EHS–International, Inc.

Phase II
Environmental Site Assessment

Buckley Library
123 South River Avenue
Buckley, Washington 98321

EHSI Project #10949-02

Prepared for:
Pierce County Library System
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EHS–International, Inc.

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LIST OF ACRONYMS

APS……..Applied Professional Services, Inc.
AOC……. Area of Concern
APH……. Air-phase Petroleum Hydrocarbons
B…… Boring/Borehole
BGS……..Below Ground Surface
BTEX……..Benzene, Toluene, Ethylbenzene, and Total Xylenes
CLARC……Cleanup Levels and Risk Calculations
COC……. Chain of Custody
CPAH……..Carcinogenic poly-aromatic hydrocarbon
CSCSL.....Confirmed and Suspected Contaminated Sites List
Ecology.....Washington State Department of Ecology
EDB……Ethylene dibromide
EDC……1,2 dichloromethane
EHSI .....EHS-International, Inc.
EPA……..U.S. Environmental Protection Agency
ESA .....Environmental Site Assessment
FBI…… Friedman and Bruya, Inc.
Holt…… Holt Services, Inc.
IDW……. Investigative Derived Waste
II……..Initial Investigation
LUST .....Leaking Underground Storage Tank
mg/kg……Milligrams per kilogram, or parts per million
ug/L……. Micrograms per liter, or parts per billion
MTBE……. Methyl tertiary butyl ether
MTCA……. Washington State Model Toxics Control Act
MW……. Monitoring Well
PCBs.....Polychlorinated Biphenyls
PCLS……. .....Pierce County Library System
PCS…… .Petroleum-Contaminated Soil
PID……...Photo-ionization Detector
PPB……..Parts per Billion
PPM……Parts per million
QA/QC……Quality Assurance / Quality Control
Qom…… Quaternary Osceola Mudflow Deposits
Qvr…… .Quaternary Vashon Recessional Outwash Deposits
RCRA……. Resource Conservation and Recovery Act
REC .....Recognized Environmental Condition
SWRCY.....Recycling Facility List
TEF…… ..Toxicity Equivalency Factor
TEQ……Toxicity Equivalency Factor Calculations
TPH.....Total Petroleum Hydrocarbons
TPCHD……Tacoma-Pierce County Health Department
US .....United States
USDA .....United States Department of Agriculture
USGS.....United States Geological Survey
UST .....Underground Storage Tank

VCP .....Voluntary Cleanup Program
VI..... .Vapor Intrusion
VP..... Vapor Probe
VS .....Vapor Encroachment Screen
VOA..... Volatile Organic Analysis
VOC..... Volatile Organic Compound

1.0 INTRODUCTION

On behalf of the Pierce County Library System (PCLS; Client), EHS-International, Inc. (EHSI) completed a Phase II Environmental Site Assessment (ESA) of the Buckley Library located at 123 South River Avenue in Buckley, Washington (subject property). The field work for the Phase II ESA took place on May 31, June 1, and June 19 2017. A site location map is presented in Figure 1.

The subject property is developed with a 4,100-square foot public library building. The parking lot for the library is located south of the building. A grass lawn is located immediately north of the library building. The subject property is bordered by Main Street to the north and River Avenue to the east. Highway 410 is located one parcel to the west of the subject property. Figure 2 displays the details of the site. The property is served by Puget Sound Energy for electricity, and the City of Buckley for drinking water and sewer services.

1.1 Background

EHSI completed a Phase I ESA on the subject property in April 2017 (EHSI, 2017). The research from the Phase I ESA identified that the subject property was previously operated as a gasoline service station and welding shop prior to purchase of the site by the client in 1989 and the construction of the library in 1992. Five underground storage tanks (USTs) were removed from the site in 1983 including: two 10,000-gallon leaded/unleaded gasoline tanks, one 5,000-gallon premium gasoline tank, one 400-gallon waste oil tank, and one 500-gallon fuel oil tank. Figure 2 displays the location of the USTs. Between 1989 and 1993, several environmental investigations were performed between the property acquisition and construction of the library. Approximately 1,118 cubic yards of petroleum-contaminated soils (PCS) were removed from the site, and three groundwater monitoring wells (MW-1, MW-2, and MW-3) were constructed. Contaminants sources were identified to be related to the historical USTs on the northern portion of the property as well as surface spills related to operations of the welding shop on the southern portion of the site. The property never achieved formal cleanup status from the Washington State Department of Ecology (Ecology) or the Tacoma-Pierce County Health Department (TPCHD). No on-site remediation of further environmental investigation occurred on the property between 1993 and the present. In 2012, Ecology performed an Initial Investigation (II) of the subject property related to historical site activities and subsequently in 2013 placed the property on the State of Washington's Confirmed and Suspected Contaminated Site List (CSCSL). In 2016, the client received a permit renewal letter from the TPCHD requesting an initial annual UST permit citing the open and active status of the USTs relative to the historical site activities. The Phase I ESA historical research completed earlier this year also identified the property was historically used as a lumber mill prior to development as a gasoline station. Based on the review of the historical research, previous environmental reports, and Ecology and TPCHD records, EHSI identified the following recognized environmental conditions (RECs) affecting the site:

- RECs related to the nature and extent of historical soil and groundwater impacts to the site related to impacts from historical USTs
- A REC related to potential vapor migration into occupied buildings on the site from the historical release
- RECs related to spills of petroleum hydrocarbons and petroleum hydrocarbon-contaminated groundwater onto the surface of the subject.
- A REC related to petroleum hydrocarbons, solvents, and metals on the southern portion of the site near a former welding shop

- A REC related to historical industrial use of the site as a lumber mill
- A REC related to the need of formal review and resolution of historical excavated soils from the subject that were moved to neighboring sites and finally disposed in 2004.

During the Phase I ESA site investigation in February, EHSI identified the location of two of the three monitoring wells on the site. MW-3 could not be located. Figure 2 (attached) shows the location of the historical monitoring wells.

Based on the RECs identified in the Phase I ESA, EHSI recommended a Phase II ESA be performed to determine the current conditions below the property. Below is a summary of the Phase II ESA field work, analysis, and findings.

1.2 Objectives

Based upon the RECs listed above from the Phase I ESA, the objectives of the Phase II ESA were as follows:

- Perform utility locating prior to drilling and identify the location of the third monitoring well
- Drill test boreholes for the purposes of evaluating soil and/or groundwater conditions related to the conditions identified by the Phase I ESA
- Collect representative groundwater samples from the three existing wells on the site
- Construct temporary vapor probes for the purposes of evaluating subsurface soil gas concentrations
- Collect representative vapor samples from the property for evaluating vapor migration
- Submit representative samples for laboratory analysis of target contaminants of concern for comparison of the results with applicable Model Toxics Control Act (MTCA) cleanup criteria and applicable vapor migration risk evaluations.
- Prepare a final written report of the Phase II ESA field activities, sampling, analysis, and results of the investigation.

2.0 REGIONAL AND SITE GEOLOGY/ HYDROGEOLOGY

The topography of the subject property is relatively flat with an elevation of approximately 725 feet above sea level. The area surrounding the subject property gently slopes northwesterly towards the White River. Soils in the area of the subject property are mapped as the Buckley loam by the United States Department of Agriculture (USDA). These soils are poorly drained, having a high-water table, and having very slow infiltration rates.

Crandell (1963) maps the surface geology of the subject property as Quaternary Osceola Mudflow (Qom) deposits. The mudflow deposits are described as unsorted andesitic rock fragments in a clayey sand matrix. Previous environmental investigations completed on the subject site indicate the property is underlain by one to three feet of fill materials followed by up to four feet of silty sand and gravel prior to encountering silt-bound deposits typical of the Osceola Mudflow. Welch and others (2015) map the thickness of the Osceola Mudflow deposits as approximately 27 to 52 feet thick in the area of the subject property. Previous groundwater monitoring of three wells completed on the property (MW-1, MW-2, and MW-3) show the depth to groundwater below the site is less than five feet below ground surface (bgs) as

a perched zone is present above and within the top of the Qom deposits. The gradient within the perched system was previously mapped being predominantly to the east (HE Bush & Associates, 1993, Carr & Associates, 1991).

3.0 FIELD INVESTIGATION

3.1 Private Utility Locating and Ground Penetrating Radar Survey

On May 31, 2017, Applied Professional Services, Inc. (APS) was retained to locate and mark conductible utilities at the subject property and identify the location of Monitoring Well 3 (MW-3) using a magnetometer. APS utilized a Schoenstatt Magnetometer to identify the location of the third missing groundwater monitoring well, MW-3 on the southeast corner of the subject, which was buried below approximately four-inches of soil.

Following locating the well, APS screened the proposed borehole locations for utilities. Based on the utility locating, several boreholes were adjusted to prevent striking of utilities. Additionally, one borehole south of the building, area of Vapor Probe 1 (VP-1), could not be completed with the drilling rig due to the location of public and private utilities.

Photographs taken of the site and during field activities are included in this report.

3.2 Drilling Investigation

Holt Services (Holt) was retained as the licensed driller for the project. On June 1, 2017, Holt utilized a track mounted Geoprobe 7822DT direct push drilling rig to complete nine boreholes at the site. Additionally, Holt utilized a hand auger to dig and construct two shallow vapor probes. The locations of the boreholes and vapor probes are presented on Figure 2. A summary of the drilling locations is presented below:

- Boreholes B1 and B2 were placed in the southern portion of the parking lot near the historical welding shop. Both borings were completed to 10 feet below ground surface (bgs).
- Boreholes B3 and B4 were drilled in the northern portion of the parking lot near the historical surface spills. Both borings were completed to 10 feet bgs.
- Boreholes B5 and B6 were drilled northeast of the library building near the historical location of the gasoline and diesel USTs. Both borings were completed to 15 feet bgs.
- Borehole B7 was placed near the historical pump island on the northeast corner of the property, and was drilled to 15 feet bgs.
- Borehole B8 was drilled north of the library building to address historical use of the site as a gas station as well as a lumber mill. The boring was completed to 10 feet bgs.
- Borehole B9 was drilled just west of the library building near the former heating oil and waste oil USTs. The boring was drilled to 15 feet bgs.
- Vapor probe VP1 was hand dug in the planter just south of the library building. The screen was placed at 2 to 2.5 feet bgs, packed with sand, and hydrated bentonite chips were placed above. Utilities were identified just below and adjacent to the vapor probe.

- Vapor probe VP2 was hand dug in the planter near the northeast corner of the building. The screen was placed at 2.5 to 3 feet bgs, packed with sand, and hydrated bentonite chips were placed above.

Drilling encountered shallow fill materials above native gray-brown silty sand and silt typical of Osceola Mudflow deposits. Groundwater was encountered at approximately 4.5 to 6 feet bgs in each of the boreholes. Geologic logs for each of the boreholes are attached in Appendix A.

3.2.1 Soil Sampling

Soil sample cores were collected continuously in the direct-push boreholes with Teflon tube liners in five-foot intervals. The soil cores were examined for visual or olfactory indicators for the presence of contamination. A photo-ionization detector (PID) was also utilized to field screen the soil cores for the presence of organic vapors. Some fuel odors, PID hits, and soil staining were observed in the sample cores as noted on the attached well logs (Appendix A).

At least one soil sample was collected from each of the nine boreholes. At several boreholes, two soil samples were collected due to the inability to collect groundwater at depth. Samples were labelled with the location/borehole number followed by the sample depth (i.e. B2-5 is Borehole 2 at 5 feet bgs). The following soil samples were collected: B1-6', B2-5.5', B3-4.5', B4-7.5'*, B5-7' B6-13'*, B7-7', B8-5', B9-6', and B9-15'* (* indicates the sample was saturated and collected below the water table).

Soil samples were collected using laboratory-supplied containers. Three to four volatile organic analysis (VOA) containers were filled for each soil sample using the EPA Method 5035-purge and trap method, and two to three 4-ounce glass jars were also filled

Following collection, the filled sample containers were placed in a cooler with ice until delivery to the analytical laboratory. EHSI field personnel checked all sample containers for completeness and cap tightness. The sample cooler was then placed in a field vehicle to await transportation to the analytical laboratory.

3.2.2 Groundwater Sampling

Groundwater sampling was completed at several boreholes (B2-W, B3-W, B5-W, B6-W, B7-W, B8-W, and B9-W) and from the three existing monitoring wells (MW1, MW2, and MW3) using a peristaltic pump and new polyethylene tubing. Prior to collection of the samples in the monitoring wells, static water levels and total depths were measured. Table 1, below summarizes the measurements.

TABLE 1 MONITORING WELL INFORMATION SUMMARY PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA				
Well ID	**Elevation of Top of Casing (feet) ***	**Water Level Measurement (feet below top of casing)**	**Depth to the bottom of the well (feet below top of casing)**	**Water Level Elevation (feet)**
MW-1	722.83	4.18	8.00	718.65
MW-2	722.62	2.68	8.13	719.94
MW-3	722.62	3.60	7.83	719.02

*elevations reported from Carr and Associates (1991)

Figure 3 shows the gradient observed from the three monitoring wells. As shown on the Figure the gradient was observed to be primarily to the south-southwest. This is substantially different from the historical gradient encountered in the early 1990s, which was to the northeast or opposite direction.

For the collection of borehole groundwater samples, a temporary PVC screen was placed in the wells to allow for sample collection with the pump. Due to the silty nature of the saturated zone, several locations contained little to no water and not all the sample containers could be filled.

3.3 Vapor Sampling

On June 19, EHSI representatives mobilized to the site to collect representative subsurface air samples from the two vapor probes installed on June 1. Samples were collected from the probes using a negative pressure summa vacuum canister supplied by Friedman and Bruya, Inc. (FBI) Prior to sampling, the summa canister's pressure was recorded and a helium shroud was placed over the probe collection device to ensure no surface breakthrough. The negative pressure valve was opened and vapors were collected for approximately 11 to 12 minutes from each probe. The summa canister's pressure was again recorded prior to closing the sample valve. Sample BLSG-1 was collected from VP-1 and sample BLSG-2 was collected from VP-2.

3.4 Sampling Documentation

EHSI documented all field activities associated with the soil sampling. Documentation included a comprehensive discussion of field observations, such as field parameter measurements, and documentation of any problems encountered. All sample containers were labeled with the following information:

- EHSI project identification number;
- Sample date;
- Sampler's name; and
- Sample identification number.

The chain-of-custody (COC) for the samples is attached in Appendix B. The sample chain-of-custody forms were completed with EHSI project identification number, the sampler's name, date, sample identification codes, number of containers, and date and time the sample was collected. All samples collected were transported under chain-of-custody protocols to FBI for analyses. As noted on the COC, the soil and groundwater samples were collected on June 1 and delivered to the laboratory on June 2. The vapor samples were collected and submitted to the lab on June 19 and analyzed by the lab on June 23.

3.5 Decontamination Procedures and Waste Management

All non-disposable sampling equipment was decontaminated prior to and after each sampling operation. The specific steps used for decontamination of the equipment are:

- Rinse and pre-clean equipment in potable water;
- Wash and scrub equipment with non-phosphate based detergent and potable water;
- Rinse with potable water;
- Rinse in deionized water; and
- Air-dry between samplings.

Investigative-derived wastes (IDW), such as drill cuttings and decontamination water, were stored temporarily on the subject property in US Department of Transportation-approved 16-gallon drums, pending the receipt of laboratory analytical results. The 16-gallon drums were properly labelled with the contents.

3.6 Laboratory Analyses

The samples were submitted to FBI for analysis using Ecology Test Method NWTPH-Gx, Ecology Test Method NWTPH-Dx, EPA Test Method 8021b, EPA Test Method 8260C, EPA Test Method 8270D, EPA Test Method 8270SIM, EPA Test Method 8082, and the EPA Test Method 6020A series. Not all samples were submitted for each analysis. Selected samples were submitted based upon the primary contaminants of concern. A summary of the analytical methods is presented below.

- Ecology Test Method NWTPH-Gx is the qualitative and quantitative method (extended) for volatile ("gasoline") petroleum products in soil and water. Petroleum products applicable for this method include aviation and automotive gasolines, mineral spirits, Stoddard solvent and naphtha.
- Ecology Test Method NWTPH-Dx is the qualitative and quantitative method (extended) for semi-volatile ("diesel") petroleum products in soil and water. Petroleum products applicable for this include jet fuels, kerosene, diesel oils, hydraulic fluids, mineral oils, lubricating oils and fuel oils.
- EPA Test Method 8260c is used to determine volatile organic compounds (VOCs) in soil and water. Typical volatiles determined by this method include benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalenes, tetrachloroethene, trichloroethene, and vinyl chloride.
- EPA Test Method 8270D and 8270SIM are used to determine semi-volatile organic compounds (SVOCs) in soil and water. Typical semi-volatiles determined by this method include naphthalenes, polyaromatic hydrocarbons (PAHs), and other phenolic compounds.

- EPA Test Method 8082A is used to determine polychlorinated biphenyls (PCBs) in soil and water. This method determines PCBs as Aroclors or as individual PCB congeners.
- EPA Test Method 6020A is used to determine concentrations of inorganic analytes (including arsenic, barium, lead, cadmium, chromium, selenium, silver, and mercury) in soil and water.
- Method MA-APH is the Massachusetts Department of Environmental Protection's method to analyze air-phase petroleum hydrocarbons using gas chromatography/mass spectrometry.
- EPA Compendium Method TO-15 is used to determine VOCs in air samples by gas chromatography/mass spectrometry.

4.0 INVESTIGATION RESULTS

The complete laboratory analytical report is attached in Appendix B. A discussion of the various contaminants of concern (COCs) for the site with respect to soil, groundwater, and vapor is presented below.

4.1 Soil Results

Soil results were compared to MTCA Method A and Method B Cleanup Levels. For Method B levels, Ecology Cleanup Level and Risk Calculation (CLARC) tables were reviewed. Tables 2, 3, 4, and 5 summarize the soil results.

TABLE 2
PETROLEUM HYDROCARBONS AND VOCS IN SOIL (mg/kg)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	B1-6'	B2-5.5'	B3-4.5'	B4-4.5	B4-7.5	B5-7'	B6-13'	B7-7'	B8-5'	B9-6'	B9-15'	MTCA Method A Limit
Gas	ND	ND	ND	ND	ND	ND	ND	**5,900**	**1,400**	ND	ND	30
Diesel	ND	ND	ND	ND	ND	ND	ND	1,100	**170,000**	ND	ND	2,000
Oil	**720**	ND	ND	ND	ND	ND	ND	ND	5,400x	ND	ND	2,000
Benzene	ND	ND	ND	ND	ND	ND	ND	**4**	**0.7**	ND	ND	0.03
Toluene	ND	ND	ND	ND	ND	ND	ND	0.84	0.16	ND	ND	7
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	**52**	0.17	ND	ND	6
Xylenes	ND	ND	ND	ND	ND	ND	ND	**235**	2.1	ND	ND	9
Naphthalenes	ND	ND	ND	ND	ND	ND	ND	**39**	**30**	ND	ND	5
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02
1,2 dichloroethane (EDC)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.99B
1,2 dibromoethane (EDB)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005
Methyl-tert butyl ether (MTBE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
1-methylnaphthalene	NT	NT	NT	NT	NT	NT	NT	NT	**540**	NT	NT	34.48B

B represents MTCA Method B Cleanup Levels

x indicates contaminant did not meet the fuel standard

As shown in Table 2 above, two soil samples were found above applicable MTCA Method A cleanup levels (B7-7' and B8-5'). B7-7 is above MTCA Method A cleanup levels for gasoline, benzene, ethylbenzene, total xylenes, and total naphthalene. B8-5' is above MTCA Method A cleanup levels for gasoline, diesel, oil, benzene, and total naphthalenes.

TABLE 3
METALS IN SOIL (mg/kg)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	B1-6'	B2-5.5'	B3-4.5'	B4-4.5	B4-7.5	B5-7'	B6-13'	B7-7'	B8-5'	B9-6'	B9-15'	MTCA Method A Limit
Arsenic	3.58	4.15	2.14	4.15	3.21	NT	NT	3.08	17.2	6.02	4.42	20
Barium	49.8	37.2	72	89	62.1	NT	NT	94.2	510	70.6	28.1	16,000 B
Cadmium	ND	ND	ND	ND	ND	NT	NT	ND	**3.33**	ND	ND	2
Chromium	15.4	13.3	12.8	13.2	9.62	NT	NT	17	23.4	13.1	10.4	19 / 2,000
Lead	4.03	4.67	3.76	14.1	2.83	2.69	2.28	18.8	**1,770**	32.8	3.15	250
Mercury	ND	ND	ND	ND	ND	NT	NT	ND	ND	ND	ND	2
Selenium	ND	ND	ND	ND	ND	NT	NT	ND	ND	ND	ND	400B
Silver	ND	ND	ND	ND	ND	NT	NT	ND	ND	ND	ND	400B

B indicates MTCA Method B cleanup level

Lead and Cadmium are above MTCA Method A cleanup levels in sample B8-5'. No other metals were found above applicable MTCA Method A cleanup levels for any of the other soil samples. As shown in Table 2 above, B8-5 was found above MTCA Method A levels for gasoline, diesel, and oil-range hydrocarbons. This suggests the source of the lead and cadmium in B8-5 is likely from the petroleum hydrocarbon release (leaded gasoline or waste oil). B8-5 was also reported to have 23.4 mg/kg of total chromium. This is above the MTCA Method A cleanup level for hexavalent chromium (19 mg/kg); however, below the MTCA Method A cleanup level for trivalent chromium (2,000 mg/kg). There are no known sources of hexavalent chromium at the site. Further investigation of the metals in soil and its relationship to the petroleum hydrocarbon release appears warranted.

TABLE 4
PCBS IN SOIL (mg/kg)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	B1-6'	B2-5.5'	B3-4.5'	B4-4.5	B4-7.5	B5-7'	B6-13'	B7-7'	B8-5'	B9-6'	B9-15'	MTCA Method A Limit
Aroclor 1221	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1232	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1016	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1242	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1248	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	1
Aroclor 1254	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1260	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1262	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	
Aroclor 1268	ND	ND	ND	ND	ND	NT	NT	NT	ND	ND	ND	

Eight samples were submitted for analysis of PCBs. PCBs were not detected at the site. These results indicate PCBs is not a COC for the property.

We reviewed the results for carcinogenic polyaromatic hydrocarbons (cPAHs) of benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Using MTCA Table 708-2, we calculated the toxicity equivalency factors (TEF) for the cPAHs for benzo(a)pyrene equivalency. The total TEF calculation (TEQ) for cPAHs is presented in Table 5, below. For non-detections, the TEQ was made using ½ the detection level for that compound reported for the sample. Copies of the TEQ calculations are attached in Appendix C.

TABLE 5
TEQ CPAHS IN SOIL (mg/kg)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	B1-6'	B2-5.5'	B3-4.5'	B4-4.5	B4-7.5	B5-7'	B6-13'	B7-7'	B8-5'	B9-6'	B9-15'	MTCA Method A Limit
cPAH TEQ	0.07	ND	ND	0.02	ND	ND	ND	0.02	0.08	0.02	ND	0.10

Concentrations of cPAHs were identified in samples B1-6', B4-4.5', B7-7', B8-5', and B9-15. However, the TEQ cPAH calculations were found to be below the applicable MTCA Method A cleanup levels of 0.10 mg/kg for benzo(a)pyrene equivalency. Two of the five samples that had detections of cPAHs were found just below the applicable MTCA limit. B1-6' and B8-5' were found at 0.07 mg/kg and 0.08 mg/kg, respectively. The calculations for B1-6 show the TEQ results was largely from a higher detection level of 0.1 mg/kg for each of the compounds, when the only true cPAH that was detected in the sample was chrysene at 0.13 mg/kg, which has the lowest TEF of the cPAHs. The B8-5' sample TEQ was also from a higher detection level of 0.05 mg/kg, benzo(b)fluoranthene and chrysene were the only two detected compounds in the sample. These results suggest cPAHs are not a COC for the site.

4.2 Groundwater Results

Groundwater sample results were compared to MTCA Method A cleanup levels. Tables 6, 7, 8, and 9, below, summarize the results.

TABLE 6
PETROLEUM HYDROCARBONS AND VOCS IN GROUNDWATER (ug/L)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	B2-W	B3-W	B5-W	B6-W	B7-W	B8-W	B9-W	MW-1	MW-2	MW-3	**MTCA Method A Limit**
Gas	ND	ND	ND	**800**	**8,400**	**770**	ND	ND	ND	ND	**800**
Diesel	**170x**	**350x**	ND	**650x**	**2,000x**	**20,000**	ND	**190x**	ND	ND	**500**
Oil	ND	**570x**	ND	**250x**	**<1,000***	**4,300x**	<800*A	**300x**	ND	ND	
Benzene	ND	ND	ND	0.64	**900**	**13**	ND	ND	ND	ND	**5**
Toluene	ND	ND	ND	ND	50	ND	ND	ND	ND	ND	**1,000**
Ethylbenzene	ND	ND	ND	ND	**730**	2.7	ND	ND	ND	ND	**700**
Xylenes	ND	ND	ND	ND	**2,030**	16.4	ND	ND	ND	ND	**1,000**
Naphthalenes	ND	ND	ND	13	12	87	ND	ND	ND	ND	**160**

TABLE 6 PETROLEUM HYDROCARBONS AND VOCS IN GROUNDWATER (ug/L) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA											
Analyte / Sample ID	B2-W	B3-W	B5-W	B6-W	B7-W	B8-W	B9-W	MW-1	MW-2	MW-3	**MTCA Method A Limit**
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
1,2 dichloroethane (EDC)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
1,2 dibromoethane (EDB)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**.01**
Methyl-tert butyl ether (MTBE)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**20**
*indicates laboratory detection limit reported above the MTCA Method A cleanup level x indicates contaminant did not meet the fuel standard A assumed ½ the detection level											

Gasoline, diesel, oil, benzene, ethylbenzene, and xylenes were found above applicable MTCA Method A cleanup levels. Groundwater from B3, B6, B7, and B8 were above applicable limits for various petroleum hydrocarbons. Diesel/oil range petroleum hydrocarbons were found in groundwater from B2 and MW-1, however, the levels were reported below the applicable MTCA Method A cleanup level of 500 ug/L. Diesel/oil range petroleum hydrocarbons are above MTCA Method A cleanup levels at B3, B6, B7, and B8. B8 had the highest concentrations of diesel reported at 20,000 ug/L. Gasoline is above MTCA Method A cleanup levels in B6 and B7, and just below MTCA Method A levels of 800 ug/L at B8. B7 has the highest concentration of gasoline at 8,400 ug/L. B7 also had the highest concentration of benzene at 900 ug/L, ethylbenzene at 730 ug/L, and total xylenes at 2,030 ug/L. Benzene is also above MTCA Method A levels at B8 at 13 ug/L.

These results show a diesel/oil and gasoline fuel release historically occurred on the northern portion of the site. Associated BTEX and Naphthalenes are above and below MTCA Method A limits, but are confirmed as a main contaminant of concern for the site.

Tables 7 and 8 below show the results of the metals analysis in groundwater. The initial groundwater grab samples from the boreholes were extremely turbid, which may have altered the total metals concentrations. As shown in the tables below, total metals concentrations were found several degrees higher than the dissolved metals concentrations.

TABLE 7 TOTAL METALS IN GROUNDWATER (ug/L) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA											
Analyte / Sample ID	B2-W T	B3-W T	B5-W T	B6-W T	B7-W T	B8-W T	B9-W T	MW-1 T	MW-2 T	MW-3 T	MTCA Method A Limit
Arsenic	7.93	26.7	NT	NT	NT	49.7	NT	ND	2.64	2.6	5
Barium	205	582	NT	NT	NT	435	NT	19.1	6.81	22.9	3,200B

TABLE 7 TOTAL METALS IN GROUNDWATER (ug/L) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA											
Analyte / Sample ID	B2-W T	B3-W T	B5-W T	B6-W T	B7-W T	B8-W T	B9-W T	MW-1 T	MW-2 T	MW-3 T	MTCA Method A Limit
Cadmium	ND	ND	NT	NT	NT	6.76	NT	ND	ND	ND	5
Chromium	35.7	63.9	NT	NT	NT	22.7	NT	ND	1.39	1.95	50
Lead	8.29	**20.5**	**24.3**	**13.6**	NT	**1,950**	NT	ND	ND	3.96	15
Mercury	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	2
Selenium	ND	1.04	NT	NT	NT	1.72	NT	ND	ND	ND	80B
Silver	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	80B
B indicates MTCA Method B cleanup level											

Arsenic is above MTCA Method A levels in groundwater from B2, B3, and B8. Cadmium is above MTCA Method A levels in groundwater from B8. Chromium is above MTCA Method A levels in groundwater from B3. Lead is above MTCA Method A levels in groundwater from B3, B5, and B8. Metals were not found above MTCA in any of the previously completed monitoring wells (MW-1, MW-2, and MW-3) which did not have turbid water during sampling.

TABLE 8 DISSOLVED METALS IN GROUNDWATER (ug/L) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA											
Analyte / Sample ID	B2-W D	B3-W D	B5-W D	B6-W D	B7-W D	B8-W D	B9-W D	MW-1 D	MW-2 D	MW-3 D	MTCA Method A Limit
Arsenic	ND	**5.68**	NT	NT	NT	4.59	NT	ND	2.19	ND	5
Barium	11.6	11.5	NT	NT	NT	46.4	NT	19.3	4.96	8.09	3,200B
Cadmium	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	5
Chromium	ND	ND	NT	NT	NT	1.11	NT	ND	1.3	ND	50
Lead	ND	ND	ND	ND	NT	1.32	NT	ND	ND	ND	15
Mercury	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	2
Selenium	ND	ND	NT	NT	NT	1.58	NT	ND	ND	ND	80B
Silver	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	80B
B indicates MTCA Method B cleanup level											

No dissolved metals were found above applicable MTCA Method A cleanup levels except for arsenic found in B3. Dissolved arsenic is above MTCA Method A cleanup levels reported at 5.68 ug/L in B3. Cadmium, chromium, and lead were not detected or below applicable MTCA Method A Cleanup Levels in the dissolved metal samples. These results confirm the concentrations identified in Table 7, largely reflect turbidity in the samples. Of these COC's, it appears arsenic, cadmium, and lead are the primary concern for the site, and to be investigated further.

TABLE 9 PCBS IN GROUNDWATER (ug/L) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA											
Analyte / Sample ID	B2-W	B3-W	B5-W	B6-W	B7-W	B8-W	B9-W	MW-1	MW-2	MW-3	MTCA Method A Limit
Aroclor 1221	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1232	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1016	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1242	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1248	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1254	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1260	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1262	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	
Aroclor 1268	ND	ND	NT	NT	NT	ND	NT	ND	ND	ND	0.1

PCBs were not detected in the six groundwater samples submitted for analysis. These results indicate PCBs are not a COC for the subject site.

4.3 Vapor Results

The air samples results were compared to the Ecology Vapor Intrusion (VI) guidance for MTCA Method B sub-slab screening levels. The depths of the probes are situated between the two vapor intrusion screening criteria set by Ecology: sub-slab (0-1.5 ft) and deep soil gas (>5 ft). The sub-slab screening level was chosen as a more conservative approach and has lower screening levels. Deep-soil gas is not likely present at the site due to the high water table. Tables 10 and 11, below summarize the results of the vapor analysis. Both screening levels are presented on the Tables.

TABLE 10 PETROLEUM HYDROCARBONS AND RELATED VOCS IN VAPOR (ug/m3) PIERCE COUNTY LIBRARY SYSTEM BUCKLEY LIBRARY, PROJECT #10949-02 BUCKLEY, WA								
Analyte / Sample ID	APH EC5-8 Aliphatic	APH EC9-12 aliphatic	APH EC9-10 aliphatic	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
BLSG-1	**660**	**620**	ND	**1.6**	**9.2**	**2.1**	**6.2**	**1.8**
BLSG-2	**530**	**630**	ND	**1.0**	**6.8**	ND	**4.1**	ND
Method B VI Sub-slab Screening Level	90,000	4,700	6,000	10.68	76,190	15,238	1,523.8	2.45
Method B VI Deep soil gas Screening Level	270,000	14,000	18,000	32	228,571	45,714	4,571.4	7.35

As shown in Table 10, petroleum hydrocarbons and BTEX + naphthalene were detected in the vapor samples; however, at levels below the applicable Method B VI sub-slab screening levels. Naphthalene is just below the screening level at 1.8 ug/m3. Benzene was found at 1.6 ug/m3 and 1.0 ug/m3, below the screening level of 10.68 ug/L. Although none of these were identified above the applicable screening levels, based on the soil and groundwater results, additional vapor analysis at other areas of the property are warranted.

TABLE 11
OTHER VOCS IN SUB-SLAB VAPOR (ug/m3)
PIERCE COUNTY LIBRARY SYSTEM
BUCKLEY LIBRARY, PROJECT #10949-02
BUCKLEY, WA

Analyte / Sample ID	Acetaldehyde	Hexane	Chloroform	Trichlorofluoromethane	Methylene chloride	1,2-dichloroethane (EDC)	1,2-dibromoethane (EDB)	dichlorodifluoromethane
BLSG-1	**32**	**9.5**	**13**	**7.4**	**ND**	**ND**	**ND**	2.7
BLSG-2	**44**	**ND**	**14**	**2.0**	**ND**	ND	**ND**	2.7
Method B VI Sub-slab Screening Level	37.88	10,667	3.62	10,667	8,333	3.21	0.14	1,524
Method B VI Deep soil gas Screening Level	113.63	32,000	10.87	32,000	25,000	9.61	0.41	4,571

Acetaldehyde and chloroform were found above the sub-slab vapor intrusion screening levels. Chloroform was also above deep soil gas VI screening levels. These compounds may be related to the historical spills and petroleum release, but are also naturally occurring. Methylene chloride, EDC, and EDB were not detected in either vapor sample.

5.0 DATA QUALIFICATION

FBI prepared a Case Narrative summarizing samples received, and data qualifying issues associated with the samples and the laboratory QA/QC results. FBI's Case Narrative is presented in page 2of the analytical report in Appendix B, and the laboratory data qualifiers are listed on the second-to last page of the appended analytical report.

Detection levels presented on the laboratory sheets are above applicable MTCA Method A or Method B levels for: methylene chloride in soil and EDB in soil, groundwater, and vapor. These are related to machine limits and not necessarily due to excessive interference. Some petroleum hydrocarbon levels of

diesel and oil were reported above applicable MTCA Method A levels due to interference from gasoline-range hydrocarbons at B7-W. Oil-range petroleum hydrocarbon detection levels were also reported above applicable MTCA Method A cleanup levels at B9-W, but this is related to the limited sample volume and calculating the concentrations based upon groundwater from VOA containers (rather than the ½-Liter volume required for the proper analysis). Several samples did not meet the fuel standard used for quantitation (B8-5 oil, B2-W diesel, B3-W diesel and oil, B6-W diesel and oil, B7-W diesel and oil, and B8-W oil).

6.0 REGULATORY REVIEW

As detailed in the Phase I ESA, the subject property has undergone previous environmental investigations and remedial actions. This report attempts to update the current state of the site with respect to the RECs identified in the Phase I ESA, as well as update the current environmental status with respect to historical CSCSL listings.

Based on the findings of the Phase 2 ESA, the following list of contaminants are above applicable MTCA Method A or B cleanup levels:

- Gasoline range petroleum hydrocarbons in soil and groundwater
- Diesel and oil range petroleum hydrocarbons in soil and groundwater
- Benzene in soil and groundwater
- Ethylbenzene in soil and groundwater
- Total Xylenes in soil and groundwater
- Naphthalene in soil (reported below MTCA in groundwater)
- 1-methylnaphthalene in soil (potentially in groundwater)
- Lead in soil (reported below MTCA in dissolved groundwater)
- Cadmium in soil (reported below MTCA in dissolved groundwater)
- Arsenic in groundwater (reported below MTCA in soil)
- Acetaldehyde in subsurface vapor
- Chloroform in subsurface vapor (not detected in soil or groundwater)

Based on these results, a historical release to the subject property from prior use has been confirmed. Remedial actions undertaken prior to and during development of the property into the library building in the 1990's resolved some previous uses. However, it appears some of the primary contaminants of concern (i.e. petroleum hydrocarbons and associated VOCs) still impact the subject site. Further investigation of the impacts appears warranted.

In addition to the contaminants identified above MTCA Method A or Method B levels, the following list of contaminants remain a concern for the site:

- Air-phase petroleum hydrocarbons and BTEX in vapor
- Fuel additives EDB, EDC, MTBE in soil and groundwater (reported below detection levels for this study)

The site remains on Ecology's CSCSL database. A copy of this report should be submitted to Ecology for updating their records. Additionally, a copy of this report should be submitted to the Tacoma-Pierce County Health Department UST program. Based on the results of this investigation, soil and groundwater conditions below the property are out of compliance and need to be properly remediated or addressed

to reduce potential impacts to human health and the environment. Vapor analysis performed for this investigation showed concentrations of petroleum hydrocarbons and VOCs above laboratory detection levels in areas where soil and groundwater results were non-detect. This suggest vapor migration below the property that needs to be fully evaluated with respect to the higher contamination areas and their risk to the building. Chloroform and acetaldehyde were found above applicable MTCA Method B vapor intrusion screening levels for sub-slab vapor. However, the source of the subsurface vapors is unknown. It could be related to the historical spills at the site or from natural background soil vapors. Chloroform was not detected in soil or groundwater samples. Further investigation appears warranted.

7.0 DISCUSSION

Each of the contaminants of concern that are out of compliance are discussed further below.

7.1 Soils out of compliance

The soils found out of compliance with current MTCA Method A or Method B cleanup levels are related to historical releases from the gasoline stations and associated USTs. Gasoline, diesel, and oil range TPH, benzene, ethylbenzene, xylenes, naphthalene, 1-methylnaphthalene, and lead were identified above applicable cleanup levels near the historical pump island on the northeast portion of the property and just north of the building. Contaminant concentrations at the approximate historical UST locations were reported non-detect. However, it appears there is a significant soil plume related to the historical release. The soil plume is likely related to smear zone contamination occurring at or near the variable water table. Further characterization of the extent of the soil plume is necessary to determine appropriate remedial actions. This area does not appear to have been addressed during the historical remediation of the property. Excavation of the area may be feasible; however, the extent of the soil plume is not currently known. Based upon the contaminant concentrations, a substantial amount of source contaminant remains in place as gasoline was found up to 5,900 mg/kg (B7-7') and diesel was found up to 170,000 mg/kg (B8-5').

7.2 Groundwater of out compliance

Similar to the soil plume, groundwater identified above current MTCA Method A or Method B cleanup levels are found on the northern portion of the property related to historical releases from the gasoline station and associated USTs. Groundwater on the northern portion of the site is out of compliance at three locations: B6, B7, and B8. Groundwater from B6, near the historical location of the USTs, is reported at 800 ug/L for gasoline (at the MTCA Method A cleanup level), and at 900 ug/L for diesel/oil-range TPH (above the MTCA Method A cleanup level of 500 ug/L). Groundwater from B7, near the former pump island is reported at 8,400 ug/L for gasoline, 2,000 ug/L for diesel/oil-range TPH, 900 ug/L for benzene, 730 ug/L for ethylbenzene, and 2,030 ug/L for total xylenes, all of which are above their respective Method A cleanup levels. Groundwater from B8, just north of the building and not in a source area, is reported at 770 ug/L for gasoline (just below the MTCA Method A cleanup level of 800 ug/L), 24,300 ug/L for diesel/oil-range TPH (above the MTCA Method A cleanup level of 500 ug/L), and 13 ug/L for benzene (above the MTCA Method A cleanup level of 5 ug/L). These groundwater concentrations appear to be closely related to the soil contamination identified in these areas. As discussed above, excavation of source soils maybe feasible; however, the extent needs to be fully characterized. Similarly, the extent of the groundwater plume needs to be properly characterized.

Contaminated groundwater with diesel and oil range TPH above MTCA Method A levels is also present on southern portion of the property underlying the parking lot. The southern area appears to be related to

historical spills and improper disposal associated with the gasoline service station and a historical welding shop. However, contamination discovered at B3-W could also be related to the downgradient toe of the northern plume. The laboratory noted that the samples from the southern parking lot did not meet the standard fuel criteria indicating that the contaminants had been degraded significantly which is indicative of the historical release, biodegradation, and attempts at remedial actions. Levels of TPH diesel/oil were identified below the MTCA limit at some areas: non-detect at MW-2 and MW-3, and 170 ug/L at B2-W, and 490 ug/L at MW-1. However, levels of TPH diesel/oil were found above the MTCA cleanup level of 500 ug/L at B3-W reported at 920 ug/L. The extent of the plume needs to be fully characterized to determine the best course of action.

7.3 Vapors out of compliance

Chloroform and acetaldehyde were identified above applicable MTCA Method B sub-slab vapor intrusion criteria. The source of the two contaminants is unknown. These could be related to the historical spills at the site. However, research of these contaminants indicates it may also be from natural sources rather than due to the historical property use.

Concentrations of air -phase petroleum hydrocarbons, BTEX, and naphthalene were detected in the two air samples but at levels below the MTCA Method B sub-slab VI screening levels. The locations of the two vapor probes (VP-1, to the south of the building, and VP-2, near the northeast corner of the building) is insufficient to properly evaluate petroleum hydrocarbons and VOCs relative to the identified soil and groundwater contamination at the property. The northernmost portion of the library building (near B9, Figure 2) appears to have the greatest risk of VI as contaminant concentrations in soil and groundwater exceed applicable MTCA Method A cleanup levels.

Based upon the chloroform and acetaldehyde above VI screening levels, detections of petroleum hydrocarbons and associated VOCs, and proximity of the soil and groundwater plume with respect to the building (contamination at B8), further investigation of the vapor intrusion risk at the site appears warranted. Indoor air monitoring may be also needed to adequately determine VI and inhalation exposures at the site.

8.0 CONCLUSIONS

Historical releases to the subject property which still impact the site have been confirmed above applicable MTCA Method A and Method B cleanup levels. Two sources of contamination that were identified as RECs from the Phase I ESA have been confirmed to have impacted the site.

Soil and groundwater below the northern portion of the property is impacted with gasoline, diesel, and oil-range TPH and associated VOCs related to historical use of the property as a gasoline service station. The extent of the soil and groundwater contamination could not be characterized by this study. Vapors associated with the soil and groundwater plumes also was not fully characterized. Further investigation into the soil, groundwater, and vapors on the northern portion of the property appears warranted.

Groundwater below the southern portion of the property is impacted with degraded diesel and oil-range TPH related to historical spills. The associated soil contamination appears to have been addressed in previous remedial actions. However, the extent of the groundwater contamination is not fully characterized, and some groundwater contamination on the southern portion of the property may be

related to downgradient migration from the northern groundwater plume. Further investigation appears warranted.

Nine boreholes, two vapor probes, and three groundwater monitoring wells were sampled for this investigation. Contaminant concentrations were confirmed above applicable MTCA Method A or Method B cleanup levels at several locations. RECs identified by the Phase I ESA have not been resolved except for: PCBs in soil and groundwater, RCRA 8 metals except for lead in soil and groundwater, cPAHs in soil and groundwater, and methylene chloride in soil and groundwater. Further investigation of gasoline, diesel, oil, BTEX, naphthalene, 1-methylnaphthalene, and lead appears warranted in soil and groundwater related to historical use of the site.

9.0 RECOMMENDATIONS

Based on the information presented in this report, EHSI recommends the following:

- Drill and construct five monitoring wells on the property. Four wells should be placed on the northern portion of the property (near B6, B7, and B8) and one well should be placed on the southern portion of the property (near B3)
- Drill and construct two vapor probes on the property. One vapor probe should be placed just north of the building (near B8) and one should be placed just west of the building.
- Groundwater and vapor monitoring should be completed on a quarterly basis to determine gradient and seasonality.
- Drill an additional 6 boreholes at the site to delineate the extent of the soil and groundwater plumes. Three boreholes should be placed on the northern plume in coordination with the four wells, and three boreholes should be placed on the southern plume in conjunction with the existing three wells and one new well to be drilled.
- Perform indoor air monitoring of the northern portion of the library building to determine current vapor intrusion risk
- Testing of soil and groundwater -should include analysis of gasoline, diesel, oil, BTEX, naphthalenes, 1-methylanphthalene, EDB, EDC, MTBE, arsenic, lead, and cadmium.
- Testing of vapors should include air-phase petroleum hydrocarbons, BTEX, naphthalenes, and other toxics organics by EPA Method TO-15 including acetaldehyde and chloroform.

10.0 REFERENCES

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Tacoma-Pierce County Health Department – personal communication and public records

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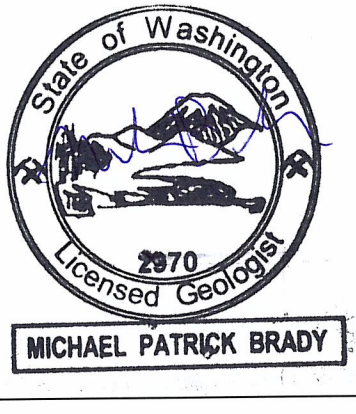
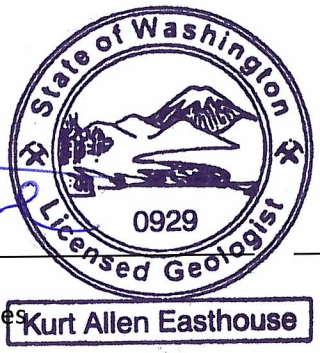
11.0 SIGNATURES



7/20/2017

Michael Brady, LG, LHG
Senior Hydrogeologist

Date



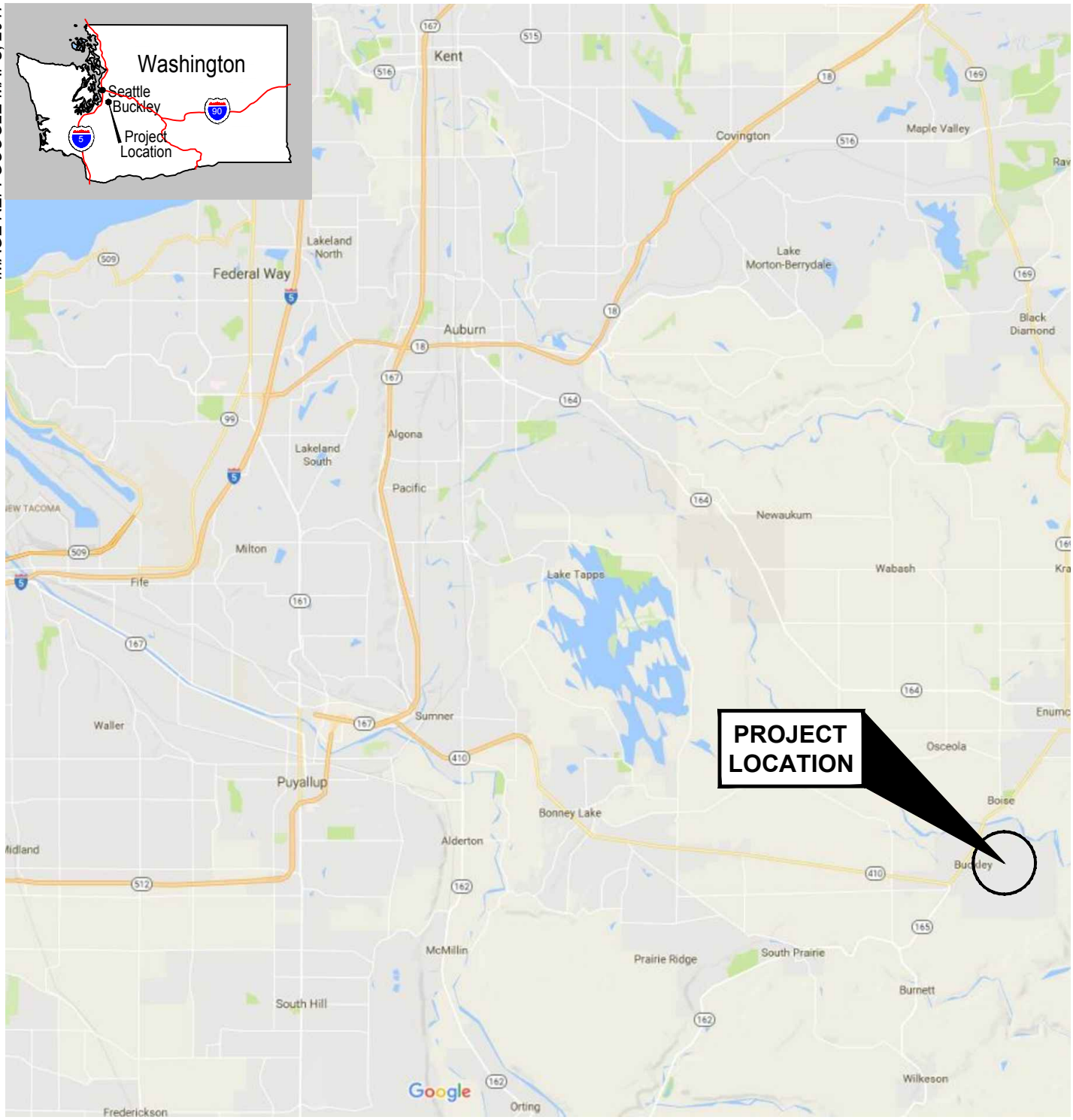
7/20/17

Kurt Easthouse, LG, LHG
Principal Geologist of Environmental Services

Date

Figures

IMAGE REF: GOOGLE MAPS, 2017



0 2 4
SCALE in MILES

FOR ILLUSTRATIVE PURPOSES ONLY.

NORTH

SHEET/FIGURE 1	PROJECT MANAGER:	K. EASTHOUSE	BUCKLEY LIBRARY PHASE II ESA 123 S RIVER AVE BUCKLEY, WA VICINITY MAP
	EHSI PROJECT #:	10949-02	
	PREPARED BY:	F. DIMALANTA	
	ISSUE DATE:	07/20/17	
	SCALE:	SHOWN	

ehsi
EHS-International, Inc.
1011 SW Klickitat Way, Suite 104
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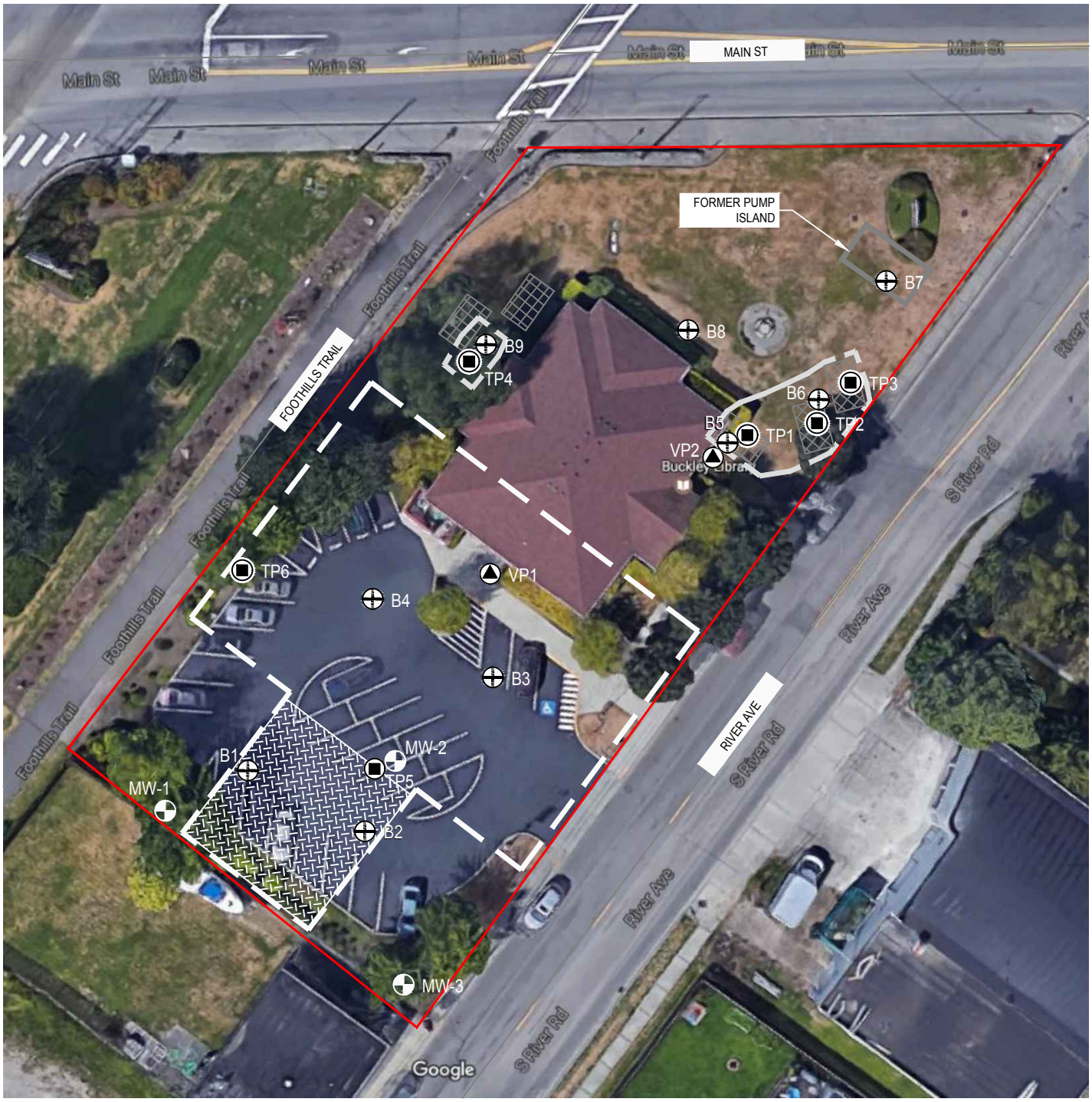
Fax: 206.254.4279



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SCALE in FEET

LEGEND:

- MW-X MONITORING WELL LOCATION
- TPX 1989 TEST PIT LOCATION
- HISTORICAL UST
- FORMER WELDING SHOP
- 1990 EXCAVATIONS

LEGEND:

- BX NEW EHSI BORINGS
- VPX VAPOR PROBES

ALL LOCATIONS ARE APPROXIMATE. FOR ILLUSTRATIVE PURPOSES ONLY.

NORTH

SHEET/FIGURE		
2	PROJECT MANAGER:	K. EASTHOUSE
	EHSI PROJECT #:	10949-02
	PREPARED BY:	F. DIMALANTA
	ISSUE DATE:	07/20/17
	SCALE:	SHOWN

BUCKLEY LIBRARY PHASE II ESA
123 S RIVER AVE
BUCKLEY, WA

DETAIL MAP

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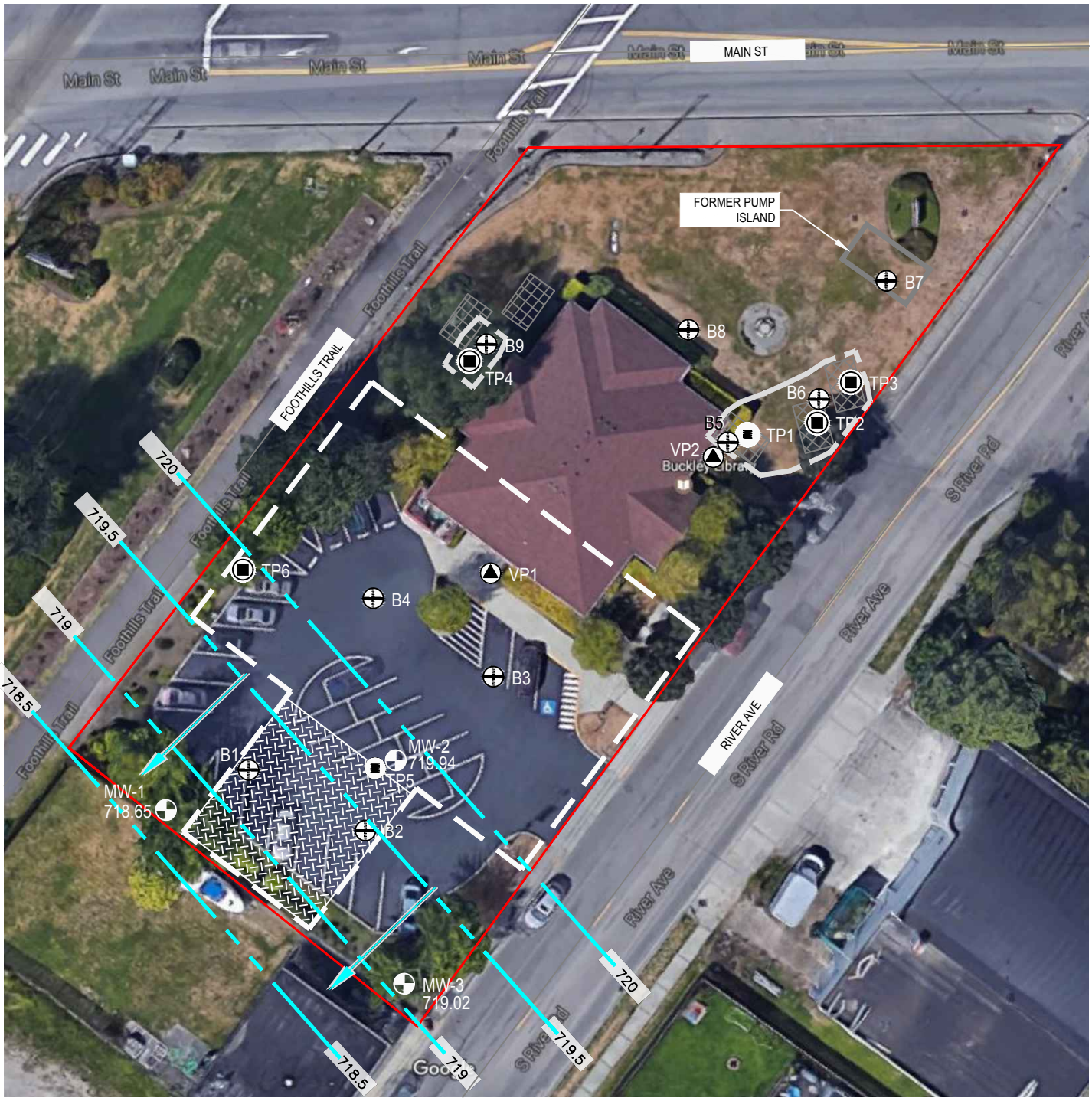

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SCALE in FEET

LEGEND:

- MONITORING WELL LOCATION
- 1989 TEST PIT LOCATION
- HISTORICAL UST
- FORMER WELDING SHOP
- 1990 EXCAVATIONS

LEGEND:

- BX NEW EHSI BORINGS
- VPX VAPOR PROBES
- 718.5 GROUNDWATER MEASURED 06/01/17
- GROUNDWATER FLOW DIRECTION

ALL LOCATIONS ARE APPROXIMATE. FOR ILLUSTRATIVE PURPOSES ONLY.

NORTH

SHEET/FIGURE		
3	PROJECT MANAGER:	K. EASTHOUSE
	EHSI PROJECT #:	10949-02
	PREPARED BY:	F. DIMALANTA
	ISSUE DATE:	07/20/17
	SCALE:	SHOWN

BUCKLEY LIBRARY PHASE II ESA
123 S RIVER AVE
BUCKLEY, WA

GROUNDWATER GRADIENT

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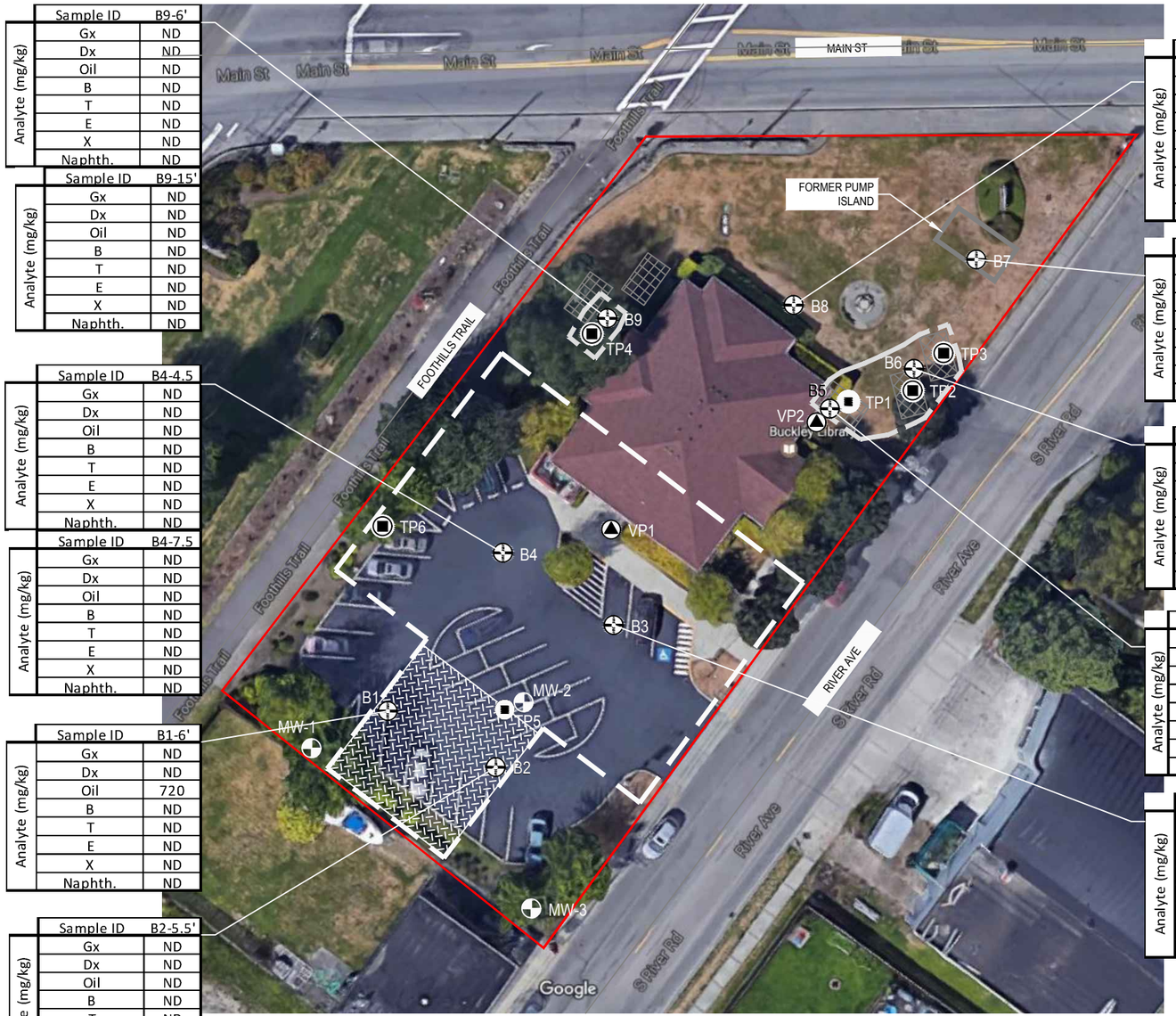

Analyte (mg/kg)	Sample ID B9-6'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B9-15'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B4-4.5
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B4-7.5
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B1-6'
Gx	ND
Dx	ND
Oil	720
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B2-5.5'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B8-5'
Gx	**1,400**
Dx	**170,000**
Oil	5,400x
B	**0.7**
T	0.16
E	0.17
X	2.1
Naphth.	**30**
1-Methylnapth	**540**

Analyte (mg/kg)	Sample ID B7-7'
Gx	**5,900**
Dx	1,100
Oil	ND
B	**4**
T	0.84
E	**52**
X	**235**
Naphth.	**39**

Analyte (mg/kg)	Sample ID B6-13'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B5-7'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (mg/kg)	Sample ID B3-4.5'
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

0 20 40 60 80 100
SCALE in FEET

LEGEND:

- MONITORING WELL LOCATION
- 1989 TEST PIT LOCATION
- HISTORICAL UST
- FORMER WELDING SHOP
- 1990 EXCAVATIONS

LEGEND:

- BX NEW EHSI BORINGS
- VPX VAPOR PROBES

ALL LOCATIONS ARE APPROXIMATE. FOR ILLUSTRATIVE PURPOSES ONLY.

NORTH

MTCA METHOD A CLEANUP LEVELS IN SOIL (mg/kg)	
GASOLINE (Gx)	30
DIESEL (Dx)/OIL	2,000
BENZENE (B)	0.03
TOLUENE (T)	7
ETHYLBENZENE (E)	6
TOTAL XYLENES (X)	9
NAPTHALENE (Napth)	5
1-METHYLNAPTHALENE	34.48*
	*METHOD B

ehsi
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Fax: 206.254.4279

BUCKLEY LIBRARY PHASE II ESA
123 S RIVER AVE
BUCKLEY, WA
TPH AND ASSOCIATED VOCs
SOIL RESULTS

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE:
EHSI PROJECT #: 10949
DRAWN BY: DIMALANTA
SCALE:
ISSUE DATE: 07/20/17

TPH & VOCs SOIL RESULTS MAP

FIG. 4

Analyte (µg/L)	Sample ID B9-W
Gx	ND
Dx	ND
Oil	<800
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID B8-W
Gx	770
Dx	**20,000**
Oil	**4,300x**
B	**13**
T	ND
E	2.7
X	16.4
Naphth.	87

Analyte (µg/L)	Sample ID B7-W
Gx	**8,400**
Dx	**2,000x**
Oil	**<1,000**
B	**900**
T	50
E	**730**
X	**2,030**
Naphth.	12

Analyte (µg/L)	Sample ID MW-2
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID B6-W
Gx	**800**
Dx	**650x**
Oil	**250x**
B	0.64
T	ND
E	ND
X	ND
Naphth.	13

Analyte (µg/L)	Sample ID MW-1
Gx	ND
Dx	190x
Oil	300x
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID B5-W
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID B2-W
Gx	ND
Dx	170x
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID B3-W
Gx	ND
Dx	**350x**
Oil	**570x**
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

Analyte (µg/L)	Sample ID MW-3
Gx	ND
Dx	ND
Oil	ND
B	ND
T	ND
E	ND
X	ND
Naphth.	ND

0 20 40 60 80 100
SCALE in FEET

ALL LOCATIONS ARE APPROXIMATE. FOR ILLUSTRATIVE PURPOSES ONLY.

LEGEND:

- MONITORING WELL LOCATION
- 1989 TEST PIT LOCATION
- HISTORICAL UST
- FORMER WELDING SHOP
- 1990 EXCAVATIONS

LEGEND:

- BX NEW EHSI BORINGS
- VPX VAPOR PROBES

NORTH

MTCA METHOD A CLEANUP LEVELS IN GROUNDWATER (µg/L)	
GASOLINE (Gx)	800
DIESEL (Dx)/OIL	500
BENZENE (B)	5
TOLUENE (T)	1,000
ETHYLBENZENE (E)	700
TOTAL XYLENES (X)	1,000
NAPTHALENE (Napth)	160

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BUCKLEY LIBRARY PHASE II ESA
123 S RIVER AVE
BUCKLEY, WA
TPH AND ASSOCIATED VOCs
GROUNDWATER RESULTS

PROJECT MANAGER: KURT EASTHOUSE
INSPECTORS: JASON CASS
SURVEY DATE:
EHSI PROJECT #: 10949
DRAWN BY: DIMALANTA
SCALE:
ISSUE DATE: 07/20/17

TPH & VOCs GROUNDWATER RESULTS MAP

FIG. 5

Photographs

Overview of the subject site showing the parking lot and library building.

Sample cores from Borehole B1

Location of Borehole B2 in the southern parking lot.

Sample cores from Borehole B2.

Location of Borehole B3 south of the building

Soil cores from location B3.

Location of B4 south of the building.

Soil cores from location B4.

Location of B5 east of the building.

Soil cores from Borehole B5.

Location of B6 northeast of the building near the former UST's.

Soil cores from B6.

Location of Borehole B7 on the northeast portion of the site.

Soil cores and soil staining present in samples from B7.

Location of Borehole B8 just north of the building.

Soil cores and staining present in the samples from B8.

Location of B9, west of the building.

Sample cores recovered from location B9.

Appendix A

Borehole Logs

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Fax: 206.254.4279

PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B1**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Asphalt				
			Fill, Brown sand and gravel, occ silty		0.0		50
5		GW	Brown silt, silty sand and gravel, moist to wet	B1-6	0.5		80
10							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B2**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Asphalt				
			Fill, Brown sand and gravel, occ silty		0.0		50
		GM	Brown silty sand and gravel, moist		0.0		
5		SM	Brown F-M Silty Sand, moist	B2-5.5	0.0		
		GM	Gray-Brown silty sand and gravel, wet		0.0		80
10							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**	PROJECT NUMBER: **10949-02**		
LOCATION: **123 River Avenue S Buckley, WA**	BOREHOLE ID: **B3**		
DRILLING CONTRACTOR: **Holt**	CORE SIZE: **2"**	HAMMER DATA:	
DRILLING EQUIPMENT: **Geoprobe 7822 DT**	GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**	
DRILLING METHOD: **Direct Push**	TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**	
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Asphalt				
			Fill, Brown sand		0.0		
		GM	Brown silty sand and gravel, moist		0.0		50
		SM	Gray fine silty sand, moist to wet	B3-4.5	0.0		
5		GM	Brown silty sand and gravel, wet		0.0		
		GM	Gray-Brown sitly to siltbound sand and gravel, moist		0.0		80
10							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B4**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Asphalt				
			Fill, Brown sand		0.0		40
5		SM	Black silty sand, moist to wet	B4-4.5	0.3		
		GM	Gray silty sand and gravel, wet		0.0		100
		GM	Tan-Orange silty sand and gravel, wet		0.0		
10							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B5**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Topsoil		0.0		
			Brown sand and gravel to gray-brown silty sand and gravel, moist		0.0		40
5		SM	Gray fine silty sand	B5-7'	0.5		50
10		GM	Gray-brown silty sand and gravel, wet		0.0		100
15							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B6**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Topsoil		0.0		40
5			Brown silty sand and gravel, fill		0.0		0
10		SM	Gray fine silty sand / sandy silt, wet	B6-13'	6.8		100

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B7**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Topsoil		0.0		
			Brown sand and gravel, fill		0.0		0
5		GM	Black-gray stained silty sand and gravel, strong odor, moist to wet	B7-7'	525+		60
10		GM	Gray-orange silty sand and gravel, odor, wet				
		GM	Gray fine silty sand and gravel, odor, wet				80
15							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**		PROJECT NUMBER: **10949-02**	
LOCATION: **123 River Avenue S Buckley, WA**		BOREHOLE ID: **B8**	
DRILLING CONTRACTOR: **Holt**		CORE SIZE: **2"**	HAMMER DATA:
DRILLING EQUIPMENT: **Geoprobe 7822 DT**		GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**
DRILLING METHOD: **Direct Push**		TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Topsoil		0.0		
			Gray sand and gravel fill		0.0		
		SM	Gray to Gray-Blue stained sand	B8-5'	250+		60
5		SM	Black to gray fine silty sand, wet				60
10							

NOTES:

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PROJECT: **Buckley Library Phase II ESA**	PROJECT NUMBER: **10949-02**		
LOCATION: **123 River Avenue S Buckley, WA**	BOREHOLE ID: **B9**		
DRILLING CONTRACTOR: **Holt**	CORE SIZE: **2"**	HAMMER DATA:	
DRILLING EQUIPMENT: **Geoprobe 7822 DT**	GROUND SURFACE ELEV.:	BOREHOLE BACKFILL: **Bentonite**	
DRILLING METHOD: **Direct Push**	TOTAL DEPTH: **10'**	DEPTH TO WATER: **N/A**	
LOGGED BY: **MPB**	SAMPLING METHOD:	DATE STARTED: **6/1/2017**	DATE COMPLETED: **6/1/2017**

Depth (feet)	Groundwater Depth	USCS	Lithologic / Soil Description	Sample ID	PID Reading (ppm)	Blows / foot	% Recovery
0			Topsoil		0.0		
		GM	Brown sand and gravel		0.0		40
5		GM	Black sand and gravel	B9-6'	0.0		
		GM	Gray-orange mottled silty sand and gravel, moist to wet				80
		GM	Brown-gray mottled silty sand and gravel, wet				
10		SM	Brown-gray silty fine sand, wet				60
15							

NOTES:

Appendix B

Analytical Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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www.friedmanandbruya.com

June 28, 2017

Jason Cass, Project Manager
EHSI
1011 SW Klickitat Way, Suite 104
Seattle, WA 98134

Dear Mr Cass:

Included are the results from the testing of material submitted on June 19, 2017 from the Buckley Library, PO 10949, F&BI 706301 project. There are 11 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Stephanie Bolton, Kurt Easthouse, Mike Brady
EHS0628R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 19, 2017 by Friedman & Bruya, Inc. from the EHSI Buckley Library, PO 10949, F&BI 706301 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	EHSI
706301 -01	BLSG-1
706301 -02	BLSG-2

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BLSG-1	Client:	EHSI
Date Received:	06/19/17	Project:	Buckley Library, PO 10949
Date Collected:	06/19/17	Lab ID:	706301-01 1/2.5
Date Analyzed:	06/23/17	Data File:	062218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	660
APH EC9-12 aliphatics	620
APH EC9-10 aromatics	<120

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BLSG-2	Client:	EHSI
Date Received:	06/19/17	Project:	Buckley Library, PO 10949
Date Collected:	06/19/17	Lab ID:	706301-02 1/2.5
Date Analyzed:	06/23/17	Data File:	062219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	530
APH EC9-12 aliphatics	630
APH EC9-10 aromatics	<120

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	Buckley Library, PO 10949
Date Collected:	Not Applicable	Lab ID:	07-1294 mb
Date Analyzed:	06/22/17	Data File:	062207.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<46
APH EC9-12 aliphatics	<70
APH EC9-10 aromatics	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BLSG-1	Client:	EHSI
Date Received:	06/19/17	Project:	Buckley Library, PO 10949
Date Collected:	06/19/17	Lab ID:	706301-01 1/2.5
Date Analyzed:	06/23/17	Data File:	062218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Chlorodifluoromethane	1.4	0.39	1-Butanol	<15	<5
Propene	<1.7	<1	Carbon tetrachloride	<1.6	<0.25
Dichlorodifluoromethane	2.7	0.55	Benzene	1.6	0.49
Chloromethane	2.9	1.4	Cyclohexane	<17	<5
F-114	<1.7	<0.25	2-Pentanone	<8.8	<2.5
Isobutene	<2.3	<1	3-Pentanone	<8.8	<2.5
Acetaldehyde	32	18	Pentanal	<8.8	<2.5
Vinyl chloride	<0.64	<0.25	1,2-Dichloropropane	<1.2	<0.25
1,3-Butadiene	0.76	0.34	1,4-Dioxane	<0.9	<0.25
Bromomethane	<0.97	<0.25	Bromodichloromethane	<1.7	<0.25
Chloroethane	<0.66	<0.25	Trichloroethene	<1.3	<0.25
Ethanol	21	11	cis-1,3-Dichloropropene	<1.1	<0.25
Acetonitrile	<4.2	<2.5	4-Methyl-2-pentanone	<10	<2.5
Acrolein	<2.3	<1	trans-1,3-Dichloropropene	<1.1	<0.25
Acrylonitrile	<0.54	<0.25	Toluene	9.2	2.4
Pentane	<7.4	<2.5	1,1,2-Trichloroethane	<1.4	<0.25
Trichlorofluoromethane	7.4	1.3	3-Hexanone	<10	<2.5
Acetone	20	8.3	2-Hexanone	<10	<2.5
2-Propanol	34	14	Hexanal	<10	<2.5
Isoprene	<0.7	<0.25	Tetrachloroethene	<1.7	<0.25
Iodomethane	<1.5	<0.25	Dibromochloromethane	<2.1	<0.25
1,1-Dichloroethene	<0.99	<0.25	1,2-Dibromoethane (EDB)	<1.9	<0.25
Methacrolein	<7.2	<2.5	Chlorobenzene	<1.2	<0.25
trans-1,2-Dichloroethene	2.3	0.58	Ethylbenzene	2.1	0.48
Cyclopentane	<0.72	<0.25	1,1,2,2-Tetrachloroethane	<1.7	<0.25
Methyl vinyl ketone	<2.9	<1	m,p-Xylene	4.0	0.93
Butanal	<7.4	<2.5	o-Xylene	2.2	0.51
Methylene chloride	<220	<62	Styrene	<2.1	<0.5
CFC-113	<1.9	<0.25	Bromoform	<5.2	<0.5
Carbon disulfide	<16	<5	Benzyl chloride	<1.3	<0.25
Methyl t-butyl ether	<4.5	<1.2	1,3,5-Trimethylbenzene	<6.1	<1.2
Vinyl acetate	<18	<5	1,2,4-Trimethylbenzene	<6.1	<1.2
1,1-Dichloroethane	<1	<0.25	1,3-Dichlorobenzene	3.2	0.53
cis-1,2-Dichloroethene	<0.99	<0.25	1,4-Dichlorobenzene	<1.5	<0.25
Hexane	9.5	2.7	1,2,3-Trimethylbenzene	<6.1	<1.2
Chloroform	13	2.8	1,2-Dichlorobenzene	<3	<0.5
2-Butanone (MEK)	<7.4	<2.5	1,2,4-Trichlorobenzene	<1.9	<0.25
1,2-Dichloroethane (EDC)	<1	<0.25	Naphthalene	1.8	0.34
1,1,1-Trichloroethane	<1.4	<0.25	Hexachlorobutadiene	<2.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BLSG-2	Client:	EHSI
Date Received:	06/19/17	Project:	Buckley Library, PO 10949
Date Collected:	06/19/17	Lab ID:	706301-02 1/2.5
Date Analyzed:	06/23/17	Data File:	062219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Chlorodifluoromethane	1.3	0.36	1-Butanol	<15	<5
Propene	<1.7	<1	Carbon tetrachloride	<1.6	<0.25
Dichlorodifluoromethane	2.7	0.55	Benzene	1.0	0.32
Chloromethane	0.54	0.26	Cyclohexane	<17	<5
F-114	<1.7	<0.25	2-Pentanone	<8.8	<2.5
Isobutene	3.1	1.3	3-Pentanone	<8.8	<2.5
Acetaldehyde	44	25	Pentanal	<8.8	<2.5
Vinyl chloride	<0.64	<0.25	1,2-Dichloropropane	<1.2	<0.25
1,3-Butadiene	<0.55	<0.25	1,4-Dioxane	<0.9	<0.25
Bromomethane	<0.97	<0.25	Bromodichloromethane	<1.7	<0.25
Chloroethane	<0.66	<0.25	Trichloroethene	<1.3	<0.25
Ethanol	<19	<10	cis-1,3-Dichloropropene	<1.1	<0.25
Acetonitrile	<4.2	<2.5	4-Methyl-2-pentanone	<10	<2.5
Acrolein	<2.3	<1	trans-1,3-Dichloropropene	<1.1	<0.25
Acrylonitrile	<0.54	<0.25	Toluene	6.8	1.8
Pentane	<7.4	<2.5	1,1,2-Trichloroethane	<1.4	<0.25
Trichlorofluoromethane	2.0	0.35	3-Hexanone	<10	<2.5
Acetone	22	9.4	2-Hexanone	<10	<2.5
2-Propanol	23	9.4	Hexanal	<10	<2.5
Isoprene	<0.7	<0.25	Tetrachloroethene	<1.7	<0.25
Iodomethane	<1.5	<0.25	Dibromochloromethane	<2.1	<0.25
1,1-Dichloroethene	<0.99	<0.25	1,2-Dibromoethane (EDB)	<1.9	<0.25
Methacrolein	<7.2	<2.5	Chlorobenzene	<1.2	<0.25
trans-1,2-Dichloroethene	1.8	0.46	Ethylbenzene	<1.1	<0.25
Cyclopentane	<0.72	<0.25	1,1,2,2-Tetrachloroethane	<1.7	<0.25
Methyl vinyl ketone	<2.9	<1	m,p-Xylene	2.8	0.64
Butanal	<7.4	<2.5	o-Xylene	1.3	0.30
Methylene chloride	<220	<62	Styrene	<2.1	<0.5
CFC-113	<1.9	<0.25	Bromoform	<5.2	<0.5
Carbon disulfide	<16	<5	Benzyl chloride	<1.3	<0.25
Methyl t-butyl ether	<4.5	<1.2	1,3,5-Trimethylbenzene	<6.1	<1.2
Vinyl acetate	<18	<5	1,2,4-Trimethylbenzene	<6.1	<1.2
1,1-Dichloroethane	<1	<0.25	1,3-Dichlorobenzene	7.5	1.2
cis-1,2-Dichloroethene	<0.99	<0.25	1,4-Dichlorobenzene	<1.5	<0.25
Hexane	<8.8	<2.5	1,2,3-Trimethylbenzene	<6.1	<1.2
Chloroform	14	2.8	1,2-Dichlorobenzene	<3	<0.5
2-Butanone (MEK)	<7.4	<2.5	1,2,4-Trichlorobenzene	<1.9	<0.25
1,2-Dichloroethane (EDC)	<1	<0.25	Naphthalene	<1.3	<0.25
1,1,1-Trichloroethane	<1.4	<0.25	Hexachlorobutadiene	<2.7	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	Buckley Library, PO 10949
Date Collected:	Not Applicable	Lab ID:	07-1294 mb
Date Analyzed:	06/22/17	Data File:	062207.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration ug/m3	Concentration ppbv	Compounds:	Concentration ug/m3	Concentration ppbv
Chlorodifluoromethane	<0.35	<0.1	1-Butanol	<6.1	<2
Propene	<0.69	<0.4	Carbon tetrachloride	<0.63	<0.1
Dichlorodifluoromethane	<0.49	<0.1	Benzene	<0.32	<0.1
Chloromethane	<0.21	<0.1	Cyclohexane	<6.9	<2
F-114	<0.7	<0.1	2-Pentanone	<3.5	<1
Isobutene	<0.92	<0.4	3-Pentanone	<3.5	<1
Acetaldehyde	<9	<5	Pentanal	<3.5	<1
Vinyl chloride	<0.26	<0.1	1,2-Dichloropropane	<0.46	<0.1
1,3-Butadiene	<0.22	<0.1	1,4-Dioxane	<0.36	<0.1
Bromomethane	<0.39	<0.1	Bromodichloromethane	<0.67	<0.1
Chloroethane	<0.26	<0.1	Trichloroethene	<0.54	<0.1
Ethanol	<7.5	<4	cis-1,3-Dichloropropene	<0.45	<0.1
Acetonitrile	<1.7	<1	4-Methyl-2-pentanone	<4.1	<1
Acrolein	<0.92	<0.4	trans-1,3-Dichloropropene	<0.45	<0.1
Acrylonitrile	<0.22	<0.1	Toluene	<0.38	<0.1
Pentane	<3	<1	1,1,2-Trichloroethane	<0.55	<0.1
Trichlorofluoromethane	<0.56	<0.1	3-Hexanone	<4.1	<1
Acetone	<4.8	<2	2-Hexanone	<4.1	<1
2-Propanol	<8.6	<3.5	Hexanal	<4.1	<1
Isoprene	<0.28	<0.1	Tetrachloroethene	<0.68	<0.1
Iodomethane	<0.58	<0.1	Dibromochloromethane	<0.85	<0.1
1,1-Dichloroethene	<0.4	<0.1	1,2-Dibromoethane (EDB)	<0.77	<0.1
Methacrolein	<2.9	<1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Cyclopentane	<0.29	<0.1	1,1,2,2-Tetrachloroethane	<0.69	<0.1
Methyl vinyl ketone	<1.1	<0.4	m,p-Xylene	<0.87	<0.2
Butanal	<2.9	<1	o-Xylene	<0.43	<0.1
Methylene chloride	<87	<25	Styrene	<0.85	<0.2
CFC-113	<0.77	<0.1	Bromoform	<2.1	<0.2
Carbon disulfide	<6.2	<2	Benzyl chloride	<0.52	<0.1
Methyl t-butyl ether	<1.8	<0.5	1,3,5-Trimethylbenzene	<2.5	<0.5
Vinyl acetate	<7	<2	1,2,4-Trimethylbenzene	<2.5	<0.5
1,1-Dichloroethane	<0.4	<0.1	1,3-Dichlorobenzene	<1.2	<0.2
cis-1,2-Dichloroethene	<0.4	<0.1	1,4-Dichlorobenzene	<0.6	<0.1
Hexane	<3.5	<1	1,2,3-Trimethylbenzene	<2.5	<0.5
Chloroform	<0.49	<0.1	1,2-Dichlorobenzene	<1.2	<0.2
2-Butanone (MEK)	<2.9	<1	1,2,4-Trichlorobenzene	<0.74	<0.1
1,2-Dichloroethane (EDC)	<0.4	<0.1	Naphthalene	<0.52	<0.1
1,1,1-Trichloroethane	<0.55	<0.1	Hexachlorobutadiene	<1.1	<0.1

Date of Report: 06/28/17
Date Received: 06/19/17
Project: Buckley Library, PO 10949, F&BI 706301

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD APH

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	230	88	70-130
APH EC9-12 aliphatics	ug/m3	350	100	70-130
APH EC9-10 aromatics	ug/m3	251	98	70-130

Date of Report: 06/28/17
Date Received: 06/19/17
Project: Buckley Library, PO 10949, F&BI 706301

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chlorodifluoromethane	ppbv	10	103	70-130
Propene	ppbv	10	94	70-130
Dichlorodifluoromethane	ppbv	10	104	70-130
Chloromethane	ppbv	10	108	70-130
F-114	ppbv	10	111	70-130
Isobutene	ppbv	10	108	70-130
Acetaldehyde	ppbv	10	109	70-130
Vinyl chloride	ppbv	10	111	70-130
1,3-Butadiene	ppbv	10	110	70-130
Bromomethane	ppbv	10	108	70-130
Chloroethane	ppbv	10	114	70-130
Ethanol	ppbv	10	108	70-130
Acetonitrile	ppbv	10	114	70-130
Acrolein	ppbv	10	107	70-130
Acrylonitrile	ppbv	10	102	70-130
Pentane	ppbv	10	103	70-130
Trichlorofluoromethane	ppbv	10	105	70-130
Acetone	ppbv	10	98	70-130
2-Propanol	ppbv	10	103	70-130
Isoprene	ppbv	10	103	70-130
Iodomethane	ppbv	10	104	70-130
1,1-Dichloroethene	ppbv	10	102	70-130
Methacrolein	ppbv	10	102	70-130
trans-1,2-Dichloroethene	ppbv	10	106	70-130
Cyclopentane	ppbv	10	99	70-130
Methyl Vinyl Ketone	ppbv	10	94	70-130
Butanal	ppbv	10	104	70-130
Methylene chloride	ppbv	10	86	70-130
CFC-113	ppbv	10	104	70-130
Carbon disulfide	ppbv	10	104	70-130
Methyl t-butyl ether	ppbv	10	99	70-130
Vinyl acetate	ppbv	10	104	70-130
1,1-Dichloroethane	ppbv	10	106	70-130
cis-1,2-Dichloroethene	ppbv	10	105	70-130
Hexane	ppbv	10	100	70-130
Chloroform	ppbv	10	107	70-130
2-Butanone (MEK)	ppbv	10	100	70-130
1,2-Dichloroethane (EDC)	ppbv	10	107	70-130
1,1,1-Trichloroethane	ppbv	10	105	70-130
1-Butanol	ppbv	10	106	70-130
Carbon tetrachloride	ppbv	10	103	70-130

Date of Report: 06/28/17
Date Received: 06/19/17
Project: Buckley Library, PO 10949, F&BI 706301

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES FOR VOLATILES BY METHOD TO-15

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ppbv	10	104	70-130
Cyclohexane	ppbv	10	103	70-130
2-Pentanone	ppbv	10	106	70-130
3-Pentanone	ppbv	10	108	70-130
Pentanal	ppbv	10	97	70-130
1,2-Dichloropropane	ppbv	10	102	70-130
1,4-Dioxane	ppbv	10	102	70-130
Bromodichloromethane	ppbv	10	105	70-130
Trichloroethene	ppbv	10	102	70-130
cis-1,3-Dichloropropene	ppbv	10	105	70-130
4-Methyl-2-pentanone	ppbv	10	98	70-130
trans-1,3-Dichloropropene	ppbv	10	105	70-130
Toluene	ppbv	10	101	70-130
1,1,2-Trichloroethane	ppbv	10	101	70-130
3-Hexanone	ppbv	10	100	70-130
2-Hexanone	ppbv	10	107	70-130
Hexanal	ppbv	10	101	70-130
Tetrachloroethene	ppbv	10	102	70-130
Dibromochloromethane	ppbv	10	103	70-130
1,2-Dibromoethane (EDB)	ppbv	10	100	70-130
Chlorobenzene	ppbv	10	105	70-130
Ethylbenzene	ppbv	10	104	70-130
1,1,2,2,-Tetrachloroethane	ppbv	10	107	70-130
m,p-Xylene	ppbv	20	100	70-130
o-Xylene	ppbv	10	98	70-130
Styrene	ppbv	10	99	70-130
Bromoform	ppbv	10	101	70-130
Benzyl chloride	ppbv	10	110	70-130
1,3,5-Trimethylbenzene	ppbv	10	108	70-130
1,2,4-Trimethylbenzene	ppbv	10	107	70-130
1,3-Dichlorobenzene	ppbv	10	107	70-130
1,4-Dichlorobenzene	ppbv	10	107	70-130
1,2,3-Trimethylbenzene	ppbv	10	103	70-130
1,2-Dichlorobenzene	ppbv	10	106	70-130
1,2,4-Trichlorobenzene	ppbv	10	103	70-130
Naphthalene	ppbv	10	110	70-130
Hexachlorobutadiene	ppbv	10	101	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

706301

SAMPLE CHAIN OF CUSTODY

ME 06/19/17

Page # 1 of 1

Report To Jason Cass

Company EHSI

Address 1011 SW Klickitat Way, #104

City, State, ZIP Seattle, WA 98134

Phone (206) 381-1128 Email

SAMPLERS (signature) Jason Cass

PROJECT NAME: Buckley Library

PO #: 10949

REMARKS: ~~with call with direction~~

INVOICE TO

TURNAROUND TIME
- [x] Standard
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Contr. ID	Date Sampled	Field Initial Press. (Hg)	Field Initial Time	Field Final Press. (Hg)	Field Final Time	TO-15 Full Scan	TO-15 BTEXN	TO-15 cVOCs	APH	Notes
BLSG-1	01	FB03		6/19/17	27	13:50	4	14:01	X			X	X - per JC 6/20/17
BLSG-2	02	FB103		6/19/17	28	14:47	4	14:55	X			X	MG

Samples received at 23 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Jason Cass	Jason Cass	EHSI	6/19/17	16:40
Received by: Jon Shimazu	Jon Shimazu	FB&I	6/19/17	16:40
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
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fbi@isomedia.com
www.friedmanandbruya.com

June 14, 2017

Kurt Easthouse, Project Manager
EHSI
1011 SW Klickitat Way, Suite 104
Seattle, WA 98134

Dear Mr Easthouse:

Included are the results from the testing of material submitted on June 2, 2017 from the PCLS-Buckley, PO 10949, F&BI 706042 project. There are 128 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Stephanie Bolton, Mike Brady
EHS0614R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 2, 2017 by Friedman & Bruya, Inc. from the EHSI PCLS-Buckley, PO 10949, F&BI 706042 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	EHSI
706042 -01	MW-1
706042 -02	MW-2
706042 -03	MW-3
706042 -04	B1-6
706042 -05	B2-5.5
706042 -06	B2-W
706042 -07	B3-4.5
706042 -08	B3-W
706042 -09	B4-4.5
706042 -10	B4-7.5
706042 -11	B5-7'
706042 -12	B5-W
706042 -13	B6-13
706042 -14	B6-W
706042 -15	B7-7'
706042 -16	B7-W
706042 -17	B8-5
706042 -18	B8-W
706042 -19	B9-6
706042 -20	B9-15
706042 -21	B9-W

The reporting limits for samples B5-W and B9-W were raised for several analytes due to insufficient sample volume.

The 8270D calibration verification for nitroaniline and di-n-octyl-phthalate was outside of control limits. The data were qualified accordingly.

All quality control requirements were acceptable.

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/05/17 and 06/07/17
Date Analyzed: 06/05/17 and 06/07/17

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW-1 706042-01	<100	90
MW-2 706042-02	<100	94
MW-3 706042-03	<100	96
B2-W 706042-06	<100	97
B3-W 706042-08	<100	95
B5-W 706042-12	<100	96
B6-W 706042-14	800	85
B7-W 706042-16 1/20	8,400	85
B8-W 706042-18	770	116

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/05/17 and 06/07/17
Date Analyzed: 06/05/17 and 06/07/17

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
B9-W 706042-21	<100	83
Method Blank 07-1185 MB	<100	73
Method Blank 07-1189 MB	<100	96

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/05/17
Date Analyzed: 06/05/17

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B1-6 706042-04	<2	95
B2-5.5 706042-05	<2	93
B3-4.5 706042-07	<2	90
B4-4.5 706042-09	<2	90
B4-7.5 706042-10	<2	91
B5-7' 706042-11	<2	91
B6-13 706042-13	<2	92
B7-7' 706042-15 1/50	5,900	126
B8-5 706042-17 1/5	1,400	ip
B9-6 706042-19	<2	91

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/05/17
Date Analyzed: 06/05/17

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B9-15 706042-20	<2	90
Method Blank 07-1186 MB	<2	95

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/06/17
Date Analyzed: 06/06/17

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-1 706042-01	190 x	300 x	98
MW-2 706042-02	<50	<250	89
MW-3 706042-03	<50	<250	92
B2-W 706042-06	170 x	<250	91
B3-W 706042-08	350 x	570 x	93
B5-W 706042-12 1/2	<100	<500	93
B6-W 706042-14	650 x	250 x	94
B7-W 706042-16 1/4	2,000 x	<1,000	96
B8-W 706042-18	20,000	4,300 x	92
B9-W 706042-21 1/3.2	<160	<800	85
Method Blank 07-1211 MB	<50	<250	100

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/02/17
Date Analyzed: 06/02/17 and 06/05/17

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
B1-6 706042-04	<50	720	106
B2-5.5 706042-05	<50	<250	97
B3-4.5 706042-07	<50	<250	98
B4-4.5 706042-09	<50	<250	103
B4-7.5 706042-10	<50	<250	90
B5-7' 706042-11	<50	<250	94
B6-13 706042-13	<50	<250	95
B7-7' 706042-15	1,100	<250	98
B8-5 706042-17 1/10	170,000	5,400 x	ip
B9-6 706042-19	<50	<250	93

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042
Date Extracted: 06/02/17
Date Analyzed: 06/02/17 and 06/05/17

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
B9-15 706042-20	<50	<250	99
Method Blank 07-1179 MB2	<50	<250	92
Method Blank 07-1182 MB	<50	<250	89

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-1 f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-01
Date Analyzed:	06/05/17	Data File:	706042-01.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	19.3
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-2 f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-02
Date Analyzed:	06/05/17	Data File:	706042-02.090
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.19
Barium	4.96
Cadmium	<1
Chromium	1.30
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	MW-3 f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-03
Date Analyzed:	06/05/17	Data File:	706042-03.091
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	8.09
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	B2-W f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-06
Date Analyzed:	06/05/17	Data File:	706042-06.092
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	11.6
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	B3-W f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-08
Date Analyzed:	06/05/17	Data File:	706042-08.093
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.68
Barium	11.5
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	B5-W f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-12
Date Analyzed:	06/05/17	Data File:	706042-12.094
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	B6-W f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-14
Date Analyzed:	06/05/17	Data File:	706042-14.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	B8-W f	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-18
Date Analyzed:	06/05/17	Data File:	706042-18.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.59
Barium	46.4
Cadmium	<1
Chromium	1.11
Lead	1.32
Mercury	<1
Selenium	1.58
Silver	<1

Analysis For Dissolved Metals By EPA Method 6020A

Client ID:	Method Blank f	Client:	EHSI
Date Received:	NA	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	I7-305 mb
Date Analyzed:	06/06/17	Data File:	I7-305 mb.098
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	MW-1	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-01
Date Analyzed:	06/05/17	Data File:	706042-01.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	19.1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	MW-2	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-02
Date Analyzed:	06/05/17	Data File:	706042-02.102
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.64
Barium	6.81
Cadmium	<1
Chromium	1.39
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	MW-3	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-03
Date Analyzed:	06/05/17	Data File:	706042-03.105
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.60
Barium	22.9
Cadmium	<1
Chromium	1.95
Lead	3.96
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B2-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-06
Date Analyzed:	06/05/17	Data File:	706042-06.106
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.93
Barium	205
Cadmium	<1
Chromium	30.4 J
Lead	8.29
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B2-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-06 x10
Date Analyzed:	06/06/17	Data File:	706042-06 x10.032
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	35.7

Analysis For Total Metals By EPA Method 6020A

Client ID:	B3-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-08
Date Analyzed:	06/05/17	Data File:	706042-08.107
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	26.7
Barium	546
Cadmium	<1
Chromium	44.7 J
Lead	16.4
Mercury	<1
Selenium	1.04
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B3-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-08 x10
Date Analyzed:	06/06/17	Data File:	706042-08 x10.042
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	63.9

Analysis For Total Metals By EPA Method 6020A

Client ID:	B5-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-12
Date Analyzed:	06/05/17	Data File:	706042-12.108
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	24.3

Analysis For Total Metals By EPA Method 6020A

Client ID:	B6-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-14
Date Analyzed:	06/05/17	Data File:	706042-14.109
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	13.6

Analysis For Total Metals By EPA Method 6020A

Client ID:	B8-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-18
Date Analyzed:	06/05/17	Data File:	706042-18.110
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	49.7
Barium	435
Cadmium	6.76
Chromium	18.6
Lead	1,730 ve
Mercury	<1
Selenium	1.72
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B8-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-18 x10
Date Analyzed:	06/06/17	Data File:	706042-18 x10.053
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	1,950

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	EHSI
Date Received:	NA	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	I7-306 mb
Date Analyzed:	06/05/17	Data File:	I7-306 mb.081
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B1-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-04
Date Analyzed:	06/06/17	Data File:	706042-04.100
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.58
Barium	49.8
Cadmium	<1
Chromium	15.4
Lead	4.03
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B2-5.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-05
Date Analyzed:	06/06/17	Data File:	706042-05.101
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.15
Barium	37.2
Cadmium	<1
Chromium	13.3
Lead	4.67
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B3-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-07
Date Analyzed:	06/06/17	Data File:	706042-07.106
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.14
Barium	72.0
Cadmium	<1
Chromium	12.8
Lead	3.76
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B4-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-09
Date Analyzed:	06/06/17	Data File:	706042-09.107
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.15
Barium	89.0
Cadmium	<1
Chromium	13.2
Lead	14.1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B4-7.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-10
Date Analyzed:	06/06/17	Data File:	706042-10.108
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.21
Barium	62.1
Cadmium	<1
Chromium	9.62
Lead	2.83
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B5-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-11
Date Analyzed:	06/06/17	Data File:	706042-11.109
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.69

Analysis For Total Metals By EPA Method 6020A

Client ID:	B6-13	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-13
Date Analyzed:	06/06/17	Data File:	706042-13.110
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	2.28

Analysis For Total Metals By EPA Method 6020A

Client ID:	B7-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-15
Date Analyzed:	06/06/17	Data File:	706042-15.111
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	18.8

Analysis For Total Metals By EPA Method 6020A

Client ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-17
Date Analyzed:	06/06/17	Data File:	706042-17.123
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	17.2
Barium	510
Cadmium	3.33
Chromium	23.4
Lead	1,750 ve
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-17 x10
Date Analyzed:	06/06/17	Data File:	706042-17 x10.072
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Lead	1,770

Analysis For Total Metals By EPA Method 6020A

Client ID:	B9-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-19
Date Analyzed:	06/06/17	Data File:	706042-19.124
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.02
Barium	70.6
Cadmium	<1
Chromium	13.1
Lead	32.8
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	B9-15	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-20
Date Analyzed:	06/06/17	Data File:	706042-20.125
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.42
Barium	28.1
Cadmium	<1
Chromium	10.4
Lead	3.15
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020A

Client ID:	Method Blank	Client:	EHSI
Date Received:	NA	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	I7-307 mb
Date Analyzed:	06/06/17	Data File:	I7-307 mb.040
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B1-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-04
Date Analyzed:	06/02/17	Data File:	060243.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	111	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B2-5.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-05
Date Analyzed:	06/02/17	Data File:	060244.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	110	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B3-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-07
Date Analyzed:	06/02/17	Data File:	060245.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	112	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B4-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-09
Date Analyzed:	06/03/17	Data File:	060246.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	110	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B4-7.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-10
Date Analyzed:	06/03/17	Data File:	060247.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	108	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B5-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-11
Date Analyzed:	06/03/17	Data File:	060248.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	106	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B6-13	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-13
Date Analyzed:	06/03/17	Data File:	060249.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	107	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B7-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-15
Date Analyzed:	06/06/17	Data File:	060605.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	142
Toluene-d8	100	55	145
4-Bromofluorobenzene	96	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	44 ve
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	180 ve
Hexane	2.3	o-Xylene	13
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	4.1
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	14
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	27
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	91 ve
Benzene	3.3	sec-Butylbenzene	1.2
Trichloroethene	<0.02	p-Isopropyltoluene	1.0
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.84	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	37 ve
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B7-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-15 1/100
Date Analyzed:	06/05/17	Data File:	060518.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<50	1,3-Dichloropropane	<5
Chloromethane	<50	Tetrachloroethene	<2.5
Vinyl chloride	<5	Dibromochloromethane	<5
Bromomethane	<50	1,2-Dibromoethane (EDB)	<5
Chloroethane	<50	Chlorobenzene	<5
Trichlorofluoromethane	<50	Ethylbenzene	52
Acetone	<50	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	<5	m,p-Xylene	220
Hexane	<25	o-Xylene	15
Methylene chloride	<50	Styrene	<5
Methyl t-butyl ether (MTBE)	<5	Isopropylbenzene	<5
trans-1,2-Dichloroethene	<5	Bromoform	<5
1,1-Dichloroethane	<5	n-Propylbenzene	17
2,2-Dichloropropane	<5	Bromobenzene	<5
cis-1,2-Dichloroethene	<5	1,3,5-Trimethylbenzene	33
Chloroform	<5	1,1,2,2-Tetrachloroethane	<5
2-Butanone (MEK)	<50	1,2,3-Trichloropropane	<5
1,2-Dichloroethane (EDC)	<5	2-Chlorotoluene	<5
1,1,1-Trichloroethane	<5	4-Chlorotoluene	<5
1,1-Dichloropropene	<5	tert-Butylbenzene	<5
Carbon tetrachloride	<5	1,2,4-Trimethylbenzene	120
Benzene	4.0	sec-Butylbenzene	<5
Trichloroethene	<2	p-Isopropyltoluene	<5
1,2-Dichloropropane	<5	1,3-Dichlorobenzene	<5
Bromodichloromethane	<5	1,4-Dichlorobenzene	<5
Dibromomethane	<5	1,2-Dichlorobenzene	<5
4-Methyl-2-pentanone	<50	1,2-Dibromo-3-chloropropane	<50
cis-1,3-Dichloropropene	<5	1,2,4-Trichlorobenzene	<25
Toluene	<5	Hexachlorobutadiene	<25
trans-1,3-Dichloropropene	<5	Naphthalene	39
1,1,2-Trichloroethane	<5	1,2,3-Trichlorobenzene	<25
2-Hexanone	<50		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-17
Date Analyzed:	06/05/17	Data File:	060515.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	0.17
Acetone	0.61	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	2.1
Hexane	0.34	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	1.9
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	3.1
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	0.15
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	14
Benzene	0.70	sec-Butylbenzene	1.7
Trichloroethene	<0.02	p-Isopropyltoluene	1.6
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	0.16	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	30
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B9-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-19
Date Analyzed:	06/05/17	Data File:	060526.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	103	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B9-15	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-20
Date Analyzed:	06/05/17	Data File:	060527.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	142
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	07-1159 mb
Date Analyzed:	06/02/17	Data File:	060211.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	101	55	145
4-Bromofluorobenzene	100	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-1	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-01
Date Analyzed:	06/02/17	Data File:	060230.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-2	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-02
Date Analyzed:	06/02/17	Data File:	060231.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-3	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-03
Date Analyzed:	06/02/17	Data File:	060232.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B2-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-06
Date Analyzed:	06/02/17	Data File:	060233.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B3-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-08
Date Analyzed:	06/02/17	Data File:	060234.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B5-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-12
Date Analyzed:	06/02/17	Data File:	060235.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	16	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromom ethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B6-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-14
Date Analyzed:	06/02/17	Data File:	060236.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	3.5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	11
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	25
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	0.64	sec-Butylbenzene	3.7
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	13
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B7-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-16
Date Analyzed:	06/02/17	Data File:	060218.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	510 ve
Acetone	58	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	1,400 ve
Hexane	37	o-Xylene	130
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	24
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	30
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	30
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	35	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	75
Benzene	650 ve	sec-Butylbenzene	1.4
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	51	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	8.6
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B7-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-16 1/10
Date Analyzed:	06/05/17	Data File:	060514.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	<10
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	730
Acetone	<100	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	1,900
Hexane	31	o-Xylene	130
Methylene chloride	<50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	24
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	30
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	<10	1,3,5-Trimethylbenzene	29
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	74
Benzene	900	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	50	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	12
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B8-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-18
Date Analyzed:	06/05/17	Data File:	060513.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	2.7
Acetone	15	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	15
Hexane	<1	o-Xylene	1.4
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	5.8
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	7.3
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	1.1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	61
Benzene	13	sec-Butylbenzene	2.8
Trichloroethene	<1	p-Isopropyltoluene	3.5
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	87
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B9-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-21
Date Analyzed:	06/02/17	Data File:	060220.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	11	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	07-1162 mb
Date Analyzed:	06/02/17	Data File:	060217.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/12/17	Lab ID:	706042-17 1/250
Date Analyzed:	06/12/17	Data File:	061206.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	57 d	56	115
Phenol-d6	65 d	54	113
Nitrobenzene-d5	1279 d	31	164
2-Fluorobiphenyl	82 d	47	133
2,4,6-Tribromophenol	76 d	35	141
Terphenyl-d14	112 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	Hexachlorocyclopentadiene	<7.5
Bis(2-chloroethyl) ether	<2.5	2,4,6-Trichlorophenol	<25
2-Chlorophenol	<25	2,4,5-Trichlorophenol	<25
1,3-Dichlorobenzene	<2.5	2-Chloronaphthalene	<2.5
1,4-Dichlorobenzene	<2.5	2-Nitroaniline	<12
1,2-Dichlorobenzene	<2.5	Dimethyl phthalate	<25
Benzyl alcohol	<25	2,6-Dinitrotoluene	<12
2,2'-Oxybis(1-chloropropane)	<2.5	3-Nitroaniline	<250
2-Methylphenol	<25	2,4-Dinitrophenol	<75
Hexachloroethane	<2.5	Dibenzofuran	16
N-Nitroso-di-n-propylamine	<2.5	2,4-Dinitrotoluene	<12
3-Methylphenol + 4-Methylphenol	<50	4-Nitrophenol	<75
Nitrobenzene	<2.5	Diethyl phthalate	<25
Isophorone	<2.5	4-Chlorophenyl phenyl ether	<2.5
2-Nitrophenol	<25	N-Nitrosodiphenylamine	<2.5
2,4-Dimethylphenol	<25	4-Nitroaniline	<250 ca
Benzoic acid	<120	4,6-Dinitro-2-methylphenol	<75
Bis(2-chloroethoxy)methane	<2.5	4-Bromophenyl phenyl ether	<2.5
2,4-Dichlorophenol	<25	Hexachlorobenzene	<2.5
1,2,4-Trichlorobenzene	<2.5	Pentachlorophenol	<25
Hexachlorobutadiene	<2.5	Carbazole	<25
4-Chloroaniline	<250	Di-n-butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benzyl butyl phthalate	<25
2-Methylnaphthalene	630 ve	Bis(2-ethylhexyl) phthalate	<40
1-Methylnaphthalene	480 ve	Di-n-octyl phthalate	<25 ca

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/12/17	Lab ID:	706042-17 1/500
Date Analyzed:	06/12/17	Data File:	061207.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	60 d	56	115
Phenol-d6	73 d	54	113
Nitrobenzene-d5	520 d	31	164
2-Fluorobiphenyl	110 d	47	133
2,4,6-Tribromophenol	80 d	35	141
Terphenyl-d14	120 d	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<50	Hexachlorocyclopentadiene	<15
Bis(2-chloroethyl) ether	<5	2,4,6-Trichlorophenol	<50
2-Chlorophenol	<50	2,4,5-Trichlorophenol	<50
1,3-Dichlorobenzene	<5	2-Chloronaphthalene	<5
1,4-Dichlorobenzene	<5	2-Nitroaniline	<25
1,2-Dichlorobenzene	<5	Dimethyl phthalate	<50
Benzyl alcohol	<50	2,6-Dinitrotoluene	<25
2,2'-Oxybis(1-chloropropane)	<5	3-Nitroaniline	<500
2-Methylphenol	<50	2,4-Dinitrophenol	<150
Hexachloroethane	<5	Dibenzofuran	19
N-Nitroso-di-n-propylamine	<5	2,4-Dinitrotoluene	<25
3-Methylphenol + 4-Methylphenol	<100	4-Nitrophenol	<150
Nitrobenzene	<5	Diethyl phthalate	<50
Isophorone	<5	4-Chlorophenyl phenyl ether	<5
2-Nitrophenol	<50	N-Nitrosodiphenylamine	<5
2,4-Dimethylphenol	<50	4-Nitroaniline	<500 ca
Benzoic acid	<250	4,6-Dinitro-2-methylphenol	<150
Bis(2-chloroethoxy)methane	<5	4-Bromophenyl phenyl ether	<5
2,4-Dichlorophenol	<50	Hexachlorobenzene	<5
1,2,4-Trichlorobenzene	<5	Pentachlorophenol	<50
Hexachlorobutadiene	<5	Carbazole	<50
4-Chloroaniline	<500	Di-n-butyl phthalate	<50
4-Chloro-3-methylphenol	<50	Benzyl butyl phthalate	<50
2-Methylnaphthalene	710	Bis(2-ethylhexyl) phthalate	<80
1-Methylnaphthalene	540	Di-n-octyl phthalate	<50 ca

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/12/17	Lab ID:	07-1242 mb
Date Analyzed:	06/12/17	Data File:	061205.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	109	56	115
Phenol-d6	94	54	113
Nitrobenzene-d5	100	31	164
2-Fluorobiphenyl	100	47	133
2,4,6-Tribromophenol	100	35	141
Terphenyl-d14	103	24	188

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	Hexachlorocyclopentadiene	<0.03
Bis(2-chloroethyl) ether	<0.01	2,4,6-Trichlorophenol	<0.1
2-Chlorophenol	<0.1	2,4,5-Trichlorophenol	<0.1
1,3-Dichlorobenzene	<0.01	2-Chloronaphthalene	<0.01
1,4-Dichlorobenzene	<0.01	2-Nitroaniline	<0.05
1,2-Dichlorobenzene	<0.01	Dimethyl phthalate	<0.1
Benzyl alcohol	<0.1	2,6-Dinitrotoluene	<0.05
2,2'-Oxybis(1-chloropropane)	<0.01	3-Nitroaniline	<1
2-Methylphenol	<0.1	2,4-Dinitrophenol	<0.3
Hexachloroethane	<0.01	Dibenzofuran	<0.01
N-Nitroso-di-n-propylamine	<0.01	2,4-Dinitrotoluene	<0.05
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitrophenol	<0.3
Nitrobenzene	<0.01	Diethyl phthalate	<0.1
Isophorone	<0.01	4-Chlorophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	N-Nitrosodiphenylamine	<0.01
2,4-Dimethylphenol	<0.1	4-Nitroaniline	<1 ca
Benzoic acid	<0.5	4,6-Dinitro-2-methylphenol	<0.3
Bis(2-chloroethoxy)methane	<0.01	4-Bromophenyl phenyl ether	<0.01
2,4-Dichlorophenol	<0.1	Hexachlorobenzene	<0.01
1,2,4-Trichlorobenzene	<0.01	Pentachlorophenol	<0.1
Hexachlorobutadiene	<0.01	Carbazole	<0.1
4-Chloroaniline	<1	Di-n-butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benzyl butyl phthalate	<0.1
2-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.16
1-Methylnaphthalene	<0.01	Di-n-octyl phthalate	<0.1 ca

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B1-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-04 1/50
Date Analyzed:	06/05/17	Data File:	060504.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	141 d	31	163
Benzo(a)anthracene-d12	135 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	0.13
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B2-5.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-05 1/5
Date Analyzed:	06/02/17	Data File:	060212.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	110	31	163
Benzo(a)anthracene-d12	124	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B3-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-07 1/5
Date Analyzed:	06/02/17	Data File:	060213.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	31	163
Benzo(a)anthracene-d12	119	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B4-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-09 1/5
Date Analyzed:	06/03/17	Data File:	060214.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	31	163
Benzo(a)anthracene-d12	110	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.014
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.018
Anthracene	<0.01
Fluoranthene	0.029
Pyrene	0.028
Benz(a)anthracene	0.014
Chrysene	0.016
Benzo(a)pyrene	0.015
Benzo(b)fluoranthene	0.017
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B4-7.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-10 1/5
Date Analyzed:	06/03/17	Data File:	060215.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	31	163
Benzo(a)anthracene-d12	113	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B5-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-11 1/5
Date Analyzed:	06/03/17	Data File:	060216.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	31	163
Benzo(a)anthracene-d12	113	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B6-13	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-13 1/5
Date Analyzed:	06/03/17	Data File:	060217.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	163
Benzo(a)anthracene-d12	110	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B7-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-15 1/5
Date Analyzed:	06/03/17	Data File:	060218.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	31	163
Benzo(a)anthracene-d12	117	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	28 ve
Acenaphthylene	<0.01
Acenaphthene	0.055
Fluorene	0.073
Phenanthrene	0.10
Anthracene	0.023
Fluoranthene	0.020
Pyrene	0.027
Benz(a)anthracene	<0.01
Chrysene	0.010
Benzo(a)pyrene	0.013
Benzo(b)fluoranthene	0.013
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.012

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B7-7'	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-15 1/500
Date Analyzed:	06/05/17	Data File:	060503.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	314 d	31	163
Benzo(a)anthracene-d12	140 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	50
Acenaphthylene	<1
Acenaphthene	<1
Fluorene	<1
Phenanthrene	<1
Anthracene	<1
Fluoranthene	<1
Pyrene	<1
Benz(a)anthracene	<1
Chrysene	<1
Benzo(a)pyrene	<1
Benzo(b)fluoranthene	<1
Benzo(k)fluoranthene	<1
Indeno(1,2,3-cd)pyrene	<1
Dibenz(a,h)anthracene	<1
Benzo(g,h,i)perylene	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-17 1/50
Date Analyzed:	06/03/17	Data File:	060224.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	132 d	31	163
Benzo(a)anthracene-d12	109 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	47 ve
Acenaphthylene	<0.1
Acenaphthene	3.6
Fluorene	8.4
Phenanthrene	16
Anthracene	<0.1
Fluoranthene	0.38
Pyrene	1.2
Benz(a)anthracene	<0.1
Chrysene	0.22
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	0.11
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	0.11

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-17 1/250
Date Analyzed:	06/03/17	Data File:	060222.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	219 d	31	163
Benzo(a)anthracene-d12	103 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	44
Acenaphthylene	<0.5
Acenaphthene	3.0
Fluorene	10
Phenanthrene	15
Anthracene	<0.5
Fluoranthene	<0.5
Pyrene	1.3
Benz(a)anthracene	<0.5
Chrysene	<0.5
Benzo(a)pyrene	<0.5
Benzo(b)fluoranthene	<0.5
Benzo(k)fluoranthene	<0.5
Indeno(1,2,3-cd)pyrene	<0.5
Dibenz(a,h)anthracene	<0.5
Benzo(g,h,i)perylene	<0.5

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B9-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-19 1/5
Date Analyzed:	06/07/17	Data File:	060725.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	31	163
Benzo(a)anthracene-d12	114	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.027
Anthracene	<0.01
Fluoranthene	0.036
Pyrene	0.041
Benz(a)anthracene	0.016
Chrysene	0.021
Benzo(a)pyrene	0.018
Benzo(b)fluoranthene	0.023
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.013
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.013

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B9-15	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	706042-20 1/5
Date Analyzed:	06/03/17	Data File:	060220.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	104	31	163
Benzo(a)anthracene-d12	121	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/02/17	Lab ID:	07-1184 mb 1/5
Date Analyzed:	06/02/17	Data File:	060205.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	31	163
Benzo(a)anthracene-d12	118	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-1	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-01 1/2
Date Analyzed:	06/07/17	Data File:	060707.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	160
Benzo(a)anthracene-d12	96	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-2	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-02 1/2
Date Analyzed:	06/07/17	Data File:	060708.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	160
Benzo(a)anthracene-d12	98	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	MW-3	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-03 1/2
Date Analyzed:	06/07/17	Data File:	060709.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	160
Benzo(a)anthracene-d12	100	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B2-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-06 1/2
Date Analyzed:	06/07/17	Data File:	060710.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	31	160
Benzo(a)anthracene-d12	94	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B3-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-08 1/2
Date Analyzed:	06/07/17	Data File:	060711.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	160
Benzo(a)anthracene-d12	93	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B5-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-12 1/2
Date Analyzed:	06/07/17	Data File:	060712.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	91	31	160
Benzo(a)anthracene-d12	96	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.06
Acenaphthylene	<0.06
Acenaphthene	<0.06
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B6-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-14 1/2
Date Analyzed:	06/07/17	Data File:	060713.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	92	31	160
Benzo(a)anthracene-d12	92	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	4.5
Acenaphthylene	<0.06
Acenaphthene	0.078
Fluorene	<0.06
Phenanthrene	<0.06
Anthracene	<0.06
Fluoranthene	<0.06
Pyrene	<0.06
Benz(a)anthracene	<0.06
Chrysene	<0.06
Benzo(a)pyrene	<0.06
Benzo(b)fluoranthene	<0.06
Benzo(k)fluoranthene	<0.06
Indeno(1,2,3-cd)pyrene	<0.06
Dibenz(a,h)anthracene	<0.06
Benzo(g,h,i)perylene	<0.06

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	B8-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-18 1/10
Date Analyzed:	06/07/17	Data File:	060714.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	78	31	160
Benzo(a)anthracene-d12	82	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	43
Acenaphthylene	<0.3
Acenaphthene	1.9
Fluorene	7.6
Phenanthrene	12
Anthracene	<0.3
Fluoranthene	<0.3
Pyrene	0.69
Benz(a)anthracene	<0.3
Chrysene	<0.3
Benzo(a)pyrene	<0.3
Benzo(b)fluoranthene	<0.3
Benzo(k)fluoranthene	<0.3
Indeno(1,2,3-cd)pyrene	<0.3
Dibenz(a,h)anthracene	<0.3
Benzo(g,h,i)perylene	<0.3

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	07-1210 mb
Date Analyzed:	06/07/17	Data File:	060706.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	160
Benzo(a)anthracene-d12	97	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.03
Acenaphthylene	<0.03
Acenaphthene	<0.03
Fluorene	<0.03
Phenanthrene	<0.03
Anthracene	<0.03
Fluoranthene	<0.03
Pyrene	<0.03
Benz(a)anthracene	<0.03
Chrysene	<0.03
Benzo(a)pyrene	<0.03
Benzo(b)fluoranthene	<0.03
Benzo(k)fluoranthene	<0.03
Indeno(1,2,3-cd)pyrene	<0.03
Dibenz(a,h)anthracene	<0.03
Benzo(g,h,i)perylene	<0.03

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B1-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-04 1/50
Date Analyzed:	06/06/17	Data File:	060523.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	55 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B2-5.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-05 1/50
Date Analyzed:	06/05/17	Data File:	060515.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	65 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B3-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-07 1/50
Date Analyzed:	06/05/17	Data File:	060508.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	65 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B4-4.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-09 1/50
Date Analyzed:	06/05/17	Data File:	060511.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	55 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B4-7.5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-10 1/50
Date Analyzed:	06/05/17	Data File:	060512.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	55 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B8-5	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-17 1/100
Date Analyzed:	06/06/17	Data File:	060522.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	50 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	<0.4
Aroclor 1262	<0.4
Aroclor 1268	<0.4

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B9-6	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-19 1/50
Date Analyzed:	06/05/17	Data File:	060513.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	65 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B9-15	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	706042-20 1/50
Date Analyzed:	06/05/17	Data File:	060514.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	55 d	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.2
Aroclor 1232	<0.2
Aroclor 1016	<0.2
Aroclor 1242	<0.2
Aroclor 1248	<0.2
Aroclor 1254	<0.2
Aroclor 1260	<0.2
Aroclor 1262	<0.2
Aroclor 1268	<0.2

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/05/17	Lab ID:	07-1203 mb 1/5
Date Analyzed:	06/05/17	Data File:	060507.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	73	29	154

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-1	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-01
Date Analyzed:	06/07/17	Data File:	060707.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	52	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-2	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-02
Date Analyzed:	06/07/17	Data File:	060708.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	47	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-3	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-03
Date Analyzed:	06/07/17	Data File:	060709.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	49	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B2-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-06
Date Analyzed:	06/07/17	Data File:	060710.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	46	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B3-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-08
Date Analyzed:	06/07/17	Data File:	060711.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	47	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B8-W	Client:	EHSI
Date Received:	06/02/17	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	706042-18 1/4
Date Analyzed:	06/07/17	Data File:	060712.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	45	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.4
Aroclor 1232	<0.4
Aroclor 1016	<0.4
Aroclor 1242	<0.4
Aroclor 1248	<0.4
Aroclor 1254	<0.4
Aroclor 1260	<0.4
Aroclor 1262	<0.4
Aroclor 1268	<0.4

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	EHSI
Date Received:	Not Applicable	Project:	PCLS-Buckley, PO 10949
Date Extracted:	06/06/17	Lab ID:	07-1212 mb
Date Analyzed:	06/07/17	Data File:	060706.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	48	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 706016-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	78	69-134

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 706042-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	70-119

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 706042-04 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<2	3	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	85	71-131

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	90	92	63-142	2

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 706023-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	97	96	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	97	79-144

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 706033-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	101	73-135	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	99	74-139

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020A

Laboratory Code: 706042-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	101	103	75-125	2
Barium	ug/L (ppb)	50	19.3	105	105	75-125	0
Cadmium	ug/L (ppb)	5	<1	101	104	75-125	3
Chromium	ug/L (ppb)	20	<1	101	105	75-125	4
Lead	ug/L (ppb)	10	<1	96	98	75-125	2
Mercury	ug/L (ppb)	5	<1	97	101	75-125	4
Selenium	ug/L (ppb)	5	<1	103	106	75-125	3
Silver	ug/L (ppb)	5	<1	94	96	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	85	80-120
Barium	ug/L (ppb)	50	90	80-120
Cadmium	ug/L (ppb)	5	92	80-120
Chromium	ug/L (ppb)	20	96	80-120
Lead	ug/L (ppb)	10	94	80-120
Mercury	ug/L (ppb)	5	92	80-120
Selenium	ug/L (ppb)	5	92	80-120
Silver	ug/L (ppb)	5	92	80-120

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020A

Laboratory Code: 706042-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	2.64	111	113	75-125	2
Barium	ug/L (ppb)	50	6.81	106	108	75-125	2
Cadmium	ug/L (ppb)	5	<1	102	102	75-125	0
Chromium	ug/L (ppb)	20	1.39	107	108	75-125	1
Lead	ug/L (ppb)	10	<1	97	99	75-125	2
Mercury	ug/L (ppb)	5	<1	99	101	75-125	2
Selenium	ug/L (ppb)	5	<1	104	99	75-125	5
Silver	ug/L (ppb)	5	<1	94	95	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	80-120
Barium	ug/L (ppb)	50	96	80-120
Cadmium	ug/L (ppb)	5	100	80-120
Chromium	ug/L (ppb)	20	104	80-120
Lead	ug/L (ppb)	10	102	80-120
Mercury	ug/L (ppb)	5	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	98	80-120

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020A

Laboratory Code: 706041-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	4.52	96	95	75-125	1
Barium	mg/kg (ppm)	50	109	92	85	75-125	8
Cadmium	mg/kg (ppm)	10	<1	93	91	75-125	2
Chromium	mg/kg (ppm)	50	21.7	90	91	75-125	1
Lead	mg/kg (ppm)	50	49.0	62 b	97 b	75-125	44 b
Mercury	mg/kg (ppm	5	<1	82	87	75-125	6
Selenium	mg/kg (ppm)	5	<1	85	85	75-125	0
Silver	mg/kg (ppm)	10	<1	84	84	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	100	80-120
Barium	mg/kg (ppm)	50	106	80-120
Cadmium	mg/kg (ppm)	10	102	80-120
Chromium	mg/kg (ppm)	50	105	80-120
Lead	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	100	80-120
Selenium	mg/kg (ppm)	5	102	80-120
Silver	mg/kg (ppm)	10	100	80-120

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 706028-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	14	10-142
Chloromethane	mg/kg (ppm)	2.5	<0.5	44	10-126
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	44	10-138
Bromomethane	mg/kg (ppm)	2.5	<0.5	54	10-163
Chloroethane	mg/kg (ppm)	2.5	<0.5	57	10-176
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	48	10-176
Acetone	mg/kg (ppm)	12.5	<0.5	79	10-163
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	60	10-160
Hexane	mg/kg (ppm)	2.5	<0.25	41	10-137
Methylene chloride	mg/kg (ppm)	2.5	<0.5	76	10-156
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	79	21-145
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	73	14-137
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	74	19-140
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	79	10-158
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	79	25-135
Chloroform	mg/kg (ppm)	2.5	<0.05	79	21-145
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	88	19-147
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	80	12-160
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	74	10-156
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	72	17-140
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	73	9-164
Benzene	mg/kg (ppm)	2.5	<0.03	76	29-129
Trichloroethene	mg/kg (ppm)	2.5	<0.02	77	21-139
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	81	30-135
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	83	23-155
Dibromomethane	mg/kg (ppm)	2.5	<0.05	83	23-145
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	83	24-155
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	83	28-144
Toluene	mg/kg (ppm)	2.5	<0.05	75	35-130
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	86	26-149
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	82	10-205
2-Hexanone	mg/kg (ppm)	12.5	<0.5	85	15-166
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	82	31-137
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	78	20-133
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	84	28-150
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	83	28-142
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	81	32-129
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	80	32-137
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	31-143
m,p-Xylene	mg/kg (ppm)	5	<0.1	81	34-136
o-Xylene	mg/kg (ppm)	2.5	<0.05	80	33-134
Styrene	mg/kg (ppm)	2.5	<0.05	82	35-137
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	80	31-142
Bromoform	mg/kg (ppm)	2.5	<0.05	82	21-156
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	80	23-146
Bromobenzene	mg/kg (ppm)	2.5	<0.05	83	34-130
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	80	18-149
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	83	28-140
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	82	25-144
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	80	31-134
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	80	31-136
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	80	30-137
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	80	10-182
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	79	23-145
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	81	21-149
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	81	30-131
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	79	29-129
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	81	31-132
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	81	11-161
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	80	22-142
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	81	10-142
Naphthalene	mg/kg (ppm)	2.5	<0.05	82	14-157
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	81	20-144

Date of Report: 06/14/17
Date Received: 06/02/17
Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	48	49	10-146	2
Chloromethane	mg/kg (ppm)	2.5	72	73	27-133	1
Vinyl chloride	mg/kg (ppm)	2.5	78	78	22-139	0
Bromomethane	mg/kg (ppm)	2.5	86	88	38-114	2
Chloroethane	mg/kg (ppm)	2.5	89	89	10-163	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	89	92	10-196	3
Acetone	mg/kg (ppm)	12.5	103	103	52-141	0
1,1-Dichloroethene	mg/kg (ppm)	2.5	94	94	47-128	0
Hexane	mg/kg (ppm)	2.5	91	90	43-142	1
Methylene chloride	mg/kg (ppm)	2.5	101	102	42-132	1
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	101	101	60-123	0
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	101	67-127	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	98	98	68-115	0
2,2-Dichloropropane	mg/kg (ppm)	2.5	105	105	52-170	0
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	102	72-113	2
Chloroform	mg/kg (ppm)	2.5	102	102	66-120	0
2-Butanone (MEK)	mg/kg (ppm)	12.5	110	112	57-123	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	101	102	56-135	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	101	102	62-131	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	99	100	69-128	1
Carbon tetrachloride	mg/kg (ppm)	2.5	102	101	60-139	1
Benzene	mg/kg (ppm)	2.5	99	100	68-114	1
Trichloroethene	mg/kg (ppm)	2.5	99	101	64-117	2
1,2-Dichloropropane	mg/kg (ppm)	2.5	104	105	72-127	1
Bromodichloromethane	mg/kg (ppm)	2.5	105	106	72-130	1
Dibromomethane	mg/kg (ppm)	2.5	105	106	70-120	1
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	102	106	45-145	4
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	108	75-136	2
Toluene	mg/kg (ppm)	2.5	96	97	66-126	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	109	72-132	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	101	103	75-113	2
2-Hexanone	mg/kg (ppm)	12.5	106	110	33-152	4
1,3-Dichloropropane	mg/kg (ppm)	2.5	103	105	72-130	2
Tetrachloroethene	mg/kg (ppm)	2.5	100	101	72-114	1
Dibromochloromethane	mg/kg (ppm)	2.5	107	107	74-125	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	104	106	74-132	2
Chlorobenzene	mg/kg (ppm)	2.5	101	102	76-111	1
Ethylbenzene	mg/kg (ppm)	2.5	101	102	64-123	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	105	105	69-135	0
m,p-Xylene	mg/kg (ppm)	5	102	103	78-122	1
o-Xylene	mg/kg (ppm)	2.5	100	101	77-124	1
Styrene	mg/kg (ppm)	2.5	103	104	74-126	1
Isopropylbenzene	mg/kg (ppm)	2.5	99	101	76-127	2
Bromoform	mg/kg (ppm)	2.5	107	106	56-132	1
n-Propylbenzene	mg/kg (ppm)	2.5	99	101	74-124	2
Bromobenzene	mg/kg (ppm)	2.5	102	105	72-122	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	99	101	76-126	2
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	103	105	56-143	2
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	99	102	61-137	3
2-Chlorotoluene	mg/kg (ppm)	2.5	98	102	74-121	4
4-Chlorotoluene	mg/kg (ppm)	2.5	99	101	75-122	2
tert-Butylbenzene	mg/kg (ppm)	2.5	99	102	73-130	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	102	76-125	2
sec-Butylbenzene	mg/kg (ppm)	2.5	98	101	71-130	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	100	103	70-132	3
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	100	103	75-121	3
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	98	101	74-117	3
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	99	104	76-121	5
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	101	106	58-138	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	97	102	64-135	5
Hexachlorobutadiene	mg/kg (ppm)	2.5	98	102	50-153	4
Naphthalene	mg/kg (ppm)	2.5	99	105	63-140	6
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	97	102	63-138	5

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Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 706048-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	102	10-172
Chloromethane	ug/L (ppb)	50	<10	101	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	99	36-166
Bromomethane	ug/L (ppb)	50	<1	109	47-169
Chloroethane	ug/L (ppb)	50	<1	104	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	104	44-165
Acetone	ug/L (ppb)	250	<10	100	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	98	60-136
Hexane	ug/L (ppb)	50	<1	100	52-150
Methylene chloride	ug/L (ppb)	50	<5	98	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	104	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	71-127
Chloroform	ug/L (ppb)	50	<1	100	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	110	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	99	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	101	56-152
Benzene	ug/L (ppb)	50	<0.35	97	76-125
Trichloroethene	ug/L (ppb)	50	<1	98	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	101	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	104	61-150
Dibromomethane	ug/L (ppb)	50	<1	102	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	102	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	104	72-132
Toluene	ug/L (ppb)	50	<1	93	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	105	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	99	68-131
2-Hexanone	ug/L (ppb)	250	<10	104	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	100	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	96	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	107	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	103	69-134
Chlorobenzene	ug/L (ppb)	50	<1	97	77-122
Ethylbenzene	ug/L (ppb)	50	<1	96	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	101	73-137
m,p-Xylene	ug/L (ppb)	100	<2	97	69-135
o-Xylene	ug/L (ppb)	50	<1	95	60-140
Styrene	ug/L (ppb)	50	<1	98	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	94	65-142
Bromoform	ug/L (ppb)	50	<1	110	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	94	58-144
Bromobenzene	ug/L (ppb)	50	<1	98	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	98	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	94	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	95	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	94	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	95	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	94	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	95	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	97	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	94	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	97	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	105	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	96	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	95	60-143
Naphthalene	ug/L (ppb)	50	<1	99	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	96	69-148

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	113	114	25-158	1
Chloromethane	ug/L (ppb)	50	104	103	45-156	1
Vinyl chloride	ug/L (ppb)	50	103	104	50-154	1
Bromomethane	ug/L (ppb)	50	106	112	55-143	6
Chloroethane	ug/L (ppb)	50	105	108	58-146	3
Trichlorofluoromethane	ug/L (ppb)	250	109	111	50-150	2
Acetone	ug/L (ppb)	250	120	119	53-131	1
1,1-Dichloroethene	ug/L (ppb)	50	104	103	67-136	1
Hexane	ug/L (ppb)	50	101	103	57-137	2
Methylene chloride	ug/L (ppb)	50	101	101	39-148	0
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	100	101	64-147	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	104	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	100	100	79-121	0
2,2-Dichloropropane	ug/L (ppb)	50	100	100	55-143	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	101	80-123	1
Chloroform	ug/L (ppb)	50	102	102	80-121	0
2-Butanone (MEK)	ug/L (ppb)	250	116	115	57-149	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	101	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	103	104	83-130	1
1,1-Dichloropropene	ug/L (ppb)	50	102	102	77-129	0
Carbon tetrachloride	ug/L (ppb)	50	106	106	75-158	0
Benzene	ug/L (ppb)	50	100	99	69-134	1
Trichloroethene	ug/L (ppb)	50	101	101	80-120	0
1,2-Dichloropropane	ug/L (ppb)	50	105	104	77-123	1
Bromodichloromethane	ug/L (ppb)	50	107	107	81-133	0
Dibromomethane	ug/L (ppb)	50	106	105	82-125	1
4-Methyl-2-pentanone	ug/L (ppb)	250	104	104	65-138	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	106	106	82-132	0
Toluene	ug/L (ppb)	50	96	96	72-122	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	108	107	80-136	1
1,1,2-Trichloroethane	ug/L (ppb)	50	101	101	75-124	0
2-Hexanone	ug/L (ppb)	250	109	107	60-136	2
1,3-Dichloropropane	ug/L (ppb)	50	103	102	76-126	1
Tetrachloroethene	ug/L (ppb)	50	100	99	76-121	1
Dibromochloromethane	ug/L (ppb)	50	111	110	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	105	104	82-125	1
Chlorobenzene	ug/L (ppb)	50	100	99	83-114	1
Ethylbenzene	ug/L (ppb)	50	100	99	77-124	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	105	104	84-127	1
m,p-Xylene	ug/L (ppb)	100	100	100	83-125	0
o-Xylene	ug/L (ppb)	50	97	98	81-121	1
Styrene	ug/L (ppb)	50	100	100	84-119	0
Isopropylbenzene	ug/L (ppb)	50	97	97	85-117	0
Bromoform	ug/L (ppb)	50	111	111	74-136	0
n-Propylbenzene	ug/L (ppb)	50	98	97	74-126	1
Bromobenzene	ug/L (ppb)	50	102	100	80-121	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	98	97	78-123	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	102	99	66-126	3
1,2,3-Trichloropropane	ug/L (ppb)	50	101	98	67-124	3
2-Chlorotoluene	ug/L (ppb)	50	99	97	77-127	2
4-Chlorotoluene	ug/L (ppb)	50	98	97	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	98	98	80-123	0
1,2,4-Trimethylbenzene	ug/L (ppb)	50	98	97	79-122	1
sec-Butylbenzene	ug/L (ppb)	50	98	97	80-125	1
p-Isopropyltoluene	ug/L (ppb)	50	99	99	81-123	0
1,3-Dichlorobenzene	ug/L (ppb)	50	100	99	85-116	1
1,4-Dichlorobenzene	ug/L (ppb)	50	97	96	84-121	1
1,2-Dichlorobenzene	ug/L (ppb)	50	100	99	85-116	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	108	107	57-141	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	100	99	72-130	1
Hexachlorobutadiene	ug/L (ppb)	50	100	100	53-141	0
Naphthalene	ug/L (ppb)	50	103	102	64-133	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	101	101	65-136	0

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	109	117	51-119	7
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	94	104	60-112	10
2-Chlorophenol	mg/kg (ppm)	0.33	93	99	59-114	6
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	84	93	62-113	10
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	83	91	61-114	9
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	85	93	61-113	9
Benzyl alcohol	mg/kg (ppm)	0.33	92	99	50-119	7
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	83	89	59-113	7
2-Methylphenol	mg/kg (ppm)	0.33	87	94	58-115	8
Hexachloroethane	mg/kg (ppm)	0.33	85	94	63-114	10
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	93	100	62-114	7
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	89	96	54-120	8
Nitrobenzene	mg/kg (ppm)	0.33	90	95	59-114	5
Isophorone	mg/kg (ppm)	0.33	96	100	61-113	4
2-Nitrophenol	mg/kg (ppm)	0.33	98	106	59-114	8
2,4-Dimethylphenol	mg/kg (ppm)	0.33	85	86	54-107	1
Benzoic acid	mg/kg (ppm)	0.5	112	114	43-150	2
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	92	99	60-114	7
2,4-Dichlorophenol	mg/kg (ppm)	0.33	94	100	57-118	6
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	88	95	56-112	8
Hexachlorobutadiene	mg/kg (ppm)	0.33	87	94	60-116	8
4-Chloroaniline	mg/kg (ppm)	0.66	53	56	10-126	6
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	95	101	59-115	6
2-Methylnaphthalene	mg/kg (ppm)	0.33	91	98	60-115	7
1-Methylnaphthalene	mg/kg (ppm)	0.33	91	97	70-130	6
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	125 vo	130 vo	41-107	4
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	105	114	47-119	8
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	101	106	61-121	5
2-Chloronaphthalene	mg/kg (ppm)	0.33	93	98	58-114	5
2-Nitroaniline	mg/kg (ppm)	0.33	95	100	55-119	5
Dimethyl phthalate	mg/kg (ppm)	0.33	87	92	58-116	6
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	102	108	57-119	6
3-Nitroaniline	mg/kg (ppm)	0.66	66	74	10-143	11
2,4-Dinitrophenol	mg/kg (ppm)	0.33	125 vo	134 vo	40-122	7
Dibenzofuran	mg/kg (ppm)	0.33	91	96	56-115	5
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	100	108	53-126	8
4-Nitrophenol	mg/kg (ppm)	0.33	89	95	40-124	7
Diethyl phthalate	mg/kg (ppm)	0.33	83	88	57-116	6
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	88	94	54-119	7
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	86	95	54-113	10
4-Nitroaniline	mg/kg (ppm)	0.66	70	80	47-109	13
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	120	129	55-147	7
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	96	102	56-116	6
Hexachlorobenzene	mg/kg (ppm)	0.33	94	99	57-115	5
Pentachlorophenol	mg/kg (ppm)	0.33	108	116	45-123	7
Carbazole	mg/kg (ppm)	0.33	79	93	57-116	16
Di-n-butyl phthalate	mg/kg (ppm)	0.33	95	102	56-118	7
Benzyl butyl phthalate	mg/kg (ppm)	0.33	101	111	56-122	9
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	86	96	56-155	11
Di-n-octyl phthalate	mg/kg (ppm)	0.33	80	87	58-120	8

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: 706003-17 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	82	81	44-129	1
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	83	80	52-121	4
Acenaphthene	mg/kg (ppm)	0.17	<0.01	83	80	51-123	4
Fluorene	mg/kg (ppm)	0.17	<0.01	84	80	37-137	5
Phenanthrene	mg/kg (ppm)	0.17	<0.01	84	79	34-141	6
Anthracene	mg/kg (ppm)	0.17	<0.01	82	76	32-124	8
Fluoranthene	mg/kg (ppm)	0.17	<0.01	91	82	16-160	10
Pyrene	mg/kg (ppm)	0.17	<0.01	88	84	10-180	5
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	88	80	23-144	10
Chrysene	mg/kg (ppm)	0.17	<0.01	85	78	32-149	9
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.0099	83	74	23-176	11
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	83	75	42-139	10
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	82	73	21-163	12
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	80	69	23-170	15
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	84	75	31-146	11
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	79	68	37-133	15

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	90	58-121
Acenaphthylene	mg/kg (ppm)	0.17	89	54-121
Acenaphthene	mg/kg (ppm)	0.17	90	54-123
Fluorene	mg/kg (ppm)	0.17	91	56-127
Phenanthrene	mg/kg (ppm)	0.17	92	55-122
Anthracene	mg/kg (ppm)	0.17	89	50-120
Fluoranthene	mg/kg (ppm)	0.17	100	54-129
Pyrene	mg/kg (ppm)	0.17	94	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	96	51-115
Chrysene	mg/kg (ppm)	0.17	93	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	94	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	93	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	87	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	85	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	89	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	84	52-131

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR PAHS BY EPA METHOD 8270D SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	92	95	67-116	3
Acenaphthylene	ug/L (ppb)	1	92	95	65-119	3
Acenaphthene	ug/L (ppb)	1	92	95	66-118	3
Fluorene	ug/L (ppb)	1	92	94	64-125	2
Phenanthrene	ug/L (ppb)	1	92	94	67-120	2
Anthracene	ug/L (ppb)	1	90	91	65-122	1
Fluoranthene	ug/L (ppb)	1	101	103	65-127	2
Pyrene	ug/L (ppb)	1	93	92	62-130	1
Benz(a)anthracene	ug/L (ppb)	1	96	96	60-118	0
Chrysene	ug/L (ppb)	1	93	93	66-125	0
Benzo(b)fluoranthene	ug/L (ppb)	1	100	101	55-135	1
Benzo(k)fluoranthene	ug/L (ppb)	1	100	101	62-125	1
Benzo(a)pyrene	ug/L (ppb)	1	94	95	58-127	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	73	78	36-142	7
Dibenz(a,h)anthracene	ug/L (ppb)	1	72	82	37-133	13
Benzo(g,h,i)perylene	ug/L (ppb)	1	64	72	34-135	12

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Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 706042-07 1/50 (Matrix Spike) 1/50

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	<0.2	66	61	50-150	8
Aroclor 1260	mg/kg (ppm)	0.8	<0.2	70	65	50-150	7

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.8	74	55-130
Aroclor 1260	mg/kg (ppm)	0.8	86	58-133

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Project: PCLS-Buckley, PO 10949, F&BI 706042

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	2.5	54	58	37-136	7
Aroclor 1260	ug/L (ppb)	2.5	59	63	41-135	7

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

706042

SAMPLE CHAIN OF CUSTODY

ME 06/02/17

VS2/~~A~~ 3 WW5 / BI

Page # 1 of 3

Report To KURT, MIKE

Company EHSI

Address 1011 SW Klickitat Wy Ste 104

City, State, ZIP Seattle, WA 98134

Phone ______ Email ______

SAMPLERS (signature) [signature]

PROJECT NAME PCLS - Buckley

PO # 10949

REMARKS

INVOICE TO

TURNAROUND TIME
- X Standard Turnaround
- ☐ RUSH ______
- Rush charges authorized by: ______

SAMPLE DISPOSAL
- X Dispose after 30 days
- ☐ Archive Samples
- ☐ Other ______

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	~~Naphthalene~~ RCRA 8	Total in Dissolved in H2O 24 MB 6/12/17 AL	PCB's		Notes
MW-1	01 A-H	6/1	1610	W	8		X	X		X		X	X		X		
MW-2	02	6/1	720	W	8		X	X		X		X	X		X		
MW-3	03 ↓	6/1	1650	W	8		X	X		X		X	X		X		
B1-6	04 A-F	6/1	740	S	6		X	X		X		X	X		X		2-4oz, 4VOA
B2-5.5	05 A-F	6/1	800	S	6		X	X		X		X	X		X		
B2-W	06 A-H	6/1	820	W	8		X	X		X		X	X		X		
B3-4.5	07 A-F	6/1	855	S	6		X	X		X		X	X		X		"
B3-W	08 A-H	6/1	905	W	8		X	X		X		X	X		X		
B4-4.5	09 A-F	6/1	955	S	6		X	X		X		X	X		X		"
B4-7.5	10 A-F	6/1	1010	S	6		X	X		X		X	X		X		"

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Mike Brady	EHSI	6/2	1137
Received by: [signature]	A. Podnozova	FBI	6/2/17	11:37
Relinquished by:				
Received by:				

Samples received at 3 °C

706042

SAMPLE CHAIN OF COUSTODY ME 06/02/17

VS2/ VW5/ BI4

Page # 2 of 3

Report To: KURT, MIKE

Company: EHSI

Address: 1011 SW Klickitat

City, State, ZIP

Phone Email

SAMPLERS (signature) [signature]

PROJECT NAME: PCLS - Buckley

PO #: 10949

REMARKS

INVOICE TO

TURNAROUND TIME
- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	+Naphthalene	Pb (Total dissolved in H2O only)	PCB's	RCRA 8 (Total [illegible])	Notes *added per MB 6/6/17
B5-7'	11 A-F	6/1	1040	S	6		X	X		X		X		X			″
B5-W	12 A-G	″	1110	W	7		X	X		X		X		X			
B6-13	~~12~~ 13 A-F	″	1300	S	6		X	X		X		X		X			″
B6-W	~~13~~ 14 A-G	″	1320	W	7		X	X		X		X		X			
B7-7'	~~14~~ 15 A-F	″	1355	S	6		X	X		X		X		X			″ HIGH PID
B7-W	~~15~~ 16 A-B	″	1410	W	2		(X)	X		X		(X)	Insufficient Volume for PAHs				(2 VOA) LITTLE WATER
B8-5	~~16~~ 17 A-F	″	1500	S	6		X	X		X	*	X			X	X	″ HIGH PID
B8-W	~~17~~ 18 A-H	″	1510	W	8		X	X		X		X			(X)	X	LITTLE WATER OILY?
B9-6	~~18~~ 19 A-F	″	1625	S	6		X	X		X		X			X	X	″
B9-15	20 A-F	″	1635	S	6		X	X		X		X			X	X	″

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Mike Brady	EHSI	6/2	1137
Received by: [signature]	A. Podnozova	FBI	6/2/17	11:37
Relinquished by:				
Received by:		Samples received at 3 °C		

706042

SAMPLE CHAIN OF CUSTODY

ME 06/02/17 VS2/VWS/BJ4

Page # 3 of 3

Report To KURT, MIKE

Company EHSI

Address 1011 SW Klickitat

City, State, ZIP

Phone Email

SAMPLERS (signature)

PROJECT NAME: PCLS-Buckley

PO #: 10949

REMARKS

INVOICE TO

TURNAROUND TIME
- [x] Standard Turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Archive Samples
- [ ] Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
	21					ANALYSES REQUESTED											
B9-W	A-C	6/1	1630	W	3		⊗	X		X							LITTLE WATER 3 VOA

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mike Brady	EHSI	6/2	1137
Received by:	A. Podnozova	FBI	6/2/17	11:37
Relinquished by:				
Received by:		Samples received at 2 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

Appendix C

TEF Calculations

TEF	Sample ID / Analyte	**B1-6**	B1 TEF		**B2-5.5**	B2 TEF		**B3-4.5**	B3 TEF		**B4-4.5**	B4 TEF		**B4-7.5**	B4-7 TEF		**B5-7**	B5-TEF		**B6-13**	B6-TEF		**B7-7**	B7-TEF		**B8-5**	B8-TEF
1	benzo(a)pyrene	0.05	0.05		ND			ND			0.015	0.015		ND			ND			ND			0.013	0.013		0.05	0.05
0.1	benzo(a)anthracene	0.05	0.005		ND			ND			0.014	0.0014		ND			ND			ND			0.005	0.0005		0.05	0.005
0.1	benzo(b)flouranthene	0.05	0.005		ND			ND			0.017	0.0017		ND			ND			ND			0.013	0.0013		0.11	0.011
0.1	benzo(k)flouranthene	0.05	0.005		ND			ND			0.005	0.0005		ND			ND			ND			0.005	0.0005		0.05	0.005
0.01	chrysene	0.13	0.0013		ND			ND			0.016	0.00016		ND			ND			ND			0.01	0.0001		0.22	0.0022
0.1	dibenz(a,h)anthracene	0.05	0.005		ND			ND			0.005	0.0005		ND			ND			ND			0.005	0.0005		0.05	0.005
0.1	indeno(1,2,3-cd)pyrene	0.05	0.005		ND			ND			0.005	0.0005		ND			ND			ND			0.005	0.0005		0.05	0.005
			0.0763			**<0.01**			**<0.01**			**0.01976**			**<0.01**			**<0.01**			**<0.01**			**0.0164**			**0.0832**

cPAH Toxicity Equivalency Factor Calculations for the Buckley Library Site. EHSI Project 10949-02

TEF	Sample ID/ Analyte	**B9-6**	B9-6 TEF		**B9-15**	B9-15 TEF
1	benzo(a)pyrene	0.018	0.018		ND	
0.1	benzo(a)anthracene	0.016	0.0016		ND	
0.1	benzo(b)flouranthene	0.023	0.0023		ND	
0.1	benzo(k)flouranthene	0.005	0.0005		ND	
0.01	chrysene	0.021	0.00021		ND	
0.1	dibenz(a,h)anthracene	0.005	0.0005		ND	
0.1	indeno(1,2,3-cd)pyrene	0.013	0.0013		ND	
			0.02441			<0.01

EHS–International, Inc.