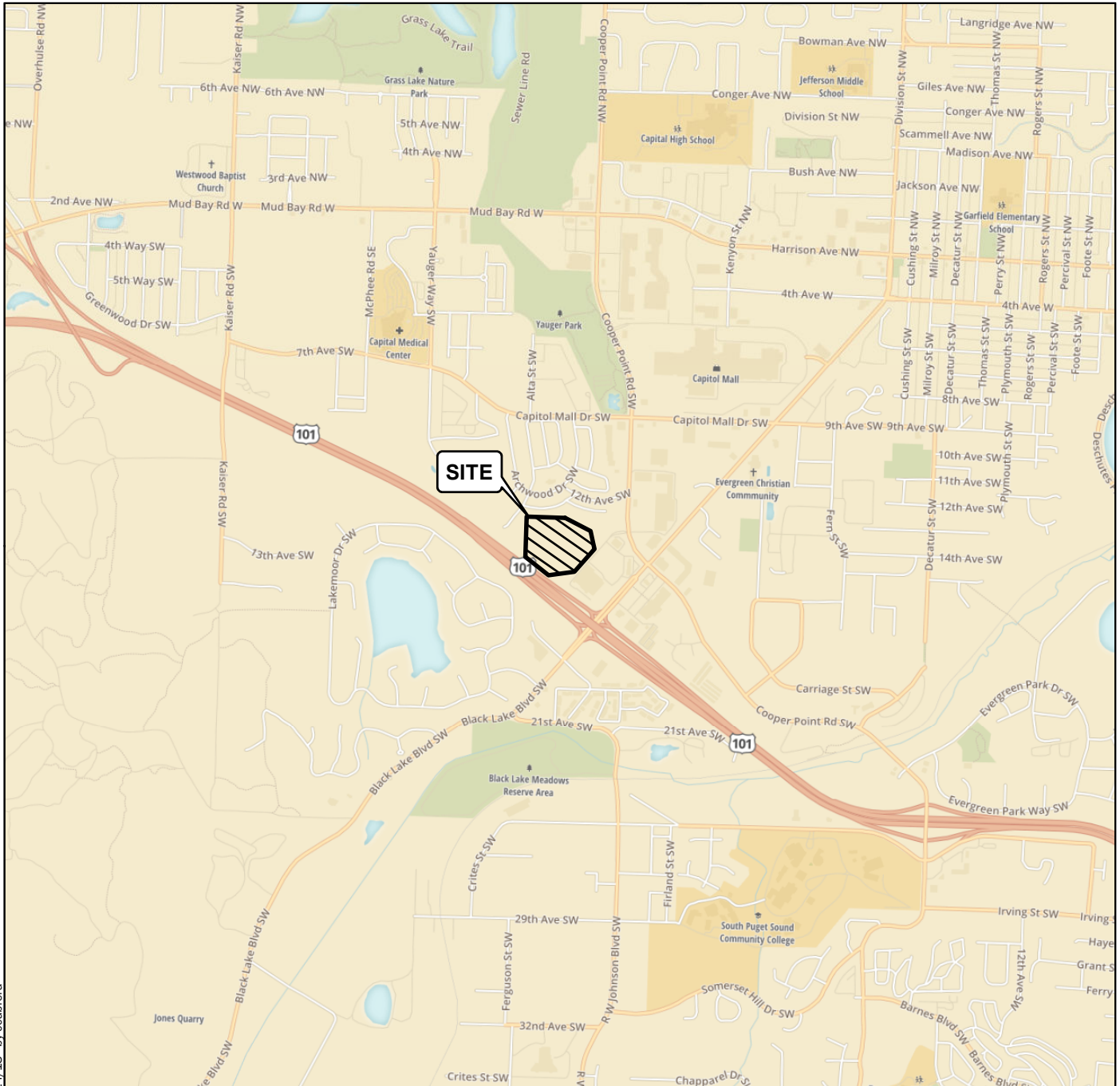
TCE = trichloroethene

VOC = volatile organic compound

Bold indicates analyte was detected.

Gray shading indicates analyte was detected at a concentration greater than the screening level.

Blue shading indicates analyte was not detected at a concentration greater than the screening level.



**Vicinity Map**

**West Olympia Landfill Site  
Olympia, Washington**



**Figure 1-1**

**Notes:**

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet





**Legend**

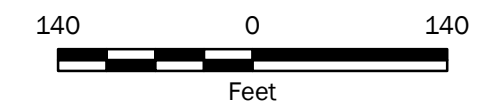
- Existing Monitoring Well
- ⊕ Soil Boring (Landau Associates 2000)
- ⊞ Test Pit (Landau Associates 2000)
- ⊙ Temporary Passive Soil Gas Sample Location
- ⊙ Temporary Active Soil Gas Sample Location
- ⊙ Permanent Soil Gas Monitoring Location
- ▭ Approximate Extent of Waste
- ▭ Approximate Parcel Boundary

**Notes:**

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers and will serve as the official record of this communication.

Data Source: Aerial map service and street layer from Thurston County GIS.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



<b>Site Exploration Locations</b>	
West Olympia Landfill Site Olympia, Washington	
	Figure 2-1

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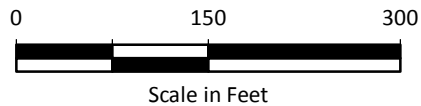
**Legend**

- ⊙ Existing Active Soil Gas Sample Location (Installed 2006)
- Permanent Soil Gas Monitoring Location (Installed 2018)
- ▭ Subject Property
- ▭ Approximate Extent of Waste

**Notes**

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: Thurston County GIS; Esri World Imagery.

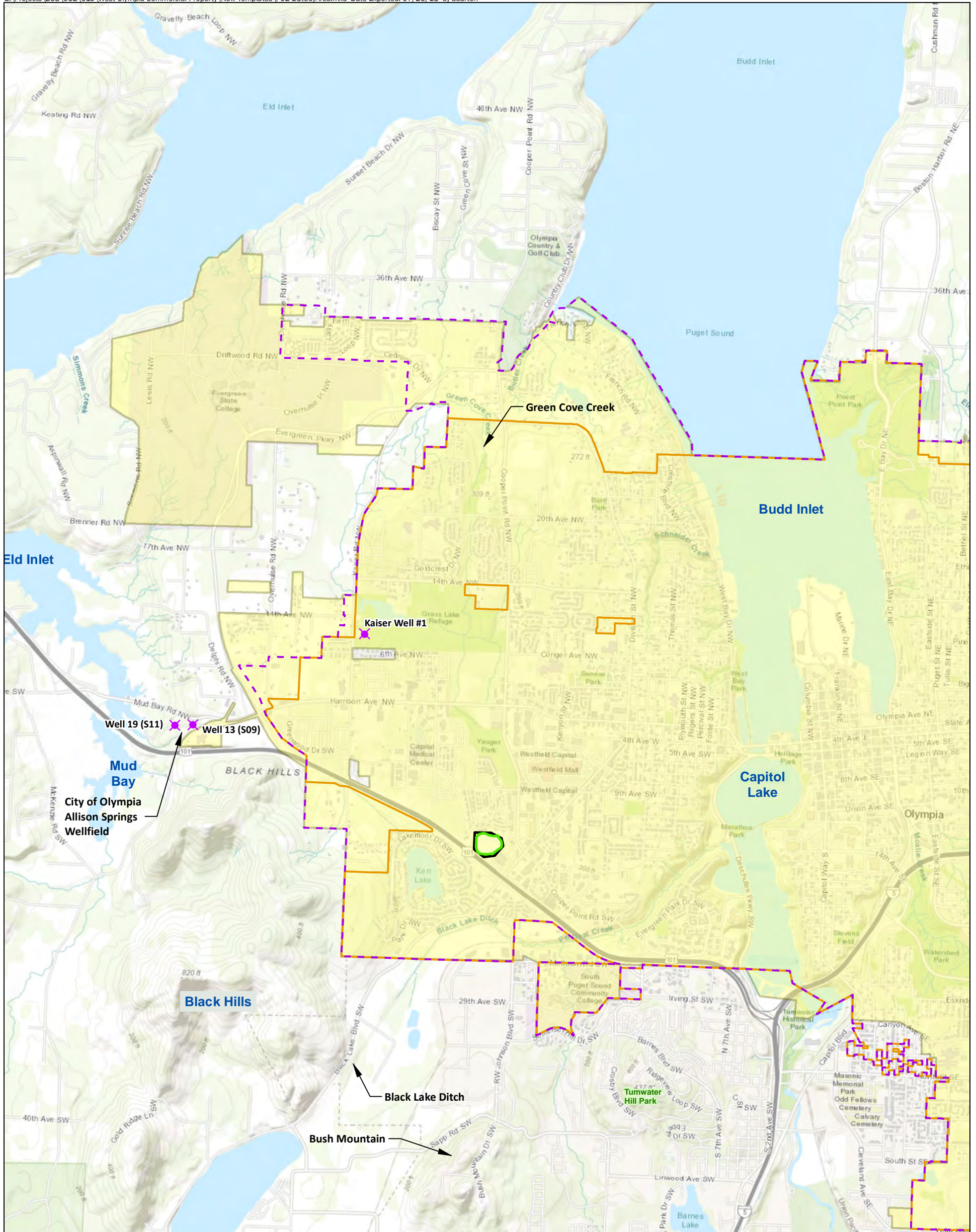


West Olympia Landfill Site  
Olympia, Washington

**2018 Soil Gas Sample Locations**

Figure  
**2-2**





**Legend**

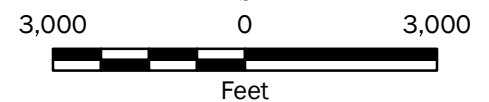
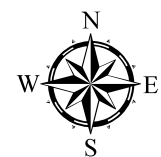
- City of Olympia Production Well
- Approximate Extent of Waste
- Approximate Parcel Boundary
- City of Olympia City Limits
- City of Olympia Urban Growth Area
- City of Olympia Water Service Area

**Notes:**

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

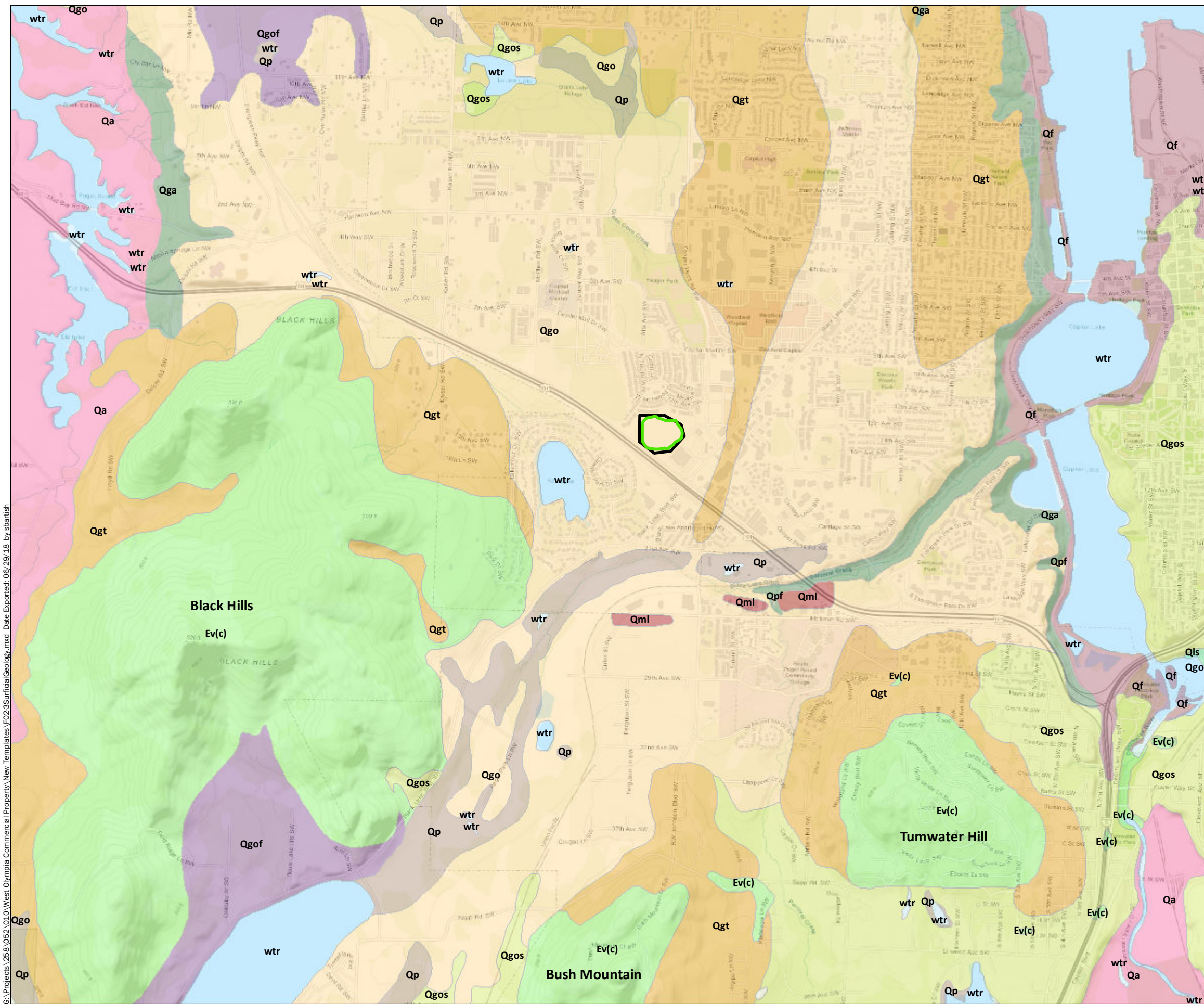
Data Sources: WA Department of Health; Thurston County GIS; Esri World Imagery.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



<b>Study Area</b>	
West Olympia Landfill Site Olympia, Washington	
	<b>Figure 2-3</b>



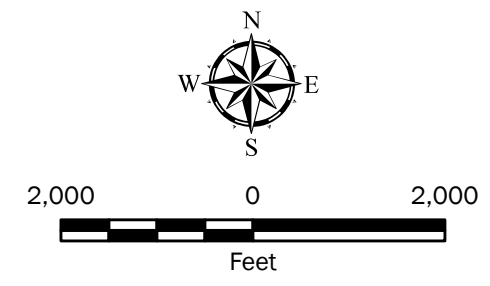


- Legend**
- Approximate Extent of Waste
  - Approximate Parcel Boundary
  - Ev(c): Tertiary volcanic rocks, Crescent Formation
  - Qa: Quaternary alluvium
  - Qf: Holocene artificial fill
  - Qga: Pleistocene Vashon advance outwash
  - Qgo: Pleistocene Vashon recessional outwash
  - Qgof: Pleistocene Latest Vashon recessional outwash - fine grained
  - Qgos: Pleistocene Latest Vashon recessional Sand
  - Qgt: Pleistocene Vashon till
  - Qls: Quaternary mass-wasting deposits
  - Qml: Holocene modified land
  - Qp: Quaternary Peat
  - Qpf: Pleistocene Pre-Vashon glaciolacustrine
  - Qps: Pleistocene Pre-Vashon sandy
  - wtr: Water

**Notes:**

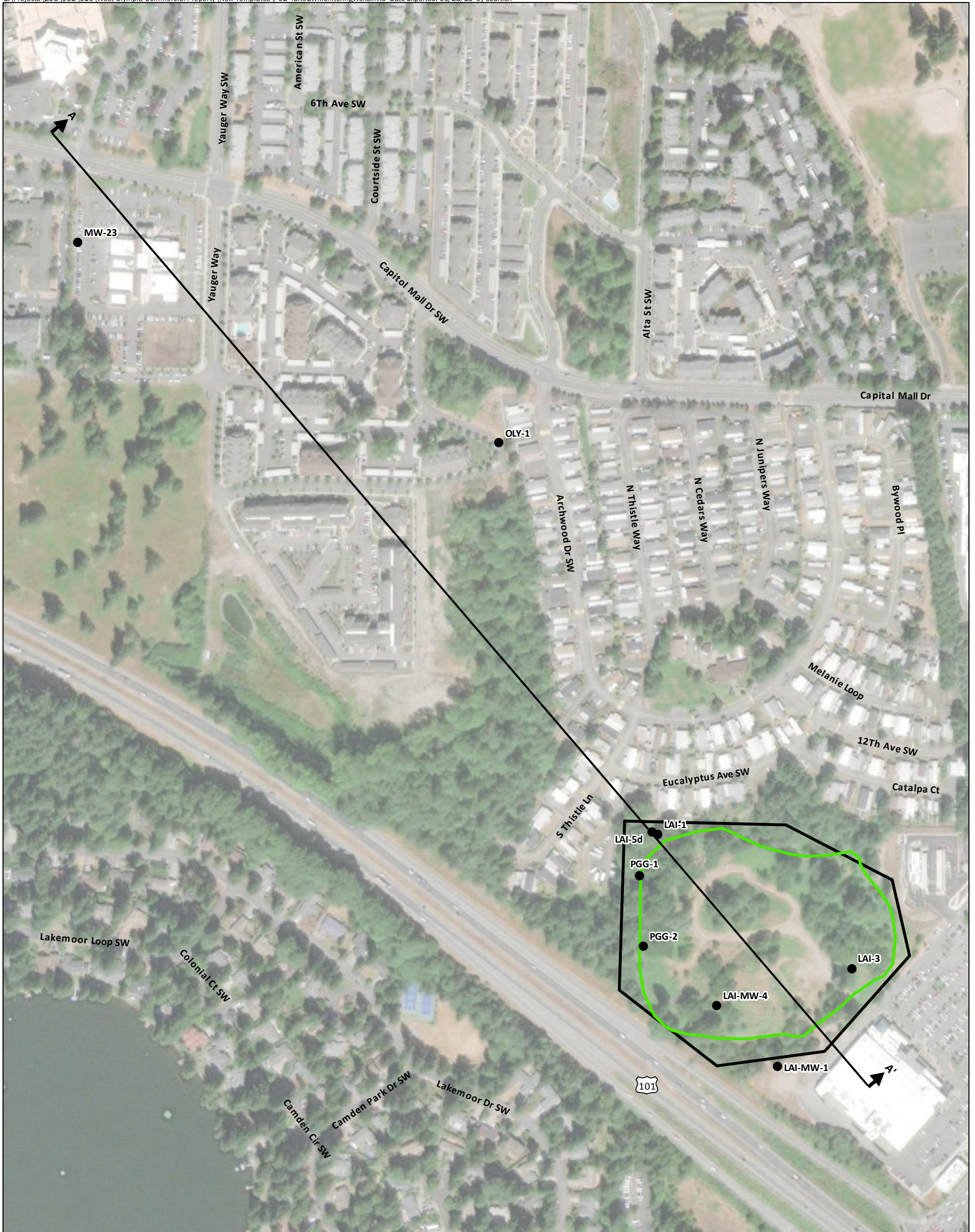
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Landau Associates cannot guarantee the accuracy and content of electronic files. The master file is stored by Landau Associates and will serve as the official record of this communication.

Data Sources: WADNR; Thurston County GIS; Esri World Topo Map.  
 Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



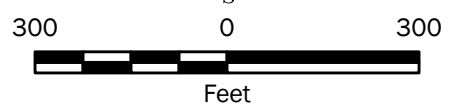
<b>Surficial Geology</b>	
West Olympia Landfill Site Olympia, Washington	
<b>LANDAU ASSOCIATES</b>	<b>Figure 2-4</b>





**Legend**

- Existing Monitoring Well
- ↔ Cross Section Location
- Approximate Extent of Waste
- Approximate Parcel Boundary



**Notes:**

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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Landau Associates cannot guarantee the accuracy and content of electronic files. The master file is stored by Landau Associates and will serve as the official record of this communication.

Data Source: Thruston County GIS; Esri World Imagery.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

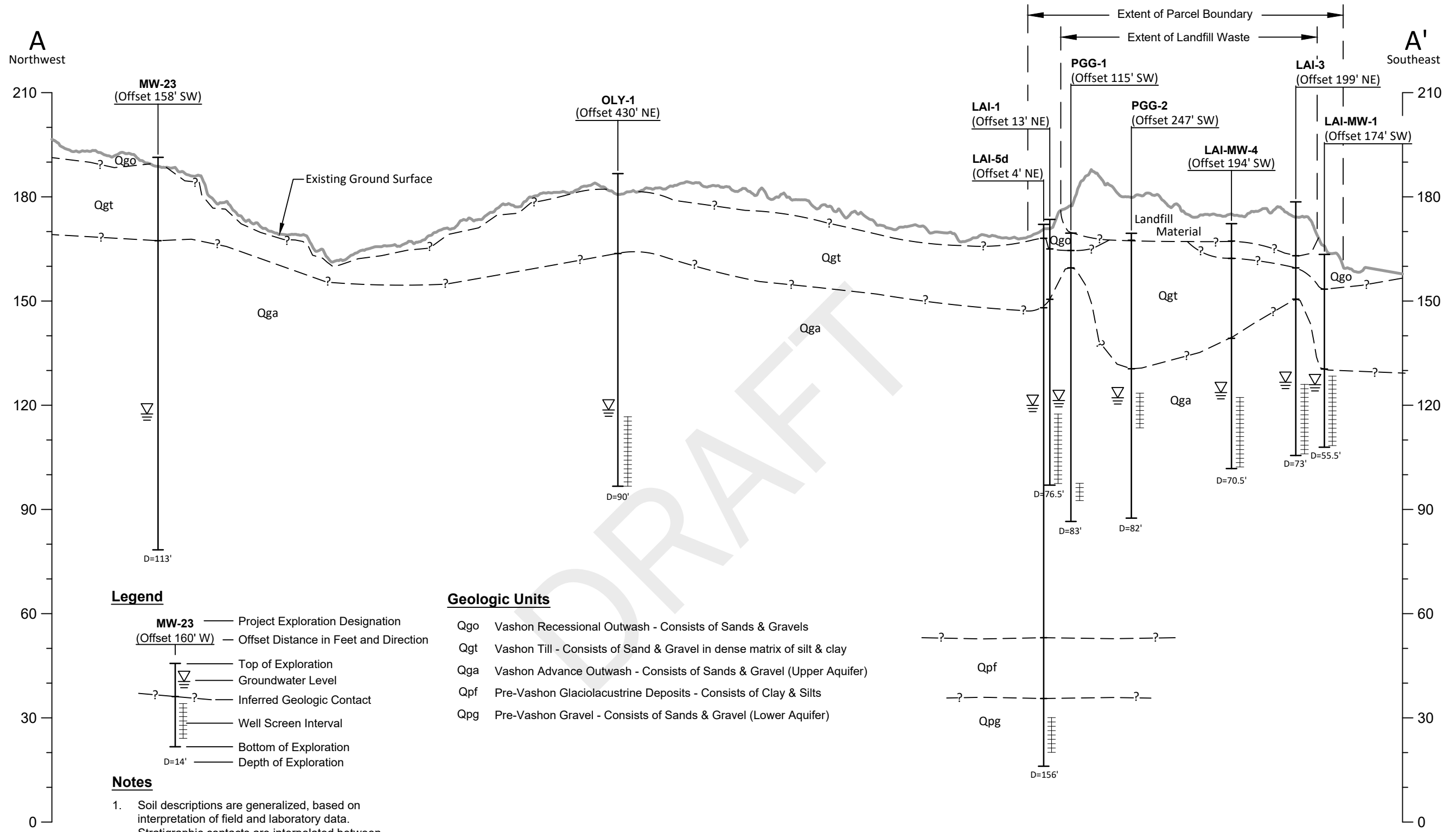
**Regional Cross-Section and Well Locations**

West Olympia Landfill Site  
Olympia, Washington



**Figure 2-5**





**Legend**

- MW-23** — Project Exploration Designation
- (Offset 160' W) — Offset Distance in Feet and Direction
- Top of Exploration
- Groundwater Level
- Inferred Geologic Contact
- Well Screen Interval
- Bottom of Exploration
- D=14' — Depth of Exploration

**Geologic Units**

- Qgo Vashon Recessional Outwash - Consists of Sands & Gravels
- Qgt Vashon Till - Consists of Sand & Gravel in dense matrix of silt & clay
- Qga Vashon Advance Outwash - Consists of Sands & Gravel (Upper Aquifer)
- Qpf Pre-Vashon Glaciolacustrine Deposits - Consists of Clay & Silts
- Qpg Pre-Vashon Gravel - Consists of Sands & Gravel (Lower Aquifer)

**Notes**

1. Soil descriptions are generalized, based on interpretation of field and laboratory data. Stratigraphic contacts are interpolated between borings and based on topographic features; actual conditions may vary.
2. See report text for descriptions of geologic units.
3. For Cross Section location, see Figure 2-4.

**Geologic Profile A-A'**  
 Horizontal Scale in Feet: 1"=300'  
 Vertical Scale in Feet: 1"=30'  
 Vertical Datum: NGVD29

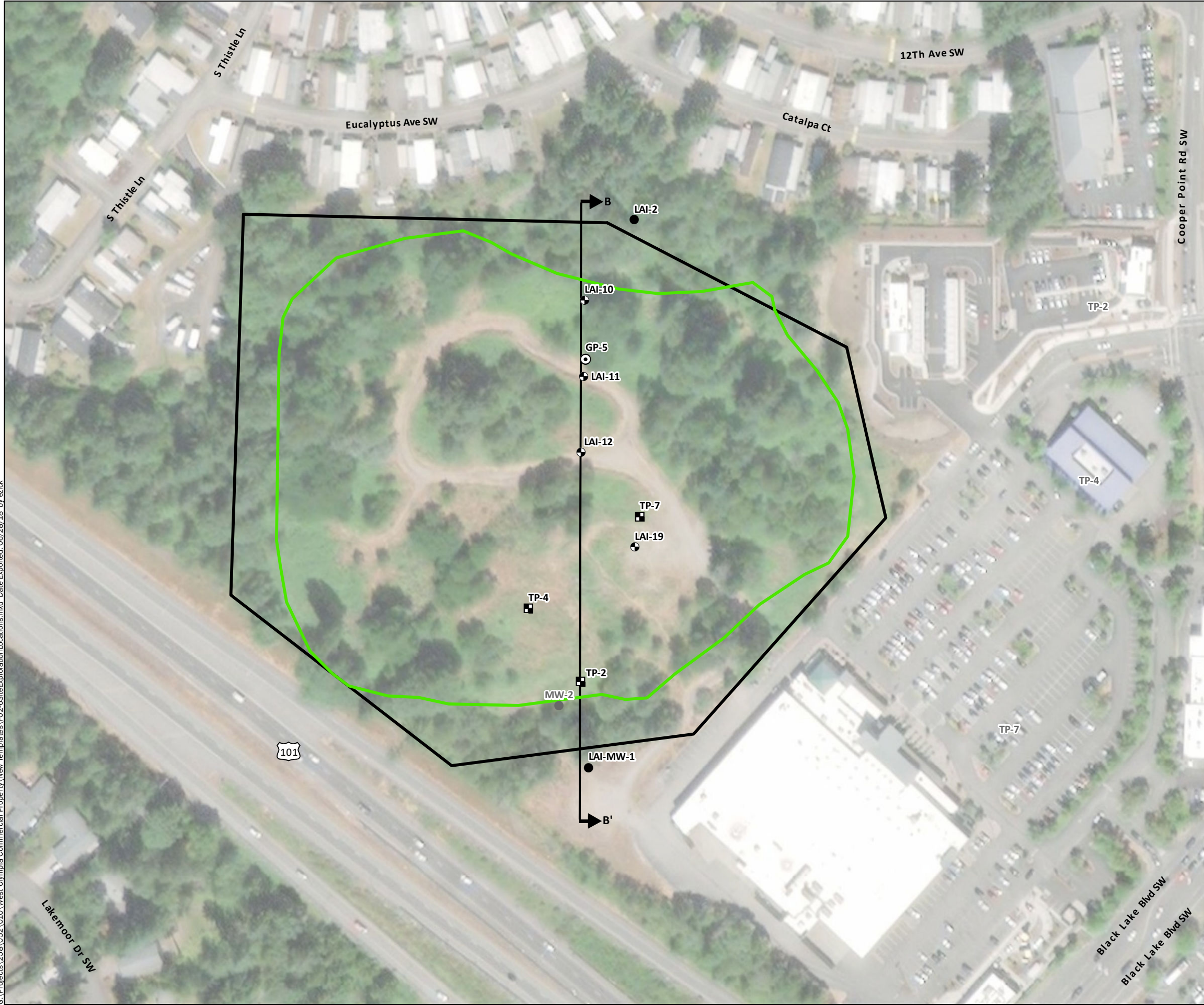
0 300 600  
 Scale in Feet

Source: PSLC Lidar Data

West Olympia Landfill Site Olympia, Washington	<b>Conceptual Regional Geologic Cross Section A-A'</b>	Figure <b>2-6</b>
--	--	----------------------



G:\Projects\258\052\010\West Olympia Commercial Property\New Templates\F02.6SiteExplorationLocations.mxd Date Exported: 06/28/18 by ezick



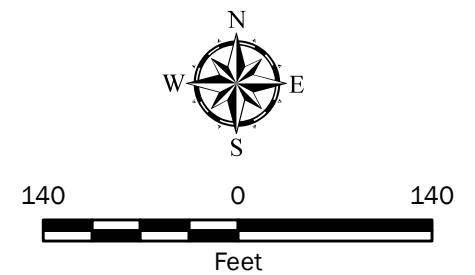
- Legend**
- ⊙ Soil Gas Sample
  - Existing Monitoring Well
  - ⊕ Soil Boring (Landau Associates 2000)
  - Test Pit (Landau Associates 2000)
  - Monitoring Well (Dames & Moore 1984)
  - ▭ Approximate Extent of Waste
  - ▭ Approximate Parcel Boundary
  - ↔ Cross Section Location

**Notes:**

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Landau Associates cannot guarantee the accuracy and content of electronic files. The master file is stored by Landau Associates and will serve as the official record of this communication.

Data Source: Thurston County GIS; Esri World Imagery.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



**Site Cross-Section and Exploration Locations**

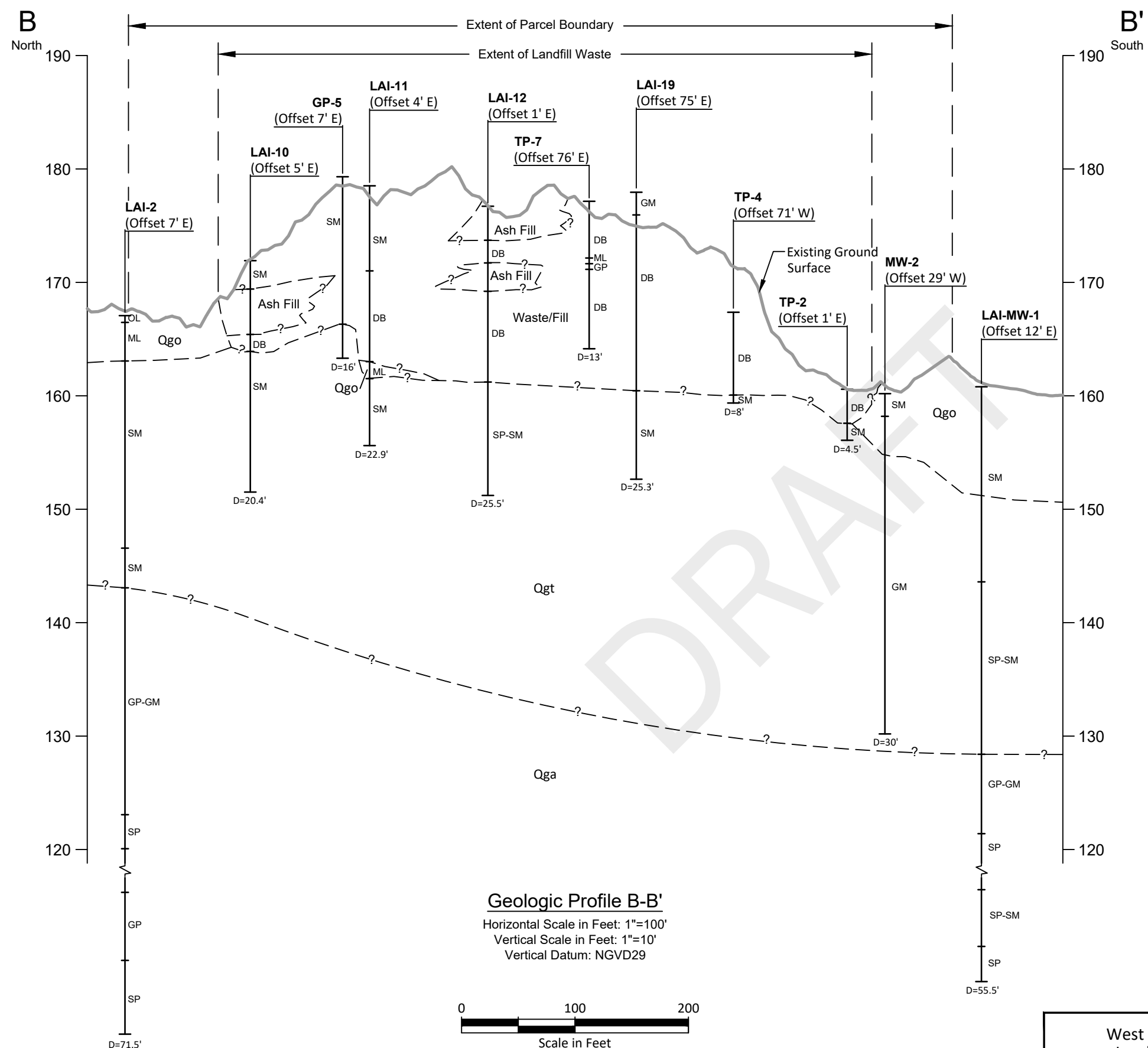
West Olympia Landfill Site  
Olympia, Washington



**Figure 2-7**



Landau Associates | G:\Projects\258\052\10\Cross Sections\F02-75\SiteGeology\CrossSectionBB.dwg | 6/28/2018 3:09 PM



**Legend**

- MW-2 — Project Exploration Designation
- (Offset 29' W) — Offset Distance in Feet and Direction
- Top of Exploration
- ? -? — Inferred Geologic Contact
- GM — Unified Soils Classification Symbol (USCS)
- Bottom of Exploration
- D=14' — Depth of Exploration

**Geologic Units**

- Qgo Vashon Recessional Outwash - Consists of Sands & Gravels
- Qgt Vashon Till - Consists of Sand & Gravel in dense matrix of silt & clay
- Qga Vashon Advance Outwash - Consists of Sands & Gravel (Upper Aquifer)

**USCS Legend**

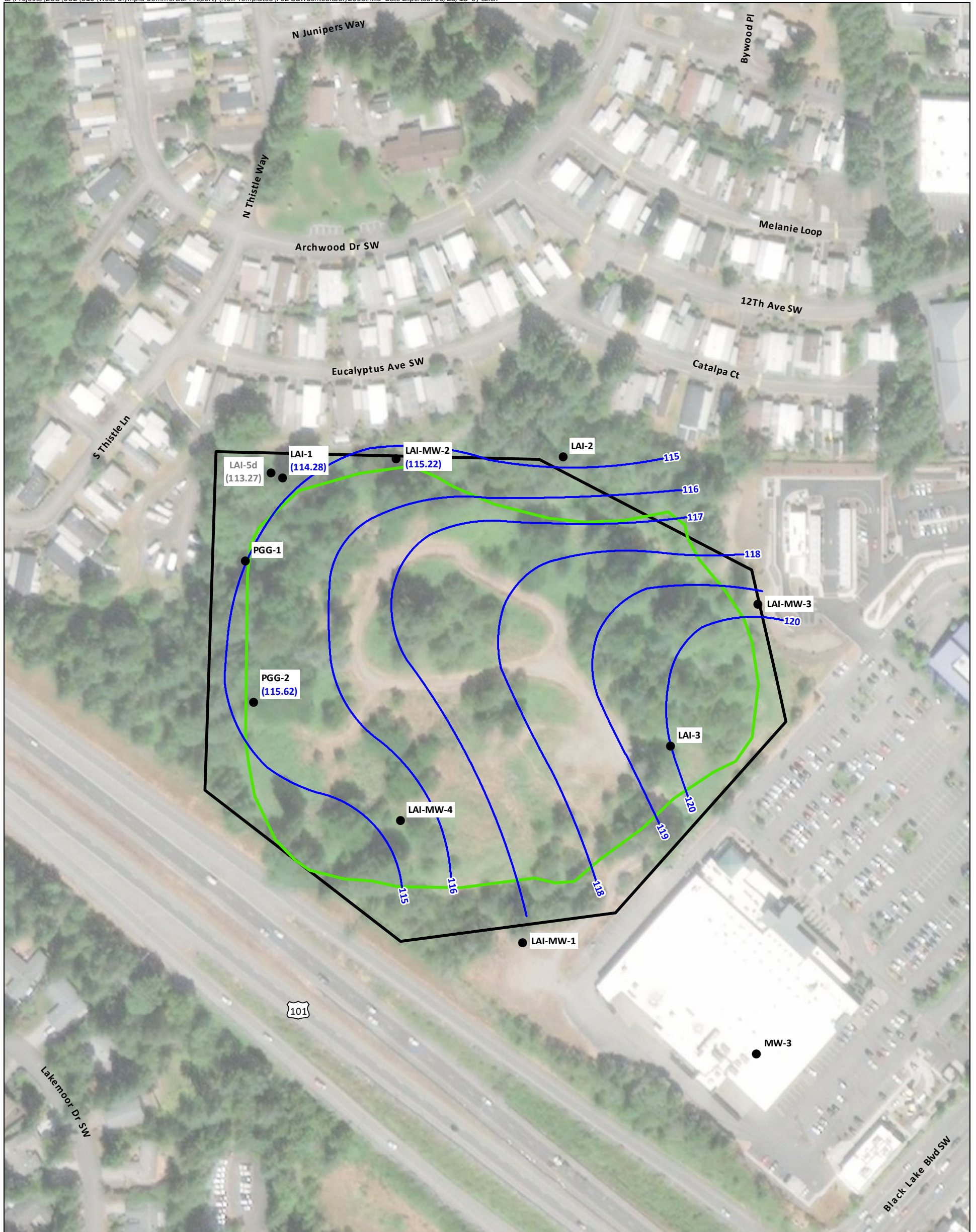
- DB Construction debris, garbage
- GM Silty gravel; gravel/sand/silt mixture(s)
- GP Poorly graded gravel; gravel/sand mixture(s); little or no fines
- ML Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
- OL Organic silt; organic, silty clay of low plasticity
- SM Silty sand; sand/silt mixture(s)
- SP Poorly graded sand; gravelly sand; little or no fines

**Notes**

1. Soil descriptions are generalized, based on interpretation of field and laboratory data. Stratigraphic contacts are interpolated between borings and based on topographic features; actual conditions may vary.
2. See report text for descriptions of geologic units.
3. For Cross Section location, see Figure 2-6.







**Legend**

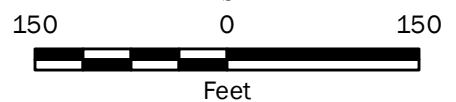
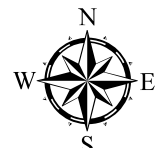
- Monitoring Well Location
- Groundwater Elevation Contours
- Approximate Extent of Waste
- Approximate Parcel Boundary

**Notes:**

1. Vertical datum = NGVD29.
2. LAI-5d is screened in the lower aquifer (Qpg) and is not used for these contours, but is shown for reference.
3. Groundwater elevations and contours are from PGG 2006 report. Wells that do not have reported groundwater elevations are assumed to have been collected; however, the data could not be located.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: PGG, 2006; Thurston County GIS; Esri World Imagery.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



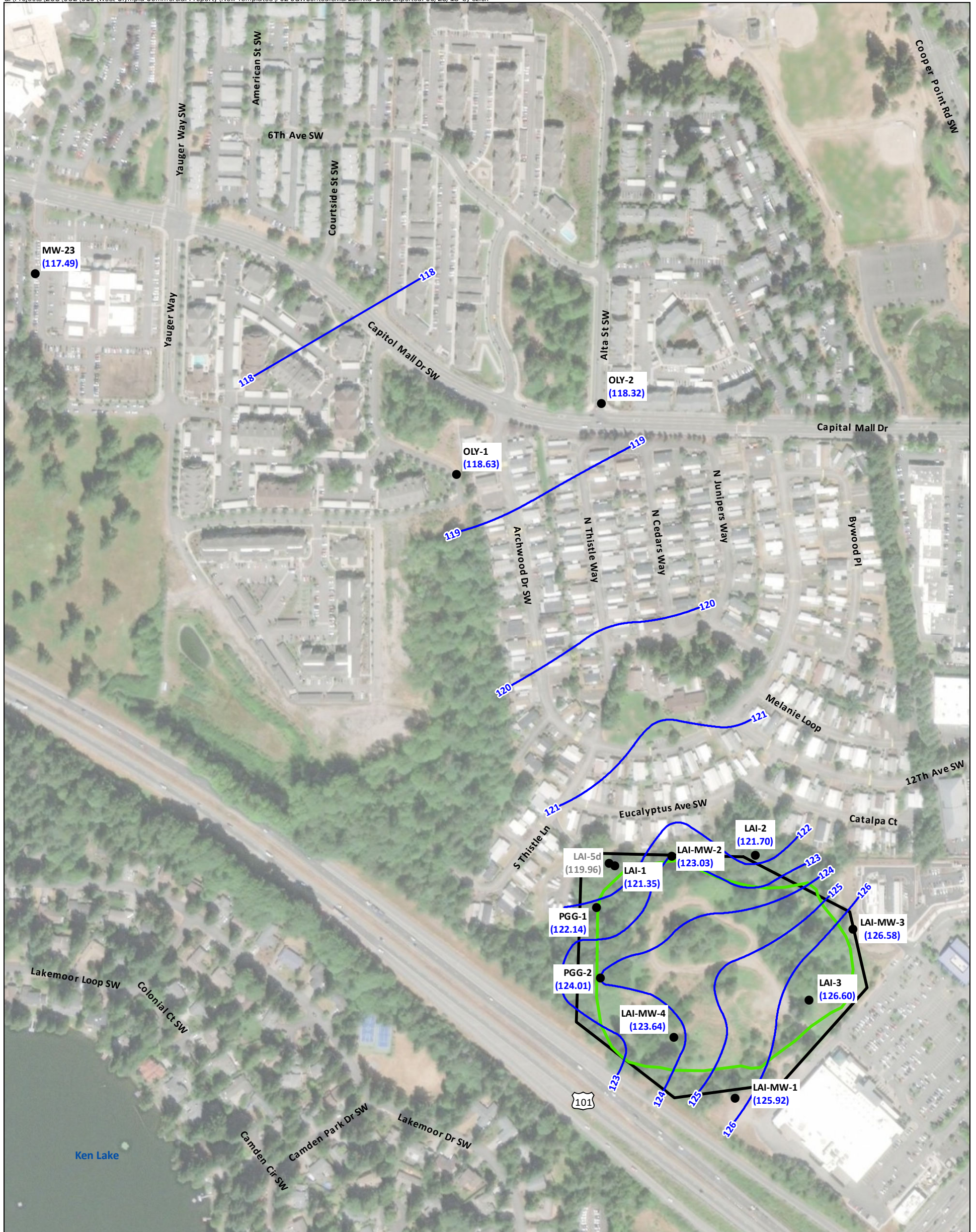
**Groundwater Elevation Contours  
Upper Aquifer (Qga) - July 2006**

West Olympia Landfill Site  
Olympia, Washington



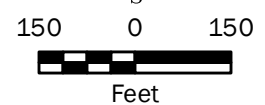
**Figure 2-9**





**Legend**

- Monitoring Well Location
- Groundwater Elevation Contours
- Approximate Extent of Waste
- Approximate Parcel Boundary



**Notes:**

1. Vertical datum = NGVD29.
2. LAI-5d is screened in the lower aquifer (Qpg) and is not used for these contours, but is shown for reference.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: PGG, 2006; Thurston County GIS; Esri World Imagery.  
 Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

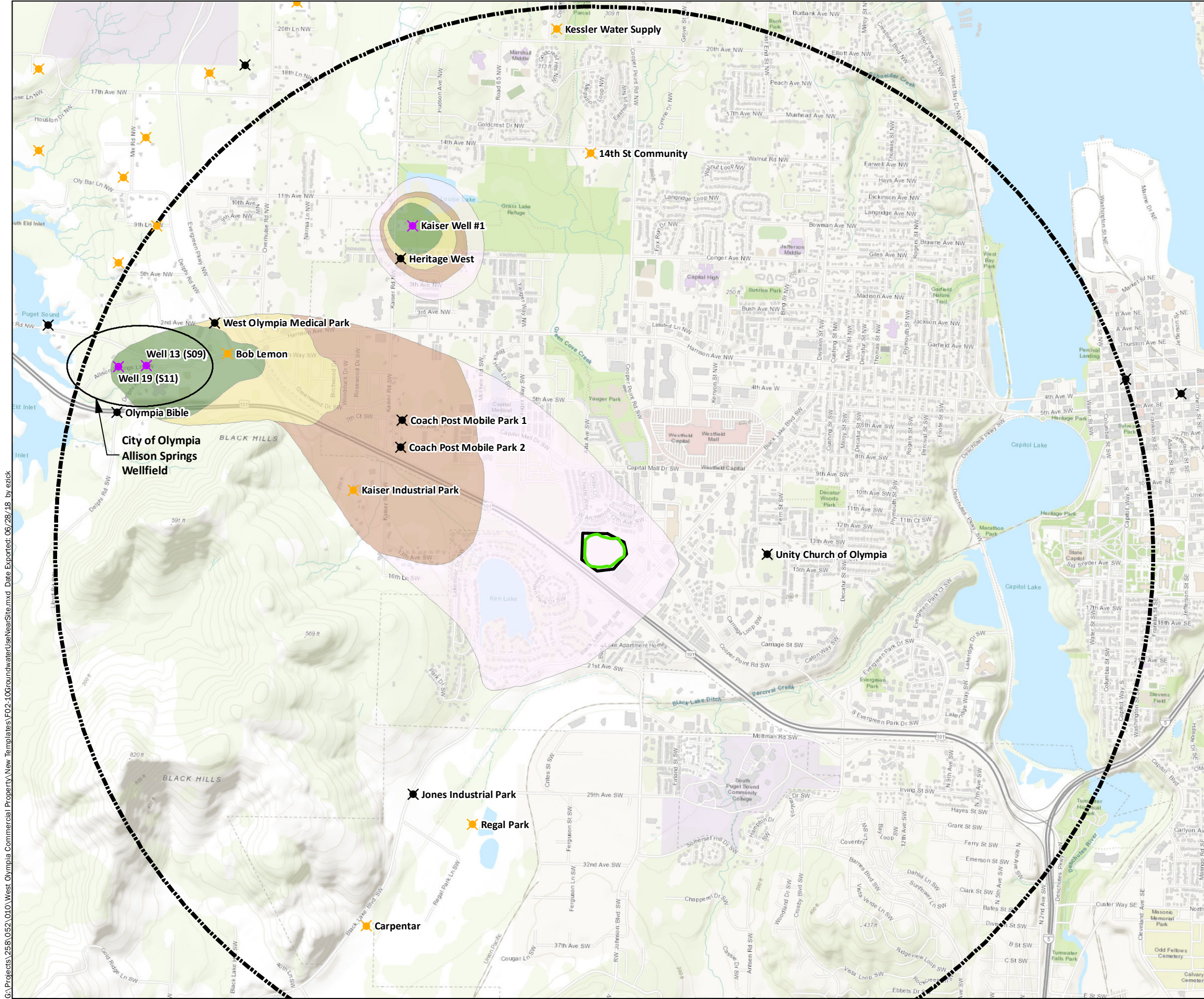
**Groundwater Elevation Contours  
 Upper Aquifer (Qga) - March 2018**

West Olympia Landfill Site  
 Olympia, Washington



**Figure 2-10**





**Legend**

- City of Olympia Production Well
- Group A Production Well
- Group B Production Well
- Approximate Extent of Waste
- Approximate Parcel Boundary
- Approximate Parcel Boundary 2-Mile Radius

**Wellhead Protection Area Groundwater Time of Travel**

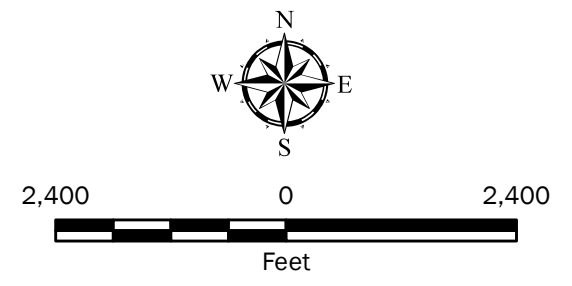
- 0.5 Year
- 1 Year
- 5 Year
- 10 Year

**Notes:**

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- This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Landau Associates cannot guarantee the accuracy and content of electronic files. The master file is stored by Landau Associates and will serve as the official record of this communication.

Data Sources: WA Department of Health; Thurston County GIS; Esri World Topo Map.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



**Groundwater Use Near Site**

West Olympia Landfill Site  
Olympia, Washington

**Figure 2-11**

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**Legend**

- Existing Monitoring Well
- ⊙ Soil Boring (Landau Associates 2000)
- Chromium Detected in Waste from Boring at Concentrations < SL
- Chromium Detected in Waste from Boring at Concentrations > SL (48 mg/kg)
- Approximate Extent of Waste
- Approximate Parcel Boundary

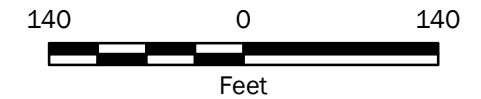
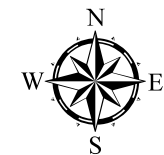
(9 ft) Value in parentheses indicates maximum depth (ft bgs) of chromium SL exceedance.  
 \* Indicates underlying sample (waste or soil) exists in which chromium was detected <SL (48 mg/kg).

**Notes:**

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers and will serve as the official record of this communication.
3. mg/kg = milligrams per kilogram
4. bgs = below ground surface
5. SL = Screening Level

Data Source: Aerial map service and street layer from Thurston County GIS.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



**Waste Samples - Chromium Analytical Results**

West Olympia Landfill Site  
 Olympia, Washington



Figure 4-1





**Legend**

- Existing Monitoring Well
- ⊙ Soil Boring (Landau Associates 2000)
- Lead Detected in Waste from Boring at Concentrations < SL
- Lead Detected in Waste from Boring at Concentrations > SL (220 mg/kg)
- Approximate Extent of Waste
- Approximate Parcel Boundary

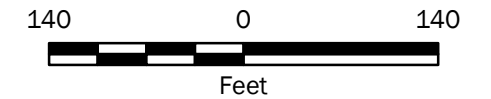
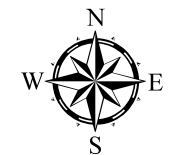
(9 ft) Value in parentheses indicates maximum depth (ft bgs) of lead SL exceedance.  
 \* Indicates underlying sample (waste or soil) exists in which lead was detected <SL (220 mg/kg).

**Notes:**

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers and will serve as the official record of this communication.
3. mg/kg = milligrams per kilogram
4. bgs = below ground surface
5. SL = Screening Level

Data Source: Aerial map service and street layer from Thurston County GIS.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



**Waste Samples - Lead Analytical Results**

West Olympia Landfill Site  
 Olympia, Washington



Figure 4-2



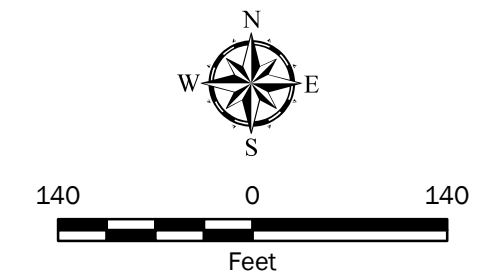


- Legend**
- Existing Monitoring Well
  - ⊕ Soil Boring (Landau Associates 2000)
  - Chromium and Lead Detected in Soil Sample(s) from This Boring at Concentrations < SLs
  - Chromium and/or Lead Detected in Soil Sample(s) from this Monitoring Well at Concentrations < SLs
  - Chromium and/or Lead Detected in Soil from Boring at Concentrations > SLs (48 mg/kg and 220 mg/kg respectively)
  - Approximate Extent of Waste
  - Approximate Parcel Boundary

(19 ft) Value in parentheses indicates maximum depth (ft bgs) of chromium and/or lead SL exceedance.

- Notes:**
1. The locations of all features shown are approximate.
  2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers and will serve as the official record of this communication.
  3. mg/kg = milligrams per kilogram
  4. bgs = below ground surface
  5. SL = Screening Level

Data Source: Aerial map service and street layer from Thurston County GIS.  
 Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



<b>Soil Samples - Chromium and Lead Analytical Results</b>	
West Olympia Landfill Site Olympia, Washington	
	Figure 4-3

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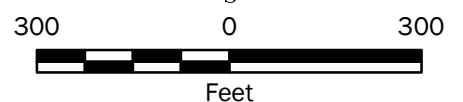
**Legend**

- Approximate Extent of Waste
- Approximate Parcel Boundary

- TCE not detected in groundwater.
- TCE RLs detected in groundwater >RLs, but <SL during one or more sampling events.
- TCE detected in groundwater >SL (1.6 µg/L) during one or more sampling events.

**Notes:**

1. The locations of all features shown are approximate.
  2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers and will serve as the official record of this communication.
  3. Only groundwater data collected from 2014 to 2015 is presented
  4. µg/L = micrograms per Liter
  5. ND = non-detect
  6. TCE = trichloroethene
  7. SL = screening level
  8. RL = reporting limit
  9. J = analyte positively identified and value is an estimated quantity because the concentration was below the contract-required quantitation limits.
- Data Sources: PGG, 2006; Thurston County GIS; Esri World Imagery.  
 Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet



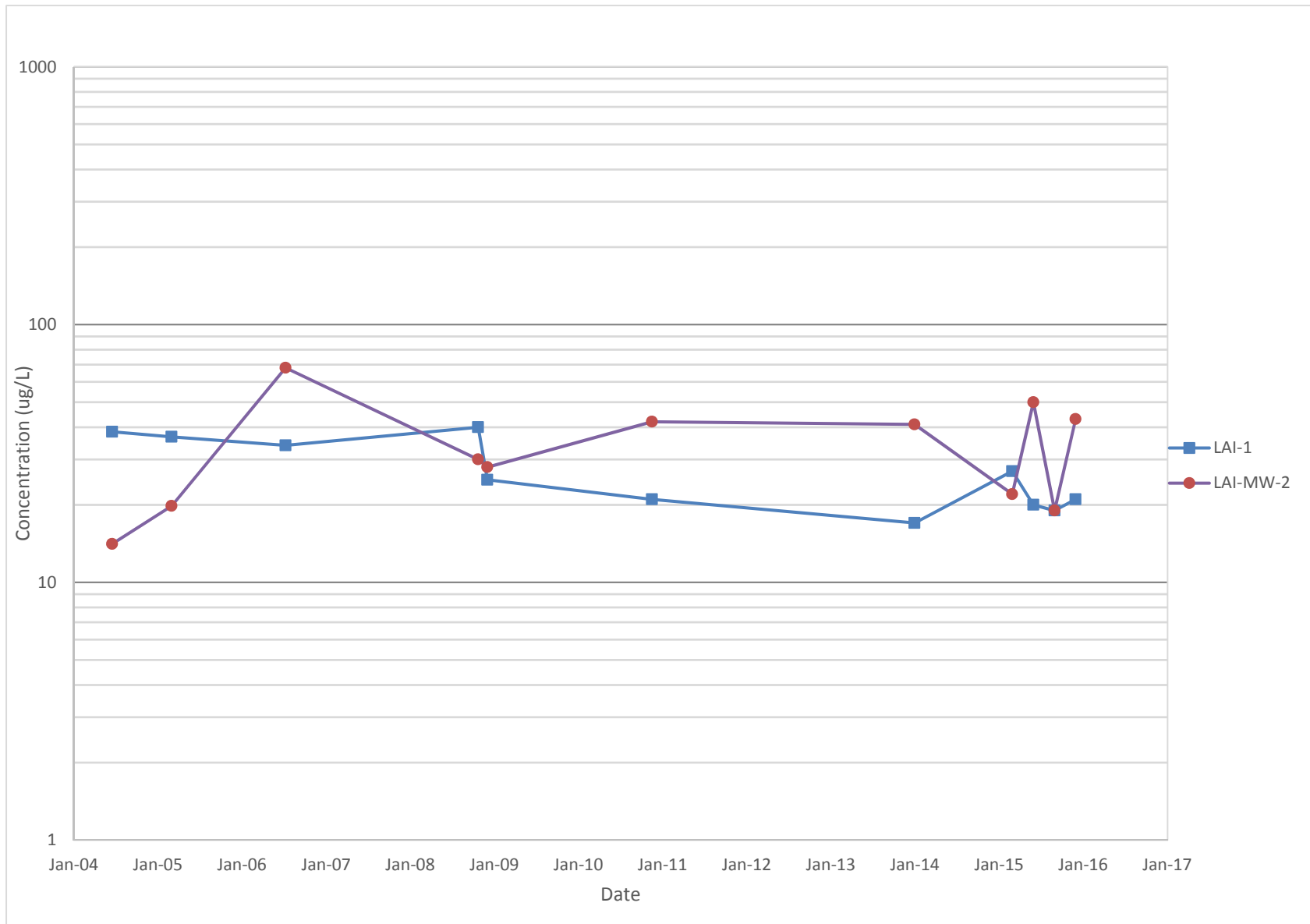
**Groundwater Samples - TCE Analytical Results**

West Olympia Landfill Site  
Olympia, Washington

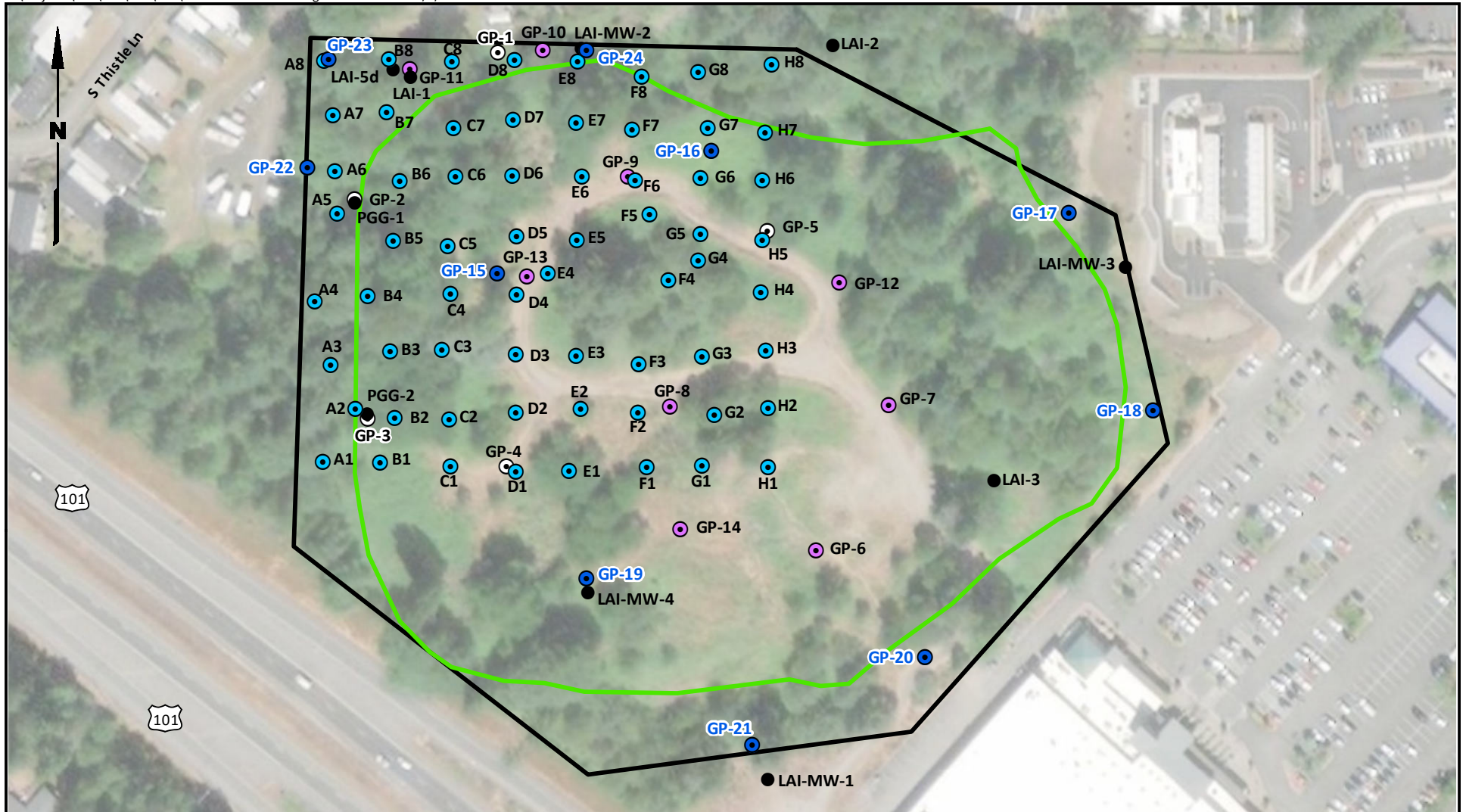


Figure 4-4









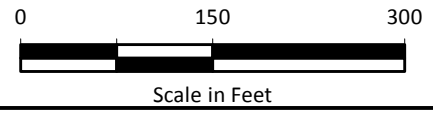
**Legend**

- Existing Monitoring Well Location
- Permanent Soil Gas Sample Location (Installed 2006)
- Permanent Soil Gas Sample Location (Installed 2018)
- Temporary Active Soil Gas Sample Location (October 2014)
- Temporary Passive Soil Gas Sample Location (July 2016)
- ▭ Subject Property
- ▭ Approximate Extent of Waste

**Note**

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

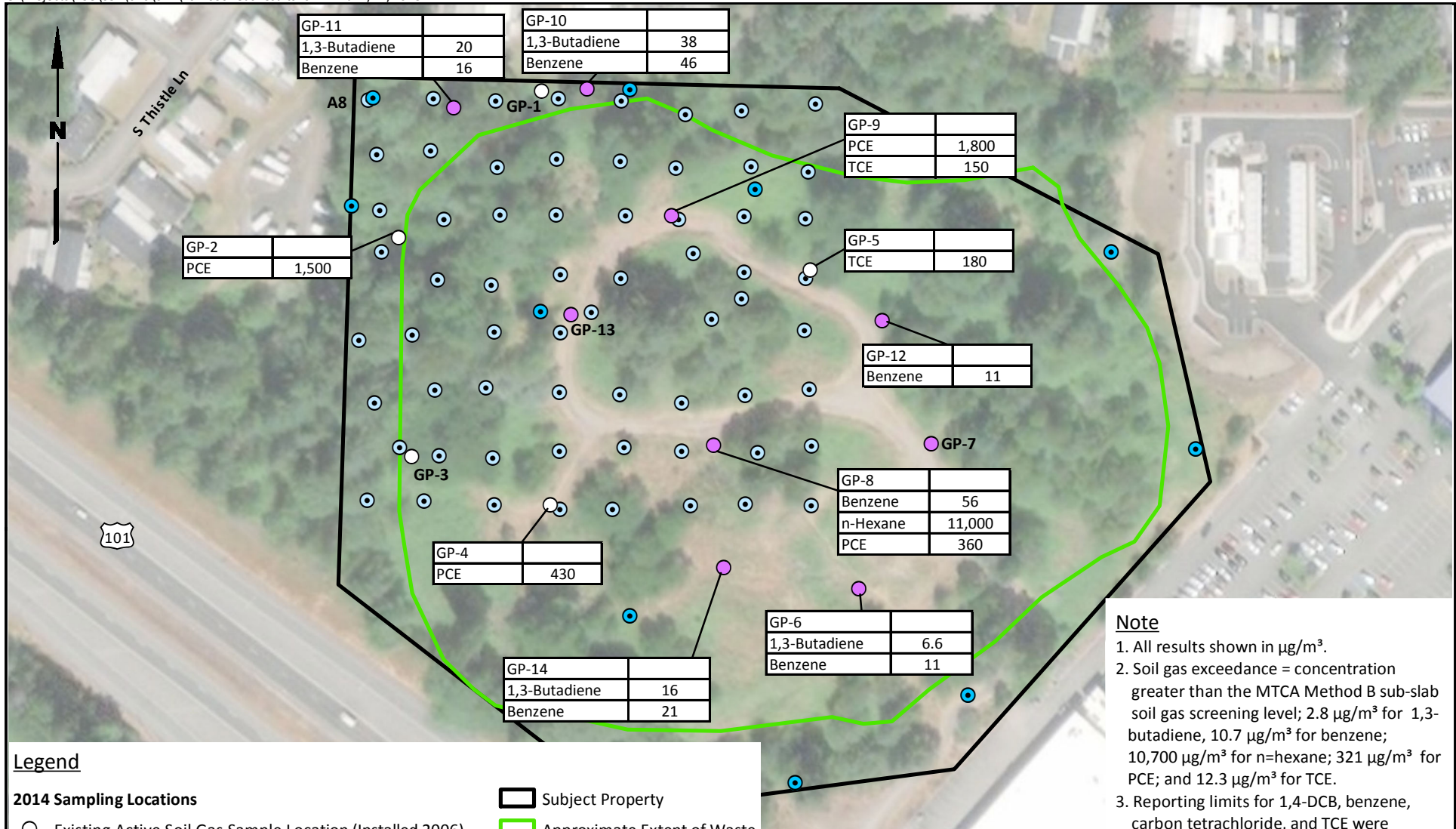
Data Sources: Thurston County GIS; Esri World Imagery.



West Olympia Landfill Site  
Olympia, Washington

**Soil Gas Monitoring Locations  
2006 to 2018**

Figure  
**4-6**



GP-11	
1,3-Butadiene	20
Benzene	16

GP-10	
1,3-Butadiene	38
Benzene	46

GP-9	
PCE	1,800
TCE	150

GP-2	
PCE	1,500

GP-5	
TCE	180

GP-12	
Benzene	11

GP-4	
PCE	430

GP-8	
Benzene	56
n-Hexane	11,000
PCE	360

GP-14	
1,3-Butadiene	16
Benzene	21

GP-6	
1,3-Butadiene	6.6
Benzene	11

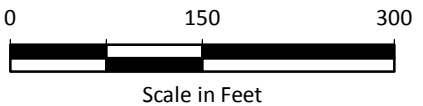
GP-2	
PCE	1,500

Exceedance of Soil Gas Screening Level

- Note**
1. All results shown in  $\mu\text{g}/\text{m}^3$ .
  2. Soil gas exceedance = concentration greater than the MTCA Method B sub-slab soil gas screening level; 2.8  $\mu\text{g}/\text{m}^3$  for 1,3-butadiene, 10.7  $\mu\text{g}/\text{m}^3$  for benzene; 10,700  $\mu\text{g}/\text{m}^3$  for n=hexane; 321  $\mu\text{g}/\text{m}^3$  for PCE; and 12.3  $\mu\text{g}/\text{m}^3$  for TCE.
  3. Reporting limits for 1,4-DCB, benzene, carbon tetrachloride, and TCE were elevated above their respective screening levels at select locations.
  4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

**Legend**

- 2014 Sampling Locations**
- Existing Active Soil Gas Sample Location (Installed 2006)
  - Temporary Active Soil Gas Sample Location (October 2014)
- Other Sampling Locations**
- ⊙ Temporary Passive Soil Gas Sample Location (July 2016)
  - Permanent Soil Gas Monitoring Location (Installed 2018)
- Subject Property  
 Approximate Extent of Waste



Data Sources: Thurston County GIS; Esri World Imagery.

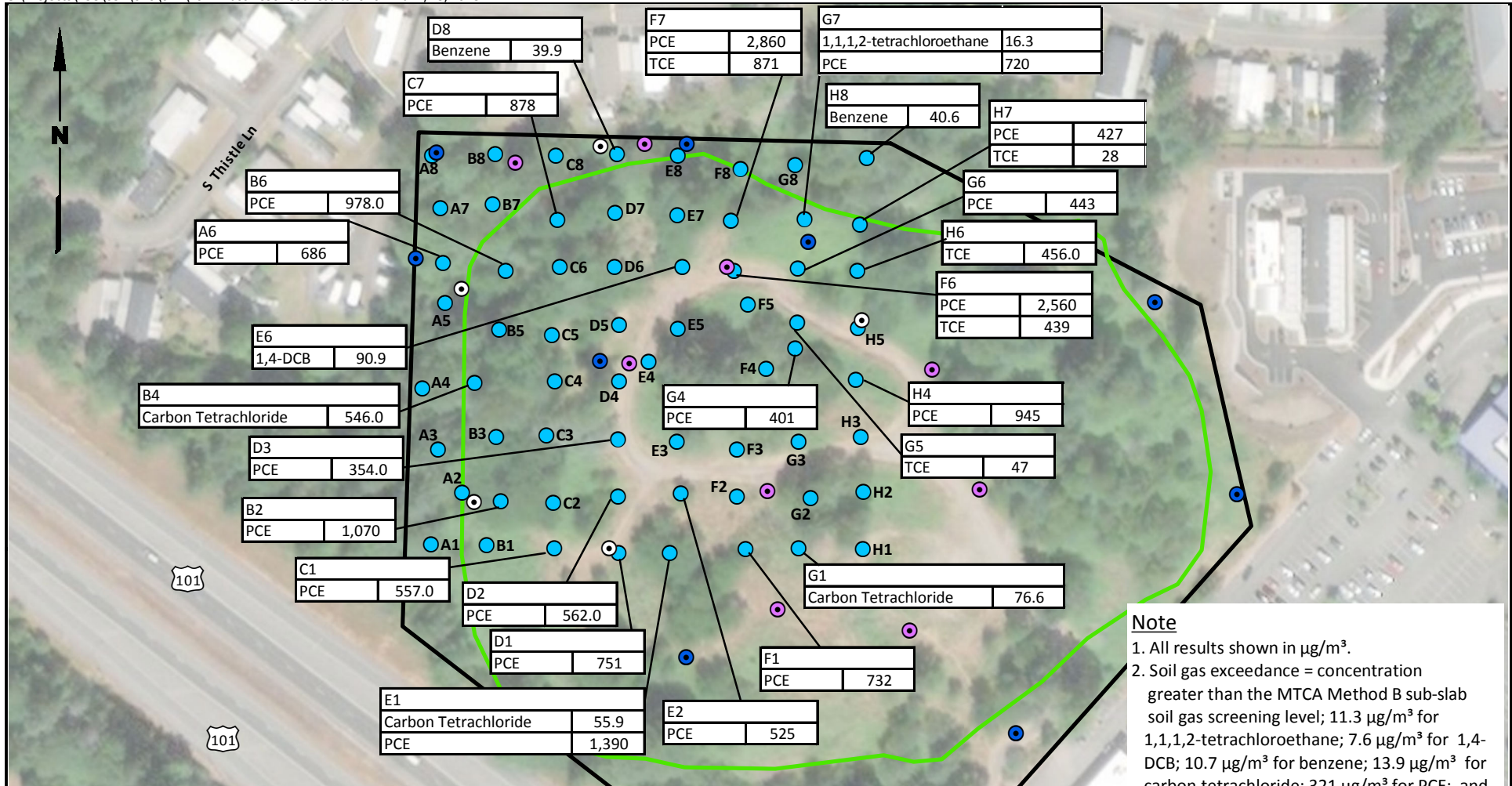
West Olympia Landfill Site  
Olympia, Washington

**Active Soil Gas Results  
Detected Constituents That Exceed  
Screening Levels (2014)**

Figure  
**4-7**







D8	Benzene	39.9
F7	PCE	2,860
F7	TCE	871
G7	1,1,1,2-tetrachloroethane	16.3
G7	PCE	720
H8	Benzene	40.6
H7	PCE	427
H7	TCE	28
C7	PCE	878
B6	PCE	978.0
A6	PCE	686
E6	1,4-DCB	90.9
B4	Carbon Tetrachloride	546.0
D3	PCE	354.0
B2	PCE	1,070
C1	PCE	557.0
D2	PCE	562.0
D1	PCE	751
E1	Carbon Tetrachloride	55.9
E1	PCE	1,390
E2	PCE	525
F1	PCE	732
G4	PCE	401
H4	PCE	945
G5	TCE	47
G1	Carbon Tetrachloride	76.6
H6	TCE	456.0
F6	PCE	2,560
F6	TCE	439

**Note**

1. All results shown in  $\mu\text{g}/\text{m}^3$ .
2. Soil gas exceedance = concentration greater than the MTCA Method B sub-slab soil gas screening level;  $11.3 \mu\text{g}/\text{m}^3$  for 1,1,1,2-tetrachloroethane;  $7.6 \mu\text{g}/\text{m}^3$  for 1,4-DCB;  $10.7 \mu\text{g}/\text{m}^3$  for benzene;  $13.9 \mu\text{g}/\text{m}^3$  for carbon tetrachloride;  $321 \mu\text{g}/\text{m}^3$  for PCE; and  $12.3 \mu\text{g}/\text{m}^3$  for TCE.
3. Reporting limits for benzene, carbon tetrachloride, and TCE were elevated above their respective screening levels at select locations.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

**Legend**

**2016 Sampling Locations**

- Temporary Passive Soil Gas Sample Location (July 2016)

**Other Sampling Locations**

- ⊙ Existing Active Soil Gas Sample Location (Installed 2006)
- Temporary Active Soil Gas Sample Location (October 2014)
- Permanent Soil Gas Monitoring Location (Installed 2018)

Subject Property  
 Approximate Extent of Waste

GP-2	Exceedance of Soil Gas
PCE	1,500
	Screening Level

0 160 320

Scale in Feet

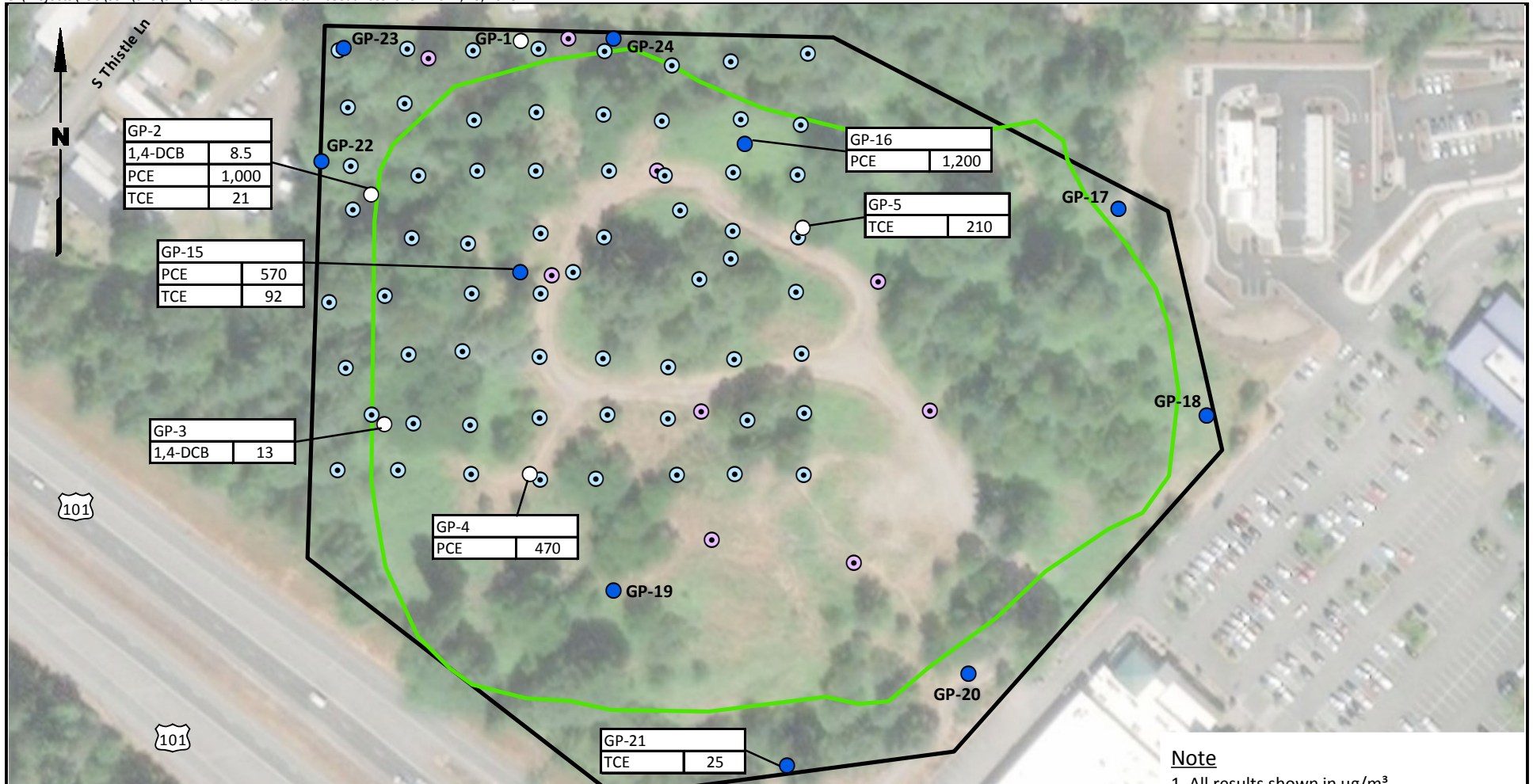
**LANDAU ASSOCIATES**

West Olympia Landfill Site  
Olympia, Washington

**Passive Soil Gas Results  
Detected Constituents That Exceed  
Screening Levels (2016)**

Figure 4-8

Data Sources: Thurston County GIS; Esri World Imagery.



GP-2	
1,4-DCB	8.5
PCE	1,000
TCE	21

GP-15	
PCE	570
TCE	92

GP-3	
1,4-DCB	13

GP-4	
PCE	470

GP-16	
PCE	1,200

GP-5	
TCE	210

GP-21	
TCE	25

GP-2	
PCE	1,500

**Legend**

**2018 Sampling Event**

- Permanent Soil Gas Sample Location (Installed 2018)
- Permanent Soil Gas Sample Location (Installed 2006)

**Other Sampling Event**

- ⊙ Temporary Active Soil Gas Sample Location (October 2014)
- ⊙ Temporary Passive Soil Gas Sample Location (July 2016)

▭ Subject Property

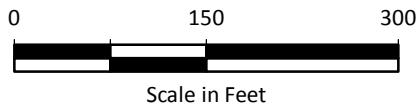
▭ Approximate Extent of Waste

GP-2  
PCE 1,500  
Exceedance of Soil Gas Screening Level

**Note**

1. All results shown in  $\mu\text{g}/\text{m}^3$ .
2. Soil gas exceedance = concentration greater than the MTCA Method B sub-slab soil gas screening level;  $7.6 \mu\text{g}/\text{m}^3$  for 1,4-DCB;  $321 \mu\text{g}/\text{m}^3$  for PCE; and  $12.3 \mu\text{g}/\text{m}^3$  for TCE.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Sources: Thurston County GIS; Esri World Imagery.

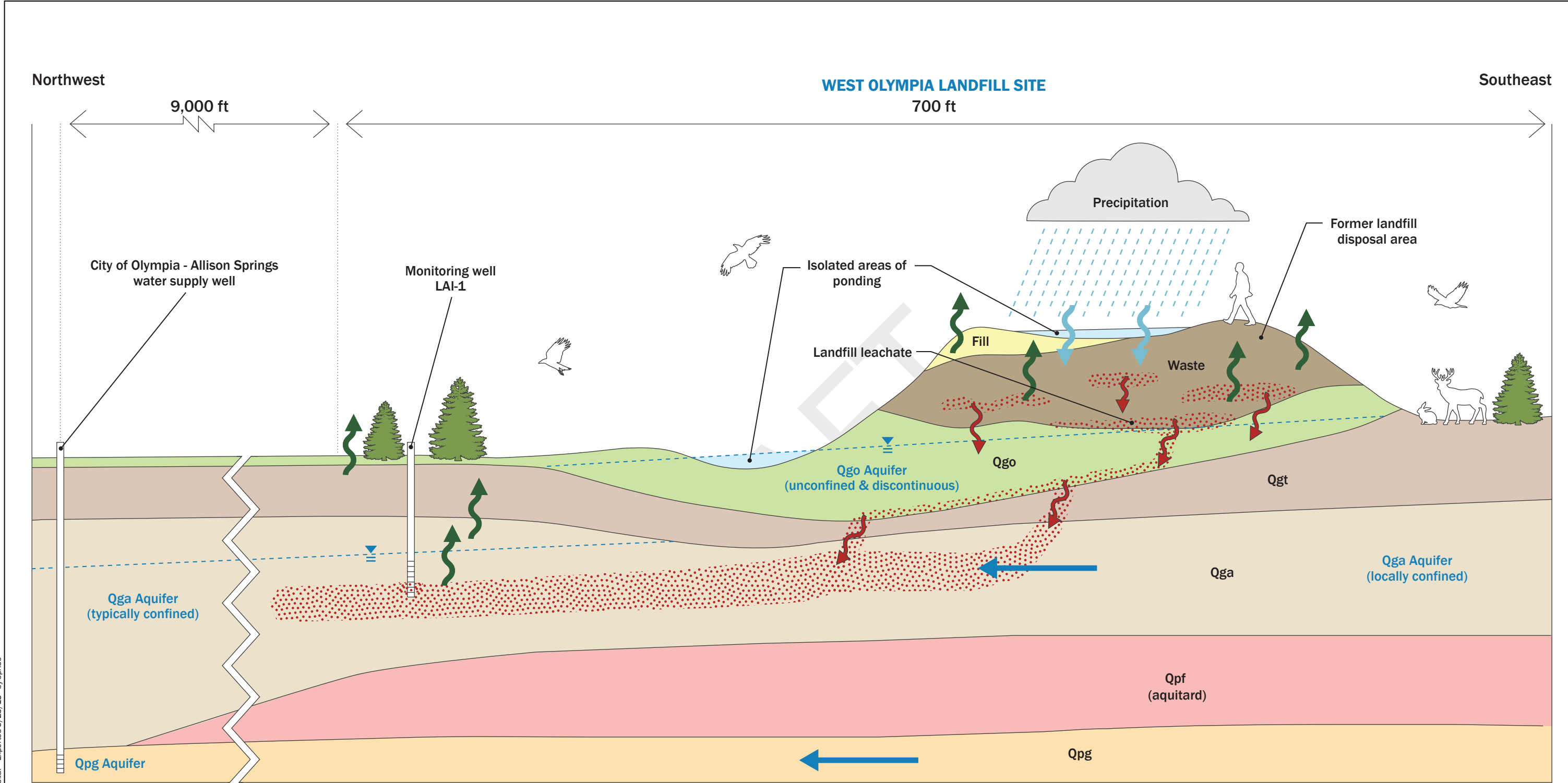


West Olympia Landfill Site  
Olympia, Washington

**Soil Gas Results  
Exceedances of Screening Levels  
(2018)**

Figure  
**4-9**





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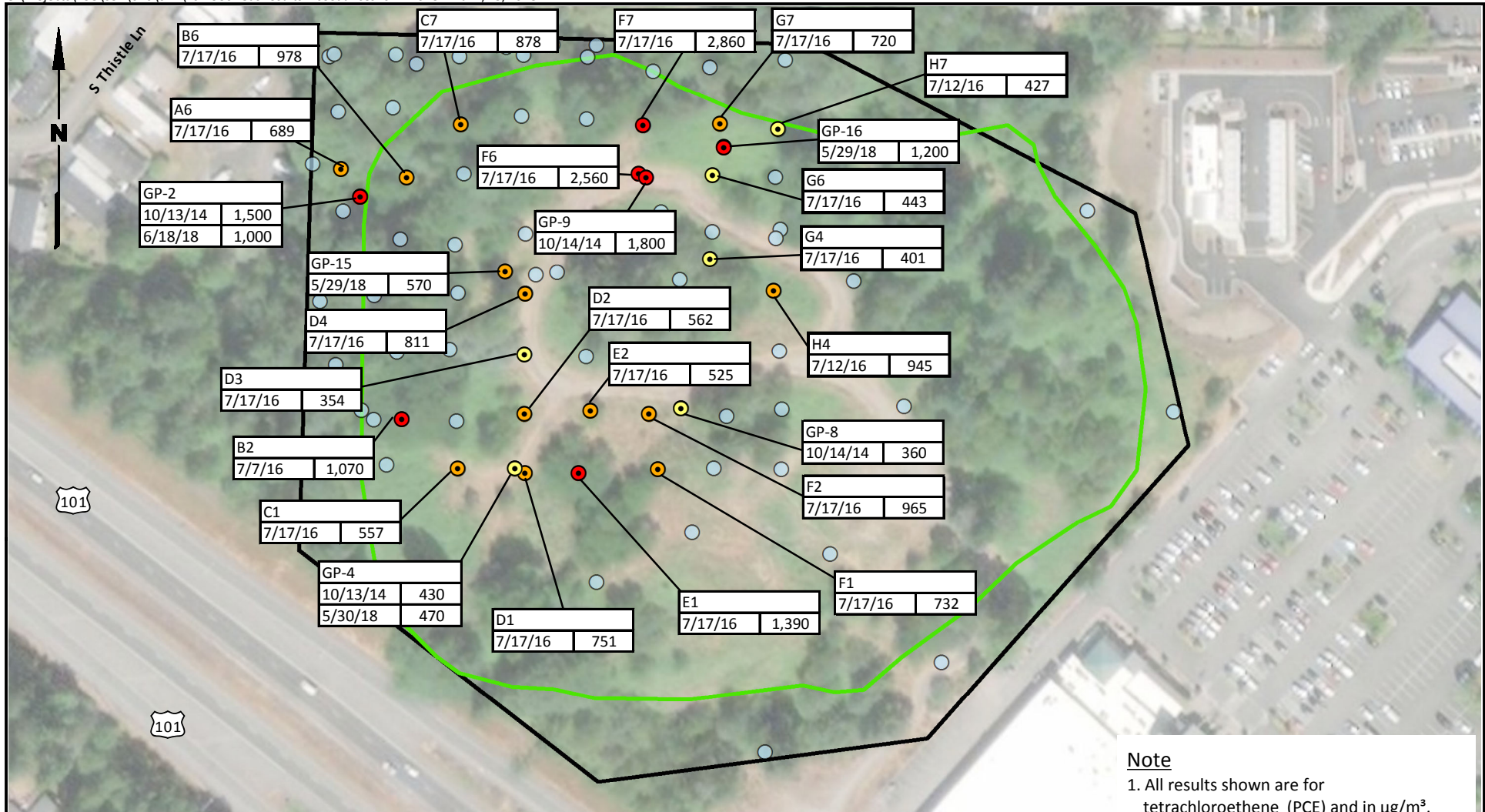
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**NOT TO SCALE**

**Legend**

- |   |                                    |  |
|---|------------------------------------|--|
| <span style="background-color: #c8e6c9; border: 1px solid black; padding: 2px;">Qgo</span> Vashon Recessional Outwash | Prevailing groundwater flow        | Precipitation/infiltration migration mechanism |
| <span style="background-color: #e0e0e0; border: 1px solid black; padding: 2px;">Qgt</span> Vashon Till                | Groundwater                        | Leachate migration                             |
| <span style="background-color: #e0e0e0; border: 1px solid black; padding: 2px;">Qga</span> Vashon Advance Outwash     | Landfill gases migration mechanism | Dissolved phase TCE                            |
| <span style="background-color: #f08080; border: 1px solid black; padding: 2px;">Qpf</span> Kitsap Formation           |                                    |  |
| <span style="background-color: #fff9c4; border: 1px solid black; padding: 2px;">Qpg</span> Penultimate Deposits       |                                    |  |

<b>Conceptual Site Model</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Figure 5-1</b>



**Note**

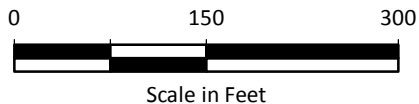
1. All results shown are for tetrachloroethene (PCE) and in µg/m³.
2. Soil gas exceedance = concentration greater than the MTCA Method B sub-slab soil gas screening level; 321 µg/m³ for PCE.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

**Legend**

- PCE Concentration ( $\geq 321 \mu\text{g}/\text{m}^3$ )
- PCE Concentration ( $\geq 500 \mu\text{g}/\text{m}^3$ )
- PCE Concentration ( $\geq 1,000 \mu\text{g}/\text{m}^3$ )
- PCE Concentration Below Screening Level
- Subject Property
- Approximate Extent of Waste

D1	7/17/16	751	Exceedance of Soil Gas Screening Level
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Data Sources: Thurston County GIS; Esri World Imagery.



West Olympia Landfill Site  
Olympia, Washington

**PCE Soil Gas Results  
Exceedances of Screening Levels  
(2014, 2016, and 2018)**

Figure  
**6-1**

**APPENDIX A**  
**Comprehensive RI Data Sets**

DRAFT



**Table A-1**  
**Comprehensive Waste Data**  
 West Olympia Landfill Site  
 Olympia, Washington

		Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
		Sample ID:	LAI-4/D/7.5-9	LAI-6/D/5-6	LAI-8/D/10-11.5	LAI-8/D/7.5-9	LAI-9/D/10-11	LAI-9/D/5.5-6.5
		Location:	LAI-4	LAI-6	LAI-8	LAI-8	LAI-9	LAI-9
		Date:	09/07/00	09/06/00	09/07/00	09/07/00	09/06/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:					
Fuels	Gasoline	mg/Kg	100	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	mg/Kg	460	12	88	23	140	28
Fuels	Lube Oil-range Hydrocarbons	mg/Kg	2000	100	700	96	470	43
Metals	Arsenic	mg/Kg	20	30 U	5 U	30 U	10 U	6 U
Metals	Cadmium	mg/Kg	25	-	-	-	-	-
Metals	Chromium	mg/Kg	48	50	25.1	63	51	33.2
Metals	Lead	mg/Kg	220	1300	988	1070	256	194
Metals	Mercury	mg/Kg	9.0	-	-	-	-	-
Metals	Nickel	mg/Kg	100	-	-	-	-	-
Metals	Silver	mg/Kg	400	-	-	-	-	-
Metals	Zinc	mg/Kg	270	-	-	-	-	-
VOCs	Benzene	mg/Kg	18	-	-	-	-	-
VOCs	Toluene	mg/Kg	6400	-	-	-	-	-
VOCs	Ethylbenzene	mg/Kg	8000	-	-	-	-	-
VOCs	Xylene, m-,p-	mg/Kg	16000	-	-	-	-	-
VOCs	Xylene, o-	mg/Kg	16000	-	-	-	-	-
VOCs	Total Xylenes	mg/Kg	16000	-	-	-	-	-
VOCs	1,1,1,2-Tetrachloroethane	mg/Kg	38	-	-	-	-	-
VOCs	1,1,1-Trichloroethane	mg/Kg	160000	-	-	-	-	-
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg	5.0	-	-	-	-	-
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/Kg	2400000	-	-	-	-	-
VOCs	1,1,2-Trichloroethane	mg/Kg	18	-	-	-	-	-
VOCs	1,1-Dichloroethane	mg/Kg	180	-	-	-	-	-
VOCs	1,1-Dichloroethene	mg/Kg	4000	-	-	-	-	-
VOCs	1,1-Dichloropropene	mg/Kg	NE	-	-	-	-	-
VOCs	1,2,3-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-
VOCs	1,2,3-Trichloropropane	mg/Kg	0.033	-	-	-	-	-
VOCs	1,2,4-Trichlorobenzene	mg/Kg	340	-	-	-	-	-
VOCs	1,2,4-Trimethylbenzene	mg/Kg	NE	-	-	-	-	-
VOCs	1,2-Dibromo-3-Chloropropane	mg/Kg	1.2	-	-	-	-	-
VOCs	1,2-Dibromoethane	mg/Kg	0.50	-	-	-	-	-
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	mg/Kg	7200	-	-	-	-	-
VOCs	1,2-Dichloroethane	mg/Kg	11	-	-	-	-	-
VOCs	1,2-Dichloropropane	mg/Kg	28	-	-	-	-	-
VOCs	1,3,5-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-
VOCs	1,3,5-Trimethylbenzene	mg/Kg	800	-	-	-	-	-
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	mg/Kg	NE	-	-	-	-	-
VOCs	1,3-Dichloropropane	mg/Kg	NE	-	-	-	-	-
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	mg/Kg	20	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-4/D/7.5-9	LAI-6/D/5-6	LAI-8/D/10-11.5	LAI-8/D/7.5-9	LAI-9/D/10-11	LAI-9/D/5.5-6.5
				Location:	LAI-4	LAI-6	LAI-8	LAI-8	LAI-9	LAI-9
				Date:	09/07/00	09/06/00	09/07/00	09/07/00	09/06/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	2,2-Dichloropropane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	2-Butanone (MEK)	mg/Kg	48000	-	-	-	-	-	-	-
VOCs	2-Chloroethyl vinyl ether	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	2-Chlorotoluene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	2-Hexanone	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	4-Chlorotoluene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	mg/Kg	6400	-	-	-	-	-	-	-
VOCs	Acetone	mg/Kg	72000	-	-	-	-	-	-	-
VOCs	Acrolein	mg/Kg	40	-	-	-	-	-	-	-
VOCs	Acrylonitrile	mg/Kg	1.9	-	-	-	-	-	-	-
VOCs	Bromobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromochloromethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromodichloromethane	mg/Kg	16	-	-	-	-	-	-	-
VOCs	Bromoethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromoform (Tribromomethane)	mg/Kg	130	-	-	-	-	-	-	-
VOCs	Bromomethane	mg/Kg	110	-	-	-	-	-	-	-
VOCs	Carbon Disulfide	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Carbon Tetrachloride	mg/Kg	14	-	-	-	-	-	-	-
VOCs	Chlorobenzene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	Chloroethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Chloroform	mg/Kg	32	-	-	-	-	-	-	-
VOCs	Chloromethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	cis-1,2-Dichloroethene	mg/Kg	160	-	-	-	-	-	-	-
VOCs	cis-1,3-Dichloropropene	mg/Kg	10	-	-	-	-	-	-	-
VOCs	Dibromochloromethane	mg/Kg	12	-	-	-	-	-	-	-
VOCs	Dibromomethane	mg/Kg	800	-	-	-	-	-	-	-
VOCs	Dichlorodifluoromethane (CFC-12)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Hexachlorobutadiene	mg/Kg	13	-	-	-	-	-	-	-
VOCs	Isopropylbenzene (Cumene)	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Methyl Iodide (Iodomethane)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Methylene Chloride	mg/Kg	480	-	-	-	-	-	-	-
VOCs	n-Butylbenzene	mg/Kg	4000	-	-	-	-	-	-	-
VOCs	n-Propylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	p-Isopropyltoluene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Sec-Butylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Styrene	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Tert-Butylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Tetrachloroethene	mg/Kg	480	-	-	-	-	-	-	-
VOCs	Trans-1,2-Dichloroethene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	Trans-1,3-Dichloropropene	mg/Kg	10	-	-	-	-	-	-	-
VOCs	Trans-1,4-Dichloro-2-butene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Trichloroethene	mg/Kg	0.0098	-	-	-	-	-	-	-
VOCs	Trichlorofluoromethane (CFC-11)	mg/Kg	24000	-	-	-	-	-	-	-
VOCs	Vinyl Acetate	mg/Kg	80000	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-4/D/7.5-9	LAI-6/D/5-6	LAI-8/D/10-11.5	LAI-8/D/7.5-9	LAI-9/D/10-11	LAI-9/D/5.5-6.5
				Location:	LAI-4	LAI-6	LAI-8	LAI-8	LAI-9	LAI-9
				Date:	09/07/00	09/06/00	09/07/00	09/07/00	09/06/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	Vinyl Chloride	mg/Kg	0.67	-	-	-	-	-	-	-
PAHs	2-Methylnaphthalene	mg/Kg	320	0.078 U	0.072 U	0.081 U	0.2	0.083 U	0.08 U	0.08 U
PAHs	Acenaphthene	mg/Kg	4800	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Acenaphthylene	mg/Kg	NE	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Anthracene	mg/Kg	24000	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Benzo(g,h,i)perylene	mg/Kg	NE	0.078 U	0.073	0.081 U	0.083 U	0.083 U	0.08 U	0.11
PAHs	Dibenzofuran	mg/Kg	80	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Fluoranthene	mg/Kg	3200	0.078 U	0.13	0.081 U	0.088	0.083 U	0.08 U	0.08 U
PAHs	Fluorene	mg/Kg	3200	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Naphthalene	mg/Kg	1600	0.078 U	0.072 U	0.081 U	0.12	0.083 U	0.08 U	0.08 U
PAHs	Phenanthrene	mg/Kg	NE	0.078 U	0.084	0.079 J	0.1	0.083 U	0.08 U	0.08 U
PAHs	Pyrene	mg/Kg	2400	0.078 U	0.16	0.081 U	0.12	0.083 U	0.08 U	0.08 U
PAHs	Benzo(a)pyrene	mg/Kg	30	0.078 U	0.086	0.081 U	0.083 U	0.083 U	0.08 U	0.098
PAHs	Benzo(a)anthracene	mg/Kg	NE	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Benzo(b)fluoranthene	mg/Kg	NE	0.078 U	0.095	0.081 U	0.083 U	0.083 U	0.08 U	0.11
PAHs	Benzo(k)fluoranthene	mg/Kg	NE	0.078 U	0.087	0.081 U	0.083 U	0.083 U	0.08 U	0.1
PAHs	Dibenzo(a,h)anthracene	mg/Kg	NE	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.08 U
PAHs	Indeno(1,2,3-c,d)pyrene	mg/Kg	NE	0.078 U	0.072 U	0.081 U	0.083 U	0.083 U	0.08 U	0.081
PAHs	Chrysene	mg/Kg	NE	0.078 U	0.12	0.081 U	0.088	0.083 U	0.08 U	0.08 U
PAHs	Total cPAH TEQ (ND=0.5RL)	mg/Kg	0.14	0.0589 U	0.116	0.0612 U	0.0631	0.0627 U	0.136	0.136
SVOCs	2,4,5-Trichlorophenol	mg/Kg	29	-	-	-	-	-	-	-
SVOCs	2,4,6-Trichlorophenol	mg/Kg	0.058	-	-	-	-	-	-	-
SVOCs	2,4-Dichlorophenol	mg/Kg	0.17	-	-	-	-	-	-	-
SVOCs	2,4-Dimethylphenol	mg/Kg	1.3	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrophenol	mg/Kg	0.13	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrotoluene	mg/Kg	0.030	-	-	-	-	-	-	-
SVOCs	2,6-Dinitrotoluene	mg/Kg	0.027	-	-	-	-	-	-	-
SVOCs	2-Chloronaphthalene	mg/Kg	6400	-	-	-	-	-	-	-
SVOCs	2-Chlorophenol	mg/Kg	0.47	-	-	-	-	-	-	-
SVOCs	2-methylphenol (o-Cresol)	mg/Kg	4000	-	-	-	-	-	-	-
SVOCs	2-Nitroaniline	mg/Kg	800	-	-	-	-	-	-	-
SVOCs	2-Nitrophenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3 & 4 Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3,3'-Dichlorobenzidine	mg/Kg	2.2	-	-	-	-	-	-	-
SVOCs	3-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4,6-Dinitro-2-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Bromophenyl phenyl ether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloro-3-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloroaniline	mg/Kg	5.0	-	-	-	-	-	-	-
SVOCs	4-Chlorophenyl-Phenylether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitrophenol (p-Nitrophenol)	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	Benzoic Acid	mg/Kg	320000	-	-	-	-	-	-	-
SVOCs	Benzyl Alcohol	mg/Kg	8000	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-4/D/7.5-9	LAI-6/D/5-6	LAI-8/D/10-11.5	LAI-8/D/7.5-9	LAI-9/D/10-11	LAI-9/D/5.5-6.5
				Location:	LAI-4	LAI-6	LAI-8	LAI-8	LAI-9	LAI-9
				Date:	09/07/00	09/06/00	09/07/00	09/07/00	09/06/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
SVOCs	Bis(2-Chloroethoxy)Methane	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	mg/Kg	0.91	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	mg/Kg	71	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	mg/Kg	530	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	mg/Kg	800	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	mg/Kg	8000	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	mg/Kg	64000	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	mg/Kg	0.62	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	mg/Kg	480	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	mg/Kg	25	--	--	--	--	--	--	--
SVOCs	Isophorone	mg/Kg	1100	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	mg/Kg	0.14	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	mg/Kg	200	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	mg/Kg	160	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	mg/Kg	2.5	--	--	--	--	--	--	--
SVOCs	Phenol	mg/Kg	24000	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	mg/Kg	5.6	0.039 U	0.036 U	0.04 U	0.041 U	0.042 U	0.04 U	
PCBs	PCB-Aroclor 1221	mg/Kg	NE	0.078 U	0.071 U	0.08 U	0.083 U	0.083 U	0.079 U	
PCBs	PCB-Aroclor 1232	mg/Kg	NE	0.039 U	0.036 U	0.04 U	0.041 U	0.042 U	0.04 U	
PCBs	PCB-Aroclor 1242	mg/Kg	NE	0.039 U	0.036 U	0.04 U	0.041 U	0.042 U	0.04 U	
PCBs	PCB-Aroclor 1248	mg/Kg	NE	0.039 U	0.41	0.04 U	0.041 U	0.042 U	0.04 U	
PCBs	PCB-Aroclor 1254	mg/Kg	0.50	0.027 J	0.33	0.037 J	0.041 U	0.042 U	0.04 U	
PCBs	PCB-Aroclor 1260	mg/Kg	0.50	0.039 U	0.075	0.04 U	0.041 U	0.042 U	0.04 U	
PCBs	Total PCBs	mg/Kg	0.50	0.0270	0.815	0.0370	0.0830 U	0.0830 U	0.0790 U	

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-9/D/7.5-9	LAI-10/D/5-5.5	LAI-10/D/7.5-8.0	LAI-11/D/10.5-11	LAI-11/D/7.5-9	LAI-13/D/8-9
				Location:	LAI-9	LAI-10	LAI-10	LAI-11	LAI-11	LAI-13
				Date:	09/06/00	09/07/00	09/07/00	09/08/00	09/07/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
Fuels	Gasoline	mg/Kg	100	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	mg/Kg	460	48	32	17	240	140	5.9 U	
Fuels	Lube Oil-range Hydrocarbons	mg/Kg	2000	510	150	86	760	390	12 U	
Metals	Arsenic	mg/Kg	20	12	10 U	20 U	6 U	20 U	20 U	
Metals	Cadmium	mg/Kg	25	-	-	-	-	-	-	-
Metals	Chromium	mg/Kg	48	30.5	66	49	29.7	62	89	
Metals	Lead	mg/Kg	220	78	1460	343	98	1140	2330	
Metals	Mercury	mg/Kg	9.0	-	-	-	-	-	-	-
Metals	Nickel	mg/Kg	100	-	-	-	-	-	-	-
Metals	Silver	mg/Kg	400	-	-	-	-	-	-	-
Metals	Zinc	mg/Kg	270	-	-	-	-	-	-	-
VOCs	Benzene	mg/Kg	18	-	-	-	-	-	-	-
VOCs	Toluene	mg/Kg	6400	-	-	-	-	-	-	-
VOCs	Ethylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Xylene, m-,p-	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Xylene, o-	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Total Xylenes	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	1,1,1,2-Tetrachloroethane	mg/Kg	38	-	-	-	-	-	-	-
VOCs	1,1,1-Trichloroethane	mg/Kg	160000	-	-	-	-	-	-	-
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg	5.0	-	-	-	-	-	-	-
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/Kg	2400000	-	-	-	-	-	-	-
VOCs	1,1,2-Trichloroethane	mg/Kg	18	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethane	mg/Kg	180	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethene	mg/Kg	4000	-	-	-	-	-	-	-
VOCs	1,1-Dichloropropene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2,3-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2,3-Trichloropropane	mg/Kg	0.033	-	-	-	-	-	-	-
VOCs	1,2,4-Trichlorobenzene	mg/Kg	340	-	-	-	-	-	-	-
VOCs	1,2,4-Trimethylbenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2-Dibromo-3-Chloropropane	mg/Kg	1.2	-	-	-	-	-	-	-
VOCs	1,2-Dibromoethane	mg/Kg	0.50	-	-	-	-	-	-	-
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	mg/Kg	7200	-	-	-	-	-	-	-
VOCs	1,2-Dichloroethane	mg/Kg	11	-	-	-	-	-	-	-
VOCs	1,2-Dichloropropane	mg/Kg	28	-	-	-	-	-	-	-
VOCs	1,3,5-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,3,5-Trimethylbenzene	mg/Kg	800	-	-	-	-	-	-	-
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,3-Dichloropropane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	mg/Kg	20	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-9/D/7.5-9	LAI-10/D/5-5.5	LAI-10/D/7.5-8.0	LAI-11/D/10.5-11	LAI-11/D/7.5-9	LAI-13/D/8-9
				Location:	LAI-9	LAI-10	LAI-10	LAI-11	LAI-11	LAI-13
				Date:	09/06/00	09/07/00	09/07/00	09/08/00	09/07/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	2,2-Dichloropropane	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	mg/Kg	48000	--	--	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	mg/Kg	1600	--	--	--	--	--	--	--
VOCs	2-Hexanone	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	4-Chlorotoluene	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	mg/Kg	6400	--	--	--	--	--	--	--
VOCs	Acetone	mg/Kg	72000	--	--	--	--	--	--	--
VOCs	Acrolein	mg/Kg	40	--	--	--	--	--	--	--
VOCs	Acrylonitrile	mg/Kg	1.9	--	--	--	--	--	--	--
VOCs	Bromobenzene	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Bromochloromethane	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Bromodichloromethane	mg/Kg	16	--	--	--	--	--	--	--
VOCs	Bromoethane	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	mg/Kg	130	--	--	--	--	--	--	--
VOCs	Bromomethane	mg/Kg	110	--	--	--	--	--	--	--
VOCs	Carbon Disulfide	mg/Kg	8000	--	--	--	--	--	--	--
VOCs	Carbon Tetrachloride	mg/Kg	14	--	--	--	--	--	--	--
VOCs	Chlorobenzene	mg/Kg	1600	--	--	--	--	--	--	--
VOCs	Chloroethane	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Chloroform	mg/Kg	32	--	--	--	--	--	--	--
VOCs	Chloromethane	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	cis-1,2-Dichloroethene	mg/Kg	160	--	--	--	--	--	--	--
VOCs	cis-1,3-Dichloropropene	mg/Kg	10	--	--	--	--	--	--	--
VOCs	Dibromochloromethane	mg/Kg	12	--	--	--	--	--	--	--
VOCs	Dibromomethane	mg/Kg	800	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Hexachlorobutadiene	mg/Kg	13	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	mg/Kg	8000	--	--	--	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Methylene Chloride	mg/Kg	480	--	--	--	--	--	--	--
VOCs	n-Butylbenzene	mg/Kg	4000	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	mg/Kg	8000	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	mg/Kg	8000	--	--	--	--	--	--	--
VOCs	Styrene	mg/Kg	16000	--	--	--	--	--	--	--
VOCs	Tert-Butylbenzene	mg/Kg	8000	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	mg/Kg	480	--	--	--	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	mg/Kg	1600	--	--	--	--	--	--	--
VOCs	Trans-1,3-Dichloropropene	mg/Kg	10	--	--	--	--	--	--	--
VOCs	Trans-1,4-Dichloro-2-butene	mg/Kg	NE	--	--	--	--	--	--	--
VOCs	Trichloroethene	mg/Kg	0.0098	--	--	--	--	--	--	--
VOCs	Trichlorofluoromethane (CFC-11)	mg/Kg	24000	--	--	--	--	--	--	--
VOCs	Vinyl Acetate	mg/Kg	80000	--	--	--	--	--	--	--



				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-9/D/7.5-9	LAI-10/D/5-5.5	LAI-10/D/7.5-8.0	LAI-11/D/10.5-11	LAI-11/D/7.5-9	LAI-13/D/8-9
				Location:	LAI-9	LAI-10	LAI-10	LAI-11	LAI-11	LAI-13
				Date:	09/06/00	09/07/00	09/07/00	09/08/00	09/07/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	Vinyl Chloride	mg/Kg	0.67	-	-	-	-	-	-	-
PAHs	2-Methylnaphthalene	mg/Kg	320	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Acenaphthene	mg/Kg	4800	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Acenaphthylene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Anthracene	mg/Kg	24000	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Benzo(g,h,i)perylene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Dibenzofuran	mg/Kg	80	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Fluoranthene	mg/Kg	3200	0.086 U	0.075 U	0.084 U	0.14	-	-	0.078 U
PAHs	Fluorene	mg/Kg	3200	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Naphthalene	mg/Kg	1600	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Phenanthrene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Pyrene	mg/Kg	2400	0.086 U	0.075 U	0.084 U	0.11	-	-	0.078 U
PAHs	Benzo(a)pyrene	mg/Kg	30	0.086 U	0.075 U	0.084 U	0.11	-	-	0.078 U
PAHs	Benzo(a)anthracene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.088	-	-	0.078 U
PAHs	Benzo(b)fluoranthene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.12	-	-	0.078 U
PAHs	Benzo(k)fluoranthene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.1	-	-	0.078 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Indeno(1,2,3-c,d)pyrene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.082 U	-	-	0.078 U
PAHs	Chrysene	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.11	-	-	0.078 U
PAHs	Total cPAH TEQ (ND=0.5RL)	mg/Kg	0.14	0.0649 U	0.0566 U	0.0634 U	0.15	-	-	0.0589 U
SVOCs	2,4,5-Trichlorophenol	mg/Kg	29	-	-	-	-	-	-	-
SVOCs	2,4,6-Trichlorophenol	mg/Kg	0.058	-	-	-	-	-	-	-
SVOCs	2,4-Dichlorophenol	mg/Kg	0.17	-	-	-	-	-	-	-
SVOCs	2,4-Dimethylphenol	mg/Kg	1.3	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrophenol	mg/Kg	0.13	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrotoluene	mg/Kg	0.030	-	-	-	-	-	-	-
SVOCs	2,6-Dinitrotoluene	mg/Kg	0.027	-	-	-	-	-	-	-
SVOCs	2-Chloronaphthalene	mg/Kg	6400	-	-	-	-	-	-	-
SVOCs	2-Chlorophenol	mg/Kg	0.47	-	-	-	-	-	-	-
SVOCs	2-methylphenol (o-Cresol)	mg/Kg	4000	-	-	-	-	-	-	-
SVOCs	2-Nitroaniline	mg/Kg	800	-	-	-	-	-	-	-
SVOCs	2-Nitrophenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3 & 4 Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3,3'-Dichlorobenzidine	mg/Kg	2.2	-	-	-	-	-	-	-
SVOCs	3-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4,6-Dinitro-2-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Bromophenyl phenyl ether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloro-3-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloroaniline	mg/Kg	5.0	-	-	-	-	-	-	-
SVOCs	4-Chlorophenyl-Phenylether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitrophenol (p-Nitrophenol)	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	Benzoic Acid	mg/Kg	320000	-	-	-	-	-	-	-
SVOCs	Benzyl Alcohol	mg/Kg	8000	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-9/D/7.5-9	LAI-10/D/5-5.5	LAI-10/D/7.5-8.0	LAI-11/D/10.5-11	LAI-11/D/7.5-9	LAI-13/D/8-9
				Location:	LAI-9	LAI-10	LAI-10	LAI-11	LAI-11	LAI-13
				Date:	09/06/00	09/07/00	09/07/00	09/08/00	09/07/00	09/06/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
SVOCs	Bis(2-Chloroethoxy)Methane	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	mg/Kg	0.91	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	mg/Kg	71	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	mg/Kg	530	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	mg/Kg	800	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	mg/Kg	8000	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	mg/Kg	64000	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	mg/Kg	0.62	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	mg/Kg	480	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	mg/Kg	25	--	--	--	--	--	--	--
SVOCs	Isophorone	mg/Kg	1100	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	mg/Kg	0.14	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	mg/Kg	200	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	mg/Kg	160	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	mg/Kg	2.5	--	--	--	--	--	--	--
SVOCs	Phenol	mg/Kg	24000	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	mg/Kg	5.6	0.043 U	0.038 U	0.042 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1221	mg/Kg	NE	0.086 U	0.075 U	0.084 U	0.081 U	0.083 U	0.078 U	
PCBs	PCB-Aroclor 1232	mg/Kg	NE	0.043 U	0.038 U	0.042 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1242	mg/Kg	NE	0.043 U	0.038 U	0.042 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1248	mg/Kg	NE	0.043 U	0.053	0.042 U	0.2	0.041 U	0.049	
PCBs	PCB-Aroclor 1254	mg/Kg	0.50	0.043 U	0.026 J	0.042 U	0.15	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1260	mg/Kg	0.50	0.043 U	0.038 U	0.042 U	0.041 U	0.041 U	0.039 U	
PCBs	Total PCBs	mg/Kg	0.50	0.0860 U	0.0790	0.0840 U	0.35	0.0830 U	0.0490	

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-14/D/10.5-11	LAI-14/D/7.5-9	LAI-15/C/2.5-7.5	LAI-19/D/7.5-8.5 <sup>a</sup>	LAI-20/D/7.5-8.0 <sup>a</sup>	LAI-21/C/2.5-7.5 <sup>a</sup>
				Location:	LAI-14	LAI-14	LAI-15	LAI-17	LAI-18	LAI-19
				Date:	09/08/00	09/08/00	09/08/00	09/06/00	09/11/00	09/08/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
Fuels	Gasoline	mg/Kg	100	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	mg/Kg	460	6.7 U	8.1	36	27	480	78	
Fuels	Lube Oil-range Hydrocarbons	mg/Kg	2000	13 U	40	270	120	1000	450	
Metals	Arsenic	mg/Kg	20	30 U	30 U	5 U	20	60 U	5 U	
Metals	Cadmium	mg/Kg	25	-	-	-	-	-	-	-
Metals	Chromium	mg/Kg	48	66	3210	29.9	58	90	30.4	
Metals	Lead	mg/Kg	220	720	1330	22	978	1230	60	
Metals	Mercury	mg/Kg	9.0	-	-	-	-	-	-	-
Metals	Nickel	mg/Kg	100	-	-	-	-	-	-	-
Metals	Silver	mg/Kg	400	-	-	-	-	-	-	-
Metals	Zinc	mg/Kg	270	-	-	-	-	-	-	-
VOCs	Benzene	mg/Kg	18	-	-	-	-	-	-	-
VOCs	Toluene	mg/Kg	6400	-	-	-	-	-	-	-
VOCs	Ethylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Xylene, m-,p-	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Xylene, o-	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Total Xylenes	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	1,1,1,2-Tetrachloroethane	mg/Kg	38	-	-	-	-	-	-	-
VOCs	1,1,1-Trichloroethane	mg/Kg	160000	-	-	-	-	-	-	-
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg	5.0	-	-	-	-	-	-	-
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/Kg	2400000	-	-	-	-	-	-	-
VOCs	1,1,2-Trichloroethane	mg/Kg	18	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethane	mg/Kg	180	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethene	mg/Kg	4000	-	-	-	-	-	-	-
VOCs	1,1-Dichloropropene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2,3-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2,3-Trichloropropane	mg/Kg	0.033	-	-	-	-	-	-	-
VOCs	1,2,4-Trichlorobenzene	mg/Kg	340	-	-	-	-	-	-	-
VOCs	1,2,4-Trimethylbenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,2-Dibromo-3-Chloropropane	mg/Kg	1.2	-	-	-	-	-	-	-
VOCs	1,2-Dibromoethane	mg/Kg	0.50	-	-	-	-	-	-	-
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	mg/Kg	7200	-	-	-	-	-	-	-
VOCs	1,2-Dichloroethane	mg/Kg	11	-	-	-	-	-	-	-
VOCs	1,2-Dichloropropane	mg/Kg	28	-	-	-	-	-	-	-
VOCs	1,3,5-Trichlorobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,3,5-Trimethylbenzene	mg/Kg	800	-	-	-	-	-	-	-
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,3-Dichloropropane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	mg/Kg	20	-	-	-	-	-	-	-



				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-14/D/10.5-11	LAI-14/D/7.5-9	LAI-15/C/2.5-7.5	LAI-19/D/7.5-8.5 <sup>a</sup>	LAI-20/D/7.5-8.0 <sup>a</sup>	LAI-21/C/2.5-7.5 <sup>a</sup>
				Location:	LAI-14	LAI-14	LAI-15	LAI-17	LAI-18	LAI-19
				Date:	09/08/00	09/08/00	09/08/00	09/06/00	09/11/00	09/08/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	2,2-Dichloropropane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	2-Butanone (MEK)	mg/Kg	48000	-	-	-	-	-	-	-
VOCs	2-Chloroethyl vinyl ether	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	2-Chlorotoluene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	2-Hexanone	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	4-Chlorotoluene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	mg/Kg	6400	-	-	-	-	-	-	-
VOCs	Acetone	mg/Kg	72000	-	-	-	-	-	-	-
VOCs	Acrolein	mg/Kg	40	-	-	-	-	-	-	-
VOCs	Acrylonitrile	mg/Kg	1.9	-	-	-	-	-	-	-
VOCs	Bromobenzene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromochloromethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromodichloromethane	mg/Kg	16	-	-	-	-	-	-	-
VOCs	Bromoethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Bromoform (Tribromomethane)	mg/Kg	130	-	-	-	-	-	-	-
VOCs	Bromomethane	mg/Kg	110	-	-	-	-	-	-	-
VOCs	Carbon Disulfide	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Carbon Tetrachloride	mg/Kg	14	-	-	-	-	-	-	-
VOCs	Chlorobenzene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	Chloroethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Chloroform	mg/Kg	32	-	-	-	-	-	-	-
VOCs	Chloromethane	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	cis-1,2-Dichloroethene	mg/Kg	160	-	-	-	-	-	-	-
VOCs	cis-1,3-Dichloropropene	mg/Kg	10	-	-	-	-	-	-	-
VOCs	Dibromochloromethane	mg/Kg	12	-	-	-	-	-	-	-
VOCs	Dibromomethane	mg/Kg	800	-	-	-	-	-	-	-
VOCs	Dichlorodifluoromethane (CFC-12)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Hexachlorobutadiene	mg/Kg	13	-	-	-	-	-	-	-
VOCs	Isopropylbenzene (Cumene)	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Methyl Iodide (Iodomethane)	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Methylene Chloride	mg/Kg	480	-	-	-	-	-	-	-
VOCs	n-Butylbenzene	mg/Kg	4000	-	-	-	-	-	-	-
VOCs	n-Propylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	p-Isopropyltoluene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Sec-Butylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Styrene	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Tert-Butylbenzene	mg/Kg	8000	-	-	-	-	-	-	-
VOCs	Tetrachloroethene	mg/Kg	480	-	-	-	-	-	-	-
VOCs	Trans-1,2-Dichloroethene	mg/Kg	1600	-	-	-	-	-	-	-
VOCs	Trans-1,3-Dichloropropene	mg/Kg	10	-	-	-	-	-	-	-
VOCs	Trans-1,4-Dichloro-2-butene	mg/Kg	NE	-	-	-	-	-	-	-
VOCs	Trichloroethene	mg/Kg	0.0098	-	-	-	-	-	-	-
VOCs	Trichlorofluoromethane (CFC-11)	mg/Kg	24000	-	-	-	-	-	-	-
VOCs	Vinyl Acetate	mg/Kg	80000	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-14/D/10.5-11	LAI-14/D/7.5-9	LAI-15/C/2.5-7.5	LAI-19/D/7.5-8.5 <sup>a</sup>	LAI-20/D/7.5-8.0 <sup>a</sup>	LAI-21/C/2.5-7.5 <sup>a</sup>
				Location:	LAI-14	LAI-14	LAI-15	LAI-17	LAI-18	LAI-19
				Date:	09/08/00	09/08/00	09/08/00	09/06/00	09/11/00	09/08/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	Vinyl Chloride	mg/Kg	0.67	-	-	-	-	-	-	-
PAHs	2-Methylnaphthalene	mg/Kg	320	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Acenaphthene	mg/Kg	4800	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Acenaphthylene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Anthracene	mg/Kg	24000	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Benzo(g,h,i)perylene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Dibenzofuran	mg/Kg	80	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Fluoranthene	mg/Kg	3200	0.09 U	0.079 U	0.073 U	0.084	0.66 U	0.077 U	0.077 U
PAHs	Fluorene	mg/Kg	3200	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Naphthalene	mg/Kg	1600	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Phenanthrene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Pyrene	mg/Kg	2400	0.09 U	0.079 U	0.073 U	0.092	0.66 U	0.075 J	0.075 J
PAHs	Benzo(a)pyrene	mg/Kg	30	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Benzo(a)anthracene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Benzo(b)fluoranthene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Benzo(k)fluoranthene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Indeno(1,2,3-c,d)pyrene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.077 U	0.077 U
PAHs	Chrysene	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.66 U	0.084	0.084
PAHs	Total cPAH TEQ (ND=0.5RL)	mg/Kg	0.14	0.0680 U	0.0596 U	0.0551 U	0.0619 U	0.498 U	0.0586	0.0586
SVOCs	2,4,5-Trichlorophenol	mg/Kg	29	-	-	-	-	-	-	-
SVOCs	2,4,6-Trichlorophenol	mg/Kg	0.058	-	-	-	-	-	-	-
SVOCs	2,4-Dichlorophenol	mg/Kg	0.17	-	-	-	-	-	-	-
SVOCs	2,4-Dimethylphenol	mg/Kg	1.3	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrophenol	mg/Kg	0.13	-	-	-	-	-	-	-
SVOCs	2,4-Dinitrotoluene	mg/Kg	0.030	-	-	-	-	-	-	-
SVOCs	2,6-Dinitrotoluene	mg/Kg	0.027	-	-	-	-	-	-	-
SVOCs	2-Chloronaphthalene	mg/Kg	6400	-	-	-	-	-	-	-
SVOCs	2-Chlorophenol	mg/Kg	0.47	-	-	-	-	-	-	-
SVOCs	2-methylphenol (o-Cresol)	mg/Kg	4000	-	-	-	-	-	-	-
SVOCs	2-Nitroaniline	mg/Kg	800	-	-	-	-	-	-	-
SVOCs	2-Nitrophenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3 & 4 Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	3,3'-Dichlorobenzidine	mg/Kg	2.2	-	-	-	-	-	-	-
SVOCs	3-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4,6-Dinitro-2-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Bromophenyl phenyl ether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloro-3-Methylphenol	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Chloroaniline	mg/Kg	5.0	-	-	-	-	-	-	-
SVOCs	4-Chlorophenyl-Phenylether	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitroaniline	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	4-Nitrophenol (p-Nitrophenol)	mg/Kg	NE	-	-	-	-	-	-	-
SVOCs	Benzoic Acid	mg/Kg	320000	-	-	-	-	-	-	-
SVOCs	Benzyl Alcohol	mg/Kg	8000	-	-	-	-	-	-	-

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
				Sample ID:	LAI-14/D/10.5-11	LAI-14/D/7.5-9	LAI-15/C/2.5-7.5	LAI-19/D/7.5-8.5 <sup>a</sup>	LAI-20/D/7.5-8.0 <sup>a</sup>	LAI-21/C/2.5-7.5 <sup>a</sup>
				Location:	LAI-14	LAI-14	LAI-15	LAI-17	LAI-18	LAI-19
				Date:	09/08/00	09/08/00	09/08/00	09/06/00	09/11/00	09/08/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
SVOCs	Bis(2-Chloroethoxy)Methane	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	mg/Kg	0.91	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	mg/Kg	71	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	mg/Kg	530	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	mg/Kg	800	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	mg/Kg	8000	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	mg/Kg	64000	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	mg/Kg	NE	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	mg/Kg	0.62	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	mg/Kg	480	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	mg/Kg	25	--	--	--	--	--	--	--
SVOCs	Isophorone	mg/Kg	1100	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	mg/Kg	0.14	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	mg/Kg	200	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	mg/Kg	160	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	mg/Kg	2.5	--	--	--	--	--	--	--
SVOCs	Phenol	mg/Kg	24000	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	mg/Kg	5.6	0.045 U	0.04 U	0.037 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1221	mg/Kg	NE	0.09 U	0.079 U	0.073 U	0.082 U	0.082 U	0.077 U	
PCBs	PCB-Aroclor 1232	mg/Kg	NE	0.045 U	0.04 U	0.037 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1242	mg/Kg	NE	0.045 U	0.04 U	0.037 U	0.041 U	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1248	mg/Kg	NE	0.045 U	0.04 U	0.037 U	0.041 U	0.099	0.039 U	
PCBs	PCB-Aroclor 1254	mg/Kg	0.50	0.045 U	0.04 U	0.037 U	0.058	0.041 U	0.039 U	
PCBs	PCB-Aroclor 1260	mg/Kg	0.50	0.045 U	0.04 U	0.037 U	0.041 U	0.036 J	0.039 U	
PCBs	Total PCBs	mg/Kg	0.50	0.0900 U	0.0790 U	0.0730 U	0.0580	0.135	0.0770 U	

Notes:

<sup>a</sup> An incorrect location was included in the Sample ID on the original laboratory chain-of-custody. For example, the Sample ID for the soil sample at Location LAI-17 should have been LAI-17/D/2.5-7.5 and not LAI-19/D/2.5-7.5.

J = analyte was positively identified and the associated numerical value is an estimated quantity.

mg/Kg = milligrams per kilogram

NE = not established

U = analyte not detected, laboratory reporting limit shown.

Bolding indicates analyte was detected.

**Analyte was not detected in the sample; reporting limit exceeded the screening level.**

**Analyte concentration exceeded the screening level.**



**Table A-2**  
**Comprehensive Soil Data**  
 West Olympia Landfill Site  
 Olympia, Washington

		Sampling Event:		2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau	2000 Landau
		Sample ID:		LAI-4/D/15-15.5	LAI-5/D/25-26	LAI-7/D/17.5-19	LAI-11/D/17.5-19	LAI-15/D/22.5-24	LAI-19/D/16-16.5	LAI-20/D/13-14
		Location:		LAI-4	LAI-5	LAI-7	LAI-11	LAI-15	LAI-17	LAI-18
		Date:		09/07/00	09/07/00	09/07/00	09/08/00	09/08/00	09/06/00	09/11/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
Fuels	Gasoline	mg/Kg	100	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	mg/Kg	460	5.4 U	5.6 U	5.5 U	5.5 U	5.4 U	15	5.5 U
Fuels	Lube Oil-range Hydrocarbons	mg/Kg	2000	11 U	11 U	11 U	11 U	11 U	26	11 U
Metals	Arsenic	mg/Kg	20	5 U	10 U	10	5 U	5 U	5 U	5 U
Metals	Cadmium	mg/Kg	25	-	-	-	-	-	-	-
Metals	Chromium	mg/Kg	48	26.8	50	88	26.1	54.5	23.9	27.5
Metals	Lead	mg/Kg	220	29	391	501	4	13	35	6
Metals	Mercury	mg/Kg	9.0	-	-	-	-	-	-	-
Metals	Nickel	mg/Kg	100	-	-	-	-	-	-	-
Metals	Silver	mg/Kg	400	-	-	-	-	-	-	-
Metals	Zinc	mg/Kg	270	-	-	-	-	-	-	-
VOCs	Benzene	mg/Kg	18	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Toluene	mg/Kg	6400	0.0008 J	0.0006 J	0.0012 U	-	-	-	-
VOCs	Ethylbenzene	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Xylene, m-,p-	mg/Kg	16000	-	-	-	-	-	-	-
VOCs	Xylene, o-	mg/Kg	16000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Total Xylenes	mg/Kg	16000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1,1,2-Tetrachloroethane	mg/Kg	38	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1,1-Trichloroethane	mg/Kg	160000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg	5.0	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/Kg	2400000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1,2-Trichloroethane	mg/Kg	18	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1-Dichloroethane	mg/Kg	180	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1-Dichloroethene	mg/Kg	4000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,1-Dichloropropene	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,2,3-Trichlorobenzene	mg/Kg	NE	0.0011 U	0.0056 U	0.0059 U	-	-	-	-
VOCs	1,2,3-Trichloropropane	mg/Kg	0.033	0.0011 U	0.0022 U	0.0023 U	-	-	-	-
VOCs	1,2,4-Trichlorobenzene	mg/Kg	340	0.0011 U	0.0056 U	0.0059 U	-	-	-	-
VOCs	1,2,4-Trimethylbenzene	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,2-Dibromo-3-Chloropropane	mg/Kg	1.2	0.0011 U	0.0056 U	0.0059 U	-	-	-	-
VOCs	1,2-Dibromoethane	mg/Kg	0.50	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	mg/Kg	7200	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,2-Dichloroethane	mg/Kg	11	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,2-Dichloropropane	mg/Kg	28	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	1,3,5-Trichlorobenzene	mg/Kg	NE	0.0011 U	-	-	-	-	-	-
VOCs	1,3,5-Trimethylbenzene	mg/Kg	800	0.0011 U	0.0011 U	0.0012 U	-	-	-	-

				Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-4/D/15-15.5 LAI-4 09/07/00	2000 Landau LAI-5/D/25-26 LAI-5 09/07/00	2000 Landau LAI-7/D/17.5-19 LAI-7 09/07/00	2000 Landau LAI-11/D/17.5-19 LAI-11 09/08/00	2000 Landau LAI-15/D/22.5-24 LAI-15 09/08/00	2000 Landau LAI-19/D/16-16.5 LAI-17 09/06/00	2000 Landau LAI-20/D/13-14 LAI-18 09/11/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:								
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	1,3-Dichloropropane	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	mg/Kg	20	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	2,2-Dichloropropane	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	2-Butanone (MEK)	mg/Kg	48000	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	mg/Kg	NE	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	2-Chlorotoluene	mg/Kg	1600	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	2-Hexanone	mg/Kg	NE	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	4-Chlorotoluene	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	mg/Kg	6400	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	Acetone	mg/Kg	72000	0.0011 U	0.0096	0.012	--	--	--	--	--
VOCs	Acrolein	mg/Kg	40	0.0011 U	0.056 U	0.059 U	--	--	--	--	--
VOCs	Acrylonitrile	mg/Kg	1.9	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	Bromobenzene	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Bromochloromethane	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Bromodichloromethane	mg/Kg	16	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Bromoethane	mg/Kg	NE	0.0011 U	0.0022 U	0.0023 U	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	mg/Kg	130	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Bromomethane	mg/Kg	110	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Carbon Disulfide	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Carbon Tetrachloride	mg/Kg	14	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Chlorobenzene	mg/Kg	1600	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Chloroethane	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Chloroform	mg/Kg	32	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Chloromethane	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	cis-1,2-Dichloroethene	mg/Kg	160	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	cis-1,3-Dichloropropene	mg/Kg	10	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Dibromochloromethane	mg/Kg	12	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Dibromomethane	mg/Kg	800	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
VOCs	Hexachlorobutadiene	mg/Kg	13	0.0011 U	0.0056 U	0.0059 U	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Methylene Chloride	mg/Kg	480	0.0011 U	0.0033 U	0.0035 U	--	--	--	--	--
VOCs	n-Butylbenzene	mg/Kg	4000	0.0011 U	0.0022 U	0.0023 U	--	--	--	--	--
VOCs	n-Propylbenzene	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	p-Isopropyltoluene	mg/Kg	NE	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Sec-Butylbenzene	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Styrene	mg/Kg	16000	0.0011 U	0.0006 J	0.0012 U	--	--	--	--	--
VOCs	Tert-Butylbenzene	mg/Kg	8000	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Tetrachloroethene	mg/Kg	480	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	mg/Kg	1600	0.0011 U	0.0011 U	0.0012 U	--	--	--	--	--

			Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-4/D/15-15.5 LAI-4 09/07/00	2000 Landau LAI-5/D/25-26 LAI-5 09/07/00	2000 Landau LAI-7/D/17.5-19 LAI-7 09/07/00	2000 Landau LAI-11/D/17.5-19 LAI-11 09/08/00	2000 Landau LAI-15/D/22.5-24 LAI-15 09/08/00	2000 Landau LAI-19/D/16-16.5 LAI-17 09/06/00	2000 Landau LAI-20/D/13-14 LAI-18 09/11/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:							
VOCs	Trans-1,3-Dichloropropene	mg/Kg	10	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Trans-1,4-Dichloro-2-butene	mg/Kg	NE	0.0011 U	0.0056 U	0.0059 U	-	-	-	-
VOCs	Trichloroethene	mg/Kg	0.0098	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Trichlorofluoromethane (CFC-11)	mg/Kg	24000	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
VOCs	Vinyl Acetate	mg/Kg	80000	0.0011 U	0.0056 U	0.0059 U	-	-	-	-
VOCs	Vinyl Chloride	mg/Kg	0.67	0.0011 U	0.0011 U	0.0012 U	-	-	-	-
PAHs	2-Methylnaphthalene	mg/Kg	320	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Acenaphthene	mg/Kg	4800	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Acenaphthylene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Anthracene	mg/Kg	24000	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Benzo(g,h,i)perylene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Dibenzofuran	mg/Kg	80	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Fluoranthene	mg/Kg	3200	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Fluorene	mg/Kg	3200	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Naphthalene	mg/Kg	1600	0.0011 U	0.0056 U	0.0059 U	0.082	0.072 U	0.072 U	0.073 U
PAHs	Phenanthrene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Pyrene	mg/Kg	2400	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Benzo(a)pyrene	mg/Kg	30	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Benzo(a)anthracene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Benzo(b)fluoranthene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Benzo(k)fluoranthene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Indeno(1,2,3-c,d)pyrene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Chrysene	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.072 U	0.072 U	0.073 U
PAHs	Total cPAH TEQ (ND=0.5RL)	mg/Kg	0.14	0.0011 U	0.0559 U	0.0551 U	0.0551 U	0.0544 U	0.0544 U	0.0551 U
SVOCs	2,4,5-Trichlorophenol	mg/Kg	29	0.0011 U	-	-	-	-	-	-
SVOCs	2,4,6-Trichlorophenol	mg/Kg	0.058	0.0011 U	-	-	-	-	-	-
SVOCs	2,4-Dichlorophenol	mg/Kg	0.17	0.0011 U	-	-	-	-	-	-
SVOCs	2,4-Dimethylphenol	mg/Kg	1.3	0.0011 U	-	-	-	-	-	-
SVOCs	2,4-Dinitrophenol	mg/Kg	0.13	0.0011 U	-	-	-	-	-	-
SVOCs	2,4-Dinitrotoluene	mg/Kg	0.030	0.0011 U	-	-	-	-	-	-
SVOCs	2,6-Dinitrotoluene	mg/Kg	0.027	0.0011 U	-	-	-	-	-	-
SVOCs	2-Chloronaphthalene	mg/Kg	6400	0.0011 U	-	-	-	-	-	-
SVOCs	2-Chlorophenol	mg/Kg	0.47	0.0011 U	-	-	-	-	-	-
SVOCs	2-methylphenol (o-Cresol)	mg/Kg	4000	0.0011 U	-	-	-	-	-	-
SVOCs	2-Nitroaniline	mg/Kg	800	0.0011 U	-	-	-	-	-	-
SVOCs	2-Nitrophenol	mg/Kg	NE	0.0011 U	-	-	-	-	-	-
SVOCs	3 & 4 Methylphenol	mg/Kg	NE	0.0011 U	-	-	-	-	-	-
SVOCs	3,3'-Dichlorobenzidine	mg/Kg	2.2	0.0011 U	-	-	-	-	-	-
SVOCs	3-Nitroaniline	mg/Kg	NE	0.0011 U	-	-	-	-	-	-
SVOCs	4,6-Dinitro-2-Methylphenol	mg/Kg	NE	0.0011 U	-	-	-	-	-	-
SVOCs	4-Bromophenyl phenyl ether	mg/Kg	NE	0.0011 U	-	-	-	-	-	-



				Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-4/D/15-15.5 LAI-4 09/07/00	2000 Landau LAI-5/D/25-26 LAI-5 09/07/00	2000 Landau LAI-7/D/17.5-19 LAI-7 09/07/00	2000 Landau LAI-11/D/17.5-19 LAI-11 09/08/00	2000 Landau LAI-15/D/22.5-24 LAI-15 09/08/00	2000 Landau LAI-19/D/16-16.5 LAI-17 09/06/00	2000 Landau LAI-20/D/13-14 LAI-18 09/11/00
Parameter Group:	Parameter:	Unit(s):	Screening Level:								
SVOCs	4-Chloro-3-Methylphenol	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	mg/Kg	5.0	0.0011 U	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	mg/Kg	320000	0.0011 U	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	mg/Kg	8000	0.0011 U	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	mg/Kg	0.91	0.0011 U	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	mg/Kg	71	0.0011 U	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	mg/Kg	530	0.0011 U	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	mg/Kg	800	0.0011 U	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	mg/Kg	8000	0.0011 U	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	mg/Kg	64000	0.0011 U	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	mg/Kg	NE	0.0011 U	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	mg/Kg	0.62	0.0011 U	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	mg/Kg	480	0.0011 U	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	mg/Kg	25	0.0011 U	--	--	--	--	--	--	--
SVOCs	Isophorone	mg/Kg	1100	0.0011 U	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	mg/Kg	0.14	0.0011 U	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	mg/Kg	200	0.0011 U	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	mg/Kg	160	0.0011 U	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	mg/Kg	2.5	0.0011 U	--	--	--	--	--	--	--
SVOCs	Phenol	mg/Kg	24000	0.0011 U	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	mg/Kg	5.6	0.0011 U	0.037 U	0.037 U	0.036 U	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	PCB-Aroclor 1221	mg/Kg	NE	0.0011 U	0.074 U	0.073 U	0.073 U	0.073 U	0.073 U	0.072 U	0.073 U
PCBs	PCB-Aroclor 1232	mg/Kg	NE	0.0011 U	0.037 U	0.037 U	0.036 U	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	PCB-Aroclor 1242	mg/Kg	NE	0.0011 U	0.037 U	0.037 U	0.036 U	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	PCB-Aroclor 1248	mg/Kg	NE	0.0011 U	0.037 U	0.037 U	0.22	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	PCB-Aroclor 1254	mg/Kg	0.50	0.0011 U	0.037 U	0.037 U	0.094	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	PCB-Aroclor 1260	mg/Kg	0.50	0.0011 U	0.037 U	0.037 U	0.036 U	0.036 U	0.036 U	0.036 U	0.037 U
PCBs	Total PCBs	mg/Kg	0.50	0.0011 U	0.0740 U	0.0730 U	0.314	0.0730 U	0.0720 U	0.0720 U	0.0730 U

		Sampling Event:		2000 Landau	2005 Landau	2005 Landau	2005 Landau
		Sample ID:		LAI-21/C/20.5-25	LAI-5D (119-121)	LAI-5D (136-138)	LAI-5D (146-148)
		Location:		LAI-19	LAI-5d	LAI-5d	LAI-5d
		Date:		09/08/00	09/27/05	09/27/05	09/26/05
Parameter Group:	Parameter:	Unit(s):	Screening Level:				
Fuels	Gasoline	mg/Kg	100	-	23.2 U	19.5 U	21 U
Fuels	Diesel-range hydrocarbons	mg/Kg	460	12	58.1 U	48.7 U	52.5 U
Fuels	Lube Oil-range Hydrocarbons	mg/Kg	2000	24	116 U	97.3 U	105 U
Metals	Arsenic	mg/Kg	20	5 U	4.89 U	4.39 U	4.29 U
Metals	Cadmium	mg/Kg	25	-	0.489 U	0.615 U	0.601 U
Metals	Chromium	mg/Kg	48	25.1	27.5	18.8	18.9
Metals	Lead	mg/Kg	220	3	2.04	1.85	1.77
Metals	Mercury	mg/Kg	9.0	-	0.019 U	0.0199 U	0.0218 U
Metals	Nickel	mg/Kg	100	-	33.1	26.3	23.7 U
Metals	Silver	mg/Kg	400	-	1.96 U	1.76 U	1.72 U
Metals	Zinc	mg/Kg	270	-	30.9	30.2	25.3
VOCs	Benzene	mg/Kg	18	-	0.049 U	0.0387 U	0.0439 U
VOCs	Toluene	mg/Kg	6400	-	0.049 U	0.0387 U	0.0439 U
VOCs	Ethylbenzene	mg/Kg	8000	-	0.049 U	0.0387 U	0.0439 U
VOCs	Xylene, m-,p-	mg/Kg	16000	-	0.0981 U	0.0774 U	0.0879 U
VOCs	Xylene, o-	mg/Kg	16000	-	0.049 U	0.0387 U	0.0439 U
VOCs	Total Xylenes	mg/Kg	16000	-	-	-	-
VOCs	1,1,1,2-Tetrachloroethane	mg/Kg	38	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1,1-Trichloroethane	mg/Kg	160000	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1,2,2-Tetrachloroethane	mg/Kg	5.0	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	mg/Kg	2400000	-	-	-	-
VOCs	1,1,2-Trichloroethane	mg/Kg	18	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1-Dichloroethane	mg/Kg	180	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1-Dichloroethene	mg/Kg	4000	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,1-Dichloropropene	mg/Kg	NE	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2,3-Trichlorobenzene	mg/Kg	NE	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2,3-Trichloropropane	mg/Kg	0.033	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2,4-Trichlorobenzene	mg/Kg	340	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2,4-Trimethylbenzene	mg/Kg	NE	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2-Dibromo-3-Chloropropane	mg/Kg	1.2	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2-Dibromoethane	mg/Kg	0.50	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	mg/Kg	7200	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2-Dichloroethane	mg/Kg	11	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,2-Dichloropropane	mg/Kg	28	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,3,5-Trichlorobenzene	mg/Kg	NE	-	0.049 U	0.0387 U	0.0439 U
VOCs	1,3,5-Trimethylbenzene	mg/Kg	800	-	0.049 U	0.0387 U	0.0439 U

				Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-21/C/20.5-25 LAI-19 09/08/00	2005 Landau LAI-5D (119-121) LAI-5d 09/27/05	2005 Landau LAI-5D (136-138) LAI-5d 09/27/05	2005 Landau LAI-5D (146-148) LAI-5d 09/26/05
Parameter Group:	Parameter:	Unit(s):	Screening Level:					
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	mg/Kg	NE	--	0.0606 U	0.0387 U	0.0439 U	
VOCs	1,3-Dichloropropane	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	mg/Kg	20	--	0.049 U	0.0387 U	0.0439 U	
VOCs	2,2-Dichloropropane	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	2-Butanone (MEK)	mg/Kg	48000	--	--	--	--	
VOCs	2-Chloroethyl vinyl ether	mg/Kg	NE	--	--	--	--	
VOCs	2-Chlorotoluene	mg/Kg	1600	--	0.049 U	0.0387 U	0.0439 U	
VOCs	2-Hexanone	mg/Kg	NE	--	--	--	--	
VOCs	4-Chlorotoluene	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	mg/Kg	6400	--	--	--	--	
VOCs	Acetone	mg/Kg	72000	--	--	--	--	
VOCs	Acrolein	mg/Kg	40	--	--	--	--	
VOCs	Acrylonitrile	mg/Kg	1.9	--	--	--	--	
VOCs	Bromobenzene	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Bromochloromethane	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Bromodichloromethane	mg/Kg	16	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Bromoethane	mg/Kg	NE	--	--	--	--	
VOCs	Bromoform (Tribromomethane)	mg/Kg	130	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Bromomethane	mg/Kg	110	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Carbon Disulfide	mg/Kg	8000	--	--	--	--	
VOCs	Carbon Tetrachloride	mg/Kg	14	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Chlorobenzene	mg/Kg	1600	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Chloroethane	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Chloroform	mg/Kg	32	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Chloromethane	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	cis-1,2-Dichloroethene	mg/Kg	160	--	0.049 U	0.0387 U	0.0439 U	
VOCs	cis-1,3-Dichloropropene	mg/Kg	10	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Dibromochloromethane	mg/Kg	12	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Dibromomethane	mg/Kg	800	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Dichlorodifluoromethane (CFC-12)	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Hexachlorobutadiene	mg/Kg	13	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Isopropylbenzene (Cumene)	mg/Kg	8000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Methyl Iodide (Iodomethane)	mg/Kg	NE	--	--	--	--	
VOCs	Methylene Chloride	mg/Kg	480	--	0.049 U	0.0387 U	0.0439 U	
VOCs	n-Butylbenzene	mg/Kg	4000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	n-Propylbenzene	mg/Kg	8000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	p-Isopropyltoluene	mg/Kg	NE	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Sec-Butylbenzene	mg/Kg	8000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Styrene	mg/Kg	16000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Tert-Butylbenzene	mg/Kg	8000	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Tetrachloroethene	mg/Kg	480	--	0.049 U	0.0387 U	0.0439 U	
VOCs	Trans-1,2-Dichloroethene	mg/Kg	1600	--	0.049 U	0.0387 U	0.0439 U	



		Sampling Event:		2000 Landau	2005 Landau	2005 Landau	2005 Landau
		Sample ID:		LAI-21/C/20.5-25	LAI-5D (119-121)	LAI-5D (136-138)	LAI-5D (146-148)
		Location:		LAI-19	LAI-5d	LAI-5d	LAI-5d
		Date:		09/08/00	09/27/05	09/27/05	09/26/05
Parameter Group:	Parameter:	Unit(s):	Screening Level:				
VOCs	Trans-1,3-Dichloropropene	mg/Kg	10	-	0.049 U	0.0387 U	0.0439 U
VOCs	Trans-1,4-Dichloro-2-butene	mg/Kg	NE	-	-	-	-
VOCs	Trichloroethene	mg/Kg	0.0098	-	0.049 U	0.0387 U	0.0439 U
VOCs	Trichlorofluoromethane (CFC-11)	mg/Kg	24000	-	0.049 U	0.0387 U	0.0439 U
VOCs	Vinyl Acetate	mg/Kg	80000	-	-	-	-
VOCs	Vinyl Chloride	mg/Kg	0.67	-	0.049 U	0.0387 U	0.0439 U
PAHs	2-Methylnaphthalene	mg/Kg	320	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Acenaphthene	mg/Kg	4800	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Acenaphthylene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Anthracene	mg/Kg	24000	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Benzo(g,h,i)perylene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Dibenzofuran	mg/Kg	80	0.071 U	0.0606 U	0.0539 U	0.0547 U
PAHs	Fluoranthene	mg/Kg	3200	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Fluorene	mg/Kg	3200	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Naphthalene	mg/Kg	1600	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Phenanthrene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Pyrene	mg/Kg	2400	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Benzo(a)pyrene	mg/Kg	30	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Benzo(a)anthracene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Benzo(b)fluoranthene	mg/Kg	NE	0.071 U	0.0215 U	0.0215 U	0.0219 U
PAHs	Benzo(k)fluoranthene	mg/Kg	NE	0.071 U	0.0215 U	0.0215 U	0.0219 U
PAHs	Dibenzo(a,h)anthracene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Indeno(1,2,3-c,d)pyrene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Chrysene	mg/Kg	NE	0.071 U	0.0242 U	0.0215 U	0.0219 U
PAHs	Total cPAH TEQ (ND=0.5RL)	mg/Kg	0.14	0.0536 U	0.0180 U	0.0162 U	0.0165 U
SVOCs	2,4,5-Trichlorophenol	mg/Kg	29	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2,4,6-Trichlorophenol	mg/Kg	0.058	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2,4-Dichlorophenol	mg/Kg	0.17	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2,4-Dimethylphenol	mg/Kg	1.3	-	0.0242 U	0.0215 U	0.0219 U
SVOCs	2,4-Dinitrophenol	mg/Kg	0.13	-	0.606 U	0.539 U	0.547 U
SVOCs	2,4-Dinitrotoluene	mg/Kg	0.030	-	0.121 U	0.108 U	0.109 U
SVOCs	2,6-Dinitrotoluene	mg/Kg	0.027	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2-Chloronaphthalene	mg/Kg	6400	-	0.0242 U	0.0215 U	0.0219 U
SVOCs	2-Chlorophenol	mg/Kg	0.47	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2-methylphenol (o-Cresol)	mg/Kg	4000	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	2-Nitroaniline	mg/Kg	800	-	0.0242 U	0.0215 U	0.0219 U
SVOCs	2-Nitrophenol	mg/Kg	NE	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	3 & 4 Methylphenol	mg/Kg	NE	-	0.0606 U	0.0539 U	0.0547 U
SVOCs	3,3'-Dichlorobenzidine	mg/Kg	2.2	-	0.242 U	0.215 U	0.219 U
SVOCs	3-Nitroaniline	mg/Kg	NE	-	0.121 U	0.108 U	0.109 U
SVOCs	4,6-Dinitro-2-Methylphenol	mg/Kg	NE	-	0.121 U	0.108 U	0.109 U
SVOCs	4-Bromophenyl phenyl ether	mg/Kg	NE	-	0.121 U	0.108 U	0.109 U

				Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-21/C/20.5-25 LAI-19 09/08/00	2005 Landau LAI-5D (119-121) LAI-5d 09/27/05	2005 Landau LAI-5D (136-138) LAI-5d 09/27/05	2005 Landau LAI-5D (146-148) LAI-5d 09/26/05
Parameter Group:	Parameter:	Unit(s):	Screening Level:					
SVOCs	4-Chloro-3-Methylphenol	mg/Kg	NE	–	0.0606 U	0.0539 U	0.0547 U	
SVOCs	4-Chloroaniline	mg/Kg	5.0	–	0.121 U	0.108 U	0.109 U	
SVOCs	4-Chlorophenyl-Phenylether	mg/Kg	NE	–	0.121 U	0.108 U	0.109 U	
SVOCs	4-Nitroaniline	mg/Kg	NE	–	0.242 U	0.215 U	0.219 U	
SVOCs	4-Nitrophenol (p-Nitrophenol)	mg/Kg	NE	–	0.606 U	0.539 U	0.547 U	
SVOCs	Benzoic Acid	mg/Kg	320000	–	0.727 U	0.646 U	0.657 U	
SVOCs	Benzyl Alcohol	mg/Kg	8000	–	0.0606 U	0.0539 U	0.0547 U	
SVOCs	Bis(2-Chloroethoxy)Methane	mg/Kg	NE	–	0.121 U	0.108 U	0.109 U	
SVOCs	Bis(2-Chloroethyl)Ether	mg/Kg	0.91	–	0.121 U	0.108 U	0.109 U	
SVOCs	Bis(2-chloroisopropyl) ether	mg/Kg	NE	–	0.303 U	0.269 U	0.274 U	
SVOCs	Bis(2-Ethylhexyl) Phthalate	mg/Kg	71	–	0.242 U	0.215 U	0.219 U	
SVOCs	Butyl benzyl Phthalate	mg/Kg	530	–	0.242 U	0.215 U	0.219 U	
SVOCs	Di-N-Octyl Phthalate	mg/Kg	800	–	0.242 U	0.215 U	0.219 U	
SVOCs	Dibutyl Phthalate	mg/Kg	8000	–	0.121 U	0.108 U	0.109 U	
SVOCs	Diethyl Phthalate	mg/Kg	64000	–	0.121 U	0.108 U	0.109 U	
SVOCs	Dimethyl Phthalate	mg/Kg	NE	–	0.121 U	0.108 U	0.109 U	
SVOCs	Hexachlorobenzene	mg/Kg	0.62	–	0.0242 U	0.0215 U	0.0219 U	
SVOCs	Hexachlorocyclopentadiene	mg/Kg	480	–	0.0606 U	0.0539 U	0.0547 U	
SVOCs	Hexachloroethane	mg/Kg	25	–	0.0606 U	0.0539 U	0.0547 U	
SVOCs	Isophorone	mg/Kg	1100	–	0.121 U	0.108 U	0.109 U	
SVOCs	N-Nitrosodi-n-propylamine	mg/Kg	0.14	–	0.0606 U	0.0539 U	0.0547 U	
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	mg/Kg	200	–	0.0242 U	0.0215 U	0.0219 U	
SVOCs	Nitrobenzene	mg/Kg	160	–	0.121 U	0.108 U	0.109 U	
SVOCs	Pentachlorophenol	mg/Kg	2.5	–	0.121 U	0.108 U	0.109 U	
SVOCs	Phenol	mg/Kg	24000	–	0.0606 U	0.0539 U	0.0547 U	
PCBs	PCB-Aroclor 1016	mg/Kg	5.6	0.036 U	–	–	–	
PCBs	PCB-Aroclor 1221	mg/Kg	NE	0.071 U	0.1 U	0.1 U	0.1 U	
PCBs	PCB-Aroclor 1232	mg/Kg	NE	0.036 U	0.1 U	0.1 U	0.1 U	
PCBs	PCB-Aroclor 1242	mg/Kg	NE	0.036 U	0.01 U	0.01 U	0.01 U	
PCBs	PCB-Aroclor 1248	mg/Kg	NE	0.018 J	0.01 U	0.01 U	0.01 U	
PCBs	PCB-Aroclor 1254	mg/Kg	0.50	0.036 U	0.01 U	0.01 U	0.01 U	
PCBs	PCB-Aroclor 1260	mg/Kg	0.50	0.036 U	0.01 U	0.01 U	0.01 U	
PCBs	Total PCBs	mg/Kg	0.50	0.0180	–	–	–	

**Notes:**

J = analyte was positively identified and the associated numerical value is an estimated quantity.

mg/Kg = milligrams per kilogram

NE = not established

U = analyte not detected, laboratory reporting limit shown.

Bolding indicates analyte was detected.

**Analyte was not detected in the sample; reporting limit exceeded the screening level.**

**Analyte concentration exceeded the screening level.**

**Table A-3**  
**Comprehensive Groundwater Data**  
 West Olympia Landfill Site  
 Olympia, Washington

					Sampling Event: Sample ID: Location: Date:	2000 Landau LAI-1_000725 LAI-1 07/25/00	2000 Landau LAI-2_000725 LAI-2 07/25/00	2000 Landau LAI-3_000725 LAI-3 07/25/00	2004 Landau LAI-1_040618 LAI-1 06/18/04	2004 Landau LAI-2_040618 LAI-2 06/18/04	2004 Landau LAI-3_040618 LAI-3 06/18/04	2004 Landau LAI-MW-1_040618 LAI-MW-1 06/18/04	2004 Landau LAI-MW-2_040618 LAI-MW-2 06/18/04
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	250 U	250 U	250 U	99.4 U	94.3 U	95.1 U	97.6 U	116 U	
Fuels	Diesel-range hydrocarbons	µg/L	T	500	250 U	250 U	250 U	249 U	236 U	238 U	244 U	289 U	
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	500 U	500 U	500 U	497 U	472 U	475 U	488 U	578 U	
Metals	Aluminum	µg/L	T	16000	--	--	--	--	--	--	--	--	
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	--	--	--	
Metals	Antimony	µg/L	T	6.0	--	--	--	--	--	--	--	--	
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	--	--	--	
Metals	Arsenic	µg/L	T	5.0	--	--	--	20 U	20 U	20 U	29.8	211	
Metals	Arsenic	µg/L	D	5.0	0.6	1.3	0.4	20 U	20 U	20 U	20 U	20 U	
Metals	Barium	µg/L	T	2000	--	--	--	--	--	--	--	--	
Metals	Barium	µg/L	D	2000	--	--	--	--	--	--	--	--	
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	--	--	--	--	
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	--	--	--	
Metals	Cadmium	µg/L	T	5.0	2 U	2 U	2 U	5 U	5 U	5 U	5 U	5 U	
Metals	Cadmium	µg/L	D	5.0	--	--	--	5 U	5 U	5 U	5 U	5 U	
Metals	Calcium	µg/L	T	NE	--	--	--	--	--	--	--	--	
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	--	--	--	
Metals	Chromium	µg/L	T	100	5 U	5 U	5 U	54.8	27.4	62.2	303	1770	
Metals	Chromium	µg/L	D	100	--	--	--	10 U	10 U	10 U	10 U	10 U	
Metals	Cobalt	µg/L	T	100	--	--	--	--	--	--	--	--	
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	--	--	--	
Metals	Copper	µg/L	T	640	--	--	--	--	--	--	--	--	
Metals	Copper	µg/L	D	640	--	--	--	--	--	--	--	--	
Metals	Iron	µg/L	T	11000	--	--	--	33600	10600	20100	79600	520000	
Metals	Iron	µg/L	D	11000	--	--	--	--	--	--	--	--	
Metals	Lead	µg/L	T	15	1 U	1 U	1 U	10 U	0.5 U	10 U	13.4	99.2	
Metals	Lead	µg/L	D	15	--	--	--	10 U	10 U	10 U	10 U	10 U	
Metals	Magnesium	µg/L	T	NE	--	--	--	30300	11500	11200	32300	166000	
Metals	Magnesium	µg/L	D	NE	--	--	--	20900	9110	6170	9610	10600	
Metals	Manganese	µg/L	T	2200	--	--	--	--	--	--	--	--	
Metals	Manganese	µg/L	D	2200	--	--	--	--	--	--	--	--	
Metals	Mercury	µg/L	T	0.89	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.215	1.1	
Metals	Mercury	µg/L	D	0.89	--	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Metals	Nickel	µg/L	T	100	--	--	--	--	--	--	--	--	
Metals	Nickel	µg/L	D	100	--	--	--	--	--	--	--	--	
Metals	Potassium	µg/L	T	NE	--	--	--	--	--	--	--	--	
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	--	--	--	
Metals	Selenium	µg/L	T	50	--	--	--	--	--	--	--	--	
Metals	Selenium	µg/L	D	50	--	--	--	--	--	--	--	--	
Metals	Silver	µg/L	T	80	--	--	--	10 U	10 U	10 U	10 U	10 U	
Metals	Silver	µg/L	D	80	--	--	--	10 U	10 U	10 U	10 U	10 U	
Metals	Sodium	µg/L	T	NE	--	--	--	--	--	--	--	--	
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	--	--	--	
Metals	Thallium	µg/L	T	1.0	--	--	--	--	--	--	--	--	



				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau
				Sample ID:	LAI-1_000725	LAI-2_000725	LAI-3_000725	LAI-1_040618	LAI-2_040618	LAI-3_040618	LAI-MW-1_040618	LAI-MW-2_040618
				Location:	LAI-1	LAI-2	LAI-3	LAI-1	LAI-2	LAI-3	LAI-MW-1	LAI-MW-2
				Date:	07/25/00	07/25/00	07/25/00	06/18/04	06/18/04	06/18/04	06/18/04	06/18/04
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	--	--	--	105	41.8	55.1	168	1530
Metals	Zinc	µg/L	D	4800	--	--	--	50 U	50 U	50 U	50 U	50 U
VOCs	Benzene	µg/L	T	2.4	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Toluene	µg/L	T	640	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Ethylbenzene	µg/L	T	700	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	Xylene, o-	µg/L	T	440	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Total Xylenes	µg/L	T	290	1.0 U	1.0 U	1.0 U	2 U	2 U	2 U	2 U	10 U
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1,1-Trichloroethane	µg/L	T	200	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	2.0 U	2.0 U	2.0 U	--	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	5.0 U	5.0 U	5.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	3.0 U	3.0 U	3.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	5.0 U	5.0 U	5.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	1 U	1 U	1 U	1 U	5 U
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	2-Butanone (MEK)	µg/L	T	4800	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	2-Hexanone	µg/L	T	NE	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Bromochloromethane	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Bromodichloromethane	µg/L	T	1.8	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Bromoethane	µg/L	T	NE	2.0 U	2.0 U	2.0 U	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Bromomethane	µg/L	T	11	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Carbon Disulfide	µg/L	T	400	1.0 U	1.0 U	1.0 U	--	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U

				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau
				Sample ID:	LAI-1_000725	LAI-2_000725	LAI-3_000725	LAI-1_040618	LAI-2_040618	LAI-3_040618	LAI-MW-1_040618	LAI-MW-2_040618
				Location:	LAI-1	LAI-2	LAI-3	LAI-1	LAI-2	LAI-3	LAI-MW-1	LAI-MW-2
				Date:	07/25/00	07/25/00	07/25/00	06/18/04	06/18/04	06/18/04	06/18/04	06/18/04
VOCs	Chlorobenzene	µg/L	T	100	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Chloroethane	µg/L	T	18000	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Chloroform	µg/L	T	1.2	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Chloromethane	µg/L	T	150	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	5.0	1.0 U	1.0 U	3.82	1 U	1 U	1 U	5 U
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Cyclohexane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Dibromomethane	µg/L	T	80	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	--	1 U	1 U	1 U	1 U	5 U
VOCs	Hexachlorobutadiene	µg/L	T	0.56	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	1.0 U	1.0 U	1.0 U	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	--	--	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	2.0 U	2.0 U	2.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	n-Butylbenzene	µg/L	T	400	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	n-Propylbenzene	µg/L	T	800	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	p-Isopropyltoluene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Sec-Butylbenzene	µg/L	T	800	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Styrene	µg/L	T	100	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Tert-Butylbenzene	µg/L	T	800	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Tetrachloroethene	µg/L	T	5.0	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	66	1.0 U	1.0 U	38.4	3.47	1 U	1 U	14.1
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	5 U
VOCs	Vinyl Acetate	µg/L	T	7800	5.0 U	5.0 U	5.0 U	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	1.0 U	1.0 U	1.0 U	0.4 U	0.4 U	0.4 U	0.4 U	2 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	1.0 U	1.0 U	1.0 U	0.0193 U	0.0238	0.0109	0.0195 U	0.0683
PAHs	Acenaphthene	µg/L	T	960	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Acenaphthylene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Anthracene	µg/L	T	4800	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Fluoranthene	µg/L	T	640	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Fluorene	µg/L	T	640	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0169
PAHs	Naphthalene	µg/L	T	8.9	1.0 U	1.0 U	1.0 U	0.0482 U	0.0634	0.0486 U	0.0488 U	0.447
PAHs	Phenanthrene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.0106	0.0195 U	0.0195 U	0.0208
PAHs	Pyrene	µg/L	T	480	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Benzo(a)pyrene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Benzo(a)anthracene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	--	--	--	--	--
PAHs	Benzo(a,h)anthracene	µg/L	T	NE	--	--	--	0.0964 U	0.0951 U	0.0973 U	0.0977 U	0.113 U
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Chrysene	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U	0.0225 U
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.755 U	0.755 U	0.755 U	0.0175 U	0.0172 U	0.0176 U	0.0177 U	0.0204 U
PAHs	Dibenzofuran	µg/L	T	16	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--

		Sampling Event:		2000 Landau	2000 Landau	2000 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau
		Sample ID:		LAI-1_000725	LAI-2_000725	LAI-3_000725	LAI-1_040618	LAI-2_040618	LAI-3_040618	LAI-MW-1_040618	LAI-MW-2_040618
		Location:		LAI-1	LAI-2	LAI-3	LAI-1	LAI-2	LAI-3	LAI-MW-1	LAI-MW-2
		Date:		07/25/00	07/25/00	07/25/00	06/18/04	06/18/04	06/18/04	06/18/04	06/18/04
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2,4-Dichlorophenol	µg/L	T	24	3.0 U	3.0 U	3.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2,4-Dimethylphenol	µg/L	T	160	3.0 U	3.0 U	3.0 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	2,4-Dinitrophenol	µg/L	T	32	10 U	10 U	10 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2-Chloronaphthalene	µg/L	T	640	1.0 U	1.0 U	1.0 U	0.0193 U	0.019 U	0.0195 U	0.0195 U
SVOCs	2-Chlorophenol	µg/L	T	40	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2-Nitroaniline	µg/L	T	160	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	2-Nitrophenol	µg/L	T	NE	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	3-Nitroaniline	µg/L	T	NE	6.0 U	6.0 U	6.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	10 U	10 U	10 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	4-Chloroaniline	µg/L	T	5.0	3.0 U	3.0 U	3.0 U	0.289 U	0.285 U	0.292 U	0.293 U
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	1.0 U	1.0 U	1.0 U	0.386 U	0.381 U	0.389 U	0.391 U
SVOCs	4-Nitroaniline	µg/L	T	NE	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	5.0 U	5.0 U	5.0 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	10 U	10 U	10 U	0.964 U	0.951 U	0.973 U	0.977 U
SVOCs	Benzyl Alcohol	µg/L	T	800	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	1.2	1.0 U	1.0 U	1.45 U	1.43 U	1.46 U	1.46 U
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	1.0 U	1.0 U	1.0 U	0.289 U	0.233	0.292 U	0.293 U
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--



				Sampling Event:	2000 Landau	2000 Landau	2000 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau	2004 Landau
				Sample ID:	LAI-1_000725	LAI-2_000725	LAI-3_000725	LAI-1_040618	LAI-2_040618	LAI-3_040618	LAI-MW-1_040618	LAI-MW-2_040618
				Location:	LAI-1	LAI-2	LAI-3	LAI-1	LAI-2	LAI-3	LAI-MW-1	LAI-MW-2
				Date:	07/25/00	07/25/00	07/25/00	06/18/04	06/18/04	06/18/04	06/18/04	06/18/04
SVOCs	Carbazole	µg/L	T	NE	1.0 U	1.0 U	1.0 U	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Dibutyl Phthalate	µg/L	T	1600	1.0 U	1.0 U	1.0 U	0.331	0.258	0.23	0.238	0.283
SVOCs	Diethyl Phthalate	µg/L	T	13000	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Dimethyl Phthalate	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	5.0 U	5.0 U	5.0 U	0.964 U	0.951 U	0.973 U	0.977 U	1.13 U
SVOCs	Hexachloroethane	µg/L	T	1.1	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Isophorone	µg/L	T	46	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Nitrobenzene	µg/L	T	16	1.0 U	1.0 U	1.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
SVOCs	Pentachlorophenol	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.286
SVOCs	Phenol	µg/L	T	2400	2.0 U	2.0 U	2.0 U	0.193 U	0.19 U	0.195 U	0.195 U	0.225 U
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1221	µg/L	T	NE	2.0 U	2.0 U	2.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1232	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1242	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1248	µg/L	T	NE	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	1.0 U	1.0 U	1.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
PCBs	Total PCBs	µg/L	T	0.44	2.0 U	2.0 U	2.0 U	0.0972 U	0.0952 U	0.0952 U	0.0967 U	0.112 U
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	4.19	2.59	2.6	2.89	5.37
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	2.08	0.74	1.51	0.78	1.71
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	112	26.7	42	57.6	48.5
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	2.79	1.68	2.12	3.16	24.4

					Sampling Event:	2004 Landau	2004 Landau	2004 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau
					Sample ID:	LAI-MW-3_040618	LAI-MW-4_040618	LAI-MW-41_0406181	LAI-1_050303	LAI-2_050303	LAI-3_050303	LAI-5D-QVA	LAI-5D-QC
					Location:	LAI-MW-3	LAI-MW-4	LAI-MW-41	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-5d
					Date:	6/17/2004	6/17/2004	6/17/2004	03/03/05	03/03/05	03/03/05	09/26/05	09/28/05
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	94.5 U	98.7 U	98.5 U	-	-	-	-	200 U	95.4 U
Fuels	Diesel-range hydrocarbons	µg/L	T	500	236 U	247 U	246 U	-	-	-	-	2630 J	239 U
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	473 U	494 U	493 U	-	-	-	-	10400 J	477 U
Metals	Aluminum	µg/L	T	16000	-	-	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	D	16000	-	-	-	-	-	-	-	-	-
Metals	Antimony	µg/L	T	6.0	-	-	-	-	-	-	-	-	-
Metals	Antimony	µg/L	D	6.0	-	-	-	-	-	-	-	-	-
Metals	Arsenic	µg/L	T	5.0	40.6	187	148	-	-	-	-	145	5 U
Metals	Arsenic	µg/L	D	5.0	20 U	20 U	20 U	0.6 U	0.6 U	0.6 U	-	50 U	1.57
Metals	Barium	µg/L	T	2000	-	-	-	-	-	-	-	-	-
Metals	Barium	µg/L	D	2000	-	-	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	T	4.0	-	-	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	D	4.0	-	-	-	-	-	-	-	-	-
Metals	Cadmium	µg/L	T	5.0	5 U	5 U	5 U	-	-	-	-	2.5 U	2.5 U
Metals	Cadmium	µg/L	D	5.0	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	-	5 U	1 U
Metals	Calcium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Calcium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Chromium	µg/L	T	100	349	1830	1470	-	-	-	-	1810	20 U
Metals	Chromium	µg/L	D	100	10 U	10 U	10 U	12.9 J	2.01	2.45	-	20 U	20 U
Metals	Cobalt	µg/L	T	100	-	-	-	-	-	-	-	-	-
Metals	Cobalt	µg/L	D	100	-	-	-	-	-	-	-	-	-
Metals	Copper	µg/L	T	640	-	-	-	-	-	-	-	-	-
Metals	Copper	µg/L	D	640	-	-	-	-	-	-	-	-	-
Metals	Iron	µg/L	T	11000	119000	562000	442000	-	-	-	-	9500	9290
Metals	Iron	µg/L	D	11000	-	-	-	898 J	20 U	20 U	-	-	-
Metals	Lead	µg/L	T	15	15.4	99.1	73.3	-	-	-	-	145	15 U
Metals	Lead	µg/L	D	15	10 U	10 U	10 U	0.5 U	5 U	0.5 U	-	15 U	15 U
Metals	Magnesium	µg/L	T	NE	32000	204000	165000	-	-	-	-	-	-
Metals	Magnesium	µg/L	D	NE	3300	28300	29300	22.2 J	0.792	1.33	-	-	-
Metals	Manganese	µg/L	T	2200	-	-	-	-	-	-	-	20100	1730
Metals	Manganese	µg/L	D	2200	-	-	-	-	-	-	-	885	1620
Metals	Mercury	µg/L	T	0.89	0.209	1.09	0.754	-	-	-	-	0.695	0.2 U
Metals	Mercury	µg/L	D	0.89	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	-	0.2 U	0.2 U
Metals	Nickel	µg/L	T	100	-	-	-	-	-	-	-	1370	-
Metals	Nickel	µg/L	D	100	-	-	-	-	-	-	-	20 U	-
Metals	Potassium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Potassium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Selenium	µg/L	T	50	-	-	-	-	-	-	-	-	-
Metals	Selenium	µg/L	D	50	-	-	-	-	-	-	-	-	-
Metals	Silver	µg/L	T	80	10 U	10 U	10 U	-	-	-	-	10 U	10 U
Metals	Silver	µg/L	D	80	10 U	10 U	10 U	0.5 U	0.5 U	0.5 U	-	10 U	10 U
Metals	Sodium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Sodium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Thallium	µg/L	T	1.0	-	-	-	-	-	-	-	-	-

				Sampling Event:	2004 Landau	2004 Landau	2004 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau
				Sample ID:	LAI-MW-3_040618	LAI-MW-4_040618	LAI-MW-41_0406181	LAI-1_050303	LAI-2_050303	LAI-3_050303	LAI-5D-QVA	LAI-5D-QC
				Location:	LAI-MW-3	LAI-MW-4	LAI-MW-41	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-5d
				Date:	6/17/2004	6/17/2004	(Duplicate Sample) 6/17/2004	03/03/05	03/03/05	03/03/05	09/26/05	09/28/05
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	329	4300	3230	--	--	--	1390	15 U
Metals	Zinc	µg/L	D	4800	50 U	50 U	50 U	4.53 J	2.51	1.68	50 U	15 U
VOCs	Benzene	µg/L	T	2.4	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Toluene	µg/L	T	640	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Ethylbenzene	µg/L	T	700	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	--	1 U	2 U	2 U	4 U	2 U
VOCs	Xylene, o-	µg/L	T	440	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Total Xylenes	µg/L	T	290	2 U	2 U	2 U	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,1,1-Trichloroethane	µg/L	T	200	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	--	--	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.191 U	0.196 U	0.194 U	1 U	1 U	1 U	2.12 U	1 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.191 U	0.196 U	0.194 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.191 U	0.196 U	0.194 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.191 U	0.196 U	0.194 U	1 U	1 U	1 U	2 U	1 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	--	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	2-Hexanone	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	--	--	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	--	--	--	--	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Bromochloromethane	µg/L	T	NE	1 U	1 U	1 U	36.7	1	1 U	2 U	1 U
VOCs	Bromodichloromethane	µg/L	T	1.8	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Bromomethane	µg/L	T	11	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Carbon Disulfide	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U



				Sampling Event:	2004 Landau	2004 Landau	2004 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau
				Sample ID:	LAI-MW-3_040618	LAI-MW-4_040618	LAI-MW-41_0406181	LAI-1_050303	LAI-2_050303	LAI-3_050303	LAI-5D-QVA	LAI-5D-QC
				Location:	LAI-MW-3	LAI-MW-4	LAI-MW-41	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-5d
				Date:	6/17/2004	6/17/2004	(Duplicate Sample) 6/17/2004	03/03/05	03/03/05	03/03/05	09/26/05	09/28/05
VOCs	Chlorobenzene	µg/L	T	100	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Chloroethane	µg/L	T	18000	1 U	1 U	1 U	3.93	1 U	1 U	2 U	1 U
VOCs	Chloroform	µg/L	T	1.2	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Chloromethane	µg/L	T	150	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Cyclohexane	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Dibromochloromethane	µg/L	T	4.5	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Dibromomethane	µg/L	T	80	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Hexachlorobutadiene	µg/L	T	0.56	0.191 U	0.196 U	0.194 U	1 U	1 U	1 U	2 U	1 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Methyl t-butyl ether	µg/L	T	24	-	-	-	-	-	-	-	-
VOCs	Methylene Chloride	µg/L	T	5.0	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	n-Butylbenzene	µg/L	T	400	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	n-Propylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	p-Isopropyltoluene	µg/L	T	NE	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Sec-Butylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Styrene	µg/L	T	100	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Tert-Butylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Tetrachloroethene	µg/L	T	5.0	1 U	1 U	1 U	2 U	1 U	1 U	2 U	1 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Trichloroethene	µg/L	T	1.6	1 U	1 U	1 U	36.7	3.2 U	1 U	12.5 U	1 U
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U
VOCs	Vinyl Acetate	µg/L	T	7800	-	-	-	-	-	-	-	-
VOCs	Vinyl Chloride	µg/L	T	0.29	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U	0.04 U	0.02 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	-	-	-	-	-	-	-	-
PAHs	2-Methylnaphthalene	µg/L	T	32	0.0677	0.0153	0.0114	-	-	-	0.53 U	0.564 U
PAHs	Acenaphthene	µg/L	T	960	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Acenaphthylene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Anthracene	µg/L	T	4800	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Fluoranthene	µg/L	T	640	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Fluorene	µg/L	T	640	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Naphthalene	µg/L	T	8.9	0.0539	0.0569	0.0359	1 U	1 U	1 U	0.53 U	0.564 U
PAHs	Phenanthrene	µg/L	T	NE	0.0191 U	0.0196 U	0.0115	-	-	-	0.212 U	0.226 U
PAHs	Pyrene	µg/L	T	480	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Benzo(a)pyrene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Benzo(a)anthracene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	-	-	-	-	-	-	0.212 U	0.226 U
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	-	-	-	-	-	-	0.212 U	0.226 U
PAHs	Benzo(a,h)anthracene	µg/L	T	NE	0.0953 U	0.0978 U	0.0972 U	-	-	-	-	-
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Chrysene	µg/L	T	NE	0.0191 U	0.0196 U	0.0194 U	-	-	-	0.212 U	0.226 U
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.0173 U	0.0177 U	0.0176 U	-	-	-	0.160 U	0.171 U
PAHs	Dibenzofuran	µg/L	T	16	0.191 U	0.196 U	0.194 U	-	-	-	2.12 U	2.26 U
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	-	-	-	-	-	-	-	-

		Sampling Event:			2004 Landau	2004 Landau	2004 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau
		Sample ID:			LAI-MW-3_040618	LAI-MW-4_040618	LAI-MW-41_0406181	LAI-1_050303	LAI-2_050303	LAI-3_050303	LAI-5D-QVA	LAI-5D-QC
		Location:			LAI-MW-3	LAI-MW-4	LAI-MW-41	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-5d
		Date:			6/17/2004	6/17/2004	6/17/2004	03/03/05	03/03/05	03/03/05	09/26/05	09/28/05
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	0.191 U	0.196 U	0.194 U	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2,4-Dichlorophenol	µg/L	T	24	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2,4-Dimethylphenol	µg/L	T	160	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	2,4-Dinitrophenol	µg/L	T	32	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2-Chloronaphthalene	µg/L	T	640	0.0191 U	0.0196 U	0.0194 U	--	--	--	0.212 U	0.226 U
SVOCs	2-Chlorophenol	µg/L	T	40	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2-Nitroaniline	µg/L	T	160	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	2-Nitrophenol	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	4.24 U	4.51 U
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	3-Nitroaniline	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	4-Chloroaniline	µg/L	T	5.0	0.286 U	0.293 U	0.292 U	--	--	--	3.18 U	3.39 U
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	0.381 U	0.391 U	0.389 U	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	Benzyl Alcohol	µg/L	T	800	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	2.12 U	2.26 U
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	0.878	0.857	1.95	--	--	--	28.3	27.2
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	0.221	0.293 U	0.15	--	--	--	4.45	3.53
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--

		Sampling Event:			2004 Landau	2004 Landau	2004 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2005 Landau
		Sample ID:			LAI-MW-3_040618	LAI-MW-4_040618	LAI-MW-41_0406181	LAI-1_050303	LAI-2_050303	LAI-3_050303	LAI-5D-QVA	LAI-5D-QC
		Location:			LAI-MW-3	LAI-MW-4	LAI-MW-41	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-5d
		Date:			6/17/2004	6/17/2004	(Duplicate Sample) 6/17/2004	03/03/05	03/03/05	03/03/05	09/26/05	09/28/05
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Dibutyl Phthalate	µg/L	T	1600	0.301	0.33	0.488	--	--	--	10.5	2.26 U
SVOCs	Diethyl Phthalate	µg/L	T	13000	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Dimethyl Phthalate	µg/L	T	NE	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	0.953 U	0.978 U	0.972 U	--	--	--	10.6 U	11.3 U
SVOCs	Hexachloroethane	µg/L	T	1.1	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Isophorone	µg/L	T	46	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Nitrobenzene	µg/L	T	16	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Pentachlorophenol	µg/L	T	1.0	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
SVOCs	Phenol	µg/L	T	2400	0.191 U	0.196 U	0.194 U	--	--	--	2.12 U	2.26 U
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	PCB-Aroclor 1232	µg/L	T	NE	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	PCB-Aroclor 1242	µg/L	T	NE	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	PCB-Aroclor 1248	µg/L	T	NE	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
PCBs	Total PCBs	µg/L	T	0.44	0.0952 U	0.0971 U	0.0981 U	0.00952 U	0.00952 U	0.00952 U	0.102 U	0.113 U
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	0.08	0.04	0.04 U	0.50	0.54
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	16.0 J	5 U	5 U	43.6	5 U
Conventional	Chloride	mg/L	--	NE	2.26	8.8	8.38	4.49	2.88	3.18	12.7	60.6
Conventional	Conductivity	mS/cm	--	NE	--	--	--	0.228	0.108	0.145	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	4.26	8.04	6.32	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	0.44	1.92	1.07	2.06	0.66	1.32	1.51 J	0.61 U
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	19.1	32.1	30.9	--	--
Conventional	pH	SU	--	NE	--	--	--	6.44	6.74	6.48	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	3.88	124	124	99.5	29.2	58.6	139	166
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	1.78	9.03	18.5	3.27	1 U	1.01	7.67	2.18



					Sampling Event:	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2006 Q3	2006 Q3	2006 Q3	2006 Q3
					Sample ID:	LAI-MW-1_050303	LAI-MW-2_050303	LAI-MW-3_050303	LAI-MW-4_050303	LAI-1_060711	LAI-5D_060711	LAI-MW-2_060711	PGG-1_060711
					Location:	LAI-MW-1	LAI-MW-2	LAI-MW-3	LAI-MW-4	LAI-1	LAI-5d	LAI-MW-2	PGG-1
					Date:	03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	250 U	250 U	250 U	250 U
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	630 U	630 U	630 U	630 U
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	630 U	630 U	630 U	630 U
Metals	Aluminum	µg/L	T	16000	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	T	6.0	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	T	5.0	--	--	--	--	--	50 U	50 U	50 U	50 U
Metals	Arsenic	µg/L	D	5.0	0.6 U	0.6 U	0.6 U	0.6 U	50 U	100 U	50 U	50 U	
Metals	Barium	µg/L	T	2000	--	--	--	--	--	--	--	--	--
Metals	Barium	µg/L	D	2000	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	T	5.0	--	--	--	--	--	2 U	2 U	2 U	2 U
Metals	Cadmium	µg/L	D	5.0	0.5 U	0.5 U	0.5 U	0.5 U	2 U	4 U	2 U	2 U	
Metals	Calcium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Chromium	µg/L	T	100	--	--	--	--	--	39	7	149	5 U
Metals	Chromium	µg/L	D	100	2.53	3.19	1.13	8.11	5 U	10 U	5 U	5 U	
Metals	Cobalt	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	T	640	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	D	640	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	T	11000	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	D	11000	20 U	20 U	20 U	20 U	--	--	--	--	--
Metals	Lead	µg/L	T	15	--	--	--	--	--	20 U	20 U	20 U	20 U
Metals	Lead	µg/L	D	15	5 U	0.5 U	0.5 U	0.5 U	20 U	40 U	20 U	20 U	
Metals	Magnesium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Magnesium	µg/L	D	NE	4.93	42.9	4.25	14.2	--	--	--	--	--
Metals	Manganese	µg/L	T	2200	--	--	--	--	--	--	--	--	--
Metals	Manganese	µg/L	D	2200	--	--	--	--	--	--	--	--	--
Metals	Mercury	µg/L	T	0.89	--	--	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U
Metals	Mercury	µg/L	D	0.89	0.2 U	0.2 U	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	
Metals	Nickel	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Nickel	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	T	50	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	D	50	--	--	--	--	--	--	--	--	--
Metals	Silver	µg/L	T	80	--	--	--	--	--	3 U	3 U	3 U	3 U
Metals	Silver	µg/L	D	80	5 U	0.5 U	0.5 U	0.5 U	3 U	6 U	3 U	3 U	
Metals	Sodium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Thallium	µg/L	T	1.0	--	--	--	--	--	--	--	--	--

		Sampling Event:		2005 Landau	2005 Landau	2005 Landau	2005 Landau	2006 Q3	2006 Q3	2006 Q3	2006 Q3
		Sample ID:		LAI-MW-1_050303	LAI-MW-2_050303	LAI-MW-3_050303	LAI-MW-4_050303	LAI-1_060711	LAI-5D_060711	LAI-MW-2_060711	LAI-MW-2_060711
		Location:		LAI-MW-1	LAI-MW-2	LAI-MW-3	LAI-MW-4	LAI-1	LAI-5d	LAI-MW-2	LAI-MW-2
		Date:		03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06
				03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	--	--	--	30	8	110	6 U
Metals	Zinc	µg/L	D	4800	1.64	2.59	1.69	4.17	6 U	10 U	14
VOCs	Benzene	µg/L	T	2.4	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Toluene	µg/L	T	640	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Ethylbenzene	µg/L	T	700	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Xylene, m-,p-	µg/L	T	290	2 U	2 U	2 U	2 U	0.4 U	0.4 U	0.4 U
VOCs	Xylene, o-	µg/L	T	440	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,1-Trichloroethane	µg/L	T	200	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	--	--	0.2 U	0.2 U	0.2 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	1 U	1 U	1 U	1 U	2 U	2 U	2 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	--	--	1 U	1 U	1 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	0.5 U	0.5 U	0.5 U
VOCs	2-Chlorotoluene	µg/L	T	160	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	2-Hexanone	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U
VOCs	4-Chlorotoluene	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	--	--	1 U	1 U	1 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	--	--	--	--	1.5	1 U	1 U
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	1 U	1 U	1 U
VOCs	Bromobenzene	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Bromochloromethane	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Bromodichloromethane	µg/L	T	1.8	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	0.2 U	0.2 U	0.2 U
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Bromomethane	µg/L	T	11	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
VOCs	Carbon Disulfide	µg/L	T	400	--	--	--	--	0.2 U	0.2 U	0.2 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U

				Sampling Event:	2005 Landau	2005 Landau	2005 Landau	2005 Landau	2006 Q3	2006 Q3	2006 Q3	2006 Q3
				Sample ID:	LAI-MW-1_050303	LAI-MW-2_050303	LAI-MW-3_050303	LAI-MW-4_050303	LAI-1_060711	LAI-5D_060711	LAI-MW-2_060711	LAI-MW-2_060711
				Location:	LAI-MW-1	LAI-MW-2	LAI-MW-3	LAI-MW-4	LAI-1	LAI-5d	LAI-MW-2	PGG-1
				Date:	03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06
VOCs	Chlorobenzene	µg/L	T	100	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloroethane	µg/L	T	18000	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloroform	µg/L	T	1.2	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloromethane	µg/L	T	150	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	1 U	1 U	1 U	1 U	4.4	0.2 U	3.5	0.2
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Cyclohexane	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	-	-	-	-	-	-	-	-
VOCs	Dibromochloromethane	µg/L	T	4.5	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Dibromomethane	µg/L	T	80	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	1 U	1 U	1 U	1 U	-	-	-	-
VOCs	Hexachlorobutadiene	µg/L	T	0.56	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	-	-	-	-	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Methyl t-butyl ether	µg/L	T	24	-	-	-	-	-	-	-	-
VOCs	Methylene Chloride	µg/L	T	5.0	1 U	1 U	1 U	1 U	0.3 U	0.3 U	0.3 U	0.3 U
VOCs	n-Butylbenzene	µg/L	T	400	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	n-Propylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	p-Isopropyltoluene	µg/L	T	NE	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Sec-Butylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Styrene	µg/L	T	100	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Tert-Butylbenzene	µg/L	T	800	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Tetrachloroethene	µg/L	T	5.0	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
VOCs	Trichloroethene	µg/L	T	1.6	1 U	19.8	1 U	1 U	34	0.2 U	68	0.9
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Vinyl Acetate	µg/L	T	7800	-	-	-	-	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Vinyl Chloride	µg/L	T	0.29	1 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	-	-	-	-	-	-	-	-
PAHs	2-Methylnaphthalene	µg/L	T	32	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Acenaphthene	µg/L	T	960	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Acenaphthylene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Anthracene	µg/L	T	4800	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Fluoranthene	µg/L	T	640	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Fluorene	µg/L	T	640	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Naphthalene	µg/L	T	8.9	1 U	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
PAHs	Phenanthrene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Pyrene	µg/L	T	480	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(a)pyrene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(a)anthracene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Benzo(a,h)anthracene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Chrysene	µg/L	T	NE	-	-	-	-	1 U	1 U	1 U	1 U
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	-	-	-	-	0.755 U	0.755 U	0.755 U	0.755 U
PAHs	Dibenzofuran	µg/L	T	16	-	-	-	-	1 U	1 U	1 U	1 U
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	-	-	-	-	-	-	-	-



		Sampling Event:			2005 Landau	2005 Landau	2005 Landau	2005 Landau	2006 Q3	2006 Q3	2006 Q3	2006 Q3
		Sample ID:	LAI-MW-1_050303	LAI-MW-2_050303	LAI-MW-3_050303	LAI-MW-4_050303	LAI-1_060711	LAI-5D_060711	LAI-MW-2_060711	PGG-1_060711		
		Location:	LAI-MW-1	LAI-MW-2	LAI-MW-3	LAI-MW-4	LAI-1	LAI-5d	LAI-MW-2	PGG-1		
		Date:	03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06		
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	1 U	1 U	1 U	
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	5 U	5 U	5 U	
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U	
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	5 U	5 U	5 U	
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	1 U	1 U	1 U	
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	10 U	10 U	10 U	
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U	
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U	
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	1 U	1 U	1 U	
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	1 U	1 U	1 U	
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	1 U	1 U	1 U	
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	5 U	5 U	5 U	
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	5 U	5 U	5 U	
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U	
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	5 U	5 U	5 U	
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	10 U	10 U	10 U	
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U	
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	5 U	5 U	5 U	
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	5 U	5 U	5 U	
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U	
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	1 U	1 U	1 U	
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	5 U	5 U	5 U	
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	5 U	5 U	5 U	
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	10 U	10 U	10 U	
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	5 U	5 U	5 U	
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U	
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	1 U	1 U	1 U	
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	1 U	2	1.5	
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	1 U	1 U	1 U	
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	

		Sampling Event:			2005 Landau	2005 Landau	2005 Landau	2005 Landau	2006 Q3	2006 Q3	2006 Q3	2006 Q3
		Sample ID:			LAI-MW-1_050303	LAI-MW-2_050303	LAI-MW-3_050303	LAI-MW-4_050303	LAI-1_060711	LAI-5D_060711	LAI-MW-2_060711	PGG-1_060711
		Location:			LAI-MW-1	LAI-MW-2	LAI-MW-3	LAI-MW-4	LAI-1	LAI-5d	LAI-MW-2	PGG-1
		Date:			03/03/05	03/03/05	03/03/05	03/03/05	07/11/06	07/11/06	07/11/06	07/11/06
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	5 U	5 U	5 U	5 U
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	5 U	5 U	5 U	5 U
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	1 U	1 U	1 U	1 U
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	5 U	5 U	5 U	5 U
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1221	µg/L	T	NE	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1232	µg/L	T	NE	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1242	µg/L	T	NE	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1248	µg/L	T	NE	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	10.6 U	9.8 U	10 U	9.71 U	1 U	1 U	1 U	1 U
PCBs	Total PCBs	µg/L	T	0.44	10.6 U	9.80 U	10.0 U	9.71 U	1 U	1 U	1 U	1 U
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	0.012	0.384	0.063	0.01 U
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	0.08	0.08	0.05	0.04 U	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	2.26	1.6	1.5 U	1.61
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	5.3	18.7	5 U	10.7	--	--	--	--
Conventional	Chloride	mg/L	--	NE	2.67	4.03	2.44	4.6	5.3	58.2	4	4.1
Conventional	Conductivity	mS/cm	--	NE	0.133	0.184	0.059	0.272	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	3.84	2.98	7.86	3.62	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	0.78	1.85	0.48	1.62	2.55	0.01 U	2.4	2.83
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	2.52	0.01 U	2.34	2.51
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	0.03	0.01 U	0.061	0.318
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	28.3	20.6	-2.1	29.9	--	--	--	--
Conventional	pH	SU	--	NE	6.36	6.57	7.24	6.98	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	30.1	49.8	4.12	112	117	199	103	66.4
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	493	738	278	366
Conventional	Total Organic Carbon	mg/L	--	NE	1.61	1.15	1 U	2.74	--	--	--	--

					Sampling Event:	2006 Q3	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2008 Q4	2008 Q4
					Sample ID:	PGG-2_060711	LAI-1_061024	LAI-2_061024	LAI-5D_061024	LAI-MW-2_061024	PGG-1_061024	LAI-1_081203	LAI-2_090114
					Location:	PGG-2	LAI-1	LAI-2	LAI-5d	LAI-MW-2	PGG-1	LAI-1	LAI-2
					Date:	07/11/06	10/24/06	10/24/06	10/24/06	10/24/06	10/24/06	12/03/08	01/14/09
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	250 U	-	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	µg/L	T	500	630 U	-	-	-	-	-	-	-	-
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	630 U	-	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	T	16000	-	-	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	D	16000	-	-	-	-	-	-	-	-	-
Metals	Antimony	µg/L	T	6.0	-	-	-	-	-	-	-	-	-
Metals	Antimony	µg/L	D	6.0	-	-	-	-	-	-	-	-	-
Metals	Arsenic	µg/L	T	5.0	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Metals	Arsenic	µg/L	D	5.0	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Metals	Barium	µg/L	T	2000	-	-	-	-	-	-	-	-	-
Metals	Barium	µg/L	D	2000	-	-	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	T	4.0	-	-	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	D	4.0	-	-	-	-	-	-	-	-	-
Metals	Cadmium	µg/L	T	5.0	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Metals	Cadmium	µg/L	D	5.0	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Metals	Calcium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Calcium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Chromium	µg/L	T	100	5 U	59	8	5 U	500	5	5 U	5 U	5 U
Metals	Chromium	µg/L	D	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Metals	Cobalt	µg/L	T	100	-	-	-	-	-	-	-	-	-
Metals	Cobalt	µg/L	D	100	-	-	-	-	-	-	-	-	-
Metals	Copper	µg/L	T	640	-	-	-	-	-	-	-	-	-
Metals	Copper	µg/L	D	640	-	-	-	-	-	-	-	-	-
Metals	Iron	µg/L	T	11000	-	22600	580	2530	149000	50 U	390	160	
Metals	Iron	µg/L	D	11000	-	-	-	-	-	-	-	-	-
Metals	Lead	µg/L	T	15	20 U	20 U	20 U	20 U	30	20 U	20 U	20 U	20 U
Metals	Lead	µg/L	D	15	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Metals	Magnesium	µg/L	T	NE	-	27500	15700	61200	48300	21700	21400	11400	
Metals	Magnesium	µg/L	D	NE	-	-	-	-	-	19900	20700	11100	
Metals	Manganese	µg/L	T	2200	-	504	16	2610	4370	9	8	8	
Metals	Manganese	µg/L	D	2200	-	-	-	-	-	-	1 U	1 U	
Metals	Mercury	µg/L	T	0.89	0.1 U	0.1 U	0.1 U	0.1 U	0.3	0.1 U	0.1 U	0.1 U	
Metals	Mercury	µg/L	D	0.89	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	
Metals	Nickel	µg/L	T	100	-	-	-	-	-	-	-	-	-
Metals	Nickel	µg/L	D	100	-	-	-	-	-	-	-	-	-
Metals	Potassium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Potassium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Selenium	µg/L	T	50	-	-	-	-	-	-	-	-	-
Metals	Selenium	µg/L	D	50	-	-	-	-	-	-	-	-	-
Metals	Silver	µg/L	T	80	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Metals	Silver	µg/L	D	80	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Metals	Sodium	µg/L	T	NE	-	-	-	-	-	-	-	-	-
Metals	Sodium	µg/L	D	NE	-	-	-	-	-	-	-	-	-
Metals	Thallium	µg/L	T	1.0	-	-	-	-	-	-	-	-	-



		Sampling Event:		2006 Q3	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2008 Q4	2008 Q4
		Sample ID:		PGG-2_060711	LAI-1_061024	LAI-2_061024	LAI-5D_061024	LAI-MW-2_061024	PGG-1_061024	LAI-1_081203	LAI-2_090114	
		Location:		PGG-2	LAI-1	LAI-2	LAI-5d	LAI-MW-2	PGG-1	LAI-1	LAI-2	
		Date:		07/11/06	10/24/06	10/24/06	10/24/06	10/24/06	10/24/06	12/03/08	01/14/09	
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	6 U	55	10	6 U	372	14	10 U	10 U
Metals	Zinc	µg/L	D	4800	6 U	6 U	6 U	6 U	6 U	6 U	10 U	10 U
VOCs	Benzene	µg/L	T	2.4	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Toluene	µg/L	T	640	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Ethylbenzene	µg/L	T	700	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Xylene, m-,p-	µg/L	T	290	0.4 U	2 U	0.4 U	0.4 U	2 U	0.4 U	1.2 U	0.4 U
VOCs	Xylene, o-	µg/L	T	440	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.5 U	0.5 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.5 U	0.5 U
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	2 U	2.5 U	0.5 U	0.5 U	2.5 U	0.5 U	1.5 U	0.5 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	2-Butanone (MEK)	µg/L	T	4800	1 U	5 U	1 U	1 U	5 U	1 U	7.5 U	2.5 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	0.5 U	2.5 U	0.5 U	0.5 U	2.5 U	0.5 U	3 U	1 U
VOCs	2-Chlorotoluene	µg/L	T	160	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	2-Hexanone	µg/L	T	NE	1 U	15 U	3 U	3 U	15 U	3 U	7.5 U	2.5 U
VOCs	4-Chlorotoluene	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	1 U	5 U	1 U	1 U	5 U	1 U	7.5 U	2.5 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	1 U	15 U	3 U	3 U	15 U	3 U	9 U	5.3
VOCs	Acrolein	µg/L	T	5.0	5 U	25 U	5 U	5 U	25 U	5 U	15 U	5 U
VOCs	Acrylonitrile	µg/L	T	1.0	1 U	5 U	1 U	1 U	5 U	1 U	3 U	1 U
VOCs	Bromobenzene	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Bromochloromethane	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Bromodichloromethane	µg/L	T	1.8	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Bromoethane	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Bromomethane	µg/L	T	11	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	1.5 U	0.5 U
VOCs	Carbon Disulfide	µg/L	T	400	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U

		Sampling Event:		2006 Q3	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2008 Q4	2008 Q4
		Sample ID:		PGG-2_060711	LAI-1_061024	LAI-2_061024	LAI-5D_061024	LAI-MW-2_061024	PGG-1_061024	LAI-1_081203	LAI-2_090114	
		Location:		PGG-2	LAI-1	LAI-2	LAI-5d	LAI-MW-2	PGG-1	LAI-1	LAI-2	
		Date:		07/11/06	10/24/06	10/24/06	10/24/06	10/24/06	10/24/06	12/03/08	01/14/09	
VOCs	Chlorobenzene	µg/L	T	100	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Chloroethane	µg/L	T	18000	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Chloroform	µg/L	T	1.2	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Chloromethane	µg/L	T	150	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	0.2 U	3.4	0.2 U	0.2 U	1 U	0.2	2.5	0.2 U
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Cyclohexane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Dibromomethane	µg/L	T	80	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	--	--	--	--	--	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	0.5 U	2.5 U	0.5 U	0.5 U	1 U	0.5 U	1 U	0.5 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	3 U	1 U
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	--	--	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	0.3 U	3	0.3 U	0.3 U	2.1	0.3 U	2.7	0.5 U
VOCs	n-Butylbenzene	µg/L	T	400	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	n-Propylbenzene	µg/L	T	800	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	p-Isopropyltoluene	µg/L	T	NE	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Sec-Butylbenzene	µg/L	T	800	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Styrene	µg/L	T	100	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Tert-Butylbenzene	µg/L	T	800	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Tetrachloroethene	µg/L	T	5.0	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	1 U	5 U	1 U	1 U	5 U	1 U	3 U	1 U
VOCs	Trichloroethene	µg/L	T	1.6	0.2 U	40	0.5	0.2 U	30	0.9	25	1.8
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
VOCs	Vinyl Acetate	µg/L	T	7800	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	3 U	1 U
VOCs	Vinyl Chloride	µg/L	T	0.29	0.2 U	1 U	0.2 U	0.2 U	1 U	0.2 U	0.6 U	0.2 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	1 U	1 U
PAHs	2-Methylnaphthalene	µg/L	T	32	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Acenaphthene	µg/L	T	960	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Acenaphthylene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Anthracene	µg/L	T	4800	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Fluoranthene	µg/L	T	640	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Fluorene	µg/L	T	640	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Naphthalene	µg/L	T	8.9	0.5 U	2.5 U	0.5 U	0.5 U	1 U	0.5 U	1 U	0.5 U
PAHs	Phenanthrene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Pyrene	µg/L	T	480	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(a)pyrene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(a)anthracene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Benzo(a,h)anthracene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Chrysene	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.755 U	--	--	0.755 U	0.755 U	--	0.755 U	0.755 U
PAHs	Dibenzofuran	µg/L	T	16	1 U	--	--	1 U	1 U	--	1 U	1 U
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--

		Sampling Event:			2006 Q3	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2008 Q4	2008 Q4
		Sample ID:	Location:	Date:	PGG-2_060711	LAI-1_061024	LAI-2_061024	LAI-5D_061024	LAI-MW-2_061024	PGG-1_061024	LAI-1_081203	LAI-2_090114	
					PGG-2	LAI-1	LAI-2	LAI-5d	LAI-MW-2	PGG-1	LAI-1	LAI-2	
					07/11/06	10/24/06	10/24/06	10/24/06	10/24/06	10/24/06	12/03/08	01/14/09	
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--	
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--	
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2,4-Dichlorophenol	µg/L	T	24	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2,4-Dimethylphenol	µg/L	T	160	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	2,4-Dinitrophenol	µg/L	T	32	10 U	--	--	10 U	10 U	--	10 U	10 U	
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2-Chloronaphthalene	µg/L	T	640	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	2-Chlorophenol	µg/L	T	40	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	2-Nitroaniline	µg/L	T	160	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	2-Nitrophenol	µg/L	T	NE	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--	
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	3-Nitroaniline	µg/L	T	NE	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	10 U	--	--	10 U	10 U	--	10 U	10 U	
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	4-Chloroaniline	µg/L	T	5.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	4-Nitroaniline	µg/L	T	NE	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--	
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--	
SVOCs	Benzoic Acid	µg/L	T	64000	10 U	--	--	10 U	10 U	--	10 U	10 U	
SVOCs	Benzyl Alcohol	µg/L	T	800	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--	
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	1 U	--	--	1 U	14	--	28	1 U	
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--	



		Sampling Event:			2006 Q3	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2006 Q4	2008 Q4	2008 Q4
		Sample ID:			PGG-2_060711	LAI-1_061024	LAI-2_061024	LAI-5D_061024	LAI-MW-2_061024	PGG-1_061024	LAI-1_081203	LAI-2_090114	
		Location:			PGG-2	LAI-1	LAI-2	LAI-5d	LAI-MW-2	PGG-1	LAI-1	LAI-2	
		Date:			07/11/06	10/24/06	10/24/06	10/24/06	10/24/06	10/24/06	12/03/08	01/14/09	
SVOCs	Carbazole	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Dibutyl Phthalate	µg/L	T	1600	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Diethyl Phthalate	µg/L	T	13000	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Dimethyl Phthalate	µg/L	T	NE	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--	
SVOCs	Hexachlorobenzene	µg/L	T	1.0	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	Hexachloroethane	µg/L	T	1.1	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Isophorone	µg/L	T	46	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Nitrobenzene	µg/L	T	16	1 U	--	--	1 U	1 U	--	1 U	1 U	
SVOCs	Pentachlorophenol	µg/L	T	1.0	5 U	--	--	5 U	5 U	--	5 U	5 U	
SVOCs	Phenol	µg/L	T	2400	1 U	--	--	1 U	1 U	--	1 U	1 U	
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1221	µg/L	T	NE	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1232	µg/L	T	NE	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1242	µg/L	T	NE	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1248	µg/L	T	NE	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	1 U	--	--	--	--	--	--	--	
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	1 U	--	--	--	--	--	--	--	
PCBs	Total PCBs	µg/L	T	0.44	1 U	--	--	--	--	--	--	--	
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	0.01 U	0.037	0.02	0.398	0.172	0.01 U	0.027	0.02	
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--	
Conventional	Carbon	mg/L	--	NE	1.5 U	2.42	1.5 U	2.25	5.62	3.17	1.5 U	1.5 U	
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--	
Conventional	Chloride	mg/L	--	NE	3.6	7.8	3.1	55.4	19.6	4.5	4.5	2.9	
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--	
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--	
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	0.7	
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	2.21	0.457	0.666	0.01 U	2.32	2.59	2.68	0.7	
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	2.19	0.443	0.666	0.01 U	2.12	2.57	2.68	--	
Conventional	Nitrite	mg/L as N	--	NE	0.021	0.014	0.01 U	0.01 U	0.204	0.018	0.01 U	0.1 U	
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--	
Conventional	pH	SU	--	NE	--	--	--	--	--	--	6.27	6.86	
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	584	211	
Conventional	Sulfate	mg/L	--	NE	47.7	73.5	32.6	170	38.9	54.7	92.9	24.5	
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	11.6	10.2	
Conventional	Total Dissolved Solids	mg/L	--	NE	244	398	158	732	208	376	302	158	
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--	

					Sampling Event:	2008 Q4	2008 Q4	2008 Q4	2008 Q4	2010 Q4	2010 Q4	2010 Q4	2010 Q4
					Sample ID:	LAI-5D_081203	LAI-MW-2_081203	PGG-1_081203	PGG-2_081203	LAI-1_101118	LAI-2_101118	LAI-MW-2_101118	PGG-1_101118
					Location:	LAI-5d	LAI-MW-2	PGG-1	PGG-2	LAI-1	LAI-2	LAI-MW-2	PGG-1
					Date:	12/03/08	12/03/08	12/03/08	12/03/08	11/18/10	11/18/10	11/18/10	11/18/10
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	T	6.0	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	T	5.0	50 U	50 U	50 U	50 U	--	--	--	--	--
Metals	Arsenic	µg/L	D	5.0	50 U	50 U	50 U	50 U	--	--	--	--	--
Metals	Barium	µg/L	T	2000	--	--	--	--	--	--	--	--	--
Metals	Barium	µg/L	D	2000	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	T	5.0	2 U	2 U	2 U	2 U	--	--	--	--	--
Metals	Cadmium	µg/L	D	5.0	2 U	2 U	2 U	2 U	--	--	--	--	--
Metals	Calcium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Chromium	µg/L	T	100	5	5 U	5 U	8	--	--	--	--	--
Metals	Chromium	µg/L	D	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Metals	Cobalt	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	T	640	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	D	640	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	T	11000	3610	210	--	5860	--	--	--	--	--
Metals	Iron	µg/L	D	11000	--	--	50 U	--	50 U	50 U	330	50 U	--
Metals	Lead	µg/L	T	15	20 U	20 U	20 U	20 U	--	--	--	--	--
Metals	Lead	µg/L	D	15	20 U	20 U	20 U	20 U	--	--	--	--	--
Metals	Magnesium	µg/L	T	NE	63500	9490	23900	16500	--	--	--	--	--
Metals	Magnesium	µg/L	D	NE	62000	9430	22300	15200	--	--	--	--	--
Metals	Manganese	µg/L	T	2200	2710	4	8	124	--	--	--	--	--
Metals	Manganese	µg/L	D	2200	2600	1 U	1 U	1 U	1 U	1 U	18	1 U	--
Metals	Mercury	µg/L	T	0.89	0.1 U	0.1 U	0.1 U	0.1 U	--	--	--	--	--
Metals	Mercury	µg/L	D	0.89	0.1 U	0.1 U	0.1 U	0.1 U	--	--	--	--	--
Metals	Nickel	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Nickel	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	T	50	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	D	50	--	--	--	--	--	--	--	--	--
Metals	Silver	µg/L	T	80	3 U	3 U	3 U	3 U	--	--	--	--	--
Metals	Silver	µg/L	D	80	3 U	3 U	3 U	3 U	--	--	--	--	--
Metals	Sodium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Thallium	µg/L	T	1.0	--	--	--	--	--	--	--	--	--

		Sampling Event:		2008 Q4	2008 Q4	2008 Q4	2008 Q4	2010 Q4	2010 Q4	2010 Q4	2010 Q4
		Sample ID:		LAI-5D_081203	LAI-MW-2_081203	PGG-1_081203	PGG-2_081203	LAI-1_101118	LAI-2_101118	LAI-MW-2_101118	PGG-1_101118
		Location:		LAI-5d	LAI-MW-2	PGG-1	PGG-2	LAI-1	LAI-2	LAI-MW-2	PGG-1
		Date:		12/03/08	12/03/08	12/03/08	12/03/08	11/18/10	11/18/10	11/18/10	11/18/10
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	10 U	10 U	10 U	10 U	--	--	--
Metals	Zinc	µg/L	D	4800	10 U	10 U	10 U	10 U	10 U	10 U	10 U
VOCs	Benzene	µg/L	T	2.4	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Toluene	µg/L	T	640	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Ethylbenzene	µg/L	T	700	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Xylene, m-,p-	µg/L	T	290	0.4 U	1.2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
VOCs	Xylene, o-	µg/L	T	440	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.5 U	1.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	0.5 U	1.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	0.5 U	1.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	2-Butanone (MEK)	µg/L	T	4800	2.5 U	7.5 U	2.5 U	2.5 U	5 U	5 U	5 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	1 U	3 U	1 U	1 U	1 U	1 U	1 U
VOCs	2-Chlorotoluene	µg/L	T	160	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	2-Hexanone	µg/L	T	NE	2.5 U	7.5 U	2.5 U	2.5 U	5 U	5 U	5 U
VOCs	4-Chlorotoluene	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	2.5 U	7.5 U	2.5 U	2.5 U	5 U	5 U	5 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	3 U	9 U	3 U	3 U	5 U	5 U	5 U
VOCs	Acrolein	µg/L	T	5.0	5 U	15 U	5 U	5 U	5 U	5 U	5 U
VOCs	Acrylonitrile	µg/L	T	1.0	1 U	3 U	1 U	1 U	1 U	1 U	1 U
VOCs	Bromobenzene	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Bromochloromethane	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Bromodichloromethane	µg/L	T	1.8	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Bromoethane	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Bromomethane	µg/L	T	11	0.5 U	1.5 U	0.5 U	0.5 U	1 U	1 U	1 U
VOCs	Carbon Disulfide	µg/L	T	400	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U



		Sampling Event:		2008 Q4	2008 Q4	2008 Q4	2008 Q4	2010 Q4	2010 Q4	2010 Q4	2010 Q4
		Sample ID:		LAI-5D_081203	LAI-MW-2_081203	PGG-1_081203	PGG-2_081203	LAI-1_101118	LAI-2_101118	LAI-MW-2_101118	PGG-1_101118
		Location:		LAI-5d	LAI-MW-2	PGG-1	PGG-2	LAI-1	LAI-2	LAI-MW-2	PGG-1
		Date:		12/03/08	12/03/08	12/03/08	12/03/08	11/18/10	11/18/10	11/18/10	11/18/10
VOCs	Chlorobenzene	µg/L	T	100	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloroethane	µg/L	T	18000	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloroform	µg/L	T	1.2	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Chloromethane	µg/L	T	150	0.2 U	0.6 U	0.2 U	0.2 U	0.5 U	0.5 U	0.5 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	0.2 U	0.8	0.2	0.2 U	1.9	0.2 U	1.1
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Cyclohexane	µg/L	T	NE	-	-	-	-	-	-	-
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	-	-	-	-	-	-	-
VOCs	Dibromochloromethane	µg/L	T	4.5	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Dibromomethane	µg/L	T	80	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	-	-	-	-	-	-	-
VOCs	Hexachlorobutadiene	µg/L	T	0.56	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	1 U	3 U	1 U	1 U	1 U	1 U	1 U
VOCs	Methyl t-butyl ether	µg/L	T	24	-	-	-	-	-	-	-
VOCs	Methylene Chloride	µg/L	T	5.0	0.5 U	2.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOCs	n-Butylbenzene	µg/L	T	400	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	n-Propylbenzene	µg/L	T	800	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	p-Isopropyltoluene	µg/L	T	NE	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Sec-Butylbenzene	µg/L	T	800	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Styrene	µg/L	T	100	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Tert-Butylbenzene	µg/L	T	800	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Tetrachloroethene	µg/L	T	5.0	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	1 U	3 U	1 U	1 U	1 U	1 U	1 U
VOCs	Trichloroethene	µg/L	T	1.6	0.2 U	28	0.9	0.2 U	21	1.9	42
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
VOCs	Vinyl Acetate	µg/L	T	7800	1 U	3 U	1 U	1 U	1 U	1 U	1 U
VOCs	Vinyl Chloride	µg/L	T	0.29	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	1 U	1 U	1 U	1 U	-	-	-
PAHs	2-Methylnaphthalene	µg/L	T	32	1 U	1 U	1 U	1 U	-	-	-
PAHs	Acenaphthene	µg/L	T	960	1 U	1 U	1 U	1 U	-	-	-
PAHs	Acenaphthylene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Anthracene	µg/L	T	4800	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Fluoranthene	µg/L	T	640	1 U	1 U	1 U	1 U	-	-	-
PAHs	Fluorene	µg/L	T	640	1 U	1 U	1 U	1 U	-	-	-
PAHs	Naphthalene	µg/L	T	8.9	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
PAHs	Phenanthrene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Pyrene	µg/L	T	480	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzo(a)pyrene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzo(a)anthracene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	-	-	-	-	-	-	-
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Chrysene	µg/L	T	NE	1 U	1 U	1 U	1 U	-	-	-
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.755 U	0.755 U	0.755 U	0.755 U	-	-	-
PAHs	Dibenzofuran	µg/L	T	16	1 U	1 U	1 U	1 U	-	-	-
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	-	-	-	-	-	-	-

		Sampling Event:		2008 Q4	2008 Q4	2008 Q4	2008 Q4	2010 Q4	2010 Q4	2010 Q4	2010 Q4
		Sample ID:	LAI-5D_081203	LAI-MW-2_081203	PGG-1_081203	PGG-2_081203	LAI-1_101118	LAI-2_101118	LAI-MW-2_101118	PGG-1_101118	
		Location:	LAI-5d	LAI-MW-2	PGG-1	PGG-2	LAI-1	LAI-2	LAI-MW-2	PGG-1	
		Date:	12/03/08	12/03/08	12/03/08	12/03/08	11/18/10	11/18/10	11/18/10	11/18/10	
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	1 U	1 U	1 U	1 U	--	--	
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	5 U	5 U	5 U	5 U	--	--	
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	5 U	5 U	5 U	5 U	--	--	
SVOCs	2,4-Dichlorophenol	µg/L	T	24	5 U	5 U	5 U	5 U	--	--	
SVOCs	2,4-Dimethylphenol	µg/L	T	160	1 U	1 U	1 U	1 U	--	--	
SVOCs	2,4-Dinitrophenol	µg/L	T	32	10 U	10 U	10 U	10 U	--	--	
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	5 U	5 U	5 U	5 U	--	--	
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	5 U	5 U	5 U	5 U	--	--	
SVOCs	2-Chloronaphthalene	µg/L	T	640	1 U	1 U	1 U	1 U	--	--	
SVOCs	2-Chlorophenol	µg/L	T	40	1 U	1 U	1 U	1 U	--	--	
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	1 U	1 U	1 U	1 U	--	--	
SVOCs	2-Nitroaniline	µg/L	T	160	5 U	5 U	5 U	5 U	--	--	
SVOCs	2-Nitrophenol	µg/L	T	NE	5 U	5 U	5 U	5 U	--	--	
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	5 U	5 U	5 U	5 U	--	--	
SVOCs	3-Nitroaniline	µg/L	T	NE	5 U	5 U	5 U	5 U	--	--	
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	10 U	10 U	10 U	10 U	--	--	
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	5 U	5 U	5 U	5 U	--	--	
SVOCs	4-Chloroaniline	µg/L	T	5.0	5 U	5 U	5 U	5 U	--	--	
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	1 U	1 U	1 U	1 U	--	--	
SVOCs	4-Nitroaniline	µg/L	T	NE	5 U	5 U	5 U	5 U	--	--	
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	5 U	5 U	5 U	5 U	--	--	
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	
SVOCs	Benzoic Acid	µg/L	T	64000	10 U	10 U	10 U	10 U	--	--	
SVOCs	Benzyl Alcohol	µg/L	T	800	5 U	5 U	5 U	5 U	--	--	
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	1 U	1 U	1 U	1 U	--	--	
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	1 U	1 U	1 U	40	--	--	
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	1 U	1 U	1 U	1 U	--	--	
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	

		Sampling Event:			2008 Q4	2008 Q4	2008 Q4	2008 Q4	2010 Q4	2010 Q4	2010 Q4	2010 Q4
		Sample ID:	LAI-5D_081203	LAI-MW-2_081203	PGG-1_081203	PGG-2_081203	LAI-1_101118	LAI-2_101118	LAI-MW-2_101118	PGG-1_101118	PGG-1_101118	
		Location:	LAI-5d	LAI-MW-2	PGG-1	PGG-2	LAI-1	LAI-2	LAI-MW-2	PGG-1	PGG-1	
		Date:	12/03/08	12/03/08	12/03/08	12/03/08	11/18/10	11/18/10	11/18/10	11/18/10	11/18/10	
SVOCs	Carbazole	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	5 U	5 U	5 U	5 U	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	5 U	5 U	5 U	5 U	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	1 U	1 U	1 U	1 U	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	5 U	5 U	5 U	5 U	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	1 U	1 U	1 U	1 U	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	0.334	0.01 U	0.01 U	0.012	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	1.5 U	1.5 U	1.59	1.76	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	50.2	3.6	4.6	4.4	5.7	3.2	4.1	8.1
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	0.01 U	2.55	4.91	2.91	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	0.01 U	2.55	4.91	2.91	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	0.01 U	0.01 U	0.01 U	0.01 U	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	7.21	6.06	6.06	5.8	6.5	6.84	6.41	6.47
Conventional	Specific Conductance	umhos/cm	--	NE	985	255	585	416	565	200	314	519
Conventional	Sulfate	mg/L	--	NE	201	38.5	68.5	48.1	76.8	20	49.9	54.5
Conventional	Temperature	deg C	--	NE	11.6	11.4	11.9	11.5	11.9	11.2	12.5	11.9
Conventional	Total Dissolved Solids	mg/L	--	NE	729	148	363	305	370	114	205	314
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
					Sample ID:	JGLX0	JGLX2	JGLX4	JGLX6	JGLX8	JGLY0	JGLY0DL	JGLY2
					Location:	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-MW-1	LAI-MW-2	LAI-MW-2	LAI-MW-3
					Date:	01/15/14	01/14/14	01/13/14	01/15/14	01/13/14	01/15/14	01/15/14	01/14/14
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	T	6.0	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	T	5.0	--	--	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	D	5.0	--	--	--	--	--	--	--	--	--
Metals	Barium	µg/L	T	2000	--	--	--	--	--	--	--	--	--
Metals	Barium	µg/L	D	2000	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	T	5.0	--	--	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	D	5.0	--	--	--	--	--	--	--	--	--
Metals	Calcium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Chromium	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Chromium	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	T	640	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	D	640	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	T	11000	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	D	11000	--	--	--	--	--	--	--	--	--
Metals	Lead	µg/L	T	15	--	--	--	--	--	--	--	--	--
Metals	Lead	µg/L	D	15	--	--	--	--	--	--	--	--	--
Metals	Magnesium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Magnesium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Manganese	µg/L	T	2200	--	--	--	--	--	--	--	--	--
Metals	Manganese	µg/L	D	2200	--	--	--	--	--	--	--	--	--
Metals	Mercury	µg/L	T	0.89	--	--	--	--	--	--	--	--	--
Metals	Mercury	µg/L	D	0.89	--	--	--	--	--	--	--	--	--
Metals	Nickel	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Nickel	µg/L	D	100	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	T	50	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	D	50	--	--	--	--	--	--	--	--	--
Metals	Silver	µg/L	T	80	--	--	--	--	--	--	--	--	--
Metals	Silver	µg/L	D	80	--	--	--	--	--	--	--	--	--
Metals	Sodium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	--	--	--	--
Metals	Thallium	µg/L	T	1.0	--	--	--	--	--	--	--	--	--



				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLX0	JGLX2	JGLX4	JGLX6	JGLX8	JGLY0	JGLY0DL	JGLY2
				Location:	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-MW-1	LAI-MW-2	LAI-MW-2	LAI-MW-3
				Date:	01/15/14	01/14/14	01/13/14	01/15/14	01/13/14	01/15/14	01/15/14	01/14/14
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	D	4800	--	--	--	--	--	--	--	--
VOCs	Benzene	µg/L	T	2.4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Toluene	µg/L	T	640	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Ethylbenzene	µg/L	T	700	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Xylene, m-,p-	µg/L	T	290	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Xylene, o-	µg/L	T	440	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Acetone	µg/L	T	7200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Bromodichloromethane	µg/L	T	1.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Bromomethane	µg/L	T	11	0.50 U	0.35	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Carbon Disulfide	µg/L	T	400	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLX0	JGLX2	JGLX4	JGLX6	JGLX8	JGLY0	JGLY0DL	JGLY2
				Location:	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-MW-1	LAI-MW-2	LAI-MW-2	LAI-MW-3
				Date:	01/15/14	01/14/14	01/13/14	01/15/14	01/13/14	01/15/14	01/15/14	01/14/14
VOCs	Chlorobenzene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Chloroethane	µg/L	T	18000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Chloroform	µg/L	T	1.2	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Chloromethane	µg/L	T	150	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	1.3	0.50 U	0.50 U	0.50 U	0.50 U	0.99	--	0.50 U
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Cyclohexane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Dibromochloromethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	0.50 U	0.50 U	0.50 U	0.50 U	0.34	0.50 U	--	0.50 U
VOCs	Hexachlorobutadiene	µg/L	T	0.56	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Methylene Chloride	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	17	1.1	0.50 U	0.50 U	0.50 U	--	41	0.50 U
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	--	0.50 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Acenaphthene	µg/L	T	960	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Acenaphthylene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Anthracene	µg/L	T	4800	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	0.091	0.13	0.11	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Fluoranthene	µg/L	T	640	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Fluorene	µg/L	T	640	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Naphthalene	µg/L	T	8.9	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Phenanthrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Pyrene	µg/L	T	480	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(a)pyrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(a)anthracene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Benzo(a,h)anthracene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Chrysene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	0.10 U
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.0755 U	0.0755 U	0.0755 U	0.0755 U	0.0755 U	0.0755 U	--	0.0755 U
PAHs	Dibenzofuran	µg/L	T	16	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U

		Sampling Event:		2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:		JGLX0	JGLX2	JGLX4	JGLX6	JGLX8	JGLY0	JGLY0DL	JGLY2	
		Location:		LAI-1	LAI-2	LAI-3	LAI-5d	LAI-MW-1	LAI-MW-2	LAI-MW-2	LAI-MW-3	
		Date:		01/15/14	01/14/14	01/13/14	01/15/14	01/13/14	01/15/14	01/15/14	01/14/14	
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,4-Dichlorophenol	µg/L	T	24	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,4-Dimethylphenol	µg/L	T	160	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,4-Dinitrophenol	µg/L	T	32	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2-Chloronaphthalene	µg/L	T	640	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2-Chlorophenol	µg/L	T	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	2-Nitroaniline	µg/L	T	160	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	2-Nitrophenol	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	3-Nitroaniline	µg/L	T	NE	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	4-Chloroaniline	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	4-Nitroaniline	µg/L	T	NE	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U
SVOCs	Atrazine	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Benzaldehyde	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Caprolactam	µg/L	T	8000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLX0	JGLX2	JGLX4	JGLX6	JGLX8	JGLY0	JGLY0DL	JGLY2
				Location:	LAI-1	LAI-2	LAI-3	LAI-5d	LAI-MW-1	LAI-MW-2	LAI-MW-2	LAI-MW-3
				Date:	01/15/14	01/14/14	01/13/14	01/15/14	01/13/14	01/15/14	01/15/14	01/14/14
SVOCs	Carbazole	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Dibutyl Phthalate	µg/L	T	1600	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Diethyl Phthalate	µg/L	T	13000	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Dimethyl Phthalate	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Hexachlorobenzene	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Hexachloroethane	µg/L	T	1.1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Isophorone	µg/L	T	46	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Nitrobenzene	µg/L	T	16	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
SVOCs	Pentachlorophenol	µg/L	T	1.0	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	--	0.20 U
SVOCs	Phenol	µg/L	T	2400	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--



					Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
					Sample ID:	JGLY4	JGLY6	JGLY8	JGLZ0	MJGLX0	MJGLX1	MJGLX2	MJGLX3
					Location:	LAI-MW-4	PGG-1	PGG-2	MW-23	LAI-1	LAI-1	LAI-2	LAI-2
					Date:	01/13/14	01/14/14	01/14/14	01/23/14	01/15/14	01/15/14	01/14/14	01/14/14
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	--	--	--	--	361	--	200 U	--	--
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	265	--	200 U	--
Metals	Antimony	µg/L	T	6.0	--	--	--	--	2.0 U	--	2.0 U	--	--
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	2.0 U	--	2.0 U	--
Metals	Arsenic	µg/L	T	5.0	--	--	--	--	1.0 U	--	0.40	--	--
Metals	Arsenic	µg/L	D	5.0	--	--	--	--	--	1.0 U	--	0.50	--
Metals	Barium	µg/L	T	2000	--	--	--	--	17.4	--	6.2	--	--
Metals	Barium	µg/L	D	2000	--	--	--	--	--	16.9	--	5.4	--
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	1.0 U	--	1.0 U	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	1.0 U	--	1.0 U	--
Metals	Cadmium	µg/L	T	5.0	--	--	--	--	1.0 U	--	1.0 U	--	--
Metals	Cadmium	µg/L	D	5.0	--	--	--	--	--	1.0 U	--	1.0 U	--
Metals	Calcium	µg/L	T	NE	--	--	--	--	70200	--	15800	--	--
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	69900	--	15400	--
Metals	Chromium	µg/L	T	100	--	--	--	--	1.3	--	12.7	--	--
Metals	Chromium	µg/L	D	100	--	--	--	--	--	0.99	--	1.0	--
Metals	Cobalt	µg/L	T	100	--	--	--	--	1.0 U	--	0.26	--	--
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	1.0 U	--	1.0 U	--
Metals	Copper	µg/L	T	640	--	--	--	--	2.0 U	--	2.0 U	--	--
Metals	Copper	µg/L	D	640	--	--	--	--	--	2.0 U	--	2.0 U	--
Metals	Iron	µg/L	T	11000	--	--	--	--	102	--	265	--	--
Metals	Iron	µg/L	D	11000	--	--	--	--	--	100 U	--	100 U	--
Metals	Lead	µg/L	T	15	--	--	--	--	0.44	--	2.7	--	--
Metals	Lead	µg/L	D	15	--	--	--	--	--	0.23	--	0.098	--
Metals	Magnesium	µg/L	T	NE	--	--	--	--	18600	--	9340	--	--
Metals	Magnesium	µg/L	D	NE	--	--	--	--	--	18400	--	8960	--
Metals	Manganese	µg/L	T	2200	--	--	--	--	2.3	--	12.8	--	--
Metals	Manganese	µg/L	D	2200	--	--	--	--	--	0.52	--	2.3	--
Metals	Mercury	µg/L	T	0.89	--	--	--	--	0.20 U	--	0.20 U	--	--
Metals	Mercury	µg/L	D	0.89	--	--	--	--	--	0.20 U	--	0.20 U	--
Metals	Nickel	µg/L	T	100	--	--	--	--	1.5	--	12.1	--	--
Metals	Nickel	µg/L	D	100	--	--	--	--	--	1.4 J	--	1.8 J	--
Metals	Potassium	µg/L	T	NE	--	--	--	--	1270	--	627	--	--
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	1150	--	557	--
Metals	Selenium	µg/L	T	50	--	--	--	--	5.0 U	--	5.0 U	--	--
Metals	Selenium	µg/L	D	50	--	--	--	--	--	5.0 U	--	5.0 U	--
Metals	Silver	µg/L	T	80	--	--	--	--	0.15	--	0.10	--	--
Metals	Silver	µg/L	D	80	--	--	--	--	--	1.0 U	--	1.0 U	--
Metals	Sodium	µg/L	T	NE	--	--	--	--	27600	--	7290	--	--
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	26900	--	6970	--
Metals	Thallium	µg/L	T	1.0	--	--	--	--	1.0 U	--	1.0 U	--	--

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLY4	JGLY6	JGLY8	JGLZ0	MJGLX0	MJGLX1	MJGLX2	MJGLX3
				Location:	LAI-MW-4	PGG-1	PGG-2	MW-23	LAI-1	LAI-1	LAI-2	LAI-2
				Date:	01/13/14	01/14/14	01/14/14	01/23/14	01/15/14	01/15/14	01/14/14	01/14/14
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	1.0 U	--	1.0 U
Metals	Vanadium	µg/L	T	80	--	--	--	--	5.0 U	--	5.0 U	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	5.0 U	--	5.0 U
Metals	Zinc	µg/L	T	4800	--	--	--	--	9.3 J	--	9.0 J	--
Metals	Zinc	µg/L	D	4800	--	--	--	--	--	5.9 J	--	3.9 J
VOCs	Benzene	µg/L	T	2.4	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Toluene	µg/L	T	640	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Ethylbenzene	µg/L	T	700	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Xylene, m-,p-	µg/L	T	290	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Xylene, o-	µg/L	T	440	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Acetone	µg/L	T	7200	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Bromodichloromethane	µg/L	T	1.8	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Bromomethane	µg/L	T	11	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Carbon Disulfide	µg/L	T	400	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLY4	JGLY6	JGLY8	JGLZ0	MJGLX0	MJGLX1	MJGLX2	MJGLX3
				Location:	LAI-MW-4	PGG-1	PGG-2	MW-23	LAI-1	LAI-1	LAI-2	LAI-2
				Date:	01/13/14	01/14/14	01/14/14	01/23/14	01/15/14	01/15/14	01/14/14	01/14/14
VOCs	Chlorobenzene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Chloroethane	µg/L	T	18000	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Chloroform	µg/L	T	1.2	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Chloromethane	µg/L	T	150	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Cyclohexane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	0.50 U	0.27 J	0.50 U	0.50 U	--	--	--	--
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	0.50 U	0.50 U	0.50 U	0.50 U	--	--	--	--
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Fluorene	µg/L	T	640	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Pyrene	µg/L	T	480	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	0.10 U	0.10 U	0.10 U	0.10 U	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	0.0755 U	0.0755 U	0.0755 U	0.0755 U	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--

		Sampling Event:		2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:		JGLY4	JGLY6	JGLY8	JGLZ0	MJGLX0	MJGLX1	MJGLX2	MJGLX3	
		Location:		LAI-MW-4	PGG-1	PGG-2	MW-23	LAI-1	LAI-1	LAI-2	LAI-2	
		Date:		01/13/14	01/14/14	01/14/14	01/23/14	01/15/14	01/15/14	01/14/14	01/14/14	
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	10 U	10 U	10 U	10 U	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--



				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	JGLY4	JGLY6	JGLY8	JGLZ0	MJGLX0	MJGLX1	MJGLX2	MJGLX3
				Location:	LAI-MW-4	PGG-1	PGG-2	MW-23	LAI-1	LAI-1	LAI-2	LAI-2
				Date:	01/13/14	01/14/14	01/14/14	01/23/14	01/15/14	01/15/14	01/14/14	01/14/14
SVOCs	Carbazole	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	5.0 U	5.0 U	5.0 U	5.0 U	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
					Sample ID:	MJGLX4	MJGLX4D	MJGLX5	MJGLX5D	MJGLX6	MJGLX7	MJGLX8	MJGLX9
					Location:	LAI-3	LAI-3	LAI-3	LAI-3	LAI-5d	LAI-5d	LAI-MW-1	LAI-MW-1
					Date:	01/13/14	01/13/14	01/13/14	01/13/14	01/15/14	01/15/14	01/13/14	01/13/14
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	200 U	200 U	--	--	549	--	251	--	--
Metals	Aluminum	µg/L	D	16000	--	--	200 U	200 U	--	456	--	200 U	--
Metals	Antimony	µg/L	T	6.0	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--	--
Metals	Antimony	µg/L	D	6.0	--	--	2.0 U	2.0 U	--	2.0 U	--	2.0 U	--
Metals	Arsenic	µg/L	T	5.0	1.0 U	0.26	--	--	0.93	--	1.0 U	--	--
Metals	Arsenic	µg/L	D	5.0	--	--	1.0 U	1.0 U	--	0.98	--	1.0 U	--
Metals	Barium	µg/L	T	2000	3.7	3.7	--	--	73.3	--	7.0	--	--
Metals	Barium	µg/L	D	2000	--	--	3.4	3.9	--	72.5	--	5.7	--
Metals	Beryllium	µg/L	T	4.0	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--
Metals	Cadmium	µg/L	T	5.0	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--	--
Metals	Cadmium	µg/L	D	5.0	--	--	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--
Metals	Calcium	µg/L	T	NE	14900	14900	--	--	118000	--	21400	--	--
Metals	Calcium	µg/L	D	NE	--	--	15400	15100	--	117000	--	22000	--
Metals	Chromium	µg/L	T	100	0.86	2.6	--	--	2.5	--	3.8	--	--
Metals	Chromium	µg/L	D	100	--	--	0.66	1.3	--	0.82	--	1.0	--
Metals	Cobalt	µg/L	T	100	1.0 U	1.0 U	--	--	1.0 U	--	0.12	--	--
Metals	Cobalt	µg/L	D	100	--	--	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--
Metals	Copper	µg/L	T	640	2.0 U	2.0 U	--	--	2.0 U	--	2.0 U	--	--
Metals	Copper	µg/L	D	640	--	--	2.0 U	2.0 U	--	2.0 U	--	2.0 U	--
Metals	Iron	µg/L	T	11000	100 U	100 U	--	--	2410	--	293	--	--
Metals	Iron	µg/L	D	11000	--	--	100 U	100 U	--	2250	--	100 U	--
Metals	Lead	µg/L	T	15	0.25	0.27	--	--	0.45	--	0.34	--	--
Metals	Lead	µg/L	D	15	--	--	0.48	0.48	--	0.14	--	0.12	--
Metals	Magnesium	µg/L	T	NE	4170	4200	--	--	58900	--	5270	--	--
Metals	Magnesium	µg/L	D	NE	--	--	4300	4250	--	58200	--	5330	--
Metals	Manganese	µg/L	T	2200	0.99	1.1	--	--	2420	--	5.0	--	--
Metals	Manganese	µg/L	D	2200	--	--	0.54	1.1	--	2370	--	0.99	--
Metals	Mercury	µg/L	T	0.89	0.012	0.012	--	--	0.20 U	--	0.20 U	--	--
Metals	Mercury	µg/L	D	0.89	--	--	0.20 U	0.20 U	--	0.20 U	--	0.20 U	--
Metals	Nickel	µg/L	T	100	2.1	2.1	--	--	3.5	--	3.5	--	--
Metals	Nickel	µg/L	D	100	--	--	0.57	2.1	--	1.4 J	--	0.78	--
Metals	Potassium	µg/L	T	NE	5000 U	5000 U	--	--	7360	--	5000 U	--	--
Metals	Potassium	µg/L	D	NE	--	--	5000 U	5000 U	--	7320	--	124	--
Metals	Selenium	µg/L	T	50	5.0 U	5.0 U	--	--	2.6	--	5.0 U	--	--
Metals	Selenium	µg/L	D	50	--	--	5.0 U	5.0 U	--	2.5	--	5.0 U	--
Metals	Silver	µg/L	T	80	1.0 U	1.0 U	--	--	0.092	--	0.066	--	--
Metals	Silver	µg/L	D	80	--	--	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--
Metals	Sodium	µg/L	T	NE	7310	7170	--	--	15900	--	9370	--	--
Metals	Sodium	µg/L	D	NE	--	--	7270	7360	--	15400	--	9630	--
Metals	Thallium	µg/L	T	1.0	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--	--

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	MJGLX4	MJGLX4D	MJGLX5	MJGLX5D	MJGLX6	MJGLX7	MJGLX8	MJGLX9
				Location:	LAI-3	LAI-3	LAI-3	LAI-3	LAI-5d	LAI-5d	LAI-MW-1	LAI-MW-1
				Date:	01/13/14	01/13/14	01/13/14	01/13/14	01/15/14	01/15/14	01/13/14	01/13/14
Metals	Thallium	µg/L	D	1.0	--	--	1.0 U	1.0 U	--	1.0 U	--	1.0 U
Metals	Vanadium	µg/L	T	80	5.0 U	5.0 U	--	--	5.0 U	--	5.0 U	--
Metals	Vanadium	µg/L	D	80	--	--	5.0 U	5.0 U	--	5.0 U	--	5.0 U
Metals	Zinc	µg/L	T	4800	13.8 J	6.1	--	--	12.5 J	--	29.5 J	--
Metals	Zinc	µg/L	D	4800	--	--	3.4 J	8.7	--	4.2 J	--	5.4 J
VOCs	Benzene	µg/L	T	2.4	--	--	--	--	--	--	--	--
VOCs	Toluene	µg/L	T	640	--	--	--	--	--	--	--	--
VOCs	Ethylbenzene	µg/L	T	700	--	--	--	--	--	--	--	--
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	Xylene, o-	µg/L	T	440	--	--	--	--	--	--	--	--
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	--	--	--	--	--	--	--	--
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	--	--	--	--	--	--	--	--
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	--	--	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloroethane	µg/L	T	7.7	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloroethene	µg/L	T	7.0	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromoethane	µg/L	T	0.20	--	--	--	--	--	--	--	--
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	--	--	--	--	--	--	--	--
VOCs	1,2-Dichloroethane	µg/L	T	4.2	--	--	--	--	--	--	--	--
VOCs	1,2-Dichloropropane	µg/L	T	3.9	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	--	--	--	--	--	--	--	--
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	--	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	--	--	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	--	--	--	--	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromodichloromethane	µg/L	T	1.8	--	--	--	--	--	--	--	--
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	--	--	--	--	--	--	--	--
VOCs	Bromomethane	µg/L	T	11	--	--	--	--	--	--	--	--
VOCs	Carbon Disulfide	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	--	--	--	--	--	--	--	--

		Sampling Event:		2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:		MJGLX4	MJGLX4D	MJGLX5	MJGLX5D	MJGLX6	MJGLX7	MJGLX8	MJGLX9	
		Location:		LAI-3	LAI-3	LAI-3	LAI-3	LAI-5d	LAI-5d	LAI-MW-1	LAI-MW-1	
		Date:		01/13/14	01/13/14	01/13/14	01/13/14	01/15/14	01/15/14	01/13/14	01/13/14	
VOCs	Chlorobenzene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Chloroethane	µg/L	T	18000	--	--	--	--	--	--	--	--
VOCs	Chloroform	µg/L	T	1.2	--	--	--	--	--	--	--	--
VOCs	Chloromethane	µg/L	T	150	--	--	--	--	--	--	--	--
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	--	--	--	--	--	--	--	--
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	--	--
VOCs	Cyclohexane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	--	--	--	--	--	--	--	--
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	--	--	--	--	--	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	--	--	--	--	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	--	--	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	--	--
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	--	--	--	--	--	--	--	--
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	--	--	--	--	--	--	--	--
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	--	--	--	--	--	--	--	--
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--



		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:			MJGLX4	MJGLX4D	MJGLX5	MJGLX5D	MJGLX6	MJGLX7	MJGLX8	MJGLX9
		Location:			LAI-3	LAI-3	LAI-3	LAI-3	LAI-5d	LAI-5d	LAI-MW-1	LAI-MW-1
		Date:			01/13/14	01/13/14	01/13/14	01/13/14	01/15/14	01/15/14	01/13/14	01/13/14
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--

		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:			MJGLX4	MJGLX4D	MJGLX5	MJGLX5D	MJGLX6	MJGLX7	MJGLX8	MJGLX9
		Location:			LAI-3	LAI-3	LAI-3	LAI-3	LAI-5d	LAI-5d	LAI-MW-1	LAI-MW-1
		Date:			01/13/14	01/13/14	01/13/14	01/13/14	01/15/14	01/15/14	01/13/14	01/13/14
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
					Sample ID:	MJGLY0	MJGLY1	MJGLY2	MJGLY3	MJGLY4	MJGLY5	MJGLY6	MJGLY7
					Location:	LAI-MW-2	LAI-MW-2	LAI-MW-3	LAI-MW-3	LAI-MW-4	LAI-MW-4	PGG-1	PGG-1
					Date:	01/15/14	01/15/14	01/14/14	01/14/14	01/13/14	01/13/14	01/14/14	01/14/14
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	-	-	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	µg/L	T	500	-	-	-	-	-	-	-	-	-
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	-	-	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	T	16000	352	-	200 U	-	538	-	218	-	-
Metals	Aluminum	µg/L	D	16000	-	200 U	-	200 U	-	307	-	-	200 U
Metals	Antimony	µg/L	T	6.0	2.0 U	-	2.0 U	-	2.0 U	-	2.0 U	-	-
Metals	Antimony	µg/L	D	6.0	-	2.0 U	-	2.0 U	-	2.0 U	-	-	2.0 U
Metals	Arsenic	µg/L	T	5.0	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	-
Metals	Arsenic	µg/L	D	5.0	-	1.0 U	-	1.0 U	-	1.0 U	-	-	1.0 U
Metals	Barium	µg/L	T	2000	11.7	-	2.3	-	20.7	-	13.7	-	-
Metals	Barium	µg/L	D	2000	-	10.7	-	2.0	-	18.2	-	-	13.4
Metals	Beryllium	µg/L	T	4.0	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	-
Metals	Beryllium	µg/L	D	4.0	-	1.0 U	-	1.0 U	-	1.0 U	-	-	1.0 U
Metals	Cadmium	µg/L	T	5.0	1.0 U	-	1.0 U	-	0.21	-	1.0 U	-	-
Metals	Cadmium	µg/L	D	5.0	-	1.0 U	-	1.0 U	-	1.0 U	-	-	1.0 U
Metals	Calcium	µg/L	T	NE	39100	-	8820	-	77200	-	54100	-	-
Metals	Calcium	µg/L	D	NE	-	38800	-	9080	-	74900	-	-	55100
Metals	Chromium	µg/L	T	100	2.1	-	37.6	-	2.2	-	2.1	-	-
Metals	Chromium	µg/L	D	100	-	1.7	-	1.1	-	1.2	-	-	1.3
Metals	Cobalt	µg/L	T	100	0.11	-	0.36	-	0.46	-	1.0 U	-	-
Metals	Cobalt	µg/L	D	100	-	1.0 U	-	1.0 U	-	1.0 U	-	-	1.0 U
Metals	Copper	µg/L	T	640	2.0 U	-	2.0 U	-	2.0 U	-	2.0 U	-	-
Metals	Copper	µg/L	D	640	-	2.0 U	-	2.0 U	-	2.0 U	-	-	2.0 U
Metals	Iron	µg/L	T	11000	329	-	277	-	349	-	100 U	-	-
Metals	Iron	µg/L	D	11000	-	100 U	-	100 U	-	100 U	-	-	100 U
Metals	Lead	µg/L	T	15	0.22	-	0.45	-	0.69	-	0.41	-	-
Metals	Lead	µg/L	D	15	-	0.32	-	0.12	-	0.16	-	-	0.78
Metals	Magnesium	µg/L	T	NE	10400	-	2730	-	20200	-	15500	-	-
Metals	Magnesium	µg/L	D	NE	-	10400	-	2790	-	19600	-	-	15800
Metals	Manganese	µg/L	T	2200	9.1	-	7.2	-	12.9	-	1.7	-	-
Metals	Manganese	µg/L	D	2200	-	1.4	-	1.8	-	2.4	-	-	1.5
Metals	Mercury	µg/L	T	0.89	0.20 U	-	0.20 U	-	0.20 U	-	0.20 U	-	-
Metals	Mercury	µg/L	D	0.89	-	0.20 U	-	0.20 U	-	0.20 U	-	-	0.20 U
Metals	Nickel	µg/L	T	100	1.6	-	23.1	-	3.6	-	2.3	-	-
Metals	Nickel	µg/L	D	100	-	1.7 J	-	2.8 J	-	1.9 J	-	-	2.7 J
Metals	Potassium	µg/L	T	NE	677	-	5000 U	-	799	-	745	-	-
Metals	Potassium	µg/L	D	NE	-	587	-	5000 U	-	721	-	-	738
Metals	Selenium	µg/L	T	50	5.0 U	-	5.0 U	-	5.0 U	-	5.0 U	-	-
Metals	Selenium	µg/L	D	50	-	5.0 U	-	5.0 U	-	5.0 U	-	-	5.0 U
Metals	Silver	µg/L	T	80	1.0 U	-	0.064	-	1.0 U	-	1.0 U	-	-
Metals	Silver	µg/L	D	80	-	0.11	-	1.0 U	-	1.0 U	-	-	0.074
Metals	Sodium	µg/L	T	NE	14300	-	4590	-	24900	-	22700	-	-
Metals	Sodium	µg/L	D	NE	-	14400	-	4660	-	24200	-	-	22900
Metals	Thallium	µg/L	T	1.0	1.0 U	-	1.0 U	-	1.0 U	-	1.0 U	-	-

				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
				Sample ID:	MJGLY0	MJGLY1	MJGLY2	MJGLY3	MJGLY4	MJGLY5	MJGLY6	MJGLY7
				Location:	LAI-MW-2	LAI-MW-2	LAI-MW-3	LAI-MW-3	LAI-MW-4	LAI-MW-4	PGG-1	PGG-1
				Date:	01/15/14	01/15/14	01/14/14	01/14/14	01/13/14	01/13/14	01/14/14	01/14/14
Metals	Thallium	µg/L	D	1.0	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U
Metals	Vanadium	µg/L	T	80	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U	--
Metals	Vanadium	µg/L	D	80	--	5.0 U	--	5.0 U	--	5.0 U	--	5.0 U
Metals	Zinc	µg/L	T	4800	9.7 J	--	7.1 J	--	54.6 J	--	7.4 J	--
Metals	Zinc	µg/L	D	4800	--	4.7 J	--	6.3 J	--	6.9 J	--	9.1 J
VOCs	Benzene	µg/L	T	2.4	--	--	--	--	--	--	--	--
VOCs	Toluene	µg/L	T	640	--	--	--	--	--	--	--	--
VOCs	Ethylbenzene	µg/L	T	700	--	--	--	--	--	--	--	--
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	Xylene, o-	µg/L	T	440	--	--	--	--	--	--	--	--
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	--	--	--	--	--	--	--	--
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	--	--	--	--	--	--	--	--
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	--	--	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloroethane	µg/L	T	7.7	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloroethene	µg/L	T	7.0	--	--	--	--	--	--	--	--
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromoethane	µg/L	T	0.20	--	--	--	--	--	--	--	--
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	--	--	--	--	--	--	--	--
VOCs	1,2-Dichloroethane	µg/L	T	4.2	--	--	--	--	--	--	--	--
VOCs	1,2-Dichloropropane	µg/L	T	3.9	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	--	--	--	--	--	--	--	--
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	--	--	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	--	--	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	--	--
VOCs	Acetone	µg/L	T	7200	--	--	--	--	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromodichloromethane	µg/L	T	1.8	--	--	--	--	--	--	--	--
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	--	--	--	--	--	--	--	--
VOCs	Bromomethane	µg/L	T	11	--	--	--	--	--	--	--	--
VOCs	Carbon Disulfide	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	--	--	--	--	--	--	--	--



		Sampling Event:		2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:		MJGLY0	MJGLY1	MJGLY2	MJGLY3	MJGLY4	MJGLY5	MJGLY6	MJGLY7	
		Location:		LAI-MW-2	LAI-MW-2	LAI-MW-3	LAI-MW-3	LAI-MW-4	LAI-MW-4	PGG-1	PGG-1	
		Date:		01/15/14	01/15/14	01/14/14	01/14/14	01/13/14	01/13/14	01/14/14	01/14/14	
VOCs	Chlorobenzene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Chloroethane	µg/L	T	18000	--	--	--	--	--	--	--	--
VOCs	Chloroform	µg/L	T	1.2	--	--	--	--	--	--	--	--
VOCs	Chloromethane	µg/L	T	150	--	--	--	--	--	--	--	--
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	--	--	--	--	--	--	--	--
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	--	--
VOCs	Cyclohexane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	--	--	--	--	--	--	--	--
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	--	--	--	--	--	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	--	--	--	--	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	--	--	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	--	--	--	--	--	--	--	--
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	--	--
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	--	--	--	--	--	--	--	--
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	--	--	--	--	--	--	--	--
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	--	--	--	--	--	--	--	--
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--

		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:			MJGLY0	MJGLY1	MJGLY2	MJGLY3	MJGLY4	MJGLY5	MJGLY6	MJGLY7
		Location:			LAI-MW-2	LAI-MW-2	LAI-MW-3	LAI-MW-3	LAI-MW-4	LAI-MW-4	PGG-1	PGG-1
		Date:			01/15/14	01/15/14	01/14/14	01/14/14	01/13/14	01/13/14	01/14/14	01/14/14
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--

		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E
		Sample ID:	MJGLY0	MJGLY1	MJGLY2	MJGLY3	MJGLY4	MJGLY5	MJGLY6	MJGLY7		
		Location:	LAI-MW-2	LAI-MW-2	LAI-MW-3	LAI-MW-3	LAI-MW-4	LAI-MW-4	PGG-1	PGG-1		
		Date:	01/15/14	01/15/14	01/14/14	01/14/14	01/13/14	01/13/14	01/14/14	01/14/14		
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	E_E_GW-1	E_E_GW-1
					Sample ID:	MJGLY8	MJGLY9	MJGLZ0	MJGLZ0D	MJGLZ1	MJGLZ1D	JGWE0	JGWE0DL
					Location:	PGG-2	PGG-2	MW-23	MW-23	MW-23	MW-23	LAI-1	LAI-1
					Date:	01/14/14	01/14/14	01/23/14	01/23/14	01/23/14	01/23/14	03/25/15	03/25/15
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	200 U	--	200 U	200 U	--	--	--	--	--
Metals	Aluminum	µg/L	D	16000	--	200 U	--	--	200 U	200 U	--	--	--
Metals	Antimony	µg/L	T	6.0	2.0 U	--	2.0 U	2.0 U	--	--	--	--	--
Metals	Antimony	µg/L	D	6.0	--	2.0 U	--	--	2.0 U	2.0 U	--	--	--
Metals	Arsenic	µg/L	T	5.0	1.0 U	--	0.35	0.32	--	--	--	--	--
Metals	Arsenic	µg/L	D	5.0	--	1.0 U	--	--	1.0 U	1.0 U	--	--	--
Metals	Barium	µg/L	T	2000	10.1	--	10.0 U	10.0 U	--	--	--	--	--
Metals	Barium	µg/L	D	2000	--	9.6	--	--	10.0 U	10.0 U	--	--	--
Metals	Beryllium	µg/L	T	4.0	1.0 U	--	1.0 U	1.0 U	--	--	--	--	--
Metals	Beryllium	µg/L	D	4.0	--	1.0 U	--	--	1.0 U	1.0 U	--	--	--
Metals	Cadmium	µg/L	T	5.0	1.0 U	--	1.0 U	1.0 U	--	--	--	--	--
Metals	Cadmium	µg/L	D	5.0	--	1.0 U	--	--	1.0 U	1.0 U	--	--	--
Metals	Calcium	µg/L	T	NE	40500	--	13100	12800	--	--	--	--	--
Metals	Calcium	µg/L	D	NE	--	40400	--	--	13100	12900	--	--	--
Metals	Chromium	µg/L	T	100	5.9	--	2.0 U	2.8	--	--	--	--	--
Metals	Chromium	µg/L	D	100	--	1.1	--	--	2.0 U	2.0 U	--	--	--
Metals	Cobalt	µg/L	T	100	1.0 U	--	1.0 U	1.0 U	--	--	--	--	--
Metals	Cobalt	µg/L	D	100	--	1.0 U	--	--	1.0 U	1.0 U	--	--	--
Metals	Copper	µg/L	T	640	2.0 U	--	2.0 U	2.0 U	--	--	--	--	--
Metals	Copper	µg/L	D	640	--	2.0 U	--	--	2.1	2.0 U	--	--	--
Metals	Iron	µg/L	T	11000	100 U	--	736	732	--	--	--	--	--
Metals	Iron	µg/L	D	11000	--	100 U	--	--	381	367	--	--	--
Metals	Lead	µg/L	T	15	0.31	--	1.0 U	1.0 U	--	--	--	--	--
Metals	Lead	µg/L	D	15	--	0.24	--	--	1.0 U	1.0 U	--	--	--
Metals	Magnesium	µg/L	T	NE	11200	--	4450	4340	--	--	--	--	--
Metals	Magnesium	µg/L	D	NE	--	11200	--	--	4550	4420	--	--	--
Metals	Manganese	µg/L	T	2200	2.0	--	12.8	13.7	--	--	--	--	--
Metals	Manganese	µg/L	D	2200	--	1.5	--	--	11.4	11.6	--	--	--
Metals	Mercury	µg/L	T	0.89	0.20 U	--	0.20 U	0.20 U	--	--	--	--	--
Metals	Mercury	µg/L	D	0.89	--	0.20 U	--	--	0.20 U	0.20 U	--	--	--
Metals	Nickel	µg/L	T	100	4.6	--	1.8	2.1	--	--	--	--	--
Metals	Nickel	µg/L	D	100	--	2.0 J	--	--	1.9	1.9	--	--	--
Metals	Potassium	µg/L	T	NE	395	--	5000 U	5000 U	--	--	--	--	--
Metals	Potassium	µg/L	D	NE	--	422	--	--	5000 U	5000 U	--	--	--
Metals	Selenium	µg/L	T	50	5.0 U	--	5.0 U	5.0 U	--	--	--	--	--
Metals	Selenium	µg/L	D	50	--	5.0 U	--	--	5.0 U	5.0 U	--	--	--
Metals	Silver	µg/L	T	80	0.069	--	1.0 U	1.0 U	--	--	--	--	--
Metals	Silver	µg/L	D	80	--	1.0 U	--	--	1.0 U	1.0 U	--	--	--
Metals	Sodium	µg/L	T	NE	16900	--	6380	6240	--	--	--	--	--
Metals	Sodium	µg/L	D	NE	--	16700	--	--	6460	6230	--	--	--
Metals	Thallium	µg/L	T	1.0	1.0 U	--	1.0 U	1.0 U	--	--	--	--	--



				Sampling Event:	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	E_E_GW-1	E_E_GW-1
				Sample ID:	MJGLY8	MJGLY9	MJGLZ0	MJGLZ0D	MJGLZ1	MJGLZ1D	JGWE0	JGWE0DL
				Location:	PGG-2	PGG-2	MW-23	MW-23	MW-23	MW-23	LAI-1	LAI-1
				Date:	01/14/14	01/14/14	01/23/14	01/23/14	01/23/14	01/23/14	03/25/15	03/25/15
Metals	Thallium	µg/L	D	1.0	--	1.0 U	--	--	1.0 U	1.0 U	--	--
Metals	Vanadium	µg/L	T	80	5.0 U	--	5.0 U	5.0 U	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	5.0 U	--	--	5.0 U	5.0 U	--	--
Metals	Zinc	µg/L	T	4800	9.2 J	--	12.5	14.1	--	--	--	--
Metals	Zinc	µg/L	D	4800	--	7.3 J	--	--	9.1	8.0	--	--
VOCs	Benzene	µg/L	T	2.4	--	--	--	--	--	--	0.50 U	--
VOCs	Toluene	µg/L	T	640	--	--	--	--	--	--	0.50 U	--
VOCs	Ethylbenzene	µg/L	T	700	--	--	--	--	--	--	0.50 U	--
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	--	--	--	--	0.50 U	--
VOCs	Xylene, o-	µg/L	T	440	--	--	--	--	--	--	0.50 U	--
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	--	--	--	--	--	--	0.50 U	--
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	--	--	--	--	--	--	0.50 U	--
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	--	--	--	--	0.50 U	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	--	--	--	--	--	--	0.50 U	--
VOCs	1,1-Dichloroethane	µg/L	T	7.7	--	--	--	--	--	--	0.50 U	--
VOCs	1,1-Dichloroethene	µg/L	T	7.0	--	--	--	--	--	--	0.50 U	--
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	0.50 U	--
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	--	--	--	--	--	--	0.50 U	--
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	--	--	--	--	--	--	0.50 U	--
VOCs	1,2-Dibromoethane	µg/L	T	0.20	--	--	--	--	--	--	0.50 U	--
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	--	--	--	--	--	--	0.50 U	--
VOCs	1,2-Dichloroethane	µg/L	T	4.2	--	--	--	--	--	--	0.50 U	--
VOCs	1,2-Dichloropropane	µg/L	T	3.9	--	--	--	--	--	--	0.50 U	--
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	--	--	--	--	--	--	0.50 U	--
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	--	--	--	--	--	--	0.50 U	--
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	--	--	--	--	5.0 U	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	--	--	--	--	--	--	5.0 U	--
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	--	--	--	--	5.0 U	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	--	--	--	--	0.50 U	--
VOCs	Acetone	µg/L	T	7200	--	--	--	--	--	--	5.0 U	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	--	--	--	--	--	--	0.50 U	--
VOCs	Bromodichloromethane	µg/L	T	1.8	--	--	--	--	--	--	0.50 U	--
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	--	--	--	--	--	--	0.50 U	--
VOCs	Bromomethane	µg/L	T	11	--	--	--	--	--	--	0.50 U	--
VOCs	Carbon Disulfide	µg/L	T	400	--	--	--	--	--	--	0.50 U	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	--	--	--	--	--	--	0.50 U	--

		Sampling Event:		2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	E_E_GW-1	E_E_GW-1
		Sample ID:		MJGLY8	MJGLY9	MJGLZ0	MJGLZ0D	MJGLZ1	MJGLZ1D		JGWE0	JGWE0DL
		Location:		PGG-2	PGG-2	MW-23	MW-23	MW-23	MW-23		LAI-1	LAI-1
		Date:		01/14/14	01/14/14	01/23/14	01/23/14	01/23/14	01/23/14		03/25/15	03/25/15
VOCs	Chlorobenzene	µg/L	T	100	--	--	--	--	--	--	0.50 U	--
VOCs	Chloroethane	µg/L	T	18000	--	--	--	--	--	--	0.50 U	--
VOCs	Chloroform	µg/L	T	1.2	--	--	--	--	--	--	0.50 U	--
VOCs	Chloromethane	µg/L	T	150	--	--	--	--	--	--	0.50 U	--
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	--	--	--	--	--	--	2.2	--
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	0.50 U	--
VOCs	Cyclohexane	µg/L	T	NE	--	--	--	--	--	--	0.50 U	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	--	--	--	--	0.50 U	--
VOCs	Dibromochloromethane	µg/L	T	4.5	--	--	--	--	--	--	0.50 U	--
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	--	--	--	--	0.50 U	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	--	--	--	--	--	--	0.50 U	--
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	--	--	--	--	0.50 U	--
VOCs	Methylene Chloride	µg/L	T	5.0	--	--	--	--	--	--	0.50 U	--
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	--	--	--	--	--	--	0.50 U	--
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	--	--	--	--	--	--	0.50 U	--
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	--	--	--	--	--	--	0.50 U	--
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	--	--	--	--	--	--	0.50 U	--
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	--	--	--	--	--	--	--	27
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	--	--	--	--	--	--	0.50 U	--
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	--	--	--	--	--	--	0.50 U	--
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(fluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCS	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--

		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	E_E_GW-1	E_E_GW-1
		Sample ID:	MJGLY8	MJGLY9	MJGLZ0	MJGLZ0D	MJGLZ1	MJGLZ1D	E_E_GW-1	E_E_GW-1		
		Location:	PGG-2	PGG-2	MW-23	MW-23	MW-23	MW-23	JGWE0	JGWE0DL		
		Date:	01/14/14	01/14/14	01/23/14	01/23/14	01/23/14	01/23/14	LAI-1	LAI-1		
									03/25/15	03/25/15		
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--

		Sampling Event:			2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	2014_Initial_E_E	E_E_GW-1	E_E_GW-1
		Sample ID:			MJGLY8	MJGLY9	MJGLZ0	MJGLZ0D	MJGLZ1	MJGLZ1D	JGWE0	JGWE0DL
		Location:			PGG-2	PGG-2	MW-23	MW-23	MW-23	MW-23	LAI-1	LAI-1
		Date:			01/14/14	01/14/14	01/23/14	01/23/14	01/23/14	01/23/14	03/25/15	03/25/15
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--



					Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1
					Sample ID:	JGWE1	JGWE1DL	JGWE2	JGWE3	MJGWE2	MJGWE2D	MJGWE3	MJGWE4
					Location:	LAI-MW-2	LAI-MW-2	OLY-01	OLY-02	OLY-01	OLY-01	OLY-02	OLY-01
					Date:	03/26/15	03/26/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	--	--	--	--	348	415	200 U	--	--
Metals	Aluminum	µg/L	D	16000	--	--	--	--	--	--	--	--	200 U
Metals	Antimony	µg/L	T	6.0	--	--	--	--	2.0 U	2.0 U	2.0 U	--	--
Metals	Antimony	µg/L	D	6.0	--	--	--	--	--	--	--	--	2.0 U
Metals	Arsenic	µg/L	T	5.0	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--
Metals	Arsenic	µg/L	D	5.0	--	--	--	--	--	--	--	--	1.0 U
Metals	Barium	µg/L	T	2000	--	--	--	--	10.0 U	10.0 U	10.0 U	--	--
Metals	Barium	µg/L	D	2000	--	--	--	--	--	--	--	--	10.0 U
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--
Metals	Beryllium	µg/L	D	4.0	--	--	--	--	--	--	--	--	1.0 U
Metals	Cadmium	µg/L	T	5.0	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--
Metals	Cadmium	µg/L	D	5.0	--	--	--	--	--	--	--	--	1.0 U
Metals	Calcium	µg/L	T	NE	--	--	--	--	11300	11200	23700	--	--
Metals	Calcium	µg/L	D	NE	--	--	--	--	--	--	--	--	11800
Metals	Chromium	µg/L	T	100	--	--	--	--	1.1	1.3	1.9	--	--
Metals	Chromium	µg/L	D	100	--	--	--	--	--	--	--	--	0.29
Metals	Cobalt	µg/L	T	100	--	--	--	--	1.0 U	1.0 U	1.4	--	--
Metals	Cobalt	µg/L	D	100	--	--	--	--	--	--	--	--	0.54
Metals	Copper	µg/L	T	640	--	--	--	--	2.0 U	2.0 U	2.0 U	--	--
Metals	Copper	µg/L	D	640	--	--	--	--	--	--	--	--	2.0 U
Metals	Iron	µg/L	T	11000	--	--	--	--	459	514	156	--	--
Metals	Iron	µg/L	D	11000	--	--	--	--	--	--	--	--	100 U
Metals	Lead	µg/L	T	15	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--
Metals	Lead	µg/L	D	15	--	--	--	--	--	--	--	--	1.0 U
Metals	Magnesium	µg/L	T	NE	--	--	--	--	4530	4540	7980	--	--
Metals	Magnesium	µg/L	D	NE	--	--	--	--	--	--	--	--	4670
Metals	Manganese	µg/L	T	2200	--	--	--	--	87.9	91.6	137	--	--
Metals	Manganese	µg/L	D	2200	--	--	--	--	--	--	--	--	79.2
Metals	Mercury	µg/L	T	0.89	--	--	--	--	0.20 U	0.20 U	0.20 U	--	--
Metals	Mercury	µg/L	D	0.89	--	--	--	--	--	--	--	--	0.20 U
Metals	Nickel	µg/L	T	100	--	--	--	--	1.6	1.7	2.1	--	--
Metals	Nickel	µg/L	D	100	--	--	--	--	--	--	--	--	1.1
Metals	Potassium	µg/L	T	NE	--	--	--	--	5000 U	5000 U	5000 U	--	--
Metals	Potassium	µg/L	D	NE	--	--	--	--	--	--	--	--	5000 U
Metals	Selenium	µg/L	T	50	--	--	--	--	5.0 U	5.0 U	5.0 U	--	--
Metals	Selenium	µg/L	D	50	--	--	--	--	--	--	--	--	5.0 U
Metals	Silver	µg/L	T	80	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--
Metals	Silver	µg/L	D	80	--	--	--	--	--	--	--	--	1.0 U
Metals	Sodium	µg/L	T	NE	--	--	--	--	5890	5940	11200	--	--
Metals	Sodium	µg/L	D	NE	--	--	--	--	--	--	--	--	6010
Metals	Thallium	µg/L	T	1.0	--	--	--	--	1.0 U	1.0 U	1.0 U	--	--

				Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1
				Sample ID:	JGWE1	JGWE1DL	JGWE2	JGWE3	MJGWE2	MJGWE2D	MJGWE3	MJGWE4
				Location:	LAI-MW-2	LAI-MW-2	OLY-01	OLY-02	OLY-01	OLY-01	OLY-02	OLY-01
				Date:	03/26/15	03/26/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--	--	1.0 U
Metals	Vanadium	µg/L	T	80	--	--	--	--	1.3	1.3	0.55	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--	--	0.91
Metals	Zinc	µg/L	T	4800	--	--	--	--	3.0	4.3	2.9	--
Metals	Zinc	µg/L	D	4800	--	--	--	--	--	--	--	1.6
VOCs	Benzene	µg/L	T	2.4	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Toluene	µg/L	T	640	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Ethylbenzene	µg/L	T	700	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Xylene, m-,p-	µg/L	T	290	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Xylene, o-	µg/L	T	440	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	5.0 U	--	5.0 U	5.0 U	--	--	--	--
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	5.0 U	--	5.0 U	5.0 U	--	--	--	--
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	5.0 U	--	5.0 U	5.0 U	--	--	--	--
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Acetone	µg/L	T	7200	5.0 U	--	5.0 U	5.0 U	--	--	--	--
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Bromodichloromethane	µg/L	T	1.8	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Bromomethane	µg/L	T	11	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Carbon Disulfide	µg/L	T	400	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.50 U	--	0.50 U	0.50 U	--	--	--	--

				Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1
				Sample ID:	JGWE1	JGWE1DL	JGWE2	JGWE3	MJGWE2	MJGWE2D	MJGWE3	MJGWE4
				Location:	LAI-MW-2	LAI-MW-2	OLY-01	OLY-02	OLY-01	OLY-01	OLY-02	OLY-01
				Date:	03/26/15	03/26/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15
VOCs	Chlorobenzene	µg/L	T	100	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Chloroethane	µg/L	T	18000	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Chloroform	µg/L	T	1.2	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Chloromethane	µg/L	T	150	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	0.80	--	0.50 U	0.50 U	--	--	--	--
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Cyclohexane	µg/L	T	NE	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Dibromochloromethane	µg/L	T	4.5	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Methylene Chloride	µg/L	T	5.0	0.11	--	0.50 U	0.13	--	--	--	--
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	--	22	0.50 U	2.6	--	--	--	--
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.50 U	--	0.50 U	0.50 U	--	--	--	--
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	0.50 U	--	0.50 U	0.50 U	--	--	--	--
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--

		Sampling Event:		E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1
		Sample ID:		JGWE1	JGWE1DL	JGWE2	JGWE3	MJGWE2	MJGWE2D	MJGWE3	MJGWE4	
		Location:		LAI-MW-2	LAI-MW-2	OLY-01	OLY-02	OLY-01	OLY-01	OLY-02	OLY-01	OLY-01
		Date:		03/26/15	03/26/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--



		Sampling Event:			E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1	E_E_GW-1
		Sample ID:			JGWE1	JGWE1DL	JGWE2	JGWE3	MJGWE2	MJGWE2D	MJGWE3	MJGWE4
		Location:			LAI-MW-2	LAI-MW-2	OLY-01	OLY-02	OLY-01	OLY-01	OLY-02	OLY-01
		Date:			03/26/15	03/26/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15	03/25/15
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-3	E_E_GW-3
					Sample ID:	MJGWE4D	MJGWE5	JG5R0	JG5R1	JG5R2	JG5R3	JHAY0	JHAY1
					Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02	LAI-1	LAI-MW-2
					Date:	03/25/15	03/25/15	06/24/15	06/24/15	06/24/15	06/24/15	09/23/15	09/23/15
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:									
Fuels	Gasoline	µg/L	T	800	--	--	--	--	--	--	--	--	--
Fuels	Diesel-range hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	T	16000	--	--	--	--	--	--	--	--	--
Metals	Aluminum	µg/L	D	16000	200 U	200 U	--	--	--	--	--	--	--
Metals	Antimony	µg/L	T	6.0	--	--	--	--	--	--	--	--	--
Metals	Antimony	µg/L	D	6.0	2.0 U	2.0 U	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	T	5.0	--	--	--	--	--	--	--	--	--
Metals	Arsenic	µg/L	D	5.0	1.0 U	1.0 U	--	--	--	--	--	--	--
Metals	Barium	µg/L	T	2000	--	--	--	--	--	--	--	--	--
Metals	Barium	µg/L	D	2000	10.0 U	10.0 U	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	T	4.0	--	--	--	--	--	--	--	--	--
Metals	Beryllium	µg/L	D	4.0	1.0 U	1.0 U	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	T	5.0	--	--	--	--	--	--	--	--	--
Metals	Cadmium	µg/L	D	5.0	1.0 U	1.0 U	--	--	--	--	--	--	--
Metals	Calcium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Calcium	µg/L	D	NE	11500	23800	--	--	--	--	--	--	--
Metals	Chromium	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Chromium	µg/L	D	100	0.21	0.37	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Cobalt	µg/L	D	100	0.55	1.3	--	--	--	--	--	--	--
Metals	Copper	µg/L	T	640	--	--	--	--	--	--	--	--	--
Metals	Copper	µg/L	D	640	2.0 U	2.0 U	--	--	--	--	--	--	--
Metals	Iron	µg/L	T	11000	--	--	--	--	--	--	--	--	--
Metals	Iron	µg/L	D	11000	100 U	100 U	--	--	--	--	--	--	--
Metals	Lead	µg/L	T	15	--	--	--	--	--	--	--	--	--
Metals	Lead	µg/L	D	15	1.0 U	1.0 U	--	--	--	--	--	--	--
Metals	Magnesium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Magnesium	µg/L	D	NE	4580	7780 J	--	--	--	--	--	--	--
Metals	Manganese	µg/L	T	2200	--	--	--	--	--	--	--	--	--
Metals	Manganese	µg/L	D	2200	80.3	135	--	--	--	--	--	--	--
Metals	Mercury	µg/L	T	0.89	--	--	--	--	--	--	--	--	--
Metals	Mercury	µg/L	D	0.89	0.20 U	0.20 U	--	--	--	--	--	--	--
Metals	Nickel	µg/L	T	100	--	--	--	--	--	--	--	--	--
Metals	Nickel	µg/L	D	100	1.2	1.9	--	--	--	--	--	--	--
Metals	Potassium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Potassium	µg/L	D	NE	5000 U	5000 U	--	--	--	--	--	--	--
Metals	Selenium	µg/L	T	50	--	--	--	--	--	--	--	--	--
Metals	Selenium	µg/L	D	50	5.0 U	5.0 U	--	--	--	--	--	--	--
Metals	Silver	µg/L	T	80	--	--	--	--	--	--	--	--	--
Metals	Silver	µg/L	D	80	1.0 U	1.0 U	--	--	--	--	--	--	--
Metals	Sodium	µg/L	T	NE	--	--	--	--	--	--	--	--	--
Metals	Sodium	µg/L	D	NE	5920	11000	--	--	--	--	--	--	--
Metals	Thallium	µg/L	T	1.0	--	--	--	--	--	--	--	--	--

				Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-3	E_E_GW-3
				Sample ID:	MJGWE4D	MJGWE5	JG5R0	JG5R1	JG5R2	JG5R3	JHAY0	JHAY1
				Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02	LAI-1	LAI-MW-2
				Date:	03/25/15	03/25/15	06/24/15	06/24/15	06/24/15	06/24/15	09/23/15	09/23/15
Metals	Thallium	µg/L	D	1.0	1.0 U	1.0 U	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	0.68	0.69	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	--	--	--	--	--	--	--	--
Metals	Zinc	µg/L	D	4800	2.0	2.4	--	--	--	--	--	--
VOCs	Benzene	µg/L	T	2.4	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Toluene	µg/L	T	640	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Ethylbenzene	µg/L	T	700	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Xylene, m-,p-	µg/L	T	290	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Xylene, o-	µg/L	T	440	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	--	--	5 U	5 U	5 U	5 U	5.0 U	5.0 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	--	--	5 U	5 U	5 U	5 U	5.0 U	5.0 U
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	--	--	5 U	5 U	5 U	5 U	5.0 U	5.0 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Acetone	µg/L	T	7200	--	--	5 U	5 U	5 U	5 U	5.0 U	5.0 U
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Bromodichloromethane	µg/L	T	1.8	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Bromomethane	µg/L	T	11	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Carbon Disulfide	µg/L	T	400	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U

				Sampling Event:	E_E_GW-1	E_E_GW-1	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-3	E_E_GW-3
				Sample ID:	MJGWE4D	MJGWE5	JG5R0	JG5R1	JG5R2	JG5R3	JHAY0	JHAY1
				Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02	LAI-1	LAI-MW-2
				Date:	03/25/15	03/25/15	06/24/15	06/24/15	06/24/15	06/24/15	09/23/15	09/23/15
VOCs	Chlorobenzene	µg/L	T	100	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Chloroethane	µg/L	T	18000	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Chloroform	µg/L	T	1.2	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Chloromethane	µg/L	T	150	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	--	--	2.2	1.2	0.5 U	0.5 U	1.6	0.33
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Cyclohexane	µg/L	T	NE	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Dibromochloromethane	µg/L	T	4.5	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Methylene Chloride	µg/L	T	5.0	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	--	--	0.22	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	--	--	20	50	0.5 U	2.8	19	19
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--	--	--



		Sampling Event:			E_E_GW-1	E_E_GW-1	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-3	E_E_GW-3
		Sample ID:			MJGWE4D	MJGWE5	JG5R0	JG5R1	JG5R2	JG5R3	JHAY0	JHAY1
		Location:			OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02	LAI-1	LAI-MW-2
		Date:			03/25/15	03/25/15	06/24/15	06/24/15	06/24/15	06/24/15	09/23/15	09/23/15
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--	--	--

		Sampling Event:			E_E_GW-1	E_E_GW-1	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-2	E_E_GW-3	E_E_GW-3
		Sample ID:			MJGWE4D	MJGWE5	JG5R0	JG5R1	JG5R2	JG5R3	JHAY0	JHAY1
		Location:			OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02	LAI-1	LAI-MW-2
		Date:			03/25/15	03/25/15	06/24/15	06/24/15	06/24/15	06/24/15	09/23/15	09/23/15
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--	--	--

					Sampling Event:	E_E_GW-3	E_E_GW-3	E_E_GW-4	E_E_GW-4	E_E_GW-4	E_E_GW-4
					Sample ID:	JHAY2	JHAY3	JHEH0	JHEH1	JHEH2	JHEH3
					Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02
					Date:	09/23/15	09/23/15	12/16/15	12/16/15	12/16/15	12/17/15
Parameter Group:	Parameter:	Unit(s):	Total (T) or Dissolved (D):	Screening Level:							
Fuels	Gasoline	µg/L	T	800	-	-	-	-	-	-	-
Fuels	Diesel-range hydrocarbons	µg/L	T	500	-	-	-	-	-	-	-
Fuels	Lube Oil-range Hydrocarbons	µg/L	T	500	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	T	16000	-	-	-	-	-	-	-
Metals	Aluminum	µg/L	D	16000	-	-	-	-	-	-	-
Metals	Antimony	µg/L	T	6.0	-	-	-	-	-	-	-
Metals	Antimony	µg/L	D	6.0	-	-	-	-	-	-	-
Metals	Arsenic	µg/L	T	5.0	-	-	-	-	-	-	-
Metals	Arsenic	µg/L	D	5.0	-	-	-	-	-	-	-
Metals	Barium	µg/L	T	2000	-	-	-	-	-	-	-
Metals	Barium	µg/L	D	2000	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	T	4.0	-	-	-	-	-	-	-
Metals	Beryllium	µg/L	D	4.0	-	-	-	-	-	-	-
Metals	Cadmium	µg/L	T	5.0	-	-	-	-	-	-	-
Metals	Cadmium	µg/L	D	5.0	-	-	-	-	-	-	-
Metals	Calcium	µg/L	T	NE	-	-	-	-	-	-	-
Metals	Calcium	µg/L	D	NE	-	-	-	-	-	-	-
Metals	Chromium	µg/L	T	100	-	-	-	-	-	-	-
Metals	Chromium	µg/L	D	100	-	-	-	-	-	-	-
Metals	Cobalt	µg/L	T	100	-	-	-	-	-	-	-
Metals	Cobalt	µg/L	D	100	-	-	-	-	-	-	-
Metals	Copper	µg/L	T	640	-	-	-	-	-	-	-
Metals	Copper	µg/L	D	640	-	-	-	-	-	-	-
Metals	Iron	µg/L	T	11000	-	-	-	-	-	-	-
Metals	Iron	µg/L	D	11000	-	-	-	-	-	-	-
Metals	Lead	µg/L	T	15	-	-	-	-	-	-	-
Metals	Lead	µg/L	D	15	-	-	-	-	-	-	-
Metals	Magnesium	µg/L	T	NE	-	-	-	-	-	-	-
Metals	Magnesium	µg/L	D	NE	-	-	-	-	-	-	-
Metals	Manganese	µg/L	T	2200	-	-	-	-	-	-	-
Metals	Manganese	µg/L	D	2200	-	-	-	-	-	-	-
Metals	Mercury	µg/L	T	0.89	-	-	-	-	-	-	-
Metals	Mercury	µg/L	D	0.89	-	-	-	-	-	-	-
Metals	Nickel	µg/L	T	100	-	-	-	-	-	-	-
Metals	Nickel	µg/L	D	100	-	-	-	-	-	-	-
Metals	Potassium	µg/L	T	NE	-	-	-	-	-	-	-
Metals	Potassium	µg/L	D	NE	-	-	-	-	-	-	-
Metals	Selenium	µg/L	T	50	-	-	-	-	-	-	-
Metals	Selenium	µg/L	D	50	-	-	-	-	-	-	-
Metals	Silver	µg/L	T	80	-	-	-	-	-	-	-
Metals	Silver	µg/L	D	80	-	-	-	-	-	-	-
Metals	Sodium	µg/L	T	NE	-	-	-	-	-	-	-
Metals	Sodium	µg/L	D	NE	-	-	-	-	-	-	-
Metals	Thallium	µg/L	T	1.0	-	-	-	-	-	-	-

				Sampling Event:	E_E_GW-3	E_E_GW-3	E_E_GW-4	E_E_GW-4	E_E_GW-4	E_E_GW-4
				Sample ID:	JHAY2	JHAY3	JHEHO	JHEH1	JHEH2	JHEH3
				Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02
				Date:	09/23/15	09/23/15	12/16/15	12/16/15	12/16/15	12/17/15
Metals	Thallium	µg/L	D	1.0	--	--	--	--	--	--
Metals	Vanadium	µg/L	T	80	--	--	--	--	--	--
Metals	Vanadium	µg/L	D	80	--	--	--	--	--	--
Metals	Zinc	µg/L	T	4800	--	--	--	--	--	--
Metals	Zinc	µg/L	D	4800	--	--	--	--	--	--
VOCs	Benzene	µg/L	T	2.4	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Toluene	µg/L	T	640	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Ethylbenzene	µg/L	T	700	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Xylene, m-,p-	µg/L	T	290	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Xylene, o-	µg/L	T	440	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Total Xylenes	µg/L	T	290	--	--	--	--	--	--
VOCs	1,1,1,2-Tetrachloroethane	µg/L	T	1.7	--	--	--	--	--	--
VOCs	1,1,1-Trichloroethane	µg/L	T	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1,2,2-Tetrachloroethane	µg/L	T	0.22	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	µg/L	T	1100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1,2-Trichloroethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1-Dichloroethane	µg/L	T	7.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1-Dichloroethene	µg/L	T	7.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,1-Dichloropropene	µg/L	T	NE	--	--	--	--	--	--
VOCs	1,2,3-Trichlorobenzene	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2,3-Trichloropropane	µg/L	T	0.50	--	--	--	--	--	--
VOCs	1,2,4-Trichlorobenzene	µg/L	T	15	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2,4-Trimethylbenzene	µg/L	T	28	--	--	--	--	--	--
VOCs	1,2-Dibromo-3-Chloropropane	µg/L	T	0.50	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2-Dibromoethane	µg/L	T	0.20	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2-Dichlorobenzene (o-Dichlorobenzene)	µg/L	T	600	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2-Dichloroethane	µg/L	T	4.2	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,2-Dichloropropane	µg/L	T	3.9	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,3,5-Trichlorobenzene	µg/L	T	NE	--	--	--	--	--	--
VOCs	1,3,5-Trimethylbenzene	µg/L	T	80	--	--	--	--	--	--
VOCs	1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	1,3-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--
VOCs	1,4-Dichlorobenzene (p-Dichlorobenzene)	µg/L	T	4.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	2,2-Dichloropropane	µg/L	T	NE	--	--	--	--	--	--
VOCs	2-Butanone (MEK)	µg/L	T	4800	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
VOCs	2-Chloroethyl vinyl ether	µg/L	T	NE	--	--	--	--	--	--
VOCs	2-Chlorotoluene	µg/L	T	160	--	--	--	--	--	--
VOCs	2-Hexanone	µg/L	T	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
VOCs	4-Chlorotoluene	µg/L	T	NE	--	--	--	--	--	--
VOCs	4-Methyl-2-Pentanone (Methyl isobutyl ketone)	µg/L	T	640	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
VOCs	Acetic Acid, Methyl Ester	µg/L	T	8000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Acetone	µg/L	T	7200	5.0 U	5.0 U	8.9	8.6	8.1	14
VOCs	Acrolein	µg/L	T	5.0	--	--	--	--	--	--
VOCs	Acrylonitrile	µg/L	T	1.0	--	--	--	--	--	--
VOCs	Bromobenzene	µg/L	T	NE	--	--	--	--	--	--
VOCs	Bromochloromethane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Bromodichloromethane	µg/L	T	1.8	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Bromoethane	µg/L	T	NE	--	--	--	--	--	--
VOCs	Bromoform (Tribromomethane)	µg/L	T	55	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Bromomethane	µg/L	T	11	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Carbon Disulfide	µg/L	T	400	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Carbon Tetrachloride	µg/L	T	0.54	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U



				Sampling Event:	E_E_GW-3	E_E_GW-3	E_E_GW-4	E_E_GW-4	E_E_GW-4	E_E_GW-4
				Sample ID:	JHAY2	JHAY3	JHEHO	JHEH1	JHEH2	JHEH3
				Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02
				Date:	09/23/15	09/23/15	12/16/15	12/16/15	12/16/15	12/17/15
VOCs	Chlorobenzene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Chloroethane	µg/L	T	18000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Chloroform	µg/L	T	1.2	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Chloromethane	µg/L	T	150	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	cis-1,2-Dichloroethene	µg/L	T	16	0.50 U	0.50 U	1.4	2.1	0.50 U	0.50 U
VOCs	cis-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Cyclohexane	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Cyclohexane, Methyl-	µg/L	T	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Dibromochloromethane	µg/L	T	4.5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Dibromomethane	µg/L	T	80	--	--	--	--	--	--
VOCs	Dichlorodifluoromethane (CFC-12)	µg/L	T	5.7	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Hexachlorobutadiene	µg/L	T	0.56	--	--	--	--	--	--
VOCs	Isopropylbenzene (Cumene)	µg/L	T	720	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Methyl Iodide (Iodomethane)	µg/L	T	NE	--	--	--	--	--	--
VOCs	Methyl t-butyl ether	µg/L	T	24	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Methylene Chloride	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	n-Butylbenzene	µg/L	T	400	--	--	--	--	--	--
VOCs	n-Propylbenzene	µg/L	T	800	--	--	--	--	--	--
VOCs	p-Isopropyltoluene	µg/L	T	NE	--	--	--	--	--	--
VOCs	Sec-Butylbenzene	µg/L	T	800	--	--	--	--	--	--
VOCs	Styrene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Tert-Butylbenzene	µg/L	T	800	--	--	--	--	--	--
VOCs	Tetrachloroethene	µg/L	T	5.0	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Trans-1,2-Dichloroethene	µg/L	T	100	0.50 U	0.50 U	0.50 U	0.12	0.50 U	0.50 U
VOCs	Trans-1,3-Dichloropropene	µg/L	T	0.44	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Trans-1,4-Dichloro-2-butene	µg/L	T	NE	--	--	--	--	--	--
VOCs	Trichloroethene	µg/L	T	1.6	0.50 U	4.5	21	43	0.11 J	6.1
VOCs	Trichlorofluoromethane (CFC-11)	µg/L	T	120	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
VOCs	Vinyl Acetate	µg/L	T	7800	--	--	--	--	--	--
VOCs	Vinyl Chloride	µg/L	T	0.29	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
PAHs	1-Methylnaphthalene	µg/L	T	1.5	--	--	--	--	--	--
PAHs	2-Methylnaphthalene	µg/L	T	32	--	--	--	--	--	--
PAHs	Acenaphthene	µg/L	T	960	--	--	--	--	--	--
PAHs	Acenaphthylene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Anthracene	µg/L	T	4800	--	--	--	--	--	--
PAHs	Benzo(g,h,i)perylene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Fluoranthene	µg/L	T	640	--	--	--	--	--	--
PAHs	Fluorene	µg/L	T	640	--	--	--	--	--	--
PAHs	Naphthalene	µg/L	T	8.9	--	--	--	--	--	--
PAHs	Phenanthrene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Pyrene	µg/L	T	480	--	--	--	--	--	--
PAHs	Benzo(a)pyrene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Benzo(a)anthracene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Benzo(b)fluoranthene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Benzo(k)fluoranthene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Benzofluoranthenes (Total)	µg/L	T	NE	--	--	--	--	--	--
PAHs	Dibenzo(a,h)anthracene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Indeno(1,2,3-c,d)pyrene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Chrysene	µg/L	T	NE	--	--	--	--	--	--
PAHs	Total cPAH TEQ (ND=0.5RL)	µg/L	T	0.20	--	--	--	--	--	--
PAHs	Dibenzofuran	µg/L	T	16	--	--	--	--	--	--
SVOCs	1,1'-Biphenyl	µg/L	T	5.5	--	--	--	--	--	--

				Sampling Event:	E_E_GW-3	E_E_GW-3	E_E_GW-4	E_E_GW-4	E_E_GW-4	E_E_GW-4
				Sample ID:	JHAY2	JHAY3	JHEHO	JHEH1	JHEH2	JHEH3
				Location:	OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02
				Date:	09/23/15	09/23/15	12/16/15	12/16/15	12/16/15	12/17/15
SVOCs	1,2,4,5-Tetrachlorobenzene	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	2,2'-Oxybis[1-chloropropane]	µg/L	T	1.0	--	--	--	--	--	--
SVOCs	2,3,4,6-Tetrachlorophenol	µg/L	T	480	--	--	--	--	--	--
SVOCs	2,4,5-Trichlorophenol	µg/L	T	800	--	--	--	--	--	--
SVOCs	2,4,6-Trichlorophenol	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	2,4-Dichlorophenol	µg/L	T	24	--	--	--	--	--	--
SVOCs	2,4-Dimethylphenol	µg/L	T	160	--	--	--	--	--	--
SVOCs	2,4-Dinitrophenol	µg/L	T	32	--	--	--	--	--	--
SVOCs	2,4-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	2,6-Dinitrotoluene	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	2-Chloronaphthalene	µg/L	T	640	--	--	--	--	--	--
SVOCs	2-Chlorophenol	µg/L	T	40	--	--	--	--	--	--
SVOCs	2-methylphenol (o-Cresol)	µg/L	T	400	--	--	--	--	--	--
SVOCs	2-Nitroaniline	µg/L	T	160	--	--	--	--	--	--
SVOCs	2-Nitrophenol	µg/L	T	NE	--	--	--	--	--	--
SVOCs	3 & 4 Methylphenol	µg/L	T	NE	--	--	--	--	--	--
SVOCs	3,3'-Dichlorobenzidine	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	3-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4,6-Dinitro-2-Methylphenol	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4-Bromophenyl phenyl ether	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4-Chloro-3-Methylphenol	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4-Chloroaniline	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	4-Chlorophenyl-Phenylether	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4-methylphenol (p-Cresol)	µg/L	T	800	--	--	--	--	--	--
SVOCs	4-Nitroaniline	µg/L	T	NE	--	--	--	--	--	--
SVOCs	4-Nitrophenol (p-Nitrophenol)	µg/L	T	NE	--	--	--	--	--	--
SVOCs	Atrazine	µg/L	T	5.0	--	--	--	--	--	--
SVOCs	Benzaldehyde	µg/L	T	800	--	--	--	--	--	--
SVOCs	Benzoic Acid	µg/L	T	64000	--	--	--	--	--	--
SVOCs	Benzyl Alcohol	µg/L	T	800	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethoxy)Methane	µg/L	T	NE	--	--	--	--	--	--
SVOCs	Bis(2-Chloroethyl)Ether	µg/L	T	1.0	--	--	--	--	--	--
SVOCs	Bis(2-chloroisopropyl) ether	µg/L	T	NE	--	--	--	--	--	--
SVOCs	Bis(2-Ethylhexyl) Phthalate	µg/L	T	6.0	--	--	--	--	--	--
SVOCs	Butyl benzyl Phthalate	µg/L	T	46	--	--	--	--	--	--
SVOCs	Caprolactam	µg/L	T	8000	--	--	--	--	--	--

		Sampling Event:			E_E_GW-3	E_E_GW-3	E_E_GW-4	E_E_GW-4	E_E_GW-4	E_E_GW-4
		Sample ID:			JHAY2	JHAY3	JHEHO	JHEH1	JHEH2	JHEH3
		Location:			OLY-01	OLY-02	LAI-1	LAI-MW-2	OLY-01	OLY-02
		Date:			09/23/15	09/23/15	12/16/15	12/16/15	12/16/15	12/17/15
SVOCs	Carbazole	µg/L	T	NE	--	--	--	--	--	--
SVOCs	Di-N-Octyl Phthalate	µg/L	T	160	--	--	--	--	--	--
SVOCs	Dibutyl Phthalate	µg/L	T	1600	--	--	--	--	--	--
SVOCs	Diethyl Phthalate	µg/L	T	13000	--	--	--	--	--	--
SVOCs	Dimethyl Phthalate	µg/L	T	NE	--	--	--	--	--	--
SVOCs	Ethanone, 1-Phenyl- (Acetophenone)	µg/L	T	800	--	--	--	--	--	--
SVOCs	Hexachlorobenzene	µg/L	T	1.0	--	--	--	--	--	--
SVOCs	Hexachlorocyclopentadiene	µg/L	T	48	--	--	--	--	--	--
SVOCs	Hexachloroethane	µg/L	T	1.1	--	--	--	--	--	--
SVOCs	Isophorone	µg/L	T	46	--	--	--	--	--	--
SVOCs	N-Nitrosodi-n-propylamine	µg/L	T	2.0	--	--	--	--	--	--
SVOCs	N-Nitrosodiphenylamine (as diphenylamine)	µg/L	T	18	--	--	--	--	--	--
SVOCs	Nitrobenzene	µg/L	T	16	--	--	--	--	--	--
SVOCs	Pentachlorophenol	µg/L	T	1.0	--	--	--	--	--	--
SVOCs	Phenol	µg/L	T	2400	--	--	--	--	--	--
PCBs	PCB-Aroclor 1016	µg/L	T	1.1	--	--	--	--	--	--
PCBs	PCB-Aroclor 1221	µg/L	T	NE	--	--	--	--	--	--
PCBs	PCB-Aroclor 1232	µg/L	T	NE	--	--	--	--	--	--
PCBs	PCB-Aroclor 1242	µg/L	T	NE	--	--	--	--	--	--
PCBs	PCB-Aroclor 1248	µg/L	T	NE	--	--	--	--	--	--
PCBs	PCB-Aroclor 1254	µg/L	T	0.10	--	--	--	--	--	--
PCBs	PCB-Aroclor 1260	µg/L	T	0.10	--	--	--	--	--	--
PCBs	Total PCBs	µg/L	T	0.44	--	--	--	--	--	--
Conventional	Ammonia (Total as N)	mg/L as N	--	NE	--	--	--	--	--	--
Conventional	AMMONIA-NITROGEN	mg/L	--	NE	--	--	--	--	--	--
Conventional	Carbon	mg/L	--	NE	--	--	--	--	--	--
Conventional	CHEMICAL OXYGEN DEMAND	mg/L	--	NE	--	--	--	--	--	--
Conventional	Chloride	mg/L	--	NE	--	--	--	--	--	--
Conventional	Conductivity	mS/cm	--	NE	--	--	--	--	--	--
Conventional	Dissolved Oxygen	mg/L	--	NE	--	--	--	--	--	--
Conventional	Nitrate	mg/L as N	--	NE	--	--	--	--	--	--
Conventional	Nitrate-Nitrite	mg/L as N	--	NE	--	--	--	--	--	--
Conventional	Nitrate-nitrogen	mg/L as N	--	NE	--	--	--	--	--	--
Conventional	Nitrite	mg/L as N	--	NE	--	--	--	--	--	--
Conventional	Oxidation-Reduction Potential (ORP)	mV	--	NE	--	--	--	--	--	--
Conventional	pH	SU	--	NE	--	--	--	--	--	--
Conventional	Specific Conductance	umhos/cm	--	NE	--	--	--	--	--	--
Conventional	Sulfate	mg/L	--	NE	--	--	--	--	--	--
Conventional	Temperature	deg C	--	NE	--	--	--	--	--	--
Conventional	Total Dissolved Solids	mg/L	--	NE	--	--	--	--	--	--
Conventional	Total Organic Carbon	mg/L	--	NE	--	--	--	--	--	--

**Notes:**

J = analyte was positively identified and the associated numerical value is an estimated quantity.

mg/L = milligrams per liter

mS/cm = microseimens per centimeter

Bolding indicates analyte was detected.

**Analyte was not detected in the sample; reporting limit exceeded the screening level.**

**Analyte concentration exceeded the screening level.**

µg/L = micrograms per liter

NE = not established

U = analyte not detected, laboratory reporting limit shown.

**Table A-4**  
**Comprehensive Soil Gas Data 2006**  
 West Olympia Landfill Site  
 Olympia, Washington

				<b>GP-1</b>	<b>GP-2</b>	<b>GP-3</b>	<b>GP-4</b>	<b>GP-5</b>
				<b>GP-1_PGG</b>	<b>GP-2_PGG</b>	<b>GP-3_PGG</b>	<b>GP-4_PGG</b>	<b>GP-5_PGG</b>
				<b>10/10/06</b>	<b>10/10/06</b>	<b>10/10/06</b>	<b>10/10/06</b>	<b>10/10/06</b>
				<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
				<b>AE</b>	<b>AE</b>	<b>AE</b>	<b>AE</b>	<b>AE</b>
<b>Parameter</b>	<b>Cas_rn</b>	<b>Soil/Vapor SLs</b>	<b>Units</b>					
Carbon dioxide (CO2)	124-38-9	NE	%	1	2	2	4	3
Oxygen (O2)	UNK-154	NE	%	20	20	19	17	19
Methane (CH4)		NE	%	0	0	0	0	0

**Notes:**

- <sup>1</sup> Air, Vapor Extraction Well Effluent
- µg/m<sup>3</sup> = micrograms per cubic meter
- NE = not established
- SLs = screening levels





				Location ID:	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-9	GP-10	GP-11	GP-12	GP-13	GP-14
				Sample ID:	14414101	14414102	14414103	14414104	14414105	14414106	14414107	14414108	14414109	14414115	14414110	14414111	14414112	14414113	14414114
				Date Sampled:	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/15/14	10/15/14
				Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units																
n-Propylbenzene	103-65-1	NE	µg/m <sup>3</sup>	0.82 U	4.4 U	0.84 U	1.5 U	89 U	8.6 U	0.89 U	55 U	4.3 U	4.4 U	<b>2.3</b>	0.93 U	<b>1.4</b>	0.87 U	1.0 U	
Styrene	100-42-5	NE	µg/m <sup>3</sup>	0.72 U	3.8 U	0.73 U	1.3 U	77 U	7.4 U	0.77 U	48 U	3.7 U	3.8 U	<b>5.2</b>	<b>0.97</b>	0.74 U	0.75 U	<b>2.1</b>	
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	1.1 U	<b>1500</b>	<b>20</b>	<b>430</b>	120 U	12 U	<b>37</b>	<b>360</b>	<b>1500</b>	<b>1800</b>	2.5 U	<b>3.6</b>	<b>2.9</b>	<b>98</b>	<b>270</b>	
Tetrahydrofuran	109-99-9	NE	µg/m <sup>3</sup>	2.5 U	13 U	2.5 U	4.5 U	53 U	26 U	2.7 U	33 U	13 U	13 U	5.4 U	2.8 U	2.6 U	2.6 U	3.1 U	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	0.63 U	3.4 U	0.64 U	<b>6.4</b>	68 U	<b>8.6</b>	<b>1.5</b>	<b>68</b>	3.3 U	3.4 U	<b>39</b>	<b>13</b>	<b>5.1</b>	<b>3.4</b>	<b>16</b>	
Trans-1,2-Dichloroethene	156-60-5	NE	µg/m <sup>3</sup>	0.67 U	3.6 U	0.68 U	1.2 U	72 U	6.9 U	0.72 U	45 U	3.5 U	3.6 U	1.5 U	0.75 U	0.69 U	0.70 U	0.84 U	
Trans-1,3-Dichloropropene	10061-02-6	NE	µg/m <sup>3</sup>	0.76 U	4.1 U	0.78 U	1.4 U	82 U	7.9 U	0.82 U	51 U	4 U	4.1 U	1.7 U	0.86 U	0.79 U	0.80 U	0.96 U	
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	0.90 U	4.9 U	0.92 U	1.6 U	<b>180</b>	9.4 U	0.97 U	60 U	<b>110</b>	<b>150</b>	2 U	1 U	0.94 U	0.95 U	<b>12</b>	
Trichlorofluoromethane (CFC-11)	75-69-4	10700	µg/m <sup>3</sup>	<b>1.1</b>	5.1 U	<b>4.2</b>	<b>1.7</b>	100 U	9.8 U	<b>2.0</b>	63 U	<b>5.3</b>	<b>6.0</b>	2.1 U	1.1 U	<b>1.2</b>	<b>1.4</b>	<b>3.1</b>	
Vinyl Chloride	75-01-4	NE	µg/m <sup>3</sup>	0.43 U	2.3 U	0.44 U	0.78 U	46 U	<b>7.5</b>	0.46 U	29 U	2.2 U	2.3 U	0.94 U	0.48 U	0.45 U	0.45 U	0.54 U	
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	0.73 U	3.9 U	0.74 U	<b>3.8</b>	78 U	7.6 U	0.78 U	49 U	3.8 U	3.9 U	<b>41</b>	<b>3.9</b>	<b>0.99</b>	<b>0.84</b>	<b>4.3</b>	
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	0.73 U	3.9 U	0.74 U	1.3 U	78 U	7.6 U	0.78 U	49 U	3.8 U	3.9 U	<b>15</b>	<b>1.7</b>	0.76 U	0.77 U	<b>1.6</b>	
Methane	74-82-8	NE	µg/m <sup>3</sup>	0.00017 U	0.00018 U	0.00017 U	0.00015 U	<b>0.51</b>	<b>3.6</b>	0.00018 U	<b>0.00069</b>	0.00018 U	0.00018 U	<b>0.0027</b>	<b>0.0011</b>	<b>0.00024</b>	<b>0.012</b>	<b>0.00089</b>	

Notes:

<sup>1</sup> Air, Vapor Extraction Well Effluent

µg/m<sup>3</sup> = micrograms per cubic meter

NE = not established

SLs = screening levels

U = analyte not detected, laboratory reporting limit shown.

Bolding indicates analyte was detected.

Analyte was not detected in the sample; reporting limit exceeded the screening level.

Analyte concentration exceeded the screening level.

DRAFT

**Table A-6**  
**Comprehensive Soil Gas Data 2016**  
 West Olympia Landfill Site  
 Olympia, Washington

				Location ID:	A1	A2	A3	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4
				Sample ID:	16294242	16294243	16294244	16294244D	16294223	16294216	16294215	16294200	16284208	16294236	16294234	16294224	16294222
				Date Sampled:	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/16/16	07/17/16	07/17/16	07/17/16	07/17/16
				Sample Type:	N	N	N	FD	N	N	N	N	N	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units														
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	<b>3.54</b>	1.42 U	1.42 U	1.42 U	1.42 U	1.38 U	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U	1.39 U	1.38 U	1.38 U
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	43.2 U	43.2 U	43.2 U	43.2 U	43.2 U	42.6 U	42.4 U	42.4 U	42.3 U	42.3 U	42.7 U	42.7 U	42.6 U	42.6 U
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	<b>1.88</b>	1.84 U	1.84 U	1.84 U	1.84 U	1.79 U	1.78 U	1.78 U	1.77 U	1.77 U	1.8 U	<b>1.98</b>	1.79 U	1.79 U
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.4 U	2.4 U	2.41 U	2.41 U	2.35 U	2.35 U	2.33 U	2.33 U	2.32 U	2.32 U	2.35 U	2.36 U	2.35 U	2.34 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	1.49 U	1.49 U	1.49 U	1.49 U	1.45 U	1.44 U	1.44 U	1.44 U	1.43 U	1.44 U	1.46 U	1.46 U	1.45 U	1.45 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	1.49 U	1.49 U	1.5 U	1.5 U	1.46 U	1.45 U	1.45 U	1.45 U	1.44 U	1.44 U	1.46 U	1.46 U	1.46 U	1.46 U
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.42 U	1.42 U	1.42 U	1.42 U	1.39 U	1.38 U	1.38 U	1.38 U	1.37 U	1.37 U	1.39 U	1.39 U	1.39 U	1.38 U
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.8 U	31.8 U	31.8 U	31.8 U	31.4 U	31.3 U	31.3 U	31.3 U	31.2 U	31.2 U	31.5 U	31.5 U	31.4 U	31.4 U
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	38.2 U	38.2 U	38.2 U	38.2 U	37.6 U	37.5 U	37.5 U	37.5 U	37.4 U	37.4 U	37.7 U	37.7 U	37.6 U	<b>546</b>
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	117 U	117 U	117 U	117 U	116 U	116 U	116 U	116 U	116 U	116 U	117 U	117 U	116 U	116 U
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	1.8 U	1.81 U	1.81 U	1.81 U	1.76 U	1.75 U	1.75 U	1.75 U	1.74 U	1.74 U	1.77 U	<b>11.4</b>	1.76 U	1.76 U
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.42 U	1.42 U	1.42 U	1.42 U	1.39 U	1.38 U	1.38 U	1.38 U	1.37 U	1.37 U	1.39 U	1.39 U	1.39 U	1.38 U
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	3.87 U	3.88 U	3.88 U	3.88 U	3.79 U	3.77 U	3.77 U	3.77 U	3.75 U	3.76 U	3.81 U	3.81 U	3.79 U	3.79 U
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	2.95 U	2.95 U	2.96 U	2.96 U	2.88 U	<b>128</b>	<b>689</b>	<b>14.9</b>	2.85 U	<b>102</b>	<b>1070</b>	<b>51.1</b>	<b>124</b>	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.75 U	3.75 U	<b>16.0</b>	<b>16.5</b>	3.67 U	3.65 U	3.65 U	3.65 U	<b>8.71</b>	3.63 U	3.68 U	3.69 U	3.67 U	3.67 U
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	14.3 U	14.3 U	14.3 U	14.3 U	14.1 U	14 U	14 U	14 U	14 U	14 U	14.1 U	14.1 U	14.1 U	14.1 U
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.42 U	1.42 U	1.42 U	1.42 U	1.39 U	1.38 U	<b>4.28</b>	1.37 U	1.37 U	1.37 U	1.39 U	1.39 U	1.39 U	1.38 U
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	<b>2.20</b>	1.42 U	1.42 U	1.42 U	1.39 U	<b>2.36</b>	<b>186</b>	1.37 U	1.37 U	1.37 U	1.39 U	<b>4.36</b>	<b>35.5</b>	1.38 U
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	1.66 U	1.67 U	1.67 U	1.67 U	1.62 U	1.61 U	1.61 U	1.61 U	<b>6.58</b>	1.6 U	1.63 U	<b>4.47</b>	1.62 U	1.62 U
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.25 U	2.25 U	2.25 U	2.25 U	2.19 U	2.18 U	2.18 U	2.18 U	<b>2.58</b>	2.17 U	2.2 U	<b>3.09</b>	2.2 U	2.19 U

				Location ID:	B5	B6	B7	B8	C1	C2	C3	C4	C5	C6	C7	C8	D1
				Sample ID:	16294217	16294214	16294201	16284209	16294237	16294235	16294225	16294221	16294218	16294213	16294202	16284210	16294238
				Date Sampled:	07/17/16	07/17/16	07/17/16	07/16/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/16/16	07/17/16
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units														
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	2.81	5.24	1.37 U	1.38 U	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	1.37 U	1.37 U	1.38 U	1.39 U	
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	42.4 U	42.4 U	42.3 U	42.5 U	42.7 U	42.6 U	42.6 U	42.6 U	42.6 U	42.5 U	42.4 U	42.3 U	42.5 U	42.7 U
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	1.78 U	2.04	1.77 U	2.04	1.8 U	1.8 U	1.8 U	1.79 U	1.79 U	1.78 U	1.77 U	1.79 U	1.8 U	
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.33 U	2.33 U	2.32 U	2.34 U	2.36 U	2.35 U	2.35 U	2.34 U	2.33 U	2.33 U	2.32 U	2.34 U	2.36 U	
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	1.44 U	1.44 U	1.43 U	1.45 U	1.46 U	1.46 U	1.45 U	1.45 U	1.44 U	1.44 U	1.43 U	1.45 U	1.46 U	
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	1.45 U	1.45 U	1.44 U	1.45 U	1.46 U	1.46 U	1.46 U	1.46 U	1.45 U	1.45 U	1.44 U	1.45 U	1.46 U	
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.3 U	31.3 U	31.2 U	31.3 U	31.5 U	31.5 U	31.4 U	31.4 U	31.3 U	31.3 U	31.2 U	31.4 U	31.5 U	
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	37.5 U	37.5 U	37.4 U	37.5 U	37.7 U	37.7 U	37.6 U	37.6 U	37.5 U	37.5 U	37.4 U	37.6 U	37.7 U	
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	116 U	116 U	116 U	116 U	117 U	117 U	116 U	116 U	116 U	116 U	116 U	116 U	117 U	
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	1.75 U	1.75 U	1.74 U	1.75 U	1.77 U	1.76 U	1.76 U	1.76 U	1.75 U	1.75 U	1.74 U	2.09	1.77 U	
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	3.78 U	3.77 U	3.75 U	3.78 U	3.81 U	3.8 U	3.8 U	3.79 U	3.78 U	3.77 U	3.75 U	3.78 U	3.81 U	
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	15.2	978	165	2.87 U	557	54.0	242	26.0	4.29	161	878	6.07	751	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.65 U	3.65 U	3.63 U	4.77	3.68 U	3.68 U	3.67 U	3.67 U	3.65 U	3.65 U	6.74	12.7	3.68 U	
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	14 U	14 U	14 U	14 U	14.1 U	14.1 U	14.1 U	14.1 U	14 U	14 U	14 U	14 U	14.1 U	
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	4.25	1.38 U	1.39 U	
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	4.63	1.38 U	1.39 U	2.22	9.41	1.38 U	1.38 U	1.38 U	2.95	1.38 U	1.39 U	
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	1.61 U	1.61 U	1.6 U	3.09	1.63 U	1.63 U	1.62 U	1.62 U	1.61 U	1.61 U	3.49	2.97	1.63 U	
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.18 U	2.18 U	2.17 U	2.19 U	2.2 U	2.2 U	2.2 U	2.19 U	2.18 U	2.18 U	2.48	2.19 U	2.2 U	



				Location ID:	D2	D3	D4	D4	D5	D6	D7	D8	E1	E2	E3	E4	E5
				Sample ID:	16294233	16294226	16294220	16294220D	16294219	16294212	16294203	16284212	16294239	16294232	16294227	16294249	16294248
				Date Sampled:	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/16/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16
				Sample Type:	N	N	N	FD	N	N	N	N	N	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units														
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	1.39 U	1.38 U	1.38 U	1.38 U	1.38 U	1.37 U	1.36 U	1.38 U	3.71	1.39 U	1.38 U	1.45 U	1.45 U	
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	42.6 U	42.6 U	42.6 U	42.6 U	42.5 U	42.4 U	42.3 U	42.5 U	42.7 U	42.6 U	42.6 U	43.7 U	43.7 U	
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	1.8 U	1.8 U	1.79 U	1.79 U	1.79 U	1.78 U	1.77 U	1.79 U	3.67	1.8 U	1.8 U	1.88 U	1.87 U	
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.35 U	2.35 U	2.34 U	2.34 U	2.34 U	2.33 U	2.32 U	2.34 U	2.36 U	2.35 U	2.35 U	2.45 U	2.45 U	
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	1.45 U	1.45 U	1.45 U	1.45 U	1.44 U	1.44 U	1.43 U	1.45 U	1.46 U	1.45 U	1.45 U	1.52 U	1.52 U	
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	1.46 U	1.46 U	1.46 U	1.46 U	1.45 U	1.45 U	1.44 U	1.45 U	1.46 U	1.46 U	1.46 U	1.53 U	1.52 U	
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.45 U	1.45 U	
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.4 U	31.4 U	31.4 U	31.4 U	31.3 U	31.3 U	31.2 U	39.9	31.5 U	31.4 U	31.4 U	32.2 U	32.1 U	
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	37.7 U	37.7 U	37.6 U	37.6 U	37.5 U	37.5 U	37.4 U	37.6 U	55.9	37.7 U	37.7 U	38.7 U	38.6 U	
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	117 U	117 U	116 U	116 U	116 U	116 U	116 U	116 U	117 U	117 U	117 U	118 U	118 U	
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	1.76 U	1.76 U	1.76 U	1.76 U	2.64	3.54	1.74 U	1.76 U	1.77 U	1.76 U	1.76 U	3.83	1.84 U	
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.39 U	1.39 U	1.38 U	1.38 U	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.45 U	1.45 U	
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	3.8 U	3.8 U	183	192	5.29	3.77 U	3.75 U	6.35	3.81 U	3.8 U	3.8 U	21.0	5.25	
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	562	354	811	791	71.6	37.2	184	3.73	1390	525	50.2	101	202	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.68 U	3.67 U	3.67 U	3.67 U	8.52	3.65 U	3.63 U	8.38	3.69 U	3.68 U	3.67 U	9.35	8.13	
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	14.1 U	14.1 U	14.1 U	14.1 U	14 U	14 U	14 U	14.1 U	14.1 U	14.1 U	14.1 U	14.5 U	14.5 U	
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.39 U	1.39 U	13.6	7.85	1.38 U	1.38 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.45 U	1.45 U	
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	5.77	1.39 U	61.0	71.6	1.38 U	1.38 U	1.37 U	1.38	1.39 U	1.39 U	1.39 U	1.63	1.45 U	
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	1.63 U	1.62 U	1.62 U	1.62 U	2.21	1.61 U	1.6 U	2.69	1.63 U	1.62 U	1.62 U	3.08	1.95	
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.2 U	2.2 U	2.19 U	2.19 U	2.18 U	2.18 U	2.17 U	2.19 U	2.2 U	2.2 U	2.2 U	2.3 U	2.29 U	

				Location ID:	E6	E7	E8	F1	F2	F3	F4	F5	F6	F6	F7	F8	G1
				Sample ID:	16294211	16294204	16284211	16294240	16294231	16294228	16294247	16294250	16294210	16294210D	16294205	16294208	16294241
				Date Sampled:	07/17/16	07/17/16	07/16/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	FD AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units														
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	1.37 U	1.37 U	1.38 U	1.39 U	1.38 U	1.38 U	1.44 U	1.45 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	42.4 U	42.3 U	42.5 U	42.7 U	42.6 U	42.6 U	43.5 U	43.8 U	42.4 U	42.4 U	42.3 U	42.4 U	42.4 U	42.7 U
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	<b>4.21</b>	1.77 U	1.79 U	1.8 U	1.8 U	1.8 U	1.86 U	<b>3.66</b>	1.78 U	1.78 U	1.77 U	1.78 U	1.78 U	1.8 U
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.33 U	2.32 U	2.34 U	2.36 U	2.35 U	2.35 U	2.43 U	2.46 U	2.33 U	2.33 U	2.32 U	2.33 U	2.33 U	2.36 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	<b>2.57</b>	1.43 U	1.45 U	1.46 U	1.45 U	1.45 U	1.51 U	1.52 U	1.44 U	1.44 U	1.44 U	1.44 U	1.44 U	1.46 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	<b>90.9</b>	1.44 U	1.45 U	1.46 U	1.46 U	1.46 U	1.51 U	<b>5.03</b>	1.45 U	1.45 U	<b>2.02</b>	1.45 U	1.45 U	1.46 U
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.37 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.44 U	1.45 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.3 U	31.2 U	31.4 U	31.5 U	31.4 U	31.4 U	32 U	32.2 U	31.3 U	31.3 U	31.2 U	31.3 U	31.3 U	31.5 U
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	37.5 U	37.4 U	37.6 U	37.7 U	37.7 U	37.7 U	38.5 U	38.7 U	37.5 U	37.5 U	37.4 U	37.5 U	37.5 U	<b>76.6</b>
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	116 U	116 U	116 U	117 U	117 U	117 U	118 U	118 U	116 U	116 U	<b>443</b>	116 U	116 U	117 U
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	<b>3.04</b>	1.74 U	1.75 U	1.77 U	1.76 U	1.76 U	1.83 U	<b>2.2</b>	1.75 U	1.75 U	1.74 U	1.74 U	1.74 U	1.77 U
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.37 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.44 U	1.45 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	3.77 U	3.75 U	<b>4.85</b>	3.81 U	3.8 U	3.8 U	3.92 U	3.96 U	3.77 U	3.77 U	3.76 U	3.77 U	3.77 U	3.81 U
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	<b>7.66</b>	<b>70.7</b>	<b>4.79</b>	<b>732</b>	<b>965</b>	<b>87.7</b>	<b>85.3</b>	<b>16.3</b>	<b>2560</b>	<b>2520</b>	<b>2860</b>	<b>138</b>	<b>248</b>	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.65 U	3.63 U	<b>5.87</b>	3.69 U	3.68 U	3.67 U	3.79 U	3.83 U	3.65 U	3.65 U	3.64 U	3.64 U	3.64 U	3.69 U
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	14 U	14 U	14 U	14.1 U	14.1 U	14.1 U	14.4 U	14.5 U	<b>428</b>	<b>439</b>	<b>871</b>	14 U	14 U	14.1 U
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.37 U	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	1.44 U	1.45 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	<b>8.04</b>	1.37 U	1.38 U	1.39 U	1.39 U	1.39 U	<b>3.22</b>	<b>1.88</b>	<b>30.4</b>	1.37 U	1.37 U	1.37 U	1.37 U	1.39 U
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	<b>2.28</b>	1.6 U	<b>2.45</b>	1.63 U	1.62 U	1.62 U	1.68 U	<b>5.00</b>	1.61 U	1.61 U	1.6 U	1.61 U	1.61 U	1.63 U
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.18 U	2.17 U	2.19 U	2.21 U	2.2 U	2.2 U	2.2 U	<b>2.41</b>	2.18 U	2.18 U	2.17 U	2.18 U	2.18 U	2.21 U

				Location ID:	G2	G3	G4	G5	G6	G7	G8	H1	H1	H2	H3	H4	H5
				Sample ID:	16294230	16294229	16294246	16294245	16294209	16294206	16294207	16284200	16284200D	16284201	16284202	16284203	16284204
				Date Sampled:	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/17/16	07/12/16	07/12/16	07/12/16	07/12/16	07/12/16	07/12/16
				Sample Type:	N	N	N	N	N	N	N	N	FD	N	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units														
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	1.39 U	1.38 U	1.44 U	1.44 U	1.37 U	16.3	1.37 U	1.36 U	1.36 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	42.6 U	42.6 U	43.5 U	43.5 U	42.4 U	42.3 U	42.4 U	42.3 U	42.3 U	42.3 U	42.3 U	42.4 U	42.4 U	42.4 U
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	1.8 U	1.8 U	1.86 U	2.79	1.78 U	13.1	1.78 U	7.90	7.50	3.91	1.78 U	1.78 U	1.78 U	1.78 U
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.35 U	2.35 U	2.43 U	2.43 U	2.33 U	9.41	2.33 U	5.47	5.26	2.7	2.33 U	2.33 U	2.33 U	2.33 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	1.45 U	1.45 U	1.51 U	1.5 U	1.44 U	1.44 U	1.44 U	1.44 U	1.43 U	1.43 U	1.44 U	1.44 U	1.44 U	1.44 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	1.46 U	1.46 U	1.51 U	1.51 U	1.45 U	1.44 U	1.44 U	1.44 U	1.44 U	1.44 U	1.44 U	1.45 U	1.45 U	1.45 U
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.39 U	1.39 U	1.44 U	1.44 U	1.37 U	1.37 U	1.37 U	1.37 U	1.4	1.76	1.37 U	1.37 U	1.38 U	1.38 U
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.4 U	31.4 U	32 U	32 U	31.3 U	31.2 U	31.3 U	31.2 U	31.2 U	31.2 U	31.2 U	31.3 U	31.3 U	31.3 U
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	37.7 U	37.6 U	38.4 U	38.4 U	37.5 U	37.4 U	37.4 U	37.4 U	37.4 U	37.4 U	37.4 U	37.5 U	37.5 U	37.5 U
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	117 U	116 U	118 U	118 U	116 U	116 U	116 U	116 U	116 U	116 U	116 U	116 U	116 U	116 U
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	1.76 U	1.76 U	1.83 U	1.83 U	3.25	1.74 U	1.74 U	1.74 U	1.74 U	4.72	1.75 U	1.75 U	1.75 U	1.75 U
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.39 U	1.39 U	1.44 U	1.44 U	1.37 U	1.37 U	1.37 U	1.37 U	2.09	1.89	1.44	1.37 U	1.38 U	1.38 U
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	3.8 U	16.6	3.92 U	3.92 U	3.77 U	3.76 U	3.76 U	3.76 U	6.21	6.56	3.76 U	3.77 U	3.77 U	3.78 U
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	15.7	161	401	63.2	443	720	13.0	42.8	45.6	97.5	15.4	945	42.2	42.2
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.68 U	3.67 U	3.79 U	11.9	3.64 U	3.64 U	3.64 U	3.63 U	3.63 U	6.67	3.65 U	3.65 U	3.65 U	3.65 U
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	14.1 U	14.1 U	14.4 U	47.0	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U	14 U
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.39 U	1.39 U	4.50 U	1.44 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	2.86	1.37 U	1.37 U	1.38 U	1.38 U
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	1.39 U	1.39 U	1.64	1.44 U	1.37 U	7.65	1.37 U	3.75	4.72	3.06	1.37 U	1.38 U	1.38 U	1.38 U
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	1.62 U	1.62 U	1.68 U	5.56	2.16	2.44	1.61 U	4.20	3.45	8.23	1.69	1.77	1.61 U	1.61 U
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.2 U	2.2 U	2.28 U	2.86	2.18 U	2.22	2.18 U	2.17 U	2.43	5.88	2.18 U	2.18 U	2.18 U	2.18 U

				Location ID:	H6	H7	H8
				Sample ID:	16284205	16284206	16284207
				Date Sampled:	07/12/16	07/12/16	07/12/16
				Sample Type:	N	N	N
				Matrix <sup>1</sup> :	AE	AE	AE
Parameter	Cas_rn	Soil/Vapor SLs	Units				
1,1,1,2-Tetrachloroethane	630-20-6	11.3	µg/m <sup>3</sup>	1.38 U	1.38 U	1.39 U	
1,1,1-Trichloroethane	71-55-6	76200	µg/m <sup>3</sup>	<b>104</b>	42.5 U	42.7 U	
1,2,4-Trimethylbenzene	95-63-6	107	µg/m <sup>3</sup>	1.79 U	1.79 U	<b>2.99</b>	
1,3,5-Trimethylbenzene	108-67-8	NE	µg/m <sup>3</sup>	2.34 U	2.34 U	2.35 U	
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NE	µg/m <sup>3</sup>	1.45 U	1.45 U	1.46 U	
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	7.58	µg/m <sup>3</sup>	1.45 U	1.46 U	1.46 U	
2-Methylnaphthalene	91-57-6	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	1.39 U	
Benzene	71-43-2	10.7	µg/m <sup>3</sup>	31.4 U	31.4 U	<b>40.6</b>	
Carbon Tetrachloride	56-23-5	13.9	µg/m <sup>3</sup>	37.6 U	37.6 U	37.7 U	
cis-1,2-Dichloroethene	156-59-2	NE	µg/m <sup>3</sup>	116 U	116 U	117 U	
Ethylbenzene	100-41-4	15200	µg/m <sup>3</sup>	1.75 U	1.76 U	<b>2.11</b>	
Naphthalene	91-20-3	2.45	µg/m <sup>3</sup>	1.38 U	1.38 U	1.39 U	
Octane (Dot)	111-65-9	NE	µg/m <sup>3</sup>	<b>8.26</b>	3.79 U	<b>4.08</b>	
Tetrachloroethene	127-18-4	321	µg/m <sup>3</sup>	<b>48.4</b>	<b>427</b>	2.89 U	
Toluene	108-88-3	76200	µg/m <sup>3</sup>	3.66 U	3.67 U	<b>9.58</b>	
Trichloroethene	79-01-6	12.3	µg/m <sup>3</sup>	<b>456</b>	<b>28.2</b>	14.1 U	
Tridecane	629-50-5	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	<b>40.5</b>	
Undecane	1120-21-4	NE	µg/m <sup>3</sup>	1.38 U	1.38 U	<b>11.1</b>	
Xylene, m-,p-	179601-23-1	1520	µg/m <sup>3</sup>	1.62 U	1.62 U	<b>4.86</b>	
Xylene, o-	95-47-6	1520	µg/m <sup>3</sup>	2.19 U	2.19 U	<b>3.13</b>	

**Notes:**

<sup>1</sup> Air, Vapor Extraction Well Effluent

µg/m<sup>3</sup> = micrograms per cubic meter

NE = not established

SLs = screening levels

U = analyte not detected, laboratory reporting limit shown.

Bolding indicates analyte was detected.

**Analyte was not detected in the sample; reporting limit exceeded the screening level.**

**Analyte concentration exceeded the screening level.**



**Table A-7**  
**Comprehensive Soil Gas Data 2018**  
 West Olympia Landfill Site  
 Olympia, Washington

Analyte	MTCA Method B Shallow Soil Gas Screening Level	Sample Location, Lab Sample ID, Sample Date								Sample Location, Lab Sample ID, Sample Date							
		GP-1	GP-2	GP-3	GP-4	GP-5	GP-15	GP-16	GP-17	GP-18	GP-19	GP-20	GP-21	GP-22	GP-23	GP-24	
		320-39906-4 5/29/2018	320-40405-3 6/18/2018	320-40405-2 6/18/2018	320-39906-12 5/30/2018	320-39906-10 5/30/2018	320-39906-2 5/29/2018	320-39906-7 5/29/2018	320-39906-8 5/30/2018	320-39906-9 5/30/2018	320-40405-1 6/18/2018	320-39906-15 5/29/2018	320-39906-1 5/29/2018	320-39906-6 5/29/2018	320-39906-5 5/29/2018	320-39906-3 5/29/2018	
<b>Fixed Gases (%; LandTech GEM 5000 Meter)</b>																	
Carbon Dioxide		2.6	2.8	3.5	3.5	3	9.7	2.6	5.7	-- (a)	-- (a)	9.3	4.4	1.4	5.3	1.3	
Methane		0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	-- (a)	-- (a)	0	0.1	0.1	0.1	0.1	
Oxygen		16.4	17.8	17.6	17.8	16.9	5.3	16.6	15.5	-- (a)	-- (a)	10.3	14.8	17.7	11.6	17.9	
<b>Volatile Organic Compounds (µg/m<sup>3</sup>; EPA TO-15)</b>																	
1,1,1,2-Tetrachloroethane	11	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	
1,3-Butadiene	2.8	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	
1,4-Dichlorobenzene	7.6	<b>5.6</b>	<b>8.5</b>	<b>13</b>	<b>2.8</b>	2.4 U	<b>3.3</b>	2.4 U	2.4 U	<b>2.6</b>	2.4 U	<b>4.0</b>	2.4 U	2.4 U	2.4 U	2.4 U	
Benzene	11	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
Carbon Tetrachloride	14	5.0 U	5.0 U	5.0 U	<b>8.6</b>	5.0 U	<b>8.7</b>	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Hexane	11000	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	<b>3.8</b>	
Tetrachloroethene	320	2.7 U	<b>1,000</b>	<b>22</b>	<b>470</b>	<b>30</b>	<b>570</b>	<b>1,200</b>	2.7 U	2.7 U	<b>12</b>	<b>21</b>	2.7 U	<b>21</b>	2.7 U	2.7 U	
Trichloroethene	12	2.1 U	<b>21</b>	2.1 U	2.1 U	<b>210</b>	<b>92</b>	2.1 U	2.1 U	2.1 U	<b>8.3</b>	2.1 U	<b>25</b>	2.1 U	2.1 U	2.1 U	

**Notes:**

<sup>a</sup> Fixed gases were not measured at these locations due to airflow restriction.

-- = not analyzed

CUL = cleanup level

EPA = US Environmental Protection Agency

ID = identification

µg/m<sup>3</sup> = micrograms per cubic meter

MTCA = Model Toxics Control Act

N/A = not applicable

NE = not established

SLs = screening levels

U = analyte not detected, laboratory reporting limit shown.

Bolding indicates analyte was detected.

**Analyte was not detected in the sample; reporting limit exceeded the screening level.**

**APPENDIX B**  
**Well Logs**

DRAFT

**Landau Vapor Wells, 2018  
(GP-15 through GP-24)**

DRAFT

# Soil Classification System

	MAJOR DIVISIONS		USCS GRAPHIC SYMBOL	LETTER SYMBOL <sup>(1)</sup>	TYPICAL DESCRIPTIONS <sup>(2)(3)</sup>
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL  (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		<b>GW</b>	Well-graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		<b>GP</b> <b>GM</b> <b>GC</b>	Poorly graded gravel; gravel/sand mixture(s); little or no fines Silty gravel; gravel/sand/silt mixture(s) Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL  (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		<b>SW</b>	Well-graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		<b>SP</b>	Poorly graded sand; gravelly sand; little or no fines
				<b>SM</b>	Silty sand; sand/silt mixture(s)
				<b>SC</b>	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY  (Liquid limit less than 50)		<b>ML</b>	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity	
			<b>CL</b>	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay	
			<b>OL</b>	Organic silt; organic, silty clay of low plasticity	
	SILT AND CLAY  (Liquid limit greater than 50)		<b>MH</b>	Inorganic silt; micaceous or diatomaceous fine sand	
			<b>CH</b>	Inorganic clay of high plasticity; fat clay	
			<b>OH</b>	Organic clay of medium to high plasticity; organic silt	
	HIGHLY ORGANIC SOIL		<b>PT</b>	Peat; humus; swamp soil with high organic content	

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		<b>AC or PC</b>	Asphalt concrete pavement or Portland cement pavement
ROCK		<b>RK</b>	Rock (See Rock Classification)
WOOD		<b>WD</b>	Wood, lumber, wood chips
DEBRIS		<b>DB</b>	Construction debris, garbage

**NOTES:**

- USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
- Soil descriptions are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D 2487.
- Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent: > 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.  
 Secondary Constituents: > 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.  
 > 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.  
 Additional Constituents: > 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.  
 ≤ 5% - "trace gravel," "trace sand," "trace silt," etc., or not noted.

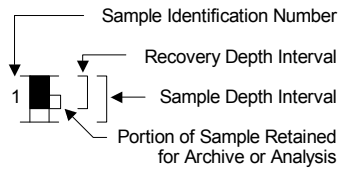


## Drilling and Sampling Key

### SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Rotosonic
5	Air Rotary (Rock)
6	Wash Rotary (Rock)
7	Other - See text if applicable

### SAMPLE NUMBER & INTERVAL



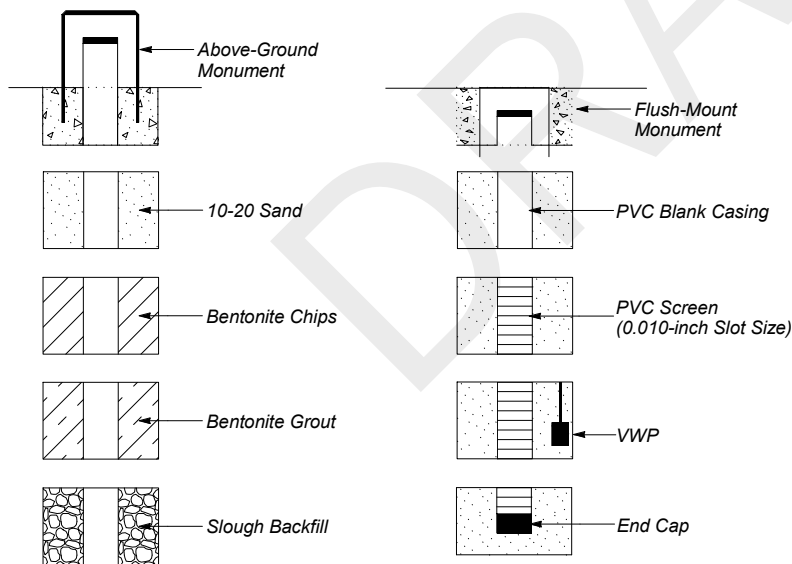
## Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
VST	Vane Shear Test
GT	Other Geotechnical Testing
CA	Chemical Analysis

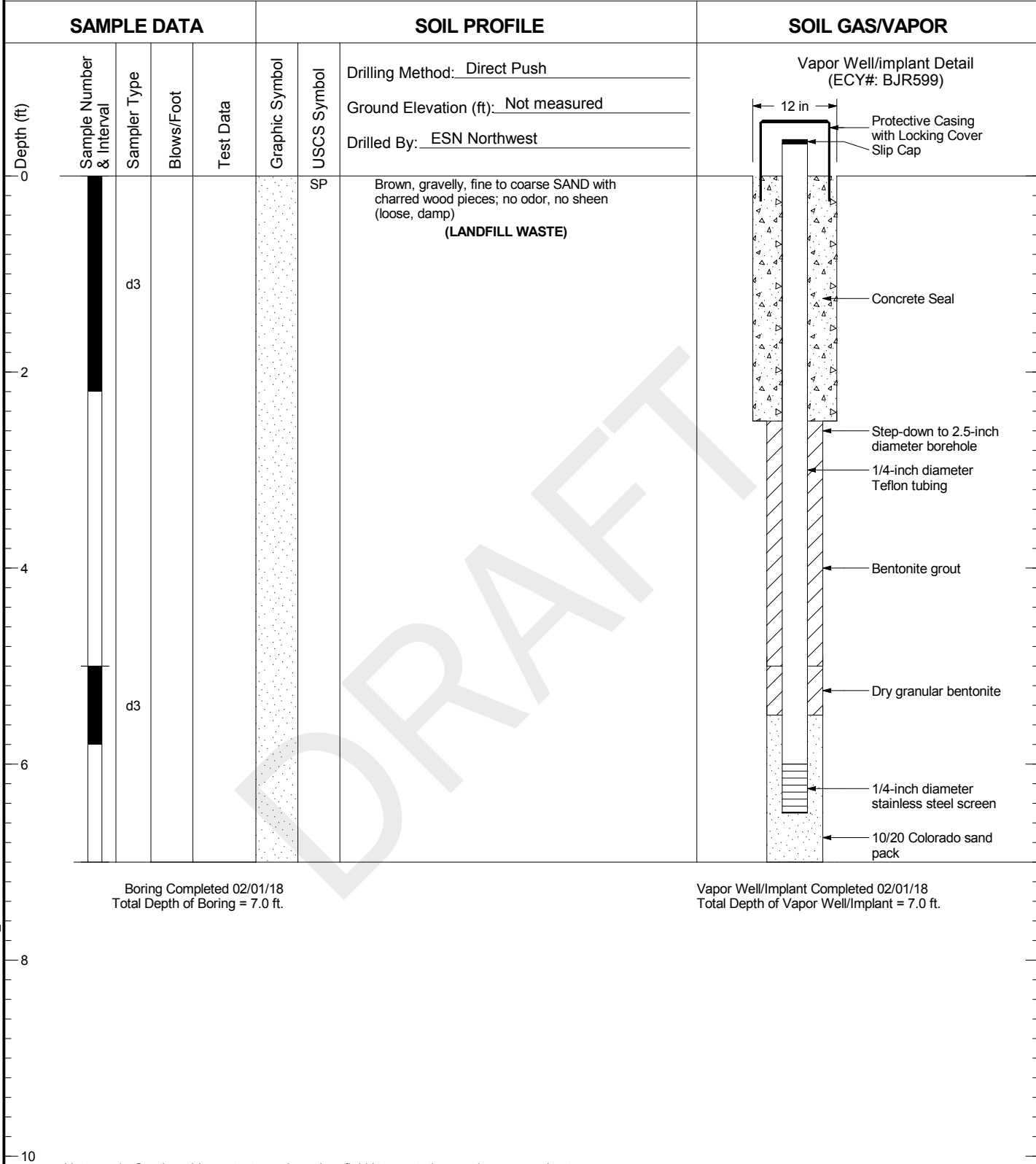
## Groundwater

- ▽ Approximate water elevation at time of drilling (ATD).
  - ▼ Approximate water elevation at other time(s). When multiple water levels are obtained other than ATD, only a representative range is shown. See text for additional information.
- Note:** Groundwater levels can fluctuate due to precipitation, seasonal conditions, and other factors.

## Well Log Graphics



# GP-15



DRAFT

Brown, gravelly, fine to coarse SAND with charred wood pieces; no odor, no sheen (loose, damp)  
**(LANDFILL WASTE)**

Boring Completed 02/01/18  
Total Depth of Boring = 7.0 ft.

Vapor Well/Implant Completed 02/01/18  
Total Depth of Vapor Well/Implant = 7.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT



West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-15

Figure  
**A-2**

# GP-16

SAMPLE DATA				SOIL PROFILE			SOIL GAS/VAPOR
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	<div style="text-align: center;">                     Vapor Well/implant Detail                      (ECY#: BJR600)                 </div>
	0	1	2	3	4	5	
2	d3				SP	Brown to red-brown, gravelly, fine to coarse SAND with charred wood pieces; no odor, no sheen (loose, damp) <b>(LANDFILL WASTE)</b>	
4							
6	d3						
8							
10							

Boring Completed 02/01/18  
Total Depth of Boring = 7.0 ft.

Vapor Well/Implant Completed 02/01/18  
Total Depth of Vapor Well/Implant = 7.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT



West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-16

Figure  
**A-3**

# GP-17

SAMPLE DATA				SOIL PROFILE			SOIL GAS/VAPOR	
Depth (ft) 0 2 4 6 8 10	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: <u>Direct Push</u> Ground Elevation (ft): <u>Not measured</u> Drilled By: <u>ESN Northwest</u>	
	d3	d3			[Dotted Pattern]	SP-SM	Brown, fine to coarse SAND with silt, gravel, and organics; no odor, no sheen (medium dense, damp) <b>(TOPSOIL)</b>	
	d3	d3			[Dotted Pattern]	SP-SM	Brown, fine to coarse SAND with silt and gravel; no odor, no sheen (medium dense, damp to wet) <b>(RECESSIONAL OUTWASH)</b>	
							<b>Vapor Well/implant Detail (ECY#: BJR846)</b> 	
Boring Completed 02/02/18 Total Depth of Boring = 7.0 ft.							Vapor Well/Implant Completed 02/02/18 Total Depth of Vapor Well/Implant = 7.0 ft.	

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT



West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-17

Figure  
**A-4**



# GP-18

SAMPLE DATA				SOIL PROFILE			SOIL GAS/VAPOR
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	<div style="text-align: center;">                     Vapor Well/implant Detail                      (ECY#: BJR847)                 </div>
	Drilling Method: <u>Direct Push</u>	Ground Elevation (ft): <u>Not measured</u>	Drilled By: <u>ESN Northwest</u>				
0					SM	Gray to brown, silty, fine to coarse SAND with organics and trace gravel; no odor, no sheen (medium dense, damp) <b>(TOPSOIL)</b>	
2		d3			SP-SM	Gray, gravelly, fine to coarse SAND with silt; no odor, no sheen (medium dense, damp) <b>(RECESSIONAL OUTWASH)</b>	
4							
6		d3					
8							
10							

Boring Completed 02/02/18  
Total Depth of Boring = 7.0 ft.

Vapor Well/Implant Completed 02/02/18  
Total Depth of Vapor Well/Implant = 7.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT

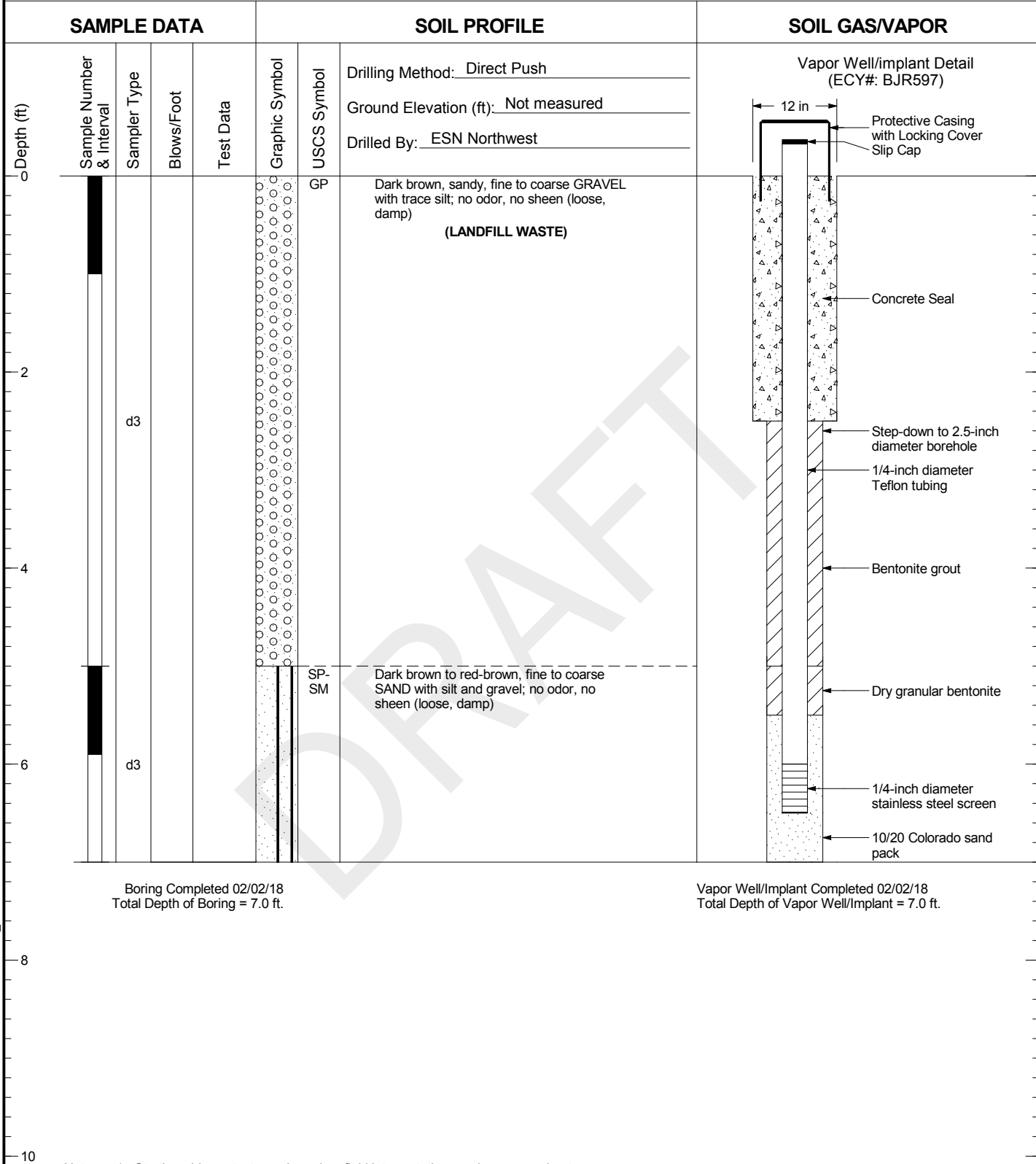


West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-18

Figure  
**A-5**

# GP-19



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT

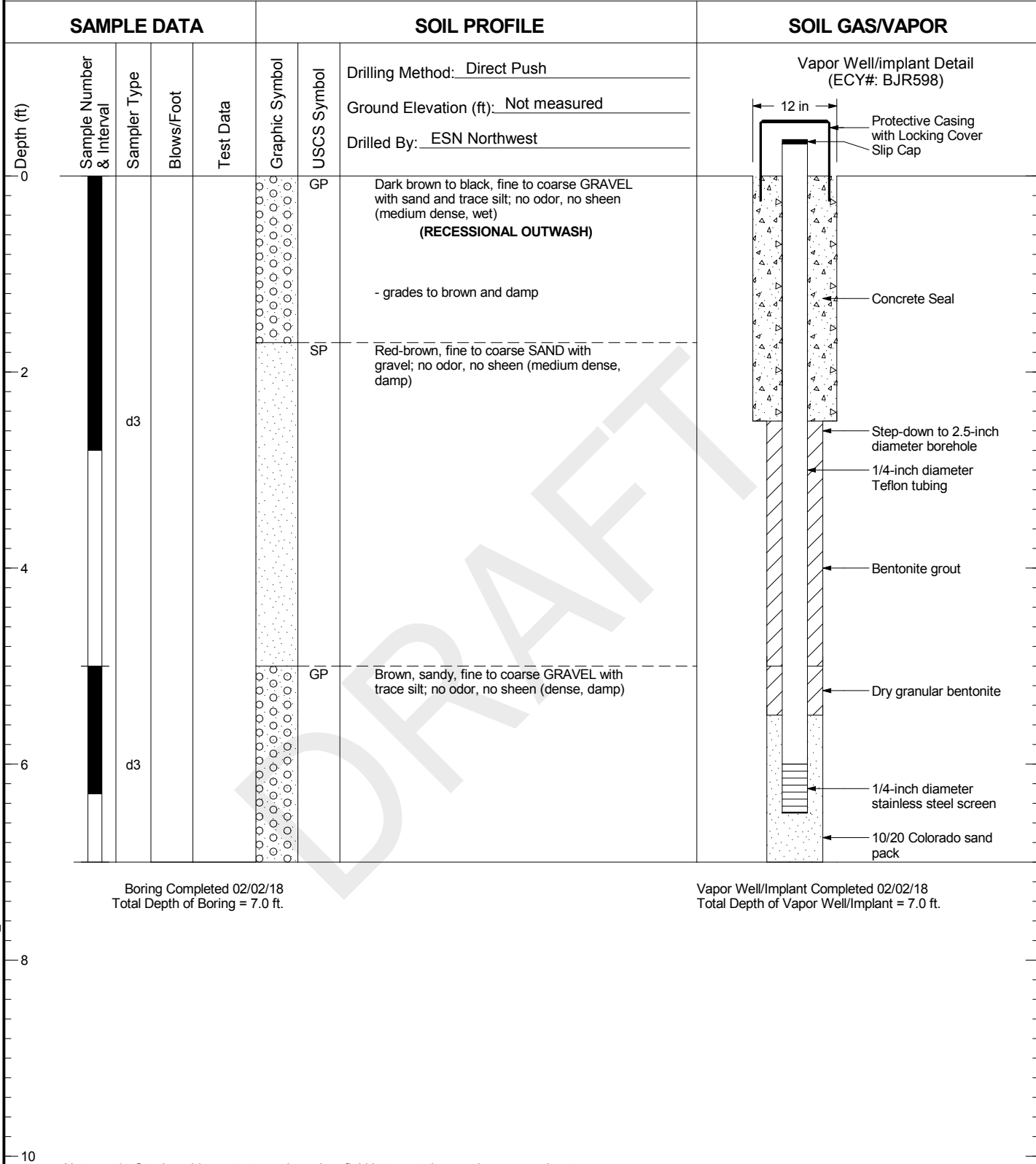


West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-19

Figure  
**A-6**

# GP-20



Boring Completed 02/02/18  
Total Depth of Boring = 7.0 ft.

Vapor Well/Implant Completed 02/02/18  
Total Depth of Vapor Well/Implant = 7.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT

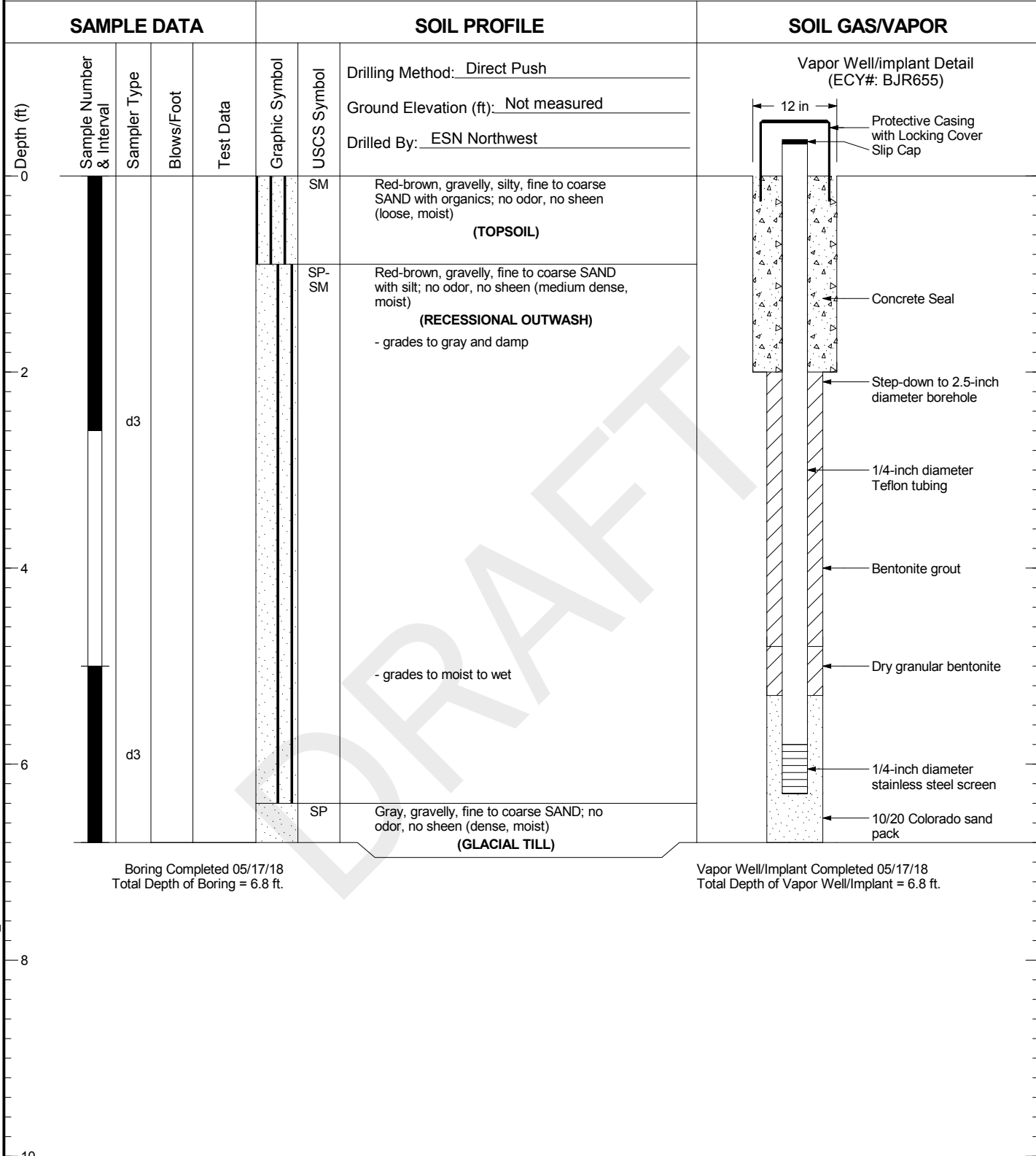


West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-20

Figure  
**A-7**

# GP-21



Boring Completed 05/17/18  
Total Depth of Boring = 6.8 ft.

Vapor Well/Implant Completed 05/17/18  
Total Depth of Vapor Well/Implant = 6.8 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT



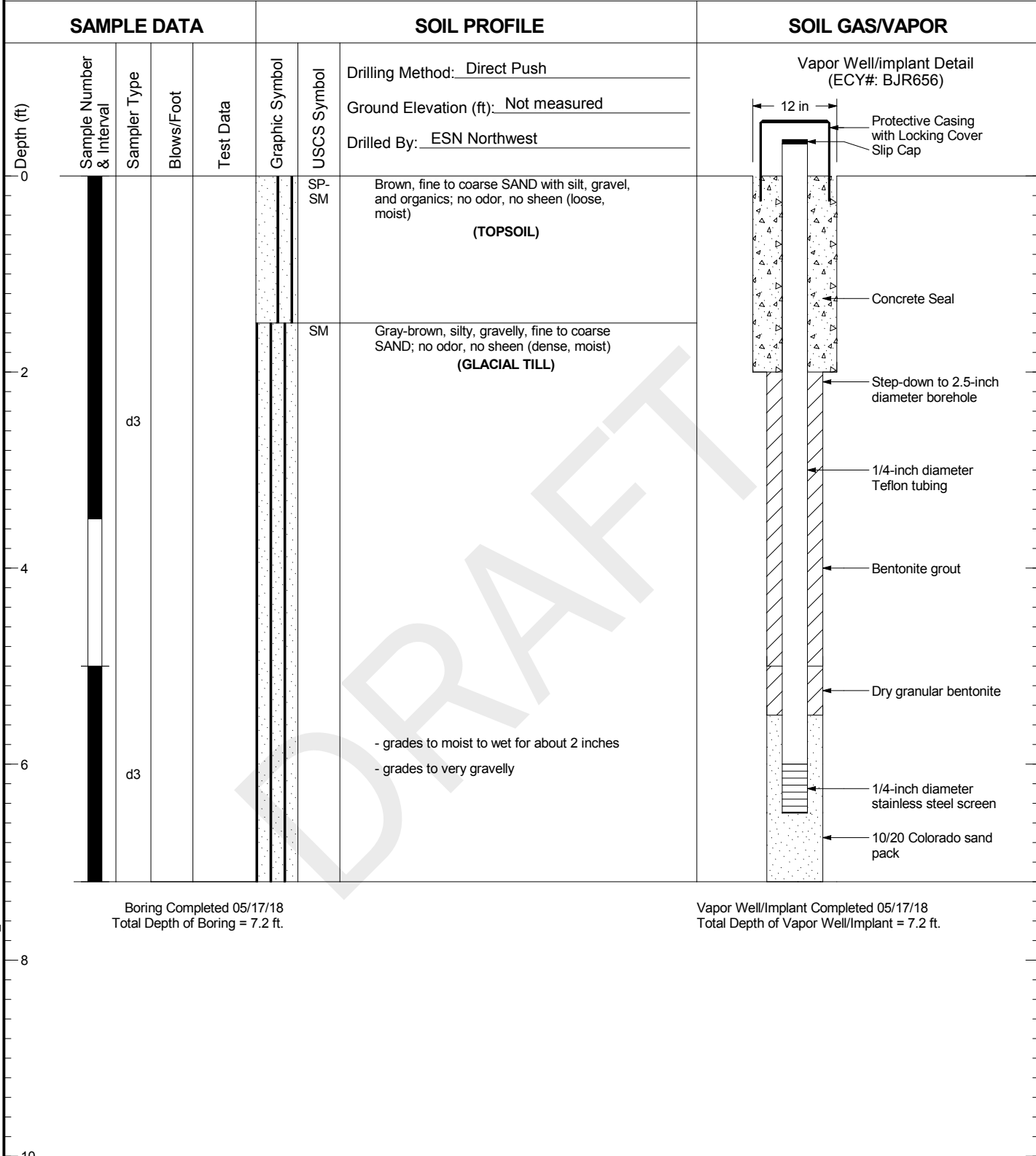
West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-21

Figure  
**A-8**



# GP-22



Boring Completed 05/17/18  
Total Depth of Boring = 7.2 ft.

Vapor Well/Implant Completed 05/17/18  
Total Depth of Vapor Well/Implant = 7.2 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ\_VAPOR WELL/IMPLANT



West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-22

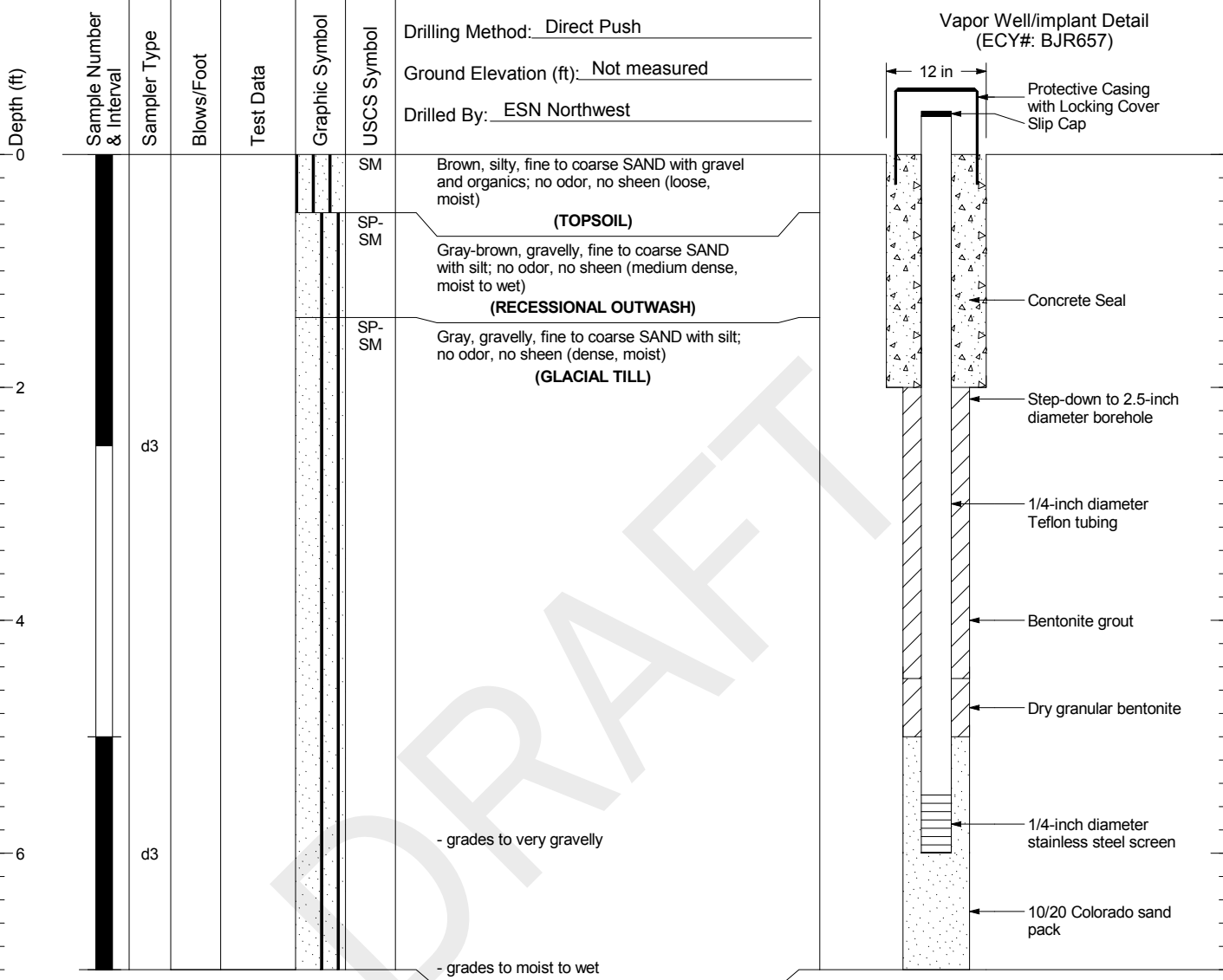
Figure  
**A-9**

# GP-23

## SAMPLE DATA

## SOIL PROFILE

## SOIL GAS/VAPOR



Boring Completed 05/17/18  
Total Depth of Boring = 7.0 ft.

Vapor Well/Implant Completed 05/17/18  
Total Depth of Vapor Well/Implant = 7.1 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT



West Olympia Commercial  
Property  
Olympia, Washington

Log of Vapor Well/Implant GP-23

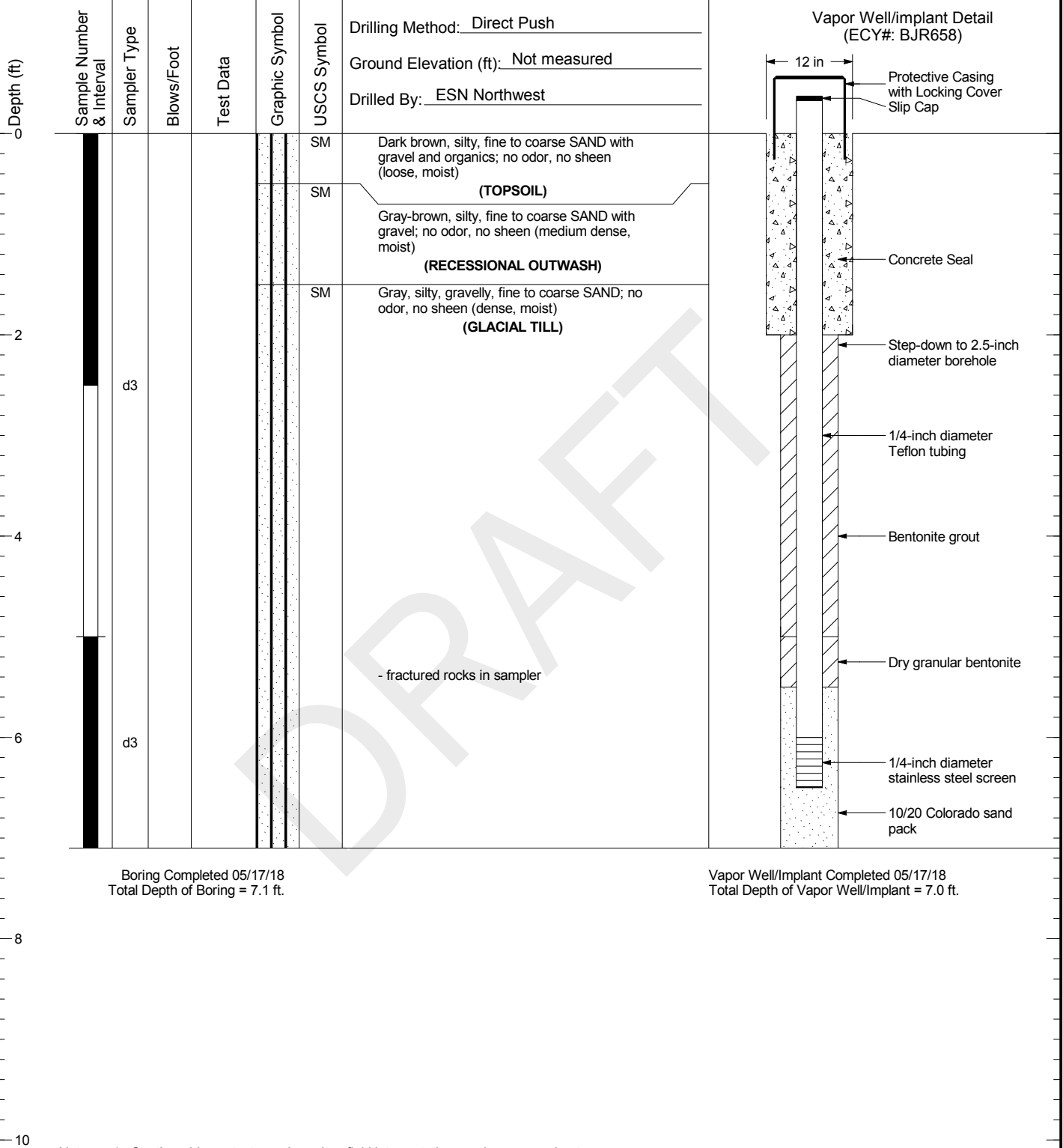
Figure  
**A-10**

# GP-24

## SAMPLE DATA

## SOIL PROFILE

## SOIL GAS/VAPOR



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

0258052.010.012 6/26/18 N:\PROJECTS\0258052.010\_WOCP.GPJ VAPOR WELL/IMPLANT

**Ecology and the Environment Monitoring Wells, 2015  
(OLY-01 and OLY-02)**

DRAFT

**Monitoring Well: OLY-01**

Project <i>West Olympia Landfill</i>		Company <i>E&amp;E</i>		Log By <i>J Fetters</i>	
Location <i>Olympia, Washington</i>		Project No. <i>1004530.0005.006.01</i>		Date Drilled <i>3/17/2015</i>	
Drilling Company <i>Holt</i>		Total Hole Depth <i>90 ft</i>		Diameter <i>2 in</i>	
Driller <i>Brian</i>		Method <i>Sonic</i>		Rig / Core Type <i>TSi 150CC</i>	
Surface Elev. <i>189.78 ft</i>		Filter Pack Material <i>10/20 CSS Sand</i>		WL Initial <i>69.70 ft</i>	
TOC Elev. <i>189.78 ft</i>		Filter Pack Interval <i>68 ft - 90 ft</i>		WL Static <i>69.32 ft</i>	
Latitude <i>47.039403</i>		Seal Material <i>bentonite pellets</i>		Length <i>20 ft</i>	
Longitude <i>-122.946186</i>		Seal Interval <i>2 ft - 68 ft</i>		Type <i>Sched. 40 PVC</i>	

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
0						SM		Silty SAND with Gravel - Silt: brown, damp, high organics; Gravel: 2 mm to 0.5 cm, rounded; Sand: trace, angular
2						GW/GM		Well graded GRAVEL with silt - Gravel: 2 mm to 3 cm, rounded to sub-rounded; Sand: medium to fine (predominantly fine), angular; Silt: grayish brown, moist, soft
4						GW/GM		Well graded GRAVEL with silt - Gravel: 50%, 2 mm to 5 cm, rounded to sub rounded, felsic; Sand: 40%, coarse to fine (predominantly coarse), angular; Silt: 10%, grayish brown, moist, increased gravel with depth to 60%
6		0	100	X	NA			
8						SW/SM		Well graded SAND with Silt - Sand: fine, angular; Silt light grayish brown, soft; Gravel: trace (<10%), 2mm to 3cm, rounded to sub rounded
10						GW/GM		Well graded GRAVEL with silt - Gravel: 50%, 2 mm to 5 cm, rounded to sub-rounded, felsic; Sand: 40%, coarse to fine, (predominantly coarse), angular; Silt: 10%, grayish brown, moist, increased gravel with depth to 60%
12						SM		Silty SAND - Sand: fine to medium (predominantly fine), angular; Silt: grayish brown to light yellowish brown; Gravel: trace
14						SW		Well graded SAND with Gravel - Sand: 60%, medium to fine (predominantly fine), angular to sub-angular, moist; Gravel: 2 mm to 3 cm, rounded to sub-angular
16		0	100	X	NA			
18						SM		Silty SAND with Gravel - Sand: fine, angular; Gravel: 20%, 2 mm to 4 cm, rounded to sub-rounded; Silt: 40%, grayish brown, moist, trace clay, firm
20						SW/SM		Well graded SAND with Silt - Sand: 60%, fine, angular; Gravel: 20% 2 mm to 5 cm, rounded to sub-rounded; Silt: moist, brown, 20%
22						SW		Well graded SAND - Sand: 85%, medium, angular; Gravel: 15%, 2 mm to 0.5 cm
24						GW/GM		Well graded GRAVEL with Silt - Gravel: 2mm to 4 cm, rounded to sub-rounded; Sand: fine to medium, angular; Silt: trace, 15%, moist, brownish gray
26						GW/GM		Well graded GRAVEL with Silt - Gravel: 2 mm to 3 cm, rounded to sub-rounded; Silt: moist, brownish gray; Sand: trace (<10%), fine to medium, angular



**Monitoring Well: OLY-01**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
20	[Patterned Column]	0	100	X	NA	GW/GM		Well graded GRAVEL with Silt - Gravel: 2 mm to 3 cm, rounded to sub-rounded; Silt: moist, brownish gray; Sand: trace (<10%), fine to medium, angular
22						SW		Well graded SAND - Sand: fine to medium, angular to sub-angular, loose; Silt: trace, < 15%, moist, brownish gray
24						SW		Well graded SAND - Sand: medium with trace coarse, moist brownish gray, no silt; Gravel: trace, 2 mm to 0.5 cm, rounded to sub-rounded
26						GM		Silty GRAVEL with Sand - Gravel: 2 mm to 2cm, rounded to sub-rounded; Sand: fine, angular; Silt: grayish brown, moist, dense
28						SP		Poorly graded SAND - Sand: fine, angular, trace silt
28						GM		Silty GRAVEL with Sand - Gravel: 2 mm to 2cm, rounded to sub-rounded; Sand: fine, angular; Silt: grayish brown, moist, dense
28						SP		Poorly graded SAND - Sand: fine, angular, trace silt
28						SW/SM		Poorly graded SAND - Sand: medium, angular, trace silt
30						SW		Well graded SAND with Silt - Sand: 60%, medium to fine, angular; Gravel: 2 mm to 3 cm, rounded to sub-angular; Silt: moist, grayish brown, dense
32						SW		Well graded SAND - Sand: medium to coarse, sub-rounded to sub-angular; Gravel: 20%, 2 mm to 4 cm (predominantly <0.5 cm), no silt
34	SW		Well graded SAND - Sand: medium to coarse, sub-rounded to sub-angular; Gravel: trace, 2 mm to 4 cm, rounded; Silt: moist, grayish brown					
34	SW		Well graded SAND - Sand: medium to coarse, sub-rounded to sub-angular; Gravel: 20%, 2 mm to 4 cm (predominantly <0.5 cm), no silt					
36	SW		Well graded SAND - medium to coarse, angular to sub-angular; Silt: trace, brown, moist					
36	GW/GM		Well graded SAND - Sand: medium to coarse, sub-rounded to sub-angular; Gravel: trace, 2 mm to 4 cm, rounded; Silt: moist, grayish brown					
38	GW/GM		Well graded GRAVEL with Silt - Gravel: 60%, 2 mm to 4 cm (predominately 2mm to 0.5 cm), rounded to sub-rounded; Sand: 20% fine to coarse (predominately coarse); Silt: 20%, moist, brown					
40	GW/GM		Well graded GRAVEL with Silt - Gravel: 50%, 2 mm to 4 cm (predominately 2 mm to 1cm), rounded to sub-rounded; Sand: 25% fine to coarse (predominately coarse); Silt: 25%, moist, grayish brown					
42	SW		Well graded SAND - Sand: 80%, medium to coarse, sub-rounded to sub-angular; Silt: 15%, moist, grayish brown; Gravel: 5%, rounded to sub-rounded, 2 mm to 1 cm					
44	GW/GM		Well graded GRAVEL with Silt - Gravel: 2 mm to 5 cm					

**Monitoring Well: OLY-01**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
46	Well Completion	0	100	X	NA	GW/GM		Well graded GRAVEL with Silt - Gravel: 2 mm to 5 cm (increased size with depth), rounded to sub-rounded; Sand: moist, medium to coarse; Silt: moist, grayish brown
48								
50	Well Completion	0	100	X	NA	GW/GM		Well graded GRAVEL with Silt - Gravel: 75%, 2 mm to 2 cm, rounded to sub-rounded; Sand: 15%, coarse, sub-rounded to sub-angular; Silt: moist, grayish brown
52								
54								
56								
58	Well Completion	0	100	X	NA	GM		Silty GRAVEL with Sand - Gravel: 70%, 2 mm to 4 cm, rounded to sub-angular; Silt: light grayish brown, dry, dense; Sand: trace, fine
60								
62								
64								
66	Well Completion	0	100	X	NA	GM		Silty GRAVEL with Sand - Gravel: 70%, 2 mm to 8 cm (predominantly 2 mm to 3 cm), rounded to sub-angular; Silt: 20%, grayish brown, moist, dense; Sand: 10%, medium to coarse, sub-angular to sub-rounded
68								
70	Well Completion					GM		Silty GRAVEL with Sand - Gravel: 70%, 2 mm to 8 cm (predominantly 2 mm to 3 cm), rounded to sub-angular; Silt:

**Monitoring Well: OLY-01**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
72	[Well Completion Diagram]	0	100	X	NA	GM	[Graphic Log Diagram]	Silty GRAVEL with Sand - Gravel: 70%, 2 mm to 8 cm (predominantly 2 mm to 3 cm), rounded to sub-angular; Silt: 20%, grayish brown, saturated, dense; Sand: 10%, medium to coarse, sub-angular to sub-rounded
74						GM		
76						SW/SM		Well graded SAND with Silt - Sand: 80%, coarse, sub-rounded to sub-angular; Gravel: 20%, 2 mm to 2 cm, rounded to sub-rounded; Silt: 10%, trace, saturated, brown
78						GM		Silty GRAVEL with Sand - Gravel: 60%, 2 mm to 6 cm (predominantly 2 mm to 2 cm), rounded to sub-angular; Silt: 25%, brown, saturated; Sand: 15%, fine to coarse, sub-angular to sub-rounded
80						GW		Well graded SAND with Silt - Sand: 80%, coarse, sub-rounded to sub-angular; Gravel: 20%, 2 mm to 2 cm, rounded to sub-rounded; Silt: 10%, trace, saturated, brown
						GW		Silty GRAVEL with Sand - Gravel: 2 mm to 3 cm (predominantly 2 mm to 2 cm), rounded to sub-angular; Silt: brown, saturated; Sand: trace, coarse, sub-angular to sub-rounded
82	X	100	NA	NA	GW	[Graphic Log Diagram]	Well graded GRAVEL - Gravel: 50%, 2 mm to 3 cm, rounded to sub-rounded; Sand: 45%, fine to coarse, sub-angular to angular; Silt: 5%, trace, saturated, brown	
84					GW		Well graded GRAVEL - Gravel: 50%, 2 mm to 3 cm, rounded to sub-rounded; Sand: 45%, fine to coarse, sub-angular to angular; Silt: 5%, trace, saturated, brown	
86					SW		Well graded SAND - Sand: 60%, fine to coarse, sub-rounded to sub-angular; Gravel: 30%, 2 mm to 0.5 cm, rounded to sub-rounded; Silt: 10%, trace, saturated, brown	
88								
90								
92								
94								
96								

**Monitoring Well: OLY-02**

<b>Project</b> <i>West Olympia Landfill</i>	<b>Company</b> <i>E&amp;E</i>	<b>Log By</b> <i>J Fetters</i>
<b>Location</b> <i>Olympia, Washington</i>	<b>Project No.</b> <i>1004530.0005.006.01</i>	<b>Date Drilled</b> <i>3/18/2015</i>
<b>Drilling Company</b> <i>Holt</i>	<b>Total Hole Depth</b> <i>75 ft</i>	<b>Diameter</b> <i>2 in</i>
<b>Driller</b> <i>Brian</i>	<b>Method</b> <i>Sonic</i>	<b>Rig / Core Type</b> <i>TSi 150CC</i>
<b>Surface Elev.</b> <i>174.18 ft</i>	<b>Filter Pack Material</b> <i>10/20 CSS Sand</i>	<b>WL Initial</b> <i>54.87 ft</i>
<b>TOC Elev.</b> <i>174.18 ft</i>	<b>Filter Pack Interval</b> <i>53 ft - 75 ft</i>	<b>WL Static</b> <i>53.98 ft</i>
<b>Latitude</b> <i>47.040044</i>	<b>Seal Material</b> <i>bentonite pellets</i>	<b>Length</b> <i>20 ft</i>
<b>Longitude</b> <i>-122.944408</i>	<b>Seal Interval</b> <i>3 ft - 53 ft</i>	<b>Type</b> <i>Sched. 40 PVC</i>

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
0						GW/GM		Well graded GRAVEL with Silt - Gravel: road bed
0 - 2						GM		Silty GRAVEL - Gravel: 60%, 2 mm to 1cm, rounded to sub-angular; Sand: 20%, fine to coarse, angular to sub-angular; Silt: trace, brown, moist
2 - 4						SW		Well graded SAND - Sand: 70%, medium to fine, trace coarse angular to sub-angular; Gravel: 20%, 2 mm to 1 cm, rounded to sub-angular; Silt: 10%, brown, moist
4 - 6		0	100	X	NA	SW		Well graded SAND - Sand: 60%, medium to fine, trace coarse angular to sub-angular; Gravel: 20%, 2 mm to 1 cm, rounded to sub-angular; Silt: 20%, brown, moist
6 - 14						SP		Well graded SAND - Sand: fine, angular to sub-angular; Silt: trace, moist brown
14 - 16		0	100	X	NA	SW/SM		Well graded SAND with Silt - Sand: medium to coarse with trace fine, angular to sub-angular; Gravel: 2 mm to 4 cm (predominantly < 1 cm), rounded to sub-rounded; Silt: 15%, moist, brown
16 - 18						GM		Silty GRAVEL - Gravel: 70%, rounded to sub-rounded, 2 mm to 3 cm (predominantly < 0.5 cm); Silt: 20%, brown, moist; Sand: trace, coarse, angular to sub-angular
18 - 20						SW		Well graded SAND with Silt - Sand: medium to coarse with

**Monitoring Well: OLY-02**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
20		0	100	X	NA	SW		Well graded SAND with Silt - Sand: medium to coarse with trace fine, angular to sub-angular; Gravel: 2 mm to 8 cm (predominantly < 1 cm), rounded to sub-rounded; Silt: 15%, moist, brown, Approx. 1" lenses of burnt wood at 18.9' bgs
22						SW/SM		Well graded SAND with Silt - Sand: 60%, medium to coarse, sub-angular to sub-rounded; Gravel: 30%, 2 mm to 5 cm (predominantly < 2 cm), rounded to sub-rounded; Silt: 10%, moist, grayish brown
24								
26						GM		Silty GRAVEL - Gravel: 60%, sub-rounded to sub-angular, 2 mm to 6 cm (predominantly < 2 cm); Silt: 20%, grayish brown, moist; Sand: 20%, medium to coarse, angular to sub-angular
28								
30								
32		0	100	X	NA	SW/SM		Well graded SAND with Silt - Sand: 50%, fine to coarse (predominantly coarse), sub-angular to angular; Gravel: 30%, 3 cm to 2 mm (predominantly < 1cm), rounded to sub-rounded; Silt: 20%, moist, light brown/tan
34						GM		Silty GRAVEL - Gravel: 80%, rounded, 3 mm to 1.5 cm (predominantly < 0.5 cm); Silt: 20%, tan/light brown, moist
36						SW/SM		Well graded SAND with Silt - Sand: 50%, fine to coarse (predominantly coarse), sub-angular to angular; Gravel: 30%, 2 mm to 3 cm (predominantly < 1cm), rounded to sub-rounded; Silt: 20%, moist, light brown/tan
38								
40						GM		Silty GRAVEL - Gravel: 75%, rounded, 2 mm to 2 cm (predominantly < 1cm); Silt: 25%, grayish brown, moist; Sand: trace medium, angular to sub-angular
42								
44								



**Monitoring Well: OLY-02**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
46	[Patterned]	0	100	X	NA	GM	[Graphic Log]	Silty GRAVEL - Gravel: 75%, rounded, 2 mm to 2 cm (predominantly < 1cm); Silt: 25%, grayish brown, moist; Sand: trace medium, angular to sub-angular
48						SW/SM	[Graphic Log]	Well graded SAND with Silt - Sand: 50%, fine to coarse, sub-angular to angular; Gravel: 30%, 2 mm to 2 cm (predominantly < 1cm), rounded to sub-rounded; Silt: 20%, moist, brown
50	[Patterned]	0	100	X	NA	SW/SM	[Graphic Log]	Well graded SAND with Silt - Sand: 70%, fine to coarse, sub-angular to angular; Gravel: 25%, 2 mm to 2 cm (predominantly < 1cm), rounded to sub-rounded; Silt: trace, 5%, moist, brown
52						GM	[Graphic Log]	Silty GRAVEL - Gravel: 75%, rounded, 2 mm to 2 cm (predominantly < 1cm); Silt: 25%, grayish brown, moist; Sand: trace medium, angular to sub-angular
54	[Patterned]	0	100	X	NA	SW/SM	[Graphic Log]	Well graded SAND with Silt - Sand: 50%, fine to coarse, sub-angular to angular; Gravel: 30%, 2 mm to 2 cm (predominantly < 1cm), rounded to sub-rounded; Silt: 20%, moist, brown
56								
58	[Patterned]	0	100	X	NA	GW/GM	[Graphic Log]	Well graded GRAVEL with Silt - Gravel: 90%, 2 mm to 3 cm, rounded to sub-rounded; Sand: 5%, fine to coarse, sub-angular to angular; Silt: 5%, saturated, light brown
60								
62	[Patterned]	0	100	X	NA	GW/GM	[Graphic Log]	Well graded GRAVEL with Silt - Gravel: 80%, 2 mm to 3 cm, rounded to sub-rounded (increased rounding with depth); Sand: 10%, fine to coarse, sub-angular to angular; Silt: 10%, saturated, light brown
64								
66	[Patterned]	0	100	X	NA	GW/GM	[Graphic Log]	Well graded GRAVEL with Silt - Gravel: 80%, 2 mm to 3 cm, rounded to sub-rounded (increased rounding with depth); Sand: 10%, fine to coarse, sub-angular to angular; Silt: 10%, saturated, light brown
68								
70	[Patterned]							

**Monitoring Well: OLY-02**

Depth (ft)	Well Completion	PID (ppm)	Rec %	Core Sample	Lab Sample	USCS Class.	Graphic Log	Description (Color, texture, structure)
72		0	100	X	NA	GW/GM		Well graded GRAVEL with Silt - Gravel: 80%, 2 mm to 3 cm, rounded to sub-rounded (increased rounding with depth); Sand: 10%, fine to coarse, sub-angular to angular; Silt: 10%, saturated, light brown
74						SW		Well graded SAND - Sand: 50%, medium to fine, trace coarse, angular to sub-angular; Gravel: 40%, 2 mm to 1 cm, rounded to sub-angular; Silt: 10%, brown, moist
76								
78								
80								
82								
84								
86								
88								
90								
92								
94								
96								

**Ecology Well Log, 2012  
(MW-23)**

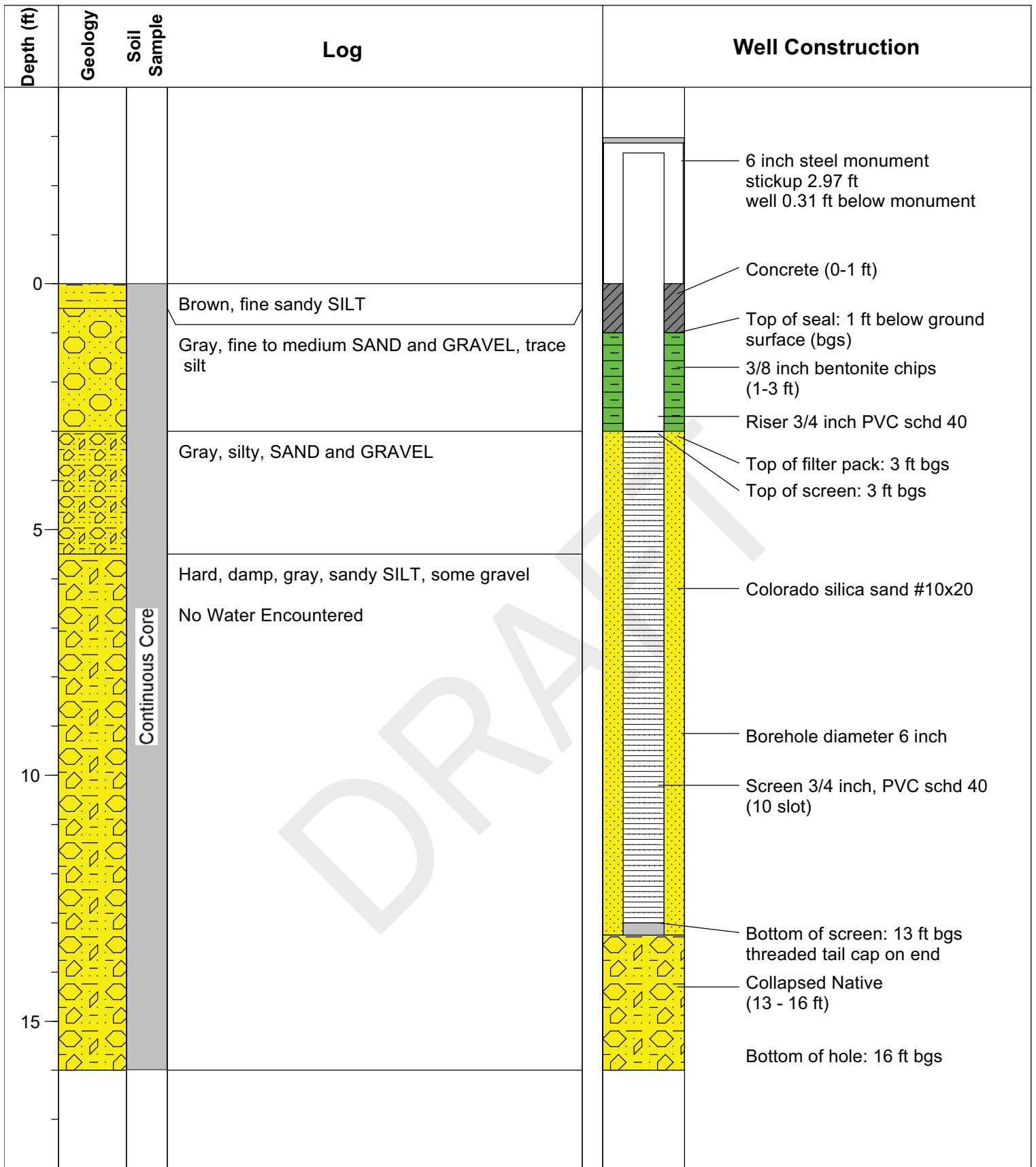
DRAFT



**PGG Gas Probes and Monitoring Wells, 2006  
(GP-1 through GP- 5 and PGG-1 through PGG-2)**

DRAFT





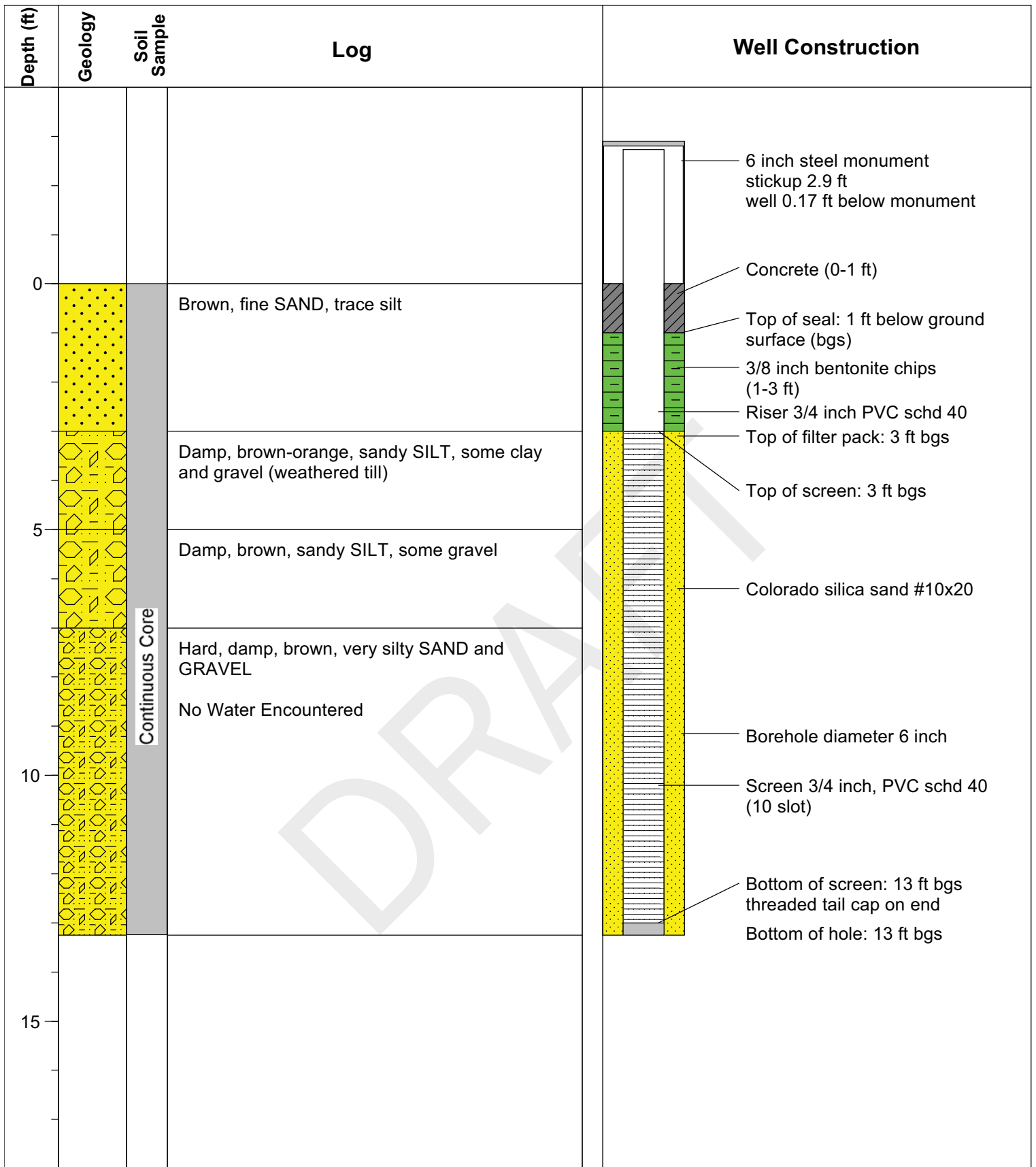
Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Dave Donaly  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: GP-1  
 UWID: APN850  
 Top of Casing: 175.13  
 Datum: NGVD29  
 Installed: 6/19/06

**GEOLOGIC LOG AND AS-BUILT FOR GAS PROBE GP-1**

West Olympia Landfill  
 JS0608, GP-1.lcf, 11/2006





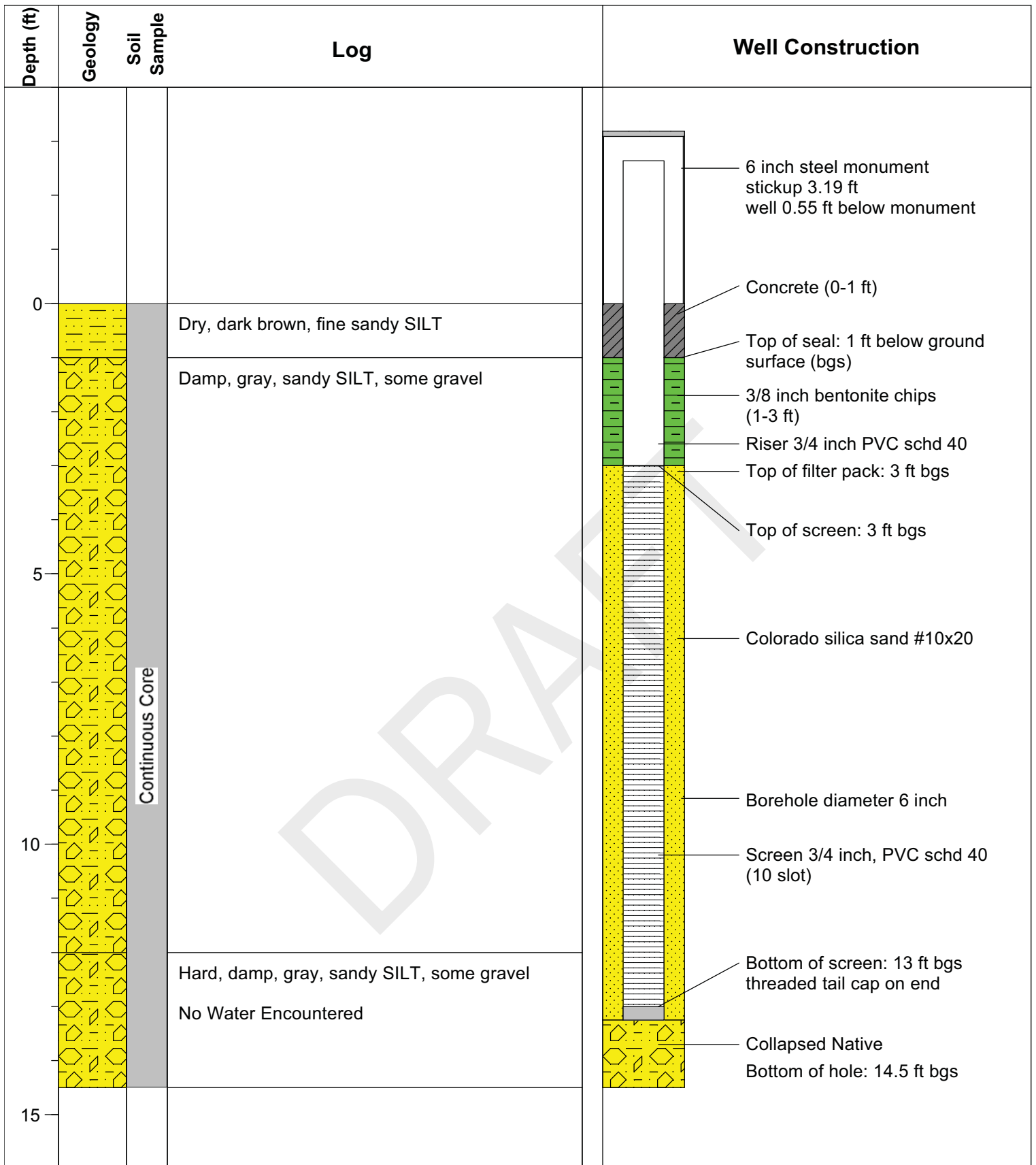
Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Dave Donaly  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: GP-2  
 UWID: ALJ755  
 Top of Casing: 169.54  
 Datum: NGVD29  
 Installed: 6/21/06

**GEOLOGIC LOG AND AS-BUILT FOR GAS PROBE GP-2**

West Olympia Landfill  
 JS0608, GP-2.lcf, 11/2006





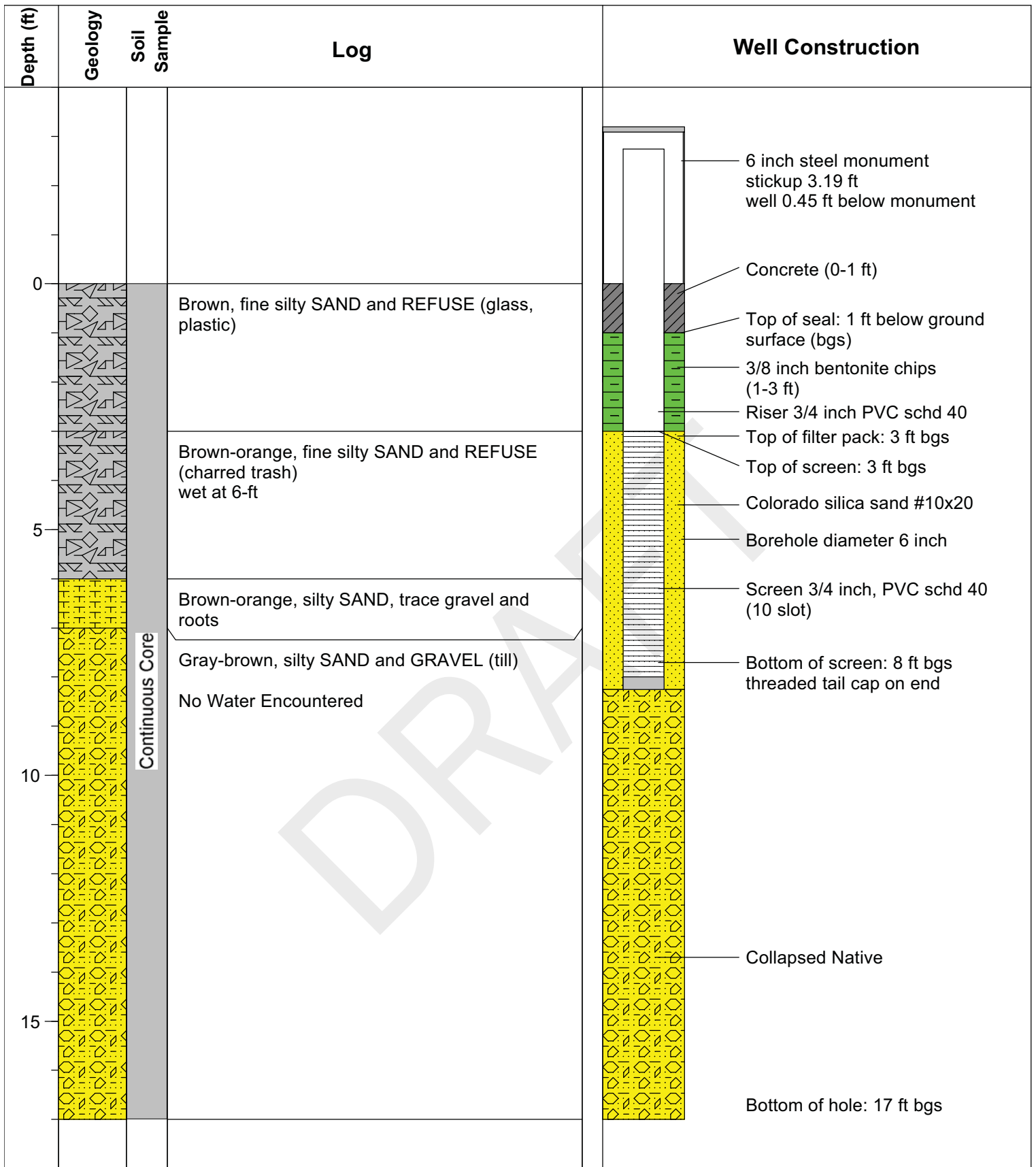
Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Dave Donaly  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: GP-3  
 UWID: APN794  
 Top of Casing: 179.65  
 Datum: NGVD29  
 Installed: 6/19/06

**GEOLOGIC LOG AND AS-BUILT FOR GAS PROBE GP-3**

West Olympia Landfill  
 JS0608, GP-3.lcf, 11/2006





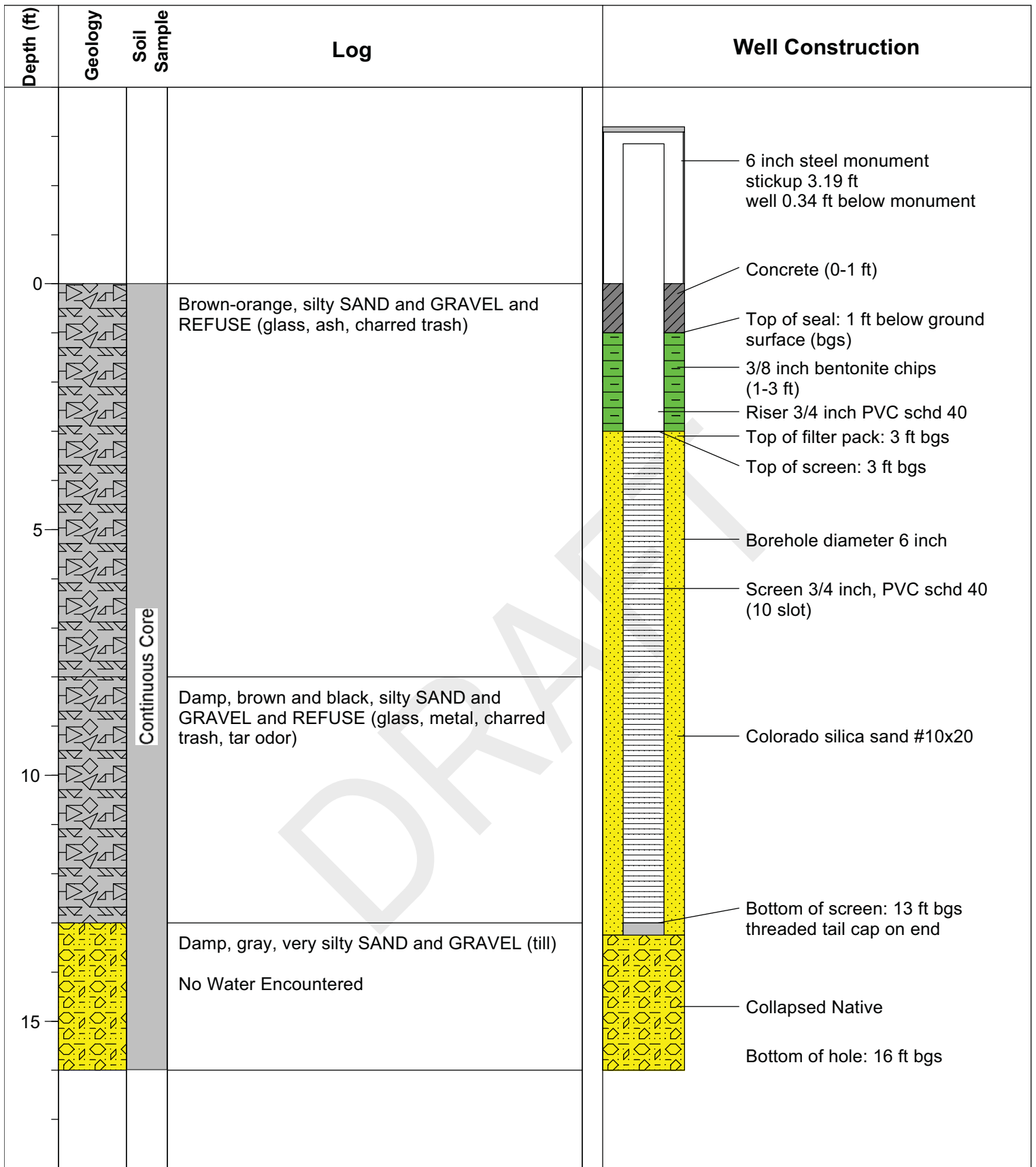
Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Dave Donaly  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: GP-4  
 UWID: APN849  
 Top of Casing: 180.06  
 Datum: NGVD29  
 Installed: 6/20/06

**GEOLOGIC LOG AND AS-BUILT FOR GAS PROBE GP-4**

West Olympia Landfill  
 JS0608, GP-4.lcf, 11/2006





Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Dave Donaly  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

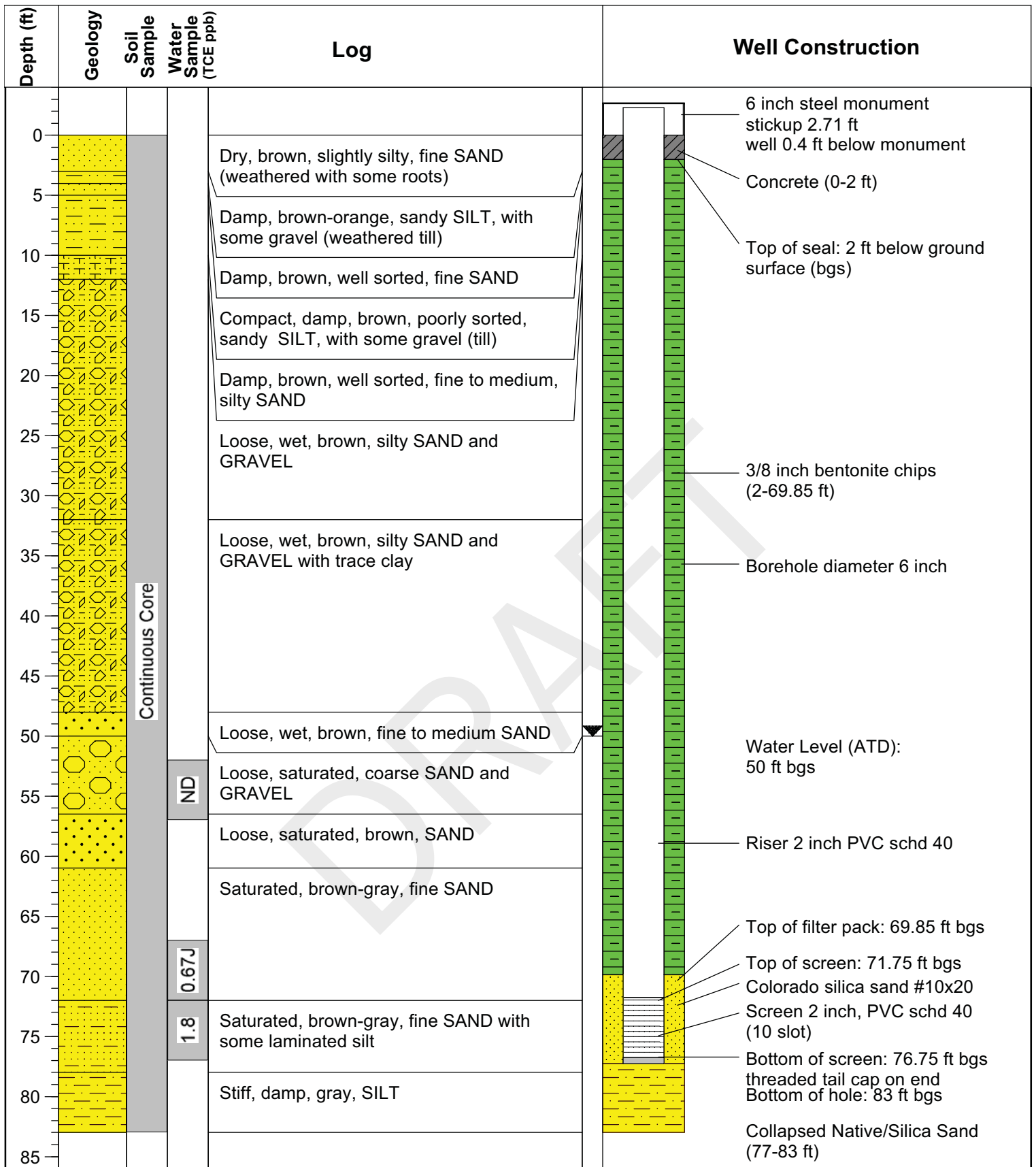
Well Name: GP-5  
 UWID: APN848  
 Top of Casing: 169.43  
 Datum: NGVD29  
 Installed: 6/20/06

**GEOLOGIC LOG AND AS-BUILT FOR GAS PROBE GP-5**

West Olympia Landfill  
 JS0608, GP-5.lcf, 11/2006







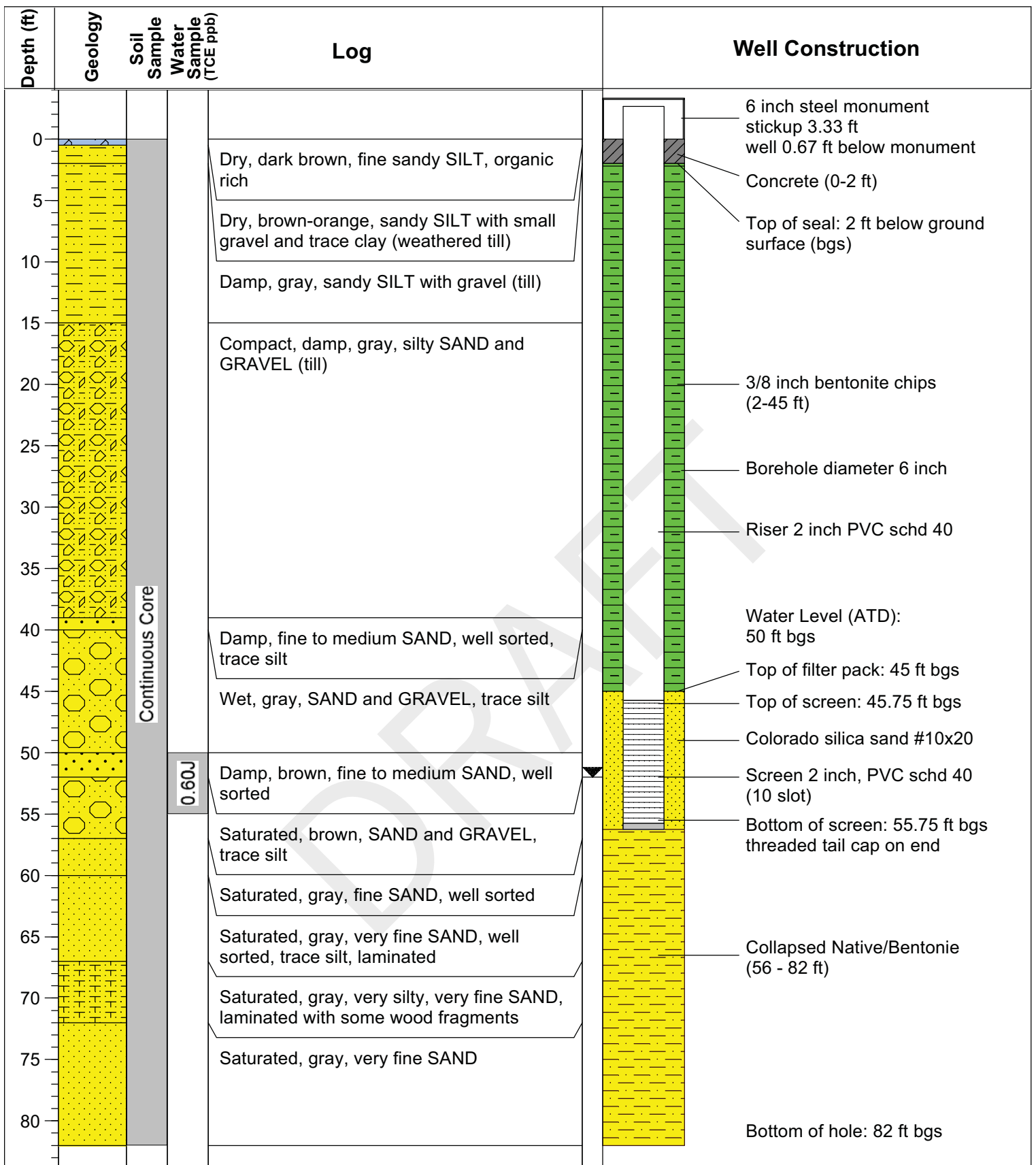
Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Eric West  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: PGG-1  
 UWID: ALJ756  
 MP Elevation: 169.54  
 Datum: NGVD29  
 Installed: 6/21/06

**GEOLOGIC LOG AND AS-BUILT FOR MONITORING WELL PGG-1**

West Olympia Landfill  
 JS0608, PGG-1.lcf, 11/2006





Project Name: West Olympia Landfill  
 Drilling Method: Sonic  
 Driller: Eric West  
 Firm: Prosonic Corporation  
 Consulting Firm: PGG  
 Logged by: Dawn Chapel  
 Location: West Olympia Landfill

Well Name: PGG-2  
 UWID: APN757  
 MP Elevation: 169.50  
 Datum: NGVD29  
 Installed: 6/20/06

**GEOLOGIC LOG AND AS-BUILT FOR MONITORING WELL PGG-2**

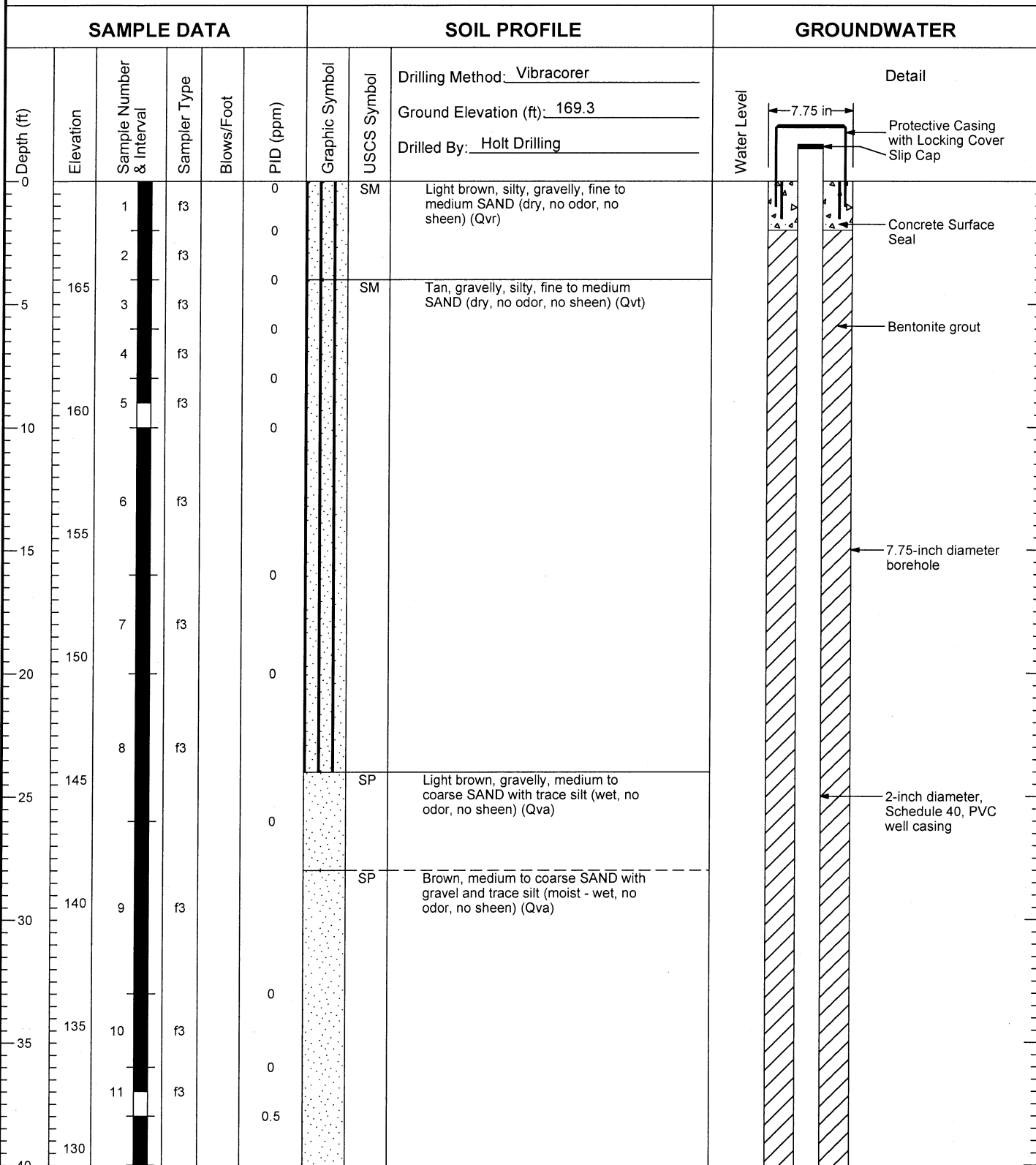
West Olympia Landfill  
 JS0608, PGG-1.lcf, 11/2006



**Landau Monitoring Well, 2005  
(LAI-5d)**

DRAFT

# LAI-5d



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_10/24/05 \EDM\DATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-5d

Figure  
A-2  
(1 of 4)

# LAI-5d

SAMPLE DATA						SOIL PROFILE			GROUNDWATER	
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Vibracorer</u>	Water Level	Detail
								Ground Elevation (ft): <u>169.3</u>		
40		12	f3			[Dotted pattern]	SP	Brown, medium to coarse SAND with gravel and trace silt (moist - wet, no odor, no sheen) (Qva)		
45	125				0					
50	120	13	f3			[Circular pattern]	GP	Brown, sandy, fine to coarse GRAVEL with trace silt (moist - wet, no odor, no sheen) (Qva)		
55	115				0					
60	110	14	f3			[Circular pattern]				
65	105	15	f3			[Circular pattern]			ATD ▽	Bentonite grout
70	100	16	f3			[Dotted pattern]	SP	Brown, medium to coarse SAND with occasional gravel (wet, no odor, no sheen) (Qva)		Bentonite grout
75	95				0					
80	90									

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_10/24/05 \NED\DATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-5d

Figure

A-2  
(2 of 4)



LAI-5d

SAMPLE DATA						SOIL PROFILE			GROUNDWATER		
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Vibracorer		Water Level	Detail
								Ground Elevation (ft): 169.3			
80		17	f3				GP	Brown, sandy, fine GRAVEL with trace silt (wet, no odor, no sheen, (Qva)			
85					0		SP	Brown, medium to coarse SAND with occasional gravel and trace silt (wet, no odor, no sheen) (Qva)			
85							GP	Brown, sandy, fine GRAVEL with trace silt (wet, no odor, no sheen) (Qva)			
85							SP	Brown, medium to coarse SAND with gravel with trace silt (wet, no odor, no sheen) (Qva)			Bentonite grout
90		18	f3				GP	Brown, sandy, fine GRAVEL with trace silt (wet, no odor, no sheen) (Qva)			
95							SP	Brown, medium to coarse SAND with gravel with trace silt (wet, no odor, no sheen) (Qva)			7.75-inch diameter borehole
100		19	f3				SP	Gradual decrease in gravel content			Bentonite grout
105							SM	Gray, silty, fine to medium SAND (wet, no odor, no sheen) (Qva)			
110		20	f3				ML				
115											
120											

- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_10/24/05 \MEDDATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



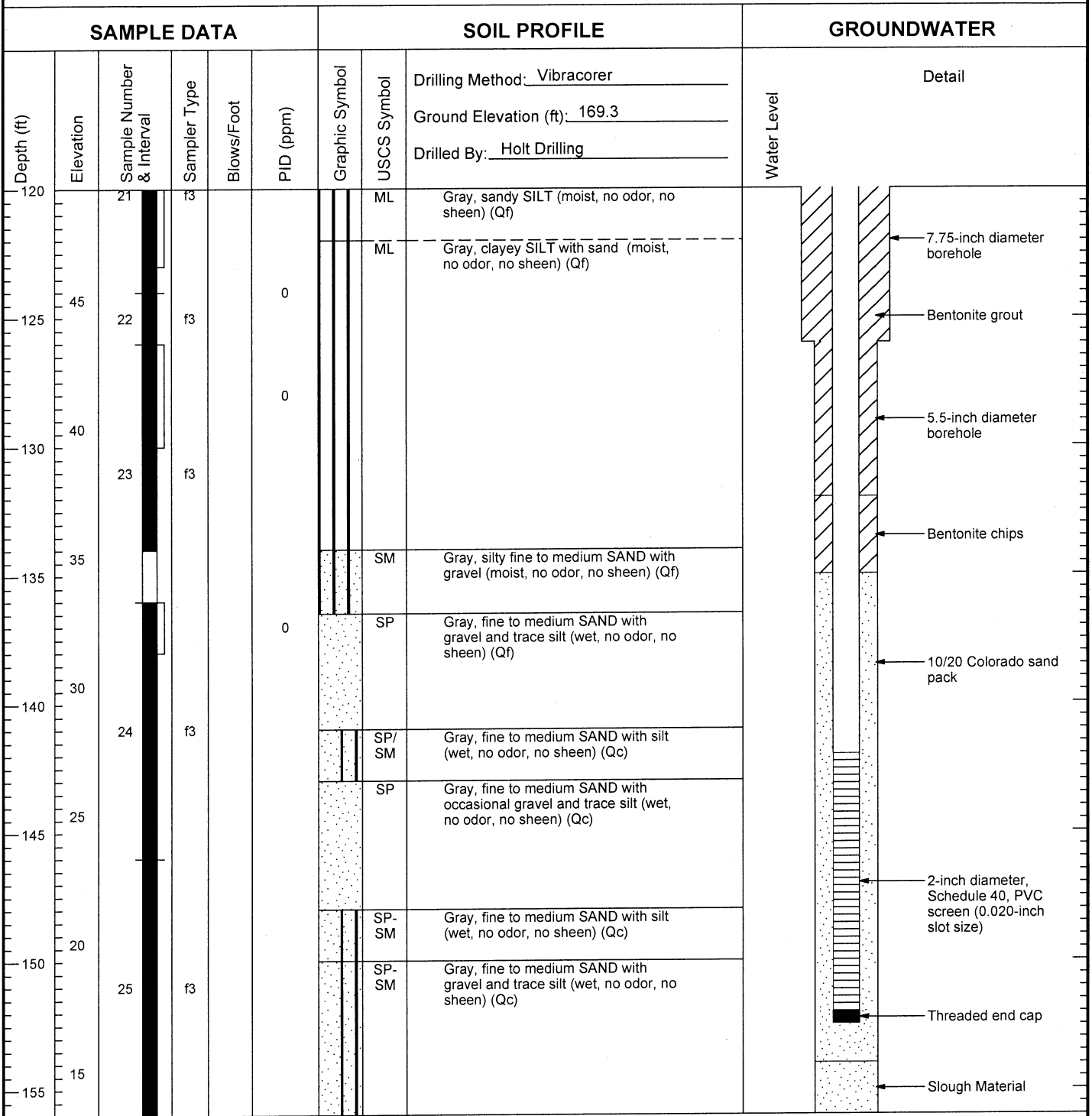
West Olympia Land Fill  
Olympia, Washington

Log of LAI-5d

Figure

A-2  
(3 of 4)

# LAI-5d



Boring Completed 09/23/05  
Total Depth of Boring = 156.0 ft.

Elevation at Top of Casing = 172.30 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_10/24/05 \EDM\DATA\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

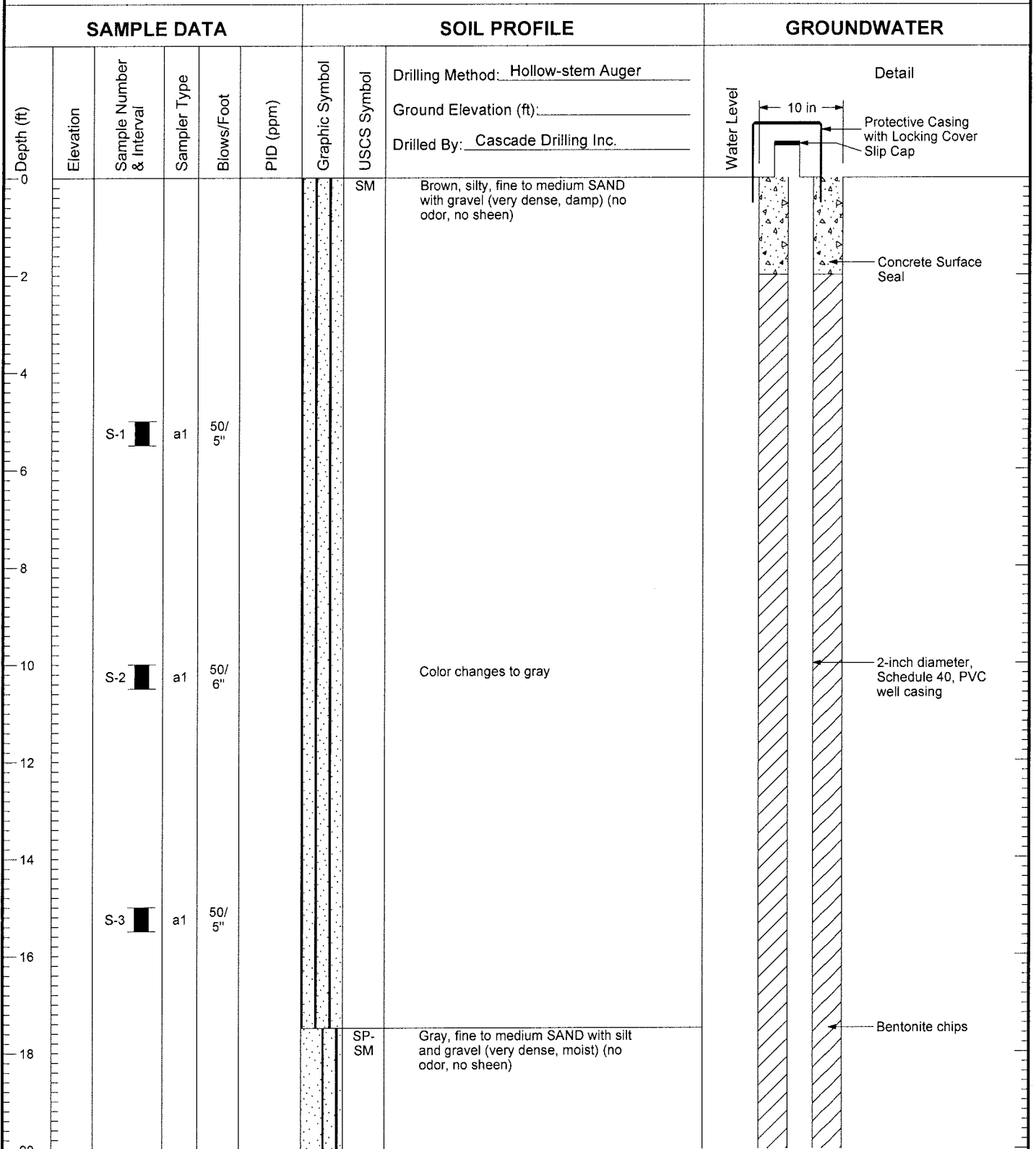
Log of LAI-5d

Figure  
A-2  
(4 of 4)

**Landau Monitoring Wells, 2004  
(LAI-MW-1 through LAI-MW-4)**

DRAFT

# LAI-MW-1



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 NEDM\DATA\GINT\GINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION

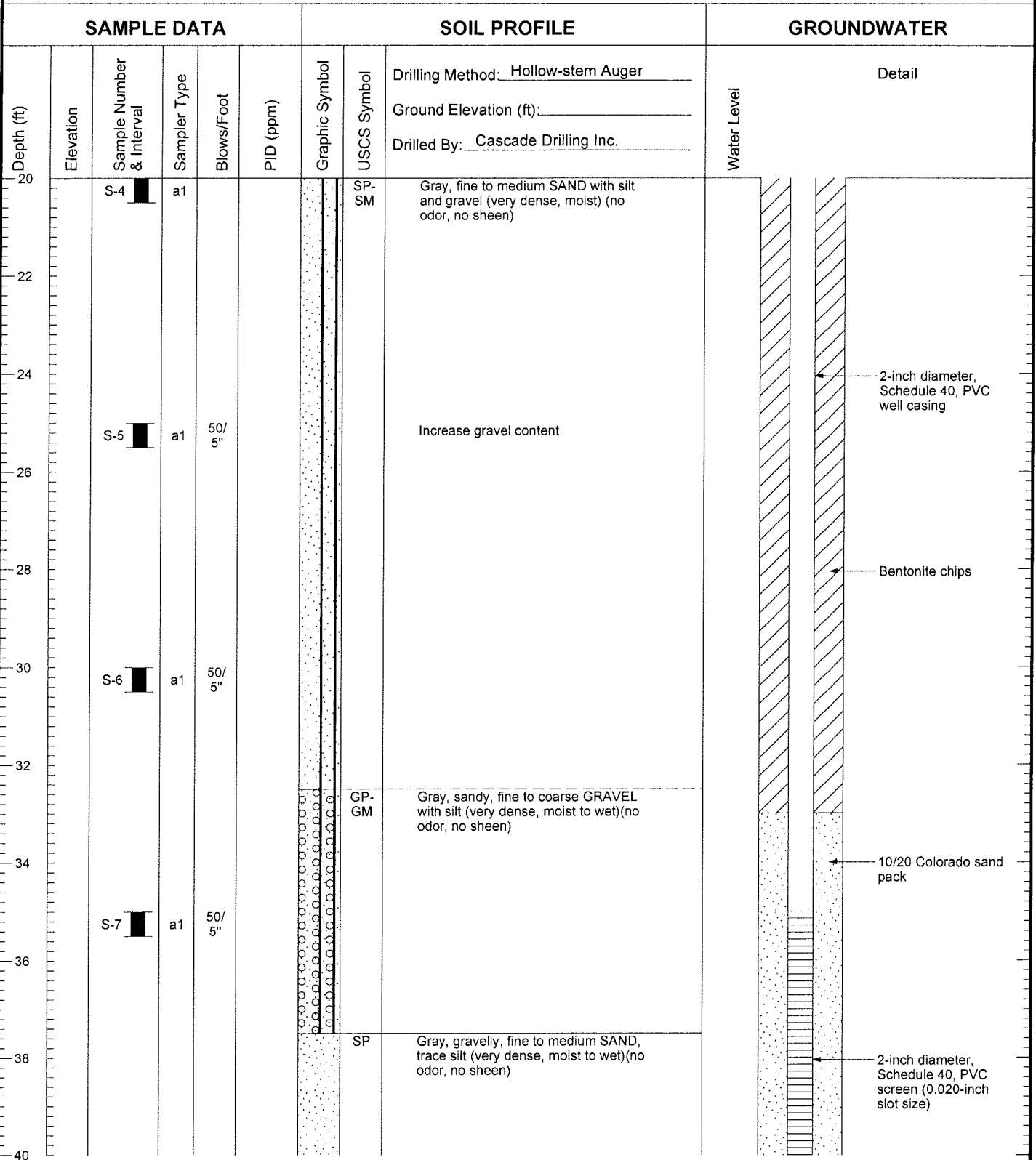


West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-1

Figure  
A-2  
(1 of 3)

# LAI-MW-1



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINTGINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-1

Figure  
A-2  
(2 of 3)



# LAI-MW-1

SAMPLE DATA						SOIL PROFILE			GROUNDWATER		
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>		Water Level	Detail
								Ground Elevation (ft): _____			
								Drilled By: <u>Cascade Drilling Inc.</u>			
40		S-8	a1	50/5"			SP	Gray, gravelly, fine to medium SAND, trace silt (very dense, moist to wet)(no odor, no sheen)			
42											
44											
46		S-9	a1	50/5"				Decrease gravel content			
48							SP-SM	Gray, fine to medium SAND with silt (very dense, moist to wet)(no odor, no sheen)			
50		S-10	a1	50/5"							
52											
54							SP	Gray, fine to medium SAND, trace silt (very dense, wet)(no odor, no sheen)			
56		S-11	a1	50/5"							

Boring Completed 06/07/04  
Total Depth of Boring = 55.5 ft.

Elevation at Top of Protective Casing = 163.82 ft.  
Elevation at Top of Casing = 163.35 ft.

- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \\MEDDATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-1

Figure  
A-2  
(3 of 3)

# LAI-MW-2

SAMPLE DATA					SOIL PROFILE			GROUNDWATER		
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Water Level	Detail
								Ground Elevation (ft): _____		
0						[Dotted pattern]	SM	Brown, silty, fine to medium SAND with gravel (very dense, damp)(no odor, no sheen)	10 in	<p>Flush-mounted monument with locking cap Concrete Surface Seal</p> <p>2-inch diameter, Schedule 40, PVC well casing</p> <p>Bentonite chips</p>
2						[Dotted pattern]				
4		S-1	a1	50/5"		[Dotted pattern]				
6						[Dotted pattern]				
8						[Dotted pattern]				
10		S-2	a1	50/5"		[Dotted pattern]				
12						[Dotted pattern]				
14						[Dotted pattern]				
16		S-3	a1	50/5"		[Dotted pattern]				
18						[Dotted pattern]	SP	Gray, fine to medium SAND, trace silt (very dense, wet)(no odor, no sheen)		
20						[Dotted pattern]				

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \\MEDDATA\GINT\GINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-2

Figure  
A-3  
(1 of 4)

# LAI-MW-2

SAMPLE DATA						SOIL PROFILE			GROUNDWATER		
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>		Water Level	Detail
								Ground Elevation (ft): _____			
20		S-4	a1	50/ 5"		SP		Gray, fine to medium SAND, trace silt (very dense, wet)(no odor, no sheen)			
22							SP-SM	Gray, fine to medium SAND with silt and gravel (very dense, wet)(no odor, no sheen)			
24		S-5	a1	50/ 6"				Gray, silty, fine GRAVEL with sand (very dense, moist to wet)(no odor, no sheen)			Bentonite chips
26							GM	Gray, silty, fine GRAVEL with sand (very dense, moist to wet)(no odor, no sheen)			
28		S-6	a1	50/ 5"			GP-GM	Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			2-inch diameter, Schedule 40, PVC well casing
30								Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			
32		S-7	a1	50/ 5"				Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			
34								Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			
36								Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			
38								Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			
40								Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)			

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINT\GINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-2

Figure  
A-3  
(2 of 4)

# LAI-MW-2

SAMPLE DATA				SOIL PROFILE				GROUNDWATER	
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Detail	
								Water Level	
								Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): _____ Drilled By: <u>Cascade Drilling Inc.</u>	
40		S-8	a1	50/ 5"		GP-GM	Gray, sandy, fine GRAVEL with silt (very dense, moist to wet)(no odor, no sheen)	<p style="font-size: small;">2-inch diameter, Schedule 40, PVC well casing</p> <p style="font-size: small;">Bentonite chips</p> <p style="font-size: small;">10/20 Colorado sand pack</p> <p style="font-size: small;">2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size)</p>	ATD
42						SP	Gray, fine to medium SAND with gravel (very dense, moist to wet)(no odor, no sheen)		
44									
46		S-9	a1	50/ 5"					
48									
50		S-10	a1	50/ 5"					
52									
54		S-11	a1	50/ 6"		GP-GM	Brown, sandy, coarse GRAVEL with silt (very dense, wet)(no odor, no sheen)		
56									
58						GP	Brown, sandy, fine to coarse GRAVEL, trace silt (very dense, wet)(no odor, no sheen)		
60									

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINTGINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-2

Figure  
A-3  
(3 of 4)

# LAI-MW-2

SAMPLE DATA					SOIL PROFILE			GROUNDWATER		
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Water Level	Detail
								Ground Elevation (ft): _____		
60		S-12	a1	50/ 4"		○	GP	Brown, sandy, fine to coarse GRAVEL, trace silt (very dense, wet)(no odor, no sheen)	Water Level	
62						○				
64		S-13	a1	50/ 4"		○				
66	Boring Completed 06/07/04 Total Depth of Boring = 65.4 ft.								Elevation at Top of Protective Casing = 170.70 ft. Elevation at Top of Casing = 170.32 ft.	
68						○				
70						○				
72						○				
74						○				
76						○				
78						○				
80						○				

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_7/27/04 \MEDDATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



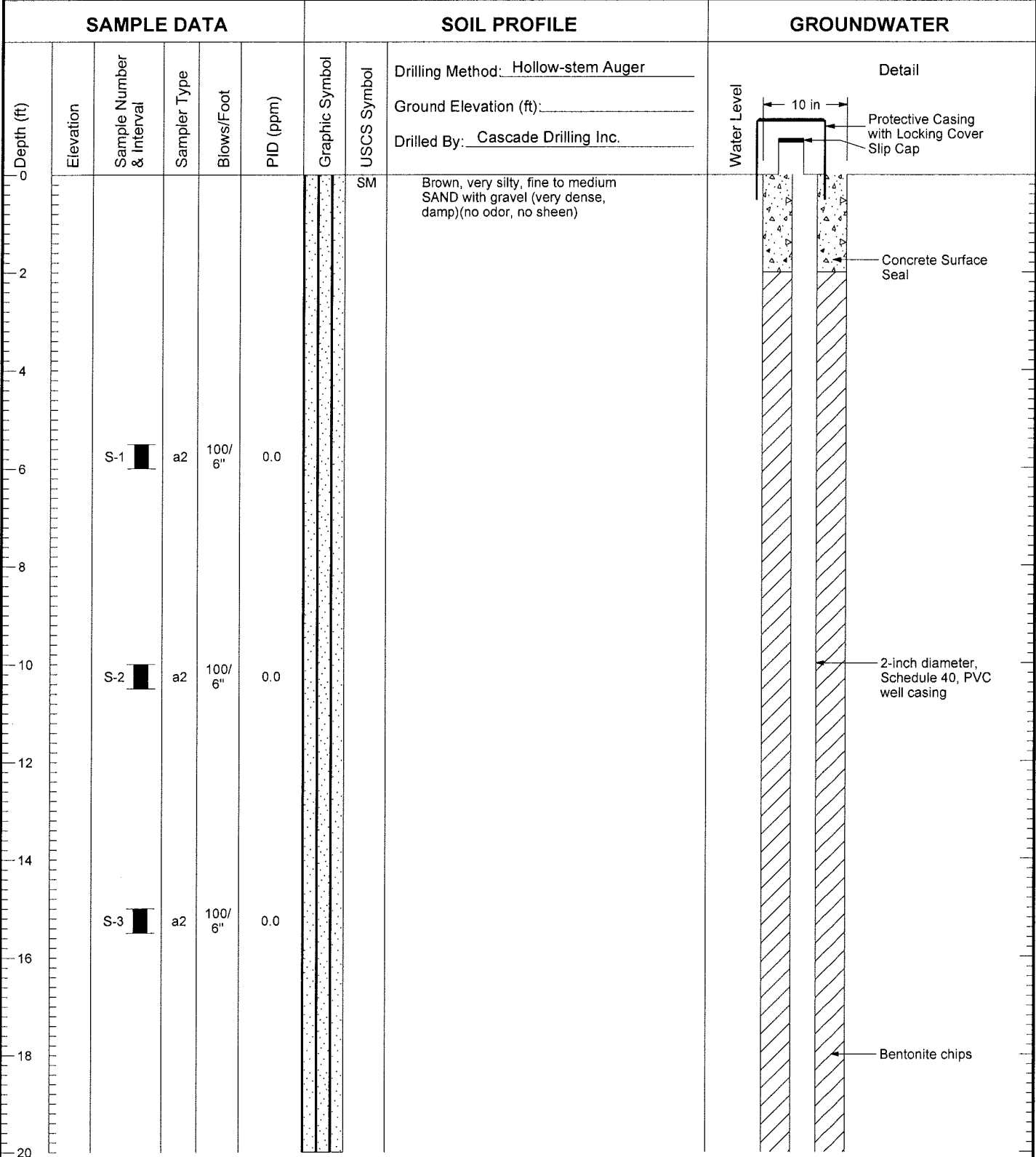
West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-2

Figure  
A-3  
(4 of 4)



# LAI-MW-3



- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_7/27/04\_NED\DATA\GINT\GINT6\PROJECTS\820001.GPJ\_WELL LOG W/ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-3

Figure  
A-4  
(1 of 4)

# LAI-MW-3

SAMPLE DATA						SOIL PROFILE			GROUNDWATER			
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>		Water Level	Detail	
								Ground Elevation (ft): _____				Drilled By: <u>Cascade Drilling Inc.</u>
20		S-4	a2	50/ 4"	0.0		SM	Brown, silty, fine to medium SAND (very dense, damp to moist)(no odor, no sheen)				
22							Brown, gravelly, fine to medium SAND with silt (very dense, moist to wet)(no odor, no sheen)					
24		S-5	a2	100/ 6"	0.0							SP-SM
26								Brown, sandy, fine to coarse GRAVEL, trace silt (very dense, moist)				
28												
30		S-6	a2	100/ 6"	0.0		GP	2-inch diameter, Schedule 40, PVC well casing				
32												
34		S-7	a2	100/ 3"	0.0							
36								2-inch diameter, Schedule 40, PVC well casing				
38												
40								2-inch diameter, Schedule 40, PVC well casing				

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINT\GINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION

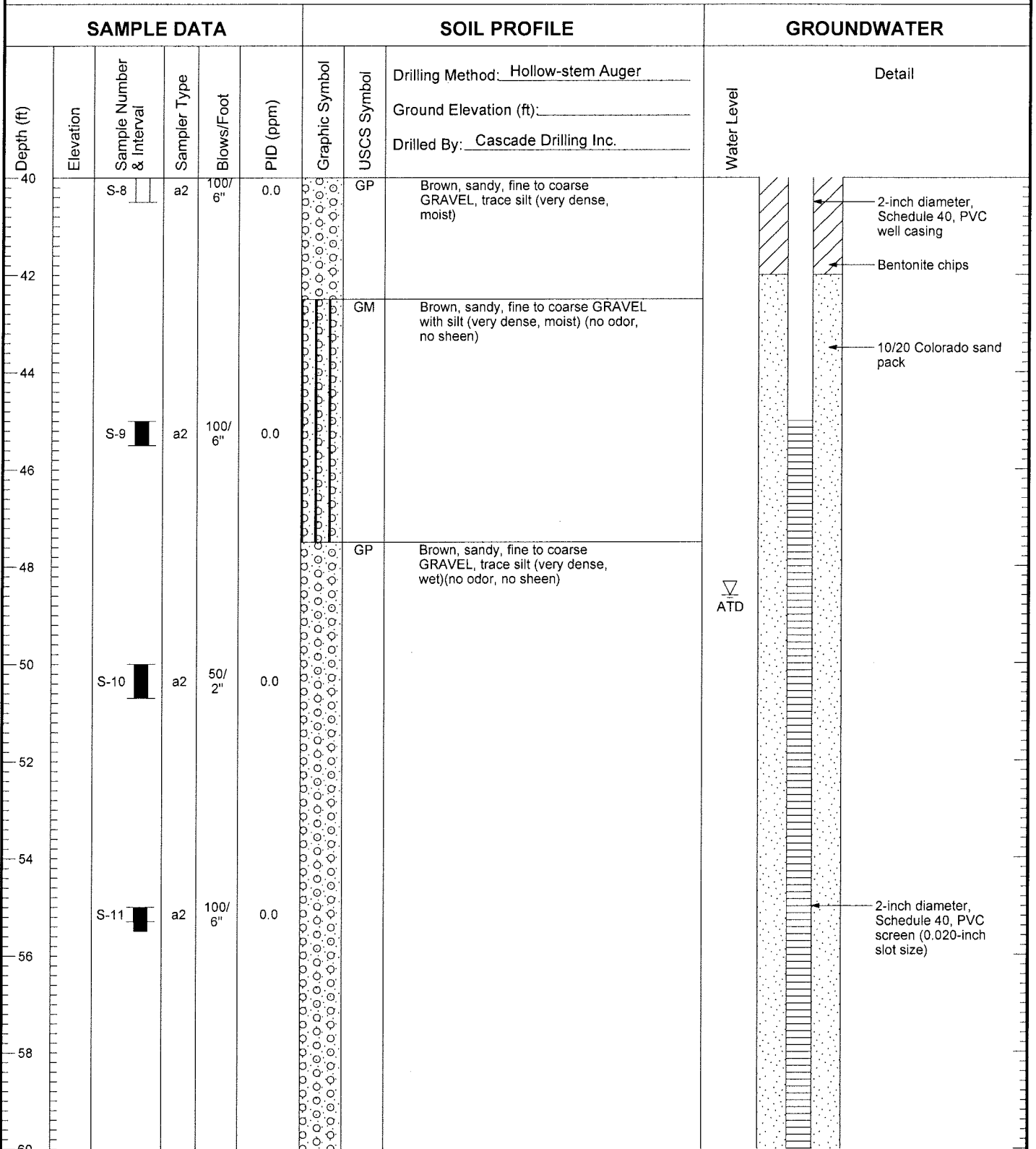


West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-3

Figure  
A-4  
(2 of 4)

# LAI-MW-3



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MED\DATA\GINT\GINT6\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-3

Figure  
A-4  
(3 of 4)

# LAI-MW-3

SAMPLE DATA						SOIL PROFILE			GROUNDWATER	
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Detail		
								Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): _____	Drilled By: <u>Cascade Drilling Inc.</u>
60		S-12	a2	50/ σ <sub>v</sub> '	0.0	○	GP			
62						○				
64						○		<p style="text-align: right;">10/20 Colorado sand pack</p> <p style="text-align: right;">2-inch diameter, Schedule 40, PVC screen (0.020-inch slot size)</p> <p style="text-align: right;">Threaded end cap</p>		
66		S-13	a2	50/ σ <sub>v</sub> '	0.0	○				

Boring Completed 06/08/04  
Total Depth of Boring = 66.0 ft.

Elevation at Top of Protective Casing = 172.50 ft.  
Elevation at Top of Casing = 171.98 ft.

68  
70  
72  
74  
76  
78  
80

- Notes:
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  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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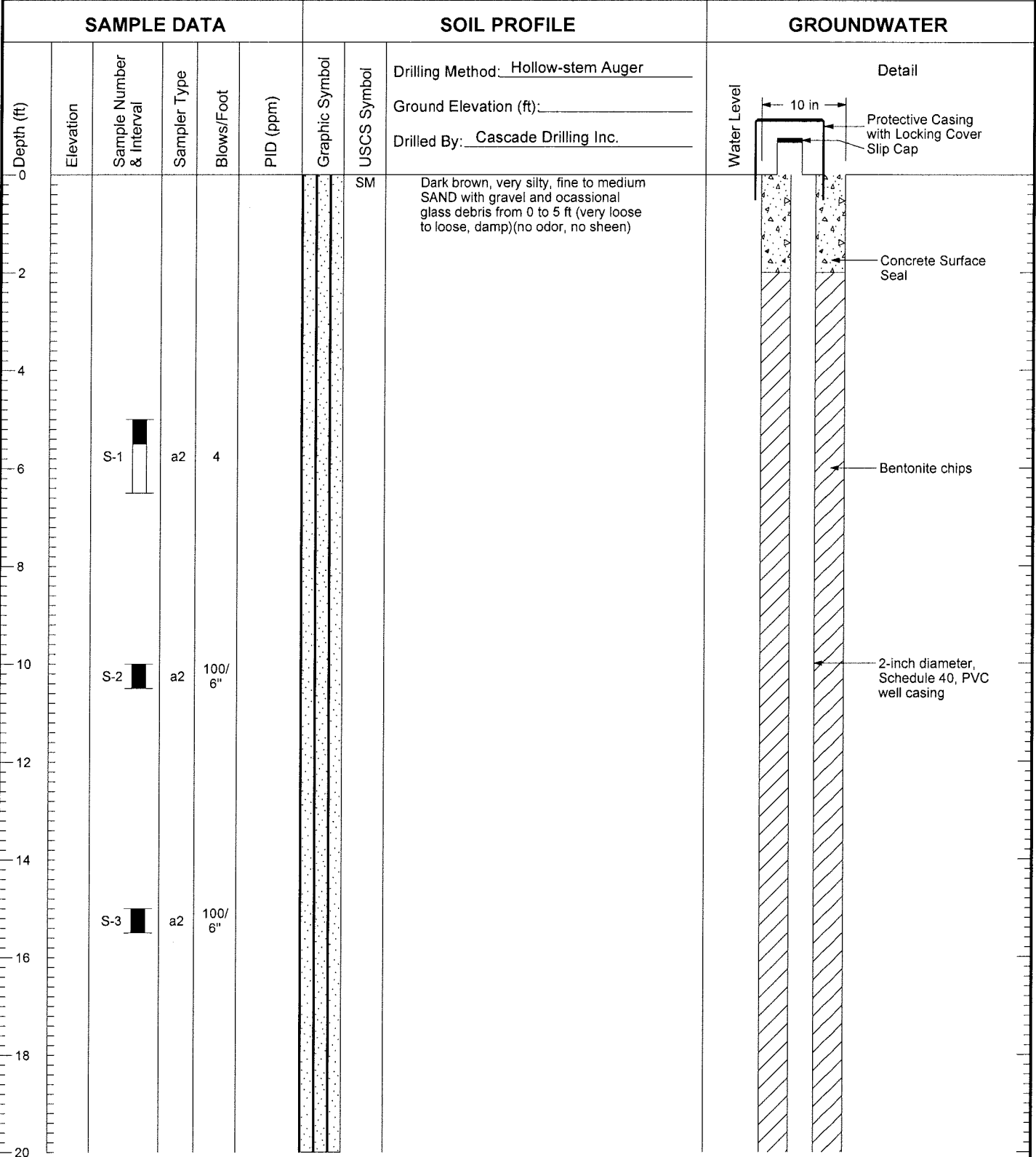


West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-3

Figure  
A-4  
(4 of 4)

# LAI-MW-4



Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_7/27/04 \MEDDATA\GINTG\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-4

Figure  
A-5  
(1 of 4)



# LAI-MW-4

SAMPLE DATA				SOIL PROFILE				GROUNDWATER			
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): _____	Water Level	Detail
20		S-4	a2	100/ 5"		SM		Drilled By: <u>Cascade Drilling Inc.</u>			
22								Gray, silty, fine to medium SAND with gravel (very dense, moist to wet) (no odor, no sheen)			
24								Brown, silty, fine to coarse GRAVEL with sand (very dense, moist to wet) (no odor, no sheen)			
26		S-5	a2	100/ 5"							
28											
30		S-6	a2	100/ 5"							Bentonite chips
32											
34											2-inch diameter, Schedule 40, PVC well casing
36		S-7	a2	100/ 5"							
38											
40											

- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
 2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
 3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001\_7/27/04 \MEDDATA\GINTGINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION

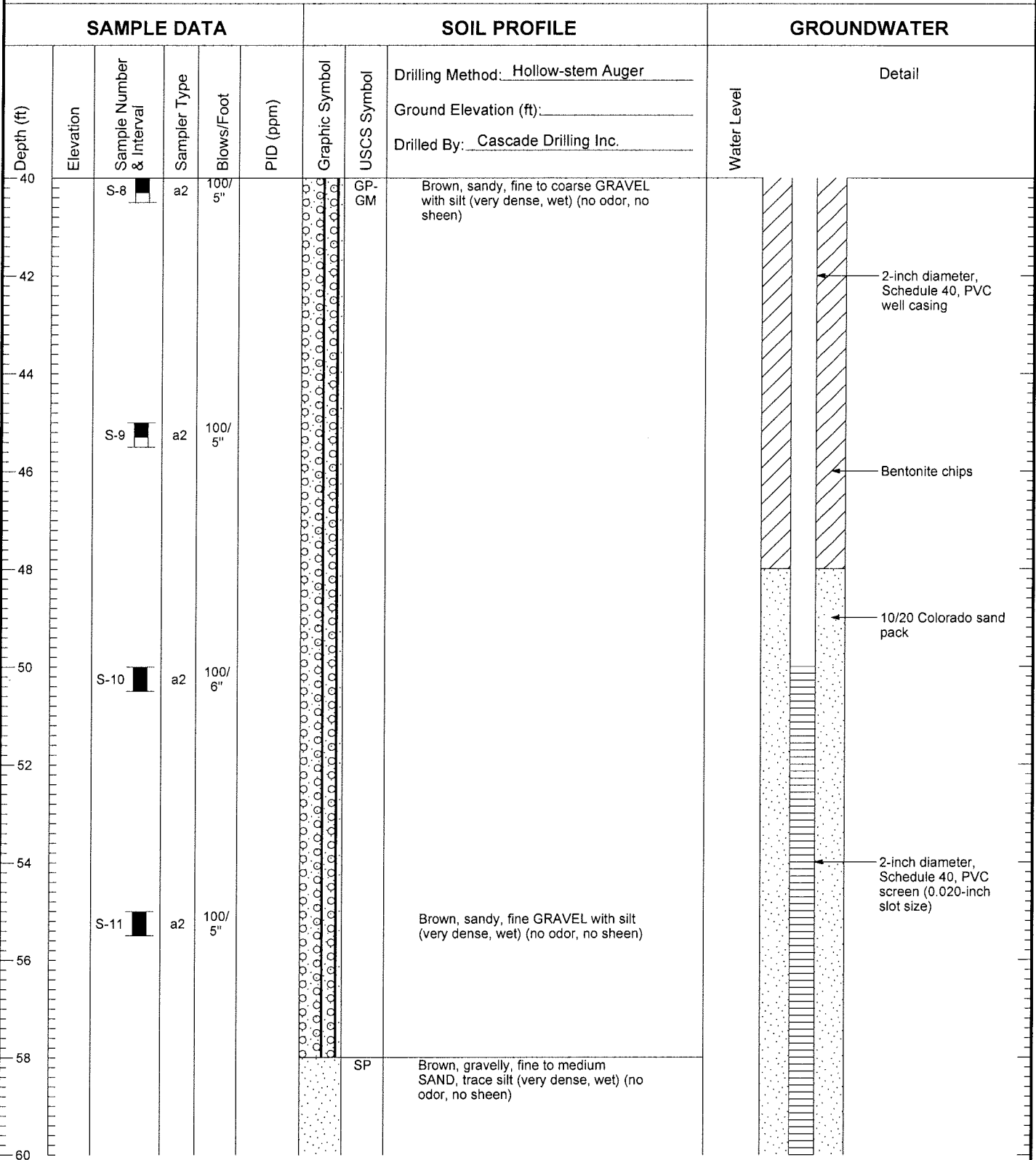


West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-4

Figure  
A-5  
(2 of 4)

# LAI-MW-4



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION

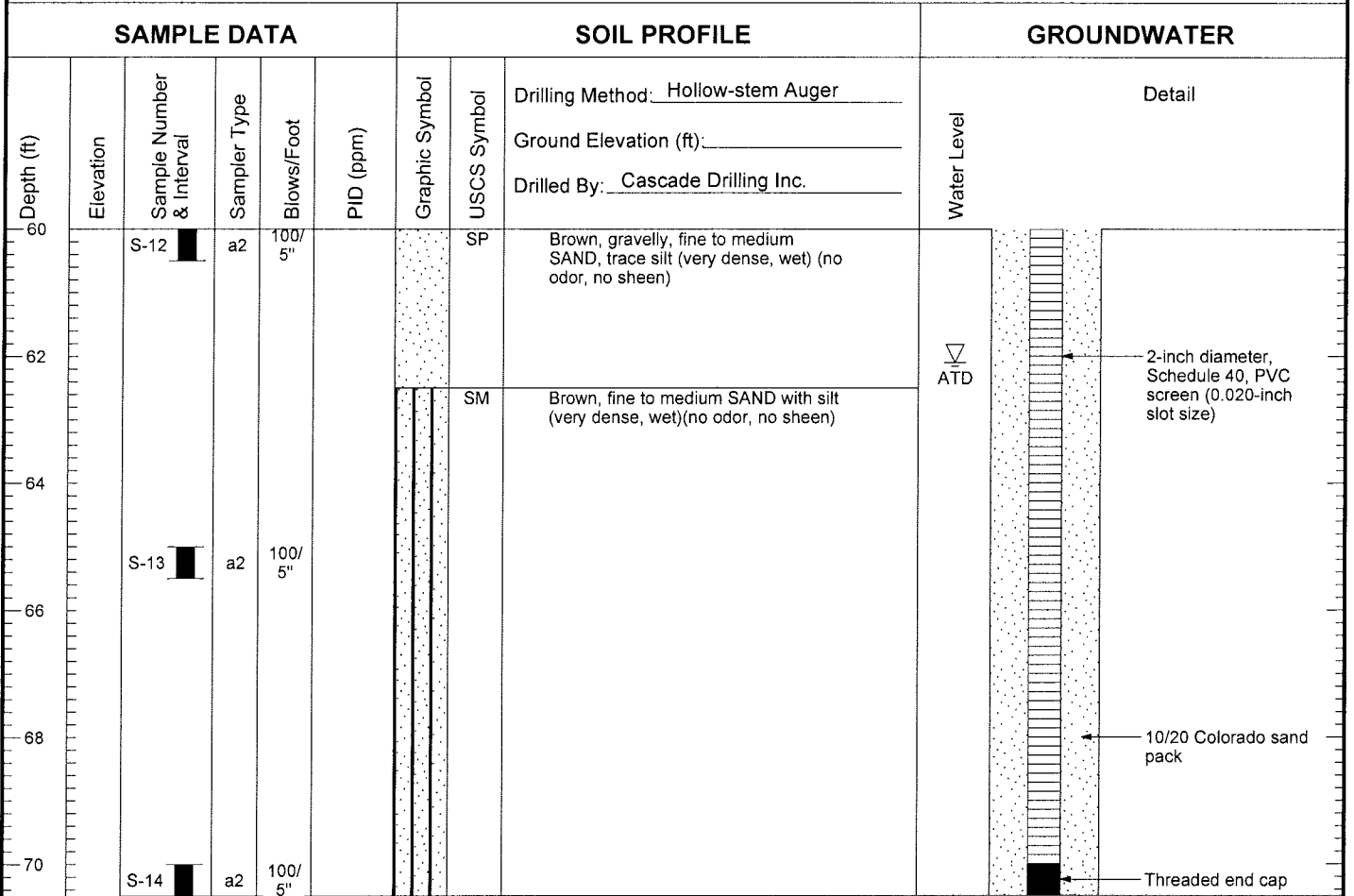


West Olympia Land Fill  
Olympia, Washington

Log of LAI-MW-4

Figure  
A-5  
(3 of 4)

# LAI-MW-4



Boring Completed 06/09/04  
Total Depth of Boring = 70.5 ft.

Elevation at Top of Protective Casing = 172.98 ft.  
Elevation at Top of Casing = 172.27 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

820001. 7/27/04 \MEDDATA\GINT\GINT\PROJECTS\820001.GPJ WELL LOG W/ ELEVATION



West Olympia Land Fill  
Olympia, Washington



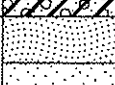


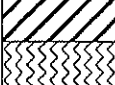


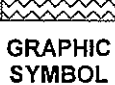


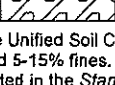
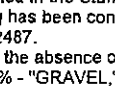
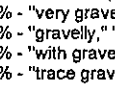

Log of LAI-MW-4



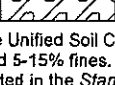
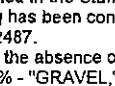
Figure  
A-5  
(4 of 4)

**Landau Soil Borings and Test Pits, 2000  
(LAI-1 through LAI-19 and TP-1 through TP-14)**

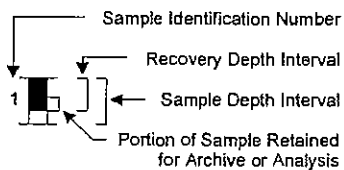
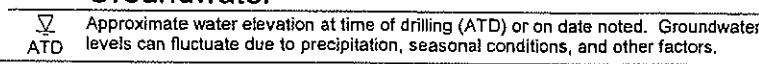
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# Soil Classification System

	MAJOR DIVISIONS	USCS GRAPHIC LETTER SYMBOL SYMBOL <sup>(1)</sup>	TYPICAL DESCRIPTIONS <sup>(2)(3)</sup>
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL  (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)	 <b>GW</b> Well-graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)	 <b>GP</b> Poorly graded gravel; gravel/sand mixture(s); little or no fines
	SAND AND SANDY SOIL  (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)	 <b>GM</b> Silty gravel; gravel/sand/silt mixture(s)
		SAND WITH FINES (Appreciable amount of fines)	 <b>GC</b> Clayey gravel; gravel/sand/clay mixture(s)
		CLEAN SAND (Little or no fines)	 <b>SW</b> Well-graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)	 <b>SP</b> Poorly graded sand; gravelly sand; little or no fines
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY  (Liquid limit less than 50)	 <b>SM</b> Silty sand; sand/silt mixture(s)	
		 <b>SC</b> Clayey sand; sand/clay mixture(s)	
		 <b>ML</b> Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity	
	SILT AND CLAY  (Liquid limit greater than 50)	 <b>CL</b> Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay	
		 <b>OL</b> Organic silt; organic, silty clay of low plasticity	
		 <b>MH</b> Inorganic silt; micaceous or diatomaceous fine sand	
HIGHLY ORGANIC SOIL		 <b>CH</b> Inorganic clay of high plasticity; fat clay	
HIGHLY ORGANIC SOIL		 <b>OH</b> Organic clay of medium to high plasticity; organic silt	
HIGHLY ORGANIC SOIL		 <b>PT</b> Peat; humus; swamp soil with high organic content	

OTHER MATERIALS	USCS GRAPHIC LETTER SYMBOL SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT	 <b>AC or PC</b>	Asphalt concrete pavement or Portland cement pavement
ROCK	 <b>RK</b>	Rock (See Rock Classification)
WOOD	 <b>WD</b>	Wood, lumber, wood chips
DEBRIS	 <b>DB</b>	Construction debris, garbage

- Notes:
- USCS letter symbols correspond to the symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM) for a sand or gravel indicate a soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
  - Soil descriptions are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, as outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D 2487.
  - Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:
    - Primary Constituent: > 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
    - Secondary Constituents: > 30% and < 50% - "very gravelly," "very sandy," "very silty," etc.
    - > 15% and < 30% - "gravelly," "sandy," "silty," etc.
    - Additional Constituents: > 5% and < 15% - "with gravel," "with sand," "with silt," etc.
    - < 5% - "trace gravel," "trace sand," "trace silt," etc., or not noted.

Drilling and Sampling Key		Field and Lab Test Data		
SAMPLE NUMBER & INTERVAL	SAMPLER TYPE	Code	Description	
	Code	Code		
	Description	Description		
	a	3.25-inch O.D., 2.42-inch I.D. Split Spoon	PP = 1.0	Pocket Penetrometer, tsf
	b	2.00-inch O.D., 1.50-inch I.D. Split Spoon	TV = 0.5	Torvane, tsf
	c	Shelby Tube	PID = 100	Photoionization Detector VOC screening, ppm
	d	Grab Sample	W = 10	Moisture Content, %
	e	Other - See text if applicable	D = 120	Dry Density, pcf
	1	300-lb Hammer, 30-inch Drop	-200 = 60	Material smaller than No. 200 sieve, %
	2	140-lb Hammer, 30-inch Drop	GS	Grain Size - See separate figure for data
	3	Pushed	AL	Atterberg Limits - See separate figure for data
	4	Other - See text if applicable	GT	Other Geotechnical Testing
Groundwater		CA	Chemical Analysis	
				

469016.31 11/10/00 S:\MODELING\INTWP\PROJECTS\469016.GPJ SOIL CLASS SHEET



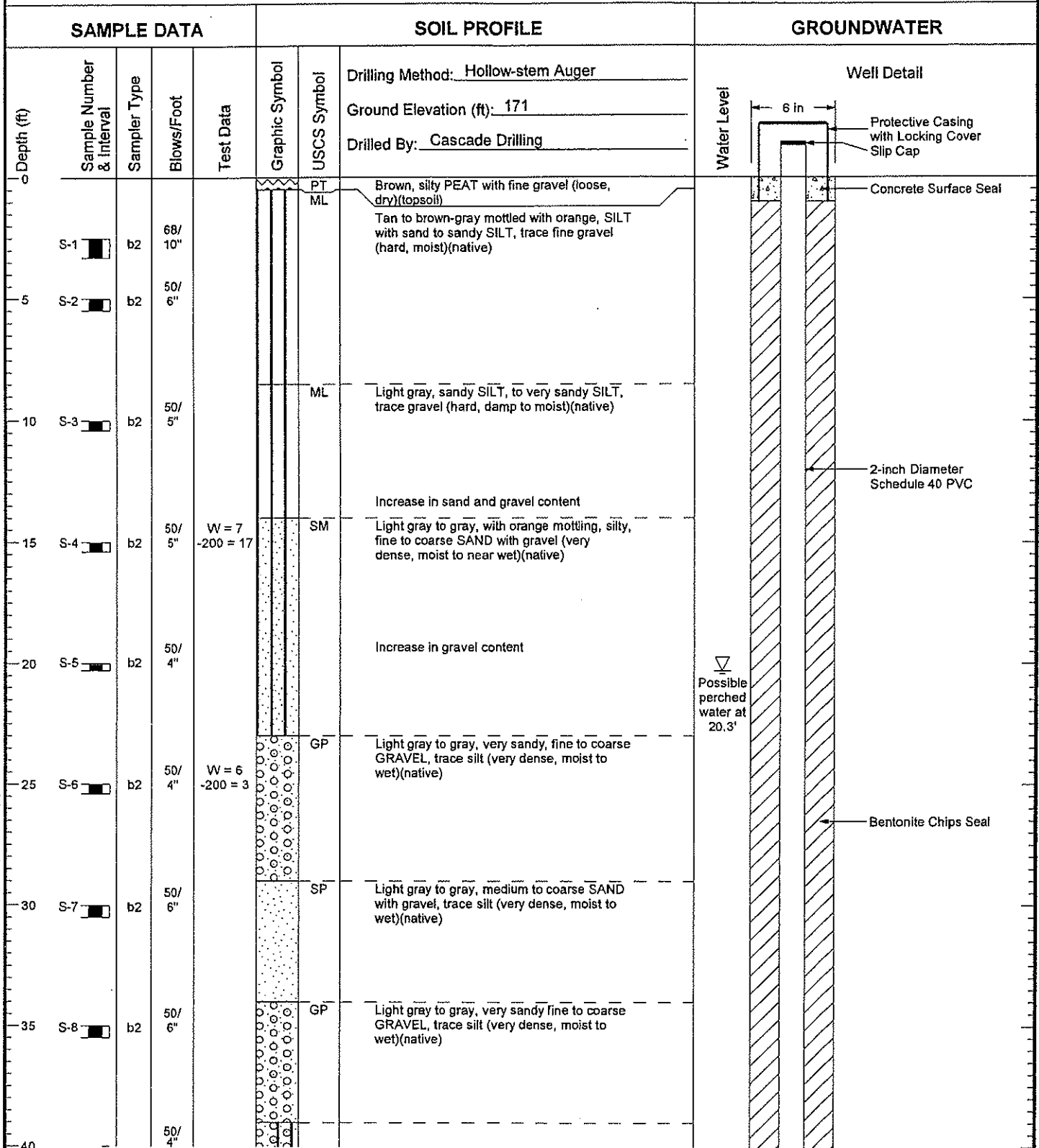
Home Depot  
Olympia, WA

Soil Classification System and Key

Figure  
**A-1**



# LAI-1



469016.31 11/19/00 S:\MODELING\GINT\WP\PROJECTS\469016.GPJ WELL LOG

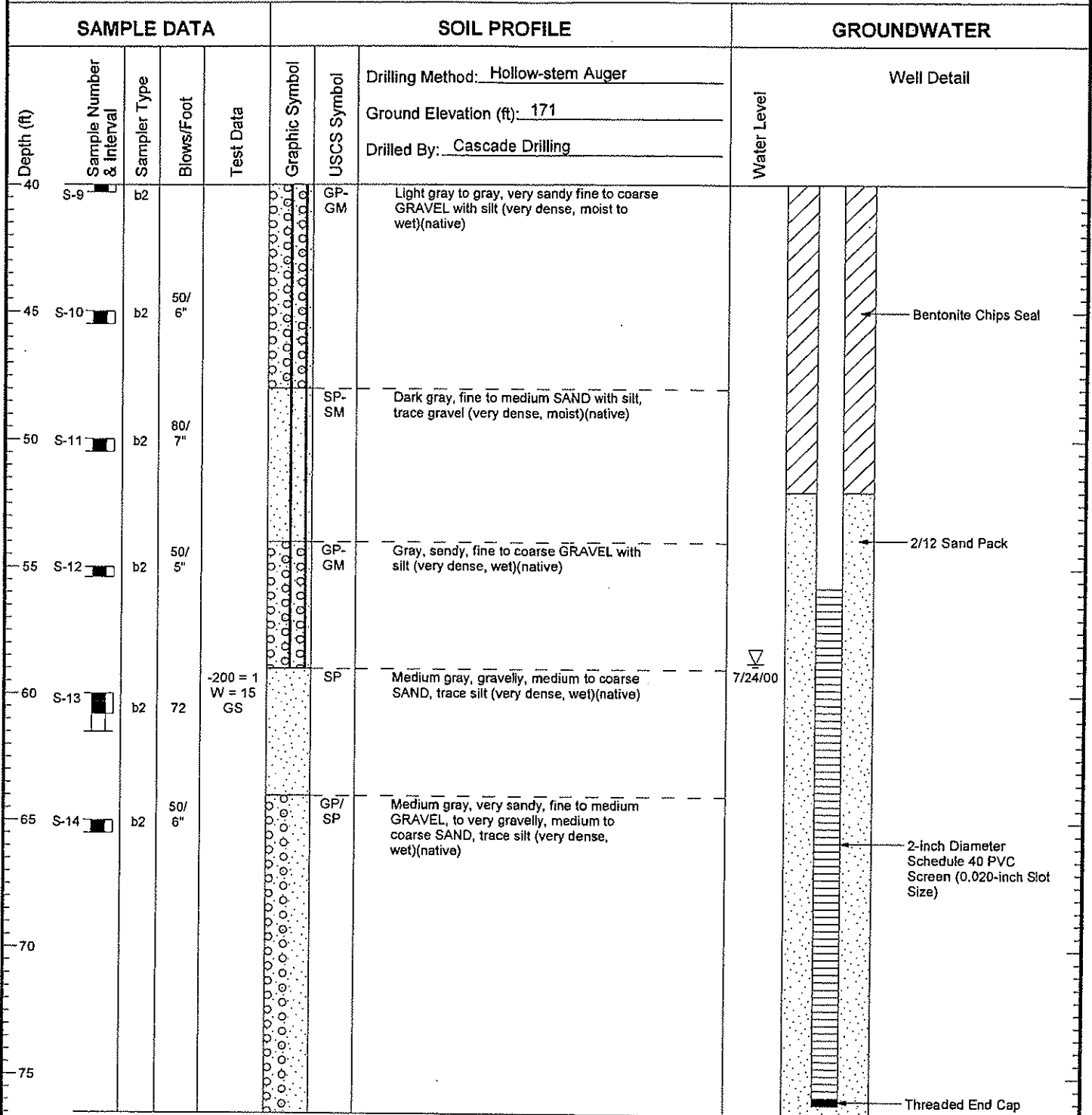


Home Depot  
Olympia, WA

Log of Boring and Well LAI-1

Figure  
A-2  
(1 of 2)

# LAI-1



Boring Completed 07/20/00  
Total Depth of Boring = 76.5 ft.

Well Completed 07/20/00  
Elevation at Top of Well Casing = 173.40 ft.  
Total Depth of Well = 76.1 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.31 11/9/00 S:\MODELING\GINTWAPROJECTS\469016.GPJ WELL LOG

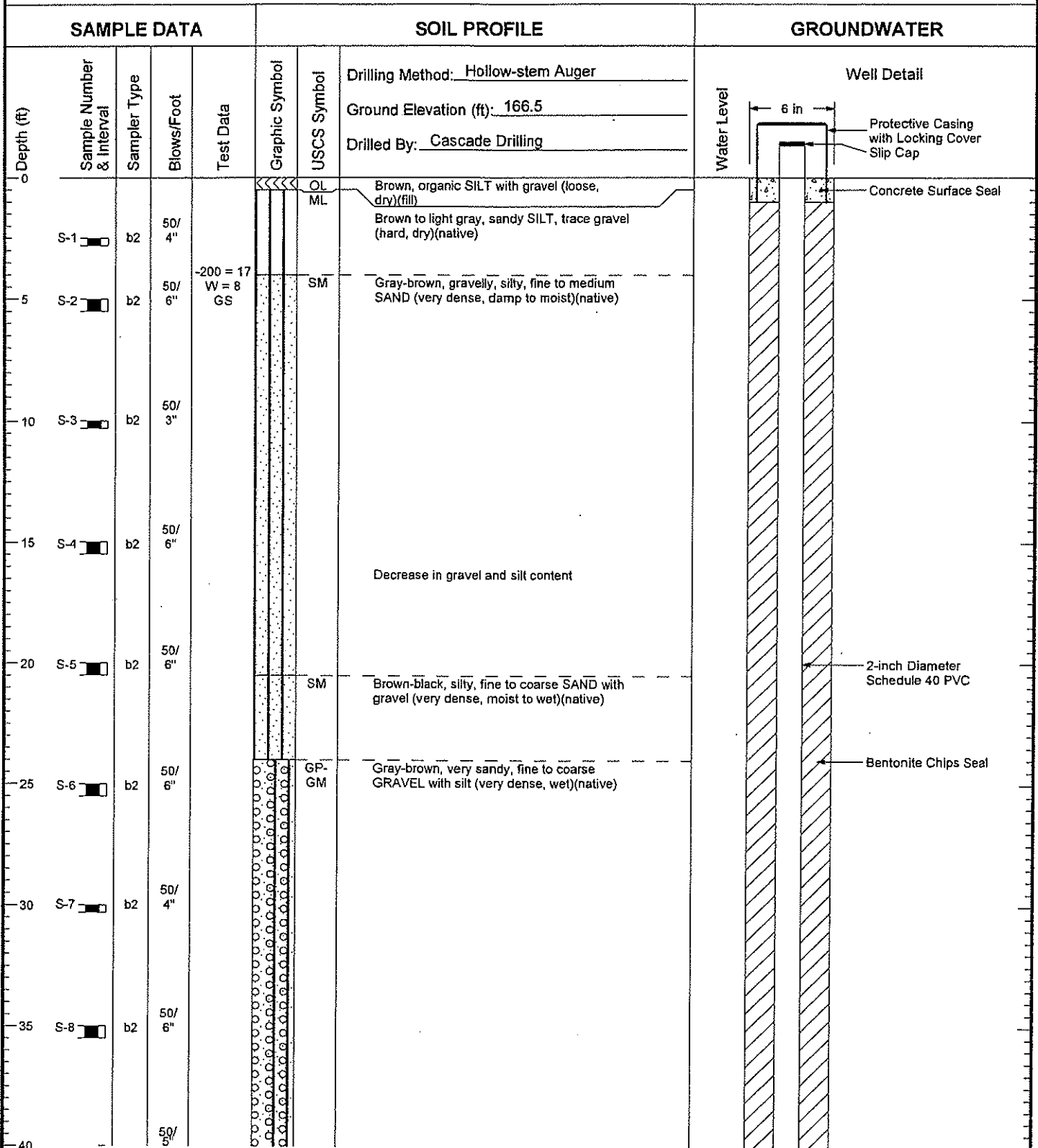


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Olympia, WA

Log of Boring and Well LAI-1

Figure  
A-2  
(2 of 2)

# LAI-2



- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

465016.31 11/19/00 S:\MODELING\GINT\PROJECTS\465016.GPJ WELL LOG



Home Depot  
Olympia, WA

Log of Boring and Well LAI-2

Figure  
**A-3**  
(1 of 2)

# LAI-2

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	
							Ground Elevation (ft): <u>166.5</u>	
							Drilled By: <u>Cascade Drilling</u>	
							Water Level	Well Detail
40	S-9	b2				GP-GM	Gray-brown, very sandy, fine to coarse GRAVEL with silt (very dense, wet)(native)	
45	S-10	b2	50/6"			SP	Dark gray-brown, fine to medium SAND, trace silt (very dense, moist to wet)(native)	
50	S-11	b2	50/3"			SP	Brown, fine to coarse SAND with gravel, trace silt (very dense, wet)(native)	
55	S-12	b2	50/5"			GP	Dark gray-brown, sandy, fine to coarse GRAVEL, trace silt (very dense, wet)(native)	
60	S-13	b2	95/10"			SP	Dark gray-brown SAND, trace silt (very dense, wet)(native)	
65	S-14	b2	50/5"			SP	Dark gray-brown SAND, trace silt (very dense, wet)(native)	
70								

▽  
7/24/00

Boring Completed 07/20/00  
Total Depth of Boring = 71.5 ft.

Well Completed 07/20/00  
Elevation at Top of Well Casing = 169.10 ft.  
Total Depth of Well = 69.3 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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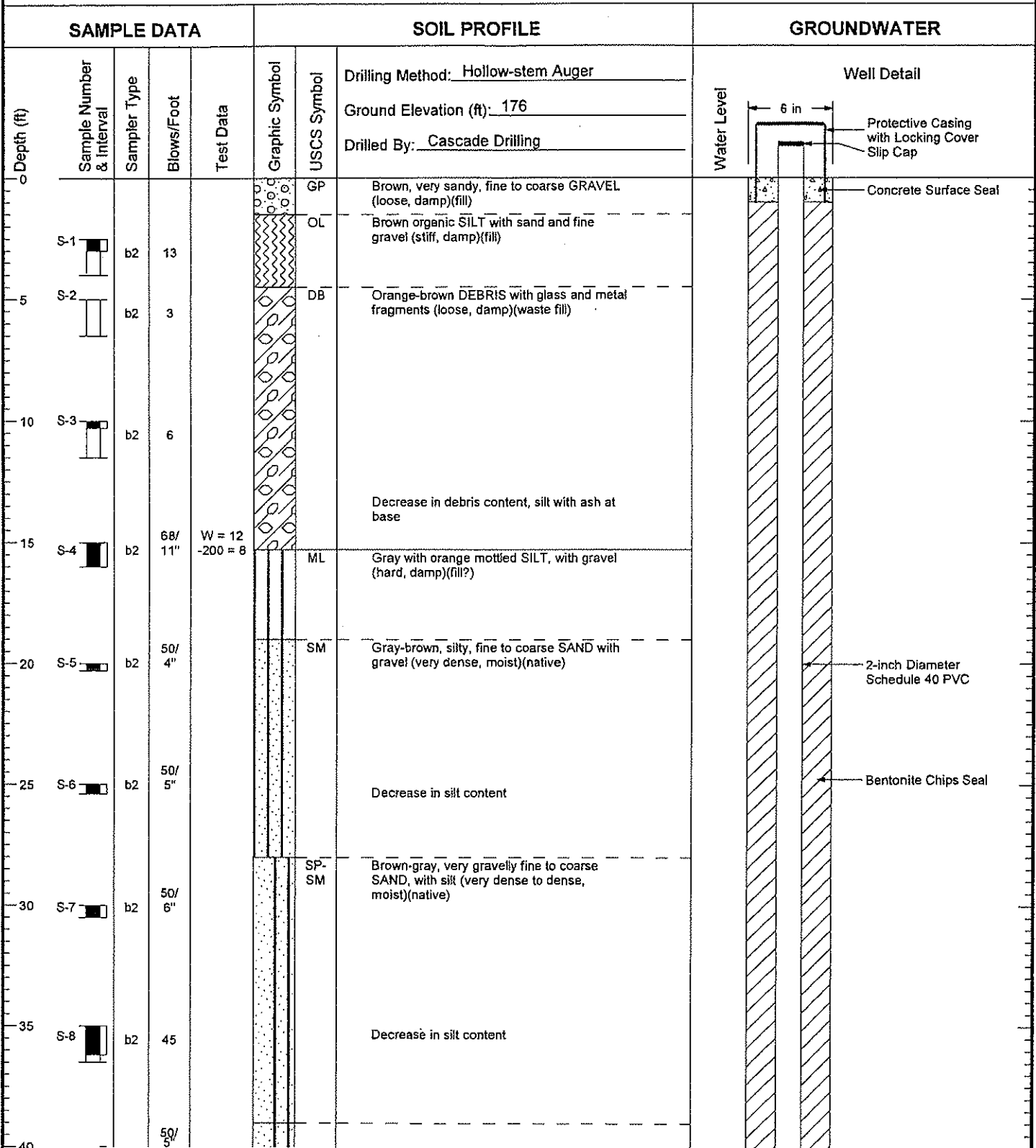


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Olympia, WA

Log of Boring and Well LAI-2

Figure  
A-3  
(2 of 2)

# LAI-3



- Notes:
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  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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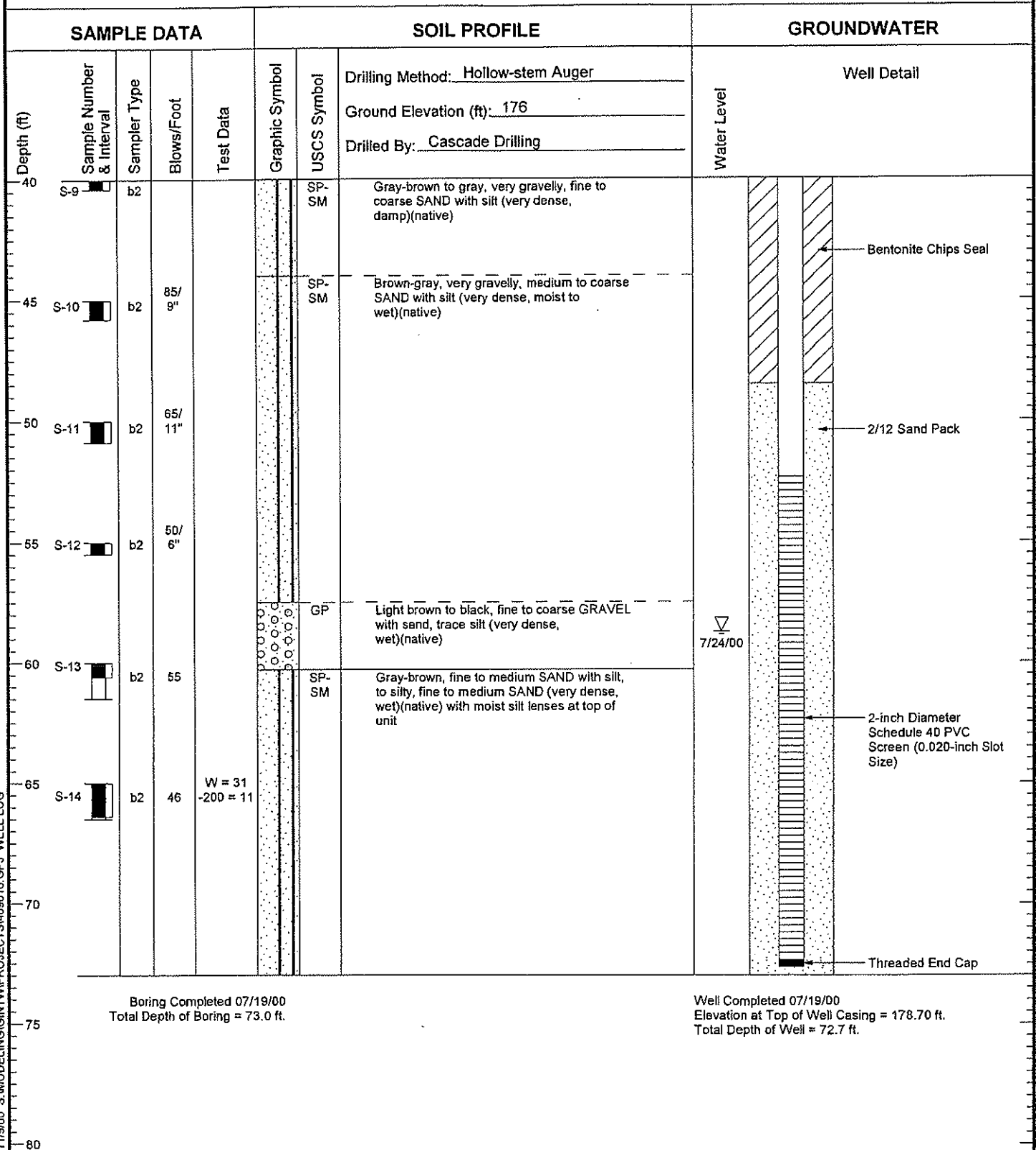
Home Depot  
Olympia, WA

Log of Boring and Well LAI-3

Figure  
A-4  
(1 of 2)



# LAI-3



Boring Completed 07/19/00  
Total Depth of Boring = 73.0 ft.

Well Completed 07/19/00  
Elevation at Top of Well Casing = 178.70 ft.  
Total Depth of Well = 72.7 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.31 11/9/00 S:\MODELING\GINT\WP\PROJECTS\469016.GPJ WELL LOG



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Olympia, WA

Log of Boring and Well LAI-3

Figure  
A-4  
(2 of 2)

# LAI-4

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
0							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>174</u> Drilled By: <u>Cascade Drilling</u>
5	1	a2	77			SM	Water Level  Groundwater not encountered.
10	2	a2	31			SM	
15	3	a2	70			DB	
20	4	a2	100/ 4"	-200 = 23 W = 11 GS		SM	
25	5	a2	100/ 5"			SM	
Increase in sand and gravel content							

Boring Completed 09/07/00  
Total Depth of Boring = 15.5 ft.

469016.31 11/9/00 S:\MODELING\GINT\PROJECTS\469016.GPJ WELL LOG

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

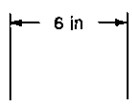











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Olympia, WA

Log of Boring and LAI-4

Figure  
**A-5**

# LAI-5

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>179</u> Drilled By: <u>Cascade Drilling</u>
							Water Level 
0	1	a2	80/ 6"			SM	Groundwater not encountered.
5	2	a2	26			DB	
10	3	a2	72/ 9"			DB	
15	4	a2	50/ 5"	-200 = 8 W = 11 GS		DB	
20	5	a2	44			DB	
25	6	b2	82			SM	
30	7	b2	50/ 6"			SM	
35	8	b2	50/ 2"			SM	
40	9	a2	100/ 5"			SM	

Boring Completed 09/07/00  
Total Depth of Boring = 26.0 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.31 11/9/00 S:\MODELING\GINTY\PROJECTS\469016.GPJ WELL LOG

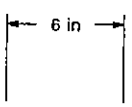










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Log of Boring and LAI-5

Figure  
**A-6**

# LAI-6

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>172</u> Drilled By: <u>Cascade Drilling</u>
0							Water Level 
5	1 a1	a1	18			SM	Groundwater not encountered.
	2 a1	a1	45			SM	
	3 b2	b2	2			DB	
10	4 b2	b2	2			DB	
	5 b2	b2	2			DB	
	6 b2	b2	5			SM	
15	7 b2	b2	65/ 11"			SM	
20	8 b2	b2	50/ 2"			SM	

Boring Completed 09/06/00  
Total Depth of Boring = 20.2 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.31 11/9/00 S:\MODELING\GINT\PROJECTS\469016.GPJ WELL LOG

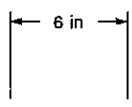



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Log of Boring and LAI-6

Figure  
**A-7**

# LAI-7

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>181</u> Drilled By: <u>Cascade Drilling</u>
							Water Level 
0	1	a1	50/ 5"			DB	Red-brown, silty, DEBRIS (plastic, glass, metal and ash)(very loose to very dense, damp)(waste fill)  Increase in quantity of glass and ash  Becomes moist  Becomes very loose
5	2	a1	50/ 5"				
	3	a1	13				
10	4	a1	51				
	5	b2	3				
15	6	b2	9				
	7	b2	50/ 5"		SM	SM	Tan, silty, fine to medium SAND, with gravel ( <del>loose to medium dense, moist</del> ) (native) Gray, silty, fine to medium SAND with gravel (very dense, moist)(native)
20	8	b2	50/ 5"				
25							Groundwater not encountered.

Boring Completed 09/07/00  
Total Depth of Boring = 25.5 ft.

- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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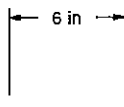



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Log of Boring and LAI-7

Figure  
**A-8**



# LAI-8

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>175</u> Drilled By: <u>Cascade Drilling</u>							Water Level 
0						SM	Groundwater not encountered.
1	1	a1	7			DB	
5	2	a1	11				
	3	a1	10				
10	4	a1	9				
	5	a1	17			Increase in silt content Increase in sand content	
15	6	b2	45			SM	
20	7	b2	50/ 4"				

Boring Completed 09/07/00  
 Total Depth of Boring = 20.9 ft.

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- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.


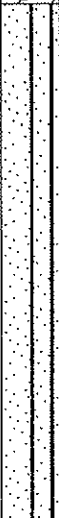


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Log of Boring and LAI-8

Figure  
**A-9**

# LAI-9

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>175</u> Drilled By: <u>Cascade Drilling</u>
0							
1	1	a1	50/ 5"			DB Red-brown, organic DEBRIS (partly burnt wood and metal) with sand (loose to very dense, damp)(waste fill)	Groundwater not encountered.
5	2	a1	14				
10	3	a1	16				
10	4	a1	50/ 5"	Increase in silt content			
15	5	b2	50/ 5"			SP-SM Gray, fine to medium SAND with silt, to silty SAND, with occasional gravel (very dense, damp to moist)(native)	
15	6	b2	50/ 6"				
20	7	b2	50/ 6"				
25	8	b2	82				

Boring Completed 09/06/00  
Total Depth of Boring = 26.5 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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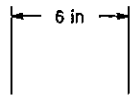


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Log of Boring and LAI-9

Figure  
**A-10**

# LAI-10

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Water Level 
							Drilled By: <u>Cascade Drilling</u>	Groundwater not encountered.
0						SM	Brown, organic, silty, fine to medium SAND with gravel (loose, damp)(fill)	
1	1	a1	B			DB	Gray, ASH with glass debris (loose to medium dense, moist)(ash fill)	
5	2	a1	39			DB		
	3	a1	70			SM	Brown, organic DEBRIS (partly burnt wood, glass and metal) with silt and sand (dense, damp)(waste fill)	
10	4	a1	50/ 6"				Dark gray mottled with tan, silty, fine to medium SAND with gravel (very dense, damp to moist)(native)	
15	5	a1	100/ 4"					
20	6	a1	100/ 4"					

Boring Completed 09/07/00  
Total Depth of Boring = 20.4 ft.

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- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.



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Log of Boring and LAI-10

Figure  
**A-11**

# LAI-11

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail	
							Drilling Method: Hollow-stem Auger	Ground Elevation (ft): 176
0						SM	Groundwater not encountered. <div style="text-align: right; margin-top: 10px;"> </div>	
1	a2	16				SM		
5	2	a2	50/ 4"			SM		
10	3	a2	100/ 6"			DB		
10	4	a2	50			DB		
15	5	a2	50/ 5"			DB		
15	6	a2	100/ 6"			ML		
20	7	a2	100/ 5"			SM		
20	8	b2	50/ 4"			SM		
25	9	b2	50/ 4"			SM		

Boring Completed 09/08/00  
Total Depth of Boring = 22.9 ft

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

468016.31 11/9/00 S:\MODELING\GINT\PROJECTS\468016.GPJ WELL LOG


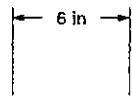







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Log of Boring and LAI-11

Figure  
**A-12**

# LAI-12

SAMPLE DATA				SOIL PROFILE			GROUNDWATER				
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>167</u>	Drilled By: <u>Cascade Drilling</u>	Water Level	Detail
0											
1	1	b2	8			DB	Tan ASH with occasional gravel (loose, dry)(ash fill)			Groundwater not encountered.	
5	2	b2	2			DB	Black, organic DEBRIS (glass and metal) with sand and silt (very loose, damp)(waste fill)				
	3	b2	3			DB	Tan ASH (very loose, moist)(ash fill)				
10	4	b2	5			DB	Black, silty DEBRIS (partly burnt wood, glass and metal) with sand and trace gravel (very loose to very dense, damp)(waste fill)				
	5	b2	51								
15	6	b2	81			SP-SM	Gray mottled with tan, fine to medium SAND with silt and gravel, with silty sand layers (very dense, damp)(native)				
20	7	b2	50/ 4.5"								
25	8	b2	50/ 5"								

Boring Completed 09/06/00  
Total Depth of Boring = 25.5 ft.

- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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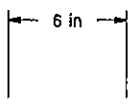


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Log of Boring and LAI-12

Figure  
**A-13**



# LAI-13

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>176</u> Drilled By: <u>Cascade Drilling</u>
							Water Level 
0	1	a1	8	-200 = 10 W = 20 GS		DB	Red-brown, organic DEBRIS (partly burnt glass, metal and wood) with sand and silt (very loose to loose, moist)(waste fill)
5	2	a1	10				
10	3	a1	10				
15	4	b2	1				
20	5	b2	2				
25	6	b2	33			SM	Gray, silty, fine to medium SAND with layers of coarser wet sand (dense to very dense, moist to wet)(native)
30	7	b2	64				
35	8	b2	90				

Groundwater not encountered.

Boring Completed 09/06/00  
 Total Depth of Boring = 26.5 ft.

- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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Log of Boring and LAI-13

Figure  
**A-14**

# LAI-14

SAMPLE DATA				SOIL PROFILE		GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol
				Drilling Method: <u>Hollow-stem Auger</u>		Detail 
				Ground Elevation (ft): <u>176</u>		
				Drilled By: <u>Cascade Drilling</u>		
0	1	a2	100/ 4"			SM
5	2	a2	80/ 6"			DB
10	3	a2	22			
15	4	a2	40			
20	5	a2	50/ 6"			
25	6	b2	57			SP-SM
30	7	b2	99/ 11"	-200 = 11 W = 7 GS		SP-SM
35	8	b2	50/ 5"			SP-SM

Groundwater not encountered.

Boring Completed 09/08/00  
Total Depth of Boring = 26.0 ft.

- Notes:
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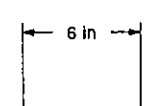


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Log of Boring and LAI-14

Figure  
**A-15**

# LAI-15

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>168</u> Drilled By: <u>Cascade Drilling</u>
0							Water Level 
5	1 1-2	a2	77/ 11"		[Stippled Graphic]	SM	Groundwater not encountered.
	2 2-3	a2	50/ 6"		[Stippled Graphic]		
	3 3-4	a2	100/ 6"		[Stippled Graphic]		
10	4 4-5	b2	50/ 6"		[Stippled Graphic]		
15	5 5-6	b2	70		[Dotted Graphic]	SP- SM	
	6 6-7	b2	50/ 5"		[Dotted Graphic]		
20	7 7-8	b2	50/ 5"		[Dotted Graphic]		

Boring Completed 09/08/00  
 Total Depth of Boring = 22.8 ft.

- Notes:
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Log of Boring and LAI-15

Figure  
**A-16**

# LAI-16

SAMPLE DATA				SOIL PROFILE			GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail	
							Drilling Method: <u>Hollow-stem Auger</u>	Ground Elevation (ft): <u>140</u>
0								
5	1	b2	50/ 6"		SM	Brown, silty, fine to coarse SAND with gravel (very dense, damp)(native)		
10	2	b2	50/ 6"	-200 = 3 W = 7 GS	GP	Gray, very sandy, fine GRAVEL, trace silt (very dense, moist)(native)		6 in
15	3	b2	50/ 6"					
15	4	b2	50/ 5"	-200 = 2 W = 8 GS				
20	5	b2	50/ 6"	-200 = 4 W = 11 GS		Becomes wet	ATD ▽	

Boring Completed 09/11/00  
Total Depth of Boring = 20.5 ft.

- Notes:
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  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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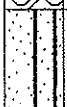





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Log of Boring and LAI-16

Figure  
**A-17**

# LAI-17

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>176</u> Drilled By: <u>Cascade Drilling</u>
1	1	a1	4			DB	Groundwater not encountered.
5	2	a1	50/ 6"			DB	
10	3	a1	36			DB	
10	4	a1	100/ 5"			DB	
15	5	a1	65/ 6"			DB	
15	6	a1	100/ 4"			SP- SM	
15	7	a1	100/ 6"			SP- SM	

Boring Completed 09/06/00  
Total Depth of Boring = 16.6 ft.

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- Notes:
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  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.



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Log of Boring and LAI-17

Figure  
**A-18**



# LAI-18

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>170</u> Drilled By: <u>Cascade Drilling</u>
0							
1	1	b2	18		[SM Symbol]	SM	Groundwater not encountered.
5	2	b2	14		[DB Symbol]	DB	
10	3	a2	24		[DB Symbol]	DB	
15	4	a2	48		[DB Symbol]	DB	
15	5	b2	53		[SM Symbol]	SM	
15	6	b2	50/ 5"		[SM Symbol]	SM	
20	7	b2	80	-200 = 54 W = 9 -200 = 54	[ML Symbol]	ML	

Boring Completed 09/11/00  
 Total Depth of Boring = 21.5 ft.

469016.31 11/9/00 S:\MODELING\GINT\WP\PROJECTS\469016.GPJ WELL LOG

- Notes:
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  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.



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Log of Boring and LAI-18

Figure  
**A-19**

# LAI-19

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Detail
							Water Level
							Drilling Method: <u>Hollow-stem Auger</u> Ground Elevation (ft): <u>178</u> Drilled By: <u>Cascade Drilling</u>
1	1	a2	50/6"			GM	Water Level  Groundwater not encountered.
5	2	a2	50/5"			DB	
10	3	a2	61			SM	
12	4	a2	50/6"				
14	5	a2	50/6"				
16	6	a2	50/6"				
19	7	a2	50/3"				
25	8	a2	50/3"				

Boring Completed 09/08/00  
Total Depth of Boring = 25.3 ft.

- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

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

Log of Boring and LAI-19

Figure  
**A-20**

**TP-1**

SAMPLE DATA			SOIL PROFILE		GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	
0						Excavation Method: <u>Rubber-tired Backhoe</u> Ground Elevation (ft): <u>170</u> Excavated By: <u>CEcon Corp</u>
0-5					DB	Brown, silty, DEBRIS (cassette tape, film, glass and plastic) with sand and gravel (loose, damp)(waste fill)
15	Test Pit Completed 09/12/00 Total Depth of Test Pit = 14.0 ft.					Groundwater not encountered.
20						

**TP-2**

SAMPLE DATA			SOIL PROFILE		GROUNDWATER	
Depth (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	
0						Excavation Method: <u>Rubber-tired Backhoe</u> Ground Elevation (ft): <u>160</u> Excavated By: <u>CEcon Corp</u>
0-1	1	a			DB	Brown, silty, DEBRIS (construction debris, glass and wood) with sand (loose, damp)(waste fill)
1-4.5	2	c			SM	Gray mottled with red-brown, silty, fine to medium SAND with gravel (very dense, moist)(native)
5	Test Pit Completed 09/12/00 Total Depth of Test Pit = 4.5 ft.					Groundwater not encountered.
10						
15						
20						

- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

465016.10 11/9/00 S:\MODELING\GINT\PROJECTS\465022.GPJ TEST PIT LOG

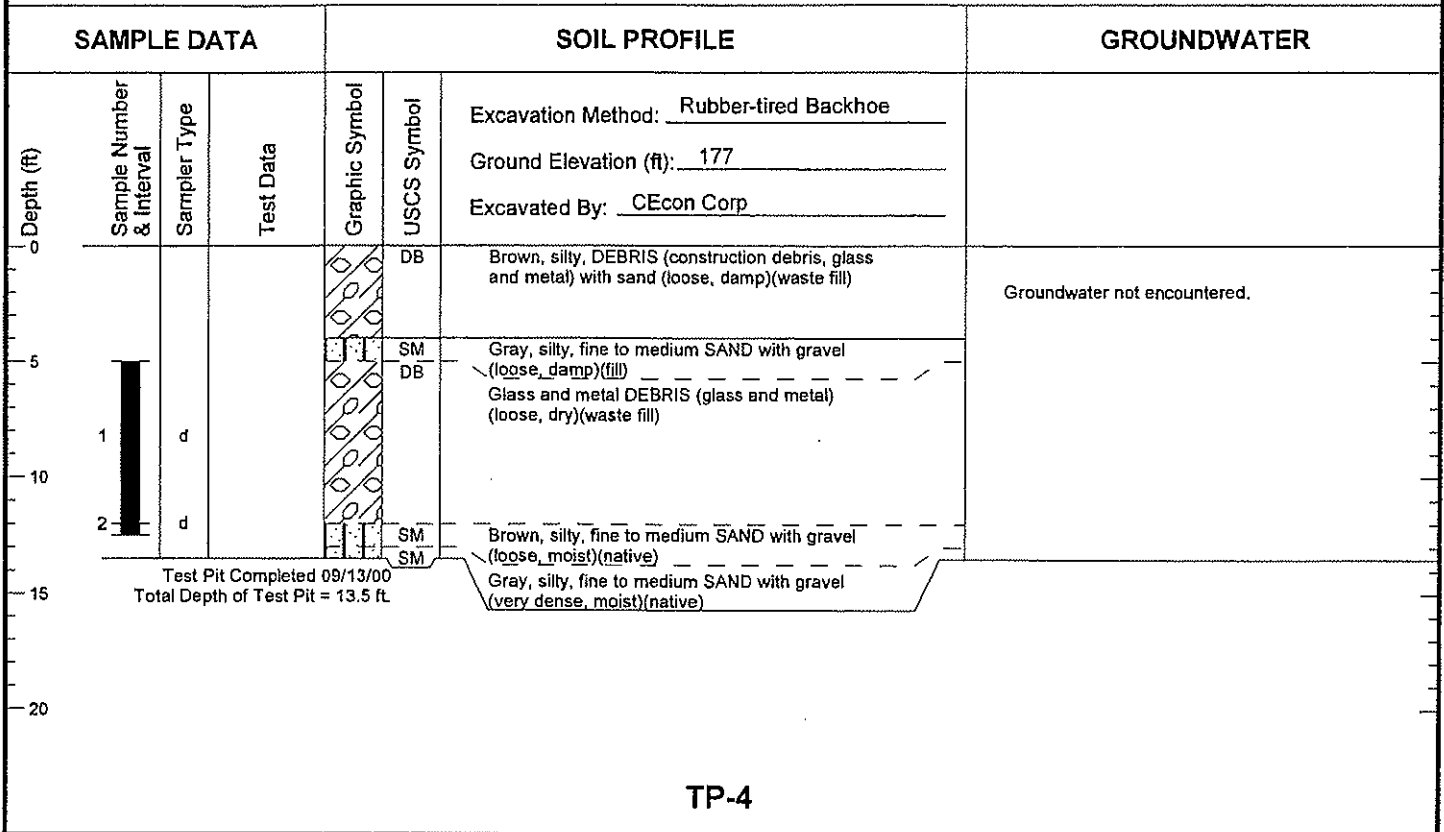


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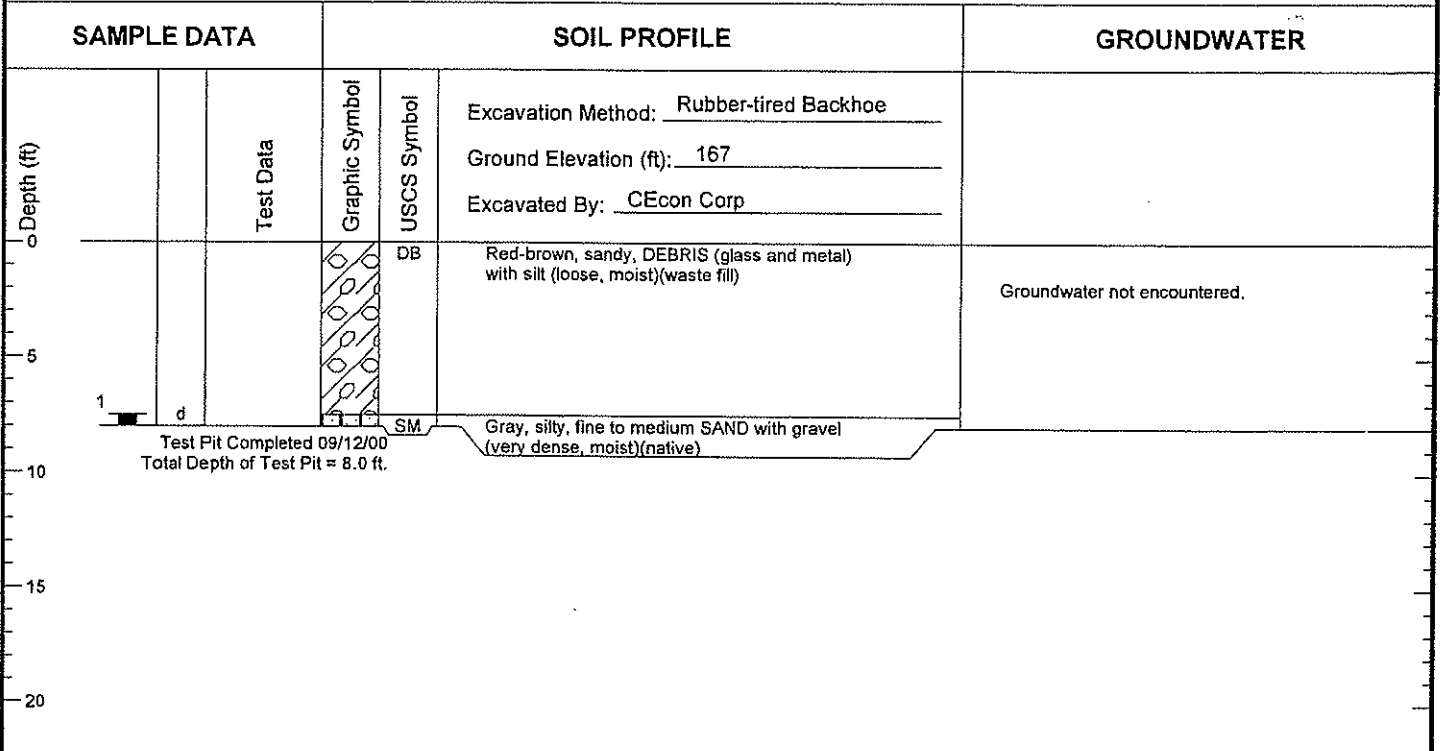
Log of Test Pits

Figure  
**A-21**

TP-3



TP-4



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/9/00 S:\MODELING\GINTWP\PROJECTS\469022.GPJ TEST PIT LOG

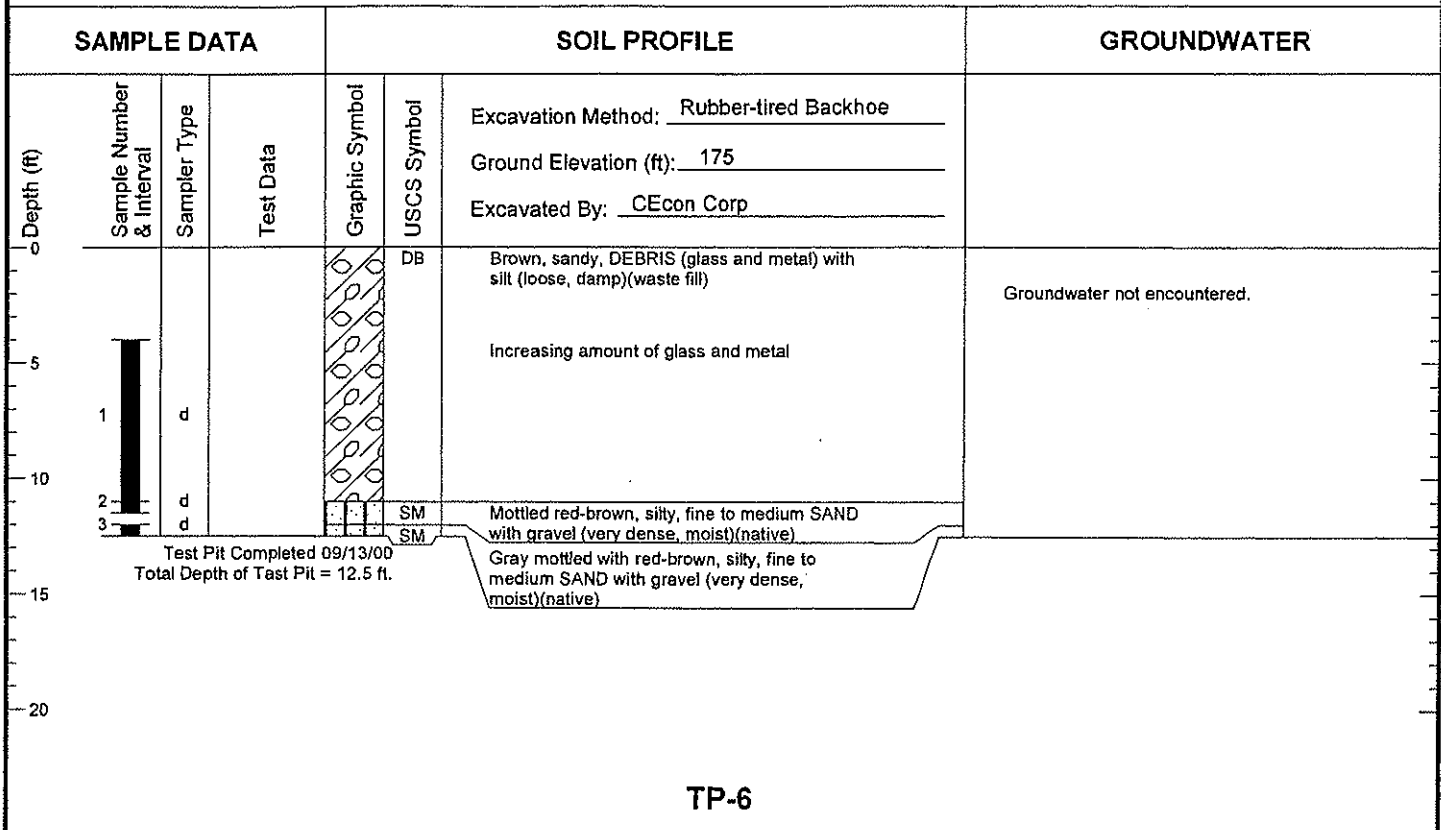


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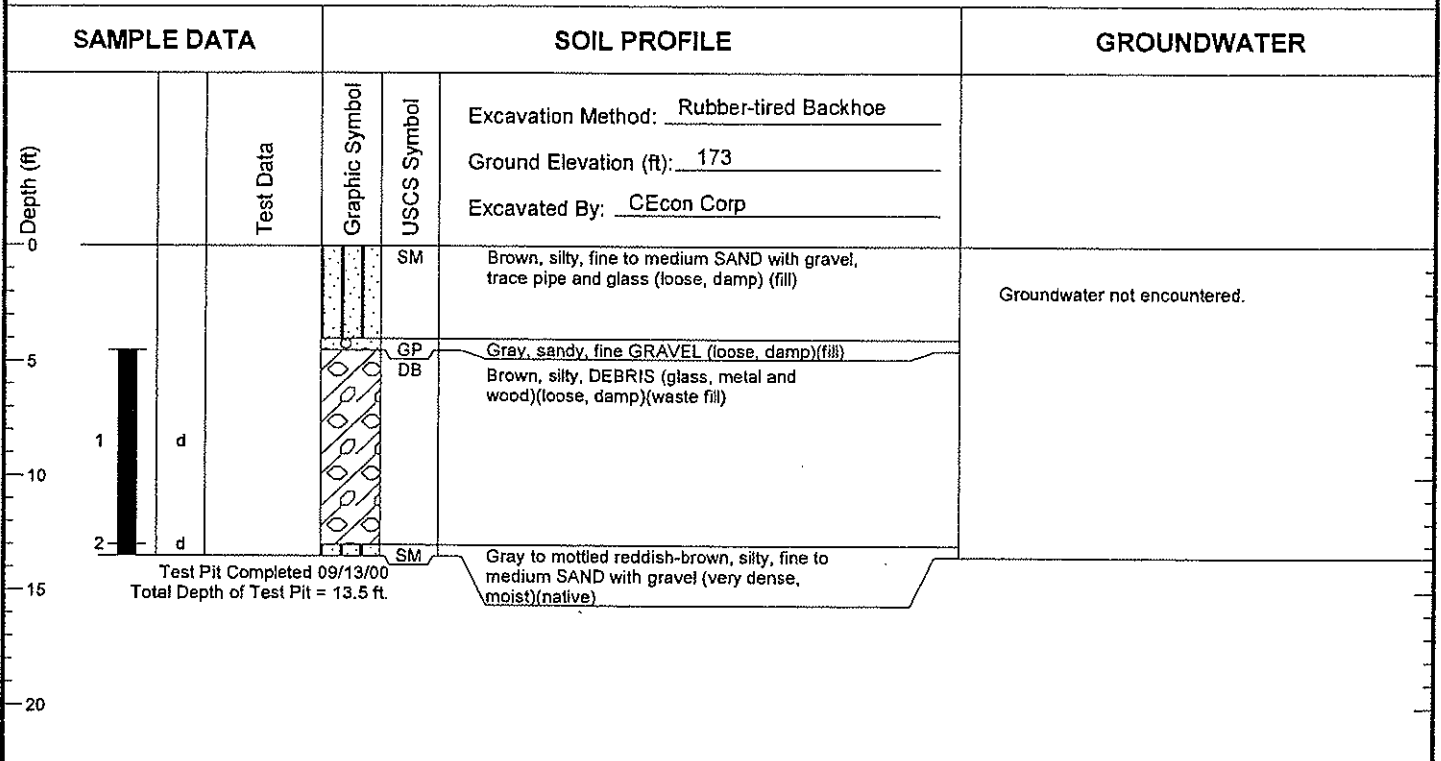
Log of Test Pits

Figure  
A-22

TP-5



TP-6



- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/9/00 S:\MODELING\PROJECTS\469022.GPJ TEST PIT LOG

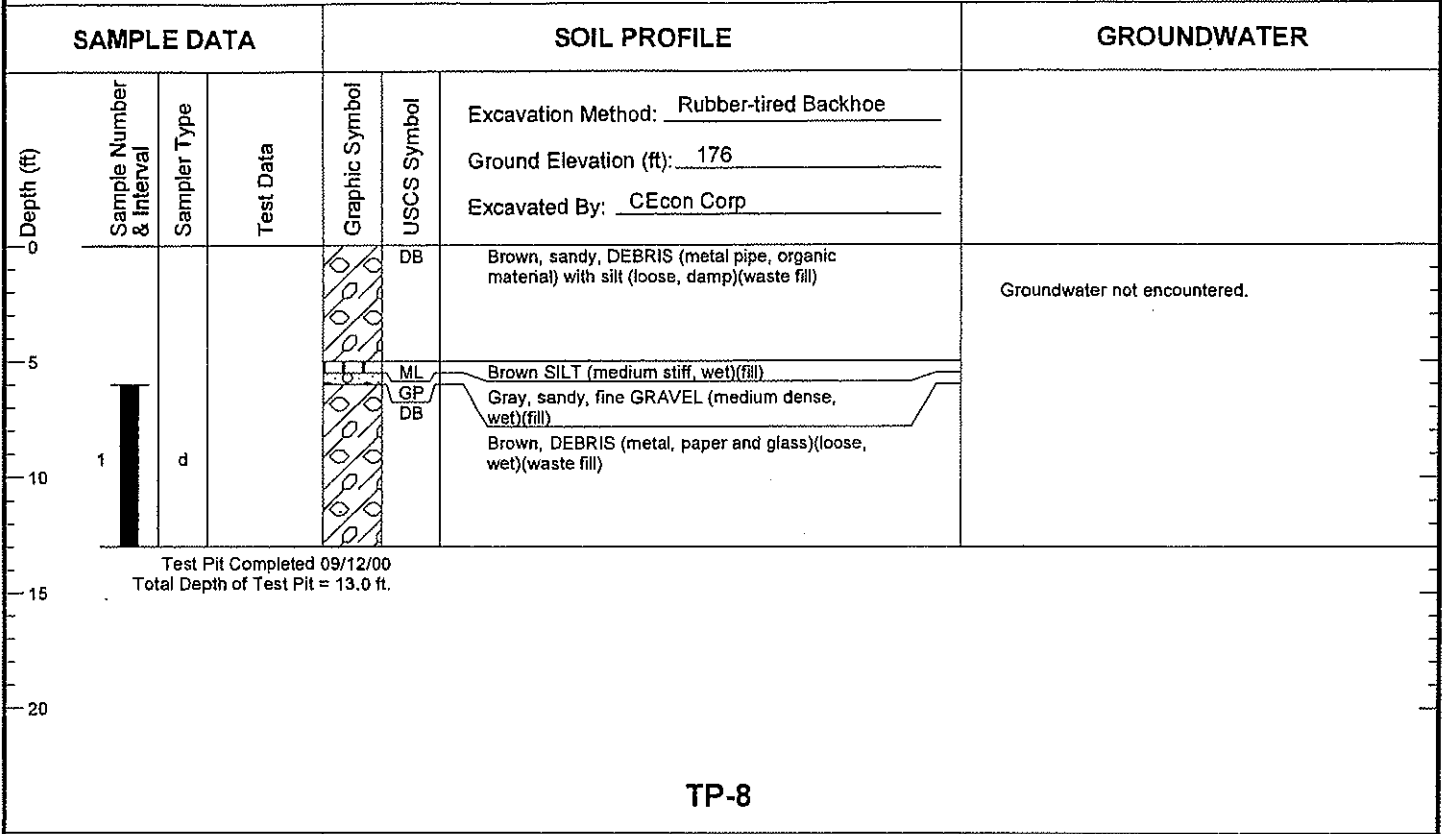


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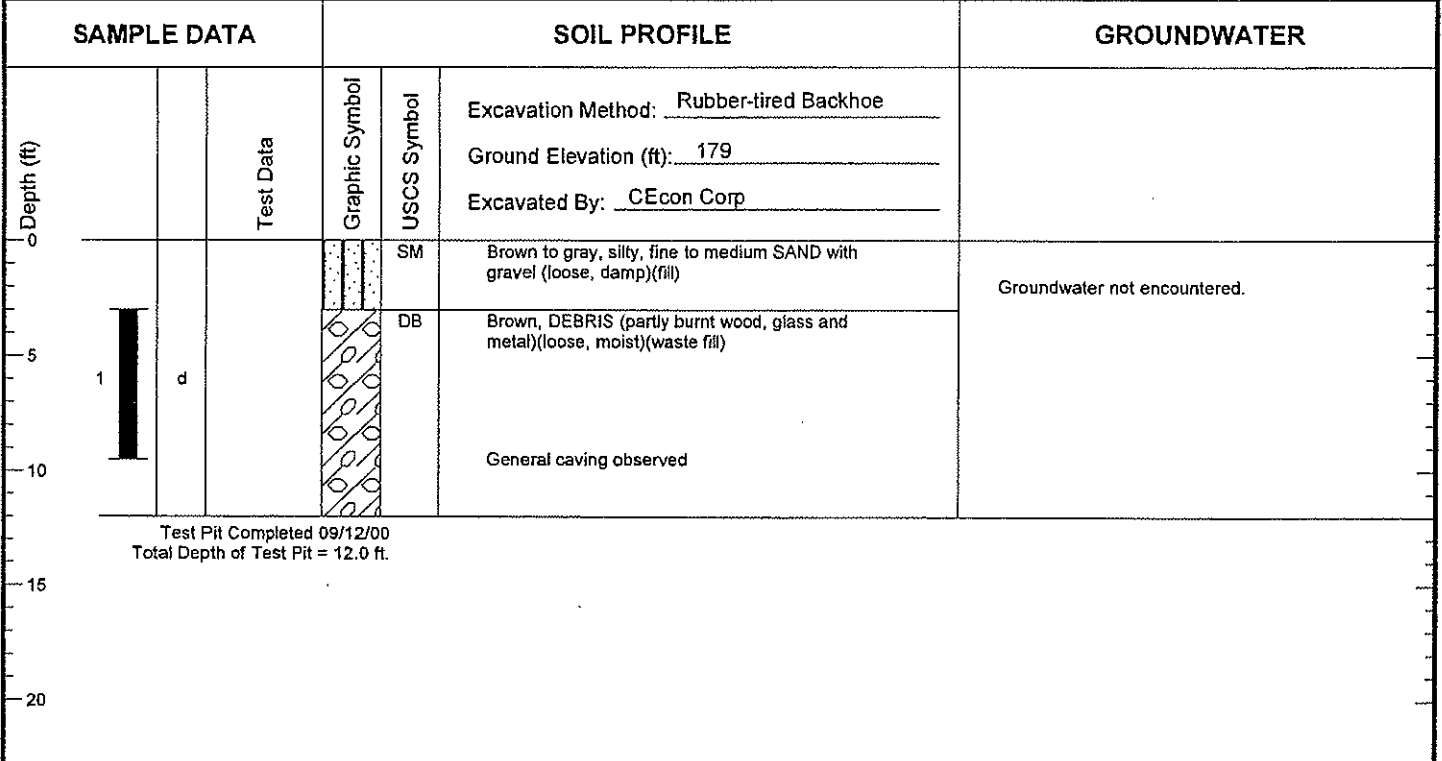
Log of Test Pits

Figure  
A-23

TP-7



TP-8



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/9/00 S:\MODELING\GINT\PROJECTS\469022.GPJ TEST PIT LOG



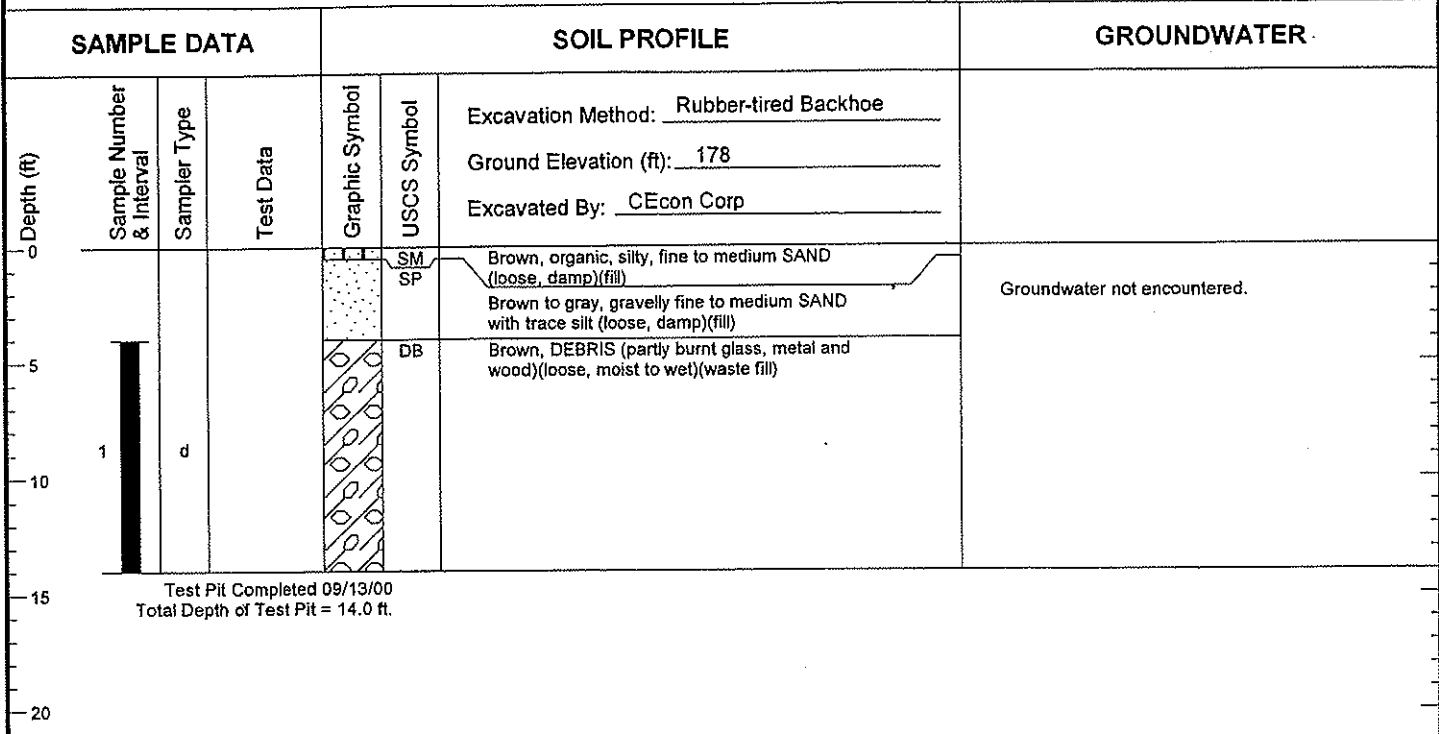
Home Depot  
Olympia, WA

Log of Test Pits

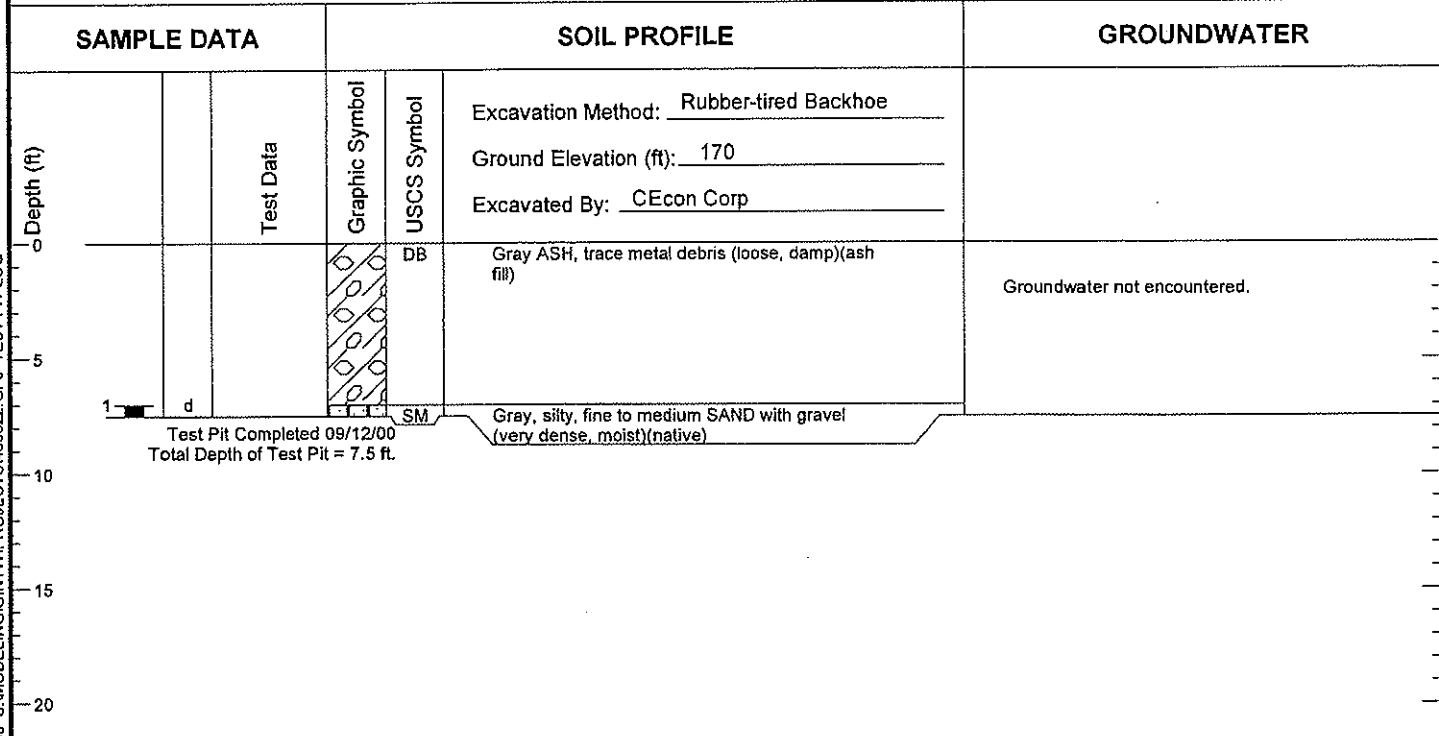
Figure  
A-24



TP-9



TP-10



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/9/00 S:\MODELING\GINT\WP\PROJECTS\469022.GPJ TEST PIT LOG

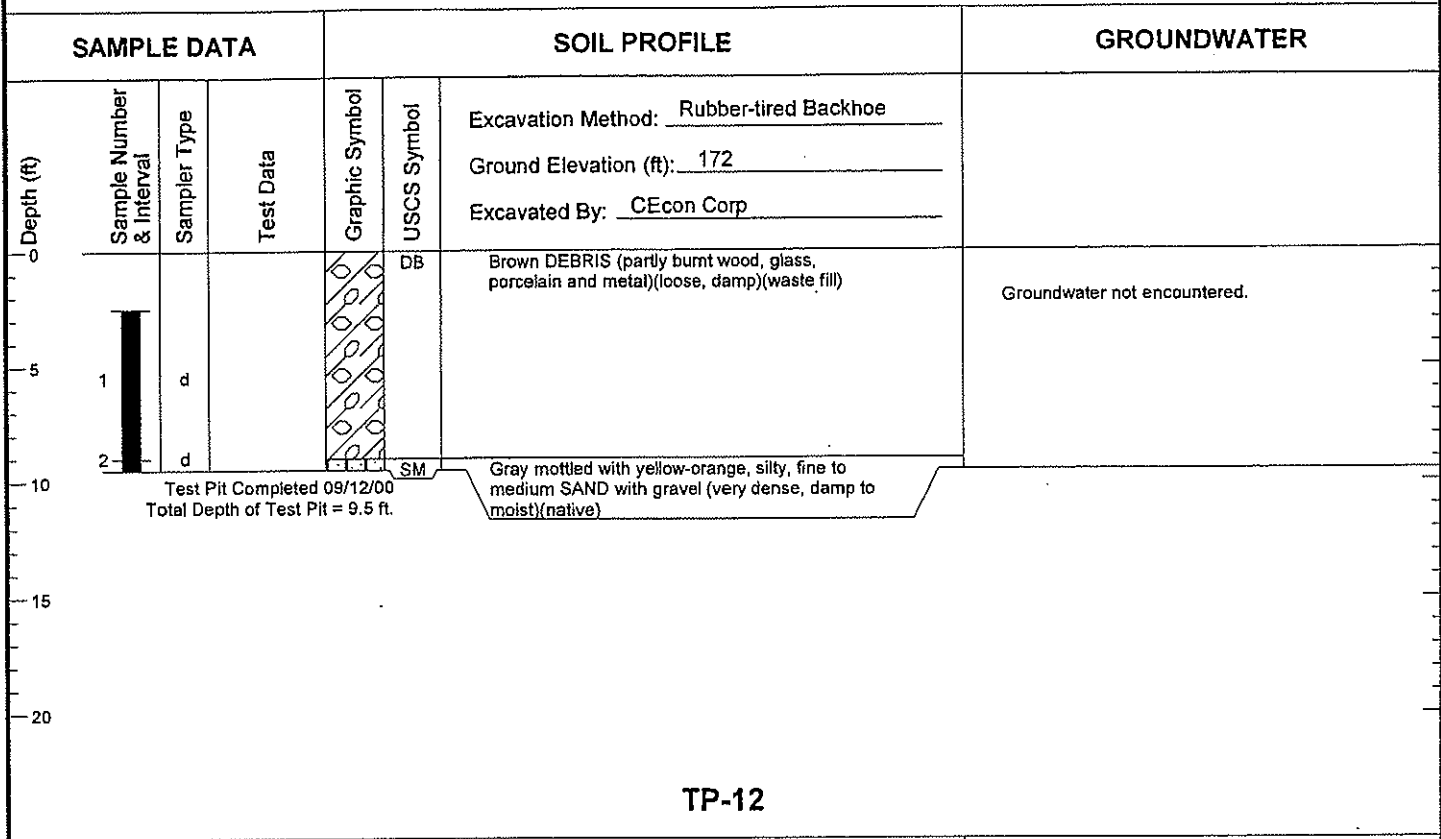


Home Depot  
Olympia, WA

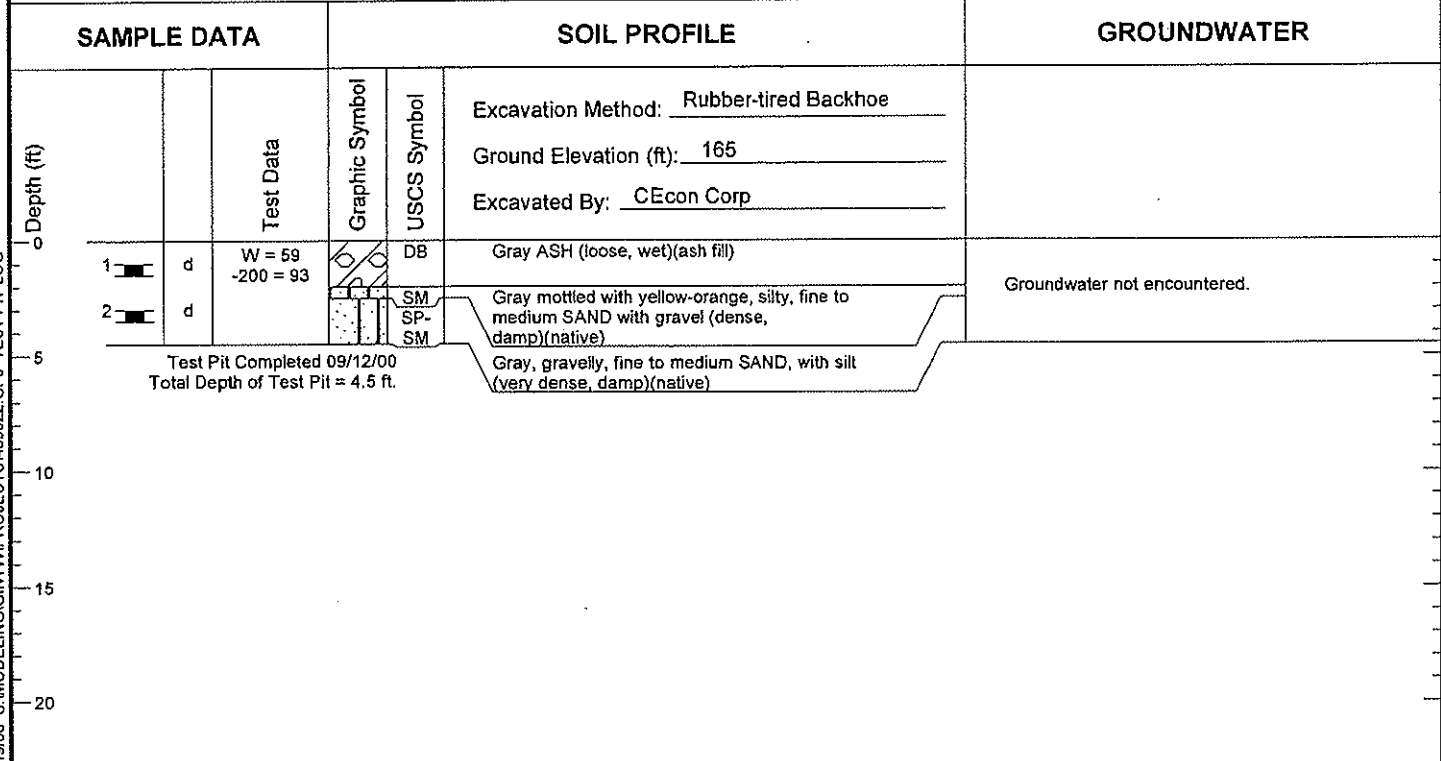
Log of Test Pits

Figure  
A-25

TP-11



TP-12



- Notes: 1. Stratigraphic contacts are based on field interpretations and are approximate.  
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.  
3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/19/00 S:\MODELING\GINT\PROJECTS\469022.GPJ TEST PIT LOG

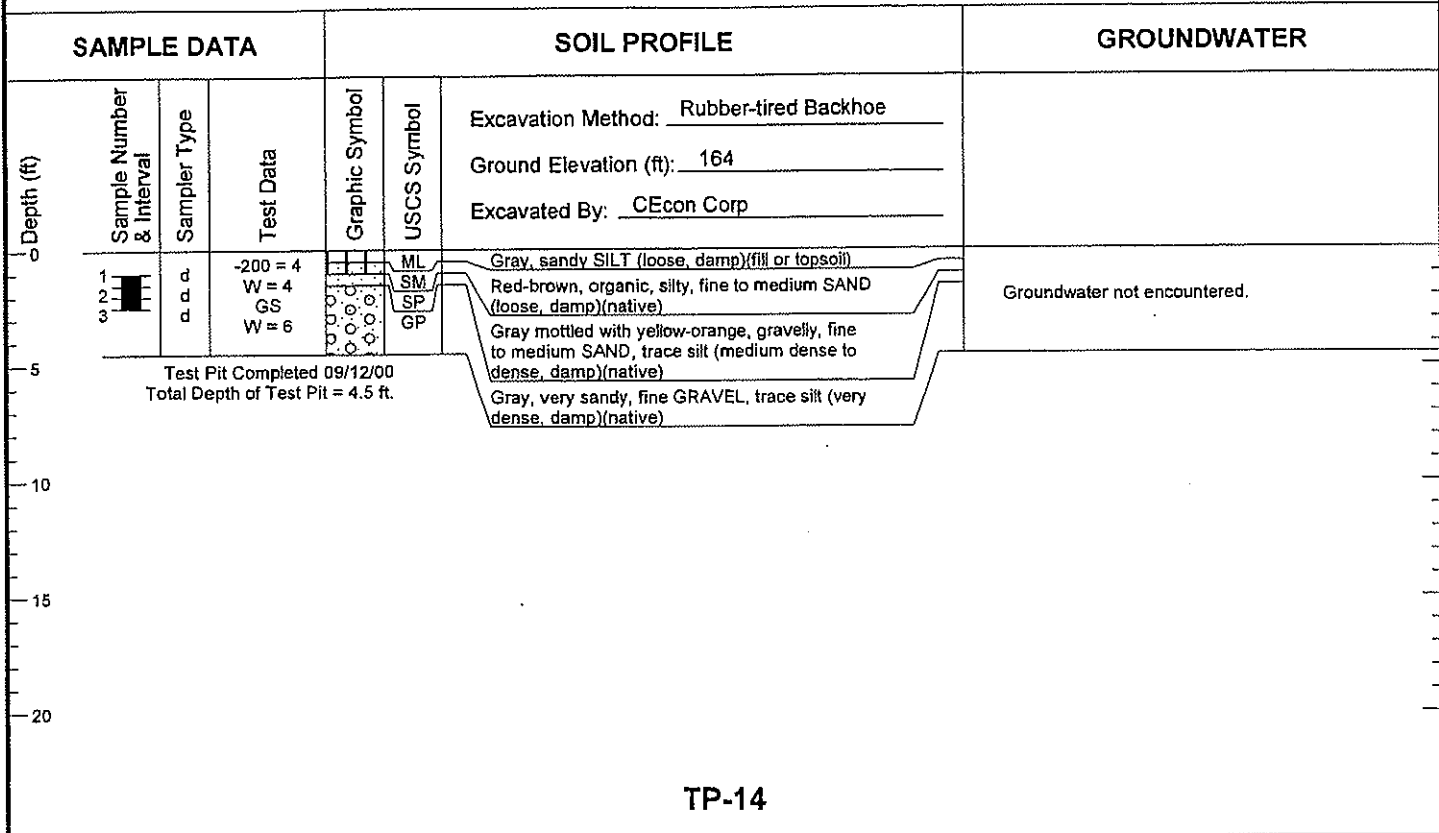


Home Depot  
Olympia, WA

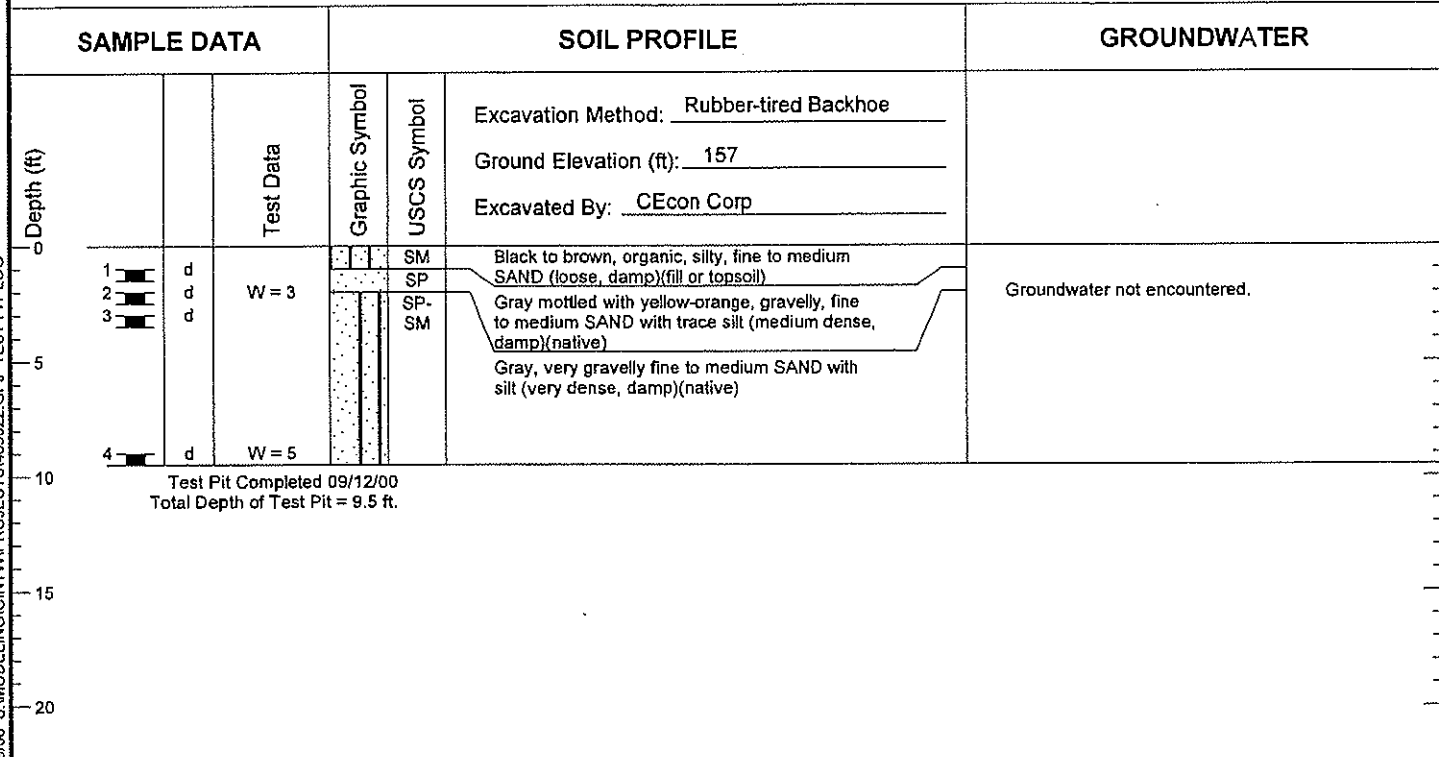
Log of Test Pits

Figure  
A-26

TP-13



TP-14



- Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
  2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
  3. Refer to Soil Classification System and Key figure for explanation of graphics and symbols.

469016.10 11/9/00 S:\MODELING\INTWP\PROJECTS\469022.GPJ TEST PIT LOG



Home Depot  
Olympia, WA

Log of Test Pits

Figure  
**A-27**

**Hart Crowser Test Pits, 1986  
(HC-1 through HC-6A)**

DRAFT

LOG OF TEST PIT HC-1

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET	MATERIAL DESCRIPTION
0 to 2	Loose, brown, slightly gravelly, silty, fine SAND with some roots
2 to 9	Very dense, poorly cemented, gray, silty, very gravelly, fine to coarse SAND (till material)

Comments: Gas probe installed in test pit. Probe screened from depth 4 feet to 9 feet. No water encountered in pit. Bag samples obtained at depth 4 feet and at depth 8 feet.

LOG OF TEST PIT HC-2

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET	MATERIAL DESCRIPTION
0 to 2	Loose, brown, slightly gravelly, silty, fine SAND with some roots
2 to 9.5	Burned REFUSE (ashes, glass, and rusted metal) with silty sand. Very little organic matter

Comments: Gas probe installed in test pit. Probe screened from depth 4.5 feet to 9.5 feet. Refuse material was not penetrated. No water encountered in pit. MSA 361 indicated methane concentration less than 1% of lower explosive limit.

LOG OF TEST PIT HC-3

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET	MATERIAL DESCRIPTION
0 to 2	Loose, brown, slightly gravelly, silty, fine to medium SAND with some roots
2 to 5	Very dense, poorly cemented, gray, silty, very gravelly, fine to coarse SAND (till material)
5 to 9.5	Dense, gray, slightly silty SAND (no gravel, clean and uniform)

Comments: Gas probe installed in test pit. Probe screened from depth 4.5 feet to 9.5 feet. No water encountered in pit. Bag samples obtained at depth 4 feet and at depth 8 feet.

LOG OF TEST PIT HC-4

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET	MATERIAL DESCRIPTION
0 to 2	Loose, brown, slightly gravelly, silty, fine to medium SAND with some roots
2 to 8	Very dense, well cemented, gray, silty, very gravelly, fine to coarse SAND (till material)

Comments: Gas probe installed in test pit. Probe screened from depth 3 feet to 8 feet. No water encountered in pit. Bag sample obtained at depth 6 feet. Very difficult to dig.



LOG OF TEST PIT HC-5

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET

MATERIAL DESCRIPTION

0 to 1	Loose, brown, silty, fine to medium SAND with some roots and gravel
2 to 5	Very dense, well cemented, gray, gravelly, very silty, fine to medium SAND (till material)

Comments: No water encountered in pit. Very difficult to dig. Bag sample obtained at depth 4 feet.

LOG OF TEST PIT HC-6

JOB NUMBER J-1745-00  
29 MAY 1986

DEPTH IN FEET

MATERIAL DESCRIPTION

0 to 1	Burned REFUSE (ashes, glass, and rusted metal), with silty sand. Very little organic matter
1 to 3	Loose, brown, slightly gravelly, silty, fine to medium SAND
3 to 6	Very dense, gray, silty, very gravelly, fine to coarse SAND (till material)

Comments: No water encountered in pit.

LOG OF TEST PIT HC-6A

JOB NUMBER J-1745-00  
29 MAY 1986

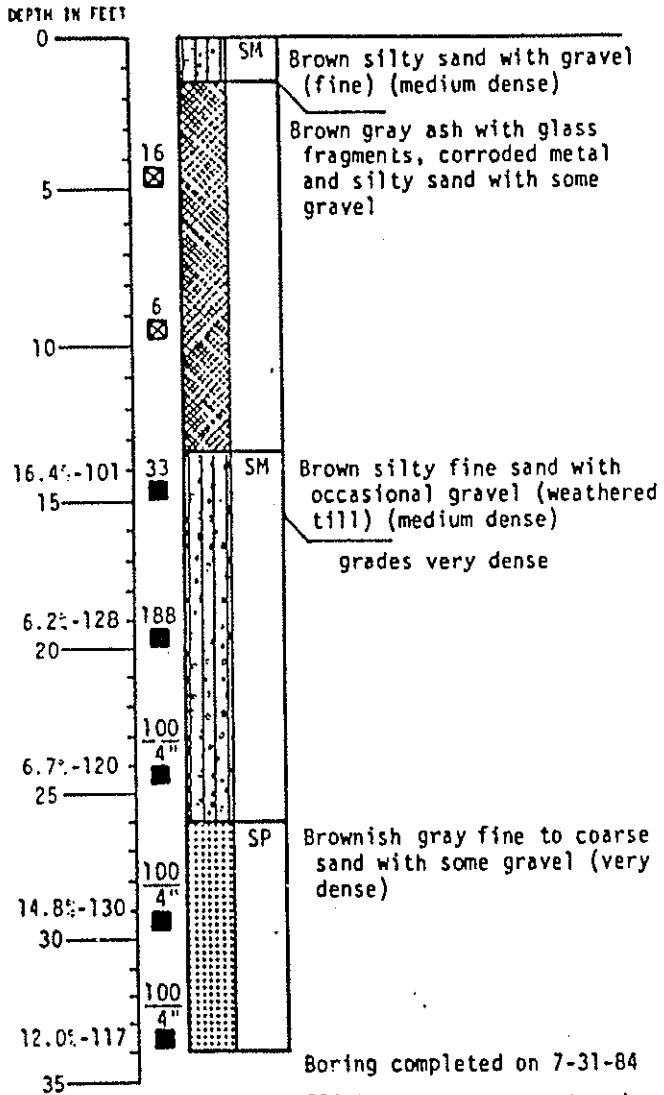
DEPTH IN FEET	MATERIAL DESCRIPTION
0 to 1	Loose, brown, slightly gravelly, silty, fine to medium SAND with some roots
2 to 4	Very dense, well cemented, gray, gravelly, very silty, fine to medium SAND (till material)

Comments: No water encountered in pit. No refuse encountered in pit.

**Dames and Moore Soil Borings, Test Pits, and Monitoring Wells, 1984  
(B-1 through B-5, TP-1 through TP-13 and  
1/1 through 5/5, and MW-1 through MW-3)**

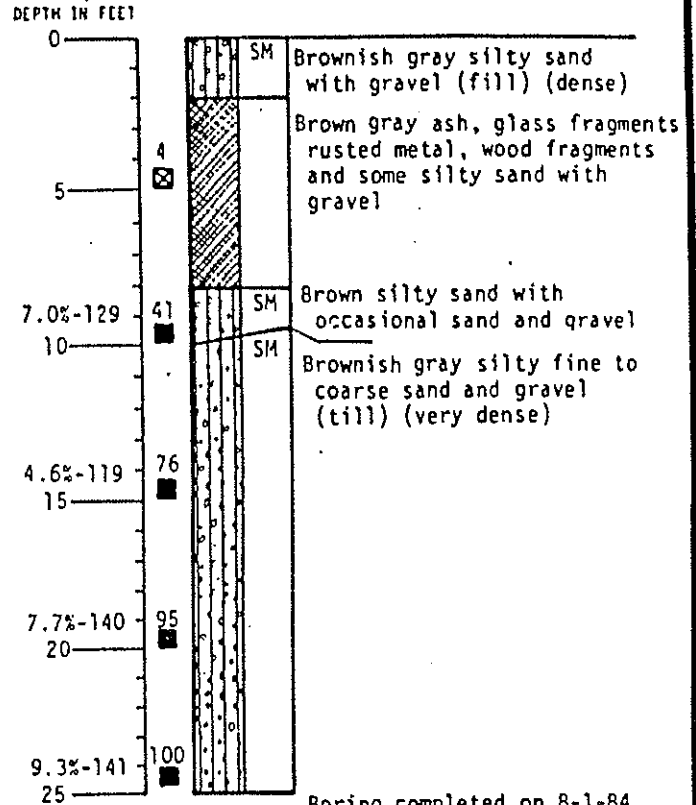
DRAFT

### Boring B-1



Boring completed on 7-31-84  
Slight seepage encountered below 26' from sand

### Boring B-2



Boring completed on 8-1-84

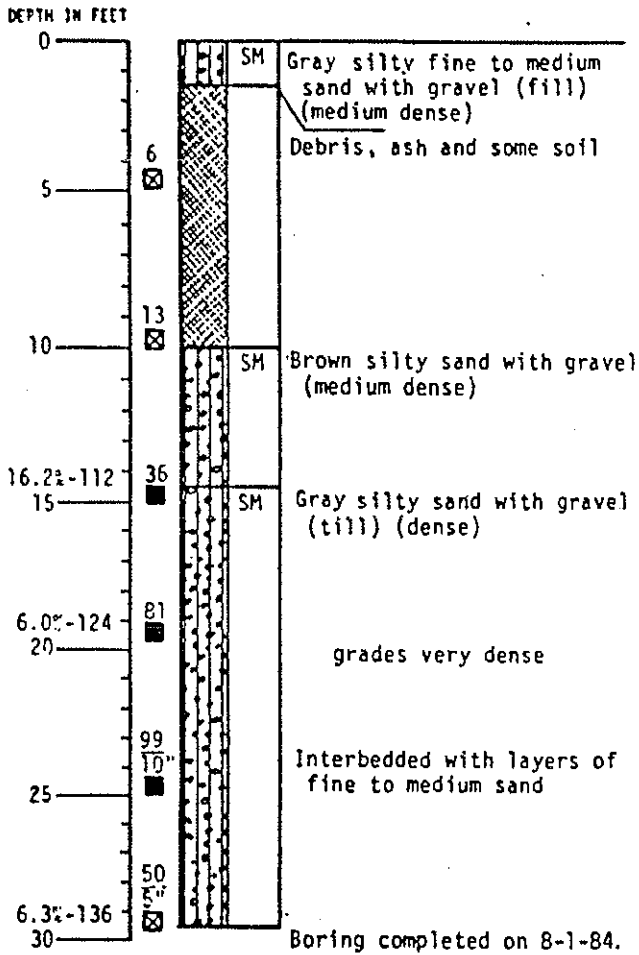
#### Key:

- MOISTURE CONTENT
- DRY DENSITY IN PCF
- INDICATES DEPTH AT WHICH UNDISTURBED DAMES & MOORE SAMPLE WAS EXTRACTED.
- INDICATES DEPTH AT WHICH DISTURBED DAMES & MOORE SAMPLE WAS EXTRACTED.

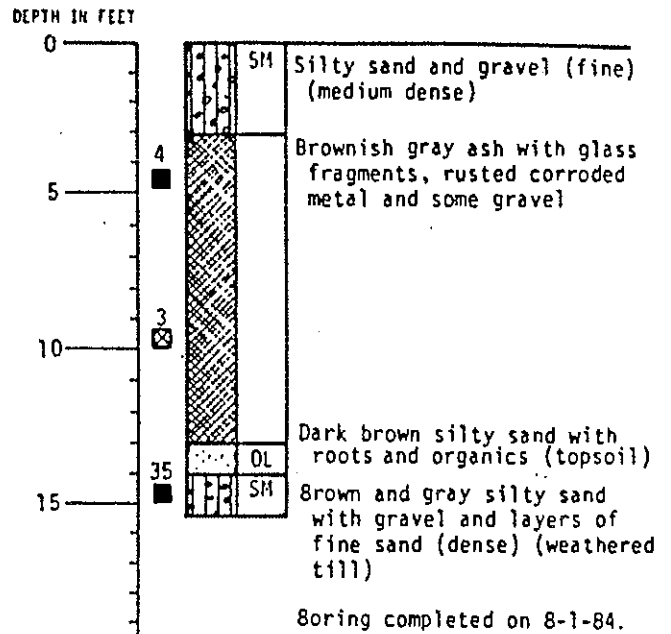
#### Note:

THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIAL.

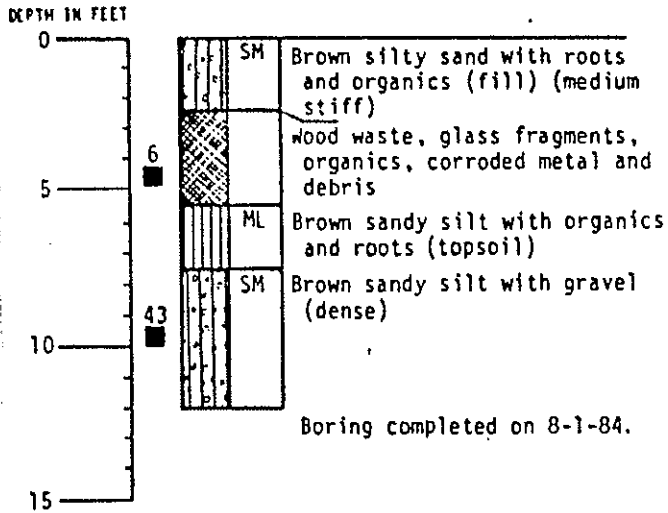
### Boring B-3



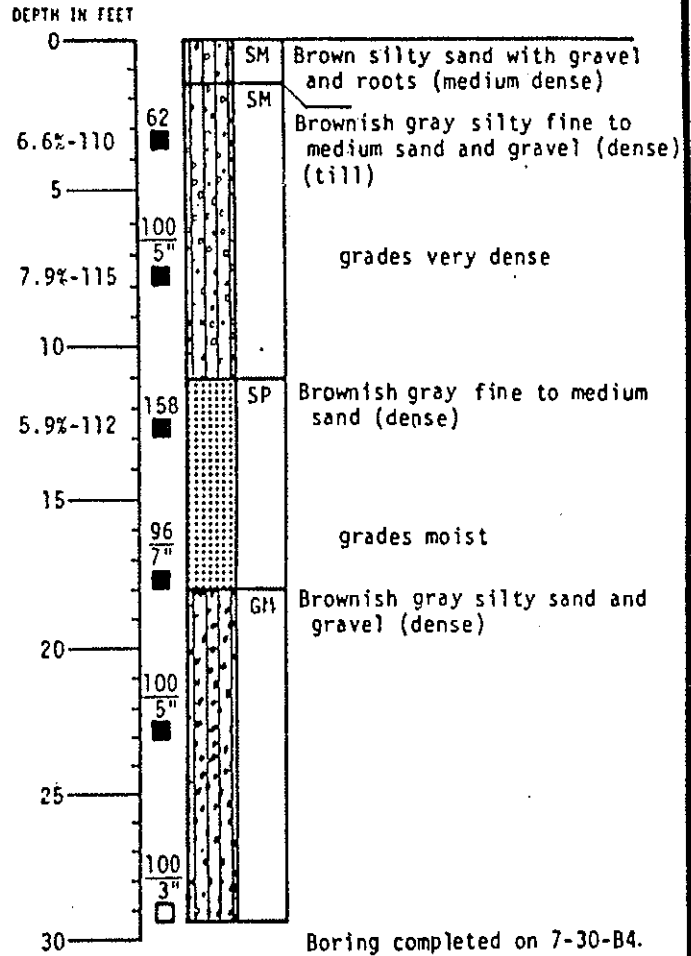
### Boring B-4



### Boring B-5

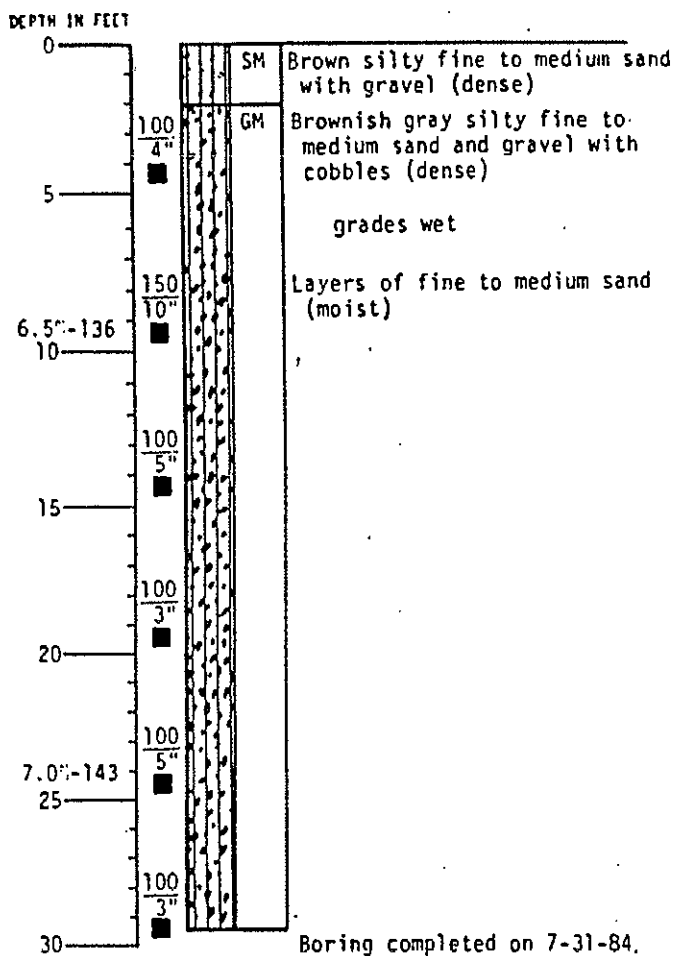


### Boring MW-1





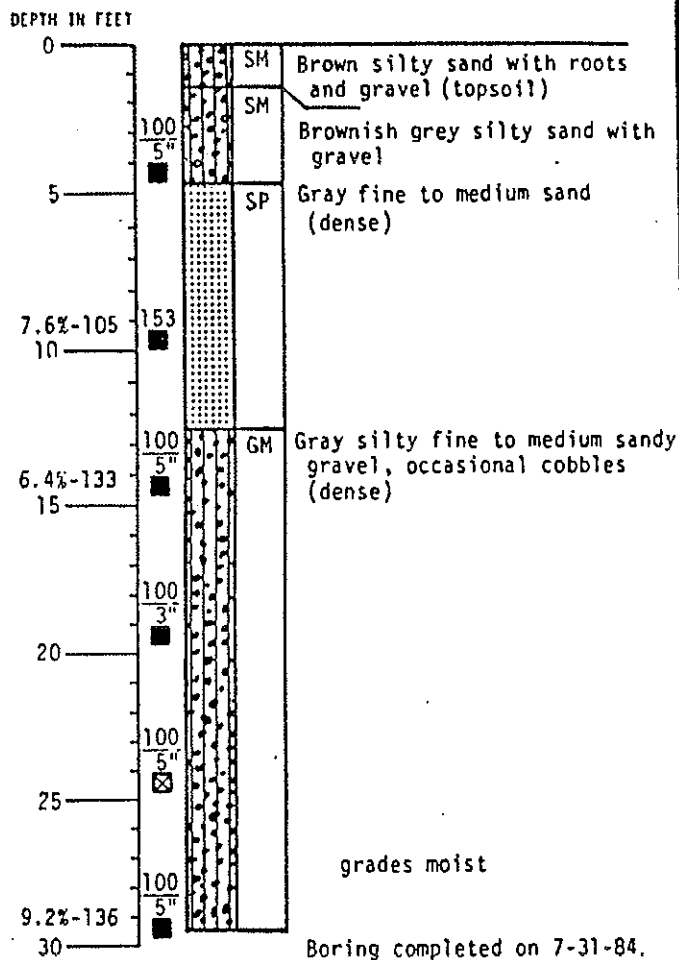
### Boring MW-2



Boring completed on 7-31-84.

Piezometer installed to a depth of 29 feet. Bentonite seal placed at 5 feet from surface.

### Boring MW-3



Boring completed on 7-31-84.

2" piezometer installed to a depth of 29'. Bentonite seal installed at 5 feet from surface.

TABLE B-1

## LANDFILL TEST PIT DATA

Test Pit Number	Thickness of Waste	Samples Taken (Feet)	Depth in Feet	Description of Soil Below Landfill
1/1	0	1.5, 4.5, 8.0	0-6	Brown fine sandy silt with occasional gravel and roots (loose)
			6-10.5	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
1/2	>10	1.5, 4.5, 8.0		(a)
1/3	>10	1.5, 4.5, 8.0		(a)
1/4	0	1.0, 3.5	0-0.5	Brown silty fine sand to fine sandy silt with occasional gravel (medium dense)
			0.5-5	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
1/5	0	1.0, 3.5	0-2	Brown fine sandy silt to silty fine sand with occasional gravel and cobbles (medium dense)
			2-5	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
2/1	5	1.5, 4.5, 8.0	5-9.5	Gray and brown mottled fine sandy silt with occasional gravel (med. stiff)
			9.5-10	Gray silty fine to coarse sand and gravel (till) (very dense)
2/2 & 2/2A	13	1.5, 4.5, 8.0	13-15	Gray silty fine to coarse sand and gravel (till) (very dense)
2/3 & 2/3A	>15	1.5, 4.5, 8.0		(a)
2/4	>10	1.5, 4.5, 8.0		(a)
2/5	1.5	1, 3	1.5-5	Gray silty fine to coarse sand and gravel (till) (very dense)

TABLE B-1 (continued)

Test Pit Number	Thickness of Waste	Samples Taken (Feet)	Depth in Feet	Description of Soil Below Landfill
3/1	6	1.5, 4.5 8.0	6-10	Gray silty fine to coarse sand and gravel (till) (very dense)
3/2 & 3/2A	11.5	1.5, 4.5 8.0	11.5- 12.5	Gray silty fine to coarse sand and gravel (till) (very dense)
3/3 & 3/3A	14.0	1.5, 4.5 8.0	14-15	Gray silty fine to coarse sand and gravel (till) (very dense)
3/4 & 3/4A	14.0	1.5, 4.5 8.0	14-15	Gray silty fine to coarse sand and gravel (till) (very dense)
3/5	>10	1.5, 4.5 8.0		(a)
4/1	6	1.5, 4.5 8.0	6-10	Gray silty fine to coarse sand and gravel (till) (very dense)
4/2	10	1.5, 4.5 8.0	10-10.5	Gray silty fine to coarse sand and gravel (till) (very dense)
4/3	>10	1.5, 4.5 8.0		(a)
4/4	>10	1.5, 4.5 8.0		(a)
4/5	>10	1.5, 4.5 8.0		(a)
5/0 & 5/0A	11	1.5, 4.5 8.0		(a)
5/2	>10	1.5, 4.5 8.0		(a)
5/3	>10	1.5, 4.5 8.0		-
5/4	>10	1.5, 4.5 8.0		-
5/5	0	1, 4	0-2	Light brown silty fine sand (medium dense)
			2-6	Gray silty fine to coarse sand and gravel (till) (very dense)

(a) Test Pit did not penetrate landfill.

Depth in Feet	Symbol	Description
<u>TEST PIT 1</u>		
0' - 1½'	<u>ML</u> SM	Brown fine sandy silt with gravel and occasional cobbles and roots (loose)
1½' - 7½'	SM	Gray silty fine to coarse sand with gravel, well cemented (till) (very dense)  Disturbed sample taken at 4' Test pit completed on 07-25-84 No ground water encountered
<u>TEST PIT 2</u>		
0' - 1½'	<u>ML</u> SM	Brown fine sandy silt with gravel, cobbles and roots (loose)
1½' - 6½'	SM	Gray silty fine to coarse sand with gravel, very cemented (till) (very dense)  Test pit completed on 07-25-84 No ground water encountered
<u>TEST PIT 3</u>		
0' - 2½'	ML	Brown fine sandy silt with occasional gravel, cobbles and roots
2½' - 6'	SM	Gray silty fine to coarse sand and gravel, well cemented (very dense)  Test pit completed on 07-25-84 No ground water encountered

Depth in Feet	Symbol	Description
<u>TEST PIT 4</u>		
0' - 1½'	<u>ML</u> SM	Brown fine sandy silt with occasional gravel, cobbles and roots (loose)
1½' - 6'	SM	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
		Disturbed sample taken at 1½' Test pit completed on 07-25-84 No ground water encountered
<u>TEST PIT 5</u>		
0' - 1½'	<u>ML</u> SM	Brown fine sandy silt with gravel and occasional cobble and roots (loose)
1½' - 6½'	SM	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
		Disturbed sample taken at 2' Test pit completed on 07-25-84 No ground water encountered
<u>TEST PIT 6</u>		
0' - 1½'	ML	Brown fine sandy silt with gravel and occasional cobbles and roots (loose)
1½' - 5'	SM	Gray silty fine to coarse sand and gravel, well cemented (till) (very dense)
		Disturbed sample taken at 2' Test pit completed on 07-25-84 No ground water encountered

Depth in Feet	Symbol	Description
<u>TEST PIT 7</u>		
0' - 1½'	<u>ML</u> <u>SM</u>	Brown fine sandy silt with occasional gravel and cobbles and roots (loose)
1½' - 6'	SW	Brown silty fine to coarse sand and gravel with cobbles (medium dense)
6' - 10½'	<u>SM</u> <u>SW</u>	Gray silty fine to coarse sand and gravel, well cemented
Disturbed samples taken at ½ and 10'		
Test pit completed on 07-25-84		
No ground water encountered		

<u>TEST PIT 8</u>		
0' - 1½'	<u>ML</u> <u>SM</u>	Brown fine sandy silt with occasional gravel and cobbles with root fragments (loose)
1½' - 10½'	SW	Brown and gray layered slightly silty fine to coarse sand and gravel (dense)
Disturbed sample taken at 6'		
Test pit completed on 07-25-84		
No ground water encountered		

<u>TEST PIT 9</u>		
0' - 1½'	ML	Brown fine sandy silt with roots and some gravel (loose)
1½' - 10'	SW	Brown to gray fine to coarse sand and gravel with trace silt (dense)
Disturbed samples taken at 1, 6 and 9'		
Test pit completed on 07-25-84		
No ground water encountered		

## Log of Test Pits



Depth in Feet	Symbol	Description
<u>TEST PIT 10</u>		
0' - 2'	ML	Brown fine sandy silt with occasional fine to coarse gravel, cobbles and roots (loose)
2' - 11'	SP	Gray fine to medium sand (dense)
		Disturbed sample taken at 8' Test pit completed on 07-25-84 No ground water encountered

<u>TEST PIT 11</u>		
0' - 1½'	<u>ML</u> SM	Brown silty fine sand with gravel, cobbles and occasional roots (loose)
1½' - 6'	SM	Gray slightly silty fine to coarse sand and gravel, well cemented (till) (very dense)
		Test pit completed on 07-25-84 No ground water encountered

<u>TEST PIT 12</u>		
0' - 1'	<u>SM</u> ML	Brown fine sandy silt with fine to coarse gravel and roots (loose)
1' - 4'	SM	Gray slightly silty fine to coarse sand and gravel, well cemented (till) (very dense)
4' - 11'	SP	Gray fine to medium sand with occasional coarse sand (very dense)
		Disturbed samples taken at 3 and 10' Test pit completed on 07-25-84 No ground water encountered

Depth in Feet Symbol

Description

TEST PIT 13

0' - 2½'

ML  
SM

Brown fine sand with coarse sandy gravel and occasional cobbles and roots (loose)

2½' - 7'

SP

Gray slightly silty fine to medium sand (dense)

7' - 11'

SM

Gray slightly silty fine to coarse sand and gravel, well cemented, (till) (very dense)

Test Pit completed on 07-25-84  
No ground water encountered

**APPENDIX C**  
**Water Levels**

DRAFT

**Table C-1**  
**Water Levels**  
West Olympia Landfill Site  
Olympia, Washington

Well	Aquifer	Date	Top of Casing Elevation (ft) (a)	Depth to Groundwater (ft)	Groundwater Elevation (ft)
LAI-1	Upper (Qga)	6/18/2004	173.35	58.42 (b)	114.93
LAI-1	Upper (Qga)	3/3/2005	173.35	57.95 (b)	115.40
LAI-1	Upper (Qga)	7/11/2006	173.35	59.07 (c)	114.28
LAI-1	Upper (Qga)	10/24/2006	173.35	61.90 (c)	111.45
LAI-1	Upper (Qga)	10/13/2008	173.35	61.87 (d)	111.48
LAI-1	Upper (Qga)	12/3/2008	173.35	60.62 (e)	112.73
LAI-1	Upper (Qga)	2/26/2009	173.35	56.74 (d)	116.61
LAI-1	Upper (Qga)	11/18/2010	173.35	59.08 (f)	114.27
LAI-1	Upper (Qga)	1/15/2014	173.35	59.32 (g)	114.03
LAI-1	Upper (Qga)	3/25/2015	173.35	53.13 (g)	120.22
LAI-1	Upper (Qga)	6/24/2015	173.35	59.01 (g)	114.34
LAI-1	Upper (Qga)	9/23/2015	173.35	59.94 (g)	113.41
LAI-1	Upper (Qga)	12/16/2015	173.35	54.72 (g)	118.63
LAI-1	Upper (Qga)	3/29/2018	173.35	52.00 (h)	121.35
LAI-2	Upper (Qga)	6/18/2004	169.07	59.44 (b)	109.63
LAI-2	Upper (Qga)	3/3/2005	169.07	53.52 (b)	115.55
LAI-2	Upper (Qga)	10/24/2006	169.07	57.95 (c)	111.12
LAI-2	Upper (Qga)	10/13/2008	169.07	57.61 (d)	111.46
LAI-2	Upper (Qga)	12/3/2008	169.07	51.82 (e)	117.25
LAI-2	Upper (Qga)	2/26/2009	169.07	51.90 (d)	117.17
LAI-2	Upper (Qga)	11/18/2010	169.07	54.13 (f)	114.94
LAI-2	Upper (Qga)	1/14/2014	169.07	54.27 (g)	114.80
LAI-2	Upper (Qga)	3/29/2018	169.07	47.37 (h)	121.70
LAI-3	Upper (Qga)	6/18/2004	178.52	58.22 (b)	120.30
LAI-3	Upper (Qga)	3/3/2005	178.52	56.27 (b)	122.25
LAI-3	Upper (Qga)	10/13/2008	178.52	61.99 (d)	116.53
LAI-3	Upper (Qga)	2/26/2009	178.52	54.73 (d)	123.79
LAI-3	Upper (Qga)	1/13/2014	178.52	58.32 (g)	120.20
LAI-3	Upper (Qga)	3/29/2018	178.52	51.92 (h)	126.60
LAI-5d	Lower (Qpg)	7/11/2006	172.07	58.80 (c)	113.27
LAI-5d	Lower (Qpg)	10/24/2006	172.07	62.79 (c)	109.28
LAI-5d	Lower (Qpg)	10/13/2008	172.07	62.45 (d)	109.62
LAI-5d	Lower (Qpg)	12/3/2008	172.07	60.75 (e)	111.32
LAI-5d	Lower (Qpg)	2/26/2009	172.07	56.92 (d)	115.15
LAI-5d	Lower (Qpg)	1/15/2014	172.07	59.37 (g)	112.70
LAI-5d	Lower (Qpg)	3/29/2018	172.07	52.11 (h)	119.96
LAI-MW-1	Upper (Qga)	6/18/2004	163.21	48.51 (b)	114.70
LAI-MW-1	Upper (Qga)	3/3/2005	163.21	45.67 (b)	117.54
LAI-MW-1	Upper (Qga)	10/13/2008	163.21	50.32 (d)	112.89
LAI-MW-1	Upper (Qga)	2/26/2009	163.21	41.57 (d)	121.64
LAI-MW-1	Upper (Qga)	1/13/2014	163.21	44.67 (g)	118.54
LAI-MW-1	Upper (Qga)	3/29/2018	163.21	37.29 (h)	125.92
LAI-MW-2	Upper (Qga)	6/18/2004	170.23	54.55 (b)	115.68

Well	Aquifer	Date	Top of Casing Elevation (ft) (a)	Depth to Groundwater (ft)		Groundwater Elevation (ft)
LAI-MW-2	Upper (Qga)	3/3/2005	170.23	53.57	(b)	116.66
LAI-MW-2	Upper (Qga)	7/11/2006	170.23	55.01	(c)	115.22
LAI-MW-2	Upper (Qga)	10/24/2006	170.23	57.82	(c)	112.41
LAI-MW-2	Upper (Qga)	10/13/2008	170.23	57.60	(d)	112.63
LAI-MW-2	Upper (Qga)	12/3/2008	170.23	56.43	(e)	113.80
LAI-MW-2	Upper (Qga)	2/26/2009	170.23	51.86	(d)	118.37
LAI-MW-2	Upper (Qga)	11/18/2010	170.23	55.00	(f)	115.23
LAI-MW-2	Upper (Qga)	1/15/2014	170.23	54.83	(g)	115.40
LAI-MW-2	Upper (Qga)	3/26/2015	170.23	45.21	(g)	125.02
LAI-MW-2	Upper (Qga)	6/24/2015	170.23	54.97	(g)	115.26
LAI-MW-2	Upper (Qga)	9/23/2015	170.23	62.14	(g)	108.09
LAI-MW-2	Upper (Qga)	12/16/2015	170.23	50.29	(g)	119.94
LAI-MW-2	Upper (Qga)	3/29/2018	170.23	47.20	(h)	123.03
LAI-MW-3	Upper (Qga)	6/18/2004	171.89	51.85	(b)	120.04
LAI-MW-3	Upper (Qga)	3/3/2005	171.89	50.01	(b)	121.88
LAI-MW-3	Upper (Qga)	10/13/2008	171.89	55.27	(d)	116.62
LAI-MW-3	Upper (Qga)	2/26/2009	171.89	48.18	(d)	123.71
LAI-MW-3	Upper (Qga)	1/15/2014	171.89	51.25	(g)	120.64
LAI-MW-3	Upper (Qga)	3/29/2018	171.89	45.31	(h)	126.58
LAI-MW-4	Upper (Qga)	6/18/2004	172.21	57.29	(b)	114.92
LAI-MW-4	Upper (Qga)	3/3/2005	172.21	55.85	(b)	116.36
LAI-MW-4	Upper (Qga)	10/13/2008	172.21	60.67	(d)	111.54
LAI-MW-4	Upper (Qga)	2/26/2009	172.21	53.19	(d)	119.02
LAI-MW-4	Upper (Qga)	1/13/2014	172.21	56.59	(g)	115.62
LAI-MW-4	Upper (Qga)	3/29/2018	172.21	48.57	(h)	123.64
MW-23	Upper (Qga)	1/23/2014	188.79	?	(g)	--
MW-23	Upper (Qga)	3/29/2018	188.79	71.30	(h)	117.49
PGG-1	Upper (Qga)	7/11/2006	169.54	54.51	(c)	115.03
PGG-1	Upper (Qga)	10/24/2006	169.54	57.59	(c)	111.95
PGG-1	Upper (Qga)	10/13/2008	169.54	57.36	(d)	112.18
PGG-1	Upper (Qga)	12/3/2008	169.54	56.09	(e)	113.45
PGG-1	Upper (Qga)	2/26/2009	169.54	51.85	(d)	117.69
PGG-1	Upper (Qga)	11/18/2010	169.54	54.54	(f)	115.00
PGG-1	Upper (Qga)	1/14/2014	169.54	53.36	(g)	116.18
PGG-1	Upper (Qga)	3/29/2018	169.54	45.49	(h)	124.05
PGG-2	Upper (Qga)	7/11/2006	169.50	53.88	(c)	115.62
PGG-2	Upper (Qga)	10/13/2008	169.50	56.90	(d)	112.60
PGG-2	Upper (Qga)	12/3/2008	169.50	55.49	(e)	114.01
PGG-2	Upper (Qga)	2/26/2009	169.50	50.93	(d)	118.57
PGG-2	Upper (Qga)	1/14/2014	169.50	54.19	(g)	115.31
PGG-2	Upper (Qga)	3/29/2018	169.50	45.49	(h)	124.01
OLY-1	Upper (Qga)	3/25/2015	186.38	69.08	(g)	117.30
OLY-1	Upper (Qga)	6/24/2015	186.38	75.73	(g)	110.65
OLY-1	Upper (Qga)	9/23/2015	186.38	79.78	(g)	106.60
OLY-1	Upper (Qga)	12/16/2015	186.38	70.78	(g)	115.60
OLY-1	Upper (Qga)	3/29/2018	186.38	67.75	(h)	118.63
OLY-2	Upper (Qga)	3/25/2015	170.78	53.72	(g)	117.06

Well	Aquifer	Date	Top of Casing Elevation (ft) (a)	Depth to Groundwater (ft)		Groundwater Elevation (ft)
OLY-2	Upper (Qga)	6/24/2015	170.78	60.33	(g)	110.45
OLY-2	Upper (Qga)	9/23/2015	170.78	64.26	(g)	106.52
OLY-2	Upper (Qga)	12/17/2015	170.78	54.83	(g)	115.95
OLY-2	Upper (Qga)	3/29/2018	170.78	52.46	(h)	118.32

**Notes:**

(a) Top of casing elevation is relative to vertical datum NGVD29. Source of TOC elevations was from PGG 2006 Report for all wells except Oly-1 and Oly-2 which were surveyed by the City of Olympia's surveyor and converted from NAVD88 to NGVD29.

Depth to Water Sources:

(b) LAI. 2005. Groundwater Monitoring Data—March 2005 Sampling Event, Former West Olympia Landfill Property, Olympia, Washington. Landau Associates, Inc. April 4.

(c) PGG. 2006. Technical Memorandum: West Olympia Landfill Groundwater Investigation (Interim Report). Pacific Groundwater Group. December 8.

(d) TCEH. 2009. Ground Water Level Measurement Project: West Olympia Landfill Exxon Site Shopfast. Thurston County Environmental Health. April 7.

(e) PGG. 2009. West Olympia Landfill Groundwater Sampling, Fourth Quarter, 20018 (2008 Q4). Pacific Groundwater Group. February 3.

(f) PGG. 2010. West Olympia Landfill Groundwater Sampling, Fourth Quarter, 2010 (2010 Q4). Pacific Groundwater Group. December 21.

(g) Ecology and Environment. 2017. West Olympia Landfill Site Targeted Brownfields Assessment, Olympia, Washington. Ecology and Environment, Inc. June.

(h) Collected for this report.

ft = feet

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**APPENDIX D**  
**Terrestrial Ecological Evaluation (TEE)**

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## APPENDIX D TERRESTRIAL ECOLOGICAL EVALUATION

### 1.0 TERRESTRIAL ECOLOGICAL EVALUATION

A terrestrial ecological evaluation (TEE) was conducted for the West Olympia Landfill Site (Site) consistent with Washington Administrative Code (WAC) 173-340-7490. The purpose of the TEE is to evaluate whether hazardous substances detected in soil at a site pose a threat to terrestrial receptors (plants, soil biota, and wildlife). The steps followed are described in the following sections.

#### 1.1. TEE Exclusions

WAC 173-340-7491(1) outlines four criteria for determining that no further evaluation is required. A TEE is not required if a site meets any of these criteria:

- “All soil contaminated with hazardous substances, is, or will be, located below the point of compliance.” The standard point of compliance is 15 feet and the conditional point of compliance is 6 feet. The Site does not meet this criterion because contaminants have been detected in soil within the upper 6- and 15-feet.
- “All soil contaminated with hazardous substances is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination.” The Site is not covered; there are no barriers preventing terrestrial receptors from contacting contaminated soil. The Site does not currently meet this criterion.
- “There is less than 0.25 acres of contiguous undeveloped land on the site or within 500 feet of any area of the site.” The 0.25 acres criterion is applicable to sites where PCBs have been detected such as the Site. The Site does not meet this criterion because the Site includes approximately 12 acres of undeveloped land.
- “Concentrations of hazardous substances in soil do not exceed natural background levels.” The Site does not meet this criterion as chromium and lead are detected in soil at concentrations greater than respective background levels and organic compounds, which do not have natural background levels, were also detected in soil.

The Site does not qualify for a TEE exclusion.

#### 1.2. Simplified or Site-Specific TEE Determination

A simplified or site-specific TEE is required for sites that do not qualify for a TEE exclusion. A site-specific TEE is required if a site meets any of the four criteria outlined in WAC 173-340-7491(2):

- “The site is located on, or directly adjacent to, an area where management or land use plans will maintain or restore native or semi-native vegetation.” The Site does not meet this criterion.
- “The site is used by a threatened or endangered species, wildlife species classified as priority species or species of concern, or plants classified as endangered, threatened, or sensitive.” The Site does not meet this criterion. Three Washington Department of Fish and Wildlife (WDFW) priority species (Big Brown Bat – *Eptesicus fuscus*; Little Brown Bat – *Myotis lucifugus*; and Yuma myotis – *Myotis*

*yumanensis*) have been observed in the Olympia area (see Attachment A); however, these species are not expected to live, feed, or breed at the site.

- “The site is located on a property that contains at least ten acres of native vegetation within 500 feet of the site, not including vegetation beyond the property boundaries.” The Site does not meet this criterion.
- “The department determines that the site may present a risk to significant wildlife populations.” Ecology has not determined that the Site may present a risk to significant wildlife populations.

The Site qualifies for a simplified TEE because none of the four criteria above were met.

### 1.3. Simplified TEE

WAC 173-340-7492 outlines the process for completing a simplified TEE focused on ecological exposure, exposure pathways, and contaminants detected in soil. The screening steps in WAC 173-340-7492(2) identify conditions where the simplified TEE may be ended if the conditions are met.

- **Exposure Analysis:** “The total area of soil contamination at the site is not more than 350 square feet.” The Site, which is approximately 12 acres, does not meet this criterion.
- **Exposure Analysis:** “Land use at the site and surrounding area makes substantial wildlife exposure unlikely.” The Site does not meet this criterion. This determination was made following completion of Model Toxics Control Act (MTCA) Table 749-1 (Simplified Terrestrial Ecological Evaluation – Exposure Analysis Procedure; Attachment B).
- **Pathways Analysis:** “The evaluation may be ended if there are no potential exposure pathways from soil contamination to soil biota, plants, or wildlife.” As noted previously, there are no barriers preventing terrestrial receptors from contacting contaminated soil. The Site does not meet this criterion.
- **Contaminants Analysis:** “The evaluation may be ended if contaminants included in Table 749-2 have not been detected in soil samples obtained within the conditional or standard points of compliance at concentrations greater than the soil concentrations in Table 749-2.” The Site does not meet this criterion.

The Site does not meet any of the criteria for ending the simplified TEE. Therefore, the soil concentrations in MTCA Table 749-2 for unrestricted land use were used to develop soil screening levels for the site (see Table 3-1).

**ATTACHMENT A**  
**Priority Habitats and Sensitive Species**

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# WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPublic  
REPORT DATE: 04/23/2018 12.22

Query ID: P180423122202

Common Name Scientific Name Notes	Site Name Source Dataset Source Record Source Date	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Big brown bat Eptesicus fuscus	WS_OccurPoint 131101 August 11, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Big brown bat Eptesicus fuscus	WS_OccurPoint 131092 August 02, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Big brown bat Eptesicus fuscus	WS_OccurPoint 143891 July 30, 2017	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Big brown bat Eptesicus fuscus	WS_OccurPoint 131077 August 04, 2012	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 141078 June 04, 2004	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 107426 June 21, 2006	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 145126 June 22, 2017	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points

Common Name Scientific Name	Site Name Source Dataset Source Record	Priority Area Occurrence Type More Information (URL)	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Notes	Source Date	Mgmt Recommendations				
Little Brown Bat Myotis lucifugus	WS_OccurPoint 141075 June 01, 2004	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 131085 July 30, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 110004 May 14, 2007	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 131090 August 09, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 141080 July 01, 2015	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 107427 June 21, 2006	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 131091 August 02, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 145127 June 22, 2017	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points



Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Record	More Information (URL)		PHS Listing Status		
	Source Date	Mgmt Recommendations				
Yuma myotis		Communal Roost	GPS	N/A	Y	WA Dept. of Fish and Wildlife
Myotis yumanensis	WS_OccurPoint 144587	Biotic detection		N/A	TOWNSHIP	Points
	May 03, 2017	<a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>		PHS LISTED		
Yuma myotis		Communal Roost	GPS	N/A	Y	WA Dept. of Fish and Wildlife
Myotis yumanensis	WS_OccurPoint 131099	Biotic detection		N/A	TOWNSHIP	Points
	August 07, 2013	<a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>		PHS LISTED		
Yuma myotis		Communal Roost	GPS	N/A	Y	WA Dept. of Fish and Wildlife
Myotis yumanensis	WS_OccurPoint 131086	Biotic detection		N/A	TOWNSHIP	Points
	July 30, 2013	<a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>		PHS LISTED		








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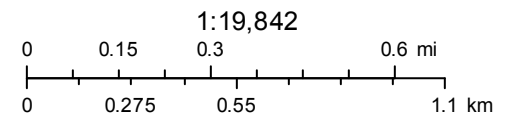
DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

# WDFW Test Map



April 23, 2018

- |  |   |  |
|--|---|--|
|  PHS Report Clip Area | <b>POLY</b>   |  QTR-TWP  |
|  PT                   |  AS MAPPED |  TOWNSHIP |
|  LN                   |  SECTION   |  |



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**ATTACHMENT B**  
**Table 749-1**

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**Table 749-1 (Former West Olympia Landfill)**

**Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure**

Estimate the area of contiguous (connected) <u>undeveloped land</u> on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).																						
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.																						
	<table border="1"> <thead> <tr> <th>Area (acres)</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>0.25 or less</td><td>4</td></tr> <tr><td>0.5</td><td>5</td></tr> <tr><td>1.0</td><td>6</td></tr> <tr><td>1.5</td><td>7</td></tr> <tr><td>2.0</td><td>8</td></tr> <tr><td>2.5</td><td>9</td></tr> <tr><td>3.0</td><td>10</td></tr> <tr><td>3.5</td><td>11</td></tr> <tr><td>4.0 or more</td><td>12</td></tr> </tbody> </table>	Area (acres)	Points	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	12
Area (acres)	Points																					
0.25 or less	4																					
0.5	5																					
1.0	6																					
1.5	7																					
2.0	8																					
2.5	9																					
3.0	10																					
3.5	11																					
4.0 or more	12																					
2) Is this an <u>industrial</u> or <u>commercial</u> property? If yes, enter a score of 3. If no, enter a score of 1		1																				
3) <sup>a</sup> Enter a score in the box to the right for the habitat quality of the site, using the following rating system <sup>b</sup> . High=1, Intermediate=2, Low=3		3																				
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. <sup>c</sup>		1																				
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.		1																				
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.		6																				

**Notes for Table 749-1**

<sup>a</sup> It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

<sup>b</sup> **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

**Low:** Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.

**High:** Area is ecologically significant for one or more of the following reasons: Late-[successional](#) native plant communities present; relatively high species diversity; used by an uncommon or rare species; [priority habitat](#) (as defined by the Washington Department of fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.

**Intermediate:** Area does not rate as either high or low.

<sup>c</sup> Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use b mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

[\[Area Calculation Aid\]](#) [\[Aerial Photo with Area Designations\]](#) [TEE Table 749-1] [\[Index of Tables\]](#)

[\[Exclusions Main\]](#) [\[TEE Definitions\]](#) [\[Simplified or Site-Specific?\]](#) [\[Simplified Ecological Evaluation\]](#) [\[Site-Specific Ecological Evaluation\]](#) [\[WAC 173-340-7493\]](#)

[\[TEE Home\]](#)

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**APPENDIX E**  
**Environmental Chemistry**

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## **APPENDIX E ENVIRONMENTAL CHEMISTRY**

### **1.0 IHS FATE AND TRANSPORT AT THE WOLF SITE**

This appendix describes the fate and transport of the indicator hazardous substances (IHSs) at the West Olympia Landfill Site (Site) to evaluate the potential for contaminant migration, and the pathways and contaminant-specific properties that will need to be addressed by the remedies evaluated in the Feasibility Study (FS) for Site cleanup.

Based on the Remedial Investigation (RI) findings, the source of the IHSs detected in soil, groundwater and soil gas at the Site is waste material from undocumented sources that was placed at the former landfill property during historical dumping and landfill operations from prior to 1939 (before the City acquired the property) to the late 1960s. The contaminants identified as the IHSs for the Site as a result of the fill and waste material placed on the former landfill property are as the follows:

- Metals (chromium and lead); and
- Volatile organic compounds (VOCs; 1,4-dichlorobenzene, tetrachloroethene [PCE], and trichloroethene [TCE]).

#### **1.1. Environmental Chemistry of the IHSs**

This section generally describes the environmental chemistry for the identified IHSs at the Site which form the basis of the fate and transport of the IHSs, as discussed below.

##### **1.1.1. Metals (Chromium and Lead)**

Chromium and lead are naturally occurring, and persistent metals present in soil that are not naturally degraded. The mobility of chromium in soil is dependent on the speciation of the chromium present, which is a function of redox potential and the pH of the soil. In most soil, chromium will be present in the chromium (III) (+3) oxidation state. Under reducing conditions, chromium (III) is present and has low solubility and low reactivity resulting in low mobility in the environment. Under oxidizing conditions, chromium (VI) (+6) may be present in soil. Mobility studies have found that chromium forms insoluble complexes resulting in minimal leaching from the soil (ATSDR 2018).

Lead bonds with a wide variety of other elements producing inorganic and organic compounds. Lead exists in the environment in three oxidation states that include +4 (tetravalent lead), +2 (divalent lead) and 0 (elemental lead). Of these, the +2-oxidation state is most common. Lead is unlikely to change oxidation state in response to typical environmental redox conditions and is considered to have low to very low solubility or to be insoluble. Materials onto/into which lead sorbs (adsorb/absorb) include soil and organic matter. Aluminum, iron, and manganese oxides and hydroxides are examples of materials that are widely distributed in soils onto which lead readily sorbs. In general, the solubility of lead increases with a decrease in pH. Lead is considered to have low solubility at a pH of 8, becomes more soluble as the pH decreases to 5, and the solubility substantially increases between pH 5 and 3.3 (ASTDR 2018).

Based on the RI data, concentrations of chromium and lead greater than the screening levels (SLs) are not generally present in groundwater indicating that conditions at the Site are not favorable for the leaching of these contaminants of concern (COCs) from soil to groundwater.

### 1.1.2. Volatile Organic Compounds (1,4-dichlorobenzene, PCE, and TCE)

Of the three VOCs identified as IHSs at the Site, TCE is the most volatile. TCE is highly volatile with a vapor pressure (VP) of 74 mm Hg at 25 degrees Celsius (°C). The high volatility is the predominant chemical property in the partitioning and environmental transport of TCE. TCE is moderately soluble in water with a solubility of 1,100 milligrams per liter (mg/L) at 25 °C and the Henry's law constant for TCE indicates that TCE readily partitions from water to air. The measured soil partitioning coefficients (KOC = 94 liters per kilogram [L/kg]) for TCE indicates that TCE readily partitions from soil to water.

The vapor pressures, solubilities, Henry's law constants and soil partitioning coefficients of PCE and 1,4-dichlorobenzene are shown in the table below as compared to the values discussed for TCE. The vapor pressure values were obtained from the National Institute of Health's PubChem Database, while the values for remaining parameters were obtained from Washington State Department of Ecology's (Ecology's) Cleanup Levels and Risk Calculation [CLARC] data tables from August 2015.

Chemical Name	Vapor Pressure (mm Hg at 25 °C)	Aqueous Solubility (mg/L)	Henry's Law Constant (unitless)	Soil Organic Carbon-water Partitioning Coefficient (mg/L)
TCE	74	1,100	0.422	94
PCE	18.5	200	0.754	280
1,4-dichlorobenzene	1.74	73.8	0.0966	616

## 1.2. Environmental Transport

### 1.2.1. Soil and Waste

The waste and undocumented fill soil placed at the Site prior to the late 1960s have been identified as the primary sources of contamination at the Site. The waste and fill soil are exposed at the ground surface on portions of the former landfill property and therefore are exposed to mechanisms that can cause physical transport including human activities (walking, driving, excavation), animal activities (burrowing), wind (windborne dust), and water (precipitation runoff).

### 1.2.2. Groundwater

The environmental chemistry described in the previous section affects the transport of TCE in groundwater. At the Site, TCE-containing waste was likely released in liquid (solvent) form as part of the historical dump and landfilling activities. Liquid in the unsaturated zone will migrate vertically downward under gravity until it is stopped by a less permeable confining layer (like the consolidated silt and clay Qgt unit at the Site). Additionally, some liquid becomes entrained in soil pore spaces and is left behind in the unsaturated zone. Over time, through contact with precipitation infiltration and/or shallow perched groundwater, the TCE in the form of non-aqueous phase liquid (NAPL) at the Site has likely become dissolved phase in groundwater, which is likely why TCE has primarily been detected in groundwater and is not considered an IHS for soil.

Advection by precipitation infiltration combined with groundwater bulk flow is the primary transport process for TCE in solution (dissolved phase TCE). To a lesser degree, dispersion, diffusion, and mixing (if present) will also affect TCE distribution and transport in groundwater. Other transport mechanisms for TCE in groundwater include solute transport in the unconfined Qgo aquifer, solute diffusion through the Qgt aquitard, and solute transport through the confined Qga aquifer. As shown on Figure 5-1, infiltration and leaching (through contact with shallow groundwater) result in potential secondary pathways for TCE transport as follows:

1. Shallow groundwater rises, or precipitation infiltration contacts the fill and/or waste layers where residual TCE source(s) may exist, and dissolved phase TCE is transported to the unconfined and discontinuous Qgo aquifer;
2. Dissolved phase TCE in the Qgo aquifer may diffuse through the Qgt aquitard in locations where it is thin, or seams of higher permeability sands and gravels create preferential pathways and enters the confined Qga aquifer; and finally
3. TCE is transported through the Qga aquifer predominantly via advection.

Site data from wells LAI-1, LAI-2, LAI-MW-2, and PGG-1 show that TCE is present in the Qga aquifer in the northwest corner of the Site; the groundwater data from well OLY-1 also suggest that TCE has been transported through advection to downgradient locations.

### **1.2.3. Soil Gas**

Organic contaminants can volatilize directly from soil and groundwater. The equilibrium relationship between the concentration of a VOC in soil gas that is in contact with groundwater containing the same compound in the dissolved (aqueous) phase is described by Henry's Law. Henry's Law states that the concentration of an organic compound in soil gas is proportional to the compound's dissolved concentration in groundwater. Soil VOC data can be useful to characterize the nature and extent of subsurface VOC sources. However, Ecology, the United States Environmental Protection Agency [EPA] and California EPA/Department of Toxic Substances Control [Cal-EPA/DTSC] do not recommend using soil data to estimate the potential for vapor intrusion because of the uncertainty in the relationship between VOCs in soil and in soil gas (Ecology 2016, EPA 2015, Cal-EPA/DTSC 2011).

Soil gas sampling results for the Site are presented in Section 4.4. The results suggest that some of the IHS concentrations (i.e. 1,4-dichlorobenzene, PCE, and TCE) in the waste, soil and/or groundwater are sufficient based on volatility to allow transport to soil gas at concentrations greater than Model Toxics Control Act (MTCA) Method B soil gas screening levels under equilibrium conditions.

#### **1.2.3.1. Soil Gas Sources**

If the source for the soil gas is in the vadose zone (i.e., waste or soil contamination), soil gas can migrate radially in all directions via diffusion (i.e., upward toward the atmosphere, laterally outward, and downward toward the water table). If the soil gas source is the upper-most zone of groundwater, the vapors have the potential to migrate upward toward the atmosphere via diffusion. If the VOCs in groundwater are not present in the upper-most zone, vapor migration will be impeded by the shallower groundwater. Soil gas in the vadose zone can also be impeded by high soil moisture, low-permeability (generally fine-grained) soil, and biodegradation.

### **1.2.3.2. Soil Gas Transport**

Soil gas transport in the subsurface is via diffusion and advection. Diffusion affects the distribution of soil gas when there are spatial differences in chemical concentrations in the soil gas. The net direction of diffusive transport is toward the lower chemical concentrations.

Advection occurs in the vadose zone when there is bulk movement of soil gas induced by spatial differences in soil gas pressure. The direction of advective vapor transport is always toward the direction of lower air pressure. Advection is generally expected to occur near buildings because the temperature difference between the building interior and the subsurface, and the operation of heating, ventilation, and air conditioning (HVAC) units in the building, can create driving forces for soil gas entry. Advection may also occur near the ground surface due to fluctuations in barometric pressure. This can occur at landfills when methane generation from anaerobic degradation of organic material is sufficiently high.

Vapor migration via advection and diffusion is often along preferential subsurface pathways such as utility corridors or more porous zones of soil, or beneath surface barriers that limit the direction of soil gas migrations (e.g., asphalt).

### **1.2.4. Landfill Gas Production**

Landfill gas is generated during the natural decomposition of buried refuse and wood waste at the Site. Landfill gas is composed primarily of methane and carbon dioxide, but also contains water vapor, odorous compounds, and typically trace levels of VOCs. When generated, landfill gas slowly migrates through the subsurface, ultimately venting to the atmosphere unless it encounters confining or impermeable barriers. Because the waste has been buried at the Site since the late 1960s, it is likely that decomposition is mostly complete, and ongoing landfill gas generation is limited. Additionally, the practice of waste burning has been reported at this landfill, which would have greatly decreased the methane-generating capacity of the waste. However, even small amounts of landfill gas must be provided a ventilation pathway so that it does not accumulate to concentrations that could cause safety or health risks.

The current production of landfill gas was estimated using EPA's LandGEM spreadsheet model—the industry standard approach for estimating landfill gas emissions for regulatory compliance, and a tool for landfill gas control system design. The estimate is based on the waste age, type, quantity of buried waste, and the subsurface environment. The landfill gas generation modeling report is included as Appendix G, and is discussed below.

LandGEM estimates the overall flow rate of landfill gas from a municipal solid waste landfill based on user input regarding the amount of waste buried, the year of burial, and other parameters developed by the EPA based on landfills across the United States. Emissions factors used in the model are from the Compilation of Air Pollutant Emission Factors (AP-42). The model allows variation of parameters affecting the overall landfill gas production capacity of the waste (given infinite time), and the rate at which the landfill gas is released, which typically varies based on moisture content of the waste. Each of these variable parameters are constrained in the model to typically observed ranges.

Based on data available from previous soil gas investigations, approximately 160,000 cubic yards (yd<sup>3</sup>) of waste was buried at the Site between 1950 and 1968. The model assumes a constant rate of waste burial. The quantity of waste buried at the Site is relatively small in comparison to modern landfills, and additionally, because the waste is relatively old, it has likely already exhausted most of the original landfill

gas producing potential. As shown graphically in Appendix G on Figure G-1, the modeled landfill gas production rate estimates indicate an approximate average total landfill gas generation rate of approximately 7.2 cubic feet per minute (cfm) for year 2018. This estimated rate of landfill gas production rate is low, as expected, and appears to be consistent with the low levels of methane detected at the Site.

#### **1.2.5. Vapor Intrusion Assessment**

In addition to landfill gas and its typical constituents, some VOCs may be present in the subsurface due to releases or disposal of associated waste. As discussed in Section 4.4, soil gas characterization has been conducted to evaluate the concentrations of VOCs present throughout the Site. The landfill gas control system that is anticipated to be a part of any proposed Site development plan, as warranted, will be designed to address these VOCs by providing capture, treatment if necessary, and ventilation of these gasses.

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**APPENDIX F**  
**Site Photographs**

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Photograph 1. Southeast entrance to the site.



Photograph 2. Typical vegetation in the southeast portion of the site.



Photograph 3. Forested habitat in the north side of the site. The understory is dominated by Himalayan blackberry.



Photograph 4. Forested area towards the center of the property. Understory is dominated by Himalayan blackberry. Chunks of concrete can be observed towards the bottom of the photograph.

<b>Site Photographs</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Appendix F</b>





Photograph 5. Forested area towards the center of the property. Understory is dominated by Himalayan blackberry. Chunks of concrete can be observed.



Photograph 6. Forested area towards the center of the property. Understory is dominated by Himalayan blackberry.



Photograph 7. Forested area towards the center of the property. Chunks of concrete can be observed towards the bottom of the photograph.



Photograph 8. Forested area towards the center of the property. Understory is dominated by Himalayan blackberry. Forested canopy includes Douglas fir and red alder.

## Site Photographs

West Olympia Landfill Site  
Olympia, WA





Photograph 9. Western area of the property dominated by deciduous canopy with Himalayan blackberry and grasses in the understory.



Photograph 10. Western area of the property dominated by deciduous canopy with Himalayan blackberry and grasses in the understory.



Photograph 11. Western area of the property dominated by deciduous canopy with Himalayan blackberry and grasses in the understory.



Photograph 12. Western area of the property dominated by deciduous canopy with Himalayan blackberry and grasses in the understory.

<b>Site Photographs</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Appendix F</b>





Photograph 13. Southwest area of the property in a disturbed open area. Vegetation is dominated by Himalayan blackberry and grasses.



Photograph 14. Southwest area of the property in a disturbed open area. Vegetation is dominated by Himalayan blackberry and grasses.



Photograph 15. Southwest area of the property in a disturbed open area. Vegetation is dominated by Himalayan blackberry and grasses.



Photograph 16. Southwest area of the property in a disturbed open area. Vegetation is dominated by Himalayan blackberry and grasses.

### Site Photographs

West Olympia Landfill Site  
Olympia, WA



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Photograph 17. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 18. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 19. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 20. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.

<b>Site Photographs</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Appendix F</b>





Photograph 21. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 22. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 23. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.



Photograph 24. Photograph location is towards the center of the property in previously disturbed areas. Dominant vegetation consists of Himalayan blackberry and grasses.

<b>Site Photographs</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Appendix F</b>





Photograph 25. Potential wetland area dominated by reed canarygrass. Area is located in the south end of the property.



Photograph 26 . Potential wetland area dominated by reed canarygrass. Area is located in the south end of the property.



Photograph 27. Forested area in the south end of the property. Canopy consisted of Douglas fir and black cottonwood.



Photograph 28. Forested area in the south end of the property. Vegetation dominated by Douglas fir, black cottonwood, bracken fern, beaked hazelnut and salal with some scotch broom.

<b>Site Photographs</b>	
West Olympia Landfill Site Olympia, WA	
	<b>Appendix F</b>





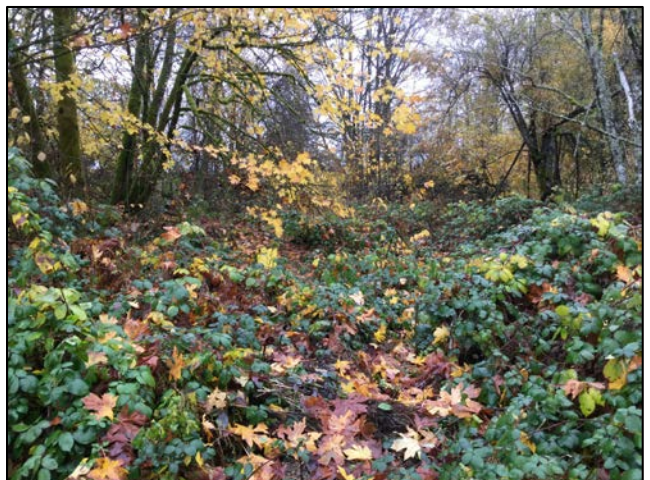
Photograph 29. Forested area in the south end of the property. Vegetation dominated by Douglas fir, black cottonwood, bracken fern, beaked hazelnut and salal with some Pacific madrone and scotch broom.



Photograph 30. From the south edge of the site looking southeast at scotch broom and a grass field.



Photograph 31. Forested area in the south end of the property. Vegetation dominated by Douglas fir, black cottonwood, bracken fern, beaked hazelnut and salal with some scotch broom.



Photograph 32. Northwest forested edge of the site. Bigleaf maple forested canopy with Himalayan blackberry in the understory.

## Site Photographs

West Olympia Landfill Site  
Olympia, WA





Photograph 33. Northwest forested edge of the site. Bigleaf maple forested canopy with Himalayan blackberry in the understory. This area borders a mobile home park.



Photograph 34. Northwest forested edge of the site. Bigleaf maple forested canopy with Himalayan blackberry in the understory. This area borders a mobile home park.



Photograph 35. Forested areas near the northeast side of the property. Dominated by a mixed deciduous and coniferous forested community with Himalayan blackberry, beaked hazelnut, and grasses in the understory.



Photograph 36. Forested area near the northeast side of the property with an understory dominated by grasses.

### Site Photographs

West Olympia Landfill Site  
Olympia, WA



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Photograph 37. Northeastern edge of the site, dominated by forested canopy of black cottonwood with Himalayan blackberry and grasses in the understory.



Photograph 38. North edge of the site adjacent to the mobile home community. A mowed grass area separates the mobile homes from the site.



Photograph 39. North edge of the site, dominated by grasses and Himalayan blackberry.



Photograph 40. North edge of the site, dominated by grasses and Himalayan blackberry.

### Site Photographs

West Olympia Landfill Site  
Olympia, WA



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**APPENDIX G**  
**LandGEM Landfill Gas Generation Modeling Report**

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## Summary Report

**Landfill Name or Identifier:** West Olympia Landfill

**Date:** Wednesday, May 30, 2018

**Description/Comments:**

### About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^n \sum_{j=0.1}^1 kL_o \left( \frac{M_i}{10} \right) e^{-kt_{ij}}$$

Where,

$Q_{CH_4}$  = annual methane generation in the year of the calculation ( $m^3/year$ )

$i$  = 1-year time increment

$n$  = (year of the calculation) - (initial year of waste acceptance)

$j$  = 0.1-year time increment

$k$  = methane generation rate ( $year^{-1}$ )

$L_o$  = potential methane generation capacity ( $m^3/Mg$ )

$M_i$  = mass of waste accepted in the  $i^{th}$  year ( $Mg$ )

$t_{ij}$  = age of the  $j^{th}$  section of waste mass  $M_i$  accepted in the  $i^{th}$  year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <http://www.epa.gov/ttnatw01/landfill/landflpg.html>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.



## Input Review

### LANDFILL CHARACTERISTICS

Landfill Open Year	<b>1950</b>	
Landfill Closure Year (with 80-year limit)	<b>1968</b>	
Actual Closure Year (without limit)	<b>1968</b>	
Have Model Calculate Closure Year?	<b>Yes</b>	
Waste Design Capacity	<b>120,000</b>	<i>short tons</i>

### MODEL PARAMETERS

Methane Generation Rate, k	<b>0.040</b>	<i>year<sup>-1</sup></i>
Potential Methane Generation Capacity, L <sub>0</sub>	<b>100</b>	<i>m<sup>3</sup>/Mg</i>
NMOC Concentration	<b>2,400</b>	<i>ppmv as hexane</i>
Methane Content	<b>40</b>	<i>% by volume</i>

### GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	<b>Total landfill gas</b>
Gas / Pollutant #2:	<b>Methane</b>
Gas / Pollutant #3:	<b>Carbon dioxide</b>
Gas / Pollutant #4:	<b>NMOC</b>

### WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
1950	5,789	6,368	0	0
1951	5,789	6,368	5,789	6,368
1952	5,789	6,368	11,578	12,736
1953	5,789	6,368	17,367	19,104
1954	5,789	6,368	23,156	25,472
1955	5,789	6,368	28,945	31,840
1956	5,789	6,368	34,735	38,208
1957	5,789	6,368	40,524	44,576
1958	5,789	6,368	46,313	50,944
1959	5,789	6,368	52,102	57,312
1960	5,789	6,368	57,891	63,680
1961	5,789	6,368	63,680	70,048
1962	5,789	6,368	69,469	76,416
1963	5,789	6,368	75,258	82,784
1964	5,789	6,368	81,047	89,152
1965	5,789	6,368	86,836	95,520
1966	5,789	6,368	92,625	101,888
1967	5,789	6,368	98,415	108,256
1968	4,887	5,376	104,204	114,624
1969	0	0	109,091	120,000
1970	0	0	109,091	120,000
1971	0	0	109,091	120,000
1972	0	0	109,091	120,000
1973	0	0	109,091	120,000
1974	0	0	109,091	120,000
1975	0	0	109,091	120,000
1976	0	0	109,091	120,000
1977	0	0	109,091	120,000
1978	0	0	109,091	120,000
1979	0	0	109,091	120,000
1980	0	0	109,091	120,000
1981	0	0	109,091	120,000
1982	0	0	109,091	120,000
1983	0	0	109,091	120,000
1984	0	0	109,091	120,000
1985	0	0	109,091	120,000
1986	0	0	109,091	120,000
1987	0	0	109,091	120,000
1988	0	0	109,091	120,000
1989	0	0	109,091	120,000

## WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
1990	0	0	109,091	120,000
1991	0	0	109,091	120,000
1992	0	0	109,091	120,000
1993	0	0	109,091	120,000
1994	0	0	109,091	120,000
1995	0	0	109,091	120,000
1996	0	0	109,091	120,000
1997	0	0	109,091	120,000
1998	0	0	109,091	120,000
1999	0	0	109,091	120,000
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2022	0	0	109,091	120,000
2023	0	0	109,091	120,000
2024	0	0	109,091	120,000
2025	0	0	109,091	120,000
2026	0	0	109,091	120,000
2027	0	0	109,091	120,000
2028	0	0	109,091	120,000
2029	0	0	109,091	120,000

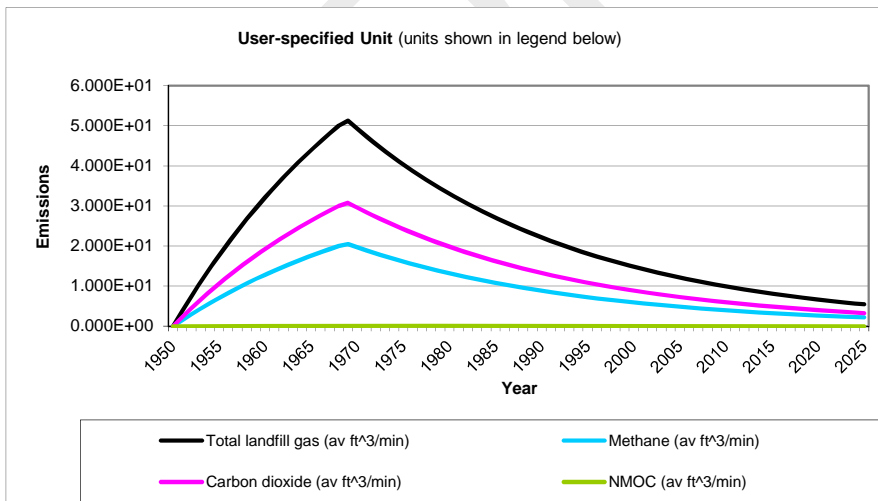
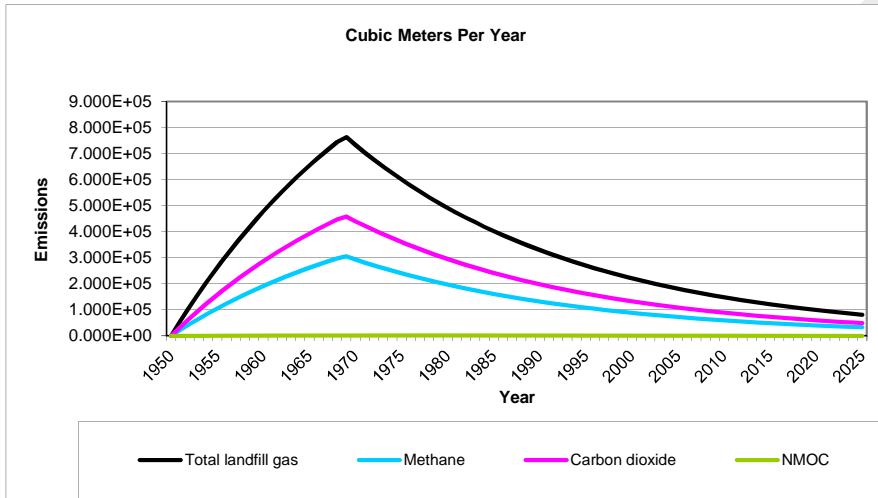
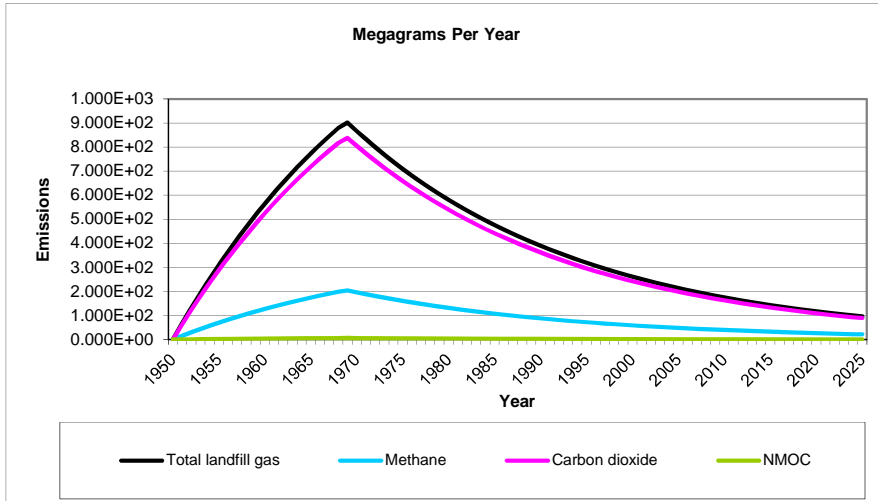
**Pollutant Parameters**

<b>Gas / Pollutant Default Parameters:</b>				<b>User-specified Pollutant Parameters:</b>	
	Compound	Concentration (ppmv)	Molecular Weight	Concentration (ppmv)	Molecular Weight
<b>Gases</b>	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
<b>Pollutants</b>	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41		
	1,1,1,2-Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		



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**Graphs**





## Results

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1950	0	0	0	0	0	0
1951	6.722E+01	5.686E+04	3.821E+00	1.517E+01	2.274E+04	1.528E+00
1952	1.318E+02	1.115E+05	7.491E+00	2.975E+01	4.460E+04	2.997E+00
1953	1.938E+02	1.640E+05	1.102E+01	4.376E+01	6.559E+04	4.407E+00
1954	2.535E+02	2.144E+05	1.441E+01	5.722E+01	8.577E+04	5.763E+00
1955	3.107E+02	2.629E+05	1.766E+01	7.015E+01	1.051E+05	7.065E+00
1956	3.658E+02	3.094E+05	2.079E+01	8.257E+01	1.238E+05	8.316E+00
1957	4.186E+02	3.542E+05	2.380E+01	9.451E+01	1.417E+05	9.518E+00
1958	4.695E+02	3.971E+05	2.668E+01	1.060E+02	1.589E+05	1.067E+01
1959	5.183E+02	4.384E+05	2.946E+01	1.170E+02	1.754E+05	1.178E+01
1960	5.652E+02	4.781E+05	3.212E+01	1.276E+02	1.912E+05	1.285E+01
1961	6.102E+02	5.162E+05	3.468E+01	1.378E+02	2.065E+05	1.387E+01
1962	6.535E+02	5.528E+05	3.714E+01	1.475E+02	2.211E+05	1.486E+01
1963	6.951E+02	5.880E+05	3.951E+01	1.569E+02	2.352E+05	1.580E+01
1964	7.351E+02	6.218E+05	4.178E+01	1.659E+02	2.487E+05	1.671E+01
1965	7.735E+02	6.543E+05	4.396E+01	1.746E+02	2.617E+05	1.758E+01
1966	8.103E+02	6.855E+05	4.606E+01	1.829E+02	2.742E+05	1.842E+01
1967	8.458E+02	7.155E+05	4.807E+01	1.909E+02	2.862E+05	1.923E+01
1968	8.798E+02	7.443E+05	5.001E+01	1.986E+02	2.977E+05	2.000E+01
1969	9.021E+02	7.631E+05	5.127E+01	2.036E+02	3.052E+05	2.051E+01
1970	8.667E+02	7.332E+05	4.926E+01	1.957E+02	2.933E+05	1.971E+01
1971	8.327E+02	7.044E+05	4.733E+01	1.880E+02	2.818E+05	1.893E+01
1972	8.001E+02	6.768E+05	4.548E+01	1.806E+02	2.707E+05	1.819E+01
1973	7.687E+02	6.503E+05	4.369E+01	1.735E+02	2.601E+05	1.748E+01
1974	7.386E+02	6.248E+05	4.198E+01	1.667E+02	2.499E+05	1.679E+01
1975	7.096E+02	6.003E+05	4.033E+01	1.602E+02	2.401E+05	1.613E+01
1976	6.818E+02	5.768E+05	3.875E+01	1.539E+02	2.307E+05	1.550E+01
1977	6.550E+02	5.541E+05	3.723E+01	1.479E+02	2.217E+05	1.489E+01
1978	6.294E+02	5.324E+05	3.577E+01	1.421E+02	2.130E+05	1.431E+01
1979	6.047E+02	5.115E+05	3.437E+01	1.365E+02	2.046E+05	1.375E+01
1980	5.810E+02	4.915E+05	3.302E+01	1.312E+02	1.966E+05	1.321E+01
1981	5.582E+02	4.722E+05	3.173E+01	1.260E+02	1.889E+05	1.269E+01
1982	5.363E+02	4.537E+05	3.048E+01	1.211E+02	1.815E+05	1.219E+01
1983	5.153E+02	4.359E+05	2.929E+01	1.163E+02	1.744E+05	1.172E+01
1984	4.951E+02	4.188E+05	2.814E+01	1.118E+02	1.675E+05	1.126E+01
1985	4.757E+02	4.024E+05	2.704E+01	1.074E+02	1.610E+05	1.081E+01
1986	4.570E+02	3.866E+05	2.598E+01	1.032E+02	1.546E+05	1.039E+01
1987	4.391E+02	3.714E+05	2.496E+01	9.912E+01	1.486E+05	9.983E+00
1988	4.219E+02	3.569E+05	2.398E+01	9.524E+01	1.428E+05	9.592E+00
1989	4.053E+02	3.429E+05	2.304E+01	9.150E+01	1.372E+05	9.215E+00
1990	3.894E+02	3.294E+05	2.214E+01	8.792E+01	1.318E+05	8.854E+00
1991	3.742E+02	3.165E+05	2.127E+01	8.447E+01	1.266E+05	8.507E+00
1992	3.595E+02	3.041E+05	2.043E+01	8.116E+01	1.216E+05	8.173E+00
1993	3.454E+02	2.922E+05	1.963E+01	7.797E+01	1.169E+05	7.853E+00
1994	3.319E+02	2.807E+05	1.886E+01	7.492E+01	1.123E+05	7.545E+00
1995	3.188E+02	2.697E+05	1.812E+01	7.198E+01	1.079E+05	7.249E+00
1996	3.063E+02	2.592E+05	1.741E+01	6.916E+01	1.037E+05	6.965E+00
1997	2.943E+02	2.490E+05	1.673E+01	6.645E+01	9.960E+04	6.692E+00
1998	2.828E+02	2.392E+05	1.607E+01	6.384E+01	9.569E+04	6.429E+00
1999	2.717E+02	2.298E+05	1.544E+01	6.134E+01	9.194E+04	6.177E+00

**Results (Continued)**

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2000	2.610E+02	2.208E+05	1.484E+01	5.893E+01	8.833E+04	5.935E+00
2001	2.508E+02	2.122E+05	1.426E+01	5.662E+01	8.487E+04	5.702E+00
2002	2.410E+02	2.039E+05	1.370E+01	5.440E+01	8.154E+04	5.479E+00
2003	2.315E+02	1.959E+05	1.316E+01	5.227E+01	7.834E+04	5.264E+00
2004	2.225E+02	1.882E+05	1.264E+01	5.022E+01	7.527E+04	5.058E+00
2005	2.137E+02	1.808E+05	1.215E+01	4.825E+01	7.232E+04	4.859E+00
2006	2.053E+02	1.737E+05	1.167E+01	4.636E+01	6.949E+04	4.669E+00
2007	1.973E+02	1.669E+05	1.121E+01	4.454E+01	6.676E+04	4.486E+00
2008	1.896E+02	1.604E+05	1.077E+01	4.279E+01	6.414E+04	4.310E+00
2009	1.821E+02	1.541E+05	1.035E+01	4.112E+01	6.163E+04	4.141E+00
2010	1.750E+02	1.480E+05	9.946E+00	3.950E+01	5.921E+04	3.978E+00
2011	1.681E+02	1.422E+05	9.556E+00	3.795E+01	5.689E+04	3.822E+00
2012	1.615E+02	1.366E+05	9.181E+00	3.647E+01	5.466E+04	3.673E+00
2013	1.552E+02	1.313E+05	8.821E+00	3.504E+01	5.252E+04	3.529E+00
2014	1.491E+02	1.261E+05	8.475E+00	3.366E+01	5.046E+04	3.390E+00
2015	1.433E+02	1.212E+05	8.143E+00	3.234E+01	4.848E+04	3.257E+00
2016	1.376E+02	1.164E+05	7.824E+00	3.107E+01	4.658E+04	3.130E+00
2017	1.323E+02	1.119E+05	7.517E+00	2.986E+01	4.475E+04	3.007E+00
2018	1.271E+02	1.075E+05	7.222E+00	2.869E+01	4.300E+04	2.889E+00
2019	1.221E+02	1.033E+05	6.939E+00	2.756E+01	4.131E+04	2.776E+00
2020	1.173E+02	9.923E+04	6.667E+00	2.648E+01	3.969E+04	2.667E+00
2021	1.127E+02	9.534E+04	6.406E+00	2.544E+01	3.813E+04	2.562E+00
2022	1.083E+02	9.160E+04	6.154E+00	2.444E+01	3.664E+04	2.462E+00
2023	1.040E+02	8.801E+04	5.913E+00	2.349E+01	3.520E+04	2.365E+00
2024	9.995E+01	8.456E+04	5.681E+00	2.256E+01	3.382E+04	2.273E+00
2025	9.603E+01	8.124E+04	5.459E+00	2.168E+01	3.250E+04	2.183E+00
2026	9.227E+01	7.805E+04	5.244E+00	2.083E+01	3.122E+04	2.098E+00
2027	8.865E+01	7.499E+04	5.039E+00	2.001E+01	3.000E+04	2.016E+00
2028	8.518E+01	7.205E+04	4.841E+00	1.923E+01	2.882E+04	1.937E+00
2029	8.184E+01	6.923E+04	4.651E+00	1.847E+01	2.769E+04	1.861E+00
2030	7.863E+01	6.651E+04	4.469E+00	1.775E+01	2.661E+04	1.788E+00
2031	7.554E+01	6.391E+04	4.294E+00	1.705E+01	2.556E+04	1.718E+00
2032	7.258E+01	6.140E+04	4.125E+00	1.639E+01	2.456E+04	1.650E+00
2033	6.974E+01	5.899E+04	3.964E+00	1.574E+01	2.360E+04	1.585E+00
2034	6.700E+01	5.668E+04	3.808E+00	1.513E+01	2.267E+04	1.523E+00
2035	6.437E+01	5.446E+04	3.659E+00	1.453E+01	2.178E+04	1.464E+00
2036	6.185E+01	5.232E+04	3.515E+00	1.396E+01	2.093E+04	1.406E+00
2037	5.942E+01	5.027E+04	3.378E+00	1.342E+01	2.011E+04	1.351E+00
2038	5.709E+01	4.830E+04	3.245E+00	1.289E+01	1.932E+04	1.298E+00
2039	5.486E+01	4.641E+04	3.118E+00	1.238E+01	1.856E+04	1.247E+00
2040	5.270E+01	4.459E+04	2.996E+00	1.190E+01	1.783E+04	1.198E+00
2041	5.064E+01	4.284E+04	2.878E+00	1.143E+01	1.713E+04	1.151E+00
2042	4.865E+01	4.116E+04	2.765E+00	1.098E+01	1.646E+04	1.106E+00
2043	4.675E+01	3.954E+04	2.657E+00	1.055E+01	1.582E+04	1.063E+00
2044	4.491E+01	3.799E+04	2.553E+00	1.014E+01	1.520E+04	1.021E+00
2045	4.315E+01	3.650E+04	2.453E+00	9.741E+00	1.460E+04	9.811E-01
2046	4.146E+01	3.507E+04	2.356E+00	9.359E+00	1.403E+04	9.426E-01
2047	3.983E+01	3.370E+04	2.264E+00	8.992E+00	1.348E+04	9.056E-01
2048	3.827E+01	3.238E+04	2.175E+00	8.640E+00	1.295E+04	8.701E-01
2049	3.677E+01	3.111E+04	2.090E+00	8.301E+00	1.244E+04	8.360E-01
2050	3.533E+01	2.989E+04	2.008E+00	7.976E+00	1.195E+04	8.032E-01

**Results (Continued)**

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2051	3.394E+01	2.871E+04	1.929E+00	7.663E+00	1.149E+04	7.717E-01
2052	3.261E+01	2.759E+04	1.854E+00	7.362E+00	1.104E+04	7.415E-01
2053	3.133E+01	2.651E+04	1.781E+00	7.074E+00	1.060E+04	7.124E-01
2054	3.011E+01	2.547E+04	1.711E+00	6.796E+00	1.019E+04	6.845E-01
2055	2.893E+01	2.447E+04	1.644E+00	6.530E+00	9.788E+03	6.576E-01
2056	2.779E+01	2.351E+04	1.580E+00	6.274E+00	9.404E+03	6.318E-01
2057	2.670E+01	2.259E+04	1.518E+00	6.028E+00	9.035E+03	6.071E-01
2058	2.565E+01	2.170E+04	1.458E+00	5.791E+00	8.681E+03	5.833E-01
2059	2.465E+01	2.085E+04	1.401E+00	5.564E+00	8.340E+03	5.604E-01
2060	2.368E+01	2.003E+04	1.346E+00	5.346E+00	8.013E+03	5.384E-01
2061	2.275E+01	1.925E+04	1.293E+00	5.137E+00	7.699E+03	5.173E-01
2062	2.186E+01	1.849E+04	1.243E+00	4.935E+00	7.397E+03	4.970E-01
2063	2.100E+01	1.777E+04	1.194E+00	4.742E+00	7.107E+03	4.775E-01
2064	2.018E+01	1.707E+04	1.147E+00	4.556E+00	6.829E+03	4.588E-01
2065	1.939E+01	1.640E+04	1.102E+00	4.377E+00	6.561E+03	4.408E-01
2066	1.863E+01	1.576E+04	1.059E+00	4.205E+00	6.304E+03	4.235E-01
2067	1.790E+01	1.514E+04	1.017E+00	4.041E+00	6.056E+03	4.069E-01
2068	1.720E+01	1.455E+04	9.774E-01	3.882E+00	5.819E+03	3.910E-01
2069	1.652E+01	1.398E+04	9.391E-01	3.730E+00	5.591E+03	3.756E-01
2070	1.587E+01	1.343E+04	9.023E-01	3.584E+00	5.372E+03	3.609E-01
2071	1.525E+01	1.290E+04	8.669E-01	3.443E+00	5.161E+03	3.468E-01
2072	1.465E+01	1.240E+04	8.329E-01	3.308E+00	4.959E+03	3.332E-01
2073	1.408E+01	1.191E+04	8.003E-01	3.178E+00	4.764E+03	3.201E-01
2074	1.353E+01	1.144E+04	7.689E-01	3.054E+00	4.577E+03	3.076E-01
2075	1.300E+01	1.099E+04	7.387E-01	2.934E+00	4.398E+03	2.955E-01
2076	1.249E+01	1.056E+04	7.098E-01	2.819E+00	4.225E+03	2.839E-01
2077	1.200E+01	1.015E+04	6.819E-01	2.708E+00	4.060E+03	2.728E-01
2078	1.153E+01	9.751E+03	6.552E-01	2.602E+00	3.901E+03	2.621E-01
2079	1.108E+01	9.369E+03	6.295E-01	2.500E+00	3.748E+03	2.518E-01
2080	1.064E+01	9.002E+03	6.048E-01	2.402E+00	3.601E+03	2.419E-01
2081	1.022E+01	8.649E+03	5.811E-01	2.308E+00	3.459E+03	2.324E-01
2082	9.823E+00	8.310E+03	5.583E-01	2.217E+00	3.324E+03	2.233E-01
2083	9.438E+00	7.984E+03	5.364E-01	2.131E+00	3.194E+03	2.146E-01
2084	9.068E+00	7.671E+03	5.154E-01	2.047E+00	3.068E+03	2.062E-01
2085	8.712E+00	7.370E+03	4.952E-01	1.967E+00	2.948E+03	1.981E-01
2086	8.370E+00	7.081E+03	4.758E-01	1.890E+00	2.832E+03	1.903E-01
2087	8.042E+00	6.803E+03	4.571E-01	1.816E+00	2.721E+03	1.828E-01
2088	7.727E+00	6.537E+03	4.392E-01	1.744E+00	2.615E+03	1.757E-01
2089	7.424E+00	6.280E+03	4.220E-01	1.676E+00	2.512E+03	1.688E-01
2090	7.133E+00	6.034E+03	4.054E-01	1.610E+00	2.414E+03	1.622E-01

**Results (Continued)**

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1950	0	0	0	0	0	0
1951	6.245E+01	3.412E+04	2.292E+00	4.892E-01	1.365E+02	9.169E-03
1952	1.225E+02	6.690E+04	4.495E+00	9.592E-01	2.676E+02	1.798E-02
1953	1.801E+02	9.839E+04	6.611E+00	1.411E+00	3.936E+02	2.644E-02
1954	2.355E+02	1.286E+05	8.644E+00	1.845E+00	5.146E+02	3.458E-02
1955	2.887E+02	1.577E+05	1.060E+01	2.261E+00	6.309E+02	4.239E-02
1956	3.398E+02	1.857E+05	1.247E+01	2.662E+00	7.426E+02	4.990E-02
1957	3.890E+02	2.125E+05	1.428E+01	3.047E+00	8.500E+02	5.711E-02
1958	4.362E+02	2.383E+05	1.601E+01	3.416E+00	9.531E+02	6.404E-02
1959	4.815E+02	2.631E+05	1.767E+01	3.772E+00	1.052E+03	7.070E-02
1960	5.251E+02	2.869E+05	1.927E+01	4.113E+00	1.147E+03	7.710E-02
1961	5.670E+02	3.097E+05	2.081E+01	4.441E+00	1.239E+03	8.324E-02
1962	6.072E+02	3.317E+05	2.229E+01	4.756E+00	1.327E+03	8.915E-02
1963	6.458E+02	3.528E+05	2.371E+01	5.059E+00	1.411E+03	9.482E-02
1964	6.829E+02	3.731E+05	2.507E+01	5.349E+00	1.492E+03	1.003E-01
1965	7.186E+02	3.926E+05	2.638E+01	5.629E+00	1.570E+03	1.055E-01
1966	7.529E+02	4.113E+05	2.764E+01	5.897E+00	1.645E+03	1.105E-01
1967	7.858E+02	4.293E+05	2.884E+01	6.155E+00	1.717E+03	1.154E-01
1968	8.175E+02	4.466E+05	3.001E+01	6.403E+00	1.786E+03	1.200E-01
1969	8.381E+02	4.579E+05	3.076E+01	6.565E+00	1.831E+03	1.231E-01
1970	8.053E+02	4.399E+05	2.956E+01	6.307E+00	1.760E+03	1.182E-01
1971	7.737E+02	4.227E+05	2.840E+01	6.060E+00	1.691E+03	1.136E-01
1972	7.434E+02	4.061E+05	2.729E+01	5.823E+00	1.624E+03	1.091E-01
1973	7.142E+02	3.902E+05	2.622E+01	5.594E+00	1.561E+03	1.049E-01
1974	6.862E+02	3.749E+05	2.519E+01	5.375E+00	1.499E+03	1.008E-01
1975	6.593E+02	3.602E+05	2.420E+01	5.164E+00	1.441E+03	9.680E-02
1976	6.334E+02	3.461E+05	2.325E+01	4.962E+00	1.384E+03	9.300E-02
1977	6.086E+02	3.325E+05	2.234E+01	4.767E+00	1.330E+03	8.936E-02
1978	5.847E+02	3.194E+05	2.146E+01	4.580E+00	1.278E+03	8.585E-02
1979	5.618E+02	3.069E+05	2.062E+01	4.401E+00	1.228E+03	8.249E-02
1980	5.398E+02	2.949E+05	1.981E+01	4.228E+00	1.180E+03	7.925E-02
1981	5.186E+02	2.833E+05	1.904E+01	4.062E+00	1.133E+03	7.615E-02
1982	4.983E+02	2.722E+05	1.829E+01	3.903E+00	1.089E+03	7.316E-02
1983	4.787E+02	2.615E+05	1.757E+01	3.750E+00	1.046E+03	7.029E-02
1984	4.600E+02	2.513E+05	1.688E+01	3.603E+00	1.005E+03	6.753E-02
1985	4.419E+02	2.414E+05	1.622E+01	3.462E+00	9.657E+02	6.489E-02
1986	4.246E+02	2.320E+05	1.559E+01	3.326E+00	9.279E+02	6.234E-02
1987	4.080E+02	2.229E+05	1.497E+01	3.195E+00	8.915E+02	5.990E-02
1988	3.920E+02	2.141E+05	1.439E+01	3.070E+00	8.565E+02	5.755E-02
1989	3.766E+02	2.057E+05	1.382E+01	2.950E+00	8.229E+02	5.529E-02
1990	3.618E+02	1.977E+05	1.328E+01	2.834E+00	7.907E+02	5.312E-02
1991	3.476E+02	1.899E+05	1.276E+01	2.723E+00	7.597E+02	5.104E-02
1992	3.340E+02	1.825E+05	1.226E+01	2.616E+00	7.299E+02	4.904E-02
1993	3.209E+02	1.753E+05	1.178E+01	2.514E+00	7.013E+02	4.712E-02
1994	3.083E+02	1.684E+05	1.132E+01	2.415E+00	6.738E+02	4.527E-02
1995	2.962E+02	1.618E+05	1.087E+01	2.320E+00	6.473E+02	4.349E-02
1996	2.846E+02	1.555E+05	1.045E+01	2.229E+00	6.220E+02	4.179E-02
1997	2.735E+02	1.494E+05	1.004E+01	2.142E+00	5.976E+02	4.015E-02
1998	2.627E+02	1.435E+05	9.644E+00	2.058E+00	5.741E+02	3.858E-02
1999	2.524E+02	1.379E+05	9.266E+00	1.977E+00	5.516E+02	3.706E-02

**Results (Continued)**

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2000	2.425E+02	1.325E+05	8.903E+00	1.900E+00	5.300E+02	3.561E-02
2001	2.330E+02	1.273E+05	8.554E+00	1.825E+00	5.092E+02	3.421E-02
2002	2.239E+02	1.223E+05	8.218E+00	1.754E+00	4.893E+02	3.287E-02
2003	2.151E+02	1.175E+05	7.896E+00	1.685E+00	4.701E+02	3.158E-02
2004	2.067E+02	1.129E+05	7.586E+00	1.619E+00	4.516E+02	3.035E-02
2005	1.986E+02	1.085E+05	7.289E+00	1.555E+00	4.339E+02	2.916E-02
2006	1.908E+02	1.042E+05	7.003E+00	1.494E+00	4.169E+02	2.801E-02
2007	1.833E+02	1.001E+05	6.728E+00	1.436E+00	4.006E+02	2.691E-02
2008	1.761E+02	9.621E+04	6.465E+00	1.380E+00	3.849E+02	2.586E-02
2009	1.692E+02	9.244E+04	6.211E+00	1.325E+00	3.698E+02	2.484E-02
2010	1.626E+02	8.882E+04	5.968E+00	1.273E+00	3.553E+02	2.387E-02
2011	1.562E+02	8.533E+04	5.734E+00	1.224E+00	3.413E+02	2.293E-02
2012	1.501E+02	8.199E+04	5.509E+00	1.176E+00	3.280E+02	2.204E-02
2013	1.442E+02	7.877E+04	5.293E+00	1.129E+00	3.151E+02	2.117E-02
2014	1.385E+02	7.569E+04	5.085E+00	1.085E+00	3.027E+02	2.034E-02
2015	1.331E+02	7.272E+04	4.886E+00	1.043E+00	2.909E+02	1.954E-02
2016	1.279E+02	6.987E+04	4.694E+00	1.002E+00	2.795E+02	1.878E-02
2017	1.229E+02	6.713E+04	4.510E+00	9.625E-01	2.685E+02	1.804E-02
2018	1.181E+02	6.449E+04	4.333E+00	9.247E-01	2.580E+02	1.733E-02
2019	1.134E+02	6.197E+04	4.163E+00	8.885E-01	2.479E+02	1.665E-02
2020	1.090E+02	5.954E+04	4.000E+00	8.536E-01	2.381E+02	1.600E-02
2021	1.047E+02	5.720E+04	3.843E+00	8.202E-01	2.288E+02	1.537E-02
2022	1.006E+02	5.496E+04	3.693E+00	7.880E-01	2.198E+02	1.477E-02
2023	9.666E+01	5.280E+04	3.548E+00	7.571E-01	2.112E+02	1.419E-02
2024	9.287E+01	5.073E+04	3.409E+00	7.274E-01	2.029E+02	1.364E-02
2025	8.923E+01	4.874E+04	3.275E+00	6.989E-01	1.950E+02	1.310E-02
2026	8.573E+01	4.683E+04	3.147E+00	6.715E-01	1.873E+02	1.259E-02
2027	8.237E+01	4.500E+04	3.023E+00	6.452E-01	1.800E+02	1.209E-02
2028	7.914E+01	4.323E+04	2.905E+00	6.199E-01	1.729E+02	1.162E-02
2029	7.603E+01	4.154E+04	2.791E+00	5.956E-01	1.661E+02	1.116E-02
2030	7.305E+01	3.991E+04	2.681E+00	5.722E-01	1.596E+02	1.073E-02
2031	7.019E+01	3.834E+04	2.576E+00	5.498E-01	1.534E+02	1.031E-02
2032	6.744E+01	3.684E+04	2.475E+00	5.282E-01	1.474E+02	9.901E-03
2033	6.479E+01	3.540E+04	2.378E+00	5.075E-01	1.416E+02	9.513E-03
2034	6.225E+01	3.401E+04	2.285E+00	4.876E-01	1.360E+02	9.140E-03
2035	5.981E+01	3.267E+04	2.195E+00	4.685E-01	1.307E+02	8.781E-03
2036	5.746E+01	3.139E+04	2.109E+00	4.501E-01	1.256E+02	8.437E-03
2037	5.521E+01	3.016E+04	2.027E+00	4.325E-01	1.206E+02	8.106E-03
2038	5.305E+01	2.898E+04	1.947E+00	4.155E-01	1.159E+02	7.788E-03
2039	5.097E+01	2.784E+04	1.871E+00	3.992E-01	1.114E+02	7.483E-03
2040	4.897E+01	2.675E+04	1.797E+00	3.836E-01	1.070E+02	7.190E-03
2041	4.705E+01	2.570E+04	1.727E+00	3.685E-01	1.028E+02	6.908E-03
2042	4.520E+01	2.469E+04	1.659E+00	3.541E-01	9.878E+01	6.637E-03
2043	4.343E+01	2.373E+04	1.594E+00	3.402E-01	9.491E+01	6.377E-03
2044	4.173E+01	2.280E+04	1.532E+00	3.268E-01	9.118E+01	6.127E-03
2045	4.009E+01	2.190E+04	1.472E+00	3.140E-01	8.761E+01	5.886E-03
2046	3.852E+01	2.104E+04	1.414E+00	3.017E-01	8.417E+01	5.656E-03
2047	3.701E+01	2.022E+04	1.358E+00	2.899E-01	8.087E+01	5.434E-03
2048	3.556E+01	1.943E+04	1.305E+00	2.785E-01	7.770E+01	5.221E-03
2049	3.416E+01	1.866E+04	1.254E+00	2.676E-01	7.466E+01	5.016E-03
2050	3.282E+01	1.793E+04	1.205E+00	2.571E-01	7.173E+01	4.819E-03

**Results (Continued)**

Year	Carbon dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2051	3.154E+01	1.723E+04	1.158E+00	2.470E-01	6.892E+01	4.630E-03
2052	3.030E+01	1.655E+04	1.112E+00	2.373E-01	6.621E+01	4.449E-03
2053	2.911E+01	1.590E+04	1.069E+00	2.280E-01	6.362E+01	4.274E-03
2054	2.797E+01	1.528E+04	1.027E+00	2.191E-01	6.112E+01	4.107E-03
2055	2.687E+01	1.468E+04	9.864E-01	2.105E-01	5.873E+01	3.946E-03
2056	2.582E+01	1.411E+04	9.478E-01	2.022E-01	5.642E+01	3.791E-03
2057	2.481E+01	1.355E+04	9.106E-01	1.943E-01	5.421E+01	3.642E-03
2058	2.384E+01	1.302E+04	8.749E-01	1.867E-01	5.209E+01	3.500E-03
2059	2.290E+01	1.251E+04	8.406E-01	1.794E-01	5.004E+01	3.362E-03
2060	2.200E+01	1.202E+04	8.076E-01	1.723E-01	4.808E+01	3.231E-03
2061	2.114E+01	1.155E+04	7.760E-01	1.656E-01	4.620E+01	3.104E-03
2062	2.031E+01	1.110E+04	7.455E-01	1.591E-01	4.438E+01	2.982E-03
2063	1.951E+01	1.066E+04	7.163E-01	1.529E-01	4.264E+01	2.865E-03
2064	1.875E+01	1.024E+04	6.882E-01	1.469E-01	4.097E+01	2.753E-03
2065	1.801E+01	9.841E+03	6.612E-01	1.411E-01	3.937E+01	2.645E-03
2066	1.731E+01	9.455E+03	6.353E-01	1.356E-01	3.782E+01	2.541E-03
2067	1.663E+01	9.085E+03	6.104E-01	1.303E-01	3.634E+01	2.442E-03
2068	1.598E+01	8.728E+03	5.865E-01	1.251E-01	3.491E+01	2.346E-03
2069	1.535E+01	8.386E+03	5.635E-01	1.202E-01	3.354E+01	2.254E-03
2070	1.475E+01	8.057E+03	5.414E-01	1.155E-01	3.223E+01	2.165E-03
2071	1.417E+01	7.741E+03	5.201E-01	1.110E-01	3.097E+01	2.081E-03
2072	1.362E+01	7.438E+03	4.997E-01	1.066E-01	2.975E+01	1.999E-03
2073	1.308E+01	7.146E+03	4.802E-01	1.025E-01	2.858E+01	1.921E-03
2074	1.257E+01	6.866E+03	4.613E-01	9.844E-02	2.746E+01	1.845E-03
2075	1.208E+01	6.597E+03	4.432E-01	9.458E-02	2.639E+01	1.773E-03
2076	1.160E+01	6.338E+03	4.259E-01	9.088E-02	2.535E+01	1.703E-03
2077	1.115E+01	6.090E+03	4.092E-01	8.731E-02	2.436E+01	1.637E-03
2078	1.071E+01	5.851E+03	3.931E-01	8.389E-02	2.340E+01	1.572E-03
2079	1.029E+01	5.621E+03	3.777E-01	8.060E-02	2.249E+01	1.511E-03
2080	9.887E+00	5.401E+03	3.629E-01	7.744E-02	2.160E+01	1.452E-03
2081	9.499E+00	5.189E+03	3.487E-01	7.440E-02	2.076E+01	1.395E-03
2082	9.126E+00	4.986E+03	3.350E-01	7.149E-02	1.994E+01	1.340E-03
2083	8.769E+00	4.790E+03	3.219E-01	6.868E-02	1.916E+01	1.287E-03
2084	8.425E+00	4.602E+03	3.092E-01	6.599E-02	1.841E+01	1.237E-03
2085	8.094E+00	4.422E+03	2.971E-01	6.340E-02	1.769E+01	1.188E-03
2086	7.777E+00	4.249E+03	2.855E-01	6.092E-02	1.699E+01	1.142E-03
2087	7.472E+00	4.082E+03	2.743E-01	5.853E-02	1.633E+01	1.097E-03
2088	7.179E+00	3.922E+03	2.635E-01	5.623E-02	1.569E+01	1.054E-03
2089	6.898E+00	3.768E+03	2.532E-01	5.403E-02	1.507E+01	1.013E-03
2090	6.627E+00	3.620E+03	2.433E-01	5.191E-02	1.448E+01	9.730E-04



