Phase II Environmental Site Assessment Report

2021 Boulevard Road SE
Olympia, Washington

Prepared for:

Mr. Daniel Stusser
PO Box 4008
Olympia, Washington 98501

Prepared using the City of Olympia's United States Brownfield Assessment Grant Funds,
Cooperative Agreement # BF01J66201

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Executive Summary

PIONEER Technologies Corporation (PIONEER) prepared this Phase II Environmental Site Assessment (ESA) report for the property located at 2021 Boulevard Road SE, in Olympia, Thurston County, Washington (the Property). PIONEER field personnel collected soil samples from the soil berm on the western edge of the Property on July 26, 2021. The anticipated future use of the Property is residential; therefore soil samples were compared to applicable Model Toxics Control Act and Terrestrial Ecological Evaluation screening levels (SLs) for unrestricted land use in order to evaluate potential risks associated with any historical releases at the Property.

Pesticide concentrations in soil samples collected during the Phase II ESA were compared to SLs, and dieldrin was the only pesticide detected at concentrations exceeding SLs. These exceedances are consistent with past soil results collected from the Property and are likely a result of historical pesticide use from former nursery operations on the Property. Topsoil from the Property was scraped and consolidated into a berm on the western edge of the Property after the nursery structures were demolished. As a result, the soil berm contains pesticides, specifically dieldrin, at concentrations exceeding safe concentrations for unrestricted residential land use. Dieldrin concentrations exceeded SLs in seven of the 13 samples collected from the soil berm on the western Property edge.

In PIONEER's opinion, prior to redevelopment, the soil comprising the soil berm should be disposed of at a licensed disposal facility. The disposal should be followed by confirmation sampling in the vicinity of the soil berm to confirm remaining soil does not exceed dieldrin SLs.

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List of Acronyms

Acronym	Explanation
ASTM	American Society of Testing and Materials
bgs	Below Ground Surface
City	City of Olympia
CSM	Conceptual Site Model
Ecology	Washington Department of Ecology
EM	Electromagnetic
ESA	Environmental Site Assessment
GPR	Ground Penetrating Radar
LCS	Laboratory Control Spike
LCSD	Laboratory Control Spike Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MTCA	Model Toxics Control Act
NFA	No Further Action
PID	Photoionization Detector
PIONEER	PIONEER Technologies Corporation
Property	2021 Boulevard Road SE, in Olympia, Thurston County, Washington
Prospective Purchaser	Mr. Daniel Stusser
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
REC	Recognized Environmental Condition
RL	Reporting Limit
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SL	Screening Level
TEE	Terrestrial Ecological Exclusion
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

SECTION 1: INTRODUCTION

PIONEER Technologies Corporation (PIONEER) prepared this Phase II Environmental Site Assessment (ESA) report for the property located at 2021 Boulevard Road SE, in Olympia, Thurston County, Washington (the Property). The City of Olympia (City) is funding this Phase II ESA with its hazardous substances assessment grant (BF01J66201) funds on behalf of Mr. Daniel Stusser (the prospective purchaser). The Property location is shown on Figure 1. The Phase II ESA was conducted in accordance with our United States Environmental Protection Agency (USEPA)-approved Quality Assurance Project Plan (QAPP; PIONEER 2020) and Sampling and Analysis Plan (SAP; see Appendix A), and the scope and limitations of American Society of Testing and Materials (ASTM) Practice E-1903-11.

1.1 Property Description and Background

The Property consists of 0.90 acres of vacant grass- and gravel-covered land with a soil berm along the western boundary. The Property is located in a residential area in the eastern portion of Olympia. Current Property features are shown on Figure 2.

PIONEER completed a Phase I ESA of the Property and prepared a Phase I ESA report in July 2021. The development history of the Property is as follows: Prior to 1941, the Property was vacant, partially wooded land. By 1949, a residence was constructed on the south-central portion of the Property. By 1956, three greenhouses and an office associated with Smith's Greenhouse (a plant nursery) were built around the residence. In 1966, a fire destroyed the office and it was replaced with a retail store and outdoor sales area. By 1978, Smith's Greenhouse business became Boulevard Nursery and continued operating as a nursery. The nursery operated into the mid-2000's, at which time the Property became abandoned. Several iterations of building demolition and soil grading occurred between 2012 and 2017. Soil sampling for pesticides occurred in 2009, 2020, and 2021. The Washington Department of Ecology (Ecology) granted a No Further Action (NFA) Status for the Property in 2020 (Ecology 2020). Ecology's Facility ID for the Property is 3749 and the Cleanup Site ID is 223. However, one soil sample collected adjacent to the soil berm in April 2021 contained dieldrin, a pesticide, at concentrations exceeding Model Toxics Control Act (MTCA) Method A/B Cleanup Levels for Unrestricted Land Use. As a result, Ecology rescinded the NFA letter (Ecology 2021).

1.2 Phase I ESA RECs

PIONEER identified the following recognized environmental condition (REC) associated with the Property in the July 11, 2021 Phase I ESA (PIONEER 2021): Concentrations of a pesticide, specifically dieldrin, exceeding MTCA Method A/B Cleanup levels for Unrestricted Land Use have been reported adjacent to the soil berm on the western portion of the Property. Use of pesticides is typically associated with nurseries and pesticides tend to accumulate in shallow soil. The soil berm on the western portion of the Property was reportedly created in the mid-2010s by scraping and consolidating the topsoil from the Property after the demolition of on-site structures.

PIONEER also recommended completing a ground penetrating radar survey to confirm no buried heating oil underground storage tanks (USTs) are present on-site. Given the age of the former residence (constructed in the 1940s) and office (constructed in the 1950s and burned in 1966), a heating oil tank (aboveground storage tank or UST) may have been present.

1.3 Purpose

The objectives of the Phase II ESA were as follows:

- Evaluate if contamination associated with the abovementioned REC is present in the subsurface of the Property.
- Assess whether any contaminants detected at the Property were present at concentrations above applicable regulatory standards.
- Evaluate whether current environmental conditions warrant further investigation and/or remediation.
- Prepare a Phase II ESA report consistent with ASTM Practice E-1903-11.

SECTION 2: CSM AND SCREENING LEVELS

2.1 Conceptual Site Model

A Conceptual Site Model (CSM) typically presents a conceptual understanding of how constituents at a given site can affect potential receptors via different exposure pathways. A complete exposure pathway includes a source of contamination, a transport mechanism, a potentially exposed human or ecological receptor, and a route of exposure (e.g., inhalation). A simplified CSM showing the key potential exposure pathways and samples being used to evaluate the potential exposure pathways was developed and is shown below. This simplified CSM was also used to develop the SAP and to identify appropriate media-specific screening levels for the Phase II ESA.

Source of Concern	Primary Pathway	Primary Receptors	Secondary Receptors	Primary Samples
Historic On-Site Operations	Direct Contact with Surface and Subsurface Soil	Future Residents	Construction and Maintenance Workers	Soil Samples

Due to (1) the anticipated future land use of the Property (i.e., residential) and (2) the current and anticipated future drinking water source for the Property and surrounding properties (i.e., City-provided water), potentially complete exposure pathways are limited. The groundwater as drinking water exposure pathway is an incomplete exposure pathway because groundwater at the Property and surrounding properties is not a current or anticipated future source of drinking water.

Additionally, according to Ecology, “no soil contamination has been found to suggest a groundwater concern. The water table is reported within the [Property] is reported to be at a depth of approximately 27 feet below ground surface (ft bgs). The detected chlorinated pesticides all have high distribution coefficients (Kd) and relatively low solubility such that migration to groundwater is unlikely” (Ecology 2020).

Thus, the primary exposure pathway of potential concern, and the only potentially complete exposure pathway for current receptors is direct contact with surface and subsurface soil via ingestion, dermal contact, or particulate inhalation.

2.2 Terrestrial Ecological Exclusion

Ecology previously concluded that the Property met the requirements for a Simplified Terrestrial Ecological Exclusion (TEE) (Ecology 2020). In accordance with WAC 173-340-7492(2)(a)(ii) and Table 749-1, a simplified TEE still applies because the Property was previously developed for commercial use and current vegetation consists of early successional vegetative stands and weeds. The Property has been severely disturbed by human activity. No priority habitats are located on or adjacent to the Property.

2.3 Identification of Screening Levels

Screening Levels (SLs) were developed consistent with previous reports for the Property in order to evaluate sample results. Concentrations of contaminants in soil were compared to MTCA Standard

Method B soil cleanup levels for an unrestricted land use scenario calculated in accordance with Washington Administrative Code (WAC) 173-340-740(3)(b)(iii)(B), subject to any necessary adjustments in WAC 173-340-740. The selected SL is the more restrictive of the non-cancer (Equation 740-1) or cancer (Equation 740-2) value.

Concentrations of contaminants in soil were also compared to the SLs presented in Table 749-2, Priority Contaminants of Ecological Concern for Sites that Qualify for the Simplified Terrestrial Ecological Evaluation Procedure.

SECTION 3: PHASE II ACTIVITIES

PIONEER field personnel monitored the completion of a ground penetrating radar (GPR) and an electromagnetic (EM) conductivity survey to search for potential USTs throughout the Property, including the location of the former residence and in the soil berm on the Property's western portion. Seven hand auger borings were advanced. The soil boring locations are shown on Figure 3. The rationales for sample locations, sample depths, and target constituents are described in the SAP (see Appendix A).

Procedures for the geophysical survey, soil sampling, field quality assurance/quality control (QA/QC), and chemical analyses are summarized in the following subsections. The Phase II activities were completed on July 26, 2021.

3.1 Geophysical Survey

The GPR/EM survey was completed on the Property using the following equipment:

- Underground Scanning GPR antenna. This tool is typically capable of detecting objects up to 8 feet deep or more in ideal conditions, but maximum effective depth can vary widely and depends on site and soil conditions. Depth penetration is most commonly limited by moisture and clay/conductive soils.
- EM Pipe and Cable Locator. The tool detects EM fields and is used to actively trace conductive pipes and tracer wires, or passively detect power and radio signals traveling along conductive pipes and utilities.

3.2 Soil Sampling

Soil borings were advanced to depths of up to six feet bgs using a four-inch diameter stainless-steel hand auger. Soil samples were collected continuously at each location. PIONEER field personnel visually classified the soil samples in accordance with the ASTM D2488. PIONEER field personnel collected soil samples for pesticide analysis in accordance with USEPA Method 8081 by placing each sample into unpreserved four-ounce glass jars. Pre-cleaned sample containers were supplied by the laboratory. Soil samples were collected and analyzed in general accordance with the USEPA-approved SAP and QAPP.

After soil sampling was completed, soil cuttings were placed back into their respective borehole and the remaining annular space of the soil boring was backfilled with hydrated bentonite.

3.3 Field Quality Assurance/Quality Control

3.3.1 Field QA

New sampling equipment was used to minimize the potential for cross-contamination during sampling activities. For instance, PIONEER's field representative wore a new pair of disposable nitrile sampling gloves during collection of each sample. Soil sampling equipment (i.e. hand auger and trowel) was decontaminated before each use with a scrub brush and Alconox® cleaning solution, followed by a double rinse with distilled water.

Pre-cleaned, unpreserved sample containers were supplied by the laboratory. After sample collection, the containerized samples were kept cool (i.e., kept on ice) until delivery to the analytical laboratory. PIONEER's field representative followed chain-of-custody procedures to document the sample handling sequence. Field instrument calibration, sample handling and custody requirements, laboratory analytical methods, analysis reporting limits (RLs), QA/QC procedures, and reporting protocols were consistent with those described in the USEPA-approved QAPP applicable to this assessment.

3.3.2 Field QC

PIONEER field personnel collected a variety of field QC samples consistent with the SAP and QAPP. A duplicate soil sample was collected to evaluate matrix homogeneity and the precision of sampling activities. Sufficient volumes of soil were collected to allow the laboratory to prepare and analyze matrix spike (MS) and matrix spike duplicate (MSD) samples to evaluate constituent recovery and precision in the sample matrix. Additionally, an aqueous equipment blank was collected to evaluate the potential for cross-contamination during sampling.

3.4 Chemical Analyses

A total of 13 primary soil samples and two field QC samples (field duplicate and equipment blank) were submitted to Libby Environmental in Olympia, Washington per the USEPA-approved QAPP (PIONEER 2020) for analyses of organochlorine pesticides via USEPA Method 8081. Pesticides were selected for analyses due to the historical use of the Property as a nursery and the previously analyzed samples confirming pesticides in soil on the Property. Summaries of the soil samples collected and analyzed at specific locations during this assessment are presented in Table 1. The complete documentation for analytical methods, actual RLs, and chains of custody are included in Appendix B.

3.5 Deviations

The Phase II ESA was completed in accordance with the SAP and QAPP with the following exceptions:

- Soil borings were shifted slightly based on field conditions compared to the locations presented in the SAP. Additionally, historical sample locations (i.e. samples 1, 2, and 3 from April 2021) were further refined based on conversations with those who completed the sampling.
- The SAP stated that a soil boring (PTC-SB7) would be advanced near a heating oil UST, if encountered. No UST was encountered and boring PTC-SB7 was advanced on the soil berm in order to further characterize potential pesticides in soil.
- The SAP stated that shallow and deep samples would be collected from each soil boring advanced on the soil berm. Depths of deep samples from the soil berm varied from those listed in the SAP based on the actual height of the soil berm. The deeper soil sample was collected at the base of the soil berm compared to surrounding ground elevation.
- Boring PTC-SB2 was advanced at the base of the eastern edge of the soil berm and as a result, no deeper sample was collected.
- Soil was not screened for the presence of ionizable volatile organic compounds (VOCs) using a photoionization detector (PID) because VOCs were not a constituent of concern based on the Property history and the lack of a heating oil UST.

For the reasons stated above, these deviations did not impact the project objectives.

SECTION 4: SAMPLING RESULTS AND DISCUSSION

The surface and subsurface conditions encountered during soil boring activities, and the results of chemical analyses, are described in the following subsections.

4.1 Geophysical Survey

No anomalies consistent with USTs were identified during the geophysical survey. Several small abandoned irrigation lines were noted. Additionally, the septic tank previously reported as remaining on the Property was not located. The septic tank may have been removed at the time the previous structures on the Property were demolished and the Property was graded.

4.2 Surface and Subsurface Conditions

Soil samples were visually classified in general accordance with ASTM D2488. Detailed descriptions of the soil conditions encountered at each boring are documented in the boring logs in Appendix C. The surface and subsurface conditions encountered are summarized below.

The soil at each of the soil borings advanced on the Property consisted of fine to coarse silty sand with gravel. The silty sand extended to the maximum explored depth of the borings (six feet bgs). Trace amounts of plastic were noted in soil at PTC-SB3 through PTC-SB7. No groundwater was encountered and no odors or sheens were noted on the soil.

4.3 Results of Chemical Analyses

Results of chemical analyses performed on soil samples collected in July 2021 are summarized in the following paragraphs and are tabulated in Table 1. Historical samples collected in April 2009 through April 2021 are also included on Table 1. The samples were compared to the SLs presented in Section 2. Laboratory analysis reports are included in Appendix B.

4.3.1 Analyses of Soil Samples

A total of nine different pesticides were detected in soil samples collected in July 2021; however, of the nine pesticides detected, only dieldrin exceeded the SLs. Dieldrin concentrations exceeded SLs at six of the seven soil borings; dieldrin concentrations were below the SLs at PTC-SB5. Dieldrin concentrations exceeded the SLs at seven of the 13 locations sampled. Concentrations generally decreased at depth, with the exception of PTC-SB4 and PTC-SB6, in which dieldrin concentrations at surficial and deeper samples were similar.

4.4 Data Verification/Validation and Usability

A cursory review of the field QC and laboratory QC results was performed in order to determine if the overall data set was valid and of usable quality. The review of QC results and the associated data quality conclusions are summarized below. The results for the field and laboratory QC samples are presented in Appendix B.

4.4.1 Field QC

The relative percent differences (RPDs) of the results from analyses of target constituents in the field duplicate soil samples collected from SB2 at zero to one foot bgs were within the project precision limits of 50%, with the exception of dieldrin, which was the only constituent detected above laboratory RLs. The lack of agreement indicates heterogeneity in soil, which is not unexpected given how the mound was created (topsoil composited from around the Property). This lack of agreement does not affect the use of the data or the conclusions.

No pesticides were measured at concentrations greater than laboratory RLs in the equipment blank.

4.4.2 Laboratory QC

Laboratory-specific QA procedures are included in the USEPA-approved QAPP, including the use of laboratory QC samples such as method blanks, surrogate spikes, laboratory control spikes (LCS)/LCS duplicates (LCSD), and MS/MSDs. The laboratory QC results are further explained below and were generally acceptable, with the noted exceptions:

- Method blanks were performed for each constituent and analyzed to assess the effect of the laboratory environment on the analytical results. No pesticides were detected in the method blank.
- The LCS/LCSD is a sample matrix, free from constituents, spiked with verified known amounts of constituents or a material containing known and verified amounts of constituents. It is generally used to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The LCS/LCSD results were within acceptable control limits.
- The MS/MSD results were evaluated to determine whether or not the sample matrix was interfering with the laboratory analyses and provide a measure of the accuracy for the analytical data. MS/MSD recoveries were compared to control limits established and updated by the laboratory based on its historical operation. MS/MSD RPD results were evaluated to determine the reproducibility (precision) of the analytical method. Reproducibility values were compared to control limits established and updated by the laboratory based on its historical operation. The MS/MSD results were within acceptable control limits with the exception of dieldrin. The recoveries of dieldrin in both the MS and MSD samples were below the acceptable recovery range, indicating a potentially low bias. The laboratory reported that the concentration of dieldrin in the sample was too high for accurate spike recoveries. Even with the potentially low bias, dieldrin concentrations in soil at multiple samples exceeded the SLs; therefore, the low recovery did not negatively affect sample results.
- Dilutions were performed on several samples. It is expected that these types of dilutions would be required regardless of the sample collection, processing, and analysis methods, based on the constituents expected to be present in the sample matrix.

4.4.3 Project Objectives and Data Usability

The overall data set generated is of usable quality and meets the Property-specific objectives.

SECTION 5: CONCLUSIONS

PIONEER has performed a Phase II ESA at the property located at 2021 Boulevard Road SE, in Olympia, Thurston County, Washington (the Property) in conformance with the scope and limitations of the Standard Practice for ESAs: Phase II ESA Process (ASTM Designation E 1903-11) and the objectives developed pursuant to Section 5.1 of ASTM Designation E 1903-11 (see Section 1.3 of this report). Conclusions and recommendations are described in the following subsections.

Pesticide concentrations in soil samples collected during the Phase II ESA were compared to applicable MTCA SLs (see Section 2.3), and dieldrin was the only pesticide detected at concentrations exceeding SLs. These exceedances are consistent with past soil results collected from the Property and are likely a result of historical pesticide use from former nursery operations on the Property. Topsoil from the Property was scraped and consolidated into a berm on the western edge of the Property after former structures were demolished. As a result, the soil berm contains pesticides, specifically dieldrin, at concentrations exceeding safe concentrations for unrestricted residential land use. Dieldrin concentrations exceeded SLs in seven of the 13 samples collected from the soil berm on the western Property edge.

In PIONEER's opinion, prior to redevelopment, the soil comprising the soil berm should be disposed of at a licensed disposal facility. The disposal should be followed by confirmation sampling in the vicinity of the soil berm to confirm remaining soil does not exceed SLs.

This Phase II ESA was completed based on the RECs identified in the Phase I ESA (see Section 1.2). Based on the findings of this Phase II ESA, historical operations on the Property (REC1) appear to have impacted the subsurface. No USTs were identified during a geophysical survey completed on the Property.

The conclusions in this report are based on visual observations and chemical results from samples collected from the area of investigation only. If additional surface, subsurface, or chemical data become available after the date of issue of this report, the conclusions contained in this report may require modification after PIONEER has reviewed the additional information. This review by PIONEER of additional information would be conducted upon receipt of a request from the client.

In the process of obtaining information in preparation of this report, procedures were followed that represent reasonable practices and principles in a manner consistent with that level of care and skill ordinarily exercised by members of this profession currently practicing under similar conditions.

SECTION 6: REFERENCES

Ecology. 2020. No Further Action Letter, Boulevard Nursery, 2021 Boulevard Road SE, Olympia, Washington. October.

Ecology. 2021. Rescission of No Further Action (NFA) Status for the following Site: Boulevard Nursery, 2021 Boulevard Road SE, Olympia, Washington. June.

PIONEER. 2020. Quality Assurance Project Plan for the City of Olympia's Brownfield Assessment Grant. March.

PIONEER. 2021. Phase I Environmental Site Assessment. 2021 Boulevard Road SE, Olympia, Washington. July.

SECTION 7: LIMITATIONS, EXPECTATIONS, AND RELIANCE

PIONEER prepared this report in general accordance with the guidelines set forth in the ASTM's Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (Designation: E 1903-11). The findings and opinions presented in this report are subject to professional interpretation, and differing conclusions could be reached by other consultants. Compliance with the recommendations presented in this report does not ensure the elimination of hazards or the fulfillment of the client's obligations under local, state, or federal laws or any modifications of or changes to such laws. None of the work performed hereunder shall constitute or be represented as a legal opinion.

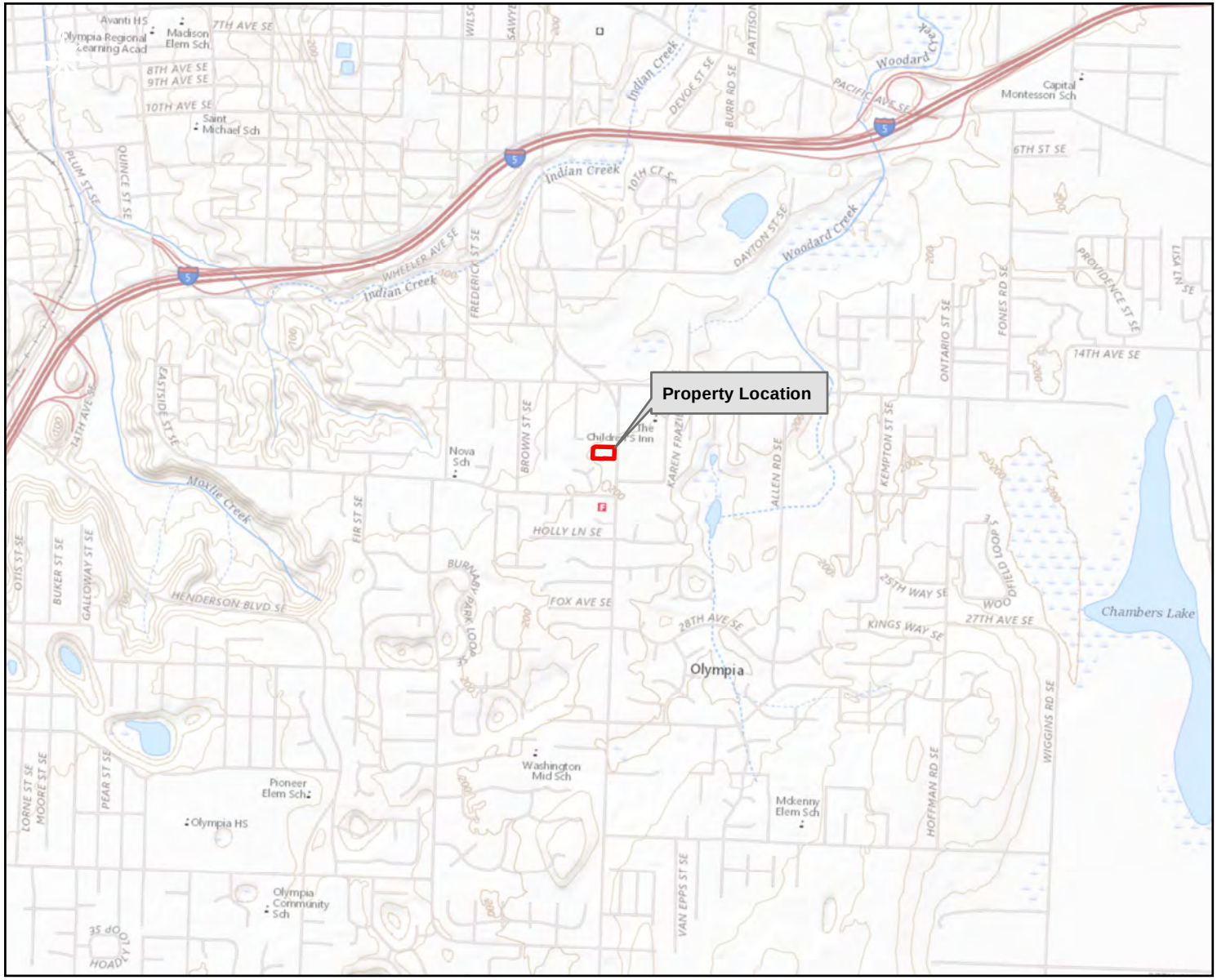
Locations identified for sampling were chosen based on a combination of historical Property usage patterns, and observations made during the Property reconnaissance process. Sample locations were selected to characterize worst-case or highest concentrations (as opposed to selecting samples for full spatial characterization) within the means and limitations of the scope of services. Furthermore, any sample collected for chemical testing may or may not be representative of a larger population. Although uncertainty is inherent due to the nature of sampling, professional judgment and additional assessment may reduce that uncertainty.

Data collected for investigations conducted during a Phase II ESA generally only represented the Property conditions at the time the data were collected. Subsequent Phase II assessors should evaluate whether data generated for this Phase II ESA are (1) appropriate for any subsequent use beyond the original purpose for which they were collected; or are (2) otherwise subject to lifetime limits imposed by other laws, regulations, or regulatory policies.

"User" is defined in ASTM Designation: E 1903-11 as "the party seeking to use this practice to conduct a Phase II ESA. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, an insurer, or a property manager."

ASTM Designation: E 1903-11 practice does not define whether or not (or to what extent) any person, other than the User, may use or rely upon a Phase II ESA prepared for the "User." Any party other than the "User" who seeks to use this Phase II ESA must understand the assumptions and limitations which were implied during the implementation of the Phase II ESA standard practice. All such assumptions and limitations must be understood by any party other than the "User," and evaluated independently before determining that this report is appropriate and meets the needs of that party.

Figures



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Property Location

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Property Location Map
2021 Boulevard Road SE
Olympia, Washington

Figure 1

Legend

Property Features

- Former Structures
- Soil Berm
- Property Boundary

0 20 40 60 Feet

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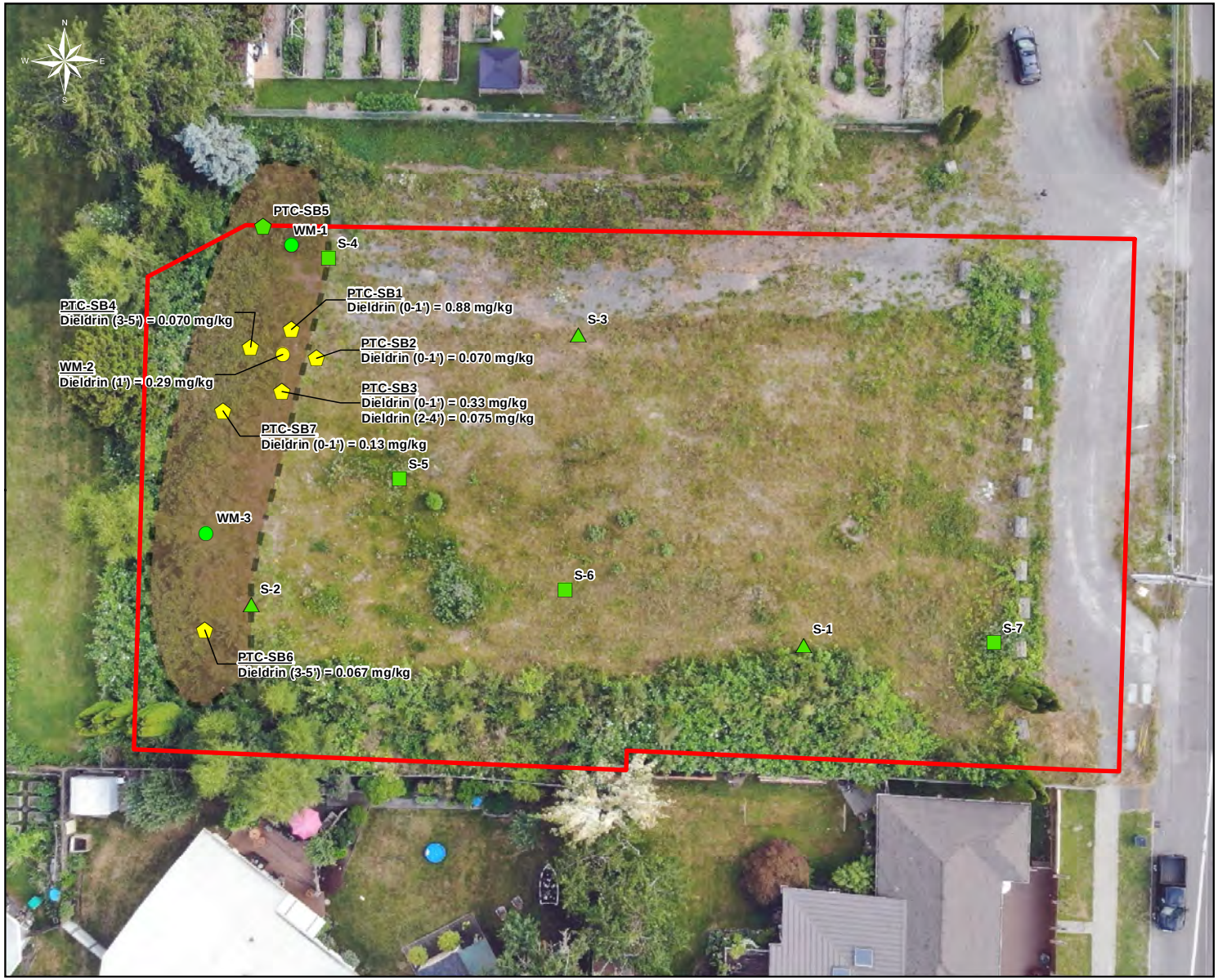
Current and Historical Features Diagram
2021 Boulevard Road SE
Olympia, Washington

Figure 2



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PIONEER Soil Sampling Location

Historical Soil Sampling Locations

- April 2021, Westminster Presbyterian Church
- August 2020, ADESA
- June 2009, Hemphill, Green & Associates

Soil Concentrations

- Concentration of all analyzed constituents below MTCA Method A/B Cleanup Level for Unrestricted Land Use (≤ 0.063 mg/kg)
- Concentration of dieldrin exceeds the MTCA Method A/B Cleanup Level for Unrestricted Land Use (> 0.063 mg/kg)

Other Property Features

- Property Boundary
- Soil Berm

Notes:
-Soil sample and historical feature locations obtained from ADESA 2020 and Ecology 2021.

0 20 40 60 Feet

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Sample Locations and Results Diagram
2021 Boulevard Road SE
Olympia, Washington

Figure 3

Tables

Table 1: Summary of 2009 through 2021 Soil Analytical Results

Constituent	Soil Screening Levels[1]		Sample Location, Depth Interval (in Feet bgs), and Sample Date																						
	MTCA Method B Cleanup Level (CLARC Database) (mg/kg)	Simplified TEE Concentration (Table 749-2) (mg/kg)	S-1	S-2	S-3	S-4	S-5	S-6	S-7	WM#1	WM#2	WM#3	PTC-SB1	PTC-SB1	PTC-SB2	PTC-SB2	PTC-SB3	PTC-SB3	PTC-SB4	PTC-SB4	PTC-SB5	PTC-SB5	PTC-SB6	PTC-SB6	PTC-SB7	PTC-SB7
			1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	0-1'	2-4'	0-1'	0-1'	0-1'	2-4'	0-1'	3-5'	0-1'	3-5'	0-1'	3-5'	0-1'	4-6'
			4/23/09	4/23/09	4/23/09	8/24/20	8/24/20	8/24/20	8/24/20	4/22/21	4/22/21	4/22/21	7/27/21	7/27/21	7/27/21	Duplicate	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21	7/27/21
Aldrin	0.059	0.17	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.011 U	0.0095 U	0.011 U	0.0099 U	0.011 U	0.0099 U	0.0095 U	0.010 U	0.011 U	0.0096 U	0.0099 U	0.0094 U	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Alpha BHC	0.16	10 [2]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Beta BHC	0.56	10 [2]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Delta BHC	No Value	10 [2]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Gamma BHC	0.91	10 [2]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.011 U	0.0095 U	0.011 U	0.0099 U	0.011 U	0.0099 U	0.0095 U	0.010 U	0.011 U	0.0096 U	0.0099 U	0.0094 U	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Heptachlor	0.22	0.60 [3]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.011 U	0.0095 U	0.011 U	0.0099 U	0.011 U	0.0099 U	0.0095 U	0.010 U	0.011 U	0.0096 U	0.0099 U	0.0094 U	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
Heptachlor epoxide	0.11	0.60 [3]	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.011 U	0.0095 U	0.011 U	0.0099 U	0.011 U	0.0099 U	0.0095 U	0.010 U	0.011 U	0.0096 U	0.0099 U	0.0094 U	0.011 U	0.010 U	0.011 U	0.010 U	0.011 U
alpha-Chlordane	2.9	1.0 [4]	ND	ND	ND	0.0095 U	0.0093 U	**0.018**	0.011 U	**0.018**	**0.019**	**0.020**	0.015 U	0.016 U	0.015 U	0.014 U	**0.017**	0.016 U	**0.017**	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	**0.018**	0.017 U
gamma-Chlordane	2.9	1.0 [4]	ND	ND	ND	0.0095 U	0.0093 U	**0.010**	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Dieldrin	0.063	0.17	ND	**0.038**	ND	**0.034**	**0.054**	0.010 U	0.011 U	**0.046**	**0.29**	**0.049**	**0.88**	**0.049**	**0.070**	**0.010**	**0.33**	**0.075**	**0.062**	**0.070**	**0.020**	0.011 U	**0.037**	**0.067**	**0.13**	**0.021**
4,4´-DDE	2.9	1.0 [5]	**0.14**	**0.12**	ND	**0.030**	0.0093 U	0.010 U	0.011 U	**0.050**	**0.032**	**0.052**	**0.023**	**0.031**	0.0099 U	0.0095 U	**0.043**	**0.12**	**0.032**	**0.16**	0.0094 U	**0.024**	**0.024**	**0.030**	**0.062**	**0.069**
4,4´-DDD	2.4	1.0 [5]	**0.064**	**0.034**	ND	**0.012**	0.0093 U	0.010 U	0.011 U	**0.076**	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	**0.11**	0.014 U	0.016 U	0.015 U	0.017 U	**0.018**	**0.051**
4,4´-DDT	2.9	1.0 [5]	**0.036**	**0.014**	ND	**0.034**	0.0093 U	0.010 U	0.011 U	**0.20**	**0.074**	**0.15**	**0.034**	**0.026**	0.015 U	0.014 U	**0.073**	**0.019**	**0.043**	**0.32**	0.14 U	0.16 U	0.15 U	0.17 U	0.15 U	0.17 U
Endrin	24	0.40	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	**0.021**	0.014 U	**0.061**	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	**0.20**	0.014 U	0.016 U	**0.017**	0.017 U	0.015 U	**0.062**
Endosulfan I	No Value	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.011 U	**0.035**	0.011 U	**0.024**	0.011 U	0.0099 U	0.0095 U	0.010 U	0.011 U	0.0096 U	0.0099 U	0.0094 U	**0.025**	0.010 U	0.011 U	0.010 U	0.011 U
Endosulfan II	No Value	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	**0.025**	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	**0.024**	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Endrin aldehyde	No Value	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Endosulfan sulfate	480	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	0.017 U	0.014 U	0.017 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	0.015 U	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Endrin ketone	No Value	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	**0.038**	0.014 U	0.017 U	**0.023**	0.016 U	0.015 U	0.014 U	0.015 U	0.016 U	0.014 U	**0.050**	0.014 U	0.016 U	0.015 U	0.017 U	0.015 U	0.017 U
Methoxychlor	400	No Value	NA	NA	NA	0.0095 U	0.0093 U	0.010 U	0.011 U	**0.13**	0.019 U	0.022 U	0.020 U	0.022 U	0.020 U	0.019 U	0.020 U	0.022 U	0.019 U	0.20 U	0.19 U	0.22 U	0.20 U	0.22 U	0.20 U	0.22 U
Toxaphene	0.91	No Value	NA	NA	NA	0.095 U	0.093 U	0.10 U	0.11 U	0.077 U	0.067 U	0.077 U	0.069 U	0.076 U	0.069 U	0.067 U	0.071 U	0.076 U	0.067 U	0.069 U	0.066 U	0.076 U	0.072 U	0.077 U	0.072 U	0.078 U

Notes:

RCRA Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) were also analyzed at locations S-1 through S-3. All analyzed metals concentrations were below MTCA soil screening levels.

Feet bgs: feet below ground surface, No Value: a screening level cannot be calculated because no values exist in CLARC (Ecology 2021) or Table 749-2, mg/kg: milligrams per kilogram, U: constituent not detected at listed reporting limit.

Results shown for PTC-SB2 are the average of the duplicate samples. Refer to laboratory analytical reports in Appendix B for individual results.

NA: it is unclear if constituent was analyzed during 2009 sampling event. "Other pesticides" are not described in the associated laboratory report.

ND: not detected above the laboratory reporting limit, which not provided in historical environmental reports.

Bold compounds were detected at the shown concentration.

The highlighted concentration exceeds the listed screening level.

[1] Screening levels shown are the more restrictive of the Method B direct contact non-cancer (Equation 740-1) or cancer (Equation 740-2) cleanup level. Simplified TEE concentrations for unrestricted land use are those shown in MTCA Table 749-2.

[2] TEE Concentration for sum of BHCs.

[3] TEE Concentration for sum of heptachlor and heptachlor epoxide.

[4] TEE Concentration for sum of chlordanes

[5] TEE Concentration for sum of DDT, DDE, and DDD.

Appendix A

Sampling and Analysis Plan

2021 Boulevard Road SE
Olympia, Washington

Prepared for:

Mr. Daniel Stusser
PO Box 4008
Olympia, Washington 98501

Prepared using the City of Olympia's United Stated Brownfield Assessment Grant Funds,
Cooperative Agreement # BF01J66201

Prepared by:

PIONEER TECHNOLOGIES CORPORATION

5205 Corporate Center Ct. SE, Suite A
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Fax: 360.570.1777
www.uspioneer.com

July 2021

Sampling and Analysis Plan Approval

The Sampling and Analysis Plan for 2021 Boulevard Road SE has been approved by the following Project Team members:

Name and Role	Signature and Date
Susan Morales USEPA Project Manager	
Donald M. Brown USEPA Brownfields QA Reviewer	
Mike Reid City of Olympia Grantee Project Manager	Mike Reid 7/9/2021
Joel Hecker, LG PIONEER Project Manager	7/9/2021
Angela Noyan PIONEER QA Manager	For Angela Noyan 7/9/2021

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List of Acronyms

Acronym	Explanation
AST	Above Ground Storage Tank
bgs	Below Ground Surface
City	City of Olympia
Ecology	Washington Department of Ecology
ESA	Environmental Site Assessment
MTCA	Model Toxics Control Act
PID	Photoionization Detector
PIONEER	PIONEER Technologies Corporation
Property	2021 Boulevard Road SE, in Olympia, Thurston County, Washington
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RL	Reporting Limit
SAP	Sampling and Analysis Plan
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

SECTION 1: INTRODUCTION

PIONEER Technologies Corporation's (PIONEER's) project team prepared this Sampling and Analysis Plan (SAP) as a requirement of the United States Environmental Protection Agency (USEPA) brownfields grant program prior to using assessment grant funds. The City of Olympia (City) intends to use its hazardous substances assessment grant (BF01J66201) funds to conduct an environmental assessment of the property located at 2021 Boulevard Road SE, in Olympia, Thurston County, Washington (the Property). The general location of the Property is shown on Figure 1. The Property was determined to be eligible for the use of hazardous substance funds on June 25, 2021. The Quality Assurance Project Plan (QAPP) was submitted to USEPA and was approved on March 16, 2020 (PIONEER 2020), with subsequent updates.

The objective of the proposed environmental assessment is to evaluate current Property environmental conditions for the purpose of supporting environmental due diligence and liability management for the planned purchase and future redevelopment of the Property. Descriptions of the Property history and current environmental conditions; strategies and procedures for soil sampling; chemical analyses of collected soil samples; data evaluation and reporting; and the estimated project schedule are presented in the following sections.

SECTION 2: BACKGROUND INFORMATION

Summaries of the Property history, current Property conditions, and recognized environmental conditions (RECs) identified during a Phase I Environmental Site Assessment (ESA) of the Property completed on July 11, 2021 are presented in the following subsections. The Assessment Team's planned subsurface assessment activities to further evaluate the RECs are also summarized.

2.1 Property History

Prior to 1941, the Property was vacant, partially wooded land. By 1949, a residence was constructed on the south-central portion of the Property. By 1956, three greenhouses and an office associated with Smith's Greenhouse (a plant nursery) were built around the residence. In 1966, a fire destroyed the office and it was replaced with a retail store and outdoor sales area. By 1978, Smith's Greenhouse business became Boulevard Nursery and continued operating as a nursery. The nursery operated into the mid-2000s at which time the Property became abandoned. Several iterations of building demolition and soil grading occurred between 2012 and 2017. Soil sampling for pesticides occurred in 2009, 2020, and 2021. One soil sample collected adjacent to the soil berm in 2021 contained dieldrin, a pesticide, at concentrations exceeding Model Toxics Control Act (MTCA) Method A/B Cleanup Levels for Unrestricted Land Use.

2.2 Current Conditions

As of the date of publication of this SAP, the Property consists of 0.90 acres of vacant grass- and gravel-covered land with a soil berm along the western boundary. The Property was located in a residential area in the eastern portion of Olympia. Current Property features are shown on Figure 2.

2.3 Environmental Conditions

The following REC associated with the Property was identified in the July 11, 2021 Phase I ESA (PIONEER 2021):

- Concentrations of pesticides, specifically dieldrin, exceeding MTCA Method A/B Cleanup levels for Unrestricted Land Use have been reported adjacent to the soil berm on the western portion of the Property. Use of pesticides is typically associated with nurseries and pesticides tend to accumulate in shallow soil. The soil berm on the western portion of the Property was reportedly created in the mid-2010s by scraping the topsoil from the Property after demolition of the on-site structures.

Although not a REC, the Environmental Professional also recommended completing a ground penetrating radar survey to confirm no buried heating oil underground storage tanks (USTs) are present on-site. Given the age of the former residence (constructed in the 1940s) and office (constructed in the 1950s and burned in 1966), a heating oil tank (aboveground storage tank [AST] or UST) may have been present. PIONEER reviewed readily available and reasonably ascertainable records in an attempt to identify the historical heating source of the residence and office on the Property. No records were identified that suggested the use of heating oil or the former presence of a heating oil AST/UST at the

Property. However, due to ownership changes and the extent of time elapsed since construction and demolition, PIONEER did not identify a knowledgeable party to interview regarding the historical heating source. Historical Property features are shown on Figure 3.

2.4 Future Use of the Property

A development consisting of 16 or 17 owner-occupied high density residential units is planned for the Property.

2.5 Geologic Setting

The Property is relatively flat at an elevation of approximately 200 feet above mean sea level. The surrounding topography slopes slightly southeast to northwest towards Indian Creek, which is located approximately 2,000 feet to the west-northwest of the Property. The Property contains soils of the type 'Yelm Fine Sandy Loam', with 0 to 3 percent slopes. Subsurface geology consists of Pleistocene age glacial drift deposits, which includes till, outwash, alluvium, and sorted and unsorted sand, gravel, silt, and clay. Based on review of a well log located approximately 300 feet south of the Property (2117 Boulevard Road SE), subsurface soil consists of brown silty sands to depths of at least 31 feet below ground surface (bgs) and groundwater is anticipated to be approximately 27 feet bgs. Presumed groundwater flow is to the west-northwest, towards Indian Creek and Budd Inlet (PIONEER 2021).

2.6 Susceptible Areas

No wetlands or ecologically sensitive areas are apparent on or adjoining the Property. Freshwater emergent wetlands are located approximately 900 feet to the northeast and freshwater forested/shrub wetlands are located approximately 1,000 feet to the east. Margaret McKenny Park, the closest park to the Property, is located approximately 2,300 feet to the east. The closest school, Olympia Community School, is located approximately 500 feet to the northeast.

2.7 Conceptual Site Model

A simplified conceptual site model showing the possible pathways from sources through media and exposure scenarios to potential receptors is shown below.

Source of Concern	Primary Pathway	Primary Receptors	Secondary Receptors	Primary Samples
Historic On-Site Operations	Direct Contact with Soil	Future Residents	Construction and Maintenance Workers	Soil Samples

2.8 Planned Site Assessment

The assessment activities described in this SAP are designed to evaluate the environmental conditions of the Property to support the following:

- Assess soil in areas of the Property at which soil samples have not been previously collected to determine if contamination is present.
- Determine the extent of pesticide contamination in shallow soil at the Property at the previously identified location.
- If contamination is present, evaluate whether current environmental conditions warrant further investigation and/or remediation.

These Property assessment goals will be achieved through the following:

- Conducting limited subsurface activities to assess potential environmental impacts from historical use of the Property, as identified during the Phase I ESA.
- If contamination is discovered, determine if regulated constituents are present at concentrations greater than MTCA Method A/B Cleanup Levels for Unrestricted Land Use.
- Generate sufficient data to determine if the future residential use could require remediation of soil to meet risk-based and regulatory goals.

This Phase II ESA includes spatial and temporal limitations. The spatial limit for this investigation consists of the Property boundary. The temporal limit is the season covered by the investigation since investigation results could vary based on seasonal weather changes. For the objectives of this Phase II ESA, temporal variation will not be assessed.

SECTION 3: SAMPLING PLAN

The sampling plan for the assessment activities is presented in this section. The sampling plan includes the following: 1) a summary of the planned soil sampling locations, 2) rationales for those locations, and 3) descriptions of procedures and methods for field sampling. A summary of the soil samples to be collected for this assessment is presented in Table 1 and the sampling locations are shown on Figure 4.

3.1 Summary of Sampling Locations

PIONEER will advance up to seven soil borings and will collect soil samples (see Figure 4). The locations and number of sampling locations may change based on field conditions. Soil samples will be collected from each boring for visual classification, field screening, and potential laboratory analyses. PIONEER selected the sample locations to evaluate the RECs identified in the Phase I ESA and potential due care concerns related to the current and future planned uses of the Property. Specific sampling objectives and their respective sampling locations are discussed in the following paragraphs. Additional detail is provided in Table 1.

Sampling locations PTC-SB1 through PTC-SB4 will be advanced to depths of four feet bgs around previously collected sample "2" from April 2021. The borings will be advanced at locations 10 feet away from sample "2" in the four cardinal directions. Sample "2" exceeded MTCA Method A/B Cleanup Levels for Unrestricted Land Use at a depth of 10 inches bgs. One soil sample will be collected from just below the ground surface (0 to 1 foot bgs) and one soil sample will be collected from 2-4 feet bgs.

Sampling locations PTC-SB5 and PTC-SB6 will be advanced to depths of four feet bgs on the soil berm to determine if pesticides from historic nursery use have caused environmental impact to shallow soils. One soil sample will be collected from just below the ground surface (0 to 1 foot bgs) and one soil sample will be collected from 2-4 feet bgs.

If a heating oil UST is identified, one boring (PTC-SB7) will be advanced to the approximate depth of the base of the UST (usually 6 to 8 feet bgs). The soil samples will be collected as close to the UST as possible (within 3 feet of the edge) to assess if the UST has caused environmental impact to subsurface soil.

3.2 Premobilization Coordination

Prior to beginning field work, the following will occur:

- Subcontracting with GPRS and laboratories
- Completing required Health and Safety procedures for PIONEER and subcontractors
- Completing Public Utility Locate (i.e., 811)
- Obtain sampling equipment and supplies

3.3 Sampling Procedures and Methods

Geophysical survey procedures, soil sampling, quality control (QC) sampling, and waste management procedures and methods are summarized in this subsection. Sampling activities will be conducted in accordance with the QAPP (PIONEER 2020).

3.3.1 Geophysical Survey

GPRS will conduct a geophysical survey prior to any boring and sampling activities. The objectives of the survey are to (1) determine whether or not a heating oil UST is or was present around the former residence, (2) determine whether any buried debris is present in the soil berm on the Property's western portion, and (3) assess potential utilities near proposed boring locations. GPRS will utilize ground penetrating radar and electromagnetic conductivity tools to conduct the survey.

3.3.2 Soil Sampling

PIONEER's field representative will collect soil samples during sampling activities according to the methods described in SOP 2, Soil Sampling with a Hand Auger, included in the QAPP. Details of sampling activities are described as follows:

- PIONEER's field representative will collect continuous soil samples from each boring, visually characterize them in the field, and note physical indicators of environmental contamination.
- PIONEER's field representative will field-screen the soil at locations using a portable photoionization detector (PID) to identify the potential presence of volatile organic compounds (VOCs).
- PIONEER's field representative will collect soil samples for chemical analyses in accordance with the sampling design presented in Table 1.
- If evidence of a heating oil UST is identified, PIONEER's field representative will use the following criteria to determine one sample interval for chemical analyses at PTC-SB7. Where the PID results identify the potential presence of VOCs, the interval with the highest reading will be selected for analyses. When there are no detectable PID results, the following procedure and criteria will be used to determine the sample interval, in order of presentation:
  - If an interval has a specific odor that other intervals do not have, that interval will be selected for analysis.
  - If an interval has discoloration that does not appear to be the color of native soil, while other intervals appear to be the color of native soil, that interval will be selected for analysis.
  - In the absence of all indicators listed above within a given boring, the six to eight-foot depth interval will be selected for analysis.
- Soil cuttings will be placed back into their respective boreholes and the remaining borehole space will be filled with hydrated bentonite.

The sample containers will be logged on the chain of custody, packaged for transportation, and transported to the laboratory for analysis.

3.3.3 Quality Assurance and Quality Control

PIONEER's field representative will minimize the potential for cross-contamination by using new, disposable, nitrile sampling gloves for collection of each sample; decontaminating soil sampling equipment before each use; and, calibrating field instruments in accordance with manufacturer's instructions.

PIONEER's field representative will collect field QC samples as described in SOP 6, Field Quality Control Samples, included in the project QAPP and as summarized in Table 1. The sample handling and custody requirements, laboratory analytical methods, target reporting limits (RLs), and reporting protocols will be consistent with those outlined in the project QAPP.

3.3.4 Waste Management

PIONEER's field representative will manage investigation derived wastes as described in SOP 12, Investigative Derived Wastes, included in the project QAPP.

SECTION 4: ANALYSIS PLAN

The target constituents for the soil samples were selected based on the project goals and the suspected historical pesticide use at the Property. The target constituents for each sampling location are presented in Table 1 and will include pesticides at all locations and VOCs, total petroleum hydrocarbons (TPH) in the gasoline, diesel, and heavy oil ranges, and lead if evidence of a heating oil UST is identified. Laboratory analyses will be performed as described in the project QAPP. Samples will be submitted to Libby Environmental in Olympia, Washington for shipment to a subcontracted laboratory, per the QAPP, or analyzed using the following referenced methods:

- Organochlorine Pesticides – USEPA Method 8081A
- VOCs - USEPA Method 8260B
- TPH in the gasoline, diesel, and heavy oil ranges - Washington Department of Ecology (Ecology) Method NWTPH-Gx and NWTPH-Dx
- Lead – USEPA Method 7010

Laboratory testing, analysis method target RLs, quality assurance/quality control (QA/QC) procedures, and reporting protocols used or performed by the laboratories will be consistent with those described in the project QAPP and the needs of the project. Laboratory analytical results will be compared to MTCA Method A/B Cleanup Levels for Unrestricted Land Use.

SECTION 5: DATA EVALUATION AND REPORTING

Data collected during this Property assessment will be evaluated as described in Section 6 – Data Validation and Usability of the project QAPP (PIONEER 2020). Following data review, verification, and validation, PIONEER will prepare a Phase II ESA report summarizing the results. The report will include details of the activities performed, procedures followed, chemical analyses results, and recommendations. The reports will include a sampling location diagram, tabulated analytical results, soil boring logs, data review documentation, a copy of the laboratory analytical report for all samples collected, and a copy of the chain-of-custody records.

SECTION 6: ESTIMATED SCHEDULE

The environmental activities described in this SAP are to be implemented according to the schedule presented below. This schedule is in weeks relative to EPA approval of the SAP.

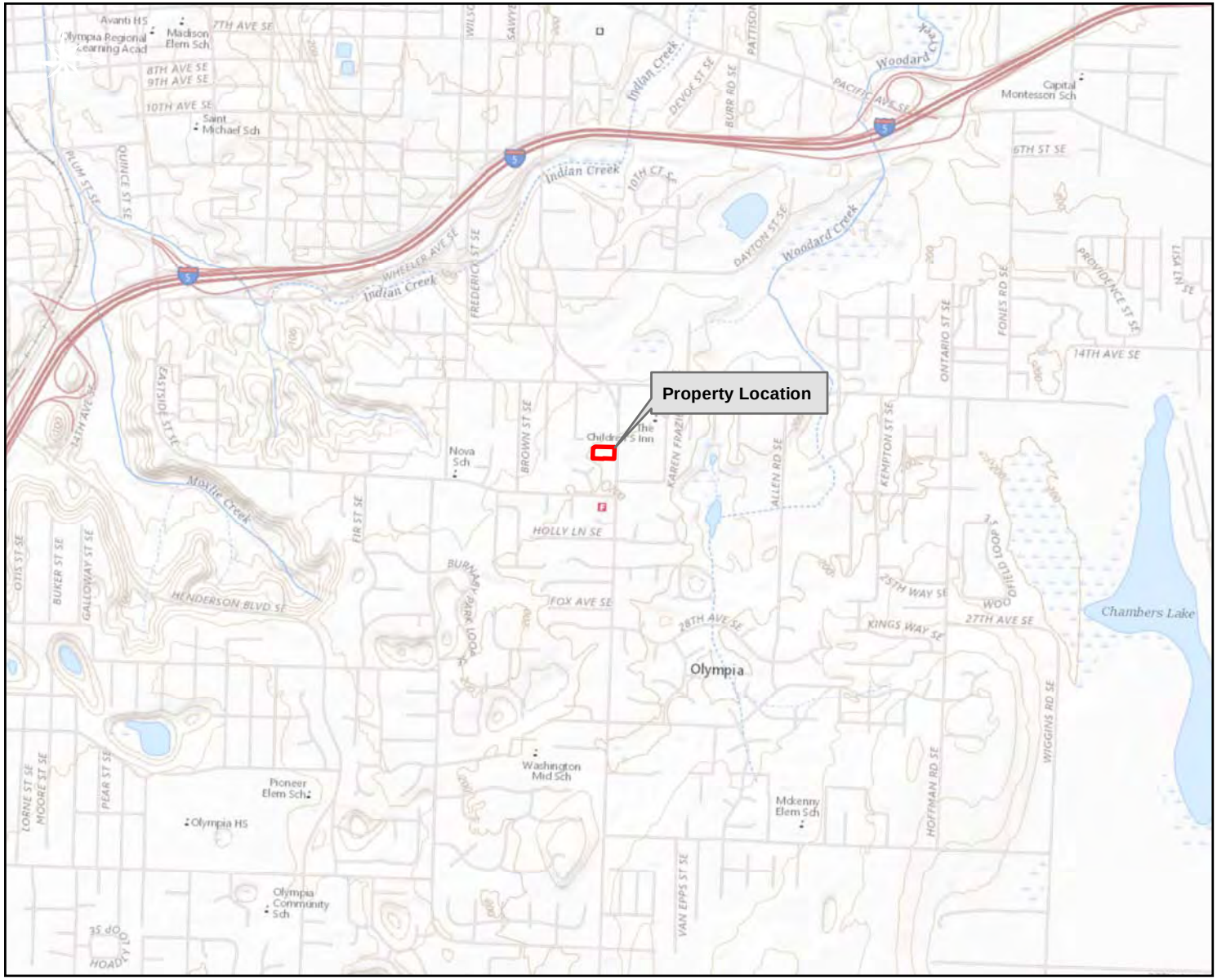
- Field Sampling: Week 1
- Laboratory Analyses: Week 2 through Week 3
- Data Evaluation and Reporting: Week 3 through Week 4

SECTION 7: REFERENCES

PIONEER. 2020. Quality Assurance Project Plan for the City of Olympia's Brownfield Assessment Grant. March.

PIONEER. 2021. Phase I Environmental Site Assessment for 2021 Boulevard Road SE, Olympia, Washington. July.

Figures



Legend

Property Location

0 750 1,500 2,250 Feet

PIONEER TECHNOLOGIES CORPORATION

Property Location Map
2021 Boulevard Road SE
Olympia, Washington

Figure 1

Legend

Property Boundary

0 25 50 75 Feet

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Current Property Features Diagram
2021 Boulevard Road SE
Olympia, Washington

Figure 2

Legend

Proposed Sampling Locations

Historical Sampling Locations

- Soil Sampling Location (April 2021, Westminster Presbyterian Church)
- Soil Sampling Location (August 2020, ADESA)
- Soil Sampling Location (June 2009, HGA)
- Concentration of all analyzed constituents below MTCA Method A/B Cleanup Level for Unrestricted Land use
- Concentration of dieldrin exceeds the MTCA Method A/B Cleanup Level for Unrestricted Land use

Historical Property Features

- Former Structures
- Closed in Place Concrete Septic Tank

Other Features

- Property Boundary

Notes:
-Soil sample and historical feature locations obtained from ADESA 2020 and Ecology 2021.

0 20 40 60 Feet

PIONEER TECHNOLOGIES CORPORATION

Historical and Proposed Sample Location Diagram
2021 Boulevard Road SE
Olympia, Washington

Figure 3

Tables

Table 1: Proposed Sampling Design

Boring Type	Boring ID	Boring Location Note[1]	Estimated Boring Depth (in feet bgs)	Media	Potential Sample Interval (in feet bgs)	Sample Purpose	Contingent Sample?	Constituents			
								Pesticides	VOCs	TPH-G, D, and HO (w/o SGC)	Lead
Hand Auger	PTC-SB1	North of previous dieldrin exceedance	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB2	East of previous dieldrin exceedance	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB3	South of previous dieldrin exceedance	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB4	West of previous dieldrin exceedance	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB5	North portion of soil berm	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB6	South portion of soil berm	4	Soil	0-1	Characterize historical pesticide applications in soil.	No	1			
					2-4	Characterize historical pesticide applications in soil.	No	1			
	PTC-SB7	Location of heating oil UST, if present	8	Soil	6-8	Characterize soils in likely zone of impact from a heating oil UST release	Yes	1	1	1	1
Field QC Samples[2]				Soil	--	Field duplicate	No	1			
				Soil	--	Equipment Blank	No	1			
				Water	--	VOC trip blank	Yes		1		
							Sample Count	15	2	1	1

Table Notes:

bgs: below ground surface, VOCs: volatile organic compounds, TPH-D, G, and HO: total petroleum hydrocarbons in the gasoline, diesel, and heavy oil range, SGC: silica gel cleanup, QC: quality control.

[1] Boring locations will be adjusted as necessary in the field based on overhead power lines, underground utilities, etc.

[2] Frequency expectations for field QC samples will be one sample per 20 samples per matrix (except VOC trip blanks will be one sample per cooler). A trip blank will only be collected if samples are analyzed for VOCs.

Appendix B

Libby Environmental, Inc.
3322 South Bay Road NE • Olympia, WA 98506-2957

August 12, 2021

Joel Hecker
Pioneer Technologies Corporation
5205 Corporate Center Ct SE, Suite C
Lacey, WA 98503

Dear Mr. Hecker:

Please find enclosed the analytical data report for the 2021 Boulevard Rd SE Project located in Olympia, Washington.

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

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

Sincerely,

Sherry L. Chilcutt
Senior Chemist
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@gmail.com

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Chain of Custody Record

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Date: 7/26 Page: 1 of 1

Client: Pioneer Technologies
Project Manager: Joel Hecker
Address: 5205 Corporate Center Ct. SE
Project Name: 2021 Boulevard Rd SE
City: Lacey State: WA Zip:
Location: 2021 Boulevard Rd SE City, State: Oly, WA
Phone: 360-828-3739 Fax:
Collector: JH Date of Collection: 7/26/21
Client Project # 2021 Boulevard Rd SE
Email: heckerj@ussioneer.com

	Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270	Semi Vol 8270	Pesticides 8081			Field Notes
1	PTC-SB1-0-1-0726	0-1'	1000	Grab	2 jars												X				
2	PTC-SB1-2-4-0726	2-4	1030																		
3	PTC-SB2-0-1-0726	0-1	1040																		
4	PTC-SB2-0-1-0726-01	0-1	1040																		
5	PTC-SB3-0-1-0726	0-1	1100																		
6	PTC-SB3-2-4-0726	2-4	1130																		
7	PTC-SB4-0-1-0726	0-1	1140																		
8	PTC-SB4-3-5-0726	3-5	1200																		
9	PTC-SB5-0-1-0726	0-1	1220																		
10	PTC-SB5-3-5-0726	3-5	1250																		
11	PTC-SB6-0-1-0726	0-1	1300																		
12	PTC-SB6-3-5_0726	3-5	1320																		
13	PTC-SB7-0-1-0726	0-1	1340																		
14	PTC-SB7-4-6-0726	4-6	1350																		
15	EB-0726	—	1355	Blank	1L Amber												X				
16																					
17																					

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	7/26/21 1420	[signature]	7/26/21 1420
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

	Y	N
Good Condition?		
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks: ~~EDD~~ 7/26 Std TAT

TAT: 24HR 48HR 5-DAY

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

Distribution: White - Lab, Yellow - Originator

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

2021 BOULEVARD RD SE PROJECT
Pioneer Technologies Corporation
Libby Project # L210726-3
Date Received 7/26/2021
Time Received 2:20 PM

Received By KD

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete?	☑ Yes	☐ No	
2. How was the sample delivered?	☑ Hand Delivered	☐ Picked Up	☐ Shipped

Log In

3. Cooler or Shipping Container is present.	☑ Yes	☐ No	☐ N/A
4. Cooler or Shipping Container is in good condition.	☑ Yes	☐ No	☐ N/A
5. Cooler or Shipping Container has Custody Seals present.	☐ Yes	☑ No	☐ N/A
6. Was an attempt made to cool the samples?	☑ Yes	☐ No	☐ N/A
7. Temperature of cooler (0°C to 8°C recommended)	0.1 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	0.6 °C		
9. Did all containers arrive in good condition (unbroken)?	☑ Yes	☐ No	
10. Is it clear what analyses were requested?	☑ Yes	☐ No	
11. Did container labels match Chain of Custody?	☑ Yes	☐ No	
12. Are matrices correctly identified on Chain of Custody?	☑ Yes	☐ No	
13. Are correct containers used for the analysis indicated?	☑ Yes	☐ No	
14. Is there sufficient sample volume for indicated analysis?	☑ Yes	☐ No	
15. Were all containers properly preserved per each analysis?	☑ Yes	☐ No	
16. Were VOA vials collected correctly (no headspace)?	☐ Yes	☐ No	☑ N/A
17. Were all holding times able to be met?	☑ Yes	☐ No	

Discrepancies/ Notes

18. Was client notified of all discrepancies? ☐ Yes ☐ No ☑ N/A

Person Notified: _____ Date: _____

By Whom: _____ Via: _____

Regarding: _____

19. Comments. _____

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Kodey Eley
3322 South Bay Road NE
Olympia, WA 98506

RE: 2021 Boulevard Rd SW
Work Order Number: 2107424

August 12, 2021

Attention Kodey Eley:

Fremont Analytical, Inc. received 15 sample(s) on 7/27/2021 for the analyses presented in the following report.

Organochlorine Pesticides by EPA Method 8081
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *08/12/2021*

CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW
Work Order: 2107424

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2107424-001	PTC-SB1-0-1-0726	07/26/2021 10:00 AM	07/27/2021 3:36 PM
2107424-002	PTC-SB1-2-4-0726	07/26/2021 10:30 AM	07/27/2021 3:36 PM
2107424-003	PTC-SB2-0-1-0726	07/26/2021 10:40 AM	07/27/2021 3:36 PM
2107424-004	PTC-SB3-0-1-0726	07/26/2021 11:00 AM	07/27/2021 3:36 PM
2107424-005	PTC-SB3-2-4-0726	07/26/2021 11:30 AM	07/27/2021 3:36 PM
2107424-006	PTC-SB4-0-1-0726	07/26/2021 11:40 AM	07/27/2021 3:36 PM
2107424-007	PTC-SB4-3-5-0726	07/26/2021 12:00 PM	07/27/2021 3:36 PM
2107424-008	PTC-SB5-0-1-0726	07/27/2021 12:20 PM	07/27/2021 3:36 PM
2107424-009	PTC-SB5-3-5-0726	07/26/2021 12:50 PM	07/27/2021 3:36 PM
2107424-010	PTC-SB6-0-1-0726	07/26/2021 1:00 PM	07/27/2021 3:36 PM
2107424-011	PTC-SB6-3-5-0726	07/26/2021 1:20 PM	07/27/2021 3:36 PM
2107424-012	PTC-SB7-0-1-0726	07/26/2021 1:40 PM	07/27/2021 3:36 PM
2107424-013	PTC-SB7-4-6-0726	07/26/2021 1:50 PM	07/27/2021 3:36 PM
2107424-014	EB-0726	07/26/2021 1:55 PM	07/27/2021 3:36 PM
2107424-015	PTC-SB2-0-1-0726-01	07/26/2021 10:40 AM	07/27/2021 3:36 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2107424**
Date: **8/12/2021**

CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

8/12/2021: Revision 1 includes additional analysis requested by client.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 10:00:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-001
Matrix: Soil
Client Sample ID: **PTC-SB1-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0691		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Alpha BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Beta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Gamma BHC (Lindane)	ND	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Delta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Heptachlor	ND	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Aldrin	ND	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Heptachlor epoxide	ND	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
gamma-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endosulfan I	0.0240	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
alpha-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Dieldrin	0.878	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
4,4´-DDE	0.0230	0.00987		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endrin	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endosulfan II	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
4,4´-DDD	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endrin aldehyde	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endosulfan sulfate	ND	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
4,4´-DDT	0.0335	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Endrin ketone	0.0225	0.0148		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Methoxychlor	ND	0.0197		mg/Kg-dry	1	8/3/2021 5:40:28 PM
Surr: Decachlorobiphenyl	109	15.8 - 187		%Rec	1	8/3/2021 5:40:28 PM
Surr: Tetrachloro-m-xylene	101	30.9 - 153		%Rec	1	8/3/2021 5:40:28 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	6.17	0.500		wt%	1	8/2/2021 9:14:52 AM

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 10:30:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-002
Matrix: Soil
Client Sample ID: **PTC-SB1-2-4-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0758		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Alpha BHC	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Beta BHC	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Gamma BHC (Lindane)	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Delta BHC	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Heptachlor	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Aldrin	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Heptachlor epoxide	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
gamma-Chlordane	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endosulfan I	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
alpha-Chlordane	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Dieldrin	0.0494	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
4,4´-DDE	0.0306	0.0108		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endrin	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endosulfan II	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
4,4´-DDD	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endrin aldehyde	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endosulfan sulfate	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
4,4´-DDT	0.0262	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Endrin ketone	ND	0.0162		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Methoxychlor	ND	0.0217		mg/Kg-dry	1	8/3/2021 6:09:39 PM
Surr: Decachlorobiphenyl	111	15.8 - 187		%Rec	1	8/3/2021 6:09:39 PM
Surr: Tetrachloro-m-xylene	105	30.9 - 153		%Rec	1	8/3/2021 6:09:39 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	12.3	0.500		wt%	1	8/2/2021 9:14:52 AM

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 10:40:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-003
Matrix: Soil
Client Sample ID: **PTC-SB2-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0691		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Alpha BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Beta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Gamma BHC (Lindane)	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Delta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Heptachlor	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Aldrin	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Heptachlor epoxide	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
gamma-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endosulfan I	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
alpha-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Dieldrin	0.0700	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
4,4´-DDE	ND	0.00987		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endrin	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endosulfan II	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
4,4´-DDD	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endrin aldehyde	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endosulfan sulfate	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
4,4´-DDT	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Endrin ketone	ND	0.0148		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Methoxychlor	ND	0.0197		mg/Kg-dry	1	8/3/2021 6:19:23 PM
Surr: Decachlorobiphenyl	117	15.8 - 187		%Rec	1	8/3/2021 6:19:23 PM
Surr: Tetrachloro-m-xylene	107	30.9 - 153		%Rec	1	8/3/2021 6:19:23 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	2.22	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 11:00:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-004
Matrix: Soil
Client Sample ID: **PTC-SB3-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0706		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Alpha BHC	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Beta BHC	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Gamma BHC (Lindane)	ND	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Delta BHC	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Heptachlor	ND	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Aldrin	ND	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Heptachlor epoxide	ND	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
gamma-Chlordane	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endosulfan I	ND	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
alpha-Chlordane	0.0169	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Dieldrin	0.332	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
4,4´-DDE	0.0433	0.0101		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endrin	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endosulfan II	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
4,4´-DDD	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endrin aldehyde	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endosulfan sulfate	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
4,4´-DDT	0.0731	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Endrin ketone	ND	0.0151		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Methoxychlor	ND	0.0202		mg/Kg-dry	1	8/3/2021 6:29:05 PM
Surr: Decachlorobiphenyl	108	15.8 - 187		%Rec	1	8/3/2021 6:29:05 PM
Surr: Tetrachloro-m-xylene	96.8	30.9 - 153		%Rec	1	8/3/2021 6:29:05 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	4.59	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 11:30:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-005
Matrix: Soil
Client Sample ID: **PTC-SB3-2-4-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0759		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Alpha BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Beta BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Gamma BHC (Lindane)	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Delta BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Heptachlor	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Aldrin	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Heptachlor epoxide	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
gamma-Chlordane	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endosulfan I	ND	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
alpha-Chlordane	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Dieldrin	0.0748	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
4,4´-DDE	0.123	0.0108		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endrin	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endosulfan II	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
4,4´-DDD	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endrin aldehyde	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endosulfan sulfate	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
4,4´-DDT	0.0186	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Endrin ketone	ND	0.0163		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Methoxychlor	ND	0.0217		mg/Kg-dry	1	8/3/2021 6:38:50 PM
Surr: Decachlorobiphenyl	115	15.8 - 187		%Rec	1	8/3/2021 6:38:50 PM
Surr: Tetrachloro-m-xylene	111	30.9 - 153		%Rec	1	8/3/2021 6:38:50 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	10.7	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 11:40:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-006
Matrix: Soil
Client Sample ID: **PTC-SB4-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0670		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Alpha BHC	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Beta BHC	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Gamma BHC (Lindane)	ND	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Delta BHC	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Heptachlor	ND	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Aldrin	ND	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Heptachlor epoxide	ND	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
gamma-Chlordane	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endosulfan I	ND	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
alpha-Chlordane	0.0170	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Dieldrin	0.0615	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
4,4´-DDE	0.0318	0.00957		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endrin	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endosulfan II	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
4,4´-DDD	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endrin aldehyde	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endosulfan sulfate	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
4,4´-DDT	0.0432	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Endrin ketone	ND	0.0143		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Methoxychlor	ND	0.0191		mg/Kg-dry	1	8/3/2021 6:48:38 PM
Surr: Decachlorobiphenyl	93.8	15.8 - 187		%Rec	1	8/3/2021 6:48:38 PM
Surr: Tetrachloro-m-xylene	101	30.9 - 153		%Rec	1	8/3/2021 6:48:38 PM
Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	5.66	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 12:00:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-007
Matrix: Soil
Client Sample ID: **PTC-SB4-3-5-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0691		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Alpha BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Beta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Gamma BHC (Lindane)	ND	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Delta BHC	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Heptachlor	ND	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Aldrin	ND	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Heptachlor epoxide	ND	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
gamma-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Endosulfan I	ND	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
alpha-Chlordane	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Dieldrin	0.0701	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
4,4´-DDE	0.158	0.00987		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Endrin	0.196	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Endosulfan II	0.0238	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
4,4´-DDD	0.110	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Endrin aldehyde	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Endosulfan sulfate	ND	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
4,4´-DDT	0.323	0.148	D	mg/Kg-dry	10	8/3/2021 3:43:23 PM
Endrin ketone	0.0498	0.0148		mg/Kg-dry	1	8/3/2021 7:46:48 PM
Methoxychlor	ND	0.197	D	mg/Kg-dry	10	8/3/2021 3:43:23 PM
Surr: Decachlorobiphenyl	102	15.8 - 187		%Rec	1	8/3/2021 7:46:48 PM
Surr: Tetrachloro-m-xylene	107	30.9 - 153		%Rec	1	8/3/2021 7:46:48 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	8.32	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/27/2021 12:20:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-008
Matrix: Soil
Client Sample ID: **PTC-SB5-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0657		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Alpha BHC	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Beta BHC	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Gamma BHC (Lindane)	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Delta BHC	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Heptachlor	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Aldrin	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Heptachlor epoxide	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
gamma-Chlordane	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Endosulfan I	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
alpha-Chlordane	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Dieldrin	0.0197	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
4,4´-DDE	ND	0.00938		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Endrin	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Endosulfan II	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
4,4´-DDD	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Endrin aldehyde	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Endosulfan sulfate	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
4,4´-DDT	ND	0.141	D	mg/Kg-dry	10	8/3/2021 3:53:10 PM
Endrin ketone	ND	0.0141		mg/Kg-dry	1	8/3/2021 7:56:36 PM
Methoxychlor	ND	0.188	D	mg/Kg-dry	10	8/3/2021 3:53:10 PM
Surr: Decachlorobiphenyl	103	15.8 - 187		%Rec	1	8/3/2021 7:56:36 PM
Surr: Tetrachloro-m-xylene	111	30.9 - 153		%Rec	1	8/3/2021 7:56:36 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	5.68	0.500		wt%	1	8/2/2021 9:14:52 AM

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 12:50:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-009
Matrix: Soil
Client Sample ID: **PTC-SB5-3-5-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0761		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Alpha BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Beta BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Gamma BHC (Lindane)	ND	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Delta BHC	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Heptachlor	ND	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Aldrin	ND	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Heptachlor epoxide	ND	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
gamma-Chlordane	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Endosulfan I	0.0251	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
alpha-Chlordane	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Dieldrin	ND	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
4,4´-DDE	0.0242	0.0109		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Endrin	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Endosulfan II	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
4,4´-DDD	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Endrin aldehyde	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Endosulfan sulfate	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
4,4´-DDT	ND	0.163	D	mg/Kg-dry	10	8/3/2021 4:02:55 PM
Endrin ketone	ND	0.0163		mg/Kg-dry	1	8/3/2021 8:06:18 PM
Methoxychlor	ND	0.217	D	mg/Kg-dry	10	8/3/2021 4:02:55 PM
Surr: Decachlorobiphenyl	103	15.8 - 187		%Rec	1	8/3/2021 8:06:18 PM
Surr: Tetrachloro-m-xylene	115	30.9 - 153		%Rec	1	8/3/2021 8:06:18 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	10.3	0.500		wt%	1	8/2/2021 9:14:52 AM

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 1:00:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-010
Matrix: Soil
Client Sample ID: **PTC-SB6-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0715		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Alpha BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Beta BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Gamma BHC (Lindane)	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Delta BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Heptachlor	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Aldrin	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Heptachlor epoxide	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
gamma-Chlordane	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Endosulfan I	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
alpha-Chlordane	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Dieldrin	0.0373	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
4,4´-DDE	0.0242	0.0102		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Endrin	0.0167	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Endosulfan II	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
4,4´-DDD	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Endrin aldehyde	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Endosulfan sulfate	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
4,4´-DDT	ND	0.153	D	mg/Kg-dry	10	8/3/2021 4:12:43 PM
Endrin ketone	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:16:03 PM
Methoxychlor	ND	0.204	D	mg/Kg-dry	10	8/3/2021 4:12:43 PM
Surr: Decachlorobiphenyl	95.8	15.8 - 187		%Rec	1	8/3/2021 8:16:03 PM
Surr: Tetrachloro-m-xylene	92.6	30.9 - 153		%Rec	1	8/3/2021 8:16:03 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	5.88	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 1:20:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-011
Matrix: Soil
Client Sample ID: **PTC-SB6-3-5-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0771		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Alpha BHC	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Beta BHC	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Gamma BHC (Lindane)	ND	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Delta BHC	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Heptachlor	ND	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Aldrin	ND	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Heptachlor epoxide	ND	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
gamma-Chlordane	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Endosulfan I	ND	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
alpha-Chlordane	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Dieldrin	0.0666	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
4,4´-DDE	0.0300	0.0110		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Endrin	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Endosulfan II	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
4,4´-DDD	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Endrin aldehyde	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Endosulfan sulfate	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
4,4´-DDT	ND	0.165	D	mg/Kg-dry	10	8/3/2021 4:22:32 PM
Endrin ketone	ND	0.0165		mg/Kg-dry	1	8/3/2021 8:25:45 PM
Methoxychlor	ND	0.220	D	mg/Kg-dry	10	8/3/2021 4:22:32 PM
Surr: Decachlorobiphenyl	108	15.8 - 187		%Rec	1	8/3/2021 8:25:45 PM
Surr: Tetrachloro-m-xylene	108	30.9 - 153		%Rec	1	8/3/2021 8:25:45 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	10.9	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 1:40:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-012
Matrix: Soil
Client Sample ID: **PTC-SB7-0-1-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0716		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Alpha BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Beta BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Gamma BHC (Lindane)	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Delta BHC	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Heptachlor	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Aldrin	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Heptachlor epoxide	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
gamma-Chlordane	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Endosulfan I	ND	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
alpha-Chlordane	0.0182	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Dieldrin	0.132	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
4,4´-DDE	0.0621	0.0102		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Endrin	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Endosulfan II	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
4,4´-DDD	0.0176	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Endrin aldehyde	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Endosulfan sulfate	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
4,4´-DDT	ND	0.153	D	mg/Kg-dry	10	8/3/2021 4:32:20 PM
Endrin ketone	ND	0.0153		mg/Kg-dry	1	8/3/2021 8:35:29 PM
Methoxychlor	ND	0.204	D	mg/Kg-dry	10	8/3/2021 4:32:20 PM
Surr: Decachlorobiphenyl	105	15.8 - 187		%Rec	1	8/3/2021 8:35:29 PM
Surr: Tetrachloro-m-xylene	103	30.9 - 153		%Rec	1	8/3/2021 8:35:29 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	3.04	0.500		wt%	1	8/2/2021 9:14:52 AM

Client: Libby Environmental
Collection Date: 7/26/2021 1:50:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-013
Matrix: Soil
Client Sample ID: **PTC-SB7-4-6-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33201		Analyst: MM
Toxaphene	ND	0.0782		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Alpha BHC	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Beta BHC	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Gamma BHC (Lindane)	ND	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Delta BHC	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Heptachlor	ND	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Aldrin	ND	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Heptachlor epoxide	ND	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
gamma-Chlordane	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Endosulfan I	ND	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
alpha-Chlordane	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Dieldrin	0.0207	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
4,4´-DDE	0.0689	0.0112		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Endrin	0.0617	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Endosulfan II	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
4,4´-DDD	0.0506	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Endrin aldehyde	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Endosulfan sulfate	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
4,4´-DDT	ND	0.167	D	mg/Kg-dry	10	8/3/2021 4:42:07 PM
Endrin ketone	ND	0.0167		mg/Kg-dry	1	8/3/2021 8:45:12 PM
Methoxychlor	ND	0.223	D	mg/Kg-dry	10	8/3/2021 4:42:07 PM
Surr: Decachlorobiphenyl	108	15.8 - 187		%Rec	1	8/3/2021 8:45:12 PM
Surr: Tetrachloro-m-xylene	105	30.9 - 153		%Rec	1	8/3/2021 8:45:12 PM

NOTES:
Diluted due to matrix.

Sample Moisture (Percent Moisture)				Batch ID: R68932		Analyst: ALB
Percent Moisture	11.2	0.500		wt%	1	8/2/2021 9:14:52 AM

Analytical Report

Work Order: **2107424**
Date Reported: **8/12/2021**

Client: Libby Environmental
Collection Date: 7/26/2021 1:55:00 PM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-014
Matrix: Water
Client Sample ID: **EB-0726**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33174		Analyst: IH
Toxaphene	ND	0.198		µg/L	1	7/30/2021 3:27:14 PM
alpha-BHC	ND	0.0297		µg/L	1	7/30/2021 3:27:14 PM
beta-BHC	ND	0.0297		µg/L	1	7/30/2021 3:27:14 PM
Gamma BHC (Lindane)	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
delta-BHC	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Heptachlor	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Aldrin	ND	0.0248		µg/L	1	7/30/2021 3:27:14 PM
Heptachlor epoxide	ND	0.0297		µg/L	1	7/30/2021 3:27:14 PM
gamma-Chlordane	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endosulfan I	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
alpha-Chlordane	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Dieldrin	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
4,4´-DDE	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endrin	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endosulfan II	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
4,4´-DDD	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endrin aldehyde	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endosulfan sulfate	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
4,4´-DDT	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Endrin ketone	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Methoxychlor	ND	0.0396		µg/L	1	7/30/2021 3:27:14 PM
Surr: Decachlorobiphenyl	59.6	5 - 101		%Rec	1	7/30/2021 3:27:14 PM
Surr: Tetrachloro-m-xylene	73.2	18.7 - 122		%Rec	1	7/30/2021 3:27:14 PM

Client: Libby Environmental
Collection Date: 7/26/2021 10:40:00 AM
Project: 2021 Boulevard Rd SW
Lab ID: 2107424-015
Matrix: Soil
Client Sample ID: **PTC-SB2-0-1-0726-01**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Organochlorine Pesticides by EPA Method 8081				Batch ID: 33271		Analyst: MM
Toxaphene	ND	0.0665		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Alpha BHC	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Beta BHC	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Gamma BHC (Lindane)	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Delta BHC	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Heptachlor	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Aldrin	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Heptachlor epoxide	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
gamma-Chlordane	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endosulfan I	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
alpha-Chlordane	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Dieldrin	0.0184	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
4,4´-DDE	ND	0.00950		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endrin	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endosulfan II	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
4,4´-DDD	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endrin aldehyde	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endosulfan sulfate	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
4,4´-DDT	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Endrin ketone	ND	0.0142		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Methoxychlor	ND	0.0190		mg/Kg-dry	1	8/10/2021 12:32:20 PM
Surr: Decachlorobiphenyl	100	15.8 - 187		%Rec	1	8/10/2021 12:32:20 PM
Surr: Tetrachloro-m-xylene	110	30.9 - 153		%Rec	1	8/10/2021 12:32:20 PM
Sample Moisture (Percent Moisture)				Batch ID: R69167		Analyst: ALB
Percent Moisture	2.04	0.500		wt%	1	8/11/2021 11:34:33 AM

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **MB-33201** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **MBLKS** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396637**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	ND	0.0700									
Alpha BHC	ND	0.0150									
Beta BHC	ND	0.0150									
Gamma BHC (Lindane)	ND	0.0100									
Delta BHC	ND	0.0150									
Heptachlor	ND	0.0100									
Aldrin	ND	0.0100									
Heptachlor epoxide	ND	0.0100									
gamma-Chlordane	ND	0.0150									
Endosulfan I	ND	0.0100									
alpha-Chlordane	ND	0.0150									
Dieldrin	ND	0.0100									
4,4´-DDE	ND	0.0100									
Endrin	ND	0.0150									
Endosulfan II	ND	0.0150									
4,4´-DDD	ND	0.0150									
Endrin aldehyde	ND	0.0150									
Endosulfan sulfate	ND	0.0150									
4,4´-DDT	ND	0.0150									
Endrin ketone	ND	0.0150									
Methoxychlor	ND	0.0200									
Surr: Decachlorobiphenyl	0.224		0.2000		112	15.8	187				
Surr: Tetrachloro-m-xylene	0.212		0.2000		106	30.9	153				

Sample ID: **LCS1-33201** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **LCSS** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396638**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.189	0.0150	0.2000	0	94.6	57.2	154				
Beta BHC	0.188	0.0150	0.2000	0	94.1	56.4	155				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **LCS1-33201** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **LCSS** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396638**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gamma BHC (Lindane)	0.185	0.0100	0.2000	0	92.3	57.5	158				
Delta BHC	0.185	0.0150	0.2000	0	92.4	56.1	157				
Heptachlor	0.193	0.0100	0.2000	0	96.4	50.9	167				
Aldrin	0.185	0.0100	0.2000	0	92.5	52.2	160				
Heptachlor epoxide	0.191	0.0100	0.2000	0	95.7	50.1	169				
gamma-Chlordane	0.189	0.0150	0.2000	0	94.6	46	165				
Endosulfan I	0.194	0.0100	0.2000	0	96.9	50.2	166				
alpha-Chlordane	0.188	0.0150	0.2000	0	94.0	46	165				
Dieldrin	0.181	0.0100	0.2000	0	90.5	48.2	168				
4,4´-DDE	0.186	0.0100	0.2000	0	93.1	42.2	169				
Endrin	0.183	0.0150	0.2000	0	91.7	45.5	176				
Endosulfan II	0.169	0.0150	0.2000	0	84.5	46.7	176				
4,4´-DDD	0.183	0.0150	0.2000	0	91.4	42.1	181				
Endrin aldehyde	0.171	0.0150	0.2000	0	85.6	46	178				
Endosulfan sulfate	0.185	0.0150	0.2000	0	92.4	42.8	183				
4,4´-DDT	0.179	0.0150	0.2000	0	89.6	26.5	202				
Endrin ketone	0.180	0.0150	0.2000	0	89.8	40.6	193				
Methoxychlor	0.174	0.0200	0.2000	0	86.8	35.9	177				
Surr: Decachlorobiphenyl	0.213		0.2000		107	15.8	187				
Surr: Tetrachloro-m-xylene	0.205		0.2000		103	30.9	153				

Sample ID: **LCS2-33201** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **LCSS** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396639**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.838	0.0700	1.000	0	83.8	46	150				
Surr: Decachlorobiphenyl	0.223		0.2000		112	15.8	187				
Surr: Tetrachloro-m-xylene	0.211		0.2000		105	30.9	153				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **2107424-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **PTC-SB1-0-1-0726** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396670**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.205	0.0157	0.2092	0	97.8	54.9	170				
Beta BHC	0.208	0.0157	0.2092	0	99.3	71.7	151				
Gamma BHC (Lindane)	0.200	0.0105	0.2092	0	95.5	61.6	164				
Delta BHC	0.206	0.0157	0.2092	0	98.5	61.3	161				
Heptachlor	0.212	0.0105	0.2092	0	101	63.6	175				
Aldrin	0.199	0.0105	0.2092	0	95.3	68	161				
Heptachlor epoxide	0.208	0.0105	0.2092	0	99.4	62	168				
gamma-Chlordane	0.205	0.0157	0.2092	0	98.1	49.8	175				
Endosulfan I	0.202	0.0105	0.2092	0.02402	85.0	59.2	164				
alpha-Chlordane	0.207	0.0157	0.2092	0.01252	93.1	57.2	170				
Dieldrin	0.751	0.0105	0.2092	0.8779	-60.9	58.6	165				S
4,4´-DDE	0.223	0.0105	0.2092	0.02304	95.8	50.5	178				
Endrin	0.203	0.0157	0.2092	0	97.1	67.6	164				
Endosulfan II	0.189	0.0157	0.2092	0	90.4	55.3	168				
4,4´-DDD	0.211	0.0157	0.2092	0	101	49.8	180				
Endrin aldehyde	0.192	0.0157	0.2092	0	91.6	43.3	168				
Endosulfan sulfate	0.206	0.0157	0.2092	0	98.3	41.9	172				
4,4´-DDT	0.199	0.0157	0.2092	0.03354	79.2	35	184				
Endrin ketone	0.217	0.0157	0.2092	0.02247	92.9	44.7	180				
Methoxychlor	0.211	0.0209	0.2092	0	101	31.6	185				
Surr: Decachlorobiphenyl	0.224		0.2092		107	15.8	187				
Surr: Tetrachloro-m-xylene	0.217		0.2092		104	30.9	153				

NOTES:
S - Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: **2107424-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **PTC-SB1-0-1-0726** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396672**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.193	0.0154	0.2053	0	93.9	54.9	170	0.2046	5.89	30	
Beta BHC	0.196	0.0154	0.2053	0	95.2	71.7	151	0.2076	6.01	30	

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **2107424-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/2/2021** RunNo: **69009**
Client ID: **PTC-SB1-0-1-0726** Batch ID: **33201** Analysis Date: **8/3/2021** SeqNo: **1396672**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gamma BHC (Lindane)	0.188	0.0103	0.2053	0	91.7	61.6	164	0.1999	5.93	30	
Delta BHC	0.196	0.0154	0.2053	0	95.3	61.3	161	0.2060	5.17	30	
Heptachlor	0.198	0.0103	0.2053	0	96.5	63.6	175	0.2118	6.70	30	
Aldrin	0.187	0.0103	0.2053	0	91.1	68	161	0.1993	6.38	30	
Heptachlor epoxide	0.195	0.0103	0.2053	0	95.1	62	168	0.2079	6.33	30	
gamma-Chlordane	0.189	0.0154	0.2053	0	92.2	49.8	175	0.2053	8.10	30	
Endosulfan I	0.192	0.0103	0.2053	0.02402	81.7	59.2	164	0.2018	5.14	30	
alpha-Chlordane	0.197	0.0154	0.2053	0.01252	90.0	57.2	170	0.2073	4.95	30	
Dieldrin	0.977	0.0103	0.2053	0.8779	48.3	58.6	165	0.7506	26.2	30	S
4,4´-DDE	0.215	0.0103	0.2053	0.02304	93.5	50.5	178	0.2233	3.82	30	
Endrin	0.193	0.0154	0.2053	0	93.8	67.6	164	0.2032	5.39	30	
Endosulfan II	0.183	0.0154	0.2053	0	89.0	55.3	168	0.1891	3.42	30	
4,4´-DDD	0.207	0.0154	0.2053	0	101	49.8	180	0.2112	2.17	30	
Endrin aldehyde	0.185	0.0154	0.2053	0	90.1	43.3	168	0.1917	3.60	30	
Endosulfan sulfate	0.199	0.0154	0.2053	0	97.0	41.9	172	0.2057	3.26	30	
4,4´-DDT	0.201	0.0154	0.2053	0.03354	81.8	35	184	0.1991	1.17	30	
Endrin ketone	0.220	0.0154	0.2053	0.02247	96.2	44.7	180	0.2169	1.39	30	
Methoxychlor	0.202	0.0205	0.2053	0	98.3	31.6	185	0.2107	4.33	30	
Surr: Decachlorobiphenyl	0.227		0.2053		110	15.8	187		0		
Surr: Tetrachloro-m-xylene	0.207		0.2053		101	30.9	153		0		

NOTES:
S - Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: **MB-33271** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **MBLKS** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	ND	0.0700									
Alpha BHC	ND	0.0150									
Beta BHC	ND	0.0150									
Gamma BHC (Lindane)	ND	0.0100									

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **MB-33271** SampType: **MBLK** Units: **mg/Kg** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **MBLKS** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Delta BHC	ND	0.0150									
Heptachlor	ND	0.0100									
Aldrin	ND	0.0100									
Heptachlor epoxide	ND	0.0100									
gamma-Chlordane	ND	0.0150									
Endosulfan I	ND	0.0100									
alpha-Chlordane	ND	0.0150									
Dieldrin	ND	0.0100									
4,4´-DDE	ND	0.0100									
Endrin	ND	0.0150									
Endosulfan II	ND	0.0150									
4,4´-DDD	ND	0.0150									
Endrin aldehyde	ND	0.0150									
Endosulfan sulfate	ND	0.0150									
4,4´-DDT	ND	0.0150									
Endrin ketone	ND	0.0150									
Methoxychlor	ND	0.0200									
Surr: Decachlorobiphenyl	0.267		0.2000		133	15.8	187				
Surr: Tetrachloro-m-xylene	0.293		0.2000		146	30.9	153				

Sample ID: **LCS1-33271** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **LCSS** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400014**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.201	0.0150	0.2000	0	100	57.2	154				
Beta BHC	0.199	0.0150	0.2000	0	99.3	56.4	155				
Gamma BHC (Lindane)	0.195	0.0100	0.2000	0	97.6	57.5	158				
Delta BHC	0.198	0.0150	0.2000	0	98.9	56.1	157				
Heptachlor	0.196	0.0100	0.2000	0	98.1	50.9	167				
Aldrin	0.190	0.0100	0.2000	0	94.8	52.2	160				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **LCS1-33271** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **LCSS** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400014**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor epoxide	0.196	0.0100	0.2000	0	97.8	50.1	169				
gamma-Chlordane	0.192	0.0150	0.2000	0	95.8	46	165				
Endosulfan I	0.200	0.0100	0.2000	0	100	50.2	166				
alpha-Chlordane	0.191	0.0150	0.2000	0	95.6	46	165				
Dieldrin	0.184	0.0100	0.2000	0	92.0	48.2	168				
4,4´-DDE	0.187	0.0100	0.2000	0	93.4	42.2	169				
Endrin	0.186	0.0150	0.2000	0	93.0	45.5	176				
Endosulfan II	0.177	0.0150	0.2000	0	88.5	46.7	176				
4,4´-DDD	0.186	0.0150	0.2000	0	92.8	42.1	181				
Endrin aldehyde	0.177	0.0150	0.2000	0	88.6	46	178				
Endosulfan sulfate	0.186	0.0150	0.2000	0	92.9	42.8	183				
4,4´-DDT	0.184	0.0150	0.2000	0	91.8	26.5	202				
Endrin ketone	0.181	0.0150	0.2000	0	90.3	40.6	193				
Methoxychlor	0.174	0.0200	0.2000	0	87.2	35.9	177				
Surr: Decachlorobiphenyl	0.220		0.2000		110	15.8	187				
Surr: Tetrachloro-m-xylene	0.242		0.2000		121	30.9	153				

Sample ID: **LCS2-33271** SampType: **LCS** Units: **mg/Kg** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **LCSS** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1401242**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	0.821	0.0700	1.000	0	82.1	46	150				
Surr: Tetrachloro-m-xylene	0.245		0.2000		122	30.9	153				

Sample ID: **2107424-015AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **PTC-SB2-0-1-0726-01** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.202	0.0145	0.1932	0	104	54.9	170				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **2107424-015AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **PTC-SB2-0-1-0726-01** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beta BHC	0.198	0.0145	0.1932	0	103	71.7	151				
Gamma BHC (Lindane)	0.196	0.00966	0.1932	0	102	61.6	164				
Delta BHC	0.197	0.0145	0.1932	0	102	61.3	161				
Heptachlor	0.199	0.00966	0.1932	0	103	63.6	175				
Aldrin	0.188	0.00966	0.1932	0	97.5	68	161				
Heptachlor epoxide	0.194	0.00966	0.1932	0	101	62	168				
gamma-Chlordane	0.187	0.0145	0.1932	0	96.6	49.8	175				
Endosulfan I	0.192	0.00966	0.1932	0	99.4	59.2	164				
alpha-Chlordane	0.190	0.0145	0.1932	0	98.6	57.2	170				
Dieldrin	0.208	0.00966	0.1932	0.01842	98.3	58.6	165				
4,4´-DDE	0.193	0.00966	0.1932	0	100	50.5	178				
Endrin	0.184	0.0145	0.1932	0	95.5	67.6	164				
Endosulfan II	0.175	0.0145	0.1932	0	90.7	55.3	168				
4,4´-DDD	0.183	0.0145	0.1932	0	94.7	49.8	180				
Endrin aldehyde	0.162	0.0145	0.1932	0	83.7	43.3	168				
Endosulfan sulfate	0.184	0.0145	0.1932	0	95.1	41.9	172				
4,4´-DDT	0.189	0.0145	0.1932	0	97.6	35	184				
Endrin ketone	0.180	0.0145	0.1932	0	92.9	44.7	180				
Methoxychlor	0.179	0.0193	0.1932	0	92.5	31.6	185				
Surr: Decachlorobiphenyl	0.189		0.1932		97.9	15.8	187				
Surr: Tetrachloro-m-xylene	0.223		0.1932		115	30.9	153				

Sample ID: **2107424-015AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **PTC-SB2-0-1-0726-01** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400019**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alpha BHC	0.178	0.0144	0.1917	0	93.0	54.9	170	0.2017	12.3	30	
Beta BHC	0.177	0.0144	0.1917	0	92.1	71.7	151	0.1983	11.6	30	
Gamma BHC (Lindane)	0.174	0.00959	0.1917	0	90.5	61.6	164	0.1961	12.2	30	
Delta BHC	0.177	0.0144	0.1917	0	92.1	61.3	161	0.1975	11.2	30	

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **2107424-015AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **8/6/2021** RunNo: **69144**
Client ID: **PTC-SB2-0-1-0726-01** Batch ID: **33271** Analysis Date: **8/10/2021** SeqNo: **1400019**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Heptachlor	0.177	0.00959	0.1917	0	92.4	63.6	175	0.1990	11.6	30	
Aldrin	0.167	0.00959	0.1917	0	87.3	68	161	0.1883	11.7	30	
Heptachlor epoxide	0.174	0.00959	0.1917	0	90.9	62	168	0.1942	10.8	30	
gamma-Chlordane	0.166	0.0144	0.1917	0	86.4	49.8	175	0.1866	11.8	30	
Endosulfan I	0.177	0.00959	0.1917	0	92.4	59.2	164	0.1919	8.01	30	
alpha-Chlordane	0.170	0.0144	0.1917	0	88.5	57.2	170	0.1905	11.5	30	
Dieldrin	0.190	0.00959	0.1917	0.01842	89.5	58.6	165	0.2084	9.24	30	
4,4´-DDE	0.169	0.00959	0.1917	0	87.9	50.5	178	0.1934	13.8	30	
Endrin	0.167	0.0144	0.1917	0	87.2	67.6	164	0.1845	9.87	30	
Endosulfan II	0.158	0.0144	0.1917	0	82.3	55.3	168	0.1753	10.5	30	
4,4´-DDD	0.166	0.0144	0.1917	0	86.8	49.8	180	0.1829	9.48	30	
Endrin aldehyde	0.144	0.0144	0.1917	0	75.0	43.3	168	0.1617	11.7	30	
Endosulfan sulfate	0.165	0.0144	0.1917	0	86.3	41.9	172	0.1836	10.4	30	
4,4´-DDT	0.170	0.0144	0.1917	0	88.5	35	184	0.1885	10.5	30	
Endrin ketone	0.163	0.0144	0.1917	0	85.0	44.7	180	0.1795	9.63	30	
Methoxychlor	0.162	0.0192	0.1917	0	84.5	31.6	185	0.1787	9.84	30	
Surr: Decachlorobiphenyl	0.171		0.1917		89.1	15.8	187		0		
Surr: Tetrachloro-m-xylene	0.201		0.1917		105	30.9	153		0		

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **MB-33174** SampType: **MBLK** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **MBLKW** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394745**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	ND	0.199									
alpha-BHC	ND	0.0299									
beta-BHC	ND	0.0299									
Gamma BHC (Lindane)	ND	0.0399									
delta-BHC	ND	0.0399									
Heptachlor	ND	0.0399									
Aldrin	ND	0.0249									
Heptachlor epoxide	ND	0.0299									
gamma-Chlordane	ND	0.0399									
Endosulfan I	ND	0.0399									
alpha-Chlordane	ND	0.0399									
Dieldrin	ND	0.0399									
4,4´-DDE	ND	0.0399									
Endrin	ND	0.0399									
Endosulfan II	ND	0.0399									
4,4´-DDD	ND	0.0399									
Endrin aldehyde	ND	0.0399									
Endosulfan sulfate	ND	0.0399									
4,4´-DDT	ND	0.0399									
Endrin ketone	ND	0.0399									
Methoxychlor	ND	0.0399									
Surr: Decachlorobiphenyl	0.267		0.3986		67.0	5	101				
Surr: Tetrachloro-m-xylene	0.244		0.3986		61.1	18.7	122				

Sample ID: **LCS1-33174** SampType: **LCS** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **LCSW** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394746**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	0.257	0.0300	0.3995	0	64.3	55.4	111				
beta-BHC	0.323	0.0300	0.3995	0	80.8	61.2	123				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **LCS1-33174** SampType: **LCS** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **LCSW** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394746**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gamma BHC (Lindane)	0.265	0.0399	0.3995	0	66.3	47.3	117				
delta-BHC	0.320	0.0399	0.3995	0	80.1	63.7	121				
Heptachlor	0.244	0.0399	0.3995	0	61.0	38.3	123				
Aldrin	0.228	0.0250	0.3995	0	57.1	45.3	117				
Heptachlor epoxide	0.310	0.0300	0.3995	0	77.6	41	128				
gamma-Chlordane	0.311	0.0399	0.3995	0	78.0	40	126				
Endosulfan I	0.324	0.0399	0.3995	0	81.1	38.3	128				
alpha-Chlordane	0.315	0.0399	0.3995	0	78.8	58.5	128				
Dieldrin	0.324	0.0399	0.3995	0	81.0	40.1	134				
4,4´-DDE	0.304	0.0399	0.3995	0	76.2	55.4	133				
Endrin	0.331	0.0399	0.3995	0	82.8	39.7	139				
Endosulfan II	0.313	0.0399	0.3995	0	78.5	33.8	142				
4,4´-DDD	0.337	0.0399	0.3995	0	84.3	60.8	139				
Endrin aldehyde	0.299	0.0399	0.3995	0	74.8	41	131				
Endosulfan sulfate	0.348	0.0399	0.3995	0	87.1	39.4	149				
4,4´-DDT	0.328	0.0399	0.3995	0	82.1	52.4	155				
Endrin ketone	0.352	0.0399	0.3995	0	88.2	38.7	157				
Methoxychlor	0.324	0.0399	0.3995	0	81.2	28.1	162				
Surr: Decachlorobiphenyl	0.294		0.3995		73.7	5	101				
Surr: Tetrachloro-m-xylene	0.195		0.3995		48.9	18.7	122				

Sample ID: **LCS1D-33174** SampType: **LCSD** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **LCSW02** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394747**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	0.256	0.0299	0.3989	0	64.2	55.4	111	0.2569	0.270	30	
beta-BHC	0.344	0.0299	0.3989	0	86.3	61.2	123	0.3228	6.40	30	
Gamma BHC (Lindane)	0.270	0.0399	0.3989	0	67.6	47.3	117	0.2649	1.74	30	
delta-BHC	0.345	0.0399	0.3989	0	86.5	63.7	121	0.3202	7.49	30	
Heptachlor	0.256	0.0399	0.3989	0	64.3	38.3	123	0.2438	5.07	30	

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **LCS1D-33174** SampType: **LCSD** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **LCSW02** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394747**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aldrin	0.243	0.0249	0.3989	0	61.0	45.3	117	0.2280	6.53	30	
Heptachlor epoxide	0.336	0.0299	0.3989	0	84.2	41	128	0.3098	8.12	30	
gamma-Chlordane	0.345	0.0399	0.3989	0	86.5	40	126	0.3115	10.3	30	
Endosulfan I	0.362	0.0399	0.3989	0	90.6	38.3	128	0.3241	11.0	30	
alpha-Chlordane	0.352	0.0399	0.3989	0	88.3	58.5	128	0.3149	11.2	30	
Dieldrin	0.360	0.0399	0.3989	0	90.3	40.1	134	0.3237	10.7	30	
4,4´-DDE	0.346	0.0399	0.3989	0	86.7	55.4	133	0.3043	12.8	30	
Endrin	0.370	0.0399	0.3989	0	92.8	39.7	139	0.3307	11.2	30	
Endosulfan II	0.361	0.0399	0.3989	0	90.5	33.8	142	0.3134	14.1	30	
4,4´-DDD	0.390	0.0399	0.3989	0	97.7	60.8	139	0.3366	14.6	30	
Endrin aldehyde	0.336	0.0399	0.3989	0	84.2	41	131	0.2990	11.6	30	
Endosulfan sulfate	0.399	0.0399	0.3989	0	100	39.4	149	0.3480	13.6	30	
4,4´-DDT	0.382	0.0399	0.3989	0	95.7	52.4	155	0.3280	15.1	30	
Endrin ketone	0.400	0.0399	0.3989	0	100	38.7	157	0.3522	12.8	30	
Methoxychlor	0.379	0.0399	0.3989	0	95.0	28.1	162	0.3244	15.5	30	
Surr: Decachlorobiphenyl	0.362		0.3989		90.8	5	101		0		
Surr: Tetrachloro-m-xylene	0.204		0.3989		51.1	18.7	122		0		

Sample ID: **2107394-001BMS** SampType: **MS** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **BATCH** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394749**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
alpha-BHC	0.259	0.0299	0.3991	0	64.9	47.6	115				
beta-BHC	0.313	0.0299	0.3991	0	78.5	51.8	126				
Gamma BHC (Lindane)	0.269	0.0399	0.3991	0	67.4	49.1	118				
delta-BHC	0.300	0.0399	0.3991	0	75.3	51.4	127				
Heptachlor	0.204	0.0399	0.3991	0	51.0	35.8	131				
Aldrin	0.165	0.0249	0.3991	0	41.3	20.5	128				
Heptachlor epoxide	0.278	0.0299	0.3991	0	69.7	49.4	128				
gamma-Chlordane	0.195	0.0399	0.3991	0	48.9	25.8	137				

Work Order: 2107424
CLIENT: Libby Environmental
Project: 2021 Boulevard Rd SW

QC SUMMARY REPORT

Organochlorine Pesticides by EPA Method 8081

Sample ID: **2107394-001BMS** SampType: **MS** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **BATCH** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394749**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endosulfan I	0.271	0.0399	0.3991	0	67.9	50.2	127				
alpha-Chlordane	0.210	0.0399	0.3991	0	52.7	27.6	136				
Dieldrin	0.264	0.0399	0.3991	0	66.3	42.5	136				
4,4´-DDE	0.155	0.0399	0.3991	0	38.9	9.2	146				
Endrin	0.287	0.0399	0.3991	0	71.8	54.4	135				
Endosulfan II	0.247	0.0399	0.3991	0	61.9	43.5	142				
4,4´-DDD	0.214	0.0399	0.3991	0	53.5	27.4	155				
Endrin aldehyde	0.211	0.0399	0.3991	0	52.9	21.4	137				
Endosulfan sulfate	0.316	0.0399	0.3991	0	79.3	47.3	144				
4,4´-DDT	0.177	0.0399	0.3991	0	44.4	12.7	167				
Endrin ketone	0.324	0.0399	0.3991	0	81.3	49	146				
Methoxychlor	0.218	0.0399	0.3991	0	54.6	32.2	167				
Surr: Decachlorobiphenyl	0.240		0.3991		60.2	5	101				
Surr: Tetrachloro-m-xylene	0.193		0.3991		48.3	18.7	122				

Sample ID: **LCS2-33174** SampType: **LCS** Units: **µg/L** Prep Date: **7/29/2021** RunNo: **68929**
Client ID: **LCSW** Batch ID: **33174** Analysis Date: **7/30/2021** SeqNo: **1394751**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toxaphene	1.97	0.199	1.990	0	99.2	21	149				
Surr: Decachlorobiphenyl	0.353		0.3981		88.7	5	101				
Surr: Tetrachloro-m-xylene	0.261		0.3981		65.5	18.7	122				

Sample Log-In Check List

Client Name:	**LIBBY**	Work Order Number:	**2107424**
Logged by:	**Gabrielle Coeuille**	Date Received:	**7/27/2021 3:36:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	UPS				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☐	Not Present	☑
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >2°C to 6°C *	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☐	NA	☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☑	No ☐		

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample 1	3.5

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

2107424

www.LibbyEnvironmental.com

Date: 7.26.21 Page: 1 of 1

Client: Libby Environmental, Inc
Address: (SEE ABOVE)
City: State: Zip:
Phone: Fax:
Client Project # L210726-3

Project Manager: Kaley Eley
Project Name: 2021 Boulevard Rd SW
Location: City, State: Olympia, WA
Collector: JH Date of Collection: 7/26/21
Email: libbyenv@gmail.com

Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270	Semi Vol 8270	Pesticides 8081	Field Notes
1 PTC-SB1-0-1-0726	0-1	1000	Grab	4ozjars												X		
2 PTC-SB1-2-4-0726	2-4	1030														X		
3 PTC-SB2-0-1-0726	0-1	1040														X		*Extra volume included as PTC-SB2-0-1-0726-01"
~~4 PTC-SB2-0-1-0726-01~~	~~0-1~~	~~1046~~														X		KO 7/26
5 PTC-SB3-0-1-0726	0-1	1100														X		
6 PTC-SB3-2-4-0726	2-4	1130														X		
7 PTC-SB4-0-1-0726	0-1	1140														X		
8 PTC-SB4-3-5-0726	3-5	1200														X		
9 PTC-SB5-0-1-0726	0-1	1220														X		
10 PTC-SB5-3-5-0726	3-5	1250														X		
11 PTC-SB6-0-1-0726	0-1	1300														X		
12 PTC-SB6-3-5-0726	3-5	1320														X		
13 PTC-SB7-0-1-0726	0-1	1340														X		
14 PTC-SB7-4-6-0726	4-6	1350														X		
15 EB-0726	—	1355	Blank	1L Amber												X		
16																		
17																		

Relinquished by: Date / Time 7/26/21
Received by: UPS Date / Time

Relinquished by: UPS Date / Time
Received by: Sandra Marty 7/27 15:36 Date / Time

Relinquished by: Date / Time
Received by: Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks: STD TAT

TAT: 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - Originator

Fremont

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

2107424

www.LibbyEnvironmental.com

Date: 7.26.21 Page: 1 of 1

Client: Libby Environmental, Inc
Address: (SEE ABOVE)
City: State: Zip:
Phone: Fax:
Client Project # L210726-3

Project Manager: Kaley Eley
Project Name: 2021 Boulevard Rd SW
Location: City, State: Olympia, WA
Collector: JH Date of Collection: 7/26/21
Email: libbyenv@gmail.com

Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270	Semi Vol 8270	Pesticides 8081	Field Notes
1 PTC-SB1-0-1-0726	0-1	1000	Grab	4ozjars												X		
2 PTC-SB1-2-4-0726	2-4	1030														X		
3 PTC-SB2-0-1-0726	0-1	1040														X		*Extra volume included as PTC-SB2-0-1-0726-01
~~4 PTC-SB2-0-1-0726-01~~	~~0-1~~	~~1046~~														X		KE 7/26
5 PTC-SB3-0-1-0726	0-1	1100														X		
6 PTC-SB3-2-4-0726	2-4	1130														X		
7 PTC-SB4-0-1-0726	0-1	1140														X		
8 PTC-SB4-3-5-0726	3-5	1200														X		
9 PTC-SB5-0-1-0726	0-1	1220														X		
10 PTC-SB5-3-5-0726	3-5	1250														X		
11 PTC-SB6-0-1-0726	0-1	1300														X		
12 PTC-SB6-3-5-0726	3-5	1320														X		
13 PTC-SB7-0-1-0726	0-1	1340														X		
14 PTC-SB7-4-6-0726	4-6	1350														X		
15 EB-0726	—	1355	Blank	1L Amber												X		
16 PTC-SB2-0-1-0726-01		10:40														X		
17																		

Relinquished by: Date / Time 7/26/21
Received by: UPS Date / Time

Relinquished by: UPS Date / Time
Received by: Sudbrue Marty 7/27 15:36 Date / Time

Relinquished by: Date / Time
Received by: Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:
STD TAT
Add analysis 8/5/21 per KE- gac

TAT: 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - Originator

Appendix C

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB1	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB1**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 4
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B1-0-1-072621			Fine to Coarse SILTY SAND with gravel, brown, moist	No odors or staining noted in soil column
1					
2					
3	S-PTC-B1-2-4-072621				
4					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB2	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB2**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 1
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B2-0-1-072621			Fine to Coarse SILTY SAND with gravel, brown, moist	No odors or staining noted in soil column
1					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB3	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB3**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 4
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B3-0-1-072621			Fine to Coarse SILTY SAND with gravel, trace plastic, brown, moist	No odors or staining noted in soil column
1					
2					
3	S-PTC-B3-2-4-072621				
4					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB4	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB4**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 5
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B4-0-1-072621			Fine to Coarse SILTY SAND with gravel, trace plastic, brown, moist	No odors or staining noted in soil column
1					
2					
3	S-PTC-B4-2-4-072621				
4					
5					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB5	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB5**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 5
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B5-0-1-072621			Fine to Coarse SILTY SAND with gravel, trace plastic, brown, moist	No odors or staining noted in soil column
1					
2					
3					
4	S-PTC-B5-3-5-072621				
5					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB6	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB6**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 5
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B6-0-1-072621			Fine to Coarse SILTY SAND with gravel, trace plastic, brown, moist	No odors or staining noted in soil column
1					
2					
3	S-PTC-B6-3-5-072621				
4					
5					

2021 Boulevard Road SE

Olympia, WA

BORING LOCATION: PTC-SB7	DATE STARTED: 7/26/21
DRILLING CONTRACTOR: PTC	
DRILLING METHOD: Hand Auger	**Log of Soil Boring No. PTC-SB7**
DRILLING EQUIPMENT: Auger	DEPTH TO WATER (ft.): -- / TOTAL DEPTH (ft.): 6
LOGGED BY: Joel Hecker	SCREEN INTERVAL: -- / BOREHOLE BACKFILL: Bentonite

PIONEER TECHNOLOGIES CORPORATION

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Litho.	DESCRIPTION	BORING REMARKS
0	S-PTC-B7-0-1-072621			Fine to Coarse SILTY SAND with gravel, trace plastic, brown, moist	No odors or staining noted in soil column
1					
2					
3					
4					
5	S-PTC-B7-4-6-072621				
6					