



**PLIA Preliminary Planning Assessment  
Illahee Foods  
5507 Illahee Rd NE  
Bremerton, WA 98310**

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**October 10, 2017  
G-Logics Project 01-1129-A  
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October 10, 2017  
G-Logics Project 01-1129-A

Mr. Jim Aho  
Port of Illahee  
PO Box 2357  
Bremerton, WA 98310

**Subject: PLIA Preliminary Planning Assessment  
Illahee Foods  
5507 Illahee Rd NE  
Bremerton, WA 98310**

Dear Mr. Aho:

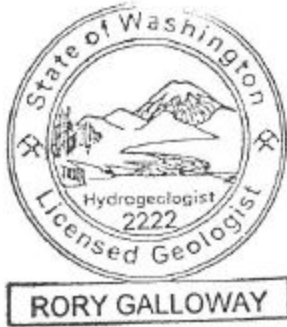
Presented in this report are the results of G-Logics efforts to complete a Preliminary Planning Assessment (PPA) for the above-referenced property. This PPA includes the basic elements of a Remedial Investigation and Focused Feasibility Study (RI/FFS), completed in accordance with Washington's Model Toxics Control Act (MTCA) Regulations.

This report documents the purpose, approach, and results of these efforts. This report also presents G-Logics conclusions and cleanup-action alternative to address soil, groundwater, and soil vapor that may contain petroleum contaminants. Based on available information and analysis, these petroleum contaminants are understood to be associated with a release of gasoline from the automobile-fueling systems and/or possible surface spills.

This report has been prepared in partial fulfillment of the requirements for the subject property's enrollment in the Washington Pollution Liability Insurance Agency's (PLIA) Revolving Loan and Grant Program. This report will be submitted to PLIA with the understanding that the site characterization and identified remedial alternative(s) meet the substantive requirements for cleanup actions under MTCA, specifically WAC 173-340-360.

We trust the information presented in this document meets your needs at this time. Should you require additional information or have any questions, please contact us at your convenience. Thank you again for this opportunity to be of service.

Sincerely,  
**G-Logics, Inc.**



Rory L. Galloway, LG, LHG  
Principal



Anna J. Jordan, LG  
Project Geologist



Dan Hatch, PMP  
Remediation Manager

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## ACRONYMS AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
AS	Air Sparge
AST	Aboveground Storage Tank
CAAs	Cleanup Action Alternatives
COC	Contaminant/Chemical of Concern
CSM	Conceptual Site Model
DCA	Disproportionate Cost Analysis
DPE	Dual-Phase Extraction
DRO	Diesel-Range Organics
Ecology	Washington State Department of Ecology
GRO	Gasoline-Range Organics
MNA	Monitored Natural Attenuation
MTBE	Methyl Tertiary Butyl Ether
MTCA	Model Toxics Control Act
ORO	Oil-Range Organics
PID	Photoionization Detector
PLIA	Pollution Liability Insurance Agency
PPA	Preliminary Planning Assessment
PVA	Petroleum Vapor-Intrusion Assessment
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
RI/FFS	Remedial Investigation and Focused Feasibility Study
SAP	Sampling and Analysis Plan
SVE	Soil Vapor Extraction
TEE	Terrestrial Ecological Evaluation
TPH	Total Petroleum Hydrocarbon
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
WAC	Washington State Administrative Code

## **EXECUTIVE SUMMARY**

This report presents the findings of the subsurface explorations that have taken place on the Property located at 5507 Illahee Rd NE in Bremerton, Washington. The Property is identified as Illahee Foods, which is a vacant former convenience store and gasoline station. These explorations have been conducted to assess the presence, nature, and extent of gasoline and benzene contamination due to releases from underground storage tanks located at the Property. Based on the findings of the conducted explorations, remedial options have been reviewed for possible use.

Based on the compiled information, soil and groundwater contamination exists in the area of the current underground storage tanks (USTs). This contamination extends at least 10 feet to the east from the UST area and would be remediated at time of system-upgrade work. The identified remedial action is soil excavation with off-site disposal of contaminated media.

## **1.0 INTRODUCTION**

Presented in this report are the results of G-Logics efforts to complete a Preliminary Planning Assessment (PPA) for the above-referenced property. This work was conducted to address the requirements of the Pollution Liability Insurance Agency (PLIA). Specifically, we understand that the Port of Illahee has applied for a loan or grant from PLIA to remove the USTs and conduct cleanup work of petroleum contamination at the Property. With this effort, the Port of Illahee would be able to purchase the Property and remodel the building as a community-meeting space. The information presented in this report is intended to satisfy the documentation-support requirements of PLIA's Revolving Loan and Grant Program.

Historically, releases of gasoline are understood to have occurred from underground storage tanks (UST) systems located at the Property. For this PPA, a Remedial Investigation and Focused Feasibility Study (RI/FFS) has been completed to develop and evaluate cleanup-action alternatives such that an appropriate remedial action(s) can be selected. This RI/FFS has been completed in accordance with the requirements of Washington's Model Toxic Control Act (MTCA) regulations, specifically WAC 173-340-350.

### **1.1 Purpose and Objective**

The purpose of this report is to document the nature and extent of petroleum contamination and to present and evaluate cleanup alternatives for the Property. The remedial action(s) identified by this report are intended to meet the substantive requirements for selection of cleanup actions under the MTCA regulations, specifically WAC 173-340-360.

### **1.2 Report Organization**

The primary sections of this report are described below.

**Section 1.0** - This first section of the report introduces and describes the purpose of this PPA.

**Section 2.0** – This section provides background information for the Site, including a review of UST systems.

**Section 3.0** – This section presents a summary of previous environmental work, the findings of completed Site characterization (RI) efforts, and information regarding the nature and extent of contamination.

**Section 4.0** – This section presents a Conceptual Site Model (CSM), a Terrestrial Ecological Evaluation (TEE), and a Petroleum-Vapor Intrusion Assessment (PVA).

**Section 5.0** – This section describes the proposed cleanup levels and points of compliance for the Site.

**Section 6.0** – This section would be where a Focused Feasibility Study would be included. Given the limited contamination found on the Property, Model Remedy Number 1 for Sites with Petroleum Impacts to Groundwater is believed to apply.

**Section 7.0** – This section provides information regarding possible fuel-system upgrades for the Property. Anticipated costs and timelines also are presented in this section.

**Section 8.0** – This section presents information regarding property appraisals, both as the property currently exists and the anticipated value of the property after completion of Site cleanup and/or Fuel-System upgrades.

**Section 9.0** – Summarized conclusions from the completed work are presented in this section.

**Section 10.0** – This section presents recommendations based on the completed work.

**Section 11.0** – This section provides the limitations regarding the work performed, including the provided budgeting estimates for the identified remedial alternatives.

**Section 12.0** – References for the conducted work are listed in this section.

## **2.0 BACKGROUND**

This section provides background information for the Property and surrounding areas.**2.1 General Site Information**

For the purposes of this document, the “Property” refers to the legal parcels owned by the Port of Illahee located at 5507 Illahee Rd NE, Bremerton, WA (Figure 1). The “Site” refers to all areas of soil, groundwater, and/or soil vapor that may have been impacted with petroleum hydrocarbons originating from the Property (Figure 2). Based on existing soil and groundwater data, the Site was not contained within the Property boundaries.

The Port of Illahee Property is located in in Unincorporated Kitsap County near the City of Bremerton, WA. The Property is identified as “Neighborhood Commercial”, and the surrounding areas are identified as either “Urban Restricted (1-5DU/Ac)” or “Greenbelt (1-4 DU/Ac)”, according to Kitsap County’s Comprehensive Zoning Map. Site information is further presented below.

**Site Name:** Illahee Foods

**Site Address:** 5507 Illahee Road NE

**Facility/Site No.:** 79247626

**Quarter Section Township Range:** SW Quarter, Section 31, T25N, R2E

**Tax Parcels:** 4429-015-001-0309

**Zoning Designation:** Neighborhood Commercial

**CS ID:** 14022

**VCP Project No.:** N/A

### ***2.1.1 Current UST System Components***

One former UST was reportedly located on the northwest portion of the Site, as noted during an interview with Mr. Jim Aho, Port Commissioner with the Port of Illahee. No information regarding the construction materials, date of installation, stored contents, system repairs, or date of closure were available.



Three additional USTs are currently located on the Property. According to Ecology's UST database, the three USTs were all installed in 1980, and were reportedly upgraded in 1998. No information regarding the type of upgrades was provided by Ecology. All three are single-wall, steel USTs with leak detection systems and impressed-current corrosion-protection systems. The first is a 4,000-gallon tank previously used for storing leaded gasoline. The second is a 4,000-gallon tank previously used for storing unleaded gasoline. The third is a 6,000-gallon tank also previously used for storing unleaded gasoline. The tanks have been out of service since approximately 2002. According to a previous report by Langseth Environmental (copy in Appendix A), the leak detection and corrosion protection systems were shut off when the station ceased to sell gasoline. According to Mr. Aho, the USTs were emptied of remaining product.

## **2.2 Site History**

The subject property is located on Illahee Road Northeast in Bremerton, Washington (Figure 1). The property is currently vacant, but was historically occupied by two generations of gasoline stations, and a convenience market. Figure 2 shows the current building, the approximate location of the UST associated with the former gasoline station, and the current UST system. The property has not been operational since 2003. G-Logics understands that in 2016, Langseth Environmental prepared a Site Investigation Report. As part of this work, a total of 5 borings were completed to a maximum depth of 13 feet, adjacent to the current UST and pump island locations. Soil samples were analyzed for gasoline-range total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylene (BTEX), and lead.

Mr. Aho stated that the former grocery store and station was constructed on the property prior to World War II, with the former UST located on the northwest portion of the Property. The dispenser was located near the eastern boundary of the Property (see historical photographs provided by Mr. Aho in Appendix A). Mr. Aho also stated a second dispenser was installed for leaded gasoline towards the end of World War II, apparently in the same general location.

Historical records for the Property indicate that the existing building was constructed in 1979, and the three existing USTs were installed in 1980. According to Mr. Aho, remaining product was reportedly removed from the USTs. The Property reportedly has been vacant since 2002.

### **2.2.1 Surrounding Property Descriptions and Land Use**

The surrounding area consists of residential and community properties. The Property is bordered by Oceanview Boulevard to the northeast and Allview Boulevard NE to the southeast (Figure 1).

The properties to the immediate north, south, and west of Illahee Foods are occupied by single-family residences. The property to the east is occupied by the Illahee Community Center. Illahee Preserve is located to the west and uphill from the Property. The nearest body of surface water is Port Orchard Bay, located approximately 235 feet to the east.

### **2.3 Site Use**

The Property is currently vacant and has been since approximately 2003.

### **2.4 Geology and Hydrogeology**

Based on the 2016 Washington DNR regional geologic map, this map indicates that the surface of the Site is underlain by Continental Glacial Outwash (Qgo). Glacial outwash is described as discontinuous deposits of silt, sand, and gravel.

Our recent sampling activities indicate that the Site is underlain by dense to very dense sand with varying amounts of silt and gravel, and occasional silt lenses, consistent with till. Groundwater was encountered at depths of approximately 9 to 13 feet below the ground surface. Static groundwater levels were measured in monitoring wells between 5 and 13 feet.

## **3.0 SITE EXPLORATIONS**

This section summarizes environmental efforts conducted on the Site, as shown on Figure 3. Soil and groundwater analytical information is summarized on Tables 1 and 2 with the laboratory data reports and validation reports attached in Appendix B. A copy of G-Logics Health and Safety Plan, for the conducted explorations, is included as Appendix C. The completed activities are discussed below.

### **3.1 Previous Site Explorations**

Langseth Environmental Services (Langseth) performed a preliminary subsurface assessment of soil and groundwater conditions at the Property in December 2016. The Langseth exploration discovered soil with gasoline-range contaminants to the east of the existing USTs (Table 1). No groundwater was encountered in any of the borings to the final explored depths of 6 to 13 feet.

#### **3.1.1 Data Gaps**

During Langseth's previous environmental assessment, the depths of the identified contamination were not fully assessed. Specifically, refusal was encountered with the probe rig, limiting the depths of exploration. The previous explorations also did not fully define the extent of the contamination laterally to the south. Groundwater reportedly was not encountered by Langseth, so potential groundwater contamination was not assessed. Additionally, no borings were completed in the reported location of the former UST on the northwest of the Property.

### **3.2 Site Exploration Activities**

To provide information on possible soil and groundwater contamination on the Property, specifically in the identified areas of potential concern, a subsurface exploration was conducted. The exploration included completion of multiple exploratory soil borings, installation of groundwater monitoring wells, and collection of soil and groundwater samples.

Exploration work conducted at this property is further described below. A description of our site-exploration methods is presented in Appendix D. The boring logs are presented in Appendix E. Each boring log presents soil types/field descriptions, sample-screening results, general observations, and a schematic of the monitoring well installed, if applicable.

#### **3.2.1 Utility Survey and GPR Survey**

In June 2017, C-N-I Locates, Ltd. performed a private-utility locate at the Site to identify subsurface utilities. Additionally, a GPR survey of the subject property was performed, with the results discussed in Section 3.2.6.1. Final exploration locations were selected after the utility locations were identified.

### ***3.2.2 Soil Exploration***

On July 12 and 13, 2017, G-Logics completed eight soil borings, with four completed as groundwater monitoring wells (GLMW-1 through GLMW-4). Boring locations were selected based on the findings of the previous investigation by Langseth as well as information provided by Mr. Aho. During drilling, soil samples were collected for soil identification and chemical analysis. A photoionization detector (PID) was used during drilling to screen for volatile organic compounds (VOCs) in the collected soil samples. The results of the PID readings were measured in parts per million by volume (ppmv).

All borings were at least partially drilled using direct-push drilling methods. The four borings completed as groundwater monitoring wells were completed using Hollow Stem Auger (HSA) methods. The borings extended to depths of 6 to 18 feet. During drilling, continuous-core soil samples were collected for soil identification and possible chemical analysis. The borings generally encountered poorly graded (well-sorted) sands with small amounts of silt and gravel. Groundwater was encountered during drilling in seven borings at depths indicated on the boring logs (generally from a depth of 9 to 12 feet).

All samples collected with this initial effort were delivered to Apex Labs. Select soil samples were submitted for analysis by NWTPH-Gx, NWTPH-Dx/Dx Ext, EPA 200.8, and EPA 8260B methods. The selection of samples was determined based on visual observations of the soil conditions and the noted PID readings. The results of this work are presented in Section 3.2.6.2 below.

### ***3.2.3 Monitoring Well Installation and Sampling***

Groundwater monitoring wells were installed into four of the completed borings to obtain information regarding possible groundwater contamination. Groundwater samples were collected from the installed wells (GLMW-1, GLMW-2, GLMW-3, and GLMW-4). Collected samples from each well were submitted to the analytical laboratory and analyzed for petroleum contaminants by methods NWTPH-Gx, NWTPH-Dx, EPA 8260B, and EPA 200.8. Initially, only analysis for gasoline, diesel, and oil-range hydrocarbons, benzene, toluene, ethylbenzene and xylenes (BTEX), and lead were requested, as these were considered to be the primary contaminants at the Site. Supplementary analysis for MTBE, EDB, and EDC, then were requested based on the findings of the reported concentrations of gasoline -range hydrocarbons. The results of this work are presented in Section 3.2.6.3 below. Groundwater elevations also are discussed in Section 3.2.6.4.

### ***3.2.4 Soil Vapor Sampling***

Given the presence of petroleum contamination, G-Logics performed an initial vapor-intrusion assessment for the Site. For this assessment, we followed the Ecology vapor intrusion guidance documents: *Guidance for Evaluating Soil Vapor Intrusion in Washington State*, dated October 2009, revised February 2016, and the *Implementation Memorandum No. 14*, dated March 31, 2016. The results of this work are presented in Section 3.2.6.5 below.

### ***3.2.5 Quality Assurance/Quality Control***

Quality Assurance/Quality Control (QA/QC) during all G-Logics exploration efforts included generally accepted procedures for sample collection, storage, tracking, documentation, and analysis. G-Logics also completed chain-of-custody documentation during the exploration efforts. Findings of the data quality review are discussed in Section 3.2.6.6 below.

### ***3.2.6 Site Exploration Observations and Findings***

All sampling locations are shown on Figure 3. Figure 4 presents soil analytical results and Figure 5 presents groundwater analytical results. Interpretations of the extent of subsurface contamination are presented as Figures 4 and 5. Exploration results are summarized below.

#### ***3.2.6.1 GPR Survey and Findings***

The GPR survey of the subject property identified three subsurface objects on the eastern portion of the property (Figure 2). These located objects produced GPR features typical of underground storage tanks. The GPR survey also included the approximate area of the former UST, as reported by Mr. Aho. No objects were identified in that area indicating the presence of a possible abandoned UST.

### 3.2.6.2 Soil Sampling and Results

The borings completed during the site exploration were advanced to depths ranging from approximately 6 to 18 feet below ground surface. These borings generally encountered organic soils with gravel to a depth of 0.5 feet and poorly sorted sand with some silt and/ or gravel from 0.5 feet to the explored depths. Presented below is a summary of soil results. Analytical results are presented on Table 1. The analytical laboratory reports, for the analyzed groundwater samples, are attached as Appendix B of this report. Chain-of custody forms also are included in Appendix B.

#### **Petroleum Hydrocarbons and VOCs**

- Gasoline Range Organics (GRO) was detected at concentrations above MTCA Cleanup Levels in GLMW-2, GLMW-3, and Langseth's B-4 and B-5.
- Of the analyzed samples, Diesel Range Organics (DRO) was only detected in GLMW-2 and GLMW-3, but at concentrations below MTCA Cleanup Levels.
- Heavy Oil-Range Organics (ORO) was not detected in any of the analyzed samples.
- Benzene was detected at concentrations above MTCA Cleanup Levels in GLMW-3 and Langseth's B-5. Of the remaining analyzed samples, benzene was only detected in one location, but at a concentration below the MTCA Cleanup Levels.
- Ethylbenzene was detected at concentrations above MTCA Cleanup Levels in Langseth's B-5. Of the remaining analyzed samples, ethylbenzene was detected in four other locations at concentrations below the MTCA Cleanup Levels.
- Toluene and xylenes were not detected at concentrations above the MTCA Cleanup Levels in the analyzed samples.

#### **Lead**

- None of the samples submitted contained lead at concentrations exceeding MTCA Method A cleanup levels.

### 3.2.6.3 Groundwater Sampling and Results

Groundwater was encountered in a sand and gravel layer at sufficient quantities to obtain a sample (GLMW-1 through GLMW-4). Groundwater was generally encountered at depths of approximately 9 to 13 feet during drilling. Monitoring wells were set between depths of 14 to 17 feet with 10 feet of screen. Well construction information is included with borings logs in Appendix E. Presented below is a summary of groundwater results. Analytical results are presented on Table 2. The analytical laboratory reports, for the analyzed groundwater samples, are attached as Appendix B of this report. Chain-of custody forms also are included in Appendix B.

#### **Petroleum Hydrocarbons and VOCs**

- GRO was detected at concentrations above MTCA Cleanup Levels in GLMW-2 and GLMW-3.
- DRO were detected in GLMW-3, but not at a concentration above the MTCA Cleanup Levels.
- Benzene, toluene, ethylbenzene, and/or xylenes were detected GLMW-2 and GLMW-3, but not at concentrations above the MTCA Cleanup Levels.
- MTBE and EDC were not detected at concentrations above the laboratory reporting limit.
- EDB was not detected at a concentration above the laboratory detection limit. However, the laboratory detection limit is above the MTCA cleanup level.

#### **Lead**

- Lead was detected in all four water samples, but not at concentrations exceeding MTCA Method A cleanup levels.

### 3.2.6.4 Groundwater Depth Measurements

The depths to groundwater in the four wells, as measured on August 8, 2017, are presented in Table 3 of this report. Static depths in these wells were approximately 5.2 to 12.9 feet below the ground surface. Measured groundwater elevations for these wells have been plotted on Figure 6, which includes an interpretation of groundwater-flow direction. The plotted groundwater elevations indicate a groundwater-flow direction toward the east.

### 3.2.6.5 Soil-Gas Sampling and Results

No soil-gas sampling was performed for this assessment. However, analytical results from soil and groundwater samples were compared to the lateral and vertical separation distances presented in Step 6 and Step 7 of the *Implementation Memorandum No. 14* guidance document. Based on the guidance documents and the analytical results discussed above, G-Logics concludes that there is a potential for soil-vapor exposure at the Site.

This conclusion is based on the detected soil and groundwater concentrations, a minimum lateral distance of 30 feet, and a minimum vertical distance of 15 feet from the contamination. The building lies within this inclusion zone. However, the building is vacant and is located at an elevation of approximately 12 feet above the contaminated soil and groundwater. Additionally, a remedial excavation to remove the source of the contamination is planned prior to renovation and re-occupancy of the building.

### 3.2.6.6 Data Quality Review

One laboratory-duplicate sample was analyzed for data-repeatability information (sample GLMW-2-8DUP on Table 1). The detected concentrations were not within acceptable limits for laboratory-repeatability information, likely due to the granular nature of the soil matrix. However, both samples indicated petroleum contamination in the proposed remedial area. The water samples also included a laboratory-trip blank. Analysis of the trip blank indicated no cross-contamination was present. The laboratory also conducted matrix spike, matrix-spike duplicate, and method-blank analyses. Laboratory QA/QC information also is included (with the laboratory report) in Appendix B.

## **4.0 CONCEPTUAL SITE MODEL**

The following sections include discussion of the fate and transport of the hazardous substances, impacted media, potential exposure pathways, and possible receptors. The conceptual site model for this Site is illustrated on Figure 7.



#### **4.1 Chemicals and Media of Concern**

Contaminant concentrations detected in soil and groundwater at the Site have been compared to MTCA Method A cleanup levels. Based on the information presented in the previous sections, GRO and benzene are understood to be the contaminants of concern (COCs) for the Site.

#### **4.2 Nature and Extent of Contamination**

As illustrated on Figures 4 and 5, GRO and benzene in soil and groundwater are at concentrations above Method A cleanup levels in the eastern portion of the Property. Based on soil concentrations in GLMW-2 and GLMW-3, GRO and benzene in excess of cleanup levels likely extends off Property, to a currently unknown extent.

#### **4.3 Contaminant Fate and Transport**

The Site COCs are transported from the source area throughout the subsurface in three phases. These include soil (sorbed onto soil particles), groundwater (dissolved and suspended in the water), and soil gas (existing above the water table). The contaminants generally migrate away from areas of high concentration by diffusion and advective methods, transported by gravity (vertical), and groundwater flow (lateral). Contaminant concentrations decreases with distance from the source area based on several factors , including volume of the release, the duration of the release, soil characteristics (porosity and permeability), groundwater transmissivity (gradient and volume), geologic deposits, subsurface utilities (preferential pathways), and biodegradation of the contaminants.

Soil concentrations are highest in the area to the east of the existing tanks and product piping, located on the eastern portion of the Property. Contaminants attenuate with distance from the source area and degrade by bioremediation when sufficient oxygen is present.

Groundwater and associated contaminants appear to have migrated to the east. Like the soil contaminants, groundwater contaminants also attenuate with distance from the source and degrade with sufficient oxygen.

The primary COCs, GRO and benzene, will volatilize from soil and groundwater into a gaseous state. In areas of the Site where a cover (e.g., asphalt pavement) is not present, these vapors will escape into the atmosphere. Once in the atmosphere, the vapors will rapidly attenuate and degrade. Where these vapor contaminants cannot directly escape, the

primary transport mechanisms are diffusion (from the contaminated groundwater and within the vadose zone) and possibly advection (assuming subsurface-pressure differences). Soil vapors attenuate with distance from the source and also degrade by bioremediation with sufficient oxygen.

For each media, additional information is presented below.

#### **4.4 Exposure Pathway Assessment**

Potential pathways of exposure to the Site contaminants are described below.

##### **4.4.1 Soil Pathway**

The USTs were reportedly emptied of their contents after the property was vacated. It is unknown if the tanks were triple rinsed, therefore there is some potential for residual fuels and/or ongoing releases. The contaminated soil in the UST area continues to act as a source for contamination of groundwater and soil vapor.

Contaminated soils typically present a potential impact to human health and the environment through possible ingestion and direct contact. If contaminated soils are exposed, inhalation of contaminants volatilizing from contaminated soils also presents a potential exposure.

Contaminated soils at this Site are not currently present at the ground surface. Additionally, beyond the Property boundary, contaminated soils are covered by paved surfaces. However, direct contact with these contaminated soils could occur during development excavations and/or utility-maintenance activities.

The interpreted extent of the identified soil contamination is presented on Figure 4. The highest concentrations of soil contamination are located along the eastern Property boundary, adjacent to the existing tanks.

#### ***4.4.2 Groundwater Pathway***

Based on the current and probable future use of the Site, human ingestion and dermal contact with contaminated groundwater is not expected to occur. Specifically, the Site and surrounding areas are served by municipal water. According to the Ecology online well-log database, drinking-water supply wells are not located within the Site or in downgradient locations. Direct contact with contaminated groundwater could occur during development excavations and/or utility-maintenance activities.

Figure 5 presents interpretations of the extent of the identified groundwater contamination. The highest concentrations of groundwater contamination are located in the eastern half of the Property.

#### ***4.4.3 Soil-Vapor Pathway***

Soil-vapor contaminants present a potential risk to human health through possible inhalation. Specifically, an exposure pathway exists for GRO to migrate into indoor air via vapor intrusion.

As discussed in Section 2.1 of this report, the Property is vacant, the properties to the north, south, and west are occupied by single-family residences, and the west adjoining property is occupied by the Illahee Community Center. With the petroleum-vapor intrusion review presented in Sections 3.2.6.5 and 5.3.3 of this report and empirical data, vapor intrusion (resulting from contaminated soil at this Site) may result in unacceptable exposure concentrations in the on-Property building (if occupied).

While inhalation exposures also could occur to workers during development/maintenance excavations in the area, the magnitude and duration of such exposure would be limited. Specifically, excavations would be open to the atmosphere and/or mechanically-ventilated, thereby reducing potential vapor exposure to workers. Additional protective equipment also could be worn if needed.

### **4.5 Terrestrial Ecological Evaluation**

MTCA requires consideration of ecological receptors, achieved by completing a Terrestrial Ecological Evaluation (TEE). The purpose of this evaluation is to protect land-based plants and animals from exposure to contaminated soil. The procedures, as put forth by WAC 173-340-7491, require applicants to first review primary exclusions. Certain circumstances

provide exclusion from further ecological evaluation at the Site because the contaminants either have no pathway to harm the plants and animals or there is no habitat where plants or animals live or forage near the contamination. If one or more primary exclusions apply, the site is exempt from further terrestrial ecological evaluation, and the TEE process ends.

#### **4.5.1 TEE Process**

The exemptions for conducting a TEE are as follows:

- Contamination is below 15 feet without institutional controls, or below 6 feet with institutional controls.
- Contamination is (or will be) covered by buildings or pavement.
- Concentrations are below natural background levels.
- Insufficient contiguous undeveloped land (for petroleum contamination, at least 1.5 acres existing on the property, or within 500 feet of the property).

If no exemption exists, a TEE (either a Site-specific TEE or a Simplified TEE) is conducted. A Site-specific TEE must be performed under the following conditions:

- The contamination is located on or directly adjacent to an area where management or land use plans maintain native or semi-native vegetation.
- The area of contamination is used by threatened or endangered species.
- The property contains 10 acres of native vegetation within 500 feet of contamination.

If none of the conditions for a Site-specific TEE apply, a Simplified TEE can be conducted. The Simplified TEE process is intended to identify those sites which do not have a substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors, and therefore may be removed from further ecological consideration during cleanup. The TEE may be ended at a site where conditions include any of the following:

- Land use at the site and surrounding area makes substantial wildlife exposure unlikely (Table 749-1 in WAC 173-340 is used to make this evaluation).
- If the contaminant concentrations are below those given in Table 749-2 (WAC 173-340) within the point of compliance (15 feet with no institutional controls, 6 feet with controls).

- Potential exposure pathways from soil contamination to ecological receptors are not present.
- Area of soil contamination is less than 350 square feet.

#### **4.5.2 Site TEE Review**

In the case of the Site, the following primary exclusion applies.

- Soil contamination is completely covered by buildings, paved roads, pavement or other physical barriers that will prevent wildlife from being exposed.

## **5.0 PROPOSED CLEANUP STANDARDS**

As defined in the MTCA regulations (WAC 173-340-700), Cleanup Standards consist of the following.

- (1) Applicable state and federal laws, which are other regulatory requirements that apply to the site because of the type of action and/or location of the Site.
- (2) Cleanup levels for hazardous substances present at the site.
- (3) Points of compliance, locations where cleanup levels must be met.

These components are further described below.

### **5.1 Applicable or Relevant and Appropriate Requirements**

The MTCA regulations require that site cleanups comply with other applicable state and federal laws (Applicable or Relevant and Appropriate Requirements or ARARs).

Accordingly, other potentially applicable regulatory requirements for a cleanup action at this Site include the following.

- The Federal Clean Water Act (33 USC Section 1251)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 40 CFR 300
- The Resource Conservation and Recovery Act (RCRA), 40 CFR 239-282
- USDOT Hazardous Materials Regulations (HMR), 40 CFR 100 through 185
- The Toxic Substances Control Act (TSCA), 15 USC Section 2601

- The Occupational Safety and Health Act (OSHA) (Part 1910 of Title 29 of the Code of Federal Regulations, 29 CFR 1910)
- Washington’s Dangerous Waste Regulations (Chapter 70.105 RCW; Chapter 173-303 WAC)
- Washington’s Solid Waste Handling Standards (Chapter 173-350 WAC)
- Water Quality Standards for Groundwaters of the State of Washington, Chapter 173-200 WAC
- Federal and State Clean Air Acts (42 USC 7401 et seq.; 40 CFR 50; RCW 70.94; WAC 173-400, 403)
- The State Environmental Policy Act (SEPA) (RCW 43.21C; WAC 197-11)
- Washington’s General Occupational Health Standards (WAC 296-62)
- Washington’s Safety Standards for Construction Work (WAC 296-155)
- Minimum Standards for Construction and Maintenance of Wells (WAC-173-160)
- Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Review Draft, October 2009, Publication Number 09-09-047
- Technical Guide For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites, (U.S. Environmental Protection Agency, June 2015)
- Native American Graves Protection and Repatriation Act (NAGPRA), 43 CFR 10
- Archaeological Resources Protection Act (ARPA), 16 US Code Chapter 1B
- Regulations, codes, and permits from local cities and counties (e.g., Water Quality, Road Closure, etc.)

## 5.2 Cleanup Levels

MTCA “establishes administrative processes and standards to identify, investigate, and cleanup facilities where hazardous substances have come to be located” (WAC 173-340-100 to 140). MTCA regulations also list prescriptive, numerical Method A cleanup levels where the “cleanup action may be routine (WAC 173-340-700 to 760) or may involve relatively few hazardous substances.”

For this Site, Method A cleanup levels are applicable for soil and groundwater contaminants. For each media, cleanup levels for the identified COCs are discussed below. If, during the course of future remediation work these cleanup levels become impracticable to achieve, due to cost-versus benefit considerations, then land use restrictions and/or alternative cleanup levels may be considered.

### ***5.2.1 Cleanup Levels, Soil***

Detected contaminants have been compared to the MTCA Method A cleanup levels for unrestricted use. Soil cleanup levels for the Site COCs are listed in Table 1. These conservative levels are described to be protective of the direct-contact and ingestion pathways and are protective of groundwater for drinking-water uses.

### ***5.2.2 Cleanup Levels, Groundwater***

Detected contaminant concentrations and groundwater cleanup levels are summarized in Table 2. The presented cleanup levels are the conservative and unrestricted-use MTCA Method A cleanup levels.

## **5.3 Points of Compliance**

The points of compliance for soil, groundwater, and soil vapor are discussed below.

### ***5.3.1 Point of Compliance, Soil***

The point of compliance for direct contact is from the ground surface to a depth of 15 feet. However, in order to facilitate groundwater remediation, the point of compliance for soil at the Site shall extend to all depths where soil may act as a source of ongoing groundwater contamination and as a source of unacceptable levels of soil vapors (vapor intrusion to overlying and nearby structures). Figure 4 shows the depths where soil contaminants have been identified at concentrations greater than the identified cleanup levels.

### ***5.3.2 Point of Compliance, Groundwater***

The point of compliance for groundwater is the uppermost level of the saturated zone extending vertically to the lowest depth that potentially could be impacted by Site contaminants throughout the plume of contaminated groundwater. Figure 5 shows where groundwater contaminants have been identified at concentrations greater than the identified cleanup levels.

### ***5.3.3 Point of Compliance, Soil Vapor***

For this Site, the point of compliance for soil vapor will be indoor ambient air throughout the Site in accordance with the lateral and vertical inclusion zones, as presented in the following discussion and summary.

#### ***5.3.3.1 Lateral-Inclusion Zone***

Based on the petroleum vapor-intrusion guidance documents published by the United States Environmental Protection Agency (EPA, June 2015) and Ecology (Review DRAFT October 2009, Revised 2016 and Memorandum No. 14 dated March 2016), existing and/or future buildings located laterally and/or vertically within set distances of subsurface contamination may experience unacceptable vapor-intrusion impacts.

Based on the soil-vapor guidance documents, buildings that are laterally within 30 feet of subsurface petroleum contamination with groundwater concentrations above screening levels may experience unacceptable vapor-intrusion impacts. This distance is referred to as the lateral-inclusion zone and is defined as the area surrounding a petroleum-contaminant source through which vapor-phase contamination might travel and intrude into buildings at unacceptable concentrations.

The lateral distance to subsurface contamination should first be identified to assess if a building or buildings are within the lateral-inclusion zone. If existing or planned buildings are not in the lateral inclusion zone (30 feet), then the initial PVI assessment process is complete. Specifically, a 30-foot horizontal separation distance from the edge of the contamination to a structure is likely to provide an adequate separation distance to exclude soil-vapor concerns.



### 5.3.3.2 Vertical Separation Distance

If a building or buildings are within the lateral-inclusion zone, the vertical separation distance between the contaminant source and the building foundation also should be considered to assess if unacceptable vapor-intrusion impacts may occur. The vertical separation distance represents the thickness of clean, biologically-active soil between the source of petroleum-hydrocarbon vapors and the deepest point of a structure.

For the vertical-separation distances, contaminant concentrations in soil and groundwater must be assessed separately. As described in Ecology's Memorandum No. 14, the depths of contaminants in soil and/or groundwater are compared to the concentrations of benzene and/or total petroleum-hydrocarbons (TPH). The vertical separation distances for petroleum contaminants in soil and groundwater are shown in the following table.

#### **Recommended Vertical Separation Distances Between Contamination and Building Basement Floor, Foundation, or Crawlspace**

<b>Media</b>	<b>Benzene</b>	<b>TPH</b>	<b>Vertical Separation</b>
<b>Soil</b> (mg/kg)	≤ 10	≤ 100 (for unweathered GRO) ≤ 250 (for weathered GRO & DRO)	6'
	> 10	> 100 (for unweathered GRO) > 250 (for weathered GRO & DRO)	15'
<b>Groundwater</b> (µg/L)	≤ 5,000	≤ 30,000	6'
	> 5,000	> 30,000	15'

The depth to subsurface contamination should be assessed to identify if a building or buildings are within the specified vertical-separation distance. Dependent on contaminant concentrations, if the separation-distance criteria are met (as specified in the table above) based on the measured soil and groundwater concentrations for benzene and TPH, then the initial PVI assessment process is complete.

#### **5.4 Areas Requiring Remediation**

Based on the findings of this site characterization, G-Logics has identified the area surrounding the current UST as the area requiring remediation. This work would occur at time of tank removal.

### **6.0 FEASIBILITY STUDY - FOCUSED**

At sites that require a remedial action, MTCA requires that a Feasibility Study (FS) be developed to evaluate alternative cleanup actions. This evaluation uses the information presented in the RI portions of this report, including the cleanup standards discussed in Section 5.0. Additionally, the FS selects a cleanup action that will protect human health and the environment, based on the criteria and requirements established by MTCA. The FS also presents the rationale for selecting the preferred cleanup action for a site.

Based on the data summarized in the RI section of this report, an FS is Not Applicable (N/A) for this Site, as soil and groundwater contamination was found in close proximity to the USTs. The planned removal of the USTs and over-excavation of contaminated media, extending into public right-of-way areas, would be conducted. As part of this work, appropriate disposal of removed media and collection of confirmation samples should satisfy the cleanup requirements under MTCA. This approach also is consistent with Model Remedy No. 1 for Sites with Petroleum Impacts to Groundwater (Ecology Publication No. 16-09-057, dated May 2016, revised draft August 2017) and Model Remedy No. 1 for Sites with Petroleum Contaminate Soils (Ecology Publication No. 15-09-043, dated September 2016, revised draft August 2017). A simple Cleanup Action Plan (CAP), showing the anticipated extent of the on Property and off Property excavation areas, can be prepared to discuss this remedial approach. Figures 4 and 5 of this report approximate the area where the remedial excavation would occur. Excavation also will include areas to the west to accommodate the removal of the USTs.

The Port of Illahee and Kitsap County, who owns the right-of-way to the east of the Property, are in agreement that a simple excavation of soils likely would satisfy the cleanup goals of both parties. According to Mr. Aho, Kitsap County supports the excavation into the right-of-way in order to facilitate this Site cleanup.

#### **6.1 Remedial-Action Objectives**

N/A

#### **6.2 Identification of Alternatives**

N/A

#### **6.3 Retained Remedial Alternatives**

N/A

#### **6.4 Evaluation of Alternatives**

N/A

#### **6.5 Disproportionate Cost Analysis (DCA) and Ranking Criteria**

N/A

#### **6.6 Recommended Remedial Action Alternatives**

##### **6.6.1 UST Closures**

As part of the proposed redevelopment, three existing USTs would be closed. As part of this work, the tank contents would be emptied, the tanks cleaned, removed, and transported off property for disposal/recycling. Site Assessment activities would be accomplished during this work, including the collection and analysis of confirmation samples.

#### **6.7 Remedial Alternative Estimate and Schedule**

We understand that contaminated soils, with corresponding groundwater, will be excavated at the time of the planned UST removal. The incremental costs for contaminated media removal and related efforts are estimated to be \$415,000, as listed in Table 4.

## **7.0 PROPOSED FUEL-SYSTEM UPGRADES**

The Port of Illahee does not plan to upgrade and replace the current fuel system. Pending the acceptance of a loan/grant from PLIA, the Port of Illahee intends to decommission the existing UST system and conduct the identified remedial soil and groundwater excavation.

## **8.0 PROPERTY APPRAISALS**

As requested by PLIA, two property appraisals have been prepared by Valbridge Property Advisors, licensed in the state of Washington. The first appraisal has evaluated the current value of the property prior to cleanup. To provide information to PLIA, a second appraisal also has been conducted to assess the value of the property assuming cleanup and/or site improvements have been performed. Copies of the appraisals are attached as Appendix F.

## **9.0 CONCLUSIONS**

Information regarding the exploration findings and our conclusions concerning soil and/or shallow groundwater contamination on the Property are presented below.

- Soil borings encountered generally fine sands with varying amounts of silt and gravels at all exploration locations (to depths of approximately 5 to 18 feet). Groundwater was encountered at approximate depths of 9 to 13 feet.
- Static depths to groundwater were recorded approximately 5 to 13 feet below the ground surface.
- No petroleum hydrocarbons were detected in the soil borings in the vicinity of the former UST, indicating that no significant release of petroleum occurred from the former tank.
- Strong petroleum odors were observed in soils collected from the eastern portion of the Property, specifically GLMW-2 and GLMW-3.
- GRO and benzene at concentrations above MTCA Cleanup were detected in soils to the east of the existing USTs (GLMW-2, GLMW-3, B-4, and B-5).
- GRO at concentrations above MTCA Cleanup were detected in groundwater to the east of the existing USTs (GLMW-2 and GLMW-3).

- Based on the concentrations of GRO in groundwater collected from GLMW-2 and GLMW-3, the samples were additionally analyzed for gasoline additives MTBE, EDB, and EDC. MTBE and EDC were not detected at concentrations above the laboratory reporting limit. Due to high concentrations of other contaminants of concern, the sample was diluted prior to analysis. Sample dilution meant a reporting limit below the cleanup level could not be achieved. However, due to the lack of MTBE and EDC, it is inferred that no significant concentrations of EDB were present in the samples.
- Low concentrations of total lead (well below cleanup level) were detected in all analyzed soil and groundwater samples.
- The petroleum-vapor pathway is complete at the Site. However, the building is currently vacant.
- The completed exploration efforts have identified GRO and benzene as the targeted COCs for soil and GRO for groundwater. The source of the contamination appears likely to be from the existing USTs and product piping located on the eastern portion of the Property.
- As shown on Table 4, a budgeting estimate to complete the proposed system upgrades are expected to be approximately \$415,000, or \$539,500 with a 30% contingency.
- The completed Property appraisal suggests that the current Property value is (\$355,000). The forecasted Property value after the discussed system upgrades and Site cleanup have been completed is \$60,000. These estimates present a value difference (enhancement) of \$415,000.
- Based on the findings of this site characterization, G-Logics has identified the area surrounding the current USTs may require remediation, consisting of soil and/or groundwater removal. This work would occur at time of tank removal and confirmation samples can be collected at that time.

## **10.0 RECOMMENDATIONS**

Based on the completed Site-exploration, G-Logics does not have any additional recommendations for further Site Characterization work at this time. Remediation work should occur at time of tank removal, with confirmation samples collected.

With the recommended cleanup action, the Port of Illahee would be able to purchase the Property and redevelop it for use as a community building. We understand the Port of Illahee and Kitsap County are in agreement that the Site should be remediated and are willing to coordinate the cleanup effort, including excavation into the road right-of-way areas, in order to reach that mutual goal.

## **11.0 LIMITATIONS**

The information presented in this PPA is not intended to identify all environmental problems, does not eliminate all risk, and is limited only to those items that are specifically described in this report. Other activities that are not specifically described above are excluded and are therefore not part of this PPA or the provided budgeting estimates. Our understanding of the Site conditions also may change, as new data become available, or during additional site exploration, remediation, and/or redevelopment. Due to the unknown extent of the subsurface contaminant migration, the efforts described in this report are preliminary and are based on our professional experience. This document was prepared in accordance with generally-accepted professional practices, for similar services, locations, and at the time the work was performed.

This report is prepared for the sole use of our client and PLIA. The scope of services performed may not be appropriate for the needs of other users. Re-use of this document or the findings, conclusions, or recommendations presented herein, are at the sole risk of said user(s). Non-compliance with any of these requirements will release G-Logics from any liability resulting from the use of this report by any unauthorized party.

Budgeting estimates only should be used for comparison of the alternatives, for decision-making considerations, as described in this report. Estimates of remediation costs are subject to numerous unknowns, including subsurface conditions, planned remediation methods, contractor capabilities, discovery of additional contaminants, required schedules, project financing, and/or the ultimate determination of “how clean is clean”.

Please also note that the presented budgeting information does not represent a “bid” for the described efforts in this report. Presented tasks and estimates are for decision-making considerations only. G-Logics does not warrant or guarantee presented estimates, especially if others conduct the remediation work. The presented costs also do not include utility costs, analysis for other possible site-contaminants, health testing, ecological assessments, PLIA or Ecology costs, attorney fees, Public Participation/Notifications issues, fines, or other costs not specifically described in this document.

The identified site cleanup approach is intended to support regulatory closure (a No Further Action Determination) for the subject site through the Voluntary Cleanup Program. However, we cannot explicitly or implicitly guarantee that regulatory closure will result after the completion of the identified cleanup approach.

No warranty, either express or implied, is made.

## 12.0 REFERENCES

Washington Department of Ecology, 2009, *Guidance for Evaluating Soil Vapor Intrusion Washington State: Investigation and Remedial Action*: Olympia, Wash., Washington State Department of Ecology Publication No 09-09-047, Revised February, 2016.

Washington Department of Ecology, 1991, *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, Washington State Department of Ecology Publication No 90-52, Revised April, 2003.

Washington Department of Ecology, 2016, *Guidance for Remediation of Petroleum Contaminated Sites*, Washington State Department of Ecology Publication No 10-09-057.

Washington Department of Ecology, 2001, *The Model Toxics Control Act Cleanup Regulation*, chapter 173-340 WAC: Olympia, Wash., Washington State Department of Ecology Publication No 94-06, Amended November, 2007, Revised 2013.

United States Environmental Protection Agency (USEPA), June 2015, *Technical Guide for Assessing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Site*. USEPA Office of Underground Storage Tanks.

Washington Department of Ecology, March 2016, *Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion*, Implementation Memorandum No. 14, Washington State Department of Ecology Publication No 16-09-046.

Washington Department of Ecology, Draft for Public Comment, August 2017, *Model Remedies for Sites with Petroleum Contaminated Soils*. Washington State Department of Ecology Publication No 15-09-043.

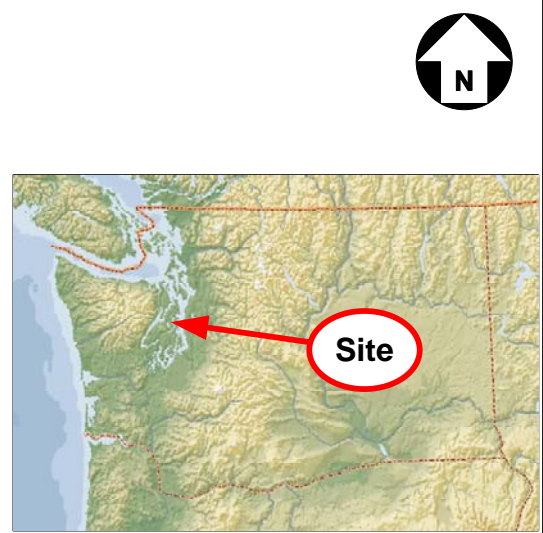
Washington Department of Ecology, Draft for Public Comment, August 2017, *Model Remedies for Sites with Petroleum Impacts to Groundwater*. Washington State Department of Ecology Publication No 15-09-043.

Sceva, J.E., 1957, *Geology and ground-water resources of Kitsap County, Washington*: U.S. Geological Survey, Water-Supply Paper 1413, scale 1:48,000.

*Site Investigation Report*, for Port of Illahee. Prepared by Langseth Environmental Services, Inc., dated December 28, 2016.



# FIGURES



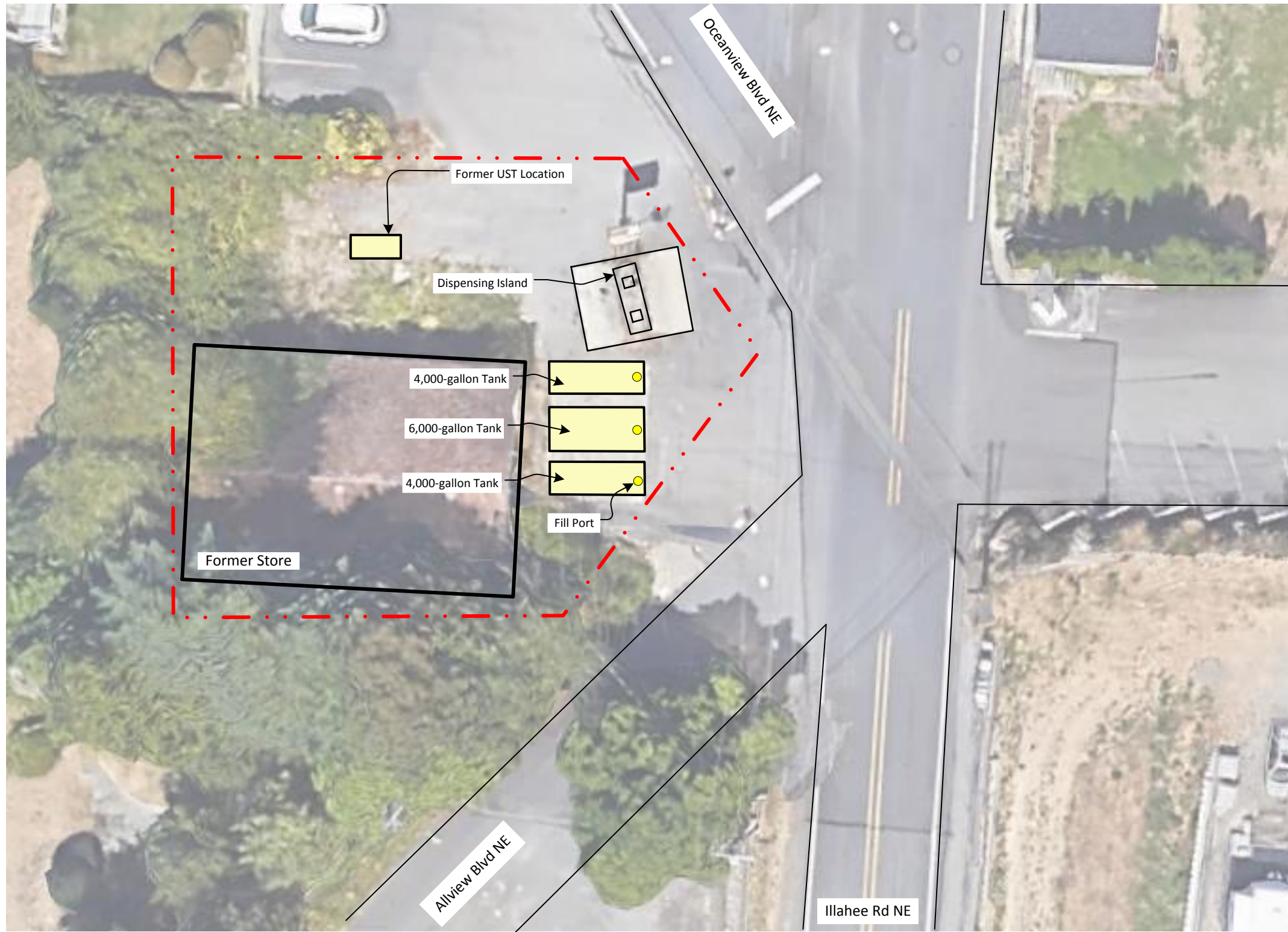
Project File: 01-1129-A F1.vsd

*g-logics*

**Site Location Maps**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, Washington**

**Figure**  
**1**





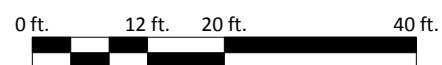
**General Figure Symbols**

- . . - Property Line
- Building Outline
- Underground Storage Tanks

Project File: 01-1129-A F2.vsd



Approximate Drawing Scale: 1" = 20'

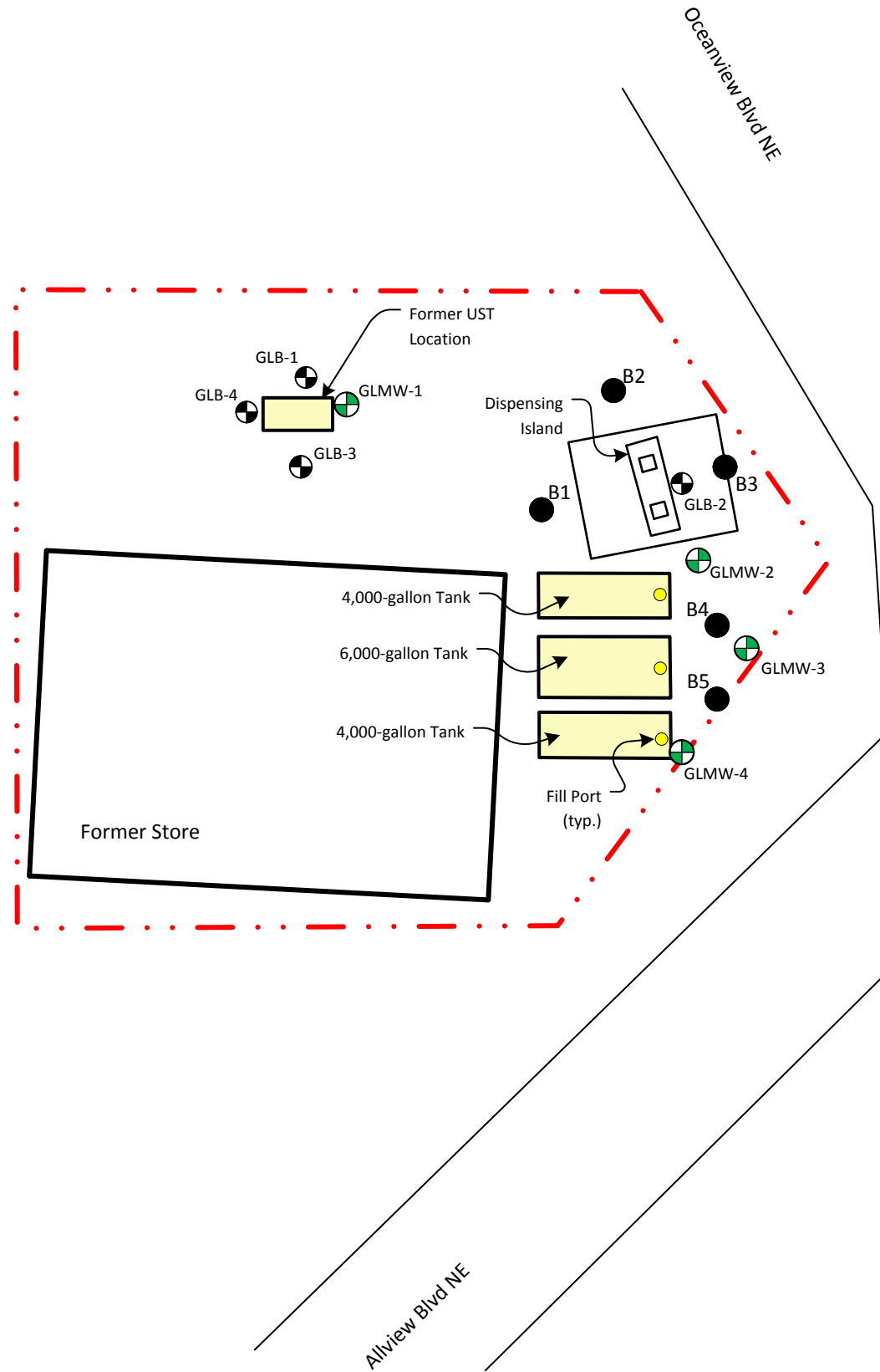


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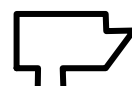




**Site Diagram, Feature Locations**

**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, WA**

Figure  
 2



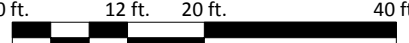
**Legend**

-  Property Line
-  Building Outline
-  Underground Storage Tanks
-  B4 Langseth Boring Locations
-  GLMW-1 G-Logics Monitoring Well Locations
-  GLB-1 G-Logics Boring Locations

Project File: 01-1129-A F3.vsd



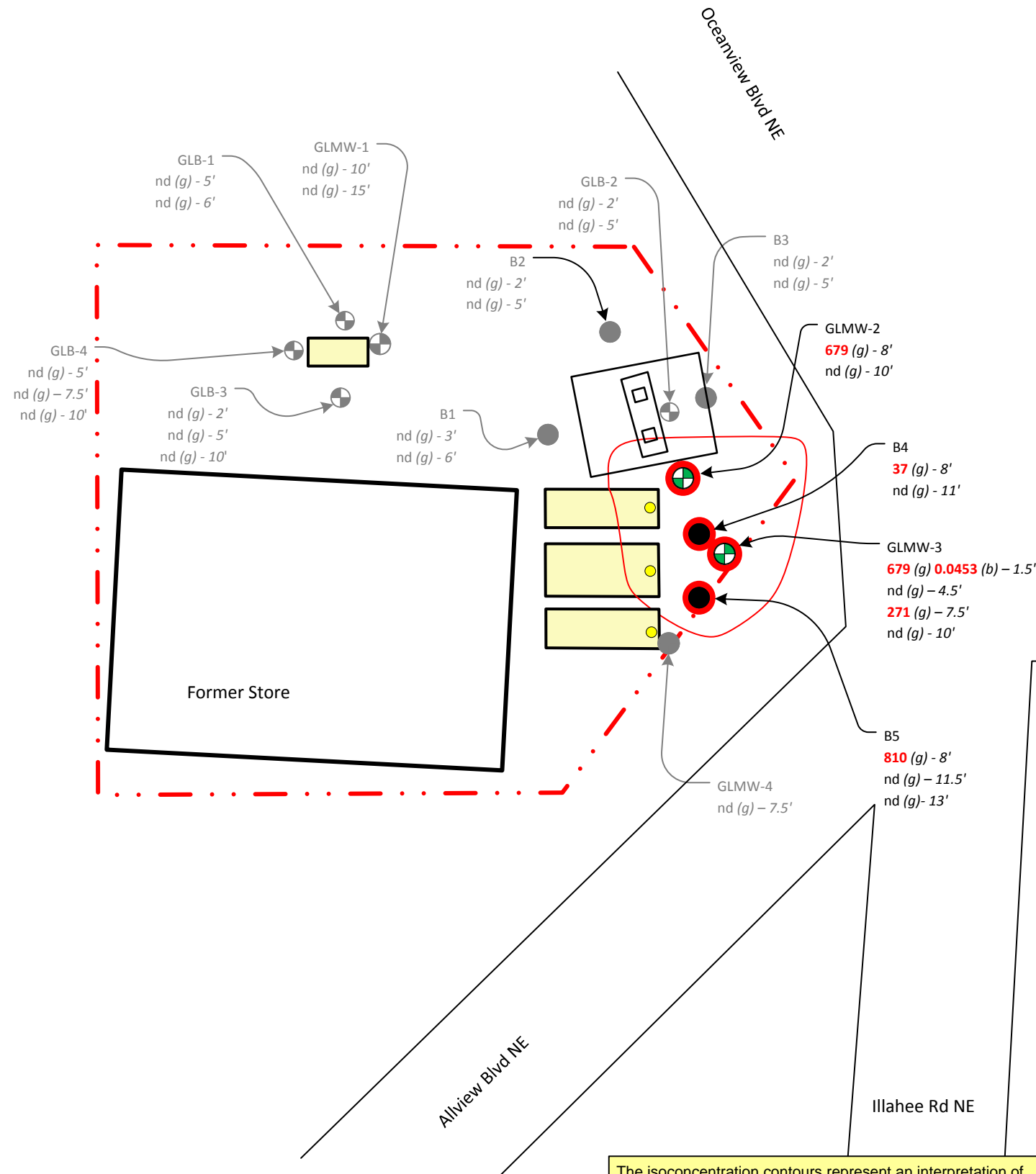
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 0 ft. 12 ft. 20 ft. 40 ft.



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

**Site Diagram, Exploration Locations**  
 Illhaee Foods  
 5507 Illahee Rd NE  
 Bremerton, WA

Figure  
 3



### Legend

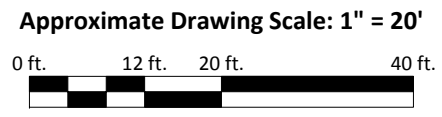
- Property Line
- Building Outline
- Approximate Area of Contamination
- Underground Storage Tanks
- Langseth Boring Locations
- GLMW-1
- G-Logics Monitoring Well Locations
- GLB-1
- G-Logics Boring Locations
- Contaminant Concentrations Detected Above MTCA Cleanup Level

### Sample Legend

- Sample Identification
- Sample Depth (in feet)
- Reported Concentration
- Gasoline (g) Concentrations (mg/kg)  
(See Table 1 for complete list of results)
- Benzene (b) Concentrations (mg/kg)  
(See Table 1 for complete list of results)

The isoconcentration contours represent an interpretation of available data. These contours may change with additional measurements and/or data points, remedial efforts, natural attenuation, and/or other influences.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

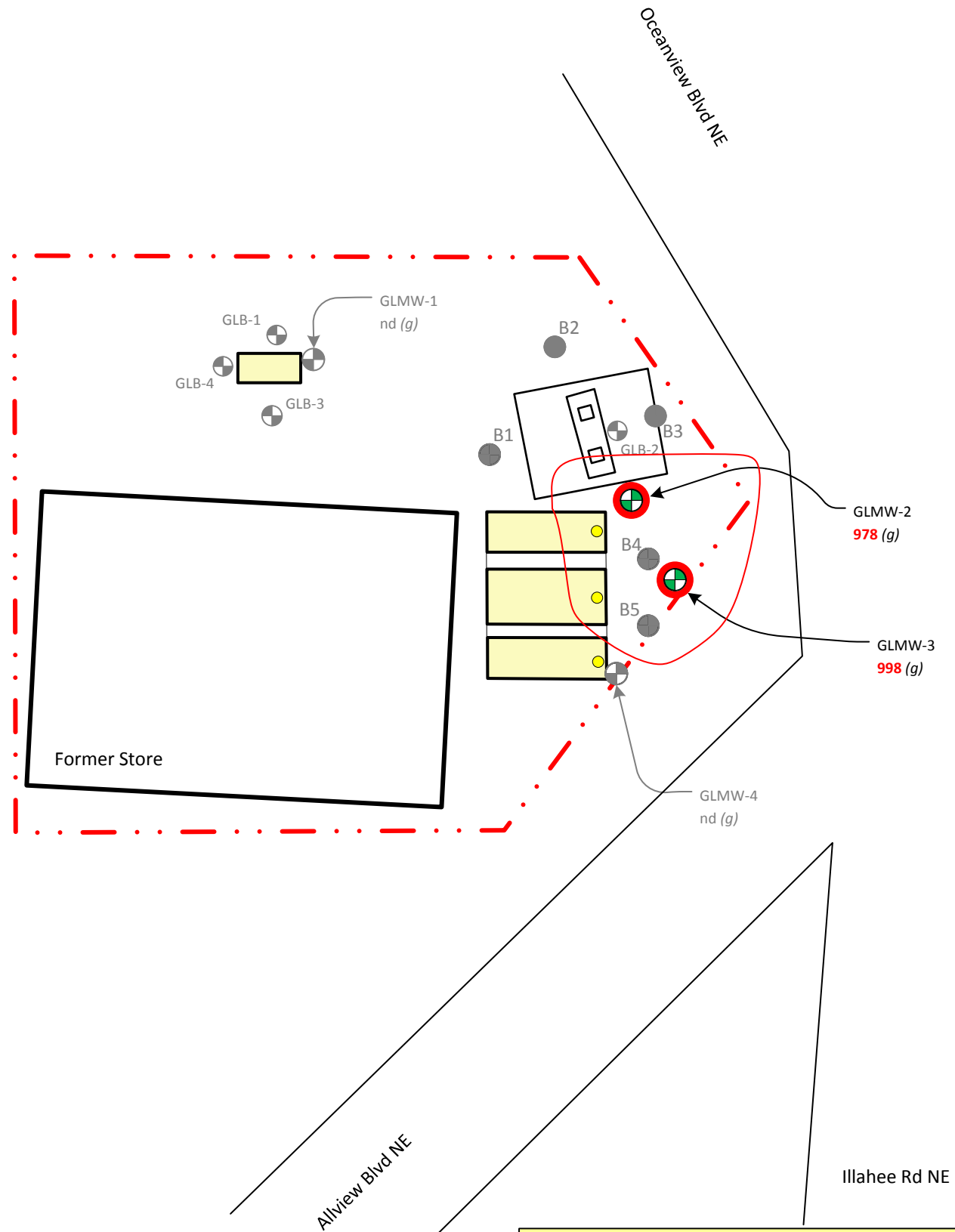


**Site Diagram, Exploration Locations with Soil Concentrations**  
**Illhaee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, WA**

**Figure**  
**4**

Project File: 01-1129-A F4.vsd





### Legend

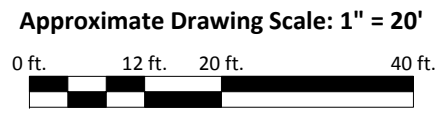
- Property Line
- Building Outline
- Approximate Area of Contamination
- Underground Storage Tanks
- B4  
Langseth Boring Locations
- GLMW-1  
G-Logics Monitoring Well Locations
- GLB-1  
G-Logics Boring Locations
- 998  
Contaminant Concentrations Detected Above MTCA Cleanup Level

### Sample Legend

- Sample Identification
- Gasoline (g) Concentrations (mg/kg)  
(See Table 2 for complete list of results)

The isoconcentration contours represent an interpretation of available data. These contours may change with additional measurements and/or data points, remedial efforts, natural attenuation, and/or other influences.

Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

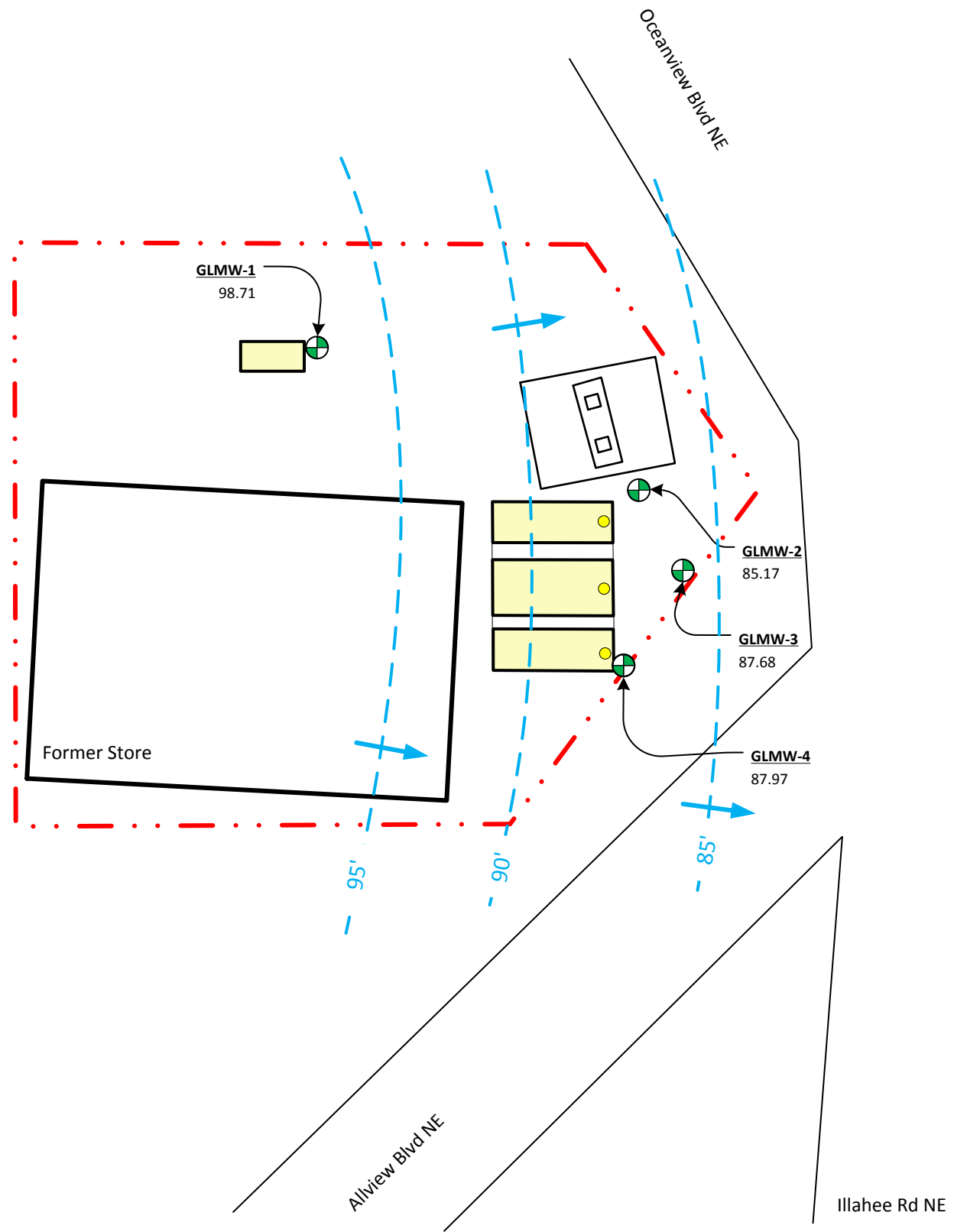


**Exploration Locations with Groundwater Concentrations**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, WA**


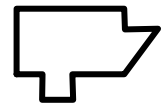
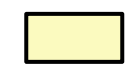




**Figure**  
**5**

Project File: 01-1129-A F5.vsd

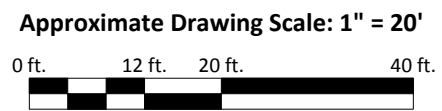




**General Figure Symbols**

-  Property Line
-  Building Outline
-  Underground Storage Tanks
-  GLMW-1 G-Logics Monitoring Well Locations
-  GLB-1 G-Logics Boring Locations
-  Interpreted GW Elevation Contour
-  Interpreted GW Flow Direction

Project File: 01-1129-A F6.vsd

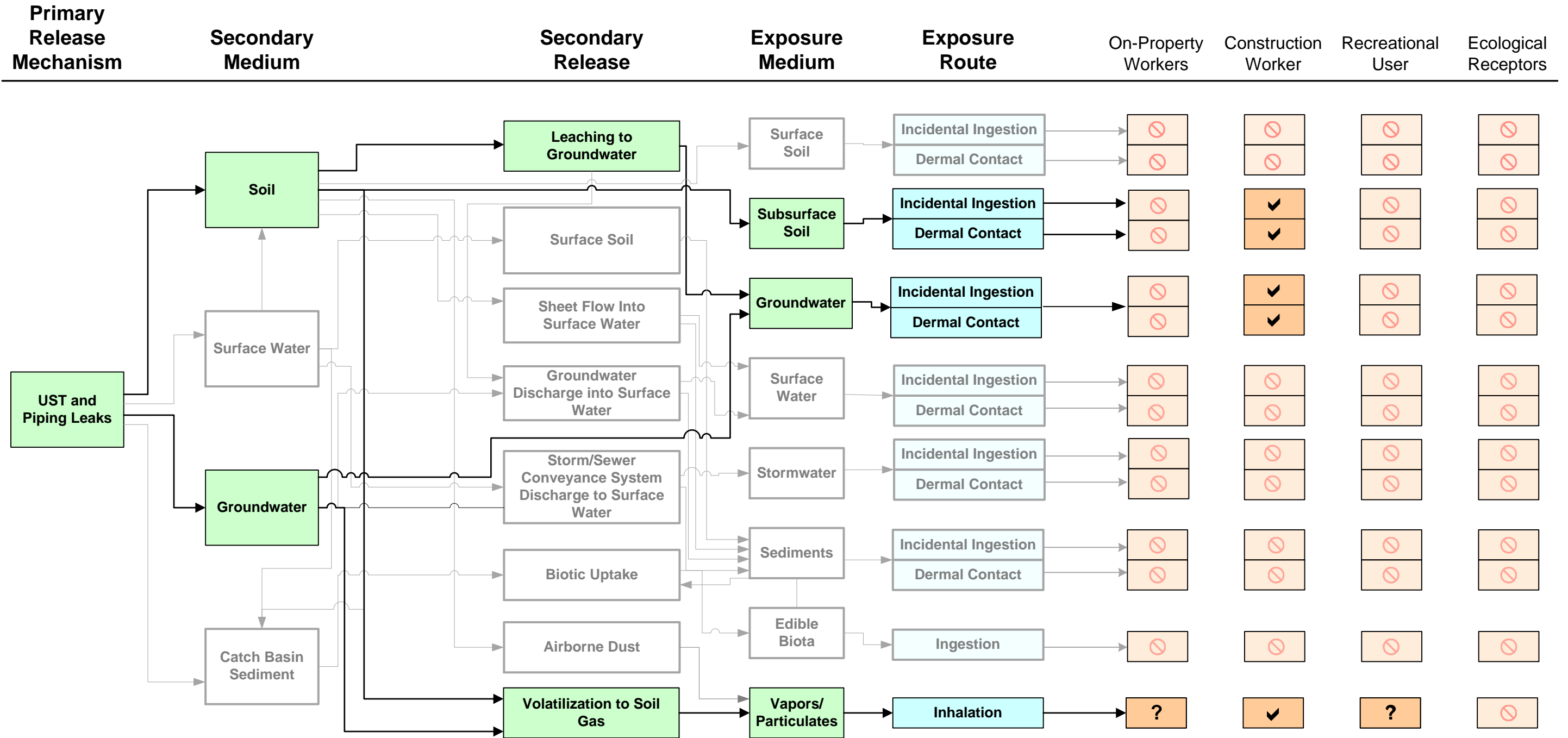


Note: This figure contains information in color. Black & white photocopies may not be suitable for review.

**Groundwater Contours**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, WA**

**Figure**  
**6**

Potential Receptors



- ✓ Complete exposure pathway
- ⊘ Incomplete exposure pathway
- ? Exposure pathway could be complete, but the potential receptor is unlikely

Project File: 01-1129-A-F7.vsd



Note: This figures contains information in color. Black & white photocopies may not be suitable for review.

<p><b>Conceptual Site Model</b>                  Illahee Foods                  5507 Illahee Road NE                  Bremerton, Washington</p>	<p>Figure                  7</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------



# TABLES

**TABLE 1**  
**Soil Sample Analysis**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, Washington**

Exploration Location	Sample Date	Sample Number	Sample Depth (ft)	PID Reading (ppmv) (a)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead
<b>MTCA Cleanup Level (1)</b>				NA	100(b)/30(c)	2,000	2,000	0.03	7	6	9	250
<i>(units in mg/kg)</i>												
<b>Langseth Environmental (2016)</b>												
<b>B-1</b>	12/12/2016	B-1-3'	3	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	12.4
	12/12/2016	B-1-6'	6	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
<b>B-2</b>	12/12/2016	B-2-2'	2	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
	12/12/2016	B-2-5'	5	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
<b>B-3</b>	12/12/2016	B-3-2'	2	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	8.3
	12/12/2016	B-3-2' Dup	2	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	---
	12/12/2016	B-3-5'	5	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
<b>B-4</b>	12/12/2016	B-4-8'	8	---	37	---	---	0.028	<0.1	0.28	<0.15	<5
	12/12/2016	B-4-11'	11	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
<b>B-5</b>	12/12/2016	B-5-8'	8	---	810	---	---	0.69	1.57	8.87	4.84	<5
	12/12/2016	B-5-11.5'	11.5	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
	12/12/2016	B-5-13'	13	---	<10	---	---	<0.02	<0.1	<0.05	<0.15	<5
<b>G-Logics (2017)</b>												
<b>GLB-1</b>	7/12/2017	GLB-1-5	5	12.2	---	---	---	---	---	---	---	---
	7/12/2017	GLB-1-6	6	8.9	<4.60	<25.0	<50.0	<0.00920	<0.0460	<0.0230	<0.0690	1.58
<b>GLB-2</b>	7/13/2017	GLB-2-2	2	5.0	<6.08	<25.0	<50.0	<0.0122	<0.0608	<0.0304	<0.0912	31.3
	7/13/2017	GLB-2-5	5	5.4	<5.45	<25.0	<50.0	<0.0109	<0.0545	<0.0272	<0.0817	3.58
	7/13/2017	GLB-2-10	10	7.6	---	---	---	---	---	---	---	---
	7/13/2017	GLB-2-10 DUP	10	---	---	---	---	---	---	---	---	---
	7/13/2017	GLB-2-15	15	7.0	---	---	---	---	---	---	---	---
<b>GLB-3</b>	7/13/2017	GLB-3-5	5	3.3	---	---	---	---	---	---	---	---
	7/13/2017	GLB-3-6	6	17.0	---	---	---	---	---	---	---	---
	7/13/2017	GLB-3-10	10	17.0	<4.65	<25.0	<50.0	<0.00930	<0.0465	<0.0233	<0.0698	1.39
<b>GLB-4</b>	7/13/2017	GLB-4-5	5	17.0	---	---	---	---	---	---	---	---
	7/13/2017	GLB-4-7.5	7.5	19.4	<4.23	<25.0	<50.0	<0.00846	<0.0423	<0.0212	<0.0635	1.25
	7/13/2017	GLB-4-10	10	16.9	<3.74	<25.0	<50.0	<0.00748	<0.0374	<0.0187	<0.0561	1.72
<b>GLMW-1</b>	7/13/2017	GLMW-1-5	5	2.3	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-1-10	10	2.8	<5.65	<25.0	<50.0	<0.0113	<0.0565	<0.0282	<0.0847	1.18
	7/13/2017	GLMW-1-15	15	4.8	<4.81	<25.0	<50.0	<0.00962	<0.0481	<0.0241	<0.0722	1.46
<b>GLMW-2</b>	7/13/2017	GLMW-2-2.5	3	5.8	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-2-5	5	5.3	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-2-8	8	339	679	42.7	<50.0	<0.0101	<0.0504	0.0493	<0.0755	1.48
	7/13/2017	GLMW-2-8 DUP	8	339	267	<25.0	<50.0	<0.0103	<0.514	<0.0257	<0.0771	1.90
	7/13/2017	GLMW-2-10	10	9.0	<5.60	<25.0	<50.0	<0.0112	<0.0560	<0.0280	<0.0839	1.32
	7/13/2017	GLMW-2-14	14	6.8	---	---	---	---	---	---	---	---

**TABLE 1**  
**Soil Sample Analysis**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, Washington**

Exploration Location	Sample Date	Sample Number	Sample Depth (ft)	PID Reading (ppmv) (a)	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Benzene	Toluene	Ethylbenzene	Xylenes	Total Lead
<b>MTCA Cleanup Level (1)</b>				NA	100(b)/30(c)	2,000	2,000	0.03	7	6	9	250
<i>(units in mg/kg)</i>												
<b>GLMW-3</b>	7/13/2017	GLMW-3-1.5	1.5	50	<b>167</b>	<25.0	<50.0	<b>0.0453</b>	<b>0.109</b>	<b>2.14</b>	<b>8.05</b>	---
	7/13/2017	GLMW-3-4.5	4.5	15	<6.27	<25.0	<50.0	<0.0125	<0.0627	<0.0314	<0.0941	---
	7/13/2017	GLMW-3-7.5	7.5	330	<b>271</b>	<b>142</b>	<50.0	<0.0109	<0.0544	<b>0.0544</b>	<0.0815	<b>2.20</b>
	7/13/2017	GLMW-3-10	10	34	<3.97	<25.0	<50.0	<0.00794	<0.0397	<0.0199	<0.0596	---
	7/13/2017	GLMW-3-12	12	9.0	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-3-15	15	8.5	---	---	---	---	---	---	---	---
<b>GLMW-4</b>	7/13/2017	GLMW-4-5	5	5.1	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-4-7.5	7.5	16.6	<4.55	<25.0	<50.0	<0.00909	<0.0455	<0.0227	<0.0682	<b>1.80</b>
	7/13/2017	GLMW-4-10	10	14.7	---	---	---	---	---	---	---	---
	7/13/2017	GLMW-4-14	14	12.4	---	---	---	---	---	---	---	---

Notes: Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

(1) Available Method A Cleanup Levels, MTCA, revised 2013.

(a) Soil samples were field screened using a PID to measure VOCs. Headspace VOC concentrations were measured after placing the soil in a sealed plastic bag and allowing soil and air inside the bag to equilibrate.

(b) Soil Cleanup Level for Gasoline with no detectable benzene in the soil.

(c) Soil Cleanup Level for Gasoline with detectable benzene in the soil.

--- Sample not analyzed.

Dup Duplicate Sample for QA/QC.

<50.0 Sample concentration below laboratory reporting limit.

**27** Bold number(s) indicates contaminant detected, below cleanup level.

**160** Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.

**TABLE 2**  
**Groundwater Sample Analysis**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, Washington**

Exploration Location	Sample Date	Sample Number	Gasoline Range Organics	Diesel Range Organics	Heavy Oil Range Organics	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl tert-butyl ether (MTBE)	1,2-Dibromoethane (EDB)	1,2-Dichloroethane (EDC)	Total Lead
<b>MTCA Cleanup Level (1)</b>			1,000(a)/800(b)	500	500	5.00	1,000	700	1,000	20	0.01	5	15
(units in ug/L)													
<b>GLMW-1</b>	7/13/2017	GLMW-1-W	<100	<76.2	<152	<0.200	<1.00	<0.500	<1.50	---	---	---	<b>2.43</b>
<b>GLMW-2</b>	7/13/2017	GLMW-2-W	<b>978</b>	<77.7	<155	<0.200	<1.00	<b>0.690</b>	<1.50	<1.00	<0.020	<0.500	<b>0.333</b>
<b>GLMW-3</b>	7/13/2017	GLMW-3-W	<b>998</b>	<b>103</b>	<155	<b>4.76</b>	<1.00	<b>3.84</b>	<b>2.21</b>	<1.00	<0.020	<0.500	<b>0.533</b>
<b>GLMW-4</b>	7/13/2017	GLMW-4-W	<100	<76.2	<152	<0.200	<1.00	<0.500	<1.50	---	---	---	<b>0.467</b>
<b>Trip Blank</b>	7/13/2017	Trip Blank 1546	<100	---	---	<0.200	<1.00	<0.500	<1.50	---	---	---	---

**Notes:** Refer to site diagram(s) for sampling locations. Refer to laboratory reports for analytical methods.

- (1) Available Method A Cleanup Levels, MTCA, revised 2013.
- (a) Groundwater Cleanup Level for Gasoline with no detectable benzene in groundwater.
- (b) Groundwater Cleanup Level for Gasoline with detectable benzene in the groundwater.
- Sample not analyzed.
- <50.0 Sample concentration below laboratory reporting limit.
- 27** Bold number(s) indicates contaminant detected, below cleanup level.
- 160** Bold number(s) and yellow shading indicates concentration exceeds MTCA Cleanup Level.
- <250** Reporting limits exceeds cleanup level.

**TABLE 3**  
**Groundwater Elevation Measurements**  
**Illahee Foods**  
**5507 Illahee Rd NE**  
**Bremerton, WA**

<b>Well Designation</b>	<b>Well Installation Date</b>	<b>Elevation Top of PVC Casing (ft.)*</b>	<b>Depth to Top of Screen (ft.)</b>	<b>Depth to Bottom of Screen (ft.)</b>	<b>Well Diam. (in.)</b>	<b>Date Measured</b>	<b>Depth to Water (ft.)</b>	<b>Calculated GW Elevations (ft.)</b>
<b>GLMW-01</b>	7/14/17	100.90	5	15	2	08/08/17	5.19	95.71
<b>GLMW-02</b>	7/14/17	98.05	7	17	2	08/08/17	12.88	85.17
<b>GLMW-03</b>	7/14/17	96.95	4	14	2	08/08/17	9.27	87.68
<b>GLMW-04</b>	7/14/17	97.07	6	16	2	08/08/17	9.1	87.97

Notes:

\* Elevations based on an arbitrary elevation of 100.00 feet on the NE corner of the bottom step on the northwest side of the vacant store.

**Table 4**  
**Planning-Level Budgets**  
**Remedial Action <sup>(1)</sup>**  
**Illahee Foods**  
**5507 Illahee Road NE, Bremerton, WA**

Budget Components	Estimates
Architect Fees	\$0
Structural Engineering Fees	\$5,000
Civil Engineering Fees	\$0
Permit/Municipality Fees	\$5,000
Fueling System Upgrades <sup>(2)</sup> (includes contractor, materials, and equipment)	\$0
Charging Station Upgrades <sup>(2)</sup> (includes infrastructure upgrades, contractor, materials and equipment)	\$0
Contaminated Soil Removal* (limited to soils surrounding the UST scheduled for removal)	\$345,000
Environmental Related Tasks, (including well decommissioning, sampling/analysis, field labor and reporting)	\$40,000
Project Management (5%)	\$20,000
<b>Subtotal</b>	<b>\$415,000</b>
<b>30% Scope Contingency<sup>(3)</sup></b>	<b>\$124,500</b>
<b>Total Budget Estimate</b>	<b>\$539,500</b>

Notes and Assumptions:

The presented budget estimates are for planning purposes only and do not present a bid or guarantee of costs. Estimates reflect direct payment to professionals and contractors. The presented estimates are based on our current understanding of site conditions. The presented costs do not include Department of Ecology or PLIA costs, attorney fees, or other items not specifically identified in the PPA.

1

2

Based on Attached Contractor Estimates and project assumptions listed by contractors and as stated in the PPA report.

3

Scope Contingency developed using guidance from the US Environmental Protection Agency's "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study " July 2000.

\*

Allowing for up to 650 tons of contaminated soil and 16,000 gallons of contaminated water disposed during UST removal work. Soil and Groundwater Disposal fees assume that all soils will not be classified as "Hazardous."

**SITE  
PHOTOGRAPHS**



Photo

1



**Description:** Looking west at the Property.

**Comments:** Fill ports for USTs are visible in front of the building.

Photo

2



**Description:** Former pump island on eastern portion of the Property.

**Comments:** The former dispensers have been removed.



Photo

3



**Description:** Vacant store on the Property.

**Comments:** Property has been vacant since approximately 2003.

Photo

4



**Description:** Looking north at the UST fill ports and former pump island.

**Comments:** Approximate area of confirmed contamination on eastern portion of Property.

# **APPENDIX A**







Sept 15, 1945











December 28, 2016

Jim Aho  
Port of Illahee  
PO Box 2357  
Bremerton, WA 98310

RE: Site Investigation  
5507 Illahee Rd NW

Dear Mr. Aho:

Enclosed is the **Site Investigation Report** for the recently completed soil boring and sampling project at the 5507 Illahee Rd NW site in Bremerton, WA. As summarized in the report, visual and olfactory observations, field screenings, and the soil sample analytical results have indicated that petroleum-contaminated soil (PCS), above the MTCA Method A cleanup level for unrestricted land use, was detected in two of the soil boring locations. The PCS appears to be migrating easterly, down gradient from the UST pit area. The sample results also indicated that the PCS appears to be limited to an approximate depth of 11' - 11½' below ground surface (bgs). No groundwater was encountered in any of the boring locations; however, moist soil was encountered at the terminated depths of borings B-4 & B-5. The site will now be listed in the Department of Ecology (DOE) data base as a 'Leaking Underground Storage Tank' site until such time that remedial activities are completed.

Thank you again for the opportunity to work with you on this project. Please give me a call if you have any questions regarding this or any future projects.

Sincerely,

Tom Langseth  
Registered Site Assessor  
Langseth Environmental Services, Inc.

## Table of Contents:

- Site Investigation Report
- Site & Sampling Location Maps
- Soil Sample Analytical Data
- Soil Boring Log
- Photographs





## **SITE INVESTIGATION REPORT**

**5507 ILLAHEE RD NW**

**Parcel # 4429-015-001-0309**

**ERTS # 669620**

**SITE LOCATION:**  
Vacant Property  
5507 Illahee Rd NW  
Bremerton, WA 98311

**SITE CONTACT:**  
Jim Aho  
Port of Illahee  
PO Box 2357  
Bremerton, WA 98310  
360-479-1049

Soil Boring and Sampling Project

December 28, 2016

# **SITE INVESTIGATION REPORT**

**5507 ILLAHEE RD NW**

**Parcel # 4429-015-001-0309**

**ERTS # 669620**

**SITE LOCATION:**  
Vacant Property  
5507 Illahee Rd NW  
Bremerton, WA 98311

**SITE CONTACT:**  
Jim Aho  
Port of Illahee  
P.O. Box 2357  
Bremerton, WA 98310  
360-479-1049

Soil Boring and Sampling Project

This report was compiled by Tom Langseth, registered and licensed with the Washington State Department of Ecology to perform environmental site assessments in accordance with WAC 173-340 through the International Code Council.

## **PROJECT BACKGROUND**

This site is located in unincorporated Kitsap County, Washington, northeast of Bremerton city center, in a residential area commonly known as Illahee. The site is the location of a former grocery store / retail gasoline sales facility. The site has been vacant for approximately 14 years. Site address is 5507 Illahee Rd NW, Bremerton, WA 98311. Contact person for this project was Illahee Port representative, Jim Aho. Telephone number for Mr. Aho is 360-479-1049.

The three underground gasoline storage tanks (UST's) located at the site are registered with the Washington State Department of Ecology (DOE) as being installed in 1980 and taken out of service in 2003 when the facility was closed. The tanks are constructed of single wall steel with single wall steel piping. Two of the UST's are sized at 4000 gallons and one tank is sized at 6000 gallons. The dispensing pumps were removed at some unknown time in the past. Both leak detection and impressed current corrosion protection ceased at the time of closure. All site utilities were disconnected and / or shut off prior to the start of this project.

The intent of this project was to advance soil borings in the vicinity of the tank pit and former gasoline dispensing location. Soil samples were to be obtained from each boring location. The samples were to be laboratory analyzed for gasoline, BTEX and total lead to determine if any petroleum-contaminated soil (PCS) was present at the site.

## **WORK PERFORMED**

The soil boring and sampling project was begun on December 12, 2016. The soil borings were completed utilizing a direct push drilling machine operated by Standard Environmental Probe of Olympia, WA. The direct push drilling machine advanced each boring in four foot increments. Using 1.5" X 4' poly liners, discrete soil samples were obtained from the intended sampling intervals. The soil conditions in the 5 boring locations consisted of dark to light brown sandy, rocky, clay material (Unified Soil Classification System group symbols of CL, with typical names such as inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays) to at least 11' below ground surface (bgs). At the approximate 11' depth the soil conditions changed to hard packed sand material (USCS group symbol of SM, with typical names such as silty sands, sand-silt mixtures) to at least 13' bgs. Boring B-4 encountered refusal at approximately 11' - 11½' bgs due to hard pan soil conditions. No groundwater was encountered in any of the boring locations; however, moist soil was noted in boring location B-5 at the terminated depth. The obtained soil samples were stored in an iced cooler on site and transported directly to Libby Environmental, Inc., 4139 Libby Rd NE, Olympia, WA 98506.

Soil sampling was conducted in accordance with Washington State Department of Ecology guidelines. The soil samples were collected utilizing the boring/auger method, utilizing discrete poly liners. The samples were then placed into clean wide mouth glass containers with Teflon lids provided by the laboratory. All VOC sampling was accomplished utilizing the EPA 5035A method. The samples were analyzed utilizing the NWTPH-Gx/BTEX, and total lead methods. These analytical procedures test for the presence of gasoline, benzene, toluene, ethylbenzene, xylenes and lead.

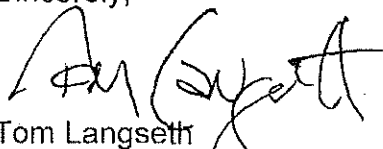
Enclosed are site and sampling location maps, laboratory analytical data, and the chain-of-custody form. Laboratory QA/QC data and the soil boring logs are included at the end of the report.

### RECOMMENDATIONS FOR FURTHER ACTION

Based on visual and olfactory observations, field screenings, and the soil sample analytical results, it is the conclusion of this consultant that petroleum-contaminated soil, above the MTCA Method A cleanup level for unrestricted land use, was detected in boring locations B-4 and B-5. These boring locations are east and down gradient of the UST pit area. The sample results also indicate that the vertical migration of PCS is limited to approximately 11' - 11½' bgs (the encountered dense hard pan). No groundwater was encountered in any of the boring locations; however, moist soil was encountered in boring location B-5 at the terminated depth. Based on the soil sample analytical results, the site was reported to the Northwest DOE Regional Office as a contaminated site on December 20, 2016. The site was given a designated ERTS number of 669620. The site will now be listed in the Department of Ecology (DOE) data base as a 'Leaking Underground Storage Tank' site until such time that remedial activities are completed.

This report has been prepared for the exclusive use of the Port of Illahee c/o Jim Aho and their agents, in accordance with generally accepted professional practices for the nature and condition of the work completed in the same or similar localities, at the time the work was performed. The findings contained herein are relevant to the dates of the Langseth Environmental Services, Inc. soil boring and sampling project and should not be relied upon to represent conditions at later dates. No additional warranty is expressed or implied. In the event that changes in the nature, usage or layout of the property or nearby properties are made, the conclusions and recommendations contained in this report may not be valid. If additional information becomes available, it should be provided to Langseth Environmental Services, Inc. so that the original conclusions and recommendations can be modified as necessary.

Sincerely,



Tom Langseth  
Registered Site Assessor  
Langseth Environmental Services, Inc.



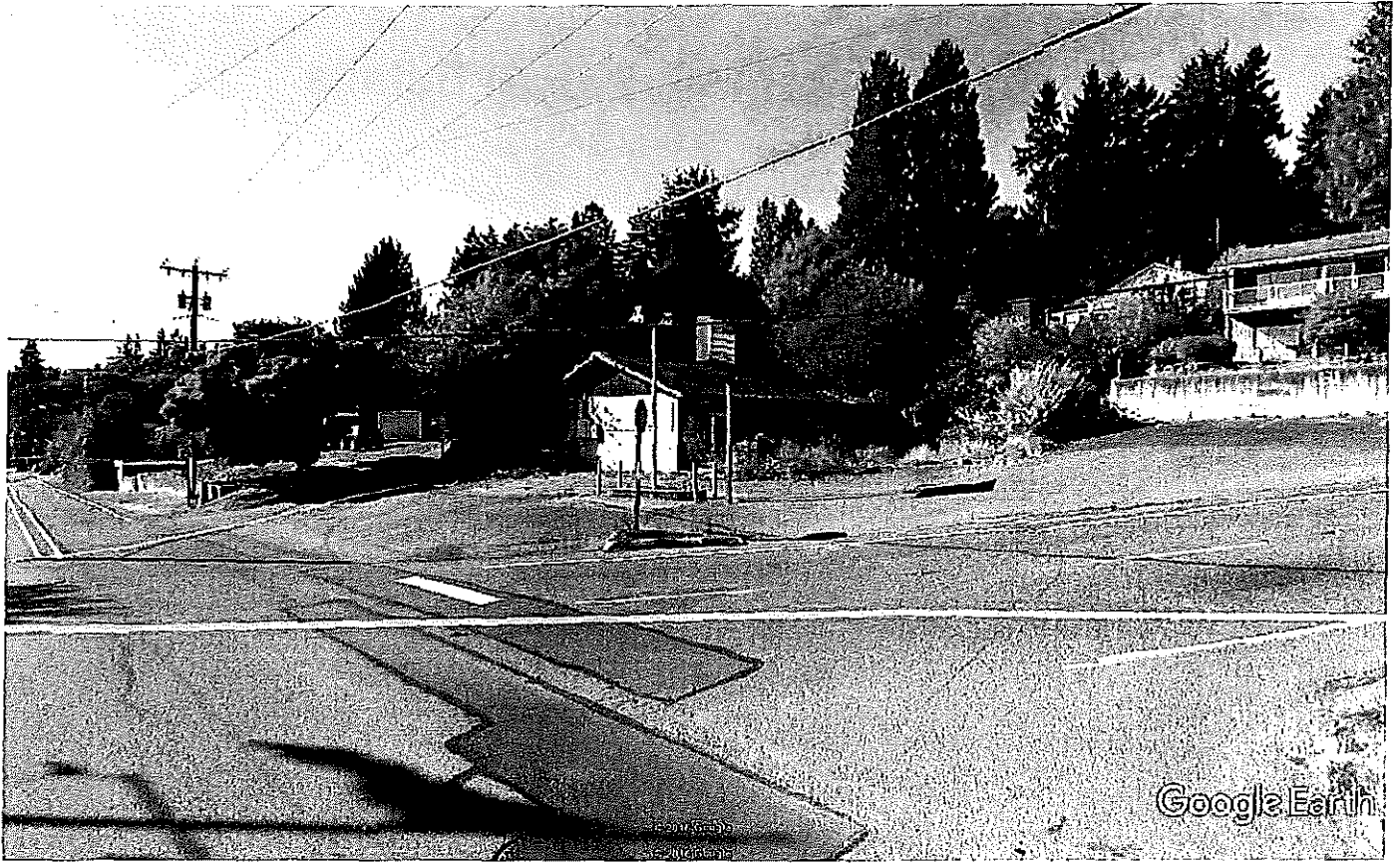
Google Earth





Google Earth





Google Earth





# Kitsap County Parcel Details

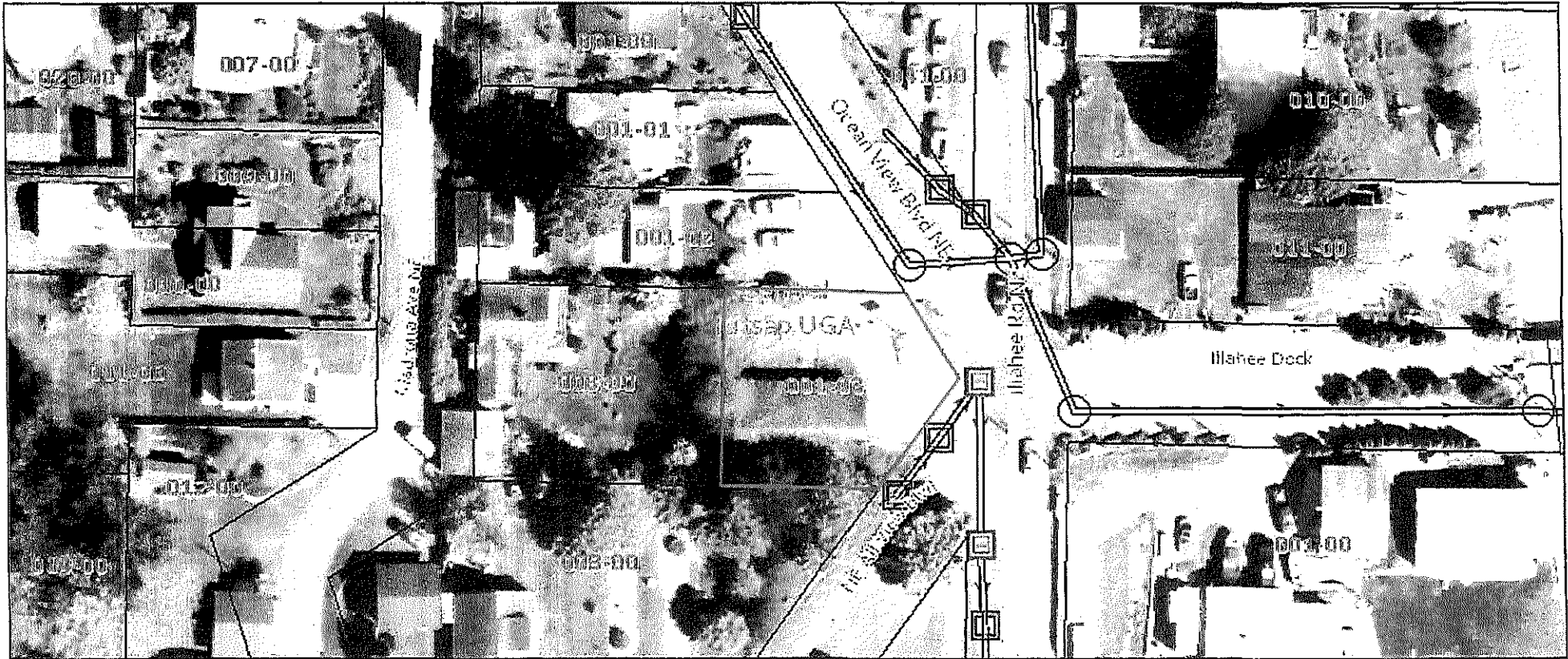
## Land & Location

Parcel #: 4429-015-001-0309

**\*\*NO SITUS ADDRESS \*\***

<b>Site Address</b>	**NO SITUS ADDRESS **
<b>Jurisdiction - Tax Code Area</b>	Unincorporated - 1460
<b>Zoning</b>	Ⓢ Neighborhood Commercial (10-30 DU/Ac)
<b>Sec-Twn-Rng-Qtr</b>	Sec 31 Township 25 Range 2E SW Qtr
<b>Acres</b>	0.15 (approx. 6,534 sq. ft.)
<b>Land where Account is Located</b>	N/A
<b>Latitude</b>	Ⓢ 47.61264326
<b>Longitude</b>	-122.59728222
<b>Last Inspected</b>	04/02/14
<b>View Rating</b>	Ⓢ 5
<b>Waterfront</b>	No
<b>Property Use</b>	543- Conv. store w/o gas pumps
<b>Neighborhood</b>	8401509 - E Bremerton North of Riddell





**Legend**

\*\* This map is not a substitute for field survey \*\* **Map Scale:** 1 inch = 60 feet

- |  |       |  |                    |  |                    |  |                       |
|--|-------|--|--------------------|--|--------------------|--|-----------------------|
|  | CDS   |  | Storm System Valve |  | Collector          |  | Underground Enclosure |
|  | CB1   |  | Collector          |  | Private            |  |                       |
|  | CB-SL |  | Private            |  | Commercial         |  |                       |
|  | CB-BL |  | Commercial         |  | Swale              |  |                       |
|  | CB2   |  | Swale              |  | Ditch              |  |                       |
|  | CMH   |  | Trench             |  | Mitigative Wetland |  |                       |
|  | OWS1  |  | Culvert            |  | Tank               |  |                       |
|  | OWS2  |  | Ditch              |  | Retention          |  |                       |
|  |       |  | Storm              |  | Detention          |  |                       |





# UST Site / Tank Data Summary

12/29/2016

Facility Name: ILLAHEE FOODS

Tag(s): A8081

### SITE INFORMATION

ILLAHEE FOODS 5507 ILLAHEE RD NE BREMERTON, WA 98311	RESP UNIT: NORTHWEST	COUNTY: KITSAP LAT: 47.6126073709498 LONG: -122.597269964313	USTID: 97233 FSID: 79247626
------------------------------------------------------------	----------------------	--------------------------------------------------------------------	--------------------------------

### TANK INFORMATION

<b>TANK NAME: 3</b>			
STATUS: Temporarily Closed		STATUS DT: 03/28/2003	PERMANENTLY CLOSED DT:
INSTALL DT: 01/01/1980		UPGRADE DT: 01/24/1998	PERMIT EXPIRATION DT: 08/31/2001
<b>TANK</b>		<b>PIPING</b>	
MATERIAL: Steel		MATERIAL: Steel	
CONSTRUCTION: Single Wall Tank		CONSTRUCTION: Single Wall Pipe	
CORROSION PROT: Impressed Current		CORROSION PROT: Impressed Current	
MANIFOLDED TANK:		SFC* at TANK:	
RELEASE DETECT: Manual Inventory Control (daily)		SFC* at DISP/PUMP:	
TIGHTNESS TEST:		1ST REL DETECT: Safe Suction (No Leak Detection)	
SPILL PREVENTION: Spill Bucket/Spill Box		2ND REL DETECT:	
OVERFILL PREVENT: Automatic Shutoff (fill pipe)		PUMPING SYSTEM: Non-Safe Suction	
ACTUAL CAPACITY: 4000			
CAPACITY RANGE: 2,001 to 4,999 Gallons			
<small>* SFC = Steel Flex Connector</small>			
<b>COMPARTMENT #</b>	<b>SUBSTANCE STORED</b>	<b>SUBSTANCE USED</b>	<b>CAPACITY</b>
1	A Leaded Gasoline	A Motor Fuel for Vehicles	4000

<b>TANK NAME: 1</b>			
STATUS: Temporarily Closed		STATUS DT: 03/28/2003	PERMANENTLY CLOSED DT:
INSTALL DT: 12/01/1979		UPGRADE DT: 11/24/1998	PERMIT EXPIRATION DT: 08/31/2001
<b>TANK</b>		<b>PIPING</b>	
MATERIAL: Steel		MATERIAL: Steel	
CONSTRUCTION: Single Wall Tank		CONSTRUCTION: Single Wall Pipe	
CORROSION PROT: Impressed Current		CORROSION PROT: Impressed Current	
MANIFOLDED TANK:		SFC* at TANK:	
RELEASE DETECT: Manual Inventory Control (daily)		SFC* at DISP/PUMP:	
TIGHTNESS TEST:		1ST REL DETECT: Safe Suction (No Leak Detection)	
SPILL PREVENTION: Spill Bucket/Spill Box		2ND REL DETECT:	
OVERFILL PREVENT: Automatic Shutoff (fill pipe)		PUMPING SYSTEM: Non-Safe Suction	
ACTUAL CAPACITY: 6000			
CAPACITY RANGE: 5,000 to 9,999 Gallons			
<small>* SFC = Steel Flex Connector</small>			
<b>COMPARTMENT #</b>	<b>SUBSTANCE STORED</b>	<b>SUBSTANCE USED</b>	<b>CAPACITY</b>
1	B Unleaded Gasoline	A Motor Fuel for Vehicles	6000

<b>TANK NAME: 2</b>			
STATUS: Temporarily Closed		STATUS DT: 03/28/2003	PERMANENTLY CLOSED DT:
INSTALL DT: 12/01/1979		UPGRADE DT: 11/24/1998	PERMIT EXPIRATION DT: 08/31/2001
<b>TANK</b>		<b>PIPING</b>	
MATERIAL: Steel		MATERIAL: Steel	
CONSTRUCTION: Single Wall Tank		CONSTRUCTION: Single Wall Pipe	
CORROSION PROT: Impressed Current		CORROSION PROT: Impressed Current	
MANIFOLDED TANK:		SFC* at TANK:	

RELEASE DETECT: Manual Inventory Control (daily)

SFC\* at DISP/PUMP:

TIGHTNESS TEST:

1ST REL DETECT: Safe Suction (No Leak Detection)

SPILL PREVENTION: Spill Bucket/Spill Box

2ND REL DETECT:

OVERFILL PREVENT: Automatic Shutoff (fill pipe)

PUMPING SYSTEM: Non-Safe Suction

ACTUAL CAPACITY: 4000

CAPACITY RANGE: 2,001 to 4,999 Gallons

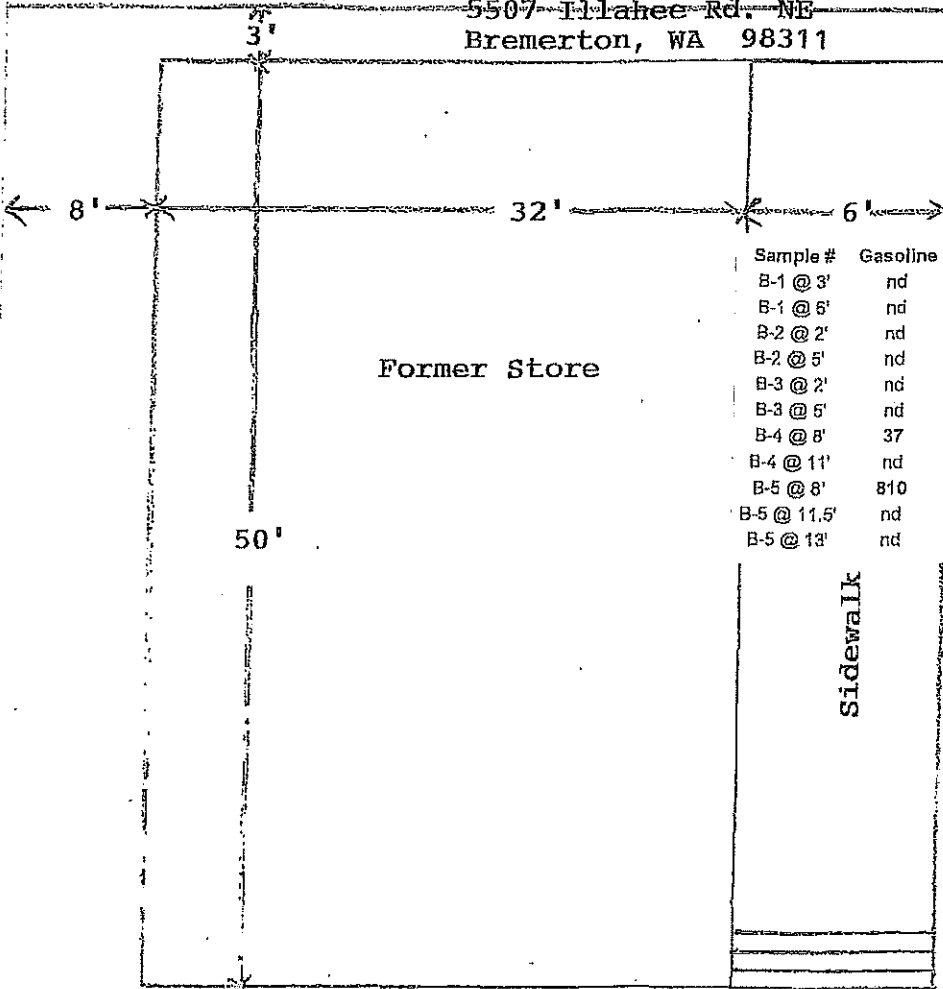
\* SFC = Steel Flex Connector

COMPARTMENT #	SUBSTANCE STORED	SUBSTANCE USED	CAPACITY
1	B Unleaded Gasoline	A Motor Fuel for Vehicles	4000

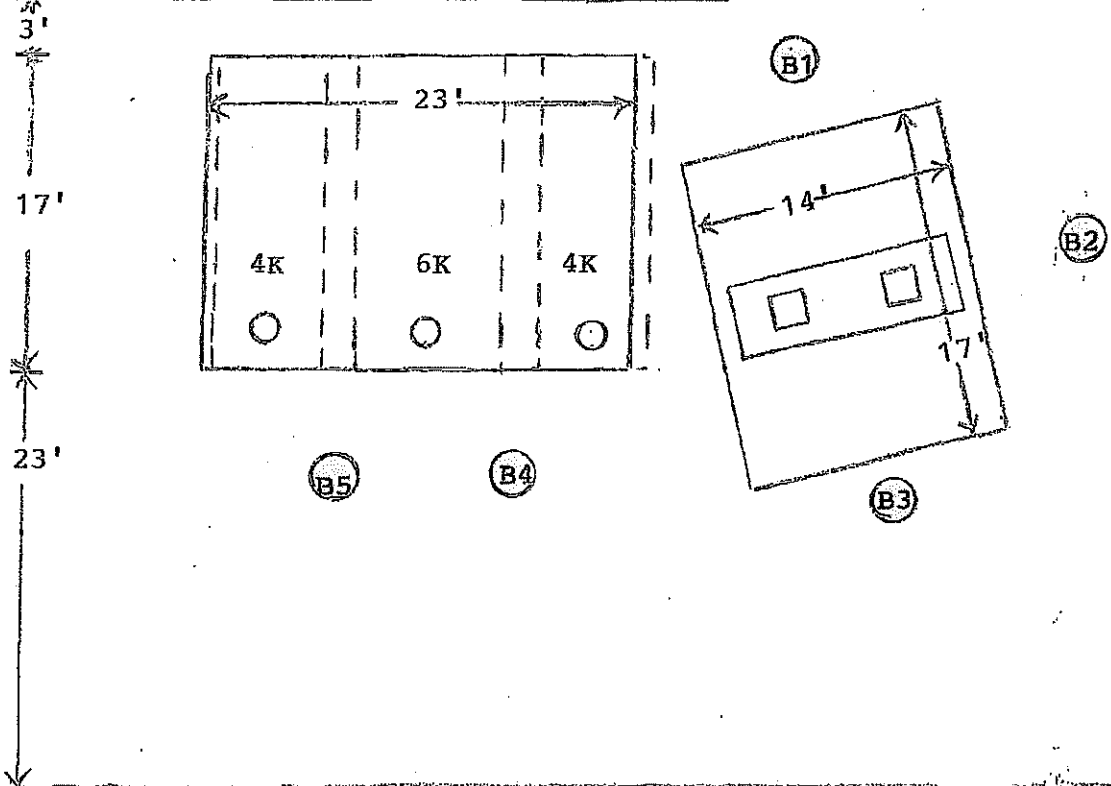
UST\_SiteTankDataSmry2014

SITE & SAMPLING LOCATION MAP

Illahee Foods (Vacant Property)  
 5507 Illahee Rd. NE  
 Bremerton, WA 98311



Sample #	Gasoline	Benzene	Toluene	Ethbenzene	Xylenes	Lead
B-1 @ 3'	nd	nd	nd	nd	nd	12.7
B-1 @ 6'	nd	nd	nd	nd	nd	nd
B-2 @ 2'	nd	nd	nd	nd	nd	nd
B-2 @ 5'	nd	nd	nd	nd	nd	nd
B-3 @ 2'	nd	nd	nd	nd	nd	8.3
B-3 @ 5'	nd	nd	nd	nd	nd	nd
B-4 @ 8'	37	0.028	nd	0.28	nd	nd
B-4 @ 11'	nd	nd	nd	nd	nd	nd
B-5 @ 8'	810	0.69	1.57	8.87	4.84	nd
B-5 @ 11.5'	nd	nd	nd	nd	nd	nd
B-5 @ 13'	nd	nd	nd	nd	nd	nd



Illahee Rd NE

Scale: 1"=10'

# SOIL SAMPLE RESULTS TABLE

5507 Illahee Rd. NW

Site Location:

Vacant Property

5507 Illahee Rd. NW

Bremerton, WA 98310

Sample Date: 12-12-16

Sample #	Gasoline	Benzene	Toluene	Ethbenzene	Xylenes	Lead
B-1 @ 3'	nd	nd	nd	nd	nd	12.4
B-1 @ 6'	nd	nd	nd	nd	nd	nd
B-2 @ 2'	nd	nd	nd	nd	nd	nd
B-2 @ 5'	nd	nd	nd	nd	nd	nd
B-3 @ 2'	nd	nd	nd	nd	nd	8.3
B-3 @ 5'	nd	nd	nd	nd	nd	nd
B-4 @ 8'	<b>37</b>	0.028	nd	0.28	nd	nd
B-4 @ 11'	nd	nd	nd	nd	nd	nd
B-5 @ 8'	<b>810</b>	<b>0.69</b>	1.57	<b>8.87</b>	4.84	nd
B-5 @ 11.5'	nd	nd	nd	nd	nd	nd
B-5 @ 13'	nd	nd	nd	nd	nd	nd
PQL	10	0.02	0.1	0.05	0.15	5
MTCA Cleanup (so)	30/100	0.03	7	6	9	250

"**Bold**" indicates above MTCA Cleanup Level

"nd" indicates not detected at the listed detection limits

Soil sample results reported in mg/Kg = ppm (parts per million)

Gasoline by NWTPH-Gx, BTEX by EPA 8260C, Total Lead by EPA 7010 Series

Sample #	Location
B-1 @ 3'	West of dispensing island
B-1 @ 6'	West of dispensing island
B-2 @ 2'	North of dispensing island
B-2 @ 5'	North of dispensing island
B-3 @ 2'	East of dispensing island
B-3 @ 5'	East of dispensing island
B-4 @ 8'	East of UST pit, between 4K & 6K tanks
B-4 @ 11'	East of UST pit, between 4K & 6K tanks
B-5 @ 8'	East of UST pit, 8' east of fill port
B-5 @ 11.5'	East of UST pit, 8' east of fill port
B-5 @ 13'	East of UST pit, 8' east of fill port

**SOIL SAMPLE**  
**ANALYTICAL DATA**



# Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

December 19, 2016

Tom Langseth  
Langseth Environmental Services, Inc.  
7517 Portland Avenue  
Tacoma, WA 98404

Dear Mr. Langseth:

Please find enclosed the analytical data report for the Illahee Borings Project located in Illahee, Washington.

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

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

Sincerely,

Sherry L. Chilcutt  
*Senior Chemist*  
*Libby Environmental, Inc.*



# Libby Environmental, Inc.

ILLAHEE BORINGS PROJECT  
Langseth Environmental Services, Inc.  
Illahee, Washington  
Libby Project # L161213-1

4139 Libby Road NE  
Olympia, WA 98506  
Phone: (360) 352-2110  
FAX: (360) 352-4154  
Email: libbyenv@aol.com

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

Sample Number	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline (mg/kg)	Surrogate Recovery (%)
Method Blank	12/13/16	nd	nd	nd	nd	nd	97
LCS	12/13/16	104%	106%				109
B-1 @ 3'	12/13/16	nd	nd	nd	nd	nd	134
B-1 @ 6'	12/13/16	nd	nd	nd	nd	nd	95
B-2 @ 2'	12/13/16	nd	nd	nd	nd	nd	99
B-2 @ 5'	12/13/16	nd	nd	nd	nd	nd	97
B-3 @ 2'	12/13/16	nd	nd	nd	nd	nd	95
B-3 @ 2' Dup	12/13/16	nd	nd	nd	nd	nd	93
B-3 @ 5'	12/13/16	nd	nd	nd	nd	nd	103
B-4 @ 8'	12/13/16	0.028	nd	0.28	nd	37	105
B-4 @ 11'	12/13/16	nd	nd	nd	nd	nd	111
B-5 @ 8'	12/13/16	0.69	1.57	8.87	4.84	810	121
B-5 @ 11.5'	12/13/16	nd	nd	nd	nd	nd	120
B-5 @ 13'	12/13/16	nd	nd	nd	nd	nd	113
B-3 @ 2' MS	12/13/16	118%	115%				100
B-3 @ 2' MSD	12/13/16	109%	104%				90
Practical Quantitation Limit		0.02	0.10	0.05	0.15	10	

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

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

ANALYSES PERFORMED BY: Sherry Chilcutt

# Libby Environmental, Inc.

ILLAHEE BORINGS PROJECT  
Langseth Environmental Services, Inc.  
Illahee, Washington  
Libby Project # L161213-1

4139 Libby Road NE  
Olympia, WA 98506  
Phone: (360) 352-2110  
FAX: (360) 352-4154  
Email: libbyenv@aol.com

## Analyses of Total Lead in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (mg/kg)
Method Blank	12/18/16	nd
B-1 @ 3'	12/18/16	12.4
B-1 @ 6'	12/18/16	nd
B-2 @ 2'	12/18/16	nd
B-2 @ 5'	12/18/16	nd
B-3 @ 2'	12/18/16	8.3
B-3 @ 5'	12/18/16	nd
B-4 @ 8'	12/18/16	nd
B-4 @ 11'	12/18/16	nd
B-5 @ 8'	12/18/16	nd
B-5 @ 11.5'	12/18/16	nd
B-5 @ 13'	12/18/16	nd
Practical Quantitation Limit		5.0

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Dirk Peterson

# Libby Environmental, Inc.

ILLAHEE BORINGS PROJECT  
Langseth Environmental Services, Inc.  
Illahec, Washington  
Libby Project # L161213-1

4139 Libby Road NE  
Olympia, WA 98506  
Phone: (360) 352-2110  
FAX: (360) 352-4154  
Email: libbyenv@aol.com

## QA/QC for Lead in Soil by EPA Method 7010 Series

Sample Number	Date Analyzed	Lead (% Recovery)
LCS	12/18/16	107%
L161214-1 MS	12/18/16	88%
L161214-1 MSD	12/18/16	93%
RPD	12/18/16	6%

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 75%-125%

ACCEPTABLE RPD IS 20%

ANALYSES PERFORMED BY: Dirk Peterson

# Libby Environmental, Inc.

# Chain of Custody Record

www.LibbyEnvironmental.com

4139 Libby Road NE  
Olympia, WA 98506

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

Date: 12-12-16

Page: 1 of 1

Client: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Client Project # \_\_\_\_\_

Project Manager: T LANGSETH  
Project Name: Illahee BORINGS  
Location: 5507 Illahee Rd NE City, State: Illahee WA  
Collector: T LANGSETH Date of Collection: 12-12-16  
Email: LANGSETHENV@GMAIL.COM



Sample Number	Depth	Time	Sample Type	Container Type	Analytes											Field Notes			
					VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-PCID	NWTPH-DX	e-PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals		Pb		
1	B-1 @ 3'	919	S	402+2VDA	X	X													X
2	B-1 @ 6'	928	↓	↓	↓	↓													↓
3	B-1 @ 8'	HOLD	HOLD	HOLD	HOLD	HOLD													HOLD
4	B-2 @ 2'	942	↓	↓	X	X													X
5	B-2 @ 5'	950	↓	↓															
6	B-3 @ 2'	1001	↓	↓															
7	B-3 @ 5'	1007	↓	↓															
8	B-4 @ 8'	1026	↓	↓															
9	B-4 @ 11'	1041	↓	↓															
10	B-5 @ 8'	1112	↓	↓															
11	B-5 @ 11 1/2'	1120	↓	↓															
12	B-5 @ 13'	1135	↓	↓															
13																			
14																			
15																			
16																			
17																			

Relinquished by: <i>[Signature]</i>	Date / Time: 12/13/16 1215	Received by: <i>[Signature]</i>	Date / Time: 12/13/16 1215	<b>Sample Receipt</b> Good Condition? <input checked="" type="radio"/> Y <input type="radio"/> N Temp. 9 °C Seals Intact? <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A Total Number of Containers: 36	Remarks:  TAT: 24HR 48HR <b>5-DAY</b>
Relinquished by:	Date / Time:	Received by:	Date / Time:		
Relinquished by:	Date / Time:	Received by:	Date / Time:		

LEGAL ACTION CLAUSE: In the event of default of payment and/or failure to pay, Client agrees to pay the costs of collection including court costs and reasonable attorney fees to be determined by a court of law.

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

# **SOIL BORING LOG**

# Soil Boring Log

5507 Illahee Rd. NW.  
Bremerton, WA 98310

## **Boring #1**

West of fuel island (12' W of dispenser location)

0 - 3' 2" asphalt, rocky, sandy, clay soil

3' - 6' Rocky, sandy, clay

6' - 8' Rocky, sandy, clay

No visual (V) or olfactory (O) indications of PCS

Boring terminated at 8'

Samples obtained at 3' and 6'

All boring locations plugged with bentonite and brought to grade with asphalt cold patch

No groundwater encountered during entire project

## **Boring #2**

North of fuel island (12' N of dispenser location)

0 - 4' 2" asphalt, rocky, sandy, clay soil

4' - 6' Rocky, sandy, clay

No V or O indications of PCS

Boring terminated at 6'

Samples obtained at 2' and 5'

## **Boring #3**

East of fuel island (8' E of dispenser location)

0 - 4' 2" asphalt, rocky, sandy, clay soil

4' - 6' Rocky, sandy, clay

No V or O indications of PCS

Boring terminated at 6'

Samples obtained at 2' and 5'

## **Boring #4**

East of UST pit / down gradient (8' E of tank pit between 6K & 4K UST's)

0 - 4' 2" asphalt, rocky, sandy, clay soil

4' - 8' Rocky, sandy, clay to 6'. 6' - 8' plastic clay

8' - 11' Rocky, plastic, clay

V and O indications of PCS @ 6' - 9'

Boring terminated at 11' (refusal / dense hard pan)

Samples obtained at 8' and 11'

## Soil Boring Log

5507 Illahee Rd. NW  
Bremerton, WA 98310

### **Boring #5**

East of UST pit / down gradient (8' E of tank pit between 4K & 4K UST's)

0 - 4' 2" asphalt, rocky, sandy, clay

4' - 8' Rocky, sandy, clay

8' - 11½' Rocky, sandy, clay

11½' - 13' Moist sand

V and O indications of PCS @ 4' - 9'

Boring terminated at 13'

Samples obtained @ 8' and 11½' and 13'



# PHOTOGRAPHS



Looking southwest at the former Illahee Foods business, 5507 Illahee Rd. NE, Bremerton, WA.



Looking south at the former fueling/dispenser location. Sampling table set up on UST pit area.



Looking north at boring location B-4, down gradient from UST pit area.

# **APPENDIX B**

Wednesday, August 2, 2017

Anna Jordan  
G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

RE: PLIA-Illahee / 01-1129-A

Enclosed are the results of analyses for work order A7G0383, which was received by the laboratory on 7/15/2017 at 9:25:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [ldomenighini@apex-labs.com](mailto:ldomenighini@apex-labs.com), or by phone at 503-718-2323.

---

Apex Laboratories



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

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Lisa Domenighini, Client Services Manager

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
08/02/17 14:36

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GLMW-1-W	A7G0383-01	Water	07/13/17 16:15	07/15/17 09:25
GLMW-2-W	A7G0383-02	Water	07/13/17 15:00	07/15/17 09:25
GLMW-3-W	A7G0383-03	Water	07/13/17 15:35	07/15/17 09:25
GLMW-4-W	A7G0383-04	Water	07/13/17 15:55	07/15/17 09:25
Trip Blank #1546	A7G0383-05	Water	07/13/17 00:00	07/15/17 09:25

Apex Laboratories



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Lisa Domenighini, Client Services Manager

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
08/02/17 14:36

## ANALYTICAL CASE NARRATIVE

### Work Order: A7G0383

#### Analytical Note

The MDL (method detection limit) for 8260 SIM EDB for sample GLMW-2-W was raised due to matrix interference.

Amended Report Revision :2

#### Additional Analysis-

This report supersedes all previous reports.

At the client's request EPA Method 8260-SIM EDB was added to samples, GLMW-2-W and GLMW-3-W.

Lisa Domenighini  
Client Services Manager  
8/1/17

Amended Report Revision 1:

#### Additional Analysis-

This report supersedes all previous reports.

At the client's request EPA Method 8260-EDB/EDC/MTBE was added to samples, GLMW-2-W and GLMW-3-W.

Lisa Domenighini  
Client Services Manager  
7/26/17





**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-W (A7G0383-01)</b>			<b>Matrix: Water</b>		<b>Batch: 7070579</b>			
Diesel	ND	---	76.2	ug/L	1	07/17/17 23:43	NWTPH-Dx	
Oil	ND	---	152	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-W (A7G0383-02)</b>			<b>Matrix: Water</b>		<b>Batch: 7070579</b>			
Diesel	ND	---	77.7	ug/L	1	07/18/17 00:06	NWTPH-Dx	
Oil	ND	---	155	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-W (A7G0383-03)</b>			<b>Matrix: Water</b>		<b>Batch: 7070579</b>			
<b>Diesel</b>	<b>103</b>	---	77.7	ug/L	1	07/18/17 00:29	NWTPH-Dx	F-18
Oil	ND	---	155	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-4-W (A7G0383-04)</b>			<b>Matrix: Water</b>		<b>Batch: 7070579</b>			
Diesel	ND	---	76.2	ug/L	1	07/18/17 00:52	NWTPH-Dx	
Oil	ND	---	152	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories



Lisa Domenighini, Client Services Manager

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-W (A7G0383-01)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Gasoline Range Organics	ND	---	100	ug/L	1	07/17/17 13:16	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>111 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-W (A7G0383-02)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Gasoline Range Organics	978	---	100	ug/L	1	07/17/17 13:45	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 88 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>111 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-W (A7G0383-03RE1)</b>			<b>Matrix: Water</b>		<b>Batch: 7070612</b>			
Gasoline Range Organics	998	---	100	ug/L	1	07/17/17 18:24	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 105 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>106 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-4-W (A7G0383-04)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Gasoline Range Organics	ND	---	100	ug/L	1	07/17/17 14:41	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>110 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>Trip Blank #1546 (A7G0383-05)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Gasoline Range Organics	ND	---	100	ug/L	1	07/17/17 10:55	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>108 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-W (A7G0383-01)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Benzene	ND	---	0.200	ug/L	1	07/17/17 13:16	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 112 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>90 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>86 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<b>GLMW-2-W (A7G0383-02)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Benzene	ND	---	0.200	ug/L	1	07/17/17 13:45	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.690</b>	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 107 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>92 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>83 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<b>GLMW-3-W (A7G0383-03RE1)</b>			<b>Matrix: Water</b>		<b>Batch: 7070612</b>			
<b>Benzene</b>	<b>4.76</b>	---	0.200	ug/L	1	07/17/17 18:24	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
<b>Ethylbenzene</b>	<b>3.84</b>	---	0.500	"	"	"	"	
<b>Xylenes, total</b>	<b>2.21</b>	---	1.50	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<b>GLMW-4-W (A7G0383-04)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Benzene	ND	---	0.200	ug/L	1	07/17/17 14:41	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 111 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>91 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>86 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<b>Trip Blank #1546 (A7G0383-05)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Benzene	ND	---	0.200	ug/L	1	07/17/17 10:55	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	

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**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>Trip Blank #1546 (A7G0383-05)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Ethylbenzene	ND	---	0.500	ug/L	1	"	EPA 8260B	
Xylenes, total	ND	---	1.50	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 110 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>91 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>87 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260C

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-2-W (A7G0383-02)</b>			<b>Matrix: Water</b>		<b>Batch: 7070580</b>			
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	07/17/17 13:45	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 107 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>92 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>83 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<b>GLMW-3-W (A7G0383-03RE1)</b>			<b>Matrix: Water</b>		<b>Batch: 7070612</b>			
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	07/17/17 18:24	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 106 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>95 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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**Reported:**  
 08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### 1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting		Units	Dilution	Date Analyzed	Method	Notes
			Limit						
<b>GLMW-2-W (A7G0383-02)</b>			<b>Matrix: Water</b>		<b>Batch: 7070922</b>				
1,2-Dibromoethane (EDB)	ND	0.0200	0.0200		ug/L	1	07/27/17 12:35	EPA 8260C SIM	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 113 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>117 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>85 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<b>GLMW-3-W (A7G0383-03)</b>			<b>Matrix: Water</b>		<b>Batch: 7070922</b>				
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200		ug/L	1	07/27/17 13:02	EPA 8260C SIM	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>104 %</i>	<i>Limits: 70-130 %</i>		"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>85 %</i>	<i>Limits: 70-130 %</i>		"	"	"	

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 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 08/02/17 14:36

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>GLMW-1-W (A7G0383-01)</b>			<b>Matrix: Water</b>					
Batch: 7070588								
<b>Lead</b>	<b>2.43</b>	---	1.00	ug/L	1	07/17/17 19:26	EPA 6020A	
<b>GLMW-2-W (A7G0383-02RE1)</b>			<b>Matrix: Water</b>					
Batch: 7070588								
<b>Lead</b>	<b>0.333</b>	---	0.200	ug/L	1	07/18/17 16:22	EPA 6020A	
<b>GLMW-3-W (A7G0383-03RE1)</b>			<b>Matrix: Water</b>					
Batch: 7070588								
<b>Lead</b>	<b>0.533</b>	---	0.200	ug/L	1	07/18/17 16:25	EPA 6020A	
<b>GLMW-4-W (A7G0383-04RE1)</b>			<b>Matrix: Water</b>					
Batch: 7070588								
<b>Lead</b>	<b>0.467</b>	---	0.200	ug/L	1	07/18/17 16:29	EPA 6020A	





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 08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070579 - EPA 3510C (Fuels/Acid Ext.)</b>						<b>Water</b>						
<b>Blank (7070579-BLK1)</b>						Prepared: 07/17/17 07:12 Analyzed: 07/17/17 21:49						
<b>NWTPH-Dx</b>												
Diesel	ND	---	72.7	ug/L	1	---	---	---	---	---	---	
Oil	ND	---	145	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>LCS (7070579-BS1)</b>						Prepared: 07/17/17 07:12 Analyzed: 07/17/17 22:12						
<b>NWTPH-Dx</b>												
Diesel	395	---	80.0	ug/L	1	500	---	79	52-120%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>LCS Dup (7070579-BSD1)</b>						Prepared: 07/17/17 07:12 Analyzed: 07/17/17 22:35						
<b>NWTPH-Dx</b>												
Diesel	406	---	80.0	ug/L	1	500	---	81	52-120%	3	20%	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 113 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					

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<b>G-Logics, Inc</b> 40 Second Ave SE Issaquah, WA 98027	Project: <b>PLIA-Illahee</b> Project Number: 01-1129-A Project Manager: Anna Jordan	Reported: 08/02/17 14:36
----------------------------------------------------------------	-------------------------------------------------------------------------------------------	-----------------------------

### QUALITY CONTROL (QC) SAMPLE RESULTS

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070580 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070580-BLK1)</b>						Prepared: 07/17/17 08:06 Analyzed: 07/17/17 10:27						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur) Recovery: 87 % Limits: 50-150 % Dilution: 1x</i>												
<i>1,4-Difluorobenzene (Sur) 102 % 50-150 % "</i>												
<b>LCS (7070580-BS2)</b>						Prepared: 07/17/17 08:06 Analyzed: 07/17/17 09:59						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	450	---	100	ug/L	1	500	---	90	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur) Recovery: 92 % Limits: 50-150 % Dilution: 1x</i>												
<i>1,4-Difluorobenzene (Sur) 105 % 50-150 % "</i>												



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Issaquah, WA 98027

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08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070612 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070612-BLK1)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 17:56						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 106 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>114 %</i>		<i>50-150 %</i>		<i>"</i>						
<b>LCS (7070612-BS2)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 17:27						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	447	---	100	ug/L	1	500	---	89	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>103 %</i>		<i>50-150 %</i>		<i>"</i>						



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08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070580 - EPA 5030B</b>												
<b>Water</b>												
<b>Blank (7070580-BLK1)</b>												
Prepared: 07/17/17 08:06 Analyzed: 07/17/17 10:27												
<b>EPA 8260B</b>												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	---

Surr: 1,4-Difluorobenzene (Surr)      Recovery: 104 %      Limits: 80-120 %      Dilution: 1x  
 Toluene-d8 (Surr)      90 %      80-120 %      "  
 4-Bromofluorobenzene (Surr)      87 %      80-120 %      "

<b>LCS (7070580-BS1)</b>												
Prepared: 07/17/17 08:06 Analyzed: 07/17/17 09:30												
<b>EPA 8260B</b>												
Benzene	19.9	---	0.200	ug/L	1	20.0	---	99	70-130%	---	---	---
Toluene	19.9	---	1.00	"	"	"	---	99	"	---	---	---
Ethylbenzene	20.0	---	0.500	"	"	"	---	100	"	---	---	---
Xylenes, total	61.4	---	1.50	"	"	60.0	---	102	"	---	---	---

Surr: 1,4-Difluorobenzene (Surr)      Recovery: 105 %      Limits: 80-120 %      Dilution: 1x  
 Toluene-d8 (Surr)      87 %      80-120 %      "  
 4-Bromofluorobenzene (Surr)      86 %      80-120 %      "



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## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070612 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070612-BLK1)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 17:56						
<b>EPA 8260B</b>												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	---

Surr: 1,4-Difluorobenzene (Surr)      Recovery: 115 %      Limits: 80-120 %      Dilution: 1x  
 Toluene-d8 (Surr)      100 %      80-120 %      "  
 4-Bromofluorobenzene (Surr)      97 %      80-120 %      "

<b>LCS (7070612-BS1)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 16:59						
<b>EPA 8260B</b>												
Benzene	21.8	---	0.200	ug/L	1	20.0	---	109	70-130%	---	---	---
Toluene	20.4	---	1.00	"	"	"	---	102	"	---	---	---
Ethylbenzene	20.4	---	0.500	"	"	"	---	102	"	---	---	---
Xylenes, total	61.7	---	1.50	"	"	60.0	---	103	"	---	---	---

Surr: 1,4-Difluorobenzene (Surr)      Recovery: 107 %      Limits: 80-120 %      Dilution: 1x  
 Toluene-d8 (Surr)      98 %      80-120 %      "  
 4-Bromofluorobenzene (Surr)      94 %      80-120 %      "



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40 Second Ave SE  
Issaquah, WA 98027

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Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070580 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070580-BLK1)</b>						Prepared: 07/17/17 08:06 Analyzed: 07/17/17 10:27						
<b>EPA 8260C</b>												
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>90 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>87 %</i>	<i>80-120 %</i>		<i>"</i>						
<b>LCS (7070580-BS1)</b>						Prepared: 07/17/17 08:06 Analyzed: 07/17/17 09:30						
<b>EPA 8260C</b>												
Methyl tert-butyl ether (MTBE)	18.4	---	1.00	ug/L	1	20.0	---	92	70-130%	---	---	---
1,2-Dibromoethane (EDB)	21.4	---	0.500	"	"	"	---	107	80-120%	---	---	---
1,2-Dichloroethane (EDC)	22.4	---	0.500	"	"	"	---	112	70-130%	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>87 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>86 %</i>	<i>80-120 %</i>		<i>"</i>						



**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260C

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070612 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070612-BLK1)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 17:56						
<b>EPA 8260C</b>												
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 115 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>97 %</i>	<i>80-120 %</i>		<i>"</i>						
<b>LCS (7070612-BS1)</b>						Prepared: 07/17/17 14:00 Analyzed: 07/17/17 16:59						
<b>EPA 8260C</b>												
Methyl tert-butyl ether (MTBE)	19.0	---	1.00	ug/L	1	20.0	---	95	70-130%	---	---	---
1,2-Dibromoethane (EDB)	20.9	---	0.500	"	"	"	---	105	80-120%	---	---	---
1,2-Dichloroethane (EDC)	19.0	---	0.500	"	"	"	---	95	70-130%	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 107 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>94 %</i>	<i>80-120 %</i>		<i>"</i>						





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40 Second Ave SE  
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Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### 1,2-Dibromoethane (EDB) by EPA 8260C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070922 - EPA 5030B</b>						<b>Water</b>						
<b>Blank (7070922-BLK1)</b>						Prepared: 07/27/17 10:00 Analyzed: 07/27/17 12:09						
<b>EPA 8260C SIM</b>												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>106 %</i>		<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>109 %</i>		<i>70-130 %</i>		<i>"</i>						
<b>LCS (7070922-BS1)</b>						Prepared: 07/27/17 10:00 Analyzed: 07/27/17 11:42						
<b>EPA 8260C SIM</b>												
1,2-Dibromoethane (EDB)	0.233	0.0100	0.0200	ug/L	1	0.200	---	116	70-130%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>107 %</i>		<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>70-130 %</i>		<i>"</i>						

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Lisa Domenighini, Client Services Manager

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**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
08/02/17 14:36

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070588 - EPA 3015A</b>						<b>Water</b>						
<b>Blank (7070588-BLK1)</b>						Prepared: 07/17/17 08:53 Analyzed: 07/17/17 16:30						
<b>EPA 6020A</b>												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	---
<b>LCS (7070588-BS1)</b>						Prepared: 07/17/17 08:53 Analyzed: 07/17/17 16:36						
<b>EPA 6020A</b>												
Lead	53.9	---	0.200	ug/L	1	55.6	---	97	80-120%	---	---	---
<b>Matrix Spike (7070588-MS1)</b>						Prepared: 07/17/17 08:53 Analyzed: 07/17/17 19:29						
<b>QC Source Sample: GLMW-1-W (A7G0383-01)</b>												
<b>EPA 6020A</b>												
Lead	57.6	---	1.00	ug/L	1	55.6	2.43	99	75-125%	---	---	---

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40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
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Reported:  
08/02/17 14:36

### SAMPLE PREPARATION INFORMATION

#### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

**Prep: EPA 3510C (Fuels/Acid Ext.)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070579</b>							
A7G0383-01	Water	NWTPH-Dx	07/13/17 16:15	07/17/17 07:12	1050mL/2mL	1000mL/2mL	0.95
A7G0383-02	Water	NWTPH-Dx	07/13/17 15:00	07/17/17 07:12	1030mL/2mL	1000mL/2mL	0.97
A7G0383-03	Water	NWTPH-Dx	07/13/17 15:35	07/17/17 07:12	1030mL/2mL	1000mL/2mL	0.97
A7G0383-04	Water	NWTPH-Dx	07/13/17 15:55	07/17/17 07:12	1050mL/2mL	1000mL/2mL	0.95

#### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

**Prep: EPA 5030B**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070580</b>							
A7G0383-01	Water	NWTPH-Gx (MS)	07/13/17 16:15	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-02	Water	NWTPH-Gx (MS)	07/13/17 15:00	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-04	Water	NWTPH-Gx (MS)	07/13/17 15:55	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-05	Water	NWTPH-Gx (MS)	07/13/17 00:00	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
<b>Batch: 7070612</b>							
A7G0383-03RE1	Water	NWTPH-Gx (MS)	07/13/17 15:35	07/17/17 16:22	5mL/5mL	5mL/5mL	1.00

#### BTEX Compounds by EPA 8260B

**Prep: EPA 5030B**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070580</b>							
A7G0383-01	Water	EPA 8260B	07/13/17 16:15	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-02	Water	EPA 8260B	07/13/17 15:00	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-04	Water	EPA 8260B	07/13/17 15:55	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
A7G0383-05	Water	EPA 8260B	07/13/17 00:00	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00
<b>Batch: 7070612</b>							
A7G0383-03RE1	Water	EPA 8260B	07/13/17 15:35	07/17/17 16:22	5mL/5mL	5mL/5mL	1.00

#### Volatile Organic Compounds by EPA 8260C

**Prep: EPA 5030B**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070580</b>							
A7G0383-02	Water	EPA 8260C	07/13/17 15:00	07/17/17 09:15	5mL/5mL	5mL/5mL	1.00

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**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 08/02/17 14:36

### SAMPLE PREPARATION INFORMATION

#### Volatile Organic Compounds by EPA 8260C

**Prep: EPA 5030B**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070612</b>							
A7G0383-03RE1	Water	EPA 8260C	07/13/17 15:35	07/17/17 16:22	5mL/5mL	5mL/5mL	1.00

#### 1,2-Dibromoethane (EDB) by EPA 8260C SIM

**Prep: EPA 5030B**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070922</b>							
A7G0383-02	Water	EPA 8260C SIM	07/13/17 15:00	07/27/17 12:02	5mL/5mL	5mL/5mL	1.00
A7G0383-03	Water	EPA 8260C SIM	07/13/17 15:35	07/27/17 12:02	5mL/5mL	5mL/5mL	1.00

#### Total Metals by EPA 6020 (ICPMS)

**Prep: EPA 3015A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070588</b>							
A7G0383-01	Water	EPA 6020A	07/13/17 16:15	07/17/17 08:53	45mL/50mL	45mL/50mL	1.00
A7G0383-02RE1	Water	EPA 6020A	07/13/17 15:00	07/17/17 08:53	45mL/50mL	45mL/50mL	1.00
A7G0383-03RE1	Water	EPA 6020A	07/13/17 15:35	07/17/17 08:53	45mL/50mL	45mL/50mL	1.00
A7G0383-04RE1	Water	EPA 6020A	07/13/17 15:55	07/17/17 08:53	45mL/50mL	45mL/50mL	1.00

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G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
08/02/17 14:36

## Notes and Definitions

### Qualifiers:

- F-18 Result for Diesel (Diesel Range Organics, C12-C24) is due to overlap from Gasoline or a Gasoline Range product.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Lisa Domenighini, Client Services Manager



**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

Reported:  
 08/02/17 14:36

**APEX LABS COOLER RECEIPT FORM**

Client: G-Logics Element WO#: A7 G0783  
 Project/Project #: Illahee / 01-1129-A

**Delivery info:**

Date/Time Received: 7/15/17 @ 9:25 By: AKK  
 Delivered by: Apex \_\_\_ Client \_\_\_ ESS \_\_\_ FedEx  UPS \_\_\_ Swift \_\_\_ Senvoy \_\_\_ SDS \_\_\_ Other \_\_\_

**Cooler Inspection** Inspected by: AKK : 7/15/17 @ 9:35

Chain of Custody Included? Yes  No \_\_\_ Custody Seals? Yes \_\_\_ No   
 Signed/Dated by Client? Yes  No \_\_\_  
 Signed/Dated by Apex? Yes  No \_\_\_

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	<u>5.3</u>	<u>4.8</u>	<u>5.9</u>	<u>5.8</u>			
Received on Ice? <input checked="" type="checkbox"/> (N)							
Temp. Blanks? <input checked="" type="checkbox"/> (N)	<u>9.8</u>						
Ice Type: (Gel/Real/Other)	<u>melted</u>						
Condition:							

Cooler out of temp? (Y/N)  Possible reason why: Temp Blank away from ice  
 If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

**Samples Inspection:** Inspected by: AKK : 7/15/17 @ 11:14

All Samples Intact? Yes  No \_\_\_ Comments: \_\_\_\_\_

Bottle Labels/COCs agree? Yes \_\_\_ No  Comments: Trip Blank #1546 provided not on coc

Containers/Volumes Received Appropriate for Analysis? Yes  No \_\_\_ Comments: \_\_\_\_\_

Do VOA Vials have Visible Headspace? Yes \_\_\_ No  NA \_\_\_  
 Comments: \_\_\_\_\_

Water Samples: pH Checked and Appropriate (except VOAs): Yes  No \_\_\_ NA \_\_\_  
 Comments: \_\_\_\_\_

**Additional Information:**  
 \_\_\_\_\_  
 \_\_\_\_\_

Labeled by: AKK Witness: AKK Cooler Inspected by: AKK See Project Contact Form: AKK

*Lisa Domenighini*





Thursday, July 27, 2017

Anna Jordan  
G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

RE: PLIA-Illahee / 01-1129-A

Enclosed are the results of analyses for work order A7G0385, which was received by the laboratory on 7/15/2017 at 9:25:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [ldomenighini@apex-labs.com](mailto:ldomenighini@apex-labs.com), or by phone at 503-718-2323.

---

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GLMW-1-10	A7G0385-02	Soil	07/13/17 07:40	07/15/17 09:25
GLMW-1-15	A7G0385-03	Soil	07/13/17 07:55	07/15/17 09:25
GLMW-2-8	A7G0385-06	Soil	07/13/17 09:15	07/15/17 09:25
GLMW-2-8 Dup	A7G0385-07	Soil	07/13/17 09:15	07/15/17 09:25
GLMW-2-10	A7G0385-08	Soil	07/13/17 09:20	07/15/17 09:25
GLMW-3-1.5	A7G0385-10	Soil	07/13/17 10:57	07/15/17 09:25
GLMW-3-4.5	A7G0385-11	Soil	07/13/17 11:00	07/15/17 09:25
GLMW-3-7.5	A7G0385-12	Soil	07/13/17 11:05	07/15/17 09:25
GLMW-3-10	A7G0385-13	Soil	07/13/17 11:07	07/15/17 09:25
GLB-2-2	A7G0385-16	Soil	07/13/17 11:30	07/15/17 09:25
GLB-2-5	A7G0385-17	Soil	07/13/17 11:35	07/15/17 09:25
GLB-3-10	A7G0385-23	Soil	07/13/17 12:30	07/15/17 09:25
GLMW-4-7.5	A7G0385-25	Soil	07/13/17 12:58	07/15/17 09:25
GLB-4-7.5	A7G0385-29	Soil	07/13/17 13:20	07/15/17 09:25
GLB-4-10	A7G0385-30	Soil	07/13/17 13:25	07/15/17 09:25
GLB-1-6	A7G0385-32	Soil	07/12/17 15:05	07/15/17 09:25

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Lisa Domenighini, Client Services Manager

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL CASE NARRATIVE

---

**Work Order: A7G0385**

Amended Report Revision 1:

EPA Method 8260B SIM Analysis Added

This report supersedes all previous reports.

At the request of the client Methods NWTPH-Dx, NWTPH-Gx/BTEX and Lead by EPA Method 6020 was added to sample, GLMW-2-8 Dup.

Lisa Domenighini  
Client Services Manager  
7/26/17

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-10 (A7G0385-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070581</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 06:46	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-1-15 (A7G0385-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070581</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 07:07	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-8 (A7G0385-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070581</b>			
Diesel	<b>42.7</b>	---	25.0	mg/kg dry	1	07/18/17 07:28	NWTPH-Dx	F-18
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 87 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-8 Dup (A7G0385-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070821</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/24/17 21:43	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-10 (A7G0385-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070581</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 07:48	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-1.5 (A7G0385-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070581</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 08:09	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 83 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-4.5 (A7G0385-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 01:14	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-7.5 (A7G0385-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	<b>142</b>	---	25.0	mg/kg dry	1	07/18/17 01:37	NWTPH-Dx	F-18
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-3-10 (A7G0385-13)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 02:00	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-2-2 (A7G0385-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 02:23	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-2-5 (A7G0385-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 02:46	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-3-10 (A7G0385-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 04:39	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-4-7.5 (A7G0385-25)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 05:02	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-4-7.5 (A7G0385-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 05:25	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-4-10 (A7G0385-30)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 05:48	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-1-6 (A7G0385-32)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070607</b>			
Diesel	ND	---	25.0	mg/kg dry	1	07/18/17 06:10	NWTPH-Dx	
Oil	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Lisa Domenighini, Client Services Manager

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: PLIA-Illahee  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting			Date Analyzed	Method	Notes
			Limit	Units	Dilution			
<b>GLMW-1-10 (A7G0385-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	5.65	mg/kg dry	50	07/17/17 13:05	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>93 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-1-15 (A7G0385-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	4.81	mg/kg dry	50	07/17/17 13:59	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-8 (A7G0385-06RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070628</b>			
Gasoline Range Organics	679	---	101	mg/kg dry	1000	07/18/17 15:27	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 104 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>105 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-2-8 Dup (A7G0385-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070793</b>			
Gasoline Range Organics	267	---	5.14	mg/kg dry	50	07/22/17 01:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 106 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>154 %</i>	<i>Limits: 50-150 %</i>	"	"	S-08	
<b>GLMW-2-10 (A7G0385-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	5.60	mg/kg dry	50	07/17/17 14:53	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-1.5 (A7G0385-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	167	---	5.89	mg/kg dry	50	07/17/17 15:20	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-4.5 (A7G0385-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	6.27	mg/kg dry	50	07/17/17 15:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>88 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-3-7.5 (A7G0385-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	271	---	5.44	mg/kg dry	50	07/17/17 16:13	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 111 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting			Date Analyzed	Method	Notes
			Limit	Units	Dilution			
<b>GLMW-3-10 (A7G0385-13)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	3.97	mg/kg dry	50	07/17/17 16:40	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>89 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-2-2 (A7G0385-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Gasoline Range Organics	ND	---	6.08	mg/kg dry	50	07/17/17 17:07	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>89 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-2-5 (A7G0385-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	5.45	mg/kg dry	50	07/17/17 13:06	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-3-10 (A7G0385-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	4.65	mg/kg dry	50	07/17/17 13:59	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLMW-4-7.5 (A7G0385-25)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	4.55	mg/kg dry	50	07/17/17 14:26	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>96 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-4-7.5 (A7G0385-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	4.23	mg/kg dry	50	07/17/17 14:53	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-4-10 (A7G0385-30)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	3.74	mg/kg dry	50	07/17/17 15:19	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 103 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>GLB-1-6 (A7G0385-32)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Gasoline Range Organics	ND	---	4.60	mg/kg dry	50	07/17/17 15:46	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 104 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-10 (A7G0385-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0113	mg/kg dry	50	07/17/17 13:05	5035A/8260B	
Toluene	ND	---	0.0565	"	"	"	"	
Ethylbenzene	ND	---	0.0282	"	"	"	"	
Xylenes, total	ND	---	0.0847	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-1-15 (A7G0385-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.00962	mg/kg dry	50	07/17/17 13:59	5035A/8260B	
Toluene	ND	---	0.0481	"	"	"	"	
Ethylbenzene	ND	---	0.0241	"	"	"	"	
Xylenes, total	ND	---	0.0722	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-2-8 (A7G0385-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0101	mg/kg dry	50	07/17/17 14:26	5035A/8260B	
Toluene	ND	---	0.0504	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0493</b>	---	0.0252	"	"	"	"	
Xylenes, total	ND	---	0.0755	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>102 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-2-8 Dup (A7G0385-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070793</b>			
Benzene	ND	---	0.0103	mg/kg dry	50	07/22/17 01:46	5035A/8260B	
Toluene	ND	---	0.0514	"	"	"	"	
Ethylbenzene	ND	---	0.0257	"	"	"	"	
Xylenes, total	ND	---	0.0771	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>102 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-2-10 (A7G0385-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0112	mg/kg dry	50	07/17/17 14:53	5035A/8260B	

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Lisa Domenighini, Client Services Manager

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G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: PLIA-Illahee  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting			Date Analyzed	Method	Notes
			Limit	Units	Dilution			
<b>GLMW-2-10 (A7G0385-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Toluene	ND	---	0.0560	mg/kg dry	50	"	5035A/8260B	
Ethylbenzene	ND	---	0.0280	"	"	"	"	
Xylenes, total	ND	---	0.0839	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-3-1.5 (A7G0385-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
<b>Benzene</b>	<b>0.0453</b>	---	0.0118	mg/kg dry	50	07/17/17 15:20	5035A/8260B	
<b>Toluene</b>	<b>0.109</b>	---	0.0589	"	"	"	"	
<b>Ethylbenzene</b>	<b>2.14</b>	---	0.0294	"	"	"	"	
<b>Xylenes, total</b>	<b>8.05</b>	---	0.0883	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-3-4.5 (A7G0385-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0125	mg/kg dry	50	07/17/17 15:46	5035A/8260B	
Toluene	ND	---	0.0627	"	"	"	"	
Ethylbenzene	ND	---	0.0314	"	"	"	"	
Xylenes, total	ND	---	0.0941	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>102 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-3-7.5 (A7G0385-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0109	mg/kg dry	50	07/17/17 16:13	5035A/8260B	
Toluene	ND	---	0.0544	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0544</b>	---	0.0272	"	"	"	"	
Xylenes, total	ND	---	0.0815	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>102 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-3-10 (A7G0385-13)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.00794	mg/kg dry	50	07/17/17 16:40	5035A/8260B	
Toluene	ND	---	0.0397	"	"	"	"	
Ethylbenzene	ND	---	0.0199	"	"	"	"	

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-3-10 (A7G0385-13)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Xylenes, total	ND	---	0.0596	mg/kg dry	50	"	5035A/8260B	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-2-2 (A7G0385-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070582</b>			
Benzene	ND	---	0.0122	mg/kg dry	50	07/17/17 17:07	5035A/8260B	
Toluene	ND	---	0.0608	"	"	"	"	
Ethylbenzene	ND	---	0.0304	"	"	"	"	
Xylenes, total	ND	---	0.0912	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-2-5 (A7G0385-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.0109	mg/kg dry	50	07/17/17 13:06	5035A/8260B	
Toluene	ND	---	0.0545	"	"	"	"	
Ethylbenzene	ND	---	0.0272	"	"	"	"	
Xylenes, total	ND	---	0.0817	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-3-10 (A7G0385-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.00930	mg/kg dry	50	07/17/17 13:59	5035A/8260B	
Toluene	ND	---	0.0465	"	"	"	"	
Ethylbenzene	ND	---	0.0233	"	"	"	"	
Xylenes, total	ND	---	0.0698	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLMW-4-7.5 (A7G0385-25)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.00909	mg/kg dry	50	07/17/17 14:26	5035A/8260B	
Toluene	ND	---	0.0455	"	"	"	"	
Ethylbenzene	ND	---	0.0227	"	"	"	"	
Xylenes, total	ND	---	0.0682	"	"	"	"	

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**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-4-7.5 (A7G0385-25)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 70-130 %</i>	1	"	5035A/8260B	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-4-7.5 (A7G0385-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.00846	mg/kg dry	50	07/17/17 14:53	5035A/8260B	
Toluene	ND	---	0.0423	"	"	"	"	
Ethylbenzene	ND	---	0.0212	"	"	"	"	
Xylenes, total	ND	---	0.0635	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-4-10 (A7G0385-30)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.00748	mg/kg dry	50	07/17/17 15:19	5035A/8260B	
Toluene	ND	---	0.0374	"	"	"	"	
Ethylbenzene	ND	---	0.0187	"	"	"	"	
Xylenes, total	ND	---	0.0561	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<b>GLB-1-6 (A7G0385-32)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070583</b>			
Benzene	ND	---	0.00920	mg/kg dry	50	07/17/17 15:46	5035A/8260B	
Toluene	ND	---	0.0460	"	"	"	"	
Ethylbenzene	ND	---	0.0230	"	"	"	"	
Xylenes, total	ND	---	0.0690	"	"	"	"	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>GLMW-1-10 (A7G0385-02) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.18	---	0.257	mg/kg dry	10	07/18/17 14:29	EPA 6020A	
<b>GLMW-1-15 (A7G0385-03) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.46	---	0.243	mg/kg dry	10	07/18/17 14:32	EPA 6020A	
<b>GLMW-2-8 (A7G0385-06) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.48	---	0.208	mg/kg dry	10	07/18/17 14:35	EPA 6020A	
<b>GLMW-2-8 Dup (A7G0385-07) Matrix: Soil</b>								
Batch: 7070786								
Lead	1.90	---	0.219	mg/kg dry	10	07/25/17 19:44	EPA 6020A	
<b>GLMW-2-10 (A7G0385-08) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.32	---	0.239	mg/kg dry	10	07/18/17 14:38	EPA 6020A	
<b>GLMW-3-7.5 (A7G0385-12) Matrix: Soil</b>								
Batch: 7070605								
Lead	2.20	---	0.224	mg/kg dry	10	07/18/17 14:41	EPA 6020A	
<b>GLB-2-2 (A7G0385-16) Matrix: Soil</b>								
Batch: 7070605								
Lead	31.3	---	0.257	mg/kg dry	10	07/18/17 14:45	EPA 6020A	
<b>GLB-2-5 (A7G0385-17) Matrix: Soil</b>								
Batch: 7070605								
Lead	3.58	---	0.221	mg/kg dry	10	07/18/17 15:01	EPA 6020A	
<b>GLB-3-10 (A7G0385-23) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.39	---	0.242	mg/kg dry	10	07/18/17 15:05	EPA 6020A	
<b>GLMW-4-7.5 (A7G0385-25) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.80	---	0.224	mg/kg dry	10	07/18/17 15:08	EPA 6020A	
<b>GLB-4-7.5 (A7G0385-29) Matrix: Soil</b>								
Batch: 7070605								
Lead	1.25	---	0.233	mg/kg dry	10	07/18/17 15:11	EPA 6020A	
<b>GLB-4-10 (A7G0385-30) Matrix: Soil</b>								

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 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

### ANALYTICAL SAMPLE RESULTS

**Total Metals by EPA 6020 (ICPMS)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>GLB-4-10 (A7G0385-30)</b>			<b>Matrix: Soil</b>					
Batch: 7070605								
<b>Lead</b>	<b>1.72</b>	---	0.217	mg/kg dry	10	07/18/17 15:14	EPA 6020A	
<b>GLB-1-6 (A7G0385-32)</b>			<b>Matrix: Soil</b>					
Batch: 7070605								
<b>Lead</b>	<b>1.58</b>	---	0.211	mg/kg dry	10	07/18/17 15:17	EPA 6020A	

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G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
<b>GLMW-1-10 (A7G0385-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	81.6	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-1-15 (A7G0385-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	89.2	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-2-8 (A7G0385-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	94.1	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-2-8 Dup (A7G0385-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070829</b>			
% Solids	90.8	---	1.00	% by Weight	1	07/25/17 08:14	EPA 8000C	
<b>GLMW-2-10 (A7G0385-08)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	82.8	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-3-1.5 (A7G0385-10)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	83.8	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-3-4.5 (A7G0385-11)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	94.0	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-3-7.5 (A7G0385-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	93.2	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-3-10 (A7G0385-13)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	92.6	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-2-2 (A7G0385-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	83.0	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-2-5 (A7G0385-17)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	90.6	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-3-10 (A7G0385-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	89.4	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLMW-4-7.5 (A7G0385-25)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	91.1	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-4-7.5 (A7G0385-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	91.4	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-4-10 (A7G0385-30)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	91.8	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	
<b>GLB-1-6 (A7G0385-32)</b>			<b>Matrix: Soil</b>		<b>Batch: 7070611</b>			
% Solids	93.5	---	1.00	% by Weight	1	07/18/17 07:29	EPA 8000C	

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40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## ANALYTICAL SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
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**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070581 - EPA 3546 (Fuels)</b>						<b>Soil</b>						
<b>Blank (7070581-BLK1)</b>						Prepared: 07/17/17 07:23 Analyzed: 07/17/17 10:25						
<b>NWTPH-Dx</b>												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>LCS (7070581-BS1)</b>						Prepared: 07/17/17 07:23 Analyzed: 07/17/17 10:45						
<b>NWTPH-Dx</b>												
Diesel	118	---	25.0	mg/kg wet	1	125	---	95	76-115%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>Batch 7070607 - EPA 3546 (Fuels)</b>						<b>Soil</b>						
<b>Blank (7070607-BLK1)</b>						Prepared: 07/17/17 13:38 Analyzed: 07/17/17 21:49						
<b>NWTPH-Dx</b>												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>LCS (7070607-BS1)</b>						Prepared: 07/17/17 13:38 Analyzed: 07/17/17 22:12						
<b>NWTPH-Dx</b>												
Diesel	116	---	25.0	mg/kg wet	1	125	---	93	76-115%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 107 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					





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 07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070821 - EPA 3546 (Fuels)</b>						<b>Soil</b>						
<b>Blank (7070821-BLK1)</b>						Prepared: 07/24/17 13:34 Analyzed: 07/24/17 21:01						
<b>NWTPH-Dx</b>												
Diesel	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	---	50.0	"	"	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>LCS (7070821-BS1)</b>						Prepared: 07/24/17 13:34 Analyzed: 07/24/17 21:22						
<b>NWTPH-Dx</b>												
Diesel	109	---	25.0	mg/kg wet	1	125	---	87	76-115%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
<b>Duplicate (7070821-DUP1)</b>						Prepared: 07/24/17 13:34 Analyzed: 07/24/17 22:04						
<b>QC Source Sample: Other (A7G0385-07)</b>												
<b>NWTPH-Dx</b>												
Diesel	ND	---	25.0	mg/kg dry	1	---	11.1	---	---	---	---	30%
Oil	ND	---	50.0	"	"	---	ND	---	---	---	---	30%
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					



**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070582 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070582-BLK1)</b>						Prepared: 07/17/17 08:46 Analyzed: 07/17/17 12:38						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 111 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>94 %</i>	<i>50-150 %</i>		<i>"</i>						
<b>LCS (7070582-BS2)</b>						Prepared: 07/17/17 08:46 Analyzed: 07/17/17 12:12						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	20.3	---	5.00	mg/kg wet	50	25.0	---	81	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>91 %</i>	<i>50-150 %</i>		<i>"</i>						
<b>Duplicate (7070582-DUP1)</b>						Prepared: 07/13/17 07:40 Analyzed: 07/17/17 13:32						
<b>QC Source Sample: GLMW-1-10 (A7G0385-02)</b>												
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	5.78	mg/kg dry	50	---	ND	---	---	---	---	30%
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 97 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>93 %</i>	<i>50-150 %</i>		<i>"</i>						



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07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070583 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070583-BLK1)</b>						Prepared: 07/17/17 08:30 Analyzed: 07/17/17 12:40						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>94 %</i>	<i>50-150 %</i>		<i>"</i>						
<b>LCS (7070583-BS2)</b>						Prepared: 07/17/17 08:30 Analyzed: 07/17/17 12:13						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	23.3	---	5.00	mg/kg wet	50	25.0	---	93	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>95 %</i>	<i>50-150 %</i>		<i>"</i>						
<b>Duplicate (7070583-DUP1)</b>						Prepared: 07/13/17 11:35 Analyzed: 07/17/17 13:33						
<b>QC Source Sample: GLB-2-5 (A7G0385-17)</b>												
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	5.56	mg/kg dry	50	---	ND	---	---	---	---	30%
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 102 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>95 %</i>	<i>50-150 %</i>		<i>"</i>						



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 07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070628 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070628-BLK1)</b>						Prepared: 07/18/17 08:30 Analyzed: 07/18/17 11:27						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>94 %</i>		<i>50-150 %</i>		<i>"</i>						
<b>LCS (7070628-BS2)</b>						Prepared: 07/18/17 08:30 Analyzed: 07/18/17 11:00						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	23.9	---	5.00	mg/kg wet	50	25.0	---	96	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>95 %</i>		<i>50-150 %</i>		<i>"</i>						



<b>G-Logics, Inc</b> 40 Second Ave SE Issaquah, WA 98027	Project: <b>PLIA-Illahee</b> Project Number: 01-1129-A Project Manager: Anna Jordan	<b>Reported:</b> 07/27/17 07:53
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### QUALITY CONTROL (QC) SAMPLE RESULTS

**Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070793 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070793-BLK1)</b>						Prepared: 07/21/17 16:48 Analyzed: 07/21/17 19:04						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>93 %</i>	<i>50-150 %</i>		<i>"</i>						
<b>LCS (7070793-BS2)</b>						Prepared: 07/21/17 16:48 Analyzed: 07/21/17 18:37						
<b>NWTPH-Gx (MS)</b>												
Gasoline Range Organics	22.2	---	5.00	mg/kg wet	50	25.0	---	89	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>94 %</i>	<i>50-150 %</i>		<i>"</i>						



G-Logics, Inc  
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Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070582 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070582-BLK1)</b>						Prepared: 07/17/17 08:46 Analyzed: 07/17/17 12:38						
<b>5035A/8260B</b>												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	---
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	---
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	---
Xylenes, total	ND	---	0.0500	"	"	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>92 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>LCS (7070582-BS1)</b>						Prepared: 07/17/17 08:46 Analyzed: 07/17/17 11:45						
<b>5035A/8260B</b>												
Benzene	0.972	---	0.0100	mg/kg wet	50	1.00	---	97	65-135%	---	---	---
Toluene	0.946	---	0.0500	"	"	"	---	95	"	---	---	---
Ethylbenzene	1.03	---	0.0250	"	"	"	---	103	"	---	---	---
Xylenes, total	3.18	---	0.0750	"	"	3.00	---	106	"	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>97 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>Duplicate (7070582-DUP1)</b>						Prepared: 07/13/17 07:40 Analyzed: 07/17/17 13:32						
<b>QC Source Sample: GLMW-1-10 (A7G0385-02)</b>												
<b>5035A/8260B</b>												
Benzene	ND	---	0.0116	mg/kg dry	50	---	ND	---	---	---	30%	---
Toluene	ND	---	0.0578	"	"	---	ND	---	---	---	30%	---
Ethylbenzene	ND	---	0.0289	"	"	---	ND	---	---	---	30%	---
Xylenes, total	ND	---	0.0867	"	"	---	ND	---	---	---	30%	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>Matrix Spike (7070582-MS1)</b>						Prepared: 07/13/17 11:30 Analyzed: 07/17/17 17:34						
<b>QC Source Sample: GLB-2-2 (A7G0385-16)</b>												
<b>5035A/8260B</b>												
Benzene	1.24	---	0.0122	mg/kg dry	50	1.22	ND	102	65-135%	---	---	---
Toluene	1.21	---	0.0608	"	"	"	ND	99	"	---	---	---
Ethylbenzene	1.30	---	0.0304	"	"	"	ND	106	"	---	---	---

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070582 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (7070582-MS1)</b>						Prepared: 07/13/17 11:30 Analyzed: 07/17/17 17:34						
<b>QC Source Sample: GLB-2-2 (A7G0385-16)</b>												
<b>5035A/8260B</b>												
Xylenes, total	4.09	---	0.0912	mg/kg dry	"	3.66	ND	112	"	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>	<i>70-130 %</i>		<i>"</i>						

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Lisa Domenighini, Client Services Manager

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**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070583 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070583-BLK1)</b>						Prepared: 07/17/17 08:30 Analyzed: 07/17/17 12:40						
<b>5035A/8260B</b>												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	---
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	---
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	---
Xylenes, total	ND	---	0.0500	"	"	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>100 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>LCS (7070583-BS1)</b>						Prepared: 07/17/17 08:30 Analyzed: 07/17/17 11:46						
<b>5035A/8260B</b>												
Benzene	0.912	---	0.0100	mg/kg wet	50	1.00	---	91	65-135%	---	---	---
Toluene	0.878	---	0.0500	"	"	"	---	88	"	---	---	---
Ethylbenzene	0.963	---	0.0250	"	"	"	---	96	"	---	---	---
Xylenes, total	3.09	---	0.0750	"	"	3.00	---	103	"	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>Duplicate (7070583-DUP1)</b>						Prepared: 07/13/17 11:35 Analyzed: 07/17/17 13:33						
<b>QC Source Sample: GLB-2-5 (A7G0385-17)</b>												
<b>5035A/8260B</b>												
Benzene	ND	---	0.0111	mg/kg dry	50	---	ND	---	---	---	30%	---
Toluene	ND	---	0.0556	"	"	---	ND	---	---	---	30%	---
Ethylbenzene	ND	---	0.0278	"	"	---	ND	---	---	---	30%	---
Xylenes, total	ND	---	0.0834	"	"	---	ND	---	---	---	30%	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>100 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>70-130 %</i>		<i>"</i>						
<b>Matrix Spike (7070583-MS1)</b>						Prepared: 07/12/17 15:05 Analyzed: 07/17/17 16:13						
<b>QC Source Sample: GLB-1-6 (A7G0385-32)</b>												
<b>5035A/8260B</b>												
Benzene	0.943	---	0.00920	mg/kg dry	50	0.919	ND	103	65-135%	---	---	---
Toluene	0.881	---	0.0460	"	"	"	ND	96	"	---	---	---
Ethylbenzene	0.955	---	0.0230	"	"	"	ND	104	"	---	---	---

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Lisa Domenighini, Client Services Manager



<b>G-Logics, Inc</b> 40 Second Ave SE Issaquah, WA 98027	Project: <b>PLIA-Illahee</b> Project Number: 01-1129-A Project Manager: Anna Jordan	<b>Reported:</b> 07/27/17 07:53
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## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070583 - EPA 5035A</b>						<b>Soil</b>						
<b>Matrix Spike (7070583-MS1)</b>						Prepared: 07/12/17 15:05 Analyzed: 07/17/17 16:13						
<b>QC Source Sample: GLB-1-6 (A7G0385-32)</b>												
<b>5035A/8260B</b>												
Xylenes, total	3.01	---	0.0690	mg/kg dry	"	2.76	ND	109	"	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 70-130 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>70-130 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>			<i>98 %</i>	<i>70-130 %</i>		<i>"</i>						



**G-Logics, Inc**  
40 Second Ave SE  
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07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070793 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (7070793-BLK1)</b>						Prepared: 07/21/17 16:48 Analyzed: 07/21/17 19:04						
<b>5035A/8260B</b>												
Benzene	ND	---	0.00667	mg/kg wet	50	---	---	---	---	---	---	---
Toluene	ND	---	0.0333	"	"	---	---	---	---	---	---	---
Ethylbenzene	ND	---	0.0167	"	"	---	---	---	---	---	---	---
Xylenes, total	ND	---	0.0500	"	"	---	---	---	---	---	---	---

*Surr: 1,4-Difluorobenzene (Surr) Recovery: 97 % Limits: 70-130 % Dilution: 1x*  
*Toluene-d8 (Surr) 101 % 70-130 % "*  
*4-Bromofluorobenzene (Surr) 103 % 70-130 % "*

**LCS (7070793-BS1)** Prepared: 07/21/17 16:48 Analyzed: 07/21/17 18:10

<b>5035A/8260B</b>												
Benzene	1.02	---	0.0100	mg/kg wet	50	1.00	---	102	65-135%	---	---	---
Toluene	0.986	---	0.0500	"	"	"	---	99	"	---	---	---
Ethylbenzene	1.07	---	0.0250	"	"	"	---	107	"	---	---	---
Xylenes, total	3.30	---	0.0750	"	"	3.00	---	110	"	---	---	---

*Surr: 1,4-Difluorobenzene (Surr) Recovery: 96 % Limits: 70-130 % Dilution: 1x*  
*Toluene-d8 (Surr) 100 % 70-130 % "*  
*4-Bromofluorobenzene (Surr) 100 % 70-130 % "*



**G-Logics, Inc**  
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 07/27/17 07:53

### QUALITY CONTROL (QC) SAMPLE RESULTS

**Total Metals by EPA 6020 (ICPMS)**

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070605 - EPA 3051A</b>						<b>Soil</b>						
<b>Blank (7070605-BLK1)</b>						Prepared: 07/17/17 11:59 Analyzed: 07/18/17 13:48						
<b>EPA 6020A</b>												
Lead	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	---
<b>LCS (7070605-BS1)</b>						Prepared: 07/17/17 11:59 Analyzed: 07/18/17 13:51						
<b>EPA 6020A</b>												
Lead	56.7	---	0.200	mg/kg wet	10	50.0	---	113	80-120%	---	---	---

Apex Laboratories



Lisa Domenighini, Client Services Manager

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**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070786 - EPA 3051A</b>						<b>Soil</b>						
<b>Blank (7070786-BLK1)</b>						Prepared: 07/21/17 14:48 Analyzed: 07/25/17 19:25						
<b>EPA 6020A</b>												
Lead	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	---
<b>LCS (7070786-BS1)</b>						Prepared: 07/21/17 14:48 Analyzed: 07/25/17 19:28						
<b>EPA 6020A</b>												
Lead	51.2	---	0.200	mg/kg wet	10	50.0	---	102	80-120%	---	---	---

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Lisa Domenighini, Client Services Manager

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<b>G-Logics, Inc</b> 40 Second Ave SE Issaquah, WA 98027	Project: <b>PLIA-Illahee</b> Project Number: 01-1129-A Project Manager: Anna Jordan	<b>Reported:</b> 07/27/17 07:53
----------------------------------------------------------------	-------------------------------------------------------------------------------------------	------------------------------------

### QUALITY CONTROL (QC) SAMPLE RESULTS

#### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7070611 - Total Solids (Dry Weight)</b>						<b>Soil</b>						
<b>Duplicate (7070611-DUP2)</b>						Prepared: 07/17/17 15:09 Analyzed: 07/18/17 07:29						
QC Source Sample: GLMW-3-1.5 (A7G0385-10)												
EPA 8000C												
% Solids	82.7	---	1.00	% by Weight	1	---	83.8	---	---	1	10%	

<b>Batch 7070829 - Total Solids (Dry Weight)</b>						<b>Soil</b>						
<b>Duplicate (7070829-DUP1)</b>						Prepared: 07/24/17 14:36 Analyzed: 07/25/17 08:14						
QC Source Sample: Other (A7G0385-07)												
EPA 8000C												
% Solids	89.2	---	1.00	% by Weight	1	---	90.8	---	---	2	10%	



G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

### SAMPLE PREPARATION INFORMATION

#### Diesel and/or Oil Hydrocarbons by NWTPH-Dx

**Prep: EPA 3546 (Fuels)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070581</b>							
A7G0385-02	Soil	NWTPH-Dx	07/13/17 07:40	07/17/17 09:37	11.09g/5mL	10g/5mL	0.90
A7G0385-03	Soil	NWTPH-Dx	07/13/17 07:55	07/17/17 09:37	10.89g/5mL	10g/5mL	0.92
A7G0385-06	Soil	NWTPH-Dx	07/13/17 09:15	07/17/17 09:37	10.98g/5mL	10g/5mL	0.91
A7G0385-08	Soil	NWTPH-Dx	07/13/17 09:20	07/17/17 09:37	11.35g/5mL	10g/5mL	0.88
A7G0385-10	Soil	NWTPH-Dx	07/13/17 10:57	07/17/17 09:37	10.81g/5mL	10g/5mL	0.93
<b>Batch: 7070607</b>							
A7G0385-11	Soil	NWTPH-Dx	07/13/17 11:00	07/17/17 13:38	10.55g/5mL	10g/5mL	0.95
A7G0385-12	Soil	NWTPH-Dx	07/13/17 11:05	07/17/17 13:38	10.31g/5mL	10g/5mL	0.97
A7G0385-13	Soil	NWTPH-Dx	07/13/17 11:07	07/17/17 13:38	10.95g/5mL	10g/5mL	0.91
A7G0385-16	Soil	NWTPH-Dx	07/13/17 11:30	07/17/17 13:38	10.39g/5mL	10g/5mL	0.96
A7G0385-17	Soil	NWTPH-Dx	07/13/17 11:35	07/17/17 13:38	10.34g/5mL	10g/5mL	0.97
A7G0385-23	Soil	NWTPH-Dx	07/13/17 12:30	07/17/17 13:38	10.8g/5mL	10g/5mL	0.93
A7G0385-25	Soil	NWTPH-Dx	07/13/17 12:58	07/17/17 13:38	10.34g/5mL	10g/5mL	0.97
A7G0385-29	Soil	NWTPH-Dx	07/13/17 13:20	07/17/17 13:38	10.45g/5mL	10g/5mL	0.96
A7G0385-30	Soil	NWTPH-Dx	07/13/17 13:25	07/17/17 13:38	10.89g/5mL	10g/5mL	0.92
A7G0385-32	Soil	NWTPH-Dx	07/12/17 15:05	07/17/17 13:38	10.47g/5mL	10g/5mL	0.96
<b>Batch: 7070821</b>							
A7G0385-07	Soil	NWTPH-Dx	07/13/17 09:15	07/24/17 13:34	10.14g/5mL	10g/5mL	0.99

#### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070582</b>							
A7G0385-02	Soil	NWTPH-Gx (MS)	07/13/17 07:40	07/13/17 07:40	6.78g/5mL	5g/5mL	0.74
A7G0385-03	Soil	NWTPH-Gx (MS)	07/13/17 07:55	07/13/17 07:55	6.67g/5mL	5g/5mL	0.75
A7G0385-08	Soil	NWTPH-Gx (MS)	07/13/17 09:20	07/13/17 09:20	6.63g/5mL	5g/5mL	0.75
A7G0385-10	Soil	NWTPH-Gx (MS)	07/13/17 10:57	07/13/17 10:57	6.06g/5mL	5g/5mL	0.83
A7G0385-11	Soil	NWTPH-Gx (MS)	07/13/17 11:00	07/13/17 11:00	4.47g/5mL	5g/5mL	1.12
A7G0385-12	Soil	NWTPH-Gx (MS)	07/13/17 11:05	07/13/17 11:05	5.29g/5mL	5g/5mL	0.95
A7G0385-13	Soil	NWTPH-Gx (MS)	07/13/17 11:07	07/13/17 11:07	7.55g/5mL	5g/5mL	0.66
A7G0385-16	Soil	NWTPH-Gx (MS)	07/13/17 11:30	07/13/17 11:30	5.95g/5mL	5g/5mL	0.84
<b>Batch: 7070583</b>							
A7G0385-17	Soil	NWTPH-Gx (MS)	07/13/17 11:35	07/13/17 11:35	5.6g/5mL	5g/5mL	0.89

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Lisa Domenighini, Client Services Manager

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

### SAMPLE PREPARATION INFORMATION

#### Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A7G0385-23	Soil	NWTPH-Gx (MS)	07/13/17 12:30	07/13/17 12:30	6.89g/5mL	5g/5mL	0.73
A7G0385-25	Soil	NWTPH-Gx (MS)	07/13/17 12:58	07/13/17 12:58	6.76g/5mL	5g/5mL	0.74
A7G0385-29	Soil	NWTPH-Gx (MS)	07/13/17 13:20	07/13/17 13:20	7.28g/5mL	5g/5mL	0.69
A7G0385-30	Soil	NWTPH-Gx (MS)	07/13/17 13:25	07/13/17 13:25	8.28g/5mL	5g/5mL	0.60
A7G0385-32	Soil	NWTPH-Gx (MS)	07/12/17 15:05	07/12/17 15:05	6.28g/5mL	5g/5mL	0.80
<b>Batch: 7070628</b>							
A7G0385-06RE1	Soil	NWTPH-Gx (MS)	07/13/17 09:15	07/13/17 09:15	5.63g/5mL	5g/5mL	0.89
<b>Batch: 7070793</b>							
A7G0385-07	Soil	NWTPH-Gx (MS)	07/13/17 09:15	07/13/17 09:15	5.95g/5mL	5g/5mL	0.84

#### BTEX Compounds by EPA 8260B

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070582</b>							
A7G0385-02	Soil	5035A/8260B	07/13/17 07:40	07/13/17 07:40	6.78g/5mL	5g/5mL	0.74
A7G0385-03	Soil	5035A/8260B	07/13/17 07:55	07/13/17 07:55	6.67g/5mL	5g/5mL	0.75
A7G0385-06	Soil	5035A/8260B	07/13/17 09:15	07/13/17 09:15	5.63g/5mL	5g/5mL	0.89
A7G0385-08	Soil	5035A/8260B	07/13/17 09:20	07/13/17 09:20	6.63g/5mL	5g/5mL	0.75
A7G0385-10	Soil	5035A/8260B	07/13/17 10:57	07/13/17 10:57	6.06g/5mL	5g/5mL	0.83
A7G0385-11	Soil	5035A/8260B	07/13/17 11:00	07/13/17 11:00	4.47g/5mL	5g/5mL	1.12
A7G0385-12	Soil	5035A/8260B	07/13/17 11:05	07/13/17 11:05	5.29g/5mL	5g/5mL	0.95
A7G0385-13	Soil	5035A/8260B	07/13/17 11:07	07/13/17 11:07	7.55g/5mL	5g/5mL	0.66
A7G0385-16	Soil	5035A/8260B	07/13/17 11:30	07/13/17 11:30	5.95g/5mL	5g/5mL	0.84
<b>Batch: 7070583</b>							
A7G0385-17	Soil	5035A/8260B	07/13/17 11:35	07/13/17 11:35	5.6g/5mL	5g/5mL	0.89
A7G0385-23	Soil	5035A/8260B	07/13/17 12:30	07/13/17 12:30	6.89g/5mL	5g/5mL	0.73
A7G0385-25	Soil	5035A/8260B	07/13/17 12:58	07/13/17 12:58	6.76g/5mL	5g/5mL	0.74
A7G0385-29	Soil	5035A/8260B	07/13/17 13:20	07/13/17 13:20	7.28g/5mL	5g/5mL	0.69
A7G0385-30	Soil	5035A/8260B	07/13/17 13:25	07/13/17 13:25	8.28g/5mL	5g/5mL	0.60
A7G0385-32	Soil	5035A/8260B	07/12/17 15:05	07/12/17 15:05	6.28g/5mL	5g/5mL	0.80
<b>Batch: 7070793</b>							
A7G0385-07	Soil	5035A/8260B	07/13/17 09:15	07/13/17 09:15	5.95g/5mL	5g/5mL	0.84

#### Total Metals by EPA 6020 (ICPMS)

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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

**Reported:**  
07/27/17 07:53

### SAMPLE PREPARATION INFORMATION

#### Total Metals by EPA 6020 (ICPMS)

**Prep: EPA 3051A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070605</b>							
A7G0385-02	Soil	EPA 6020A	07/13/17 07:40	07/17/17 11:59	0.476g/50mL	0.5g/50mL	1.05
A7G0385-03	Soil	EPA 6020A	07/13/17 07:55	07/17/17 11:59	0.461g/50mL	0.5g/50mL	1.08
A7G0385-06	Soil	EPA 6020A	07/13/17 09:15	07/17/17 11:59	0.511g/50mL	0.5g/50mL	0.98
A7G0385-08	Soil	EPA 6020A	07/13/17 09:20	07/17/17 11:59	0.505g/50mL	0.5g/50mL	0.99
A7G0385-12	Soil	EPA 6020A	07/13/17 11:05	07/17/17 11:59	0.48g/50mL	0.5g/50mL	1.04
A7G0385-16	Soil	EPA 6020A	07/13/17 11:30	07/17/17 11:59	0.468g/50mL	0.5g/50mL	1.07
A7G0385-17	Soil	EPA 6020A	07/13/17 11:35	07/17/17 11:59	0.499g/50mL	0.5g/50mL	1.00
A7G0385-23	Soil	EPA 6020A	07/13/17 12:30	07/17/17 11:59	0.463g/50mL	0.5g/50mL	1.08
A7G0385-25	Soil	EPA 6020A	07/13/17 12:58	07/17/17 11:59	0.489g/50mL	0.5g/50mL	1.02
A7G0385-29	Soil	EPA 6020A	07/13/17 13:20	07/17/17 11:59	0.469g/50mL	0.5g/50mL	1.07
A7G0385-30	Soil	EPA 6020A	07/13/17 13:25	07/17/17 11:59	0.503g/50mL	0.5g/50mL	0.99
A7G0385-32	Soil	EPA 6020A	07/12/17 15:05	07/17/17 11:59	0.507g/50mL	0.5g/50mL	0.99
<b>Batch: 7070786</b>							
A7G0385-07	Soil	EPA 6020A	07/13/17 09:15	07/21/17 14:48	0.502g/50mL	0.5g/50mL	1.00

#### Percent Dry Weight

**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 7070611</b>							
A7G0385-02	Soil	EPA 8000C	07/13/17 07:40	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-03	Soil	EPA 8000C	07/13/17 07:55	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-06	Soil	EPA 8000C	07/13/17 09:15	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-08	Soil	EPA 8000C	07/13/17 09:20	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-10	Soil	EPA 8000C	07/13/17 10:57	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-11	Soil	EPA 8000C	07/13/17 11:00	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-12	Soil	EPA 8000C	07/13/17 11:05	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-13	Soil	EPA 8000C	07/13/17 11:07	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-16	Soil	EPA 8000C	07/13/17 11:30	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-17	Soil	EPA 8000C	07/13/17 11:35	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-23	Soil	EPA 8000C	07/13/17 12:30	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-25	Soil	EPA 8000C	07/13/17 12:58	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-29	Soil	EPA 8000C	07/13/17 13:20	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
A7G0385-30	Soil	EPA 8000C	07/13/17 13:25	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA

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<b>G-Logics, Inc</b> 40 Second Ave SE Issaquah, WA 98027	Project: <b>PLIA-Illahee</b> Project Number: 01-1129-A Project Manager: Anna Jordan	<b>Reported:</b> 07/27/17 07:53
----------------------------------------------------------------	-------------------------------------------------------------------------------------------	------------------------------------

### SAMPLE PREPARATION INFORMATION

<b>Percent Dry Weight</b>
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**Prep: Total Solids (Dry Weight)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A7G0385-32	Soil	EPA 8000C	07/12/17 15:05	07/17/17 15:09	1N/A/1N/A	1N/A/1N/A	NA
<b><u>Batch: 7070829</u></b>							
A7G0385-07	Soil	EPA 8000C	07/13/17 09:15	07/24/17 14:36	1N/A/1N/A	1N/A/1N/A	NA

Apex Laboratories



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Lisa Domenighini, Client Services Manager

**G-Logics, Inc**  
 40 Second Ave SE  
 Issaquah, WA 98027

Project: **PLIA-Illahee**  
 Project Number: 01-1129-A  
 Project Manager: Anna Jordan

**Reported:**  
 07/27/17 07:53

## Notes and Definitions

### Qualifiers:

- F-18 Result for Diesel (Diesel Range Organics, C12-C24) is due to overlap from Gasoline or a Gasoline Range product.
- S-08 TPH-Gx Surrogate recovery cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract. See 8260B results for accurate Surrogate recovery.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.  
  
 For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.  
  
 Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).



G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: PLIA-Illahee  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

**APEX LABS**      **CHAIN OF CUSTODY**      Lab # A760385      COC # 4 of   

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: GLI      Project Mgr: Anna Jordan      Project Name: Illahee      Project #: 01-1129-A

Address: 402nd Ave SE, Issaquah, WA      Phone: 425-391-6074      Fax: 425-313-3074      Email: anna.jordan@g-logics.com

Sampled by: AS/H5

Site Location: OR      Other: WA

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-CLD	NWTPH-DX	NWTPH-GX	8260 VOCs Full List	8260 RBDN VOCs	8260 BDOCs	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCA Metals (8)	TCLP Metals (8)	AL, CR, CU, NI, PB, CD, Hg, Mn, Mo, Ni, V, Zn, Se, Ag, Na, TL, Y, Zr	TOTAL DISS TCLP	1200-COLS	1200-Z
GLMN-1-5	7/13/17	725	S	3							X										
GLMN-1-10		740			X	X					X										
GLMN-1-15		755			X	X					X										
GLMN-2-2.5		905																			
GLMN-2-5		910																			
GLMN-2-8		915																			
GLMN-2-8 Dup		915																			
GLMN-2-10		920																			
GLMN-2-14		925																			
GLMN-3-1.5		1057									X										

Normal Turn Around Time (TAT) = 10 Business Days      YES      NO

TAT Requested (circle): 1 Day      2 Day      3 Day      4 DAY      5 DAY      Other: \_\_\_\_\_

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: Anna Jordan Date: 7/14/17      RECEIVED BY: Amrita Egan Date: 7/15/17

Printed Name: Anna Jordan Time: 11:10      Printed Name: Amrita Egan Time: 9:25

Company: G-Logics      Company: Apex Labs

Apex Laboratories

*Lisa Domenighini*

Lisa Domenighini, Client Services Manager

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G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

**CHAIN OF CUSTODY**

Lab # A760385 of 4

**APEX LABS**

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: GLI Project Mgr: Anna Jordan Project Name: Illahee Project #: 01-1129-A

Address: 40 2nd Ave SE, Issaquah, WA Phone: 425-391-6874 Fax: 425-313-3074 Email: anna.j@g-logics.com

Sampled by: AS / HS

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-DN	NWTPH-GN	8260 VOCS Full List	8260 RBDM VOCS	8260 BVOCs	8260 BTEX VOCS	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	R CRA Metals (9)	TCLP Metals (8)	AL, SH, AS, BA, BE, BR, CA, CR, CU, FE, Hg, Mn, Ni, Pb, Se, TP, V, Zn	1200-COLS	1200-Z
GLMN-3-4-S	7/31/17	1100	S	3	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLMN-3-7-S		1105			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLMN-3-10		1107			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLMN-3-12		1110			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLMN-3-15		1115			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLB-2-2		1130			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLB-2-5		1135			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLB-2-10		1140			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLB-2-10 DUP		1140			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
GLB-2-15		1145			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	

RELINQUISHED BY: Anna Jordan Date: 7/14/17 Signature: [Signature]  
 RECEIVED BY: Bill Date: 7/15/17 Signature: [Signature]  
 RELINQUISHED BY: Anna Jordan Date: 7/14/17 Signature: [Signature]  
 RECEIVED BY: Bill Date: 7/15/17 Signature: [Signature]  
 RELINQUISHED BY: Anna Jordan Date: 7/14/17 Signature: [Signature]  
 RECEIVED BY: Bill Date: 7/15/17 Signature: [Signature]

Apex Laboratories

*Lisa Domenighini*

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

**CHAIN OF CUSTODY**

Lab # K160985 of 4

**APEX LABS**

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: <u>GLI</u>	Project Mgr: <u>Anna Jordan</u>	Project Name: <u>Illahee</u>	Project #: <u>01-1129-A</u>
Address: <u>40 2nd Ave SE, Issaquah, WA</u>		Phone: <u>425-391-6874</u>	Fax: <u>425-313-3074</u>
Email: <u>anna.jordan@logics.com</u>			
Sampled by: <u>AJ / HS</u>			
<b>ANALYSIS REQUEST</b>			
Site Location: <u>OR</u>			
Other: <u>MS</u>			
SAMPLE ID	LAB ID #	DATE	TIME
1. <u>GLB-3-5</u>		<u>7/19/17</u>	<u>1200</u>
2. <u>GLB-3-6</u>			<u>1220</u>
3. <u>GLB-3-10</u>			<u>1230</u>
4. <u>GLMN-4-5</u>			<u>1255</u>
5. <u>GLMN-4-7.5</u>			<u>1258</u>
6. <u>GLMN-4-10</u>			<u>1300</u>
7. <u>GLMN-4-14</u>			<u>1305</u>
8. <u>GLB-4-5</u>			<u>1315</u>
9. <u>GLB-4-7.5</u>			<u>1320</u>
10. <u>GLB-4-10</u>			<u>1325</u>
Normal Turn Around Time (TAT) = 10 Business Days			
TAT Requested (circle): <u>1 Day</u> 2 Day    3 Day    4 DAY    5 DAY    Other: _____			
SPECIAL INSTRUCTIONS: <u>NO</u>			
RELIQUISHED BY:		RECEIVED BY:	
Signature: <u>Anna Jordan</u> Date: <u>7/19/17</u>		Signature: <u>Amey</u> Date: <u>7/17/17</u>	
Printed Name: <u>Anna Jordan</u> Time: <u>11:10</u>		Printed Name: <u>Amey</u> Time: <u>12:30</u>	
Company: <u>G-Logics</u>		Company: <u>Apex Labs</u>	

Apex Laboratories

*Anna A. Domenighini*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

A760385  
A760388  
7/15/17  
COC 4 of 4

**CHAIN OF CUSTODY**

**APEX LABS**

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: <b>GLI</b>		Project Mgr: <b>Anna Jordan</b>		Project Name: <b>PLIA-Illahee</b>		Project # <b>01-1129-A</b>	
Address: <b>40 2nd Ave SE, Issaquah, WA</b>		Phone: <b>425-391-6874</b>		Fax: <b>425-313-3078</b>		Email: <b>anna.j@g-logics.com</b>	
Sampled by: <b>AS/HS</b>		Site Location: <b>OR</b>		Site Location: <b>WA</b>		Lab # _____	
Other: _____		Matrix: _____		Matrix: _____		PO# _____	
DATE: <b>7/12/17</b>		TIME: _____		TIME: _____		COC _____ of _____	
LAB ID # _____		DATE: <b>7/12/17</b>		DATE: <b>7/14/17</b>		COC _____ of _____	
SAMPLE ID		DATE		DATE		COC _____ of _____	
1 <b>GLB-1-5</b>		DATE: <b>7/12/17</b>		DATE: <b>7/14/17</b>		COC _____ of _____	
2 <b>GLB-1-6</b>		DATE: <b>7/12/17</b>		DATE: <b>7/14/17</b>		COC _____ of _____	
3 _____		DATE: _____		DATE: _____		COC _____ of _____	
4 _____		DATE: _____		DATE: _____		COC _____ of _____	
5 _____		DATE: _____		DATE: _____		COC _____ of _____	
6 _____		DATE: _____		DATE: _____		COC _____ of _____	
7 _____		DATE: _____		DATE: _____		COC _____ of _____	
8 _____		DATE: _____		DATE: _____		COC _____ of _____	
9 _____		DATE: _____		DATE: _____		COC _____ of _____	
10 _____		DATE: _____		DATE: _____		COC _____ of _____	
ANALYSIS REQUEST		ANALYSIS REQUEST		ANALYSIS REQUEST		ANALYSIS REQUEST	
AL. SP. AS. BA. BA. CA. CR. CO. CU. FA. FE. Hg. Mn. Ni. Pb. Se. Ag. Na. TI. V. Zn. TOTAL DISS. TCLP		AL. SP. AS. BA. BA. CA. CR. CO. CU. FA. FE. Hg. Mn. Ni. Pb. Se. Ag. Na. TI. V. Zn. TOTAL DISS. TCLP		AL. SP. AS. BA. BA. CA. CR. CO. CU. FA. FE. Hg. Mn. Ni. Pb. Se. Ag. Na. TI. V. Zn. TOTAL DISS. TCLP		AL. SP. AS. BA. BA. CA. CR. CO. CU. FA. FE. Hg. Mn. Ni. Pb. Se. Ag. Na. TI. V. Zn. TOTAL DISS. TCLP	
RCA Metals (8)		RCA Metals (8)		RCA Metals (8)		RCA Metals (8)	
600 TFO		600 TFO		600 TFO		600 TFO	
8082 PCBs		8082 PCBs		8082 PCBs		8082 PCBs	
8270 SIM PAHs		8270 SIM PAHs		8270 SIM PAHs		8270 SIM PAHs	
8270 SVOC		8270 SVOC		8270 SVOC		8270 SVOC	
8260 BTEX VOCs		8260 BTEX VOCs		8260 BTEX VOCs		8260 BTEX VOCs	
8260 HVOCS		8260 HVOCS		8260 HVOCS		8260 HVOCS	
8260 RBDM VOCs		8260 RBDM VOCs		8260 RBDM VOCs		8260 RBDM VOCs	
8260 VOCs Full List		8260 VOCs Full List		8260 VOCs Full List		8260 VOCs Full List	
NWT PH-CX		NWT PH-CX		NWT PH-CX		NWT PH-CX	
NWT PH-DX		NWT PH-DX		NWT PH-DX		NWT PH-DX	
NWT PH-HCID		NWT PH-HCID		NWT PH-HCID		NWT PH-HCID	
# OF CONTAINERS		# OF CONTAINERS		# OF CONTAINERS		# OF CONTAINERS	
MATRIX		MATRIX		MATRIX		MATRIX	
TMB		TMB		TMB		TMB	
DATE		DATE		DATE		DATE	
LAB ID #		LAB ID #		LAB ID #		LAB ID #	
SAMPLE ID		SAMPLE ID		SAMPLE ID		SAMPLE ID	
1 <b>GLB-1-5</b>		SAMPLE ID		SAMPLE ID		SAMPLE ID	
2 <b>GLB-1-6</b>		SAMPLE ID		SAMPLE ID		SAMPLE ID	
3 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
4 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
5 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
6 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
7 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
8 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
9 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
10 _____		SAMPLE ID		SAMPLE ID		SAMPLE ID	
SPECIAL INSTRUCTIONS:		SPECIAL INSTRUCTIONS:		SPECIAL INSTRUCTIONS:		SPECIAL INSTRUCTIONS:	
Normal Turn Around Time (TAT) = 10 Business Days		Normal Turn Around Time (TAT) = 10 Business Days		Normal Turn Around Time (TAT) = 10 Business Days		Normal Turn Around Time (TAT) = 10 Business Days	
TAT Requested (circle)		TAT Requested (circle)		TAT Requested (circle)		TAT Requested (circle)	
<b>1 Day</b>		<b>2 Day</b>		<b>3 Day</b>		<b>4 Day</b>	
4 DAY		5 DAY		Other:		Other:	
SAMPLES ARE HELD FOR 30 DAYS		SAMPLES ARE HELD FOR 30 DAYS		SAMPLES ARE HELD FOR 30 DAYS		SAMPLES ARE HELD FOR 30 DAYS	
RELINQUISHED BY:		RELINQUISHED BY:		RELINQUISHED BY:		RELINQUISHED BY:	
Signature: <b>Anna Jordan</b>		Signature: <b>Bill</b>		Signature: <b>Amisa Legh</b>		Signature: <b>Amisa Legh</b>	
Date: <b>7/14/17</b>		Date: <b>7/14/17</b>		Date: <b>7/15/17</b>		Date: <b>7/15/17</b>	
Printed Name: <b>Anna Jordan</b>		Printed Name: <b>Bill</b>		Printed Name: <b>Amisa Legh</b>		Printed Name: <b>Amisa Legh</b>	
Time: <b>11:10</b>		Time: <b>12:30</b>		Time: <b>9:25</b>		Time: <b>9:25</b>	
Company: <b>G-Logics</b>		Company: <b>APEX</b>		Company: <b>Apex Labs</b>		Company: <b>Apex Labs</b>	

*Lisa Domenighini*

G-Logics, Inc  
40 Second Ave SE  
Issaquah, WA 98027

Project: **PLIA-Illahee**  
Project Number: 01-1129-A  
Project Manager: Anna Jordan

Reported:  
07/27/17 07:53

**APEX LABS COOLER RECEIPT FORM**

Client: GrLogics Element WO#: A7 60385  
Project/Project #: Illahee / 01-1129-A

**Delivery info:**

Date/Time Received: 7/15/17 @ 9:25 By: AKC  
Delivered by: Apex  Client  ESS  FedEx  UPS  Swift  Senvoy  SDS  Other

**Cooler Inspection** Inspected by: AKC : 7/15/17 @ 9:35

Chain of Custody Included? Yes  No  Custody Seals? Yes  No

Signed/Dated by Client? Yes  No

Signed/Dated by Apex? Yes  No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	<u>5.3</u>	<u>4.8</u>	<u>5.9</u>	<u>5.8</u>			
Received on Ice? (Y/N)	<u>(N)</u>						
Temp. Blanks? (Y/N)	<u>(N)</u>	<u>9.8</u>					
Ice Type: (Gel/Res/Other)							
Condition:	<u>melted</u>						

Cooler out of temp? (Y/N) Possible reason why: Temp Blank away from ice  
If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

**Samples Inspection:** Inspected by: AKC : 7/15/17 @ 1:00

All Samples Intact? Yes  No  Comments: GLB-4-5 4oz jar received broken. GLMW-7-25 and GLM-6 - received broken but not on COC.

Bottle Labels/COCs agree? Yes  No  Comments: GLMW-2-10 reads GLMW-2-10.5 on cont. GLB-3-6 reads GLB-3-6.5 on cont.

Containers/Volumes Received Appropriate for Analysis? Yes  No  Comments:

Do VOA Vials have Visible Headspace? Yes  No  NA

Comments:

Water Samples: pH Checked and Appropriate (except VOAs): Yes  No  NA

Comments:

Additional Information: 14:50 GLB-1-5 no time on COC, time on cont. reads 19:50. GLB-1-6 no time on COC, time on cont. reads 15:05. GLB-4 GLMW-4-10 1/2 MeOH vials reads

Labeled by: AKC Witness: AKC Cooler Inspected by: AKC See Project Contact Form: Y GLB-4





# APPENDIX C

**SITE SPECIFIC HEALTH AND SAFETY PLAN**

Prepared For:

**Illahee Foods**

5507 Illahee Rd NE  
Bremerton, WA 98310

G-Logics, Inc

40 2<sup>nd</sup> Ave SE

Issaquah, WA 98027

Site Name: Illahee Foods

Project Number: 01-1129-A

Prepared by: Haley Schneider

## **1.0 INTRODUCTION**

This project-specific Health and Safety Plan (HASP) describes the health, safety, and emergency response procedures and practices to protect employees of G-Logics, Inc. from the possible hazards posed by field activities for Illahee Foods in Bremerton, WA. In this HASP, measures are provided to reduce potential exposure, accidents, and physical injuries that may occur while working in the field. Additionally, this HASP addresses the reasonable possibility for personnel exposure to health and safety hazards associated with this project, as well as emergency response requirements.

This Health and Safety Plan (HASP) will be available to G-Logics employees. Non-employees will be responsible for their own safety. Following this Health and Safety Plan does not guarantee safety while on site.

Personnel must inform their immediate supervisor as soon as possible of any subjective symptoms of chemical exposure such as headache, dizziness, nausea, and/or irritation of the respiratory tract, eyes, or skin. The on-site project manager or the worker's immediate supervisor must arrange immediate first aid or medical attention, whichever is appropriate. The project manager must be informed of all work-related injuries and illness within four hours.

### **1.1 Contractor and Others Use**

If requested, this health and safety plan can be made available to contractors or other site workers who are not employees of G-Logics, Inc. However, it is understood that this plan represents minimum safety procedures for G-Logics personnel and that each employer is solely responsible for the safety of their own employees while working on the site. G-Logics, Inc. is not responsible for the safety of employees of any other firms working on this project.

Additionally, each contractor should be responsible for their own hazard communication training, personal protective equipment (including NIOSH/MSHA certified respiratory protective equipment), first aid, and chemical assessments in regard to chemicals they bring and use on-site. Contractors should provide their own site-specific health and safety plan. Contractors are bound by their contract and state regulations to conduct operations in a safe and healthy manner. G-Logics, Inc. will not direct the contractors' work or provide assessments related to the health and safety of the contractors' operation.

**1.2 Medical Surveillance**

The required medical and training requirements depend on an employee's level of involvement at the site, the amount of time spent on site, and the specific tasks the employee will be involved in when on site.

Generally, medical surveillance, per Department of Labor and Industries standards (WAC 296-843-210), is required if employees:

- Are or may be exposed to hazardous substances or health hazards for at least 30 days a year, at or above the permissible exposure limits (PELs) or other published exposure levels.
- Wear a respirator for at least 30 days a year.
- Are injured, become ill, or develop signs or symptoms of possible overexposure to hazardous substances or health hazards.
- Are members of a hazardous materials response team (HAZMAT) responsible for emergency response.

G-Logics personnel do not meet the above criteria and do not require medical monitoring.

**1.2 Training Requirements**

G-Logics employees have received the required health and safety training identified in Table 1.3 below, including the initial 40-hour HAZWOPER and 8-hour annual refresher training.

<b>Table 1.3 - Required Training</b>	
<b>Training</b>	<b>Required</b>
40 or 24-Hour OSHA / Labor and Industries HAZWOPER Initial Training and 8-hour annual refresher (WAC 296-843-200).	X

G-Logics employees have read and updated this site-specific health and safety plan, and have

- Identified the chemical hazards at the work site to the best of their ability,
- Reviewed the hazards for these substances via Safety Data Sheets and/or other references,
- Determined the safe work procedures through a job hazard analysis, and have, if necessary, conducted air monitoring to verify those conclusions, and
- Have chosen appropriate personal protective equipment for the specific work site.

## **2.0     DISCLAIMER**

G-Logics, Inc. does not guarantee the health or safety of any person performing work on the project described by this Health and Safety Plan. Because of the potential for unknown hazardous conditions, it is not possible to discover, evaluate, and provide protection for all possible hazards that may be encountered. Adherence to the health and safety guidelines set forth herein will reduce, but not eliminate the potential for injury and illness at this Site. The health and safety guidelines in this plan were prepared specifically for the stated project and should not be used on any other projects without prior evaluation by G-Logics.

## **3.0     PROJECT INFORMATION**

The following information is presented regarding this property and this corresponding HASP.

### **3.1     Site information**

The Site consists of approximately 0.15 acres. Currently, the Site is vacant but was historically occupied by a gasoline station. In 2016, Langseth Environmental completed a Site Investigation Report. Laboratory analysis identified the presence of gasoline-TPH, lead, and BTEX in the soil. In December 2016, Port of Illahee applied for financial assistance for Illahee Foods from the Pollution Liability Insurance Agency (PLIA) Revolving Loan and Grant Program. PLIA selected the Property to undergo a Preliminary

Planning Assessment (PPA) to gather additional information in order to determine if a loan or grant would be provided.

### **3.2 Scope of Work**

G-Logics will be conducting a PPA for Illahee Foods (the “Site”). Detailed information regarding the planned activities is included in the project workplan. This HASP describes procedures to be followed and personal protective equipment (PPE) to be used by G-Logics personnel performing the following tasks:

- Site visits
- Environmental sampling (groundwater, soil)
- Intrusive activities (drilling)
- Lithologic logging

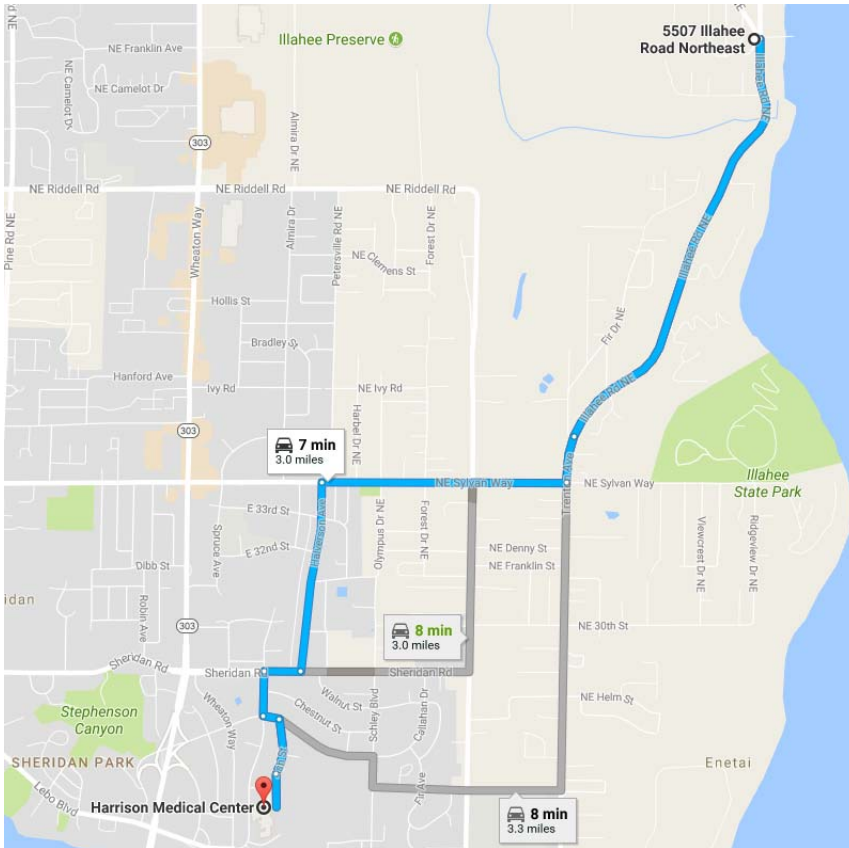
### 3.3 Emergency Response Information

<b>Site Location</b>	<p>Illahee Foods  5507 Illahee Rd NE  Bremerton, WA 98310</p>
<b>Nearest Hospital</b>	<p>Harrison Medical Center  2520 Cherry Ave  Bremerton, Washington 98310  3.0 miles, 8 Minutes  (360) 744-3911  <i>See attached map and directions on following page</i></p>
<b>Emergency Responders</b>	<p>Police, Fire, Ambulance ..... 911</p>
<b>Emergency Contacts</b>	<p>Site/Facility, Anna Jordan ..... 206-949-3010  G-Logics, Office ..... 425-391-6874</p>
<b>On-Site Contacts</b>	<p>Project Manager, Anna Jordan..... 206-949-3010  Field Technician, Haley Schneider ..... 248-924-1991</p>
<b>In the event of an emergency, call for help immediately.</b>	<p>Provide the following information:</p> <ul style="list-style-type: none"> <li>• <b>Where are you?</b> Give your address, cross streets, or landmarks.</li> <li>• <b>Phone number?</b> Give the number you are calling from.</li> <li>• <b>What happened?</b> Give the type of injury and/or accident.</li> <li>• <b>How many persons?</b> Give the number of people involved.</li> <li>• <b>What is being done?</b> Tell what treatment the victim(s) are receiving</li> <li>• <b>Hang up last!</b> Let whomever you called hang up first</li> </ul>

### 3.4 Hospital Information/Directions

<b>Hospital</b>	Harrison Medical Center 2520 Cherry Ave Bremerton, Washington 98310 3.0 miles, 8 Minutes
<b>Directions</b>	Start out going South on Illahee Rd NE Illahee Rd NE turns into Trenton Ave Turn LEFT onto NE Sylvan Way Turn LEFT onto Halverson Ave Turn RIGHT onto Sheridan Rd Turn LEFT onto Cherry Ave Arrive at 2520 Cherry Ave

### 3.5 Hospital Travel Map





### 3.6 Health and Safety Plan Summary

<b>Site Name:</b> Illahee Foods <b>Site Location:</b> 5507 Illahee Rd NE, Bremerton, WA 98310
<b>Client:</b> Port of Illahee <b>Client Address:</b> PO Box 2357 Bremerton, WA 98310 <b>Client Contact:</b> Jim Aho, 360-649-1049
<b>Current property use:</b> Vacant lot
<b>Hazardous Site:</b> Gasoline-TPH, lead, and BTEX
<b>Past property use:</b> Gas station
<b>Active facility?:</b> No
<b>Surrounding land use:</b> Residential
<b>Site access information:</b> Entrance on west side of Illahee Rd at intersection with Allview Blvd NE and Oceanview Blvd NE
<b>Water supply and sanitary facilities:</b> Neither provided onsite
<b>Nearest telephone:</b> Field Personnel cell phone
<b>List identified utilities:</b> Two 4,000-gallon USTs and one 6,000-gallon UST, storm sewer, water. Electric overhead. No natural gas or fiber optic.
<b>Proposed Date(s) of Activities:</b> July 12 <sup>th</sup> -13 <sup>th</sup> , 2017
<b>Proposed Site Activities:</b> Drilling for soil and groundwater sampling
<b>Detailed Scope of Work:</b> See G-logics Workplan dated June 19, 2017
<b>Potential Contaminants:</b> Gasoline-range TPH, benzene, toluene, ethylbenzene, xylenes, and lead
<b>Release Information:</b> UST, discovered in 2016
<b>Potential Routes of Exposure:</b> Inhalation, ingestion, skin absorption, skin contact, eye contact
<b>Protective Measures:</b> Level D
<b>Monitoring Equipment:</b> N/A

## 4.0 HAZARD OVERVIEW

Possible chemical, biological, and physical hazards are described within this section.

### 4.1 Physical Hazard Assessment

G-Logics employees identified the physical hazards at the work site and applicable hazard controls by completing Table 4.1.

**Table 4: Physical Hazards**

<b>Table 4.1 - Physical Hazards</b>		
<b>Select</b>	<b>Potential Hazard</b>	<b>Hazard Control Measures</b>
	Cold Stress	<ul style="list-style-type: none"> <li>• Provide warm break area and adequate breaks.</li> <li>• Provide warm, non-caffeinated beverages.</li> <li>• Wear layers of warm breathable clothing (avoid cotton)</li> <li>• Use rain coat and rain pants</li> </ul>
X	Heavy traffic	<ul style="list-style-type: none"> <li>• Wear reflective clothing for visibility</li> <li>• Follow a traffic management plan</li> </ul>
X	Drums and Containers	<ul style="list-style-type: none"> <li>• Ensure compliance with WAC-843-180, <i>Drum and Container Handling</i>.</li> <li>• Inspect drums or containers and ensure integrity prior to handling.</li> <li>• Move drums or containers only as necessary; use caution and warn nearby personnel or potential hazards; use equipment handling whenever possible versus physically handling the drums.</li> <li>• Other:</li> </ul>
X	Electrical	<ul style="list-style-type: none"> <li>• Ensure compliance with WAC 296-24, Part L, <i>Electrical</i>.</li> <li>• Use the <i>Call Before You Dig Service</i> to locate and mark energized lines.</li> <li>• De-energize lines as necessary.</li> <li>• Ground all electrical circuits.</li> <li>• Guard or isolate temporary wiring to prevent accidental contact.</li> <li>• Evaluate potential areas of high moisture or standing water and define special electrical needs.</li> <li>• Other:</li> </ul>
X	Fire and Explosion	<ul style="list-style-type: none"> <li>• Inform personnel of a potential fire/explosion hazard (e.g. methane gas at a landfill in concentrations above the lower explosive limit).</li> <li>• Establish site-specific procedures for working around flammables.</li> </ul>

		<ul style="list-style-type: none"> <li>• Ensure appropriate fire suppression equipment and systems are available and inspected.</li> <li>• Define requirements for intrinsically safe equipment.</li> <li>• Identify special monitoring needs (Exposure Monitoring section).</li> <li>• If a combustible atmosphere is found, stop work and allow the area to ventilate. Do not allow ignition sources in a combustible atmosphere.</li> <li>• Coordinate with local firefighting groups regarding potential fire/explosion situations.</li> <li>• Establish contingency plans and review daily with team members.</li> </ul>
X	Noise	<ul style="list-style-type: none"> <li>• Employees may have exposure to noise levels exceeding the PEL if regular conversation becomes difficult at a distance of three feet apart.</li> <li>• Staff will wear required hearing protection, including ear plugs or ear muffs in compliance with WAC 296-62-09015.</li> <li>• Contact your supervisor to initiate noise monitoring where hearing protection is required.</li> </ul>
X	Overhead Obstructions	<ul style="list-style-type: none"> <li>• Wear hard hat.</li> <li>• Be aware of overhead power lines if equipment can reach power lines.</li> </ul>
	Power Tools	<ul style="list-style-type: none"> <li>• Ensure compliance with WAC 296-807, <i>Portable Power Tools</i>.</li> </ul>
X	Utility Lines	<ul style="list-style-type: none"> <li>• Identify/locate existing utilities prior to work.</li> <li>• Ensure overhead, underground, and nearby utility lines are at least 25 feet from project activities.</li> </ul>
	Weather Extremes	<ul style="list-style-type: none"> <li>• Monitor weather broadcasts if inclement weather expected.</li> <li>• Identify special PPE needs.</li> <li>• Discontinue work during severe weather.</li> </ul>
X	Slips, trips and falls	<ul style="list-style-type: none"> <li>• On-site G-Logics personnel shall wear high traction soles or steel-toe shoes to improve footing and to prevent slips, trips, and falls.</li> <li>• Watch your footing</li> <li>• Extra careful near bluff edges</li> <li>• Personnel should take care when walking in areas with mud or wet concrete or when stepping over pipes.</li> </ul>

Additional information regarding these physical hazards is presented below.

## **Heavy Equipment, Moving Vehicles**

While construction or exploration equipment is in operation, G-Logics field personnel will remain well back from the vehicle and in line-of-sight with the driver at all times. Appropriate traffic-safety management procedures also will be used when working in roadway and traffic areas.

## **Drum Safety**

Drums may potentially be used or encountered during site work. If drums are used/found they will be moved as little as possible, and only with appropriate equipment. Drums with unknown contents will be handled with extreme caution. The following basic safety precautions should be observed regarding drums to be sampled.

- If the drum shows signs of swelling or bulging, **DO NOT MOVE DRUM** as drum is likely under internal pressure and may explode or release toxic vapors if the drum seal is broken. Leave drum in place and do not disturb further until a drum sampling and handling plan is in effect for the site.
- Only use non-sparking tools (e.g., brass) for opening drums.
- Cover drum tops with plastic sheeting to avoid excessive contact with drum tops.
- Never stand on drums.

## **Electrical Hazards**

G- Logics personnel will have a potential electrical shock hazard if there are buried electrical wires, improperly grounded equipment or from unauthorized repairs to electrical equipment, or possible lightning strikes. To mitigate the hazards of electrical shock:

- All electrical wiring and equipment should be of a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used.
- All work should be performed by personnel familiar with code requirements and qualified for the class of work.
- Whenever possible, all equipment as well as circuits to be worked on should be de-energized before work is started and personnel protected by clearance procedures and grounding.
- All circuits should be protected against overload.
- A ground should be provided for non-current carrying metallic parts of equipment such as blowers, compressors, etc.

- Electrical wiring and equipment should be of a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used.
- Electrical Work should be performed by personnel familiar with code requirements and qualified for the class of work.
- Equipment and circuits should be de-energized before maintenance work is started and personnel protected by clearance procedures and grounding.
- All circuits should be protected against overload.
- Grounding should be provided for non-current carrying metallic parts of equipment.
- Underground utilities must be located (using an underground utility location service) and physically flagged on-site as well as marked on exploration-location plans. All explorations shall be a minimum of 3-feet distant and precautionary explorations (e.g., air knife) should be performed.
- When overhead electrical power lines exist at or near a drilling site, consider all wires to be alive and dangerous. Determine the minimum horizontal distance from any point on the drill rig to the nearest power line before the mast is raised. Horizontal distance must be greater than 20 feet.

### **Fire Hazards**

Keep all flammable materials away from possible ignition sources. Properly manage fuels and flammable materials used for field procedures and equipment. In case of accidental fire:

- Notify all personnel within the immediate area of the fire.
- Evacuate the area in the event the fire cannot be extinguished safely.
- Go directly to the closest telephone and summon the Fire Department by calling 911.
- Notify on-site managers.

### **Accidental Release of a Gas**

As discussed above, identify possible underground utilities prior to any site work. Should an unanticipated/accidental release of flammable materials (natural gas, propane, gasoline, etc.) occur, immediately conduct the following.

1. Notify all personnel within the immediate area of the release, shut down all equipment.
2. Evacuate the area if the release of the gas cannot be secured safely.

3. Notification of immediate supervisor is required.
4. The on-site project manager will take the appropriate actions.

**Slips, Trips, and Falls**

On-site G-Logics personnel shall have high traction soles on steel toe shoes to improve footing and to prevent slips, trips, and falls. Personnel should take care when walking in areas with mud or wet concrete or when stepping over pipes.

**Biological Hazards**

**Table 3: Biological Hazards**

Site	Possible Hazards Present	Proposed Safety Procedure
X	Bites and Stings	Identify location of animals and avoid irritation.
X	Disease Vectors	Maintain personal hygiene, clean hands often, wear gloves.

**5.1 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

G-Logics personnel will select and wear the correct personal protective equipment or protection level based on prior knowledge of the Site and conditions encountered while performing the work described in the workplan.

Changes to the specified personal protective equipment will not be made without the approval of the Project Manager in concurrence with the On-site Site Safety Manager (SSM). PPE is selected to protect employees from specific hazards that may be encountered at the job site. PPE is selected based on the employee's work requirements and task-specific conditions. The durability of PPE materials, such as tear strength and seam strength, should be a consideration. The effects of PPE in relation to cold stress and task duration are a factor in selecting and using PPE. In some cases layers of PPE may be necessary to provide sufficient protection.

G-Logics workers will begin site work in Limited Level D protection. An upgrade to higher levels is not likely to be necessary based on the current site information. However, workers will be prepared to upgrade to higher levels based on changed work conditions, field observations of new or unexpected conditions. G-Logics personnel are not certified to use level A or B protection.

Each level of protection is described below. **Changes to the specified personal protective equipment will not be made without the approval of the SSM in concurrence with the Project Manager.**

### 5.1 Limited Level D Protection

Limited Level D equipment provides minimal skin protection against physical (rather than chemical) hazards and provides no respiratory protection. Limited Level D PPE is the minimum equipment to be used on G-Logics sites. Its use is appropriate only when there's no significant potential for encountering hazardous substances or health hazards while working in controlled-work areas.

Personal Protective Equipment	Required	As Needed
Long-sleeves pants and shirts (or coveralls)	✓	
Hard Hat	✓	
Safety-Toe Work Boots	✓	
Safety Eyewear: glasses w/ side protection	✓	
First Aid Kit	✓	
Eyewash Kit	✓	
High-Visibility Vest	✓	
Fire Extinguisher	✓	
Work gloves	✓	
PID		✓
Decon Equipment		✓
Hearing Protection		✓
Job-Site Radios		✓

## 5.2 Level D Protection

In addition to the PPE and related equipment identified above, the following additional equipment provides moderate skin protection against contact with hazardous substances. Respiratory protection is not provided.

Tyvek Coveralls		✓
Gloves: Neoprene, PVC, Nitrile		✓
Under Gloves: PVC or Latex		✓
Chemical Resistant Boots		✓
Over Boots: Nitrile, Viton		✓

## 5.3 Personal Decontamination Procedures

Skin that comes in contact with chemicals or soil/water with suspected contaminants shall be washed immediately with soap and water. Hands and face shall be thoroughly washed prior to eating, drinking, smoking, or other hand to mouth contact.

## 5.4 Equipment Decontamination Procedures

Sampling equipment shall be decontaminated using appropriate wash and rinse methods. If necessary decontaminate equipment using hot water or steam, but appropriate skin and eye protection (e.g., Level D protection with a face shield) shall be used to protect from splash back. All decontamination water shall be appropriately collected, stored, labeled, and disposed.

## 6.0 INJURY OR ACCIDENT

In the case of an injury or accident, the steps listed below should be followed:

- Provisions must be made for spill prevention and containment at any properties where bulk liquids will be handled.
- In case of accident or injury, stop all operations and equipment. Also suspend operation of heavy equipment.
- Have someone call 911 (Ambulance and/or Medical Personnel) and provide important details (as discussed earlier in this HASP).
- Assess the situation for your safety.



- Render first aid and/or seek medical aid as necessary. Move injured personnel only if it is safe to do so and would prevent further harm to the injured person.
- If an ambulance or emergency responders cannot assist, refer to the Hospital Travel Map for the location of nearest emergency-medical facility.
- Notify the site Project Manager and SSM. The Project Manager will notify the Client and appropriate personnel of the situation.

## **7.0 SITE CONTROL MEASURES**

On-site G-Logics personnel will be briefed, initially and in daily briefings, on the anticipated hazards, personal protective equipment requirements, safety practices, and emergency procedures. Daily safety briefings at the beginning of each day will identify related topics from that day's operation as well as those anticipated for the next day.

During the on-site safety meeting, the location of first aid/emergency equipment, telephone numbers, emergency communications, emergency shut-down procedures, and evacuation routes will be reviewed with all personnel.

### **7.1 On-site Safety Meeting**

On-site G-Logics personnel will be briefed daily on the anticipated hazards, PPE requirements, safety practices, emergency procedures, upwind safe areas (in the event evacuation is necessary), and preferred methods of communication. Daily safety briefings at the beginning of each day will identify related topics from the previous day's operation as well as those anticipated for the current day. The location of first aid/emergency equipment, telephone numbers, emergency communications, emergency shut-down procedures, and evacuation routes also will be reviewed. See the last page of this Health & Safety Plan for a sample of the On-site Safety Meeting Attendees form



**FIELD SAFETY MEETING MINUTES**

Site Name \_\_\_\_\_ Project # \_\_\_\_\_

Meeting Date \_\_\_\_\_

Meeting Location \_\_\_\_\_

Conducted by \_\_\_\_\_

Pre-field work orientation \_\_\_\_\_ Weekly Safety meeting \_\_\_\_\_ Other \_\_\_\_\_

Subjects Discussed \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Field Safety Officer Comments \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name and Signature of Attending Personnel (list company name if subcontractor)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# **APPENDIX D**

## **FIELD EXPLORATION METHODS**

G-Logics performed subsurface soil and shallow groundwater sampling during the assessment conducted on the subject property. The sampling activities were conducted in general accordance with Washington Department of Ecology (Ecology) guidelines and regulations.

### **Health and Safety Plan**

In accordance with the WISHA standards, under the assumption that the project is being performed under the WISHA Hazardous Waste Operations Standard and state regulations, a site-specific Health and Safety Plan was developed for the field activities completed at the subject property. All field personnel reviewed the plan and implemented the procedures while conducting the on-site field activities.

### **Underground Utility Clearance**

Before conducting the subsurface exploration, G-Logics contacted a service that notifies public utilities of proposed subsurface investigations. Additionally, on-site private utilities were located by a private locating company to identify on-site utilities as well as specific areas of concern. Consequently, the below-grade utility locations were identified by marking their inferred location on the ground surface. This information was used to aid in identifying sampling locations. Additionally, at each boring location, the first 5 feet of soils were removed using air-knife methods.

### **Quality Assurance Quality Control**

Quality Assurance/Quality Control (QA/QC) for the presented scope of work included generally accepted procedures for sample collection, storage, tracking, and documentation. All sampling equipment was washed and rinsed before the collection of the samples. All samples were labeled with a sample number, date, time, and sampler name, and were stored in an ice chest containing frozen "blue ice". Appropriate chain-of-custody documentation was completed.

## **General**

G-Logics developed a health and safety plan for this project before the start of fieldwork. The health and safety plan included specifications for steel toe boots, hard hats, safety glasses, and protective clothing. For the protection of the crew, a photoionization detector (PID) was used to screen for the presence of volatile organic concentrations in the breathing zone during the drilling of the borings. The PID was a Thermo Environmental Model 580B OVM, or equivalent, with a 10.5-ev lamp. The instrument was calibrated to 100 parts per million by volume (ppmv) with an isobutylene gas standard. The PID measures volatile organic compounds (VOCs) in the air in ppmv.

## **Direct-Push Soil Sampling**

A probe subcontractor (ESN Northwest, Olympia, WA) performed the probe drilling at this site. The truck-mounted direct-push rig used for this work consisted of a 2-inch stainless steel sampler (sealed piston sampler), in lengths of five feet. Continuous soil samples were obtained by driving/pushing this sampler, containing an acrylic liner, to the sampling depth. After reaching the required depth, the Strataprobe was retrieved and opened. The collected soils contained within the acrylic liner were removed and placed into laboratory-provided glass jars. Samples were collected from the soil core using an Easy Draw Syringe and Powerstop Handle. The soil plug was then extruded into a laboratory-supplied 40 ml VOA Vial containing methanol preservative. The extracted sampler was washed and new liners were used for each sampling attempt.

The G-Logics employee screened the collected soil samples for evidence of contamination, indicated by noticeable odor, visible staining, or discoloration on the soil sampler and in the soil sample. A portion of each soil sample was placed into a plastic bag and the collected vapors were drawn through the photoionization detector (PID) for qualitative screening of VOCs. The vapor reading was noted as the field screening result. A new plastic bag was used each time a sample was screened.

The soils were then observed and categorized for grain-size, color, presence of artifacts, moisture, odor, staining, sheen, and any other indications of contamination. This information was recorded on field boring logs (attached). Samples were collected where indications of contamination were observed or from where contamination would likely be present (i.e. at the groundwater interface).

Upon completion of each soil boring the resulting hole was backfilled with a monitoring-well was installed. All soil cuttings were collected and placed into a waste drum for proper disposal (determined by analytical results).

Collected samples were labeled with a sample number, date, time, and sampler's name and stored in an ice chest containing frozen "blue ice". Chain-of-custody procedures were followed to document sample handling.

### **Hollow-Stem Auger Borings**

When refusal was encountered at shallow depths with the direct push probe rig, soil borings were completed using a truck-mounted hollow-stem auger-drilling rig, provided by our drilling subcontractor. A G-Logics employee was present during the drilling and assisted in obtaining samples of the subsurface materials, maintained a log of the borings, made detailed observations of site conditions, and provided technical assistance, as required.

All drilling and sampling equipment was cleaned before mobilization and between borings to reduce the potential for cross contamination. In addition, the sampling equipment was cleaned between each sampling interval before the collection of the next sample.

### **Groundwater Monitoring-Well Construction, Shallow Hollow-Stem Auger Methods**

Soil borings were completed as groundwater monitoring-wells in the following manner.

- The well casing materials consisted of 2-inch-diameter, flush-threaded, schedule 40 PVC pipe.
- The screened interval of the well casing was perforated with 0.020-inch factory-cut slots.
- The filter pack for the well consisted of clean, 10/20 Colorado Silica Sand.
- The annular seal of the well consisted of granulated Wyoming Bentonite.
- All PVC casing materials were cleaned at the factory before installation.
- The bottom of the well casing was sealed with a threaded sediment cup. Blank (non-slotted) riser casing was used to extend the well from the top of the screened interval to ground

surface. The length of the screened interval is identified on the boring logs.

- Well construction was accomplished by lowering the casing, into the completed boring, through the inside of the hollow-stem augers. The augers were withdrawn from the boring about three feet, and the resulting annular space around the well screen was backfilled with sand (poured through the top of the hollow-stem augers). This process was repeated until the filter pack was installed to about two feet above the top of the screened interval. The augers were completely withdrawn from the boring, and the annular space around the blank riser was backfilled with granulated bentonite to the depth shown on the boring logs.
- The well casing was sealed at the ground surface with a watertight expansion cap or PVC slip cap.
- A tamper-resistant steel cover was set over the well, flush to the ground surface. The cover was grouted in place with concrete.
- A reference point was marked on the top of the PVC well casing for consistent groundwater-depth measurements.
- An Ecology well-identification tag was placed inside the well box.

### **Well Development**

After monitoring-well construction and prior to purging the wells for sampling, the wells were developed. Over pumping, or removing water from the well at a rapid rate, was the devolvement technique used. An in-well GeoTech “Geosquirt 12DVC Purge Pump” was lowered to near the bottom of the well screen, and connected to a 12-volt power source. A swab/surge development technique also was used. This movement was created by both lifting and lowering the pump, and by periodically turning the pump off and allowing the water to flow back into the well. Well development continued until the initially turbid water turned nearly clear. This process was repeated until approximately 5 to 10 gallons of groundwater had been removed.

### **Water-Level Measurements in Wells**

Water-level measurements were referenced to the top of the well casing. The static water level was measured in each monitoring-well using a conductivity type, water-level probe (Keck Model 1213, Flat Tape Water Level Meter). The conductivity probe was lowered into



the well until the instrument detected water. The tape on the probe was used to obtain a depth-to-water measurement, from the reference point, to within 0.01 feet.

### **Groundwater Monitoring-Well Construction, Strataprobe Methods**

Soil borings completed as groundwater monitoring-wells were constructed in the following manner.

- The well casing materials consisted of 2-inch, inside diameter, flush-threaded, schedule 40 PVC pipe. Well screen intervals were constructed with five-foot lengths of well screen, as shown on the boring logs.
- The screened interval of the well casing was perforated with 0.020-inch factory-cut slots.
- The annular seal of the well consisted of granulated bentonite.
- All PVC casing materials were factory-cleaned before installation.
- The bottom of the well casing was sealed with a threaded cap. Blank (non-slotted) riser casing was used to extend the well from the top of the screened interval to ground surface. The length of the screened interval is identified on the boring logs.
- Well construction was accomplished by lowering the well casing into the open probe casing. The probe casing was then withdrawn from the boring and the resulting annular space around the blank riser was backfilled with sand and granulated bentonite to the depth shown on the boring logs.
- The well casing was sealed at the ground surface with a watertight expansion cap or PVC slip cap.
- A tamper-resistant steel cover was set over the well, flush to the ground surface. The cover was grouted in place with concrete.
- A reference point was marked on the top of the PVC well casing for consistent groundwater-depth measurements.
- An Ecology well-identification tag was placed inside the well box.

## **Vertical Survey**

The tops of the well casings were surveyed to determine their relative elevations. The wells were surveyed using a LaserMark LMH laser level and graduated survey rod using standard elevation-leveling techniques.

## **Monitoring-Well Sampling, Peristaltic-Pump Method**

A G-Logics employee sampled groundwater wells in accordance with the following protocol.

- The height of the water column within the well was calculated by subtracting the depth to water from the total depth of the well. The volume of this water column was calculated using the relationship  $V=3.14r^2h$ . Where V is the volume of water in cubic feet, r is the radius of the well in feet and h is the height of the water column in feet.
- Based on these calculations, 3 to 5 volumes of water were removed from the well casing prior to collection of samples.
- All purge water was collected and placed into waste drums for proper disposal (determined by analytical results).
- The contract laboratory prepared the sample containers to conform to EPA-recommended preservation techniques for the analytes of concern.
- Groundwater samples were collected with a peristaltic pump. Sample containers were open only as long as necessary to collect the samples.
- Sample bottles were labeled with a sample number, date, time, and G-Logics employee's name, and were stored in an ice chest containing frozen "blue ice". Chain-of-custody procedures were followed to document sample handling.
- Dedicated tubing was used at each sampling location.
- Before use, the sampling equipment was washed in a "Liquinox", rinsed with tap water, and given a final rinse with distilled water.

All soil samples were stored in an ice chest containing frozen "blue ice" for preservation prior to being forwarded to the analytical laboratory (using proper Chain-of-Custody procedures). All soil sample containers were labeled with sample identification numbers, the date, and the sampler's name.

# **APPENDIX E**

# Unified Soil Classification System (USCS)

PRIMARY DIVISIONS		SYMBOL	DESCRIPTIONS
<b>COARSE GRAINED SOILS</b>  Sands & Gravels, Over 50% retained on #200 sieve	<b>GRAVELS</b>  Over 50% of coarse material retained on #4 sieve	<b>CLEAN GRAVEL</b>  Less than 5% passing #200 sieve	GW Well graded gravel, many different particle sizes, little or no fines
		<b>GRAVEL WITH FINES</b>	GP Poorly graded, few different particle sizes, little or no fines
			GM Silty gravels, gravel-sand-silt mixtures
		GC Clayey gravels, gravel-sand-clay mixtures	
	<b>SAND</b>  Over 50% of coarse material passed #4 sieve	<b>CLEAN SANDS</b>  Less than 5% passing #200 sieve	SW Well graded gravel, many different particle sizes, little or no fines
			SP Poorly graded, few different particle sizes, little or no fines
		<b>SAND WITH FINES</b>	SM Silty gravels, gravel-sand-silt mixtures
			SC Clayey gravels, gravel-sand-clay mixtures
<b>FINE GRAINED SOILS</b>  Silts & Clays, Over 50% passing the #200 sieve	<b>SILTS AND CLAYS</b>  Liquid limit is less than 50 %	ML Inorganic silts, slight to no plasticity	
		CL Inorganic clays, low to moderate plasticity	
		OL Organic silts and clays of low plasticity	
	<b>SILTS AND CLAYS</b>  Liquid limit is more than 50 %	MH Inorganic silts, moderate to high plasticity	
		CH Inorganic clays, high plasticity, fat clays	
		OH Organic silts and clays of high plasticity	
		PT Peat and other highly organic soils	

## Soil Samples



Disturbed, bag, bulk, or grab sample



Standard penetration split spoon sample



Cuttings



Continuous-Core Sample

## Field Measurements



Water Level Observed During Drilling



Photoionization Detector



Parts Per Million by Volume



End of Boring (E.O.B)

**Note:** Blows per foot is the number of blows used to drive a split-spoon (2" OD) sampler through the last 12 inches of an 18-inch sampling attempt. One blow is a 30-inch fall of a 140-pound hammer.

**Note:** The line separating strata on the logs represents approximate boundaries only. The actual transition may be gradual. No warranty is provided as to the continuity of the strata between exploration locations. Logs represent the soil section observed at the exploration location on the date of exploration only.

INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-3': GRAVELLY SAND with silt, fine to coarse grained, light brown, dry, no odor, moderately dense, some organics present.	90	SW		Temporary Boring, Backfilled with Bentonite
		3-6': Poorly graded SAND with trace silt and gravel, fine grained, light brown, dry, no odor, very dense.		SP		
5	GLB-1-5 GLB-1-6	Refusal at 6'.	100	▽	12.2 8.9	
10						
15						
20						
25						
30						

Drilling Method: Direct Push Probe	Date: 7/12/2017	Other Information:
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 2"	Page 1 of 1	
Logged By: H. Schneider		


	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLB-1</b>
-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------	--------------

INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-0.5': Concrete				Temporary Boring, Backfilled with Bentonite
	GLB-2-2	0.5-5': GRAVELLY SAND with silt, fine to medium grained, brown, moist, no odor, moderately dense.	50	SP-SM	5.0	
5	GLB-2-5	5-8.5': Poorly graded SAND with gravel and silt, fine grained, brown-gray, moist, no odor, very dense.			5.4	
		8.5-11.5': Poorly graded SAND with trace silt, very fine grained, gray, moist to wet, no odor, very dense.	100	SP		
10	GLB-2-10	11.5-13.5': SILTY SAND, very fine grained with gravel, gray, wet, no odor, very dense.	100	SM	7.6	
		13.5-15': Poorly graded SAND with trace silt, medium grained, brown, wet, no odor, very dense.		SP		
15	GLB-2-15	Terminated at 15'			7.0	
20						
25						
30						

Depth in feet

Drilling Method: Direct Push Probe	Date: 7/13/2017	Other Information: Water found at approximately 11'.
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 2"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLB-2</b>
-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------	--------------

INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-3': Poorly graded SAND with silt and gravel, fine grained, brown, dry, no odor, moderately dense, some organics present.	100	SP-SM		Temporary Boring, Backfilled with Bentonite
		3-4': Poorly graded SAND with trace silt, very fine grained, gray, moist, no odor, dense.				
5	GLB-3-5 GLB-3-6	4-6.5': Poorly graded SAND with trace silt, fine to medium grained, gray, moist to wet, no odor, dense. 6.5-8': Poorly graded SAND with silt and trace gravel, very fine grained, gray, moist, no odor, very dense.	100	SP SP-SM	3.3 17.0	
10	GLB-3-10	8-10': Well graded SAND with gravel and silt, fine to coarse grained, gray, wet, no odor, dense. Terminated at 10'		SW-SM	17.0	
15						
20						
25						
30						

Drilling Method: Direct Push Probe	Date: 7/13/2017	Other Information: Water found at approximately 9'.
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 2"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLB-3</b>
-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------	--------------

INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-1': SILTY SAND with gravel, fine grained, brown, moist, no odor, moderately dense, some asphalt present.	100	SM		Temporary Boring, Backfilled with Bentonite
		1-5': Poorly graded SAND with silt and trace gravel, very fine grained, gray, moist, no odor, dense.		SP-SM		
5	GLB-4-5	5-6.5': Poorly graded SAND with silt, fine grained, Brown-gray, moist to wet, no odor, very dense.	100		17.0	
	GLB-4-7.5	6.5-8': Poorly graded SAND with trace silt and gravel, very fine grained, gray, moist to wet, no odor, very dense.		SP	19.4	
10	GLB-4-10	8-10': GRAVELLY SAND with silt, fine to medium grained, gray, wet, no odor, dense. Terminated at 10'		SP-SM	16.9	
15						
20						
25						
30						

Drilling Method: Direct Push Probe	Date: 7/13/2017	Other Information: Water found at approximately 8'.
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 2"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLB-4</b>
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INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0						<p>2" Boring</p> <p>Well Cap</p> <p>Concrete Seal</p> <p>Bentonite Seal</p> <p>2" PVC Blank</p> <p>10/20 Sand</p> <p>Caving</p>
4-6'	GLMW-1-5	GRAVELLY SAND with silt, fine grained, gray-brown, moist, no odor, very dense.	100	SP-SM	2.3	
10-12'	GLMW-1-10	Poorly graded SAND with silt, very fine grained, gray, wet, no odor, dense.	100		2.8	
14-15'	GLMW-1-15	Poorly graded SAND with silt, very fine to fine grained, gray, wet, no odor, dense.	100		4.8	
15-16'		GRAVELLY SAND with silt, fine grained, gray, wet, no odor, very dense.				
		Refusal at 16'				
20						
25						
30						

Drilling Method: HSA	Date: 7/13/2017	Other Information: Water found at approximately 9'. Refusal at 16'. Sand heave between 12' and 16' (pushed out with plug and auger). Well screened from 5'-15'. Well ID: BJR763
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 8"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLMW-1</b>
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INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-2': GRAVELLY SAND with silt, fine grained, brown, moist, no odor, dense.				
	GLMW-2-2.5	2-4.5': Poorly graded SAND with silt and gravel, fine to medium grained, gray, moist, no odor, moderately dense.	70	SP-SM	5.8	
5	GLMW-2-5	4.5-8': GRAVELLY SAND with trace silt, fine to coarse grained, brown, moist, slight odor at 8'; dense.		SW	5.3	
	GLMW-2-8	8-10': Poorly graded SAND with silt and trace gravel, very fine to fine grained, gray, moist to wet, slight odor at 8', dense.	90	SP-SM	339	
10	GLMW-2-10	10-14': Poorly graded SAND with trace gravel and silt, medium grained, no odor, dense.	100	SP	9	
15	GLMW-2-14	15 to 17': No sampling.  Terminated at 17'			6.8	
20						
25						
30						

Drilling Method: Direct Push/HSA	Date: 7/13/2017	Other Information: Water found at approximately 10'. Refusal with push probe at 14' and drilled to 17' with auger. Well screened from 7'-17'. Well ID: BJR764
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 8"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLMW-2</b>
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INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0						<p>2" Boring</p> <p>Well Cap Concrete Seal Bentonite Seal 2" PVC Blank 10/20 Sand Caving</p>
0-1.5'	GLMW-3-1.5	GRAVELLY SAND with silt, fine grained, moist, brown, moderate odor, very dense.	70	SP-SM	50	
1.5-5'		GRAVELLY SAND with silt, fine to coarse grained, brown, moist, no odor, moderately dense.		SW-SM	15	
5	GLMW-3-4.5		90	SW	330	
4.5-8'	GLMW-3-7.5	Well graded SAND with gravel and trace silt, fine to coarse grained, brown-gray, moist, moderate odor at ~7.5', very dense.				
10	GLMW-3-10		70		34	
	GLMW-3-12		100		9	
15	GLMW-3-15	14-15': GRAVELLY SAND with silt, very fine grained, gray, wet, no odor, very dense. Refusal at 15'		SP-SM	8.5	
20						
25						
30						

Drilling Method: Direct Push/HSA	Date: 7/13/2017	Other Information: Water found at approximately 11'. Refusal at 15' with auger. Sand heave between 14' and 15'. Well screened from 4'-14'. Well ID: BJR765
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 8"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLMW-3</b>
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INTERVAL	SAMPLE NUMBER	SOIL DESCRIPTION	Recovery %	USCS	PID (ppmv in headspace)	WELL CONSTRUCTION
0		0-0.5': GRAVEL with sand and trace silt, fine grained, dry, gray, no odor, moderately dense.	50	GP	5.1	<p>2" Boring</p> <p>Well Cap</p> <p>Concrete Seal</p> <p>Bentonite Seal</p> <p>2" PVC Blank</p> <p>10/20 Sand</p> <p>Caving</p>
0.5-3'		SILTY SAND with gravel, dry, brown, no odor, moderately dense.		SM		
3-6.5'		Poorly graded SAND with silt, fine grained, brown, moist, no odor, moderately dense.	SP-SM			
6.5-7'	GLMW-4-5	SANDY GRAVEL with trace silt, fine grained, gray, moist, dense, no odor.	GP			
7-9'	GLMW-4-7.5	GRAVELLY SAND with silt, fine grained, brown, moist, no odor, dense.	SP-SM			
9-11.5'	GLMW-4-10	Poorly graded SAND with silt, very fine grained, gray, moist, no odor, dense.	100	GP-GM		
11.5-13.5'		SANDY GRAVEL with silt, fine grained, gray, moist, no odor, dense.	100	SP-SM		
13.5-15'	GLMW-4-14	Poorly graded SAND with silt and gravel, very fine to fine grained, gray-brown, wet, no odor, dense.	100	GP-GM		
15-17'		Refusal at 17'	100	SP-SM		
20						
25						
30						

Drilling Method: Direct Push/HSA	Date: 7/13/2017	Other Information: Water found at approximately 11'. Refusal at 17' with auger. Sand heave between 16' and 17'. Well screened from 6'-16'. Well ID: BJR766
Drilling Company: ESN	Weather: Partly Cloudy	
Boring Diameter: 8"	Page 1 of 1	
Logged By: A. Jordan		

	<b>Boring/Well Log</b> <b>Illahee Foods</b> <b>5507 Illahee Rd NE</b> <b>Bremerton, Washington</b>	<b>GLMW-4</b>
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# **APPENDIX F**



**Valbridge**  
PROPERTY ADVISORS

## **Appraisal Report**

**Illahee Foods Property**

5507 Illahee Road NE

Kitsap County, Washington



FOR

Mr. Dan Hatch, PMP  
Senior Remediation Manager

**G-Logics, Inc.**

40 2<sup>nd</sup> Avenue SE  
Issaquah, WA 98027-3452

**Valbridge Property Advisors |  
Allen Brackett Shedd | Macaulay & Associates**

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Valbridge Job # 17-0229-06



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August 31, 2017

Mr. Dan Hatch, PMP  
Senior Remediation Manager  
**G-Logics, Inc.**  
40 2<sup>nd</sup> Avenue SE  
Issaquah, WA 98027-3452

**RE: APPRAISAL OF THE ILLAHEE FOODS PROPERTY LOCATED AT 5507 ILLAHEE ROAD NE IN KITSAP COUNTY, WASHINGTON (Our File #17-0229-06)**

Dear Mr. Hatch:

In response to your request, we have completed an appraisal of the Illahee Foods Property, located at 5507 Illahee Road NE in Unincorporated Kitsap County, Washington. The purpose of the appraisal is to provide an opinion of market value for the subject property before and after, relative to a proposed removal of the Underground Storage Tank (UST) followed by site remediation. The appraisal will be used in the evaluation of a program to remediate leaking underground storage tanks at various gas station facilities.

The subject property is improved with a former gas station, that is closed at the present time. The improvements total 1,600 square feet, and occupy a land area consisting of 6,534 square feet with direct frontage along the west side of Illahee Road, at the intersection with Oceanview Boulevard NE. The improvements are not considered to contribute to Highest & Best Use. As a result, we have analyzed the site as vacant.

It is important to note that the scope of work of this assignment is limited to the Sales Comparison Approach to value only.

*This appraisal was prepared in conformance with the Uniform Standards of Professional Appraisal Practice (USPAP). Summarized descriptions of properties used for comparison are included in this report, as well as our analyses and conclusions. The value conclusions herein are given subject to the specific assumptions and limiting conditions stated immediately following this transmittal letter.*

Based on our investigation and analysis of all relevant data, it is our opinion the market value of the property, as of August 11, 2017 is:

<b>"BEFORE" VALUE</b>	<b>(\$355,000)</b>
<b>"AFTER" VALUE</b>	<b><u>\$ 60,000</u></b>
<b>VALUE DIFFERENCE (ENHANCEMENT)</b>	<b>\$ 415,000</b>

If you have further questions not answered in the accompanying appraisal report, please do not hesitate to call.

Sincerely,

**VALBRIDGE PROPERTY ADVISORS | ALLEN BRACKETT SHEDD | MACAULAY & ASSOCIATES**



S. Murray Brackett, MAI



David Coleman, Senior Associate

Enclosures



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# Executive Summary

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Project: Illahee Foods Property (former)

Location: 5507 Illahee Road NE in Unincorporated Kitsap County, Washington

Building Improvements: Improvements consist of a 1,600-square-foot former Gas station.

Site Size: 6,534 square feet

Utilities:

Zoning: Neighborhood Commercial (NC), Kitsap County

Highest and Best Use: As Improved

Conclusion of Value:

<b>"BEFORE" VALUE</b>	<b>(\$355,000)</b>
<b>"AFTER" VALUE</b>	<b><u>\$ 60,000</u></b>
<b>VALUE DIFFERENCE(ENHANCEMENT)</b>	<b>\$ 415,000</b>

Date of Value: August 11, 2017

Appraiser: S. Murray Brackett, MAI  
David Coleman, Senior Associate

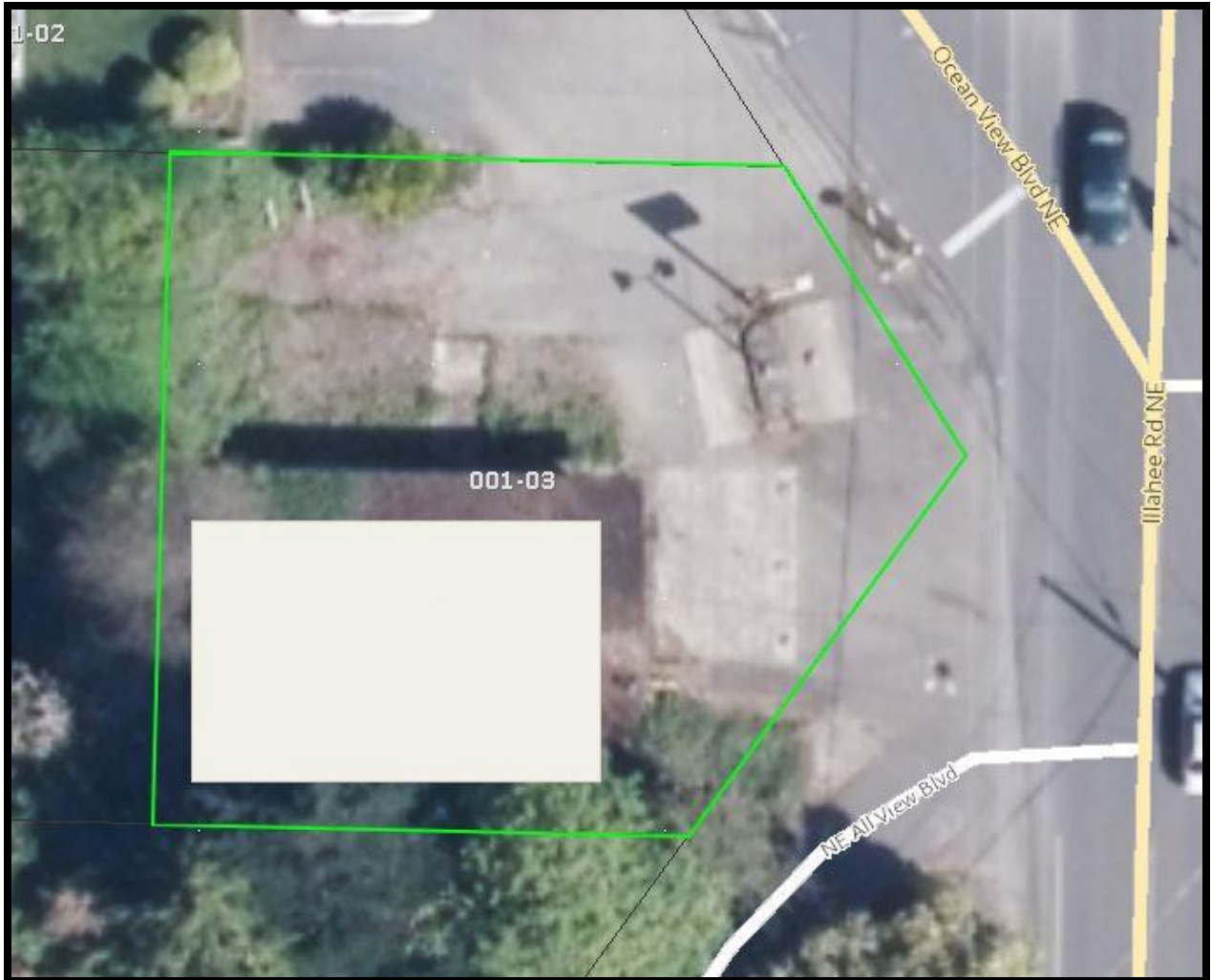
File: 17-0229-06

# Location Map





# Aerial and Subject Photographs



**AERIAL**

## SUBJECT PHOTOGRAPHS



1) View of subject, looking west.



2) View of subject's improvements looking south.



## SUBJECT PHOTOGRAPHS



3) Additional view of subject, looking west.



4) View showing subject's frontage along Illahee Road & Oceanfront.

# Introduction

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## Identification of the Subject Property

The subject of this appraisal is the Illahee Foods Property located at 5507 Illahee Road NE in Unincorporated Kitsap County, Washington. The subject is presently improved with a former Gas Station/C-store. The improvements contain 1,600 square feet, reportedly constructed in 1979. The property occupies a single tax parcel of land having corner frontage along the west side of Illahee Road NE, at its intersection with Oceanview Boulevard NE. Surrounding land use consists of primarily residential uses at the present time.

## Legal Description

We have not been provided with a Title Report by the client. The subject consists of a single tax parcel and can be otherwise be identified by Kitsap County Tax Account No. 4429-015-001-0309.

## History and Ownership

According to the Kitsap County Assessor's records, the subject property is currently owned by David and Donald Krick. According to Public Records, the last recorded sale was in November of 1978 for \$30,000. It is our understanding based on information provided by the client that the subject is in receivership, and subject to Sheriff's sale.

## Date of Inspection/Valuation

The subject property was formally inspected on August 11, 2017. The effective date of this appraisal is August 11, 2017.

## Intended Use/User

The purpose of this appraisal is to provide an opinion of market value for the subject property, as of August 11, 2017 to assist the client in the evaluation of a program to remediate leaking UST's. The Pollution Liability Insurance Agency (PLIA) Revolving Loan & Grant Program, in partnership with the Washington State Dept. of Health, will assist underground storage tank owners or operators through low interest loans with the costs to install new infrastructure, retrofit existing infrastructure, close an underground storage tank, or clean-up facilities contaminated by a petroleum release. Through the Program, PLIA and DOH are authorized to provide a loan or grant to an owner or operator for a single UST facility for up to \$2,000,000. Within the Program, PLIA will provide the oversight and technical assistance, while DOH operates the lending/repayment process. Market value is defined as:<sup>1</sup>

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<sup>1</sup> From *The Appraisal of Real Estate*, Fourteenth Edition, 2013, Appraisal Institute, page 59.



*The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:*

- 1. buyer and seller are typically motivated;*
- 2. both parties are well-informed or well-advised and acting in what they consider their best interests;*
- 3. a reasonable time is allowed for exposure in the open market;*
- 4. payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and*
- 5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

## Property Rights Appraised

This appraisal sets forth an opinion of value for a fee simple interest as part of our fair market rent analysis. Fee simple interest is defined as:<sup>2</sup>

*Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.*

## Scope of the Appraisal

The appraisal process begins with an inspection of the subject property. The scope of this assignment includes consideration of the Sales Comparison Approach only, at the request of the client. Data was collected on the sales of comparable commercial *land*. The subject's existing improvements are older and in poor condition, and are not considered to contribute to the underlying land.

In appraising the subject property, the appraisers did the following:

- Researched MetroScan and CoStar databases.
- Researched Valbridge Property Advisors | Allen Brackett Shedd's existing database.
- Confirmed all sales with buyers, selling agents, and/or public records.
- Inspected the subject property.
- Researched the market for Sales of Gas Station properties.
- Consulted with Dan Fallon, broker with McCallen & Sons, Inc.

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<sup>2</sup> From *The Appraisal of Real Estate*, Fourteenth Edition, 2013, Appraisal Institute, page 5

## Extraordinary Assumptions/Hypothetical Conditions

It is a requirement of USPAP to clearly and conspicuously state all extraordinary assumptions and hypothetical conditions, and state their use might have affected the assignment results. These have been stated below.

### Extraordinary Assumption

An extraordinary assumption is an assumption, directly related to a specific assignment, as of the effective date of the assignment results, which, if found to be false, could alter the appraiser's opinions or conclusions.

### Hypothetical Condition

A Hypothetical Condition is a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

## Hazardous Waste/Remediation Costs

The subject property is currently improved with a closed Gas Station facility. It is our understanding that the subject has leaking underground storage tanks (UST's). We understand that Phase I and II studies have been performed as part of the overall Project, however we have not been provided with these. We have been provided with remediation and upgrade costs from G-Logics, Inc. According to their figures, this amounts to \$539,500 for the subject property.

The subject reportedly has contamination issues due to leaking underground storage tanks and based on our research in the marketplace, potential buyers would likely discount the subject heavily, or make offers contingent upon such studies or appropriate remedies. Real property with historical soil contamination issues are routinely bought and sold; however, it is typical that a buyer and seller recognize that remediation activities may be deferred well into the future, unless ground disturbance causes the issue to become an immediate issue and cost. From that standpoint, the market will evaluate each property differently. For purposes of this assignment, the intent is to evaluate the potential value difference Before and After this program efforts have been completed. *To that end, and after discussions with the Client, we have specifically assumed that the identified remediation costs are 1) the best available information and 2) would be necessary and current expenditures by the property owner.*

## Highest and Best Use

Our analysis reflects the property under current Highest and Best Use, prior to consideration of the project-specific information that has been generated. The information obtained during the course of this project is site specific and could potentially alter the evaluation of Highest and Best Use. We have not considered the potential changes to HBU as a result of the Project.

## Personal Property

This appraisal does not consider any personal property at the subject property.

## Exposure/Marketing Periods

The exposure and marketing periods are defined as those periods of time, “before and after” the date of value (respectively), which are necessary to achieve the value conclusion reported. The subject consists of gas station facility at the present time. The market in this vicinity was impacted by the general downturn in the economy, however, is considered to be stable at this time. The subject has a known soil contamination issue that has been quantified. It is anticipated that the market interest in this property would be contingent upon an understanding of the known contamination be remediated, or the subject be heavily discounted if offered for sale on the open market as-is. As the costs have been identified, exposure and marketing periods of 6-9 months are expected for the subject, if offered for sale at the appraised value.

## Area/Neighborhood Description

Kitsap County, originally part of King and Jefferson counties, is the northern end of the Kitsap peninsula, jutting into the Puget Sound positioned between the Olympic Peninsula to the west and King County to the east. It is located between Hood Canal and Admiralty Strait. Water transportation is dominant in the culture and economy of the county. The county, initially named Slaughter County for a U.S. Army officer, was formed in 1857. Voters later changed the name to honor Kitsap, the Suquamish war chief. The county seat is located in Port Orchard. Kitsap County is one of the smallest counties in the state in terms of land area at about 395 square miles. It ranks third, however, in the state in terms of its population density, i.e. persons per square mile.

## Local economy

Native Americans were the first residents in the area. They lived in permanent settlements, fishing, hunting and gathering. Contact with Europeans and the introduction of diseases such as smallpox in the 1780s decimated their numbers. The 1850 gold rush in California triggered non-native settlement in the area as the demand for lumber spurred migration to the region’s great stands of timber. Shipyards sprang up near the mill towns, where lumber was shipped mainly to California but also across the Pacific to Asia. In the mid- to late 19th century, the Kitsap Peninsula had the distinction of having the greatest per capita income on Puget Sound. Port Orchard was selected in the 1880s as a ship repair facility nearer to the open Pacific Ocean. The U.S. Navy established the Puget Sound Naval Shipyard in 1891, which soon became a magnet for other businesses and workers. During other periods of conflict, military installations dotted the coastline of the county, including Fort Ward on Bainbridge Island. Today spending by the Department of Defense, including U.S. Navy centers at Bremerton, Keyport and Bangor, continues to dominate the economy of the county as demonstrated by an annual military and defense payroll in excess of \$1.5 billion.

Because of Kitsap County’s geographic configuration, the Washington State Ferry System is an important infrastructure link for Kitsap residents. In fiscal year 2015, more than 6.3 million passenger trips were taken on the Seattle-Bainbridge ferry run and more than 2.6 million trips were taken on the Seattle-Bremerton route. In the north part of the county, the boats serving the Edmonds and Kingston run hosted over 4.0 million passenger trips during the year. More than half of all ridership

on the Washington State Ferries originates or ends in Kitsap County. The Hood Canal, bordering the west side of the Kitsap Peninsula is traversed by the Hood Canal floating bridge linking Kitsap and Jefferson counties. The bridge is the third-longest floating bridge in the world and the longest crossing salt water.

This infrastructure supports the economy based on public sector Department of Defense jobs, as well as over 15,000 uniform service personnel based there. The balance of economic activity in the county includes a thriving gaming industry with large casinos located on tribal properties, a major medical center and a regional retail hub attracting shoppers from Kitsap County as well as the surrounding rural counties: Clallam, Jefferson and Mason.

On an annual average basis, there has been an increase in the labor force since 2013, another indicator of a healthy and lively job market. In late 2016 the county unemployment rate was 5.7 percent, compared to 5.0 percent in late 2015. The over the year increase in rate can be attributed to the expanding labor force. The unemployment rate will continue to remain low as confidence in the labor market conditions grow and new opportunities begin to appear.

From 2004 through 2008, Kitsap County experienced average annual unemployment rates under 5.9 percent, with lower rates during periods of stronger growth. This contrasts with the much higher rates beginning in 2009 (7.7 percent) and continuing through 2013 (7.2 percent). In the first nine months of 2016 the unemployment rate averaged 5.9 percent.

The military and its federal employees continue to be a steady source of economic fuel for the economy with over 15,000 active military and nearly 18,000 civilians based in Kitsap; it is a city on to itself. In addition, over 500 prime and sub-contractors add to the benefits seen by this federal presence.

In Kitsap County, job numbers are continuing to rebound and have surpassed the losses which occurred from 2006 to 2012. Specifically, there were on average 89,200 nonfarm jobs in the county in the first nine months of 2016 compared to 87,400 in 2006. The goods-producing sector employed 7,200 in late 2016, a gain of 400 jobs since late 2015.

The service-providing sector gained 700 jobs since September 2015. Trade, transportation, warehousing and utilities gained 400 jobs. The leisure and hospitality segment was unchanged over the year. Professional and business services added 400 new positions over the past year. The largest component of Kitsap County nonfarm employment is government. This sector typically accounts for a third of the nonfarm total with a late 2016 total of 31,600 jobs. Of that total, 19,400 was federal government employment. The second largest group was local government, with 10,200 jobs.

## Market Analysis

### Retail

Recent surveys and information obtained from CoStar Inc. provides data for the industrial, office and retail markets in the subject area and surrounding marketplace. According to CoStar's 1<sup>st</sup> Quarter 2017 Retail Market Report, the Bremerton/Silverdale retail market did not experience much change in market conditions in the first quarter of 2017. The vacancy rate went from 6.9% in the previous

quarter to 6.8% in the current quarter. Net absorption was positive 11,849 square feet. Quoted rental rates increased from fourth quarter 2016 levels, ending at \$12.27 per square foot per year.

Bremerton/Silverdale’s retail vacancy rate decreased in the first quarter of 2017, ending the quarter at 6.8%. Over the past four quarters, the market has seen an overall increase in the vacancy rate, with the rate going from 6.6% in the second quarter 2016, to 6.6% at the end of the third quarter 2016, 6.9% at the end of the fourth quarter 2016, to 6.8% in the current quarter. The amount of vacant sublease space in the Bremerton/Silverdale market has trended down over the past four quarters. At the end of the second quarter 2016, there were 61,412 square feet of vacant sublease space. Currently, there are 58,012 square feet vacant in the marketplace.

Average quoted asking rental rates in the Bremerton/Silverdale retail market are up over previous quarter levels, and up from their levels four quarters ago. Quoted rents ended the first quarter 2017 at \$12.27 per square foot per year. That compares to \$11.90 per square foot in the fourth quarter 2016, and \$11.85 per square foot at the end of the second quarter 2016. This represents a 3.1% increase in rental rates in the current quarter, and a 3.42% increase from four quarters ago.

Over the past four quarters, a total of 9,839 square feet of retail space has been built in the Bremerton/Silverdale market. There were 2,000 square feet of retail space under construction at the end of the first quarter 2017.

The following charts summarize some of the market statistics in the Bremerton/Silverdale marketplace, as defined by CoStar:

### General Retail Market Statistics

First Quarter 2017

Market	Existing Inventory		Vacancy			YTD Net Absorption	YTD Deliveries	Under Const SF	Quoted Rates
	# Bids	Total GLA	Direct SF	Total SF	Vac %				
Bainbridge Island	33	352,101	28,298	28,298	8.0%	(18,122)	0	0	\$27.97
CBD	176	1,191,621	35,903	35,903	3.0%	600	0	0	\$8.18
Central	41	588,264	4,384	4,384	0.7%	0	0	0	\$0.00
East Bremerton	83	513,980	106,582	106,582	20.7%	7,948	0	0	\$5.80
North Kitsap County	36	234,973	2,641	2,641	1.1%	2,088	0	0	\$35.45
Port Orchard	133	788,776	24,532	24,532	3.1%	600	0	0	\$12.53
Poulsbo	123	982,724	13,375	13,375	1.4%	1,947	0	2,000	\$16.84
Silverdale	141	1,456,429	6,720	6,720	0.5%	0	0	0	\$28.50
South Kitsap County	40	302,775	591	591	0.2%	1,074	0	0	\$10.00
West Bremerton	73	752,842	52,772	52,772	7.0%	1,500	0	0	\$12.57
West Kitsap County	25	82,497	0	0	0.0%	0	0	0	\$0.00
<b>Totals</b>	<b>904</b>	<b>7,246,982</b>	<b>275,798</b>	<b>275,798</b>	<b>3.8%</b>	<b>(2,365)</b>	<b>0</b>	<b>2,000</b>	<b>\$11.25</b>

Source: CoStar Property®



## General Retail Market Statistics

First Quarter 2017

Period	Existing Inventory		Vacancy			Net Absorption	Deliveries		UC Inventory		Quoted Rates
	# Bids	Total GLA	Direct SF	Total SF	Vac %		# Bids	Total GLA	# Bids	Total GLA	
2017 1q	904	7,246,982	275,798	275,798	3.8%	(2,365)	0	0	1	2,000	\$11.29
2016 4q	904	7,246,982	273,433	273,433	3.8%	(26,379)	1	4,477	1	2,000	\$9.76
2016 3q	903	7,242,505	239,177	242,577	3.3%	(5,187)	0	0	2	6,477	\$9.53
2016 2q	903	7,242,505	233,990	237,390	3.3%	37,502	1	5,362	1	4,477	\$10.08
2016 1q	902	7,237,143	269,530	269,530	3.7%	6,736	0	0	2	9,839	\$10.69
2015 4q	902	7,237,143	276,266	276,266	3.8%	53,428	0	0	1	5,362	\$10.86
2015 3q	899	7,219,332	311,883	311,883	4.3%	37,179	1	2,308	3	17,811	\$10.96
2015 2q	898	7,217,024	346,754	346,754	4.8%	(6,867)	0	0	4	20,119	\$10.94
2015 1q	899	7,217,955	340,818	340,818	4.7%	59,883	0	0	1	2,308	\$10.83
2014	899	7,217,955	400,701	400,701	5.6%	179,534	1	59,000	0	0	\$10.88
2013	897	7,144,455	506,735	506,735	7.1%	(50,450)	1	4,500	1	59,000	\$10.27
2012	896	7,139,955	451,785	451,785	6.3%	(18,058)	1	3,240	0	0	\$11.15
2011	894	7,136,171	429,943	429,943	6.0%	(47,647)	4	56,426	1	3,240	\$10.57
2010	890	7,079,745	325,870	325,870	4.6%	(90,805)	2	45,570	3	47,044	\$10.91
2009	889	7,059,175	214,495	214,495	3.0%	(10,140)	1	2,667	1	1,706	\$14.69
2008	887	7,047,956	193,136	193,136	2.7%	214,299	1	17,272	1	2,667	\$14.94

Source: CoStar Property®

## Historical Rental Rates

Based on NNN Rental Rates



Source: CoStar Property®

The following charts summarize Cap rate information for the Puget Sound Region Industrial, Office and Retail markets:

### CAP Rates Puget Sound Region

Type	2009	2010	2011	2012	2013	2014	2015	2016	Change/Yr.
Industrial	7.89%	7.99%	8.20%	7.83%	7.11%	7.15%	6.32%	6.68%	-1.92%
Office	7.90%	7.43%	6.72%	6.61%	5.91%	6.10%	6.23%	6.49%	-2.23%
Retail	8.18%	6.85%	7.43%	7.35%	7.33%	6.50%	6.60%	6.26%	-2.93%

As can be seen, after the economic downturn of the late 2000's, cap rates began to decline, with the bottom for both market types reaching a low in 2013. Industrial, Office and Retail have demonstrated an up and down pattern in cap rates since the 2010 timeframe.

In summary, considering the local Industrial, Office and Retail market reports all indicate that all three market segments should remain strong with continued demand in these sectors, the subject is considered to be well positioned within the Puget Sound Region.

# Factual Data

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## Description of the Subject Property

### Site Area

The subject property consists of a single tax parcel with a gross site size of 6,534 square feet. In total the site forms a slightly irregular shaped parcel of land. The property is situated within unincorporated Kitsap County in an area of predominantly residential land uses at the present time.

### Topography

The subject property contains an upward sloping topography from west to east.

### Access

The subject property has direct frontage along the west side of Illahee Road NE, at the intersection with Oceanview Boulevard NE. Both of these are 2-lane paved arterials in the vicinity of the subject property. There is currently no curb, gutter and sidewalk in the vicinity of the subject.

### Utilities

Utilities available include public water, power, telephone and cable. The subject property is located within the North Prairie Water District. Generally speaking, public water is available to the subject property. Sanitary Sewer is currently not provided. According to Kitsap County Public Works, the nearest sewer line is located 1,950 feet to the north.

### Sensitive Areas

We have not been provided with any sensitive area studies relating to the subject property. The subject is a fully developed site with a gas station facility. Considering this, it does not appear that there are any sensitive areas present at the subject.

### Easements/Encumbrances

We have not been provided with a Title Report. Based on our inspection of the subject, there do not appear to be any usual easements or encumbrances impacting the site.





**TOPOGRAPHY MAP**



**ZONING MAP**

### Zoning

The subject property is currently zoned Neighborhood Commercial (NC) by Kitsap County. The intent of the Neighborhood Commercial zone is to provide for the quick stop shopping needs of the immediate neighborhood in which they are located. These centers should be based upon demonstrated need and shall be sized in a manner compatible with a residential setting. A variety of smaller commercial/retail uses are permitted within this zone.

### Assessed Value and Real Estate Taxes

The subject property is assessed and taxed as follows:

#### 2017 Assessed Values

Tax Account	Land	Improvements	Total	Taxes
4429-015-001-0309	\$55,430	\$0	\$55,430	\$818.54



**SITE PLAN**

### Description of Improvements

The subject consists of a shuttered gas station facility. Given the age (built in the late 1970s) and condition of the existing improvements, they are not considered to contribute to value. For purposes of this assignment, the subject property is effectively unimproved.

### Site Improvements

The subject property is currently improved with asphalt paving.

## Highest and Best Use

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Highest and best use is defined as:<sup>3</sup>

*The reasonably probable use of property that results in the highest value..... To be reasonably probable, a use must meet certain conditions.*

A determination of highest and best use is guided by the following parameters: 1) physically possible; 2) legally permissible; 3) financially feasible; and 4) maximally productive. Highest and best use is analyzed both on an as vacant and as improved basis.

As the definition states, a determination of highest and best use is guided by the following parameters: 1) Physically possible; 2) Legally permissible; 3) Financially feasible; and 4) Maximally productive.

*Physically possible* uses require an analysis of both the improvements (existing or proposed), as well as the underlying land. Size, topography, shape, access, soil conditions, wetlands, and utilities are all factors affecting the development potential of a given site. With regard to the improvements, obviously it must be physically possible to construct a building before it can be considered the highest and best use.

*Legally permitted* uses are those which fall within current zoning laws and are permitted by all agencies having jurisdiction. These may include federal, state, and local laws; zoning, as mentioned; private and deed restrictions; as well as the possibility for zoning changes and variances.

The *financially feasible* category analyzes those uses that are physically possible, legally permitted, and which provide an adequate investor return. For income properties, this return is measured monetarily, while non-income-producing properties provide a somewhat less tangible measure of return. Risk is a primary determinant in the assessment of adequate return.

Finally, the uses that satisfy all of the above criteria can be analyzed. The one use which provides the highest return, is considered *maximally productive*, and thus, the highest and best use.

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<sup>3</sup> From *The Appraisal of Real Estate*, Fourteenth Edition, 2013, Appraisal Institute, page 332

The Highest and Best Use discussion for a property with known contamination requires consideration of these unique issues in all of the Highest and Best Use criteria (Physically Possible, Legally permissible, Financially feasible and Maximally productive). The various factors, along with assumptions previously discussed, are considered subsequently in the Highest and Best Use Analysis.

— As Vacant

To arrive at an opinion of market value for a property on which there is documented or suspected environmental contamination, a sophisticated prospective buyer will consider numerous potential costs and liabilities, including those associated with investigation, remediation, and monitoring of contamination; those related to potential long-term liability to third parties and regulatory agencies; and diminution in value resulting from the stigma of past contamination.<sup>4</sup> Contamination poses certain additional risks such as vapor intrusion, contamination of drinking water, and associated effects on human health. Such risks can increase the likelihood of direct costs and potential liabilities arising from both contamination on the property and contamination migrating from the property.

In Washington, the Model Toxics Control Act (“MTCA”) governs the cleanup of hazardous waste sites, and under federal law, the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) governs. Under both the state and federal regimes, any current or past property owner may be liable for remedial action costs incurred. Because any buyer will upon taking possession likely incur liability as an owner, he or she should make “all appropriate inquiries” to determine the extent of contamination at a site in order to evaluate the scope of and mitigate against potential future liability. Property owners are potentially liable for costs related to both past and future releases and, under MTCA, for third parties’ attorneys’ fees incurred in contribution actions.

To summarize, prospective buyers of such a property would likely consider the following potential costs and liabilities in arriving at an opinion of value for the property:

Costs Related to Investigation of Contamination

- Costs to investigate and determine the nature and extent of contamination, including Phase I and, if necessary, Phase II site assessments
- Costs related to issuance of necessary notices regarding contamination
- Costs related to soil and groundwater sampling, if separate from a Phase I or Phase II assessment

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<sup>4</sup> See “Valuing Contaminated Properties: An Appraisal Institute Anthology” by Richard J. Roddewig.

### Costs Related to Response to Potential Regulatory Action

- Costs incurred in response to an administrative order issued by a regulatory agency (e.g., Department of Ecology or U.S. EPA)
- Costs incurred to stop any continuing release and prevent any future releases
- Costs of any required long-term monitoring
- Attorneys' fees and expenses incurred to evaluate, respond to, or defend against regulatory action, including fees incurred to negotiate resolution
- Liability for a portion of the regulatory agency's costs where the agency performs oversight of remedial action

### Impaired Property Value

- Reduced property value reflecting threat of regulatory action or third-party claims
- Reduced property value related to institutional controls; i.e., limits on current or future use of property
- Reduced property value due to impairment of right to excavate, build on, or develop property
- Impaired ability to obtain financing for development
- Reduced property value related to stigma of contamination
- Reduced overall resale value of property
- Reduced rental value of property

### Potential Liabilities to Third Parties

- Liability for investigation or cleanup costs incurred by third parties asserting property damage or personal injury claims
- Liability under common law causes of action, including claims of nuisance and continuing trespass
- Attorneys' fees and costs related to defending against third-party claims for property damage or personal injury
- Attorneys' fees and costs incurred by third parties in contribution or cost recovery actions under the Model Toxics Control Act
- Liability to designated natural resource trustees for natural resources damages



### Costs Incurred to Reduce Exposure

- Voluntary investigation or cleanup costs undertaken to avoid regulatory action or third-party claims
- Cost of insurance to protect against possible future environmental liabilities

The following discussion of highest and best use considers the above discussion.

#### — **As If Vacant**

Our discussion of Highest and Best use begins with an analysis of the property if no contamination was present. From there, the various factors discussed above will be included in the final HBU conclusion.

*Physically Possible.* Physically, the subject consists of a total of 6,534 square feet of commercial zoned land situated within unincorporated Kitsap County. Size is not expected to be a limiting factor in terms of market value. The subject is relatively square and contains a mildly sloping topography throughout. The subject is considered to have both legal and developed access, with dual access and frontage, providing for excellent visibility and exposure along Illahee Road and Oceanview Boulevard. Furthermore, all utilities are available to service any development of the site, with the exception of sanitary sewer. As noted above, issues related to the Contamination will be discussed subsequently.

*Legally Permissible.* The subject is currently under Kitsap County jurisdiction and is designated Neighborhood Commercial. Under the existing zoning designation, permissible uses include a variety of commercial/retail uses.

Other factors considered include sensitive areas, access from public streets, utility availability, drainage, and other physical effects to the surrounding uses. There are no known sensitive areas impacting the subject site. Legal issues associated with the contamination issue are discussed below.

*Financially Feasible/Maximally Productive.* The demand for commercial properties in Kitsap County softened over the course of the economic slowdown; however, over the long term it is expected to rebound, and signs of such a rebound have recently emerged. The highest and best use analysis considers all the physical, environmental, and legal considerations, as well as those that are considered financially feasible/maximally productive. Given the size and the location within Kitsap County, the highest and best use, as vacant, would be commercial/retail use consistent with the underlying zoning, if no contamination issue were present.

As described previously, there are potential (known) costs associated with the environmental risk at the subject property. This is due to the leaking UST's on the subject site. Remediation estimates

have been prepared for the subject, at approximately \$539,500. This includes \$385,000 for remediation/clean-up. The balance is for permitting fees, contingencies and project management.

Land is evaluated as vacant and available for development to its highest and best use. A development application would likely trigger a review of the soils, followed by likely DOE requirements for further study, on-going monitoring and potential remediation of all or some of the contamination. In order to understand the market's response to this issue, we have spoken with a well-respected broker in the area, who deals exclusively in the marketing and sale of gas station facilities, and also serves as Receiver for distressed facilities. While there is no single valuation tool to evaluate risk at each property, several points were noteworthy, as follows:

- Sales of vacated, or non-operating properties tend to sell for less than fully operational facilities.
- Ground contamination is often discussed among buyers/sellers; however, not always identified, particularly if no contamination is suspected.
- It was noted that properties for which a large oil company or corporation is not in the chain of title, marketability may be impacted more significantly.
- The expectation to continue operations, without a planned change of use, was a significant trend in these sales, in terms of the evaluation of remediation risk.
- No significant trend was available for potential change of uses among this data set, as no such plans were anticipated.
- In many instances, sellers will indemnify the buyer if the seller has adequate assets. In those instances where there is no indemnification from an Oil Company or Insurance, discounts on the sale can be in the range of 10%.
- Mitigating factors include if a site is compliant. Tank tightness tests, compliance with DOE, Puget Sound Clean Air Agency, current in all fees and have insurance. Discounts of 10-25% can be seen for sites not in compliance. Outside of this, there is enough demand from buyers that have the risk tolerance to speculate on such sites.
- Sites that have not been characterized (i.e. contamination, if any, is not known) then discounts can easily exceed 50%. In some cases, the contamination is so severe, a property is unsaleable.

From the standpoint of evaluating the value for the land, as vacant, we do not believe a prudent buyer would acquire this property without fully defining the potential liability. In fact, the property, as vacant, is unlikely to be redeveloped without substantial cleanup costs – costs which have been identified at this point at \$539,500. In some cases, the potential costs to a buyer would well exceed the value of the property. A prudent buyer would conduct due diligence, and assume higher figures where facts do not yet exist.

With this in mind, the highest and best use, as-is, as vacant, is for a low-intensity commercial use given the likely low value under an as vacant scenario. Such continued use is more fully reflected in the *Highest and Best Use, As Improved* section of this report.

#### As Improved

The subject is effectively unimproved for purposes of this analysis.

# Analyses and Conclusions to Value

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## Valuation

**Approaches Used in the Valuation Process** - the valuation is typically obtained through the application of three different approaches to determining value: the Cost Approach, the Income Approach, and the Sales Comparison Approach. These three approaches differ in terms of the data required and units of measure applied to form an opinion. The final conclusion of value is derived through a reconciliation process in which the appraiser weighs one approach against the other to determine the relative merits of each before coming to a conclusion.

**The Cost Approach to value** is the process of first concluding the value of the subject land, to which is added the replacement cost new of the structure, less depreciation, and the cost of land improvements. The sum of the costs is the indication of value by the Cost Approach.

**The Income Approach to value** involves the estimation of a gross economic rental, which is then processed by subtracting an estimated vacancy and credit loss and operating expenses to obtain an estimated net operating income. The net operating income is then capitalized into a value conclusion by the appropriate capitalization rate derived from the market to arrive at a value by the Income Approach.

**The Sales Comparison Approach** is a method of direct comparison with sales of similar properties. In this case, we have compiled information regarding sales of undeveloped commercial land in the surrounding area. Adjustments are made to the sales for characteristics, which differ from the subject. These include lot size, amenities, infrastructure requirements, location, etc. Upon adjustment, the value indications are correlated into a concluded value by the Sales Comparison Approach.

**Final Correlation and Conclusion of Value** considers the various indications of value from the three approaches analyzed. It considers how they relate to one another, as well as to the marketplace. The approach or approaches most appropriate are given the most consideration in arriving at a final opinion of value.

In the case of the subject property, and at the request of the client, only the Sales Comparison Approach is performed for purposes of this assignment.

## Valuation Methodology

The purpose of the assignment is to assist in the evaluation of a proposed project to upgrade the subject as it relates to environmental issues and other factors. We have been provided with cost estimates based on a review of the subject by the project managers. With this information identified, it can be applied in our analysis of the subject property in the As-is condition. Our analysis, therefore, will consider the property under two scenarios, with the first being the As-Is condition. This will reflect the property before the project upgrades, based in part on the known costs. As noted previously, for the purpose of this analysis, we have assumed that once known, the identified costs would become a current requirement. Following this analysis, the value of the property in the After condition is derived. The difference between the before and after values reflects the differential (enhancement) from the project.

## Analyses & Conclusions - “Before” Condition

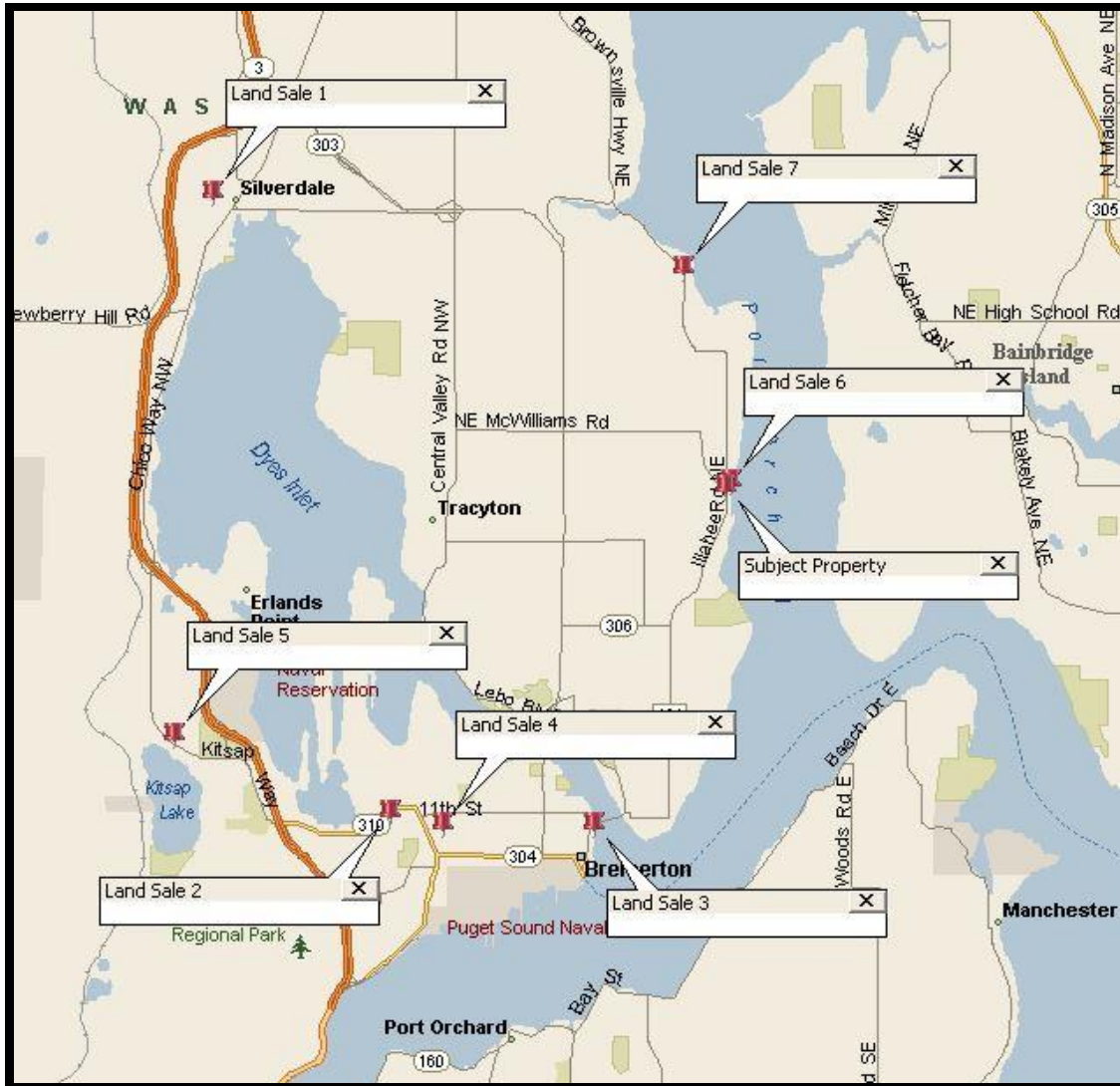
### Sales Comparison Approach to Value – Site Value (“As-Is” Condition)

The Sales Comparison Approach is useful when there has been enough sales activity of similar buildings to compare directly to the subject. A direct unit of comparison such as sales price per square foot, adjusted for variation in size, location, as well as other pertinent characteristics is applied to the subject’s square footage to generate a value conclusion by this approach.

The following chart summarizes the most pertinent details of the land sales used for comparison with the subject, complete descriptions of each sale are provided in the Addenda to this report:

#### Comparable Land Sales

Sale	Identification	Sale Date	Sale Price	Size (sf)	Size (ac.)	Zoning	Traffic Counts	Price/sf
1	Commercial Land 3488 Bucklin Hill Road; Silverdale	07/2014	\$80,000	16,117	0.37	Urban High, Silverdale	11,000+	\$4.96
2	Commercial Land 910 9th Street; Bremerton	05/2014	\$40,000	7,000	0.16	Gen. Commercial	4,500+	\$5.71
3	Commercial Land Washington Avenue	09/2013	\$485,000	41,818	0.96	D.Town Subarea	9,000+	\$11.60
4	Commercial Land 309 Montgomery St; Bremerton	09/2013	\$65,000	6,098	0.14	Dist. Center	1,900+	\$10.66
5	Commercial Land 6816 Kitsap Way; Bremerton	11/2012	\$165,000	31,799	0.73	Gen. Commercial	10,000+	\$5.19
<i>Residential Lot Sales Considered</i>								
6	Residential Land Illahee Road NE; Bremerton	06/2017	\$35,000	6,098	0.14	UR, Residential	-	\$5.74
7	Residential Land Illahee Road NE; Bremerton	02/2016	\$26,000	9,148	0.21	RR, Residential	-	\$2.84
<i>Sbj.</i>	<i>5507 Lllahee Road NE; Bremerton</i>			<i>6,534</i>	<i>0.15</i>	<i>Neigh. Commercial, County</i>	<i>2,100+</i>	



**LAND SALES MAP**

## Discussion of Land Sales

**Sale 1** is the June 2014 sale of 0.37 acres of Urban High zoned land located off of NW Bucklin Hill Road in the Silverdale area of Kitsap County. According to the selling broker, all utilities were available for development at the time of sale. The property contains a primarily level topography, and is rectangular in shape. There are no sensitive areas located on the property. The selling broker indicated that the property was permitted for a 6,000 sf building; however, there was no value given to this. At \$80,000, this indicates a price per square foot of \$4.96.

**Sale 2** is the May 2014 sale of a 7,000 sf General Commercial zoned lot located off of 9<sup>th</sup> Street in the Bremerton area of Kitsap County. All utilities were available at the time of sale, and there are no known sensitive areas. The property has a primarily level topography. The sellers decided to put on the market because they felt it was an opportune time to sell. At \$40,000, this indicates a price per square foot of \$5.71.

**Sale 3** is the September 2013 sale of 41,818 square feet of Downtown Subarea zoned land located along Washington Avenue in the Bremerton area of Kitsap County. All utilities were available for development, and there are no known sensitive areas. The property is rectangular in shape. At \$485,000, this indicates a price per square foot of \$11.60.

**Sale 4** is the September 2013 sale of 6,098 square feet of District Center Core zoned land located off of Montgomery Street in Bremerton. The property contains a primarily level topography, rectangular shape and all available utilities for development. There are no known sensitive areas. At \$65,000, this indicates a price per square foot of \$10.66.

**Sale 5** is the November 2012 sale of 31,799 square feet of General Commercial zoned land located off of Kitsap Way in Bremerton. The property contains a primarily level topography, triangular shape and all available utilities for development. There are no known sensitive areas. The property was purchased by the adjacent owner for assemblage purposes, as they operate a bar. At \$165,000, this indicates a price per square foot of \$5.19.

## Residential Lot Sales Considered

**Sale 6** is the June 2017 sale of a lowbank residential zoned waterfront parcel located along Illahee Road NE. According to the selling broker, the property reportedly does not support a septic system at the present time. All other utilities are available for development. At \$35,000, this indicates a purchase price per square foot of \$5.74.

**Sale 7** is the February 2016 sale of 9,148 square feet of residential land located along Illahee Road. According to the selling broker, a preliminary septic design was completed on the property. All other utilities are available for development. At \$26,000, this indicates a purchase price on a per square foot basis of \$2.84.



## Reconciliation of Sales & Conclusion of Value – “Before” Condition

The sales used for comparison occurred between November 2012 and June 2017. They indicate a range of prices paid between \$26,000 and \$485,000. On a per square foot basis, the sales indicate a range of prices paid between \$2.84 and \$11.60. The subject contains the Neighborhood Commercial zone, with the majority of the sales used for comparison with the subject consisting of commercial land sales. Residential uses are also permitted. As a result, we have supplemented the commercial land sales with residential lot sales in the Illahee area for comparison.

With the exception of Sale 6, all of the sales required an upward adjustment for market conditions (time). All of the sales were considered relatively similar in location, being within the Bremerton area, upward adjustments are made to Sales 6 and 7 for their inferior topography. The majority of the sales were considered substantially superior with regard to access/exposure, particularly for commercial uses. Use/entitlements/zoning varied for the sales. Sales 3 and 4 are considered superior given their more dense commercial locations.

Considering the subject’s location and lower traffic count location, a value of \$50,000 to \$60,000 (\$7.65 to \$9.25 on a per square foot basis) is considered supportable for the subject and is within the range as demonstrated by the comparable sales examined. With consideration given to all the above, we have concluded **\$60,000** for the subject property, which considers the subject’s underlying zoning and flexibility for a residential use.

The above conclusion reflects the value based on Comparable sales, all of which have cleared the buyer’s due diligence efforts. Absent the current Project, it is unclear if the subject property would clear such due diligence efforts. If offered for Sale, the necessary studies would be performed and our working assumption for purposes of analysis is that the subject property would be required to undertake the remediation work identified above. Due to the nature of the Project, numerous issues factor into the valuation in the Before Condition. First, the information/knowledge generated by the project is assumed to be identical to what would be identified by a typical buyer. Second, we have assumed that the full measure of remediation would be necessary, however the question as to when these may be necessary is a function of when the property may be sold. Third, upgrades are being proposed that are not necessarily required of a typical transaction and may not be desired by a typical buyer.

Since this analysis assumes that the remediation work is necessary, we do not believe that a significant margin is required to provide incentive. Additionally, at the point where the upgrades exceed the current property value, a significant question arises as to the motivation to undertake such upgrades. Our analysis evaluates the Subject property pursuant to the principles of highest and best use. To that end, we believe that the fair measure of the property in the current condition should reflect costs for remediation in this situation.

### Discussion of Project Related Hazardous Materials Cost

As noted previously, the cost to remediate the contaminated soils on the subject as a result of leaking UST’s has been quantified by G-Logics, Inc. The total costs for the subject property are detailed from G-Logics as follows:

	<u>TOTAL</u>	<u>Deducted – Before Condition</u>
Arch./Struct./Permitting Fees:	\$ 10,000	\$ 10,000
Remedial/Contamination Clean-up:	\$385,000	\$ 385,000
Project Management:	\$ 20,000	\$ 20,000
Contingencies:	<u>\$124,500</u>	<u>\$ 0</u>
<b>Total:</b>	<b>\$539,500</b>	<b>\$415,000</b>

The \$415,000 figure above, therefore, reflects the minimum level of existing obligation/lost assets on the part of the owner based on the described remediation efforts.

The premise of our appraisal is that the owner is responsible for such costs as they may arise over time. These costs are treated as a reduction to the value conclusion of the subject property as these are known costs associated with the subject site. This is summarized as follows:

Preliminary Value Conclusion:	\$ 60,000
Less Minimum Costs Associated with Remediation:	<u>(\$415,000)</u>
<b>Value As-is (Reflecting Remediation Costs):</b>	<b>(\$355,000)</b>

## Analyses & Conclusions - “After” Condition

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### Description of Proposed Remediation Program

The purpose of this report is to provide the client with an opinion of value of the fee simple interest in the subject property to assist in the evaluation of a program to remediate leaking Underground Storage Tanks (UST’s). As previously mentioned, the Pollution Liability Insurance Agency (PLIA) Revolving Loan & Grant Program, in partnership with the Washington State Dept. of Health, will assist underground storage tank owners or operators through low interest loans with the costs to install new infrastructure, retrofit existing infrastructure, close an underground storage tank, or clean-up facilities contaminated by a petroleum release. Through the Program, PLIA and DOH are authorized to provide a loan or grant to an owner or operator for a single UST facility for up to \$2,000,000. Within the Program, PLIA will provide the oversight and technical assistance, while DOH operates the lending/repayment process. We have not been provided with any environmental reports relating to the subject; however, we have been provided with estimated costs for clean-up. According to information provided by the client, the remedial/contamination clean-up for the subject is estimated at \$539,500. Under the “As clean” scenario, it is assumed that all soil contamination has been remediated.

### Description of Subject Property – As-Clean

The subject property, in general, is similar to the before condition in terms of site size and building improvements. In the after condition, the subject’s leaking underground storage tanks are assumed replaced and the ground contamination remediated. A total of \$539,500 has been expended, or \$415,000 without the contingency factor.

### Highest and Best Use – As-Clean

In the after condition, all soil remediation has been completed. As such, the highest and best use of the subject in the “after” condition remains unchanged from the “before” condition.

## Valuation – As Clean

The valuation of the subject in the “As clean” condition relies on the same approach utilized in analyzing the “As-Is” condition, the *Sales Comparison Approach* to value. The primary difference is the remediation of the leaking underground storage tanks.

Our analysis of the subject property in the “As-Is” condition provided an opinion of value prior to soil remediation costs. Additional factors for consideration after remediation include:

- 1) Typically, a property would have a 6-9 month exposure period to evaluate potential issues. With the remediation completed, this issue is removed, enhancing marketability.
- 2) With remediation, a potential buyer does not have to expend funds to evaluate site issues in the same detail as a competing property.

With reference made to the analysis provided in the “As-is” valuation section of this report for our analysis, as indicated in that approach, our value (reflecting the anticipated existing obligations) was **(\$355,000)**.

In the After Condition the issues will be resolved, and the property is available for development to it’s highest and best use. According to the initial conclusion in our Before situation, this value would equate to \$60,000. This, therefore, becomes our conclusion of value after the described efforts have been undertaken. The After value, therefore, is **\$60,000**.

## Summary of Conclusions

Our analysis of the property in the Before and After conditions, is summarized as follows:

Before Value:	(\$355,000)
After Value:	<u>\$ 60,000</u>
<b>Value Enhancement:</b>	<b>\$415,000</b>

It is important to note that in order to obtain the Highest & Best Use of the subject property, remediation would have to occur on the subject site for analysis purposes of this project. As can be seen, the remediation costs exceed the value of the subject as clean. Essentially, due to the required clean-up, there is a significant lack of ability to utilize the subject property for any intended purpose.

## General Assumptions and Limiting Conditions

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This appraisal is subject to the following limiting conditions:

1. The legal description – if furnished to us – is assumed to be correct.
2. No responsibility is assumed for legal matters, questions of survey or title, soil or subsoil conditions, engineering, availability or capacity of utilities, or other similar technical matters. The appraisal does not constitute a survey of the property appraised. All existing liens and encumbrances have been disregarded and the property is appraised as though free and clear, under responsible ownership and competent management unless otherwise noted.
3. Unless otherwise noted, the appraisal will value the property as though free of contamination. Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates will conduct no hazardous materials or contamination inspection of any kind. It is recommended that the client hire an expert if the presence of hazardous materials or contamination poses any concern.
4. The stamps and/or consideration placed on deeds used to indicate sales are in correct relationship to the actual dollar amount of the transaction.
5. Unless otherwise noted, it is assumed there are no encroachments, zoning violations or restrictions existing in the subject property.
6. The appraiser is not required to give testimony or attendance in court by reason of this appraisal, unless previous arrangements have been made.
7. Unless expressly specified in the engagement letter, the fee for this appraisal does not include the attendance or giving of testimony by Appraiser at any court, regulatory, or other proceedings, or any conferences or other work in preparation for such proceeding. If any partner or employee of Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates asked or required to appear and/or testify at any deposition, trial, or other proceeding about the preparation, conclusions or any other aspect of this assignment, client shall compensate Appraiser for the time spent by the partner or employee in appearing and/or testifying and in preparing to testify according to the Appraiser's then current hourly rate plus reimbursement of expenses.
8. The values for land and/or improvements, as contained in this report, are constituent parts of the total value reported and neither is (or are) to be used in making a summation appraisal of a combination of values created by another appraiser. Either is invalidated if so used.

9. The dates of value to which the opinions expressed in this report apply are set forth in this report. We assume no responsibility for economic or physical factors occurring at some point at a later date, which may affect the opinions stated herein. The forecasts, projections, or operating estimates contained herein are based on current market conditions and anticipated short-term supply and demand factors and are subject to change with future conditions.
10. The sketches, maps, plats and exhibits in this report are included to assist the reader in visualizing the property. The appraiser has made no survey of the property and assumed no responsibility in connection with such matters.
11. The information, estimates and opinions, which were obtained from sources outside of this office, are considered reliable. However, no liability for them can be assumed by the appraiser.
12. Possession of this report, or a copy thereof, does not carry with it the right of publication. Neither all, nor any part of the content of the report, or copy thereof (including conclusions as to property value, the identity of the appraisers, professional designations, reference to any professional appraisal organization or the firm with which the appraisers are connected), shall be disseminated to the public through advertising, public relations, news, sales, or other media without prior written consent and approval.
13. No claim is intended to be expressed for matters of expertise that would require specialized investigation or knowledge beyond that ordinarily employed by real estate appraisers. We claim no expertise in areas such as, but not limited to, legal, survey, structural, environmental, pest control, mechanical, etc.
14. This appraisal was prepared for the sole and exclusive use of the client for the function outlined herein. Any party who is not the client or intended user identified in the appraisal or engagement letter is not entitled to rely upon the contents of the appraisal without express written consent of Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates and Client. The Client shall not include partners, affiliates, or relatives of the party addressed herein. The appraiser assumes no obligation, liability or accountability to any third party.
15. Distribution of this report is at the sole discretion of the client, but third-parties not listed as an intended user on the face of the appraisal or the engagement letter may not rely upon the contents of the appraisal. In no event shall client give a third-party a partial copy of the appraisal report. We will make no distribution of the report without the specific direction of the client.

16. This appraisal shall be used only for the function outlined herein, unless expressly authorized by Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates.
17. This appraisal shall be considered in its entirety. No part thereof shall be used separately or out of context.
18. Unless otherwise noted in the body of this report, this appraisal assumes that the subject property does not fall within the areas where mandatory flood insurance is effective. Unless otherwise noted, we have not completed nor have we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property. Because the appraiser is not a surveyor, he or she makes no guarantees, express or implied, regarding this determination.
19. The flood maps are not site specific. We are not qualified to confirm the location of the subject property in relation to flood hazard areas based on the FEMA Flood Insurance Rate Maps or other surveying techniques. It is recommended that the client obtain a confirmation of the subject property's flood zone classification from a licensed surveyor.
20. If the appraisal is for mortgage loan purposes 1) we assume satisfactory completion of improvements if construction is not complete, 2) no consideration has been given for rent loss during rent-up unless noted in the body of this report, and 3) occupancy at levels consistent with our "Income and Expense Projection" are anticipated.
21. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures which would render it more or less valuable. No responsibility is assumed for such conditions or for engineering which may be required to discover them.
22. Our inspection included an observation of the land and improvements thereon only. It was not possible to observe conditions beneath the soil or hidden structural components within the improvements. We inspected the buildings involved, and reported damage (if any) by termites, dry rot, wet rot, or other infestations as a matter of information, and no guarantee of the amount or degree of damage (if any) is implied. Condition of heating, cooling, ventilation, electrical and plumbing equipment is considered to be commensurate with the condition of the balance of the improvements unless otherwise stated. Should the client have concerns in these areas, it is the client's responsibility to order the appropriate inspections. The appraiser does not have the skill or expertise to make such inspections and assumes no responsibility for these items.
23. This appraisal does not guarantee compliance with building code and life safety code requirements of the local jurisdiction. It is assumed that all required licenses, consents, certificates of occupancy or other legislative or administrative authority from any local, state or national governmental or private entity or organization have been or can be obtained or renewed for any use on which the value conclusion contained in this report is based unless specifically stated to the contrary.

24. When possible, we have relied upon building measurements provided by the client, owner, or associated agents of these parties. In the absence of a detailed rent roll, reliable public records, or "as-built" plans provided to us, we have relied upon our own measurements of the subject improvements. We follow typical appraisal industry methods; however, we recognize that some factors may limit our ability to obtain accurate measurements including, but not limited to, property access on the day of inspection, basements, fenced/gated areas, grade elevations, greenery/shrubbery, uneven surfaces, multiple story structures, obtuse or acute wall angles, immobile obstructions, etc. Professional building area measurements of the quality, level of detail, or accuracy of professional measurement services are beyond the scope of this appraisal assignment.
25. We have attempted to reconcile sources of data discovered or provided during the appraisal process, including assessment department data. Ultimately, the measurements that are deemed by us to be the most accurate and/or reliable are used within this report. While the measurements and any accompanying sketches are considered to be reasonably accurate and reliable, we cannot guarantee their accuracy. Should the client desire a greater level of measuring detail, they are urged to retain the measurement services of a qualified professional (space planner, architect or building engineer). We reserve the right to use an alternative source of building size and amend the analysis, narrative and concluded values (at additional cost) should this alternative measurement source reflect or reveal substantial differences with the measurements used within the report.
26. In the absence of being provided with a detailed land survey, we have used assessment department data to ascertain the physical dimensions and acreage of the property. Should a survey prove this information to be inaccurate, we reserve the right to amend this appraisal (at additional cost) if substantial differences are discovered.
27. If only preliminary plans and specifications were available for use in the preparation of this appraisal, then this appraisal is subject to a review of the final plans and specifications when available (at additional cost) and we reserve the right to amend this appraisal if substantial differences are discovered.
28. Unless otherwise stated in this report, the value conclusion is predicated on the assumption that the property is free of contamination, environmental impairment or hazardous materials. Unless otherwise stated, the existence of hazardous material was not observed by the appraiser and the appraiser has no knowledge of the existence of such materials on or in the property. The appraiser, however, is not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, or other potentially hazardous materials may affect the value of the property. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required for discovery. The client is urged to retain an expert in this field, if desired.



29. The Americans with Disabilities Act ("ADA") became effective January 26, 1992. We have not made a specific compliance survey of the property to determine if it is in conformity with the various requirements of the ADA. It is possible that a compliance survey of the property, together with an analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this could have a negative effect on the value of the property. Since we have no direct evidence relating to this issue, we did not consider possible noncompliance with the requirements of ADA in developing an opinion of value.
30. This appraisal applies to the land and building improvements only. The value of trade fixtures, furnishings, and other equipment, or subsurface rights (minerals, gas, and oil) were not considered in this appraisal unless specifically stated to the contrary.
31. No changes in any federal, state or local laws, regulations or codes (including, without limitation, the Internal Revenue Code) are anticipated, unless specifically stated to the contrary.
32. Any income and expense estimates contained in the appraisal report are used only for the purpose of estimating value and do not constitute prediction of future operating results. Furthermore, it is inevitable that some assumptions will not materialize and that unanticipated events may occur that will likely affect actual performance.
33. Any estimate of insurable value, if included within the scope of work and presented herein, is based upon figures developed consistent with industry practices. However, actual local and regional construction costs may vary significantly from our estimate and individual insurance policies and underwriters have varied specifications, exclusions, and non-insurable items. As such, we strongly recommend that the Client obtain estimates from professionals experienced in establishing insurance coverage. This analysis should not be relied upon to determine insurance coverage and we make no warranties regarding the accuracy of this estimate.
34. The data gathered in the course of this assignment (except data furnished by the Client) shall remain the property of the Appraiser. The appraiser will not violate the confidential nature of the appraiser-client relationship by improperly disclosing any confidential information furnished to the appraiser. Notwithstanding the foregoing, the Appraiser is authorized by the client to disclose all or any portion of the appraisal and related appraisal data to appropriate representatives of the Appraisal Institute if such disclosure is required to enable the appraiser to comply with the Bylaws and Regulations of such Institute now or hereafter in effect.

35. You and Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates both agree that any dispute over matters in excess of \$5,000 will be submitted for resolution by arbitration. This includes fee disputes and any claim of malpractice. The arbitrator shall be mutually selected. If Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates and the client cannot agree on the arbitrator, the presiding head of the Local County Mediation & Arbitration panel shall select the arbitrator. Such arbitration shall be binding and final. In agreeing to arbitration, we both acknowledge that, by agreeing to binding arbitration, each of us is giving up the right to have the dispute decided in a court of law before a judge or jury. In the event that the client, or any other party, makes a claim against Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates or any of its employees in connections with or in any way relating to this assignment, the maximum damages recoverable by such claimant shall be the amount actually received by Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates for this assignment, and under no circumstances shall any claim for consequential damages be made.
36. Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates shall have no obligation, liability, or accountability to any third party. Any party who is not the "client" or intended user identified on the face of the appraisal or in the engagement letter is not entitled to rely upon the contents of the appraisal without the express written consent of Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates. "Client" shall not include partners, affiliates, or relatives of the party named in the engagement letter. Client shall hold Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates and its employees harmless in the event of any lawsuit brought by any third party, lender, partner, or part-owner in any form of ownership or any other party as a result of this assignment. The client also agrees that in case of lawsuit arising from or in any way involving these appraisal services, client will hold Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates harmless from and against any liability, loss, cost, or expense incurred or suffered by Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates in such action, regardless of its outcome.
37. The Valbridge Property Advisors office responsible for the preparation of this report is independently owned and operated by Valbridge Property Advisors | Allen Brackett Shedd | Macaulay & Associates. Neither Valbridge Property Advisors, Inc., nor any of its affiliates has been engaged to provide this report. Valbridge Property Advisors, Inc. does not provide valuation services, and has taken no part in the preparation of this report.
38. If any claim is filed against any of Valbridge Property Advisors, Inc., a Florida Corporation, its affiliates, officers or employees, or the firm providing this report, in connection with, or in any way arising out of, or relating to, this report, or the engagement of the firm providing this report, then (1) under no circumstances shall such claimant be entitled to consequential, special or other damages, except only for direct compensatory damages, and (2) the maximum amount of such compensatory damages recoverable by such claimant shall be the amount actually received by the firm engaged to provide this report.

39. This report and any associated work files may be subject to evaluation by Valbridge Property Advisors, Inc., or its affiliates, for quality control purposes.
40. Acceptance and/or use of this appraisal report constitutes acceptance of the foregoing general assumptions and limiting conditions.

## Certification – Murray Brackett, MAI

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I certify that, to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct.

The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.

I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.

I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

My engagement in this assignment was not contingent upon developing or reporting predetermined results.

My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.

I have not made a personal inspection of the property that is the subject of this report.

No one provided significant real property appraisal assistance to the person signing this certification, unless otherwise noted.

The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.

The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

As of the date of this report, I have completed the continuing education program for Designated Members of the Appraisal Institute.

August 11, 2017

Date of Value: \_\_\_\_\_



\_\_\_\_\_  
S. Murray Brackett, MAI  
State Cert. #27011-1100853

## Certification – David Coleman, Senior Associate

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I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
8. My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
9. I have made a personal inspection of the property that is the subject of this report.
10. No one provided significant real property appraisal assistance to the person signing this certification, unless otherwise noted.
11. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
12. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
13. As of the date of this report, I have completed the Standards and Ethics Education Requirements for Practicing Affiliates of the Appraisal Institute.
14. As of the date of this report, I have not completed the continuing education program for Practicing Affiliates of the Appraisal Institute.

August 11, 2017

Date of Value: \_\_\_\_\_



\_\_\_\_\_  
David Coleman  
State Cert. #1101543

## Comparable Sales Information

## LAND SALE NO. 1

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Commercial Land
<b>Address</b>	3488 Bucklin Hill Road
<b>City, State Zip</b>	Silverdale, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	172501-4-087-20-05

### Sale Data

<b>Seller</b>	Samuel and Eva Hanan
<b>Buyer</b>	David Ambaum
<b>Sale Date</b>	6/3/14
<b>Sale Price</b>	\$80,000
<b>Analysis Price</b>	\$80,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	Bob Guardino, broker
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	360-551-4600

### Land Data

<b>Land Size</b>	16,117 SF
<b>Topography</b>	Level
<b>Front Footage</b>	NW Bucklin Hill Road
<b>Utilities</b>	All available
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	Urban High, Commercial

### Indicators

<b>Analysis Price/Gross SF</b>	\$4.96 per SF
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**Property Remarks**

This is the June 2014 sale of 0.37 acres of Urban High zoned land located off of NW Bucklin Hill Road in the Silverdale area of Kitsap County. According to the selling broker, all utilities were available for development at the time of sale. The property contains a primarily level topography, and is rectangular in shape. There are no sensitive areas located on the property. The selling broker indicated that the property was permitted for a 6,000 sf building; however, there was no value given to this. At \$80,000, this indicates a price per square foot of \$4.96.



## LAND SALE NO. 2

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Commercial Land
<b>Address</b>	910 9 <sup>th</sup> Street
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	3783-003-018-00-01

### Sale Data

<b>Seller</b>	Denise Dobson
<b>Buyer</b>	John & Theresa Dreaney
<b>Sale Date</b>	5/2/14
<b>Sale Price</b>	\$40,000
<b>Analysis Price</b>	\$40,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	John Taylor, broker
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	360-779-7555

### Land Data

<b>Land Size</b>	7,000 SF
<b>Topography</b>	Level
<b>Front Footage</b>	9 <sup>th</sup> Street
<b>Utilities</b>	All available
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	General Commercial

### Indicators

<b>Analysis Price/Gross SF</b>	\$5.71 per SF
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**Property Remarks**

This is the May 2014 sale of a 7,000 sf General Commercial zoned lot located off of 9<sup>th</sup> Street in the Bremerton area of Kitsap County. All utilities were available at the time of sale, and there are no known sensitive areas. The property has a primarily level topography. The sellers decided to put on the market because they felt it was an opportune time to sell. At \$40,000, this indicates a price per square foot of \$5.71.

## LAND SALE NO. 3

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Commercial Land
<b>Address</b>	Washington Avenue
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	132401-3-196-20-00

### Sale Data

<b>Seller</b>	First Citizens Bank & Trust Co.
<b>Buyer</b>	Maple Tree Investment LLC
<b>Sale Date</b>	9/19/13
<b>Sale Price</b>	\$485,000
<b>Analysis Price</b>	\$485,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	CoStar, Public Records
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	N/A

### Land Data

<b>Land Size</b>	41,818 SF
<b>Topography</b>	Level
<b>Front Footage</b>	Washington Avenue
<b>Utilities</b>	All available
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	Downtown Subarea (Commercial)

### Indicators

<b>Analysis Price/Gross SF</b>	\$11.60 per SF
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**Property Remarks**

This is the September 2013 sale of 41,818 square feet of Downtown Subarea zoned land located along Washington Avenue in the Bremerton area of Kitsap County. All utilities were available for development, and there are no known sensitive areas. The property is rectangular in shape. At \$485,000, this indicates a price per square foot of \$11.60.

## LAND SALE NO. 4

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Commercial Land
<b>Address</b>	309 Montgomery Street
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	3733-007-016-00-05

### Sale Data

<b>Seller</b>	Hills Caollow of Montgomery
<b>Buyer</b>	Joseph Bell
<b>Sale Date</b>	9/1/13
<b>Sale Price</b>	\$65,000
<b>Analysis Price</b>	\$65,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	Donn Hughes, broker
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	360-874-0091

### Land Data

<b>Land Size</b>	6,098 SF
<b>Topography</b>	Level
<b>Front Footage</b>	Montgomery Street
<b>Utilities</b>	All available
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	District Center (Commercial)

### Indicators

<b>Analysis Price/Gross SF</b>	\$10.66 per SF
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**Property Remarks**

This is the September 2013 sale of 6,098 square feet of District Center Core zoned land located off of Montgomery Street in Bremerton. The property contains a primarily level topography, rectangular shape and all available utilities for development. There are no known sensitive areas. At \$65,000, this indicates a price per square foot of \$10.66.

## LAND SALE NO. 5

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Commercial Land
<b>Address</b>	6816 Kitsap Way
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	3765-000-013-00-04

### Sale Data

<b>Seller</b>	The JWJ Group
<b>Buyer</b>	Richard Gates
<b>Sale Date</b>	11/1/12
<b>Sale Price</b>	\$165,000
<b>Analysis Price</b>	\$165,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	CoStar, Public Records
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	N/A

### Land Data

<b>Land Size</b>	31,799 SF
<b>Topography</b>	Level
<b>Front Footage</b>	Kitsap Way
<b>Utilities</b>	All available
<b>Shape</b>	Triangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	General Commercial

### Indicators

<b>Analysis Price/Gross SF</b>	\$5.19 per SF
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**Property Remarks**

This is the November 2012 sale of 31,799 square feet of General Commercial zoned land located off of Kitsap Way in Bremerton. The property contains a primarily level topography, triangular shape and all available utilities for development. There are no known sensitive areas. The property was purchased by the adjacent owner for assemblage purposes, as they operate a bar. At \$165,000, this indicates a price per square foot of \$5.19.



## LAND SALE NO. 6

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Residential Land
<b>Address</b>	Illahee Road NE
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	4429-001-009-0004

### Sale Data

<b>Seller</b>	Vathanapride, Chare
<b>Buyer</b>	Mark Deitch
<b>Sale Date</b>	6/19/17
<b>Sale Price</b>	\$35,000
<b>Analysis Price</b>	\$35,000
<b>Property Rights</b>	Fee Simple
<b>Transferred</b>	
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	Craig Campbell, broker
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	253-312-6216

### Land Data

<b>Land Size</b>	6,098 SF
<b>Topography</b>	Sloping
<b>Front Footage</b>	Illahee Road
<b>Utilities</b>	All except Sanitary Sewer
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	Residential

### Indicators

<b>Analysis Price/Gross SF</b>	\$5.74 per SF
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**Property Remarks**

This is the June 2017 sale of a lowbank residential zoned waterfront parcel located along Illahee Road NE. According to the selling broker, the property reportedly does not support a septic system at the present time. All other utilities are available for development. At \$35,000, this indicates a purchase price per square foot of \$5.74.

## LAND SALE NO. 7

### Property Identification

<b>Property Type</b>	Land
<b>Property Name</b>	Residential Land
<b>Address</b>	Illahee Road NE
<b>City, State Zip</b>	Bremerton, Washington
<b>County</b>	Kitsap
<b>Tax ID</b>	4423-023-012-0000

### Sale Data

<b>Seller</b>	Grzegorz Poslednik
<b>Buyer</b>	Brent Nuckols Const.
<b>Sale Date</b>	2/4/16
<b>Sale Price</b>	\$26,000
<b>Analysis Price</b>	\$26,000
<b>Property Rights Transferred</b>	Fee Simple
<b>Conditions of Sale</b>	Market
<b>Verified By</b>	David Coleman
<b>Verification With</b>	Villa MacNealy, broker
<b>Verification Date</b>	08-25-2017
<b>Verification Phone</b>	360-265-6556

### Land Data

<b>Land Size</b>	9,148 SF
<b>Topography</b>	Sloping
<b>Front Footage</b>	Illahee Road
<b>Utilities</b>	All except Sanitary Sewer
<b>Shape</b>	Rectangular
<b>Access</b>	Direct
<b>In Flood Plain?</b>	No
<b>Zoning Code</b>	Residential

### Indicators

<b>Analysis Price/Gross SF</b>	\$2.84 per SF
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**Property Remarks**

This is the February 2016 sale of 9,148 square feet of residential land located along Illahee Road. According to the selling broker, a preliminary septic design was completed on the property. All other utilities are available for development. At \$26,000, this indicates a purchase price on a per square foot basis of \$2.84.

## Qualifications

## Qualifications of S. Murray Brackett, MAI

Senior Managing Director

Valbridge Property Advisors | Allen Brackett Shedd

### Education

Bachelor of Arts in Business Administration, Western Washington University, 1985, with an emphasis on real estate.

### Professional Education

*Appraisal Courses:* All appraisal courses required for MAI designation.

*Seminars and Continuing Education (abbreviated summary of coursework):*

- Easement Valuation
- UASFLA Seminar (Yellow Book)
- Real Estate Law
- Appraising From Blueprints
- Complexities of Predevelopment Land
- The Appraiser as Expert Witness
- Litigation Skills for the Appraiser
- The New Frontier of Takings Law
- Partial Acquisitions Workshop
- Condemnation Appraisal & Mock Trial
- Conservation Easement Appraisal - Certificate Course

### Professional Affiliation

Member, Appraisal Institute. Received MAI Designation May 2, 1997 (Member No. 11,258)

Past President (2003), Seattle Chapter of the Appraisal Institute

Member, International Right-of-Way Association

Associate Member, Washington Airport Manager's Association

### Appraisal Experience

Principal with *Allen Brackett Shedd*. Responsibilities include the full range of residential, commercial and industrial real estate valuation. Appraisals have been prepared on such diverse properties such as airports and airport-related facilities, park lands, subdivisions and golf courses, as well as typical commercial and industrial improved property. Airport work has included valuation of entire airports to assist in determining lease rates, valuation of adjacent properties for airport expansion, aviation related improved properties and aviation easements. Improved and Unimproved valuations have been performed for acquisitions in fee, leased fee and leasehold interests, partial takings, as well as various partial interests including the following: conservation easements, utility easements, subsurface easements, air-rights/aviation easements, and minority interests. Numerous Appraisals have been prepared for use in litigation, including eminent domain dispute resolution, condemnation and inverse condemnations. UASFLA-compliant Appraisals have been prepared for a wide variety of agencies on a wide range of property types.

S. MURRAY BRACKETT, MAI (cont.)

Qualified as an expert witness in King, Kitsap and Pierce County Superior Courts, US District Court, and Federal Bankruptcy Court. Geographic experience includes assignments in Washington, California, Oregon, Idaho, Nebraska, Iowa, Kansas, South Dakota, Alaska, and British Columbia.

Other Experience

**Instructor:** Instructor, Income Property Appraisal, Lk Wa. Voc-Tec.  
Qualified Level 3 Facilitator, IRWA

**Presentations:** October 2003 - WPMA Conference – “The Valuation of Non-Water Dependent Properties.”  
September, 2009 - Valuation of Airport Properties, WAMA  
December 9, 2010 - AI-Seattle Fall R.E. Conference – Panelist/presenter for Appraisal Issues relating to Partial Acquisitions in Eminent Domain cases.

Representative Client List

Cities/Counties

Cities of Bellevue, Burien, Kirkland, Seattle, Kent, Everett, Renton, Auburn, Arlington, Anacortes, Tacoma, North Bend, Snoqualmie, Lake Forest Park, Kenmore, Bothell, Lynnwood, Port Angeles, Maple Valley, Puyallup, Woodinville and SeaTac. Counties of King, Snohomish, Pierce, Kitsap, Thurston, and Skagit.

Government

Ports of Seattle, Everett, Olympia, Grays Harbor, Bremerton, Port Angeles, and Friday Harbor. Washington State Parks, WSDOT (Approved Appraiser List), DNR, Federal Aviation Administration, Internal Revenue Service, King County DNR, GSA, U.S. Navy, San Juan County Land Bank, Northshore School District, Snohomish School District, Sound Transit, USACE.

Financial Institutions

Bank of America, U.S. Bancorp, Key Bank, Wells Fargo Trust, Commerce Bank, Homestreet Bank, Banner Bank, Charter Bank, Union Bank.

Airports

Sea-Tac International Airport, Renton Municipal, Auburn Municipal, Snohomish County Airport (Paine Field), Arlington Municipal, Bellingham International, Olympia Airport, William Fairchild (Port Angeles), Spokane Int'l, Centralia/Chehalis, Bremerton National, Pullman Airport, and Friday Harbor Airport.

Corporations and Non Profits

Weyerhaeuser Company, WRECO, Tramco, Plum Creek, McDonalds Corporation, Gull Industries, Puget Sound Energy, Development Services of America (DSA), FSA, Winmar Company, Jr. Achievement, Lowe Enterprises, PACCAR, Inc., The Trust for Public Land, Cascade Land Conservancy, Fletcher General Construction, Manke Lumber Company, Simpson Timber Company, New Ventures Group, OTAK, American Forest Resources, HDR, Inc., Hancock Natural Resources Group, Sierra Pacific Industries, Quadrant, Port Blakely Communities, Lowe Enterprises, Parsons Brinckerhoff, CH2M-Hill.

S. MURRAY BRACKETT, MAI (cont.)

Attorneys

Hillis, Clark, Martin & Peterson; Kenyon Disend; Perkins Coie; Tousley Brain; Inslee Best; Graham and Dunn; Chmelik, Sitkin & Davis; Foster Pepper; Short Cressman; Davis Wright & Tremaine; Betts Patterson; Karr Tuttle Campbell; Anderson Hunter; Riddell Williams; Williams Kastner; Krutch Lindell; Curran Mendoza; Williams and Williams; and King County Prosecuting Attorney.

**State Certification Number - General:** 27011-1100853 **Expiration:** 11/21/17



## Qualifications of David Coleman

### Senior Appraiser

Valbridge Property Advisors | Allen Brackett Shedd

### Education

Bachelor of Arts in Economic/Urban Geography with a focus in real estate development processes and project financial feasibility analysis, University of Washington, 1995.

### Professional Education

#### Appraisal Courses:

- Highest and Best Use and Market Analysis (Appraisal Institute Course 520, September 2006)
- Business Practices and Ethics (Appraisal Institute Course 420, April 2005)
- USPAP (Appraisal Institute, March 2005)
- Report Writing and Valuation Analysis (Appraisal Institute Course 540, August 2003)
- Residential Appraisal (Mykut Real Estate School, January 2003)
- What's It Worth (Mykut Real Estate School, January 2003)
- USPAP (Bellevue Community College, Fall 2000)
- Income Capitalization (Appraisal Institute Course 310, March 2000)
- Foundations of Real Estate Appraisal (North Seattle Community College, March 2000)
- Real Estate Appraisal Procedures (Bellevue Community College, Fall 1999)

### Appraisal Experience

Associate Appraiser with *Allen Brackett Shedd*. Responsibilities have included a variety of commercial, residential, and industrial real estate valuations. Appraisals have been prepared on such diverse properties such as park lands, airport property, subdivisions, sensitive areas, and easements. Undeveloped land valuations have been performed for acquisitions in fee, as well as, various partial interests including the following: conservation easements, utility easements, and right-of-way.

Associate Appraiser with *Pacific Appraisal Associates*. Responsibilities included a variety of commercial, rural residential, and agricultural valuations. Undeveloped land valuations primarily consisted of partial interests for right-of-way and conservation easements.

### Summary of Real Estate Experience

Past: 05/98 – 01/02 & 11/02 to Current: Associate Appraiser with *Allen Brackett Shedd (formerly Bruce C. Allen & Associates, Inc.)*

2002: *Pacific Appraisal Associates (Dennis Johnson, MAI - Wenatchee)*. Associate Commercial Appraiser concentrating on a variety of right-of-way projects, as well as commercial land valuations (including agricultural).

1996-1998: *Martin Smith Real Estate Services*. Included a variety of duties and departments that comprised of Lease Administration and Assistant Operations/Property manager. Responsibilities included the daily operations of implementing new leases, rent increases, tenant reimbursements and lease renewals for over 20 Martin Smith managed properties. Other duties included the responsibility for overseeing repairs and maintenance requests for over 6 million square feet of office space and the renovation of the company's communications system with building engineers.

## DAVID COLEMAN, SENIOR APPRAISER (cont.)

1995-1996: *Sarkowsky/Loebisser/Fagerholm (SLF) Management Company*. Assistant Property Manager for The Plaza at Yarrow Bay, a Class A office building in Kirkland, Washington, and home to many prominent tenants such as AT&T Wireless, McDonald's Corp. and Novell. Responsibilities included the day-to-day management of the project and its tenants, which included the coordination of cost estimates and contract work on the project.

### Representative Client List

#### **Cities**

Arlington  
Bellevue  
Bellingham  
Bothell  
Kenmore  
Kirkland  
Maple Valley  
Redmond  
Seattle  
Sammamish  
SeaTac

#### **Public Agencies**

Attorney General of Washington  
Puget Sound Energy  
Seattle City Light  
Trust for Public Land  
United States Navy  
Washington State Department of Transportation

#### **Airports**

Arlington Municipal  
Auburn Municipal  
Chehalis-Centralia  
Port of Olympia  
Port of Port Angeles  
Renton Municipal  
Snohomish County (Paine Field)

#### **Banks**

Banner Bank  
Charter Bank  
Commerce Bank  
Frontier Bank

#### **Counties**

King County  
King County Office of Open Space  
Snohomish County

#### **Private Agencies**

Bogle & Gates  
Butcher, Willis, & Ratliff Corp.  
Graham & Dunn  
Jack McCann Company  
Jones & Stokes Engineering  
JRCO Partnership  
Land & Associates  
Lang, Sly, Conner Development  
  
OTAK  
Pharos  
Stinson Lane Vineyards  
Weyerhaeuser Company  
WRECO

**State Certification Number – General:** 27011-1101543    **Expiration:** 05/02/19