

Soil Investigation Data Report

Parcel 12
3802 Taylor Way, Tacoma, Washington

Prepared for:

Port of Tacoma

Tacoma, Washington

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The material and data in this report were prepared under the supervision and direction of the undersigned.

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Abbreviations

AOI	area of investigation
ATCRC	Aqua Terra Cultural Resource Consultants
bgs	below ground surface
CUL	cleanup level
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
MFA	Maul Foster & Alongi, Inc.
mg/kg	milligrams per kilogram
MTCA	Model Toxics Control Act
Parcel 12	3802 Taylor Way, Tacoma, Washington
the Port	Port of Tacoma
RCRA	Resource Conservation and Recovery Act
SMS	Sediment Management Standards
TPCHD	Tacoma-Pierce County Health Department
TPH	total petroleum hydrocarbons
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
XRF	x-ray fluorescence

1 Introduction

On behalf of the Port of Tacoma (the Port), Maul Foster & Alongi, Inc (MFA) was contracted to perform a soil investigation at Port Parcel 12, an approximately 5-acre undeveloped parcel (Pierce County Parcel No. 0320011091) located at 3802 Taylor Way in Tacoma, Washington (Parcel 12; see Figure 1-1).

The purpose of this investigation was to obtain soil samples for laboratory analysis of relevant hazardous substances. The data from this investigation is intended to inform planning for the construction of a wetland mitigation project and reuse of excavated soils. At Port Parcel 12, future construction is planned to include excavation to reestablish wetlands to approximately 5 feet below ground surface (bgs), with final depth to be determined by hydrology.

The soil investigation included the following elements:

- Soil sampling in the proposed wetland mitigation area of Parcel 12, performed concurrently with the cultural resource assessment by Aqua Terra Cultural Resource Consultants (ATCRC).
- Sonic drilling and soil sampling in the western portion of Parcel 12, in an area adjacent to the neighboring WSDOT property.

2 Background and Physical Setting

This section describes the property features, nearby surface water features, background, and previous investigations conducted at Parcel 12 and the adjacent WSDOT Property. Parcel 12 features and previous sampling locations are shown on Figure 2-1.

2.1 Parcel 12 Property

2.1.1 Property Description and History

Parcel 12 is owned by the Port of Tacoma. The triangular property is bounded by Washington State Route 509 to the northwest, Taylor Way to the northeast and industrial and commercial properties to the south. The site is generally flat with areas of hummocks; there is a noticeable change in about the southwest corner of the site running from southeast to northwest. The tree canopy on the site is dominated by black cottonwood with some Oregon ash and red alder. Groundcover at the site consists of disturbed vegetation (small branches, vines, disturbed grasses) with some bare soil areas. Limited amounts of trash and small debris were also present at surface. Both upland and wetland areas of the site have been highly disturbed. Parcel 12 was used as an informal encampment area by trespassers for several years. This use as an encampment, and subsequent cleanup, resulted in a high level of disturbance to shrubs and groundcover (GeoEngineers 2026; Confluence 2025).

Parcel 12 is outside of the mapped Tacoma tide flats and was used as cultivated farmland through the 1950s (ATCRC 2026). Sections of Parcel 12 may have been covered in up to 10 feet of fill materials from a documented fill event in 1963, using soils from the base of the nearby slope, although other sections may retain native Sultan silt loam with pockets of Puget silty clay loam from historical deposition by the creek (ATCRC 2026). Aerial photographs of the property are shown in Appendix A. The parcel has appeared unoccupied since the 1970s, with vegetation increasing over time. Land use history at Parcel 12 is shown in the table below (ATCRC 2026a):

Table: Land Use History of Parcel 12

Date	Title (Scale)	Source(s)	Information
1873a, 1873b	General Lands Office: Puyallup Indian Reservation	BLM GLO, PSRHP 2023a	No physical or cultural features mapped at Parcel 12; within NE-NE of Section 1. Field notes along E survey line in Section 1 through the parcel describe conditions from “thick crabapple & young alder. Salmon-brush. Vine maple & briers – good soil” to a swamp with willow, alder, and small cottonwood, and hardhack.
1877	T-Sheet 1453	PSRHP 2025b	Parcel 12 just outside of mapped mudflats/wetlands
1892	T-Sheet 2262	PSRHP 2025b	No major changes
1892	Map of the Puyallup Indian Reservation	WSU 2025	Owned by “Elizabeth Kirshner”
1897	Tacoma, WA, 1897 ed (1:125,000)	USGS	The area E of Parcel 12 is shown as adjacent to the King County/Pierce County line. A road with approximately six to eight structures along it is located adjacent to the parcel on the S and E. Directly north of the parcel is marked as water/wetland.
1900 through 1945	Tacoma, WA, 1900, 1902, 1906, 1909, 1913, 1924, 0940, 1945 eds (1:125,000)	USGS Topoview 2025	No major changes from 1897 map
1940	Poverty Bay SW	NETROnline, PSRHP 2025c	The area of Parcel 12 was in the area of cleared-out and cultivated farmland. Some larger trees were visible and some roads as well. Major road located N/NE of the parcel. Around 5 structures were located near the parcel.
1941	Aerial Imagery	NETROnline 2025	No major changes. The farmland area was more cleared of trees and vegetation. Road along the western and southern sides of the parcel.
1945	Aerial Imagery	Pierce County 2025 PublicGIS	The entire area of Parcel 12 was large farmland pastures with some structures nearby to the S and E outside of Parcel 12. Large swathes of vegetation and cleared out pastureland. One large road visible to the NW and two smaller roads to the S and W.
1949 (1956 ed)	Poverty Bay, WA, 1956 ed (1:24,000)	USGS Topoview 2025	Approximately 6-8 structures marked within Parcel 12. Roads marked to the W, S, and NE of the parcel as well. Road to the NW of the parcel is marked as 4 lanes.
1955	Aerial Imagery	NETROnline 2025	No major changes

Date	Title (Scale)	Source(s)	Information
1960	Metsker's Atlas of Pierce County pages 55, 64, 63	Historic Map Works	Owned by Port of Tacoma
1961 (1962 ed)	Poverty Bay, WA, 1962 ed (1:24,000)	USGS Topoview 2025	No major marks within Parcel 12. Nine structures marked outside of the parcel to the E and SW.
1961 (1969 ed)	Poverty Bay, WA, 1969 ed (1:24,000)	USGS Topoview 2025	No major changes within Parcel 12. 15 structures marked outside of the parcel to the E and south. Major multi-lane road marked to the W/NW of the parcel.
1961 (1976 ed)	Poverty Bay, WA, 1976 photo revised ed (1:24,000)	USGS Topoview 2025	No major changes
1961 (1981 ed)	Poverty Bay, WA, 1981 ed (1:24,000)	USGS Topoview 2025	No major changes. Some additional roads and driveways marked to the W of the parcel.
1961 (1995 ed)	Poverty Bay, WA, 1995 ed (1:24,000)	USGS Topoview 2025	No major changes
1965	Metsker's Atlas of Pierce County (V.1)	Historic Map Works	No changes from 1960 atlas.
1968	Aerial Imagery	NETROnline 2025	Large road to the W of the parcel. Much of the parcel itself was vegetation/wetland/undeveloped land. Some houses/structures to the S and E.
1969	Aerial Imagery	NETROnline 2025	No major changes to parcel
1970	Aerial Imagery	Pierce County 2025 PublicGIS	No major changes. No structures within the parcel. Large areas of wetland and vegetation.
1973	Aerial Imagery	Pierce County 2025 PublicGIS	No major changes to parcel
1975 (1977 ed)	Tacoma, WA, 1977 ed (1:100,000)	USGS Topoview 2025	Large road marked to all sides of the parcel. No marks within the parcel itself. "Substation" marked over the whole area of the parcel.
1997	USGS Topographic Basemap (Poverty Bay 1:24,000).	ArcGIS Pro software	Same as present-day.
Notes BLM GLO = Bureau of Land Management-General Lands Office NETROnline = Nationwide Environmental Title Research Online Historic Aerials. PSRHP = Puget Sound River History. USGS = United States Geological Service. WSU = Washington State University Digital Collections.			

2.1.2 Surface Water Features

The Fife Ditch bisects Parcel 12 from south to north toward Hylebos Creek. Dense vegetation is present on portions of Parcel 12, including the steep bank areas adjacent to Fife Ditch. Four stick-up mount monitoring wells were installed by ATCRC in early 2025 to monitor water levels in the central portion of Parcel 12 for purposes of wetland mitigation planning (see Figure 2-1).

A delineated 43,522 square-foot category III wetland is present on the northeast portion of Parcel 12 (Confluence 2025; see Figure 2-1).

2.2 Adjacent WSDOT Property

2.2.1 Property Description and History

The WSDOT property is located northwest adjacent to Parcel 12 and consists of the following parcels (see Figure 2-1):

- Parcel A (0320011109; formerly 0320011087). Parcel A was acquired by WSDOT in 1997 for freeway construction as part of Tract 19 (see below).
- Parcel B (0320011094). Parcel B was acquired by WSDOT in 1997 for freeway construction as part of Tract 19.
- Parcel C (0320011090; formerly referred to as Tract 21). A 100-foot wide drainage easement granted to WSDOT by the Port as part of the 1997 land transfer.
- Tract 19. Portion of SR-509 right-of-way, owned and maintained by WSDOT. Parcel was acquired by WSDOT in 1997 for freeway construction.

A wood chip stockpile is present on the WSDOT property, with a small portion extending onto Parcel 12. A topographic survey was completed by in June 2025 (S&H 2025) and the current extent of wood chips on Parcel 12 is shown on Figure 2-1. Ecology records indicate that the wood chips were placed on the WSDOT property sometime in the late-1980s. The wood chip pile has been used by WSDOT for plant bedding, mulch, and ornamental purposes for highway construction projects. During a site visit in July 2007, Tacoma-Pierce County Health Department (TPCHD) observed the wood chip stockpile and estimated it to be approximately 10 to 40 feet high and 20,000 cubic yards (Ecology 2011). In 2011, the Port estimated approximately 5 percent of the wood chip pile originating from the WSDOT Property extends onto Parcel 12 (Port 2011). The wood chips were sourced from the former Paxport Mills, located at 801 E. Portland Avenue in Tacoma. The Paxport Mills property was later acquired by Simpson Paper¹.

In 2010, TPCHD completed a site hazard assessment for the WSDOT Property and Parcel 12 on behalf of Ecology. TPCHD raised the concern that arsenic contamination may be incorporated into the wood chip pile and may be the source of arsenic detected in the Fife Ditch during 1993 by the Urban Bay Action Team. TPCHD was also concerned that there is a contact zone at the original grade where Asarco slag may be present and reacting with wood decomposition leachate. The site received a site hazard assessment ranking of 1, representing highest relative risk out of a score of 1 to 5 (TPCHD 2010). Ecology refers to this site as Cleanup Site ID: 4435 and Facility/Site ID: 6766480.

2.3 Previous Investigations

This section presents summaries of investigations previously conducted on Parcel 12 and the adjacent WSDOT property.

¹ Paxport/Simpson is a Superfund sediment cleanup site managed by the US Environmental Protection Agency (Facility Site ID: 39; Cleanup Site ID: 2870; St. Paul Waterway Consent Decree C91-5260T). The principal chemicals identified in the remedial investigation/feasibility study as contaminants in the St. Paul Waterway Problem Area included 4-methylphenol, phenol, 2-methoxyphenol, 1-methyl-2 (methylethyl) benzene and other compounds, which are known to be toxic to marine life. Arsenic is not a contaminant of concern at Paxport/Simpson.

2.3.1 Ecology 1993 Commencement Bay Sediment Investigation

In February 1993, Ecology's Commencement Bay Urban Bay Action Team conducted a sediment investigation to characterize arsenic concentrations in surface sediment from the Hylebos Creek and Fife Ditch, which ultimately discharge to Commencement Bay through the Hylebos Waterway. A total of 33 surface sediment samples were collected from 29 stations at depths between 0 and 6 centimeters below sediment surface. Arsenic concentrations of the 33 samples ranged from 2.1 milligrams per kilogram (mg/kg) to 211 mg/kg, with approximately 50 percent of the samples exhibiting concentrations above the Model Toxics Control Act (MTCA) Method A cleanup level (CUL) of 20 mg/kg (Ecology 1993). Results relating to the adjacent WSDOT Property and Parcel 12 included the following (see Figure 2-1):

- Sample HYAS 9, located on the southern portion of Parcel 12 and upstream of the wood chip stockpile, near 4th Street.
- Sample HYAS 8, located on Parcel 12, immediately downstream of drainage coming from wood chip stockpile.
- Sample HYAS 6 and HYAS 6A, located on the adjacent WSDOT property near Taylor Way E, downstream of wood chip stockpile.

Sample concentrations are shown on Table 2-1 and Figure 2-1. The 1993 investigation preceded the promulgation of (WAC) 173-204-563, however, historical sediment results on Table 2-1 are shown alongside Sediment Management Standards (SMS) freshwater sediment cleanup objectives and sediment cleanup screening levels per Washington Administrative Code WAC 173-204-563. The upstream sample HYAS 9 had an arsenic concentration of 7.1 mg/kg, while downstream sample HYAS 8 immediately downstream of the wood chip stockpile drainage had an arsenic concentration of 126 mg/kg (Ecology 1993).² The two samples located on the adjacent WSDOT property and downstream of the wood chip stockpile (HYAS 6a and HYAS 6) also exhibited elevated arsenic, at concentrations of 45.4 mg/kg and 35.9 mg/kg, respectively. Sediment sample (HYAS 5) located further downstream exhibited higher concentrations of arsenic (136 mg/kg), indicating there may be other local sources of contamination in the North Fife Ditch (Ecology 1993, Port 2011).

2.3.2 WSDOT 2007 Wood Chip Sampling

In September 2007, WSDOT removed approximately 2,000 cubic yards of wood chips from the upper portion of the wood chip stockpile and collected ten wood chip material samples at the leave layer. All samples were non-detect for arsenic at a reporting limit of 5 mg/kg (TPCHD 2010).

2.3.3 Crete 2019 North Fife Ditch Sediment Investigation

Since 1963, the U.S. Army Corps of Engineers has required the Port to maintain the North Fife Ditch and collect and direct stormwater and runoff to the waterways. In May 2019, Crete Consulting conducted sediment sampling within North Fife Ditch for the purposes of disposal characterization to enable the Port to maintain the drainage capacity that has been reduced by erosion and sedimentation (Crete 2019). The sediment analytical testing program was developed in consultation with the TPCHD to reflect common urban runoff contamination that may be present in the ditch sediment and could affect off-site landfill disposal options or remediation requirements. Samples

² The report screened data to MTCA Method A CUL for industrial properties, which is the same value as the MTCA Method A CUL for unrestricted land use.

were collected within twelve transects (Transect 1 through 12) within the North Fife Ditch; three of these samples are located in the vicinity of Parcel 12 (see Figure 2-1):

- Transect Sample 7, located immediately upstream of Parcel 12 within 4th Street.
- Transect Sample 8, located within the North Fife Ditch on Parcel 12.
- Transect Samples 9 and 10, located downstream of Parcel 12 on the adjacent WSDOT Property.
- Transect Samples 11 and 12, located downstream of Parcel 12 and the adjacent WSDOT Property.

Crete compared sediment sample results to MTCA criteria for soil protective of groundwater in the saturated zone to help identify if sources of contamination other than urban runoff may have contributed to the ditch sediment contamination (see full Crete report in Appendix B). Analytical results provided by Crete on Table 2-1 are shown alongside SMS freshwater sediment cleanup objectives and cleanup screening levels per WAC 173-204-563(2)(b). No Transect samples exceeded SMS cleanup screening levels. The downstream sample (Transect 12) had the highest arsenic concentration detected during the investigation, at a concentration of 43.3 mg/kg, indicating there may be other local sources of contamination in the North Fife Ditch.

2.4 Environmental Conditions

The Port is planning the construction of a wetland mitigation project and the re-use of excavated soils from portions of Parcel 12 east of the North Fife Ditch. Portions of Parcel 12 west of the North Fife Ditch adjacent to the WSDOT property are not part of the wetland mitigation project. For the purposes of this investigation, the two areas of investigation (AOIs) associated with Parcel 12 are referred to as follows (see Figure 2-1). Within each AOI, potential contaminants of concern were identified for field investigation.

- **AOI A**—Eastern portion of Parcel 12, east of North Fife Ditch, within proposed habitat restoration/excavation area.
 - Based on the historical conditions of Parcel 12, the potential contaminants of concern are related to historical usage as farmland and use as an informal encampment area by trespassers for several years. Thus, the primary contaminants of interest in soil for AOI A are pesticides, herbicides, total petroleum hydrocarbons (TPH), and metals. The AOI A field investigation results will serve to evaluate the feasibility of reusing excavated soils off-property.
- **AOI B**—Western portion of Parcel 12, west of North Fife Ditch and adjacent to WSDOT property, within the area where wood chips originating from the adjacent WSDOT property were spread onto Parcel 12.
 - Based on the results of previous investigations and historical accounts of operations conducted at the WSDOT property and Parcel 12, the primary contaminant of interest in soil for AOI B is arsenic.

3 Field and Analytical Methods

This section summarizes the investigations MFA performed on Parcel 12 in September 2025 for AOI A and November 2025 for AOI B. Field photographs are included in Appendix C.

3.1 AOI A Sample Collection

In September 2025, MFA performed soil sampling in AOI A concurrent with ATCRC cultural resource assessment activities. Samples were collected at 16 of the 81 ATCRC locations to achieve spatial variability across the proposed habitat restoration area. A combination of trenching and direct-push borings were completed by ATCRC; MFA sampled soil from seven trenches and nine direct-push borings. Sampling locations in AOI A were recorded with a high-accuracy global positioning system device; however, the accuracy of the unit was impacted by dense tree cover, so sample locations are estimated (see Figure 3-1). A summary of the soil samples collected at AOI A, including general soil observations and x-ray fluorescence (XRF) field readings, are shown on Table 3-1.

3.1.1 Trench Field Screening and Soil Sampling

The following seven trench locations were sampled on September 17 and 18, 2025:

- T5, T6, T14, T27, T53, T70, and T73.

Trenches were completed by an excavator; ATCRC directed the trenching activities and performed cultural resource screening. The seven trenches were approximately four feet wide by 12 feet long and completed to approximately 12 feet below ground surface (bgs), except trench T14 which collapsed at approximately 8 feet bgs due to shallow groundwater. The excavator placed soil layers in discrete piles for screening activities. Trenches were backfilled with the soil piles after cultural resource screening and soil sampling were completed.

MFA collected 5-point composite soil samples from the trench soil piles using decontaminated stainless-steel spoons or new, disposable high-density polyethylene sampling spoons. Samples were collected into new, disposable plastic bags for field screening, then transferred into laboratory-supplied containers. MFA collected surface soil samples from the top zero to one-foot bgs of all trenches to evaluate shallow soil. MFA collected subsurface soil samples between one-foot bgs to 15 feet bgs in three-to-four intervals per trench to profile concentrations with increasing depth (see Table 3-1). Field duplicate samples were collected at a frequency of one per 20 samples. Soil analytical methods are described further in Section 3.1.3.

Field screening was performed using a handheld XRF instrument generally consistent with U.S. Environmental Protection Agency (EPA) Method 6200 and the XRF manufacturer's instructions. MFA field personnel took XRF readings ex-situ. Before taking a reading from soil in a plastic bag, MFA staff removed any large or nonrepresentative debris from the soil surface or sample, including rocks, pebbles, leaves, vegetation, roots and/or concrete.

Additionally, MFA staff visually observed soil excavated from the cultural resource trenches for indications of slag-like materials. Red soil staining and possible slag were encountered at trench location T14 from approximately one to three feet bgs. The slag-like materials in the subsurface soils

at location T14 were not associated with elevated XRF field screening measurements. The appearance of slag-like material varies, but generally has the following physical characteristics which were observed at T14 (see Photograph No. 18 in Appendix C):

- Dark brown to black color
- Angular, potentially glass textured, rock-like material
- Coarse, gravelly to cobble grain size

ATCRC noted that slag-like material was additionally encountered at direct-push boring location B18 (ATCRC 2026), at approximately two feet bgs (located north-northwest of location T14; see Figure 3-1). MFA was not present at the advancement of boring B18 and, so therefore, no arsenic results are available for soil at that location. On October 1, 2025, Port staff oversaw the advancement of seven additional temporary borings surrounding T14 to delineate the potential slag-impacted area, and observations were documented in an email dated October 1, 2025 (Port 2025). Field observations of slag-like material and red staining in soils indicated the occurrence of the slag-like material occurs up to a depth of four feet bgs in an area extending from near the southeast Parcel 12 property boundary, aligned north-northwest. The estimated boundary is shown on Figure 3-1.

3.1.2 Direct-Push Boring Field Screening and Soil Sampling

The following nine locations were completed as direct-push borings on September 29, 2025:

- B12, B21, B22, B33, B44, B45, B50, B55, and B76.

ATCRC oversaw the advancement of the nine temporary borings and performed cultural resource screening. Borings were advanced down to 15 feet bgs using a track-mounted direct-push drill rig by drillers licensed by the State of Washington. Following field screening and sampling, borings were decommissioned by the driller with bentonite chips in accordance with the WAC for Minimum Standards for Construction and Maintenance of Wells (WAC 173-160 1998).

Soil logging was performed by GeoEngineers, Inc., who was conducting a geotechnical evaluation. MFA recorded general soil observations (see Table 3-1). No evidence of elevated arsenic by field XRF was observed in any borings.

MFA collected soil samples directly from the cores using new, disposable high-density polyethylene sampling spoons. Samples were collected into new, disposable plastic bags for field screening, then transferred into laboratory-supplied containers following field screening. Field screening was performed using the same procedure outlined in Section 3.1.1.

MFA collected surface soil samples from the top zero to one-foot bgs of all borings to evaluate shallow soil. MFA collected subsurface soil samples between one-foot bgs to 15 feet bgs in three-to-four intervals per boring to profile concentrations with increasing depth (see Table 3-1). Field duplicate samples were collected at a frequency of one per 20 samples.

3.1.3 Analytical Methods

Soil samples were collected into laboratory-supplied containers appropriate for the respective analyses and stored in coolers at $4\pm2^{\circ}$ Celsius from the time of sample collection until delivery to the laboratory. Soil samples were submitted to Friedman & Bruya, Inc. of Seattle, Washington, an Ecology-accredited analytical laboratory, for the following chemical analysis:

- All soil sample intervals were analyzed for:
 - Gasoline-range hydrocarbons by Northwest TPH-Gx, and
 - Diesel- and oil-range hydrocarbons by Northwest TPH-Dx.
- All surface soil sample intervals (zero- to one-foot bgs) were additionally analyzed for:
 - Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Method 6020B,
 - Organochlorine pesticides by EPA Method 8081B,
 - Organophosphorus pesticides by EPA Method 8270E selected ion monitoring, and
 - Herbicides by EPA Method 8151A.
- The potential slag-impacted shallow soil samples at location T14 were additionally analyzed for:
 - RCRA 8 metals by EPA Method 6020B.

Samples were analyzed on a standard turnaround time. Remaining soil volume was archived at the laboratory for potential future analyses.

3.2 AOI B Sample Collection

3.2.1 Sonic Boring Field Screening and Soil Sampling

On November 3, 2025, MFA oversaw the advancement of seven temporary borings in AOI B. Borings were spaced approximately 50 feet apart along the Parcel 12 boundary adjacent to the WSDOT property and wood chip stockpile (see Figure 3-1). Wood chips were observed on the surface near the Parcel 12 boundary in general agreement with the 2025 survey (S&H 2025; see Figure 3-1).

Before field activities began, public and private utility locates were conducted. The seven borings (SB01 through SB07) were advanced up to approximately 20 feet bgs using a track-mounted sonic drill rig by drillers licensed by the State of Washington. MFA logged soil conditions and collected soils from the borings. During drilling, the soil characteristics and visual or olfactory evidence of contamination were recorded on field sample data sheets. No evidence of slag-like material was observed in any borings. Boring logs are included as Appendix D.

Field screening was performed using a handheld XRF instrument generally consistent with EPA Method 6200 and the XRF manufacturer's instructions. Samples were collected into new, disposable plastic bags for ex-situ XRF readings. Before taking a reading, MFA staff removed any large or nonrepresentative debris from the soil surface or sample, including rocks, pebbles, leaves, vegetation, roots and/or concrete. Field staff indicated that XRF reporting limits were raised slightly due to moisture present in the soil, but generally below detectable levels of arsenic.

MFA collected up to five soil samples per boring, based on boring recovery and field observations. Field duplicate samples were collected at a frequency of one per 20 samples. A total of 38 soil samples were collected. Samples depths and field screening results are listed on Table 3-2.

Samples were submitted to the laboratory using a tiered approach: upper interval soil samples directly below the wood chip waste interval, if present, were analyzed for arsenic and the lower interval soil samples were submitted to the laboratory on hold for follow-up analysis pending the results of the upper interval samples.

Borings were decommissioned by the driller with bentonite chips in accordance with the WAC for Minimum Standards for Construction and Maintenance of Wells (WAC 173-160 1998).

3.2.2 Investigation-Derived Waste

Investigation-derived waste consisted of soil cuttings. Waste was stored in WSDOT-approved 55-gallon drums. Drums were labeled with their contents, the approximate volume of material, the date of collection, and the origin of the material. At the end of each workday, the drums were sealed and transferred to a designated secured area on the property, where they were stored pending waste profiling, transport, and off-property disposal at a permitted facility. Disposable sampling equipment and personal protective equipment was disposed of as solid waste.

MFA collected a composite soil sample from the investigation-derived waste soil drum for disposal characterization purposes.

3.2.3 Analytical Methods

Soil samples were collected into laboratory-supplied containers appropriate for the respective analyses and stored in coolers at $4\pm 2^{\circ}$ Celsius from the time of sample collection until delivery to the laboratory. Soil samples were submitted to Friedman & Bruya, Inc. of Seattle, Washington, an Ecology-accredited analytical laboratory, for the following chemical analysis:

- Arsenic by EPA Method 6020B

A composite sample from the investigation-derived waste soil drum was also submitted for Toxicity Characteristic Leaching Procedure for RCRA 8 metals and results will be communicated to the waste hauler for disposal characterization.

4 Results

4.1 Data Validation

Analytical laboratory reports are provided in Appendix E. Laboratory reports were reviewed to assess whether the laboratory data quality met project-specific objectives. A Stage 2A review of the laboratory reports was performed to assess whether the laboratory data quality met project-specific objectives. Data validation memoranda summarizing data evaluation procedures, data usability, and deviations from specific field or laboratory methods is included as Appendix F. The data are considered acceptable for their intended use, with appropriate data qualifiers assigned.

4.2 Data Handling

Total and summed concentrations were calculated where required or applicable for comparison to screening level values. Non-detect results were multiplied by one-half when used for sums. When all constituents of a sum were non-detect, the highest reporting limit was shown as the sum.

The following totals are calculated using simple summation:

- Diesel+Oil is calculated as the sum of diesel- and motor-oil-range hydrocarbons concentrations.

4.3 Screening Levels and Analytical Results

The subsections below are organized by AOI and screening levels are shown alongside analytical data for each AOI in Tables 4-1 and 4-2.

4.3.1 Screening Levels

Screening levels for AOI A and AOI B soils include MTCA Method A CULs for unrestricted land use. For certain constituents, MTCA Method A CULs are not available and the lower of cancer and noncancer Method B CULs were applied. Method B CULs may be used at any site.

Screening levels for metals in soil are adjusted upward to the Puget Sound natural background level, when available, consistent with WAC 173-340-700(6)(d). As shown on Tables 4-1 and 4-2, all screening levels are displayed but sample metals concentrations are not screened to MTCA if they are below natural background levels.

4.3.2 AOI A Soil Results

All AOI A surface soils (0 to 1 foot bgs) were non-detect for organochlorine pesticides, organophosphorous pesticides, and chlorinated herbicides. All AOI A surface and subsurface soils (up to 15 feet bgs) were non-detect for TPH.

All AOI A soil samples were non-detect for cadmium, mercury, selenium, and silver, and all chromium concentrations were below natural background levels. Barium and lead results were detected below MTCA CULs. Arsenic concentrations in surface soils were below natural background levels at all locations except T14 (26 mg/kg arsenic). At location T14, surface soil had an arsenic detection above the MTCA Method A CUL, but shallow soil (1 to 2 feet bgs) arsenic results were below the CUL.

Parcel 12 meets statistical criteria for compliance with unrestricted land use cleanup standards for soil under WAC 173-340-740(7)(e): Of the 26 Parcel 12 soil samples analyzed for arsenic, only one sample exceeded the MTCA Method A CUL for unrestricted land use, meaning less than 10 percent of the sample concentrations at Parcel 12 exceed the CUL; additionally, the soil arsenic exceedance of 26 mg/kg was less than two times the CUL (i.e., less than 40 mg/kg).

4.3.3 AOI B Soil Results

AOI B soil samples at locations SB01, SB02, SB04, SB05, SB06, and SB07 collected directly beneath the wood chip waste interval were all non-detect or detected below the natural background level for arsenic. Soil from 0.5 feet bgs at SB03 was detected at a concentration of 9.7 mg/kg, which is above natural background but below the MTCA Method A CUL. SB03 soil from the interval directly below, at 1.5 feet bgs, had an arsenic detection below the natural background level.

5 Conclusions

The results in this report will be used to inform future excavation and soil management plans. Based on the AOI A surface soils results, impact to soils from the historical farmland and informal encampment area by trespassers is insignificant. It is MFA's understanding that shallow surface soils from AOI A will be excavated and disposed of at a Subtitle-D landfill due to the debris and waste left by trespassers. Additionally, the Port will over-excavate and remove the slag-like material observed in B18 and T14 that exhibit elevated concentrations of arsenic, along with any other areas visually observed to contain slag-like materials during excavation; the excavated materials will be disposed of at a Subtitle-D landfill. Confirmation samples should be collected around the base of the slag-like material excavation to demonstrate the remaining material does not exhibit elevated concentrations of arsenic.

Concentrations of arsenic in soil in AOI B are below MTCA Method A and significantly below the historical 1993 and 2019 sediment concentrations observed in the North Fife Ditch. No apparent slag, ballast material, or other debris were observed in the AOI B borings. Based on these findings, there does not appear to be a source of arsenic in AOI B at Parcel 12.

Arsenic concentrations meet statistical compliance with unrestricted use cleanup standards for soil under WAC 173-340-740(7)(e): no single sample is greater than two times the soil CUL and less than 10 percent of the sample concentrations exceed the soil CUL.

References

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Limitations

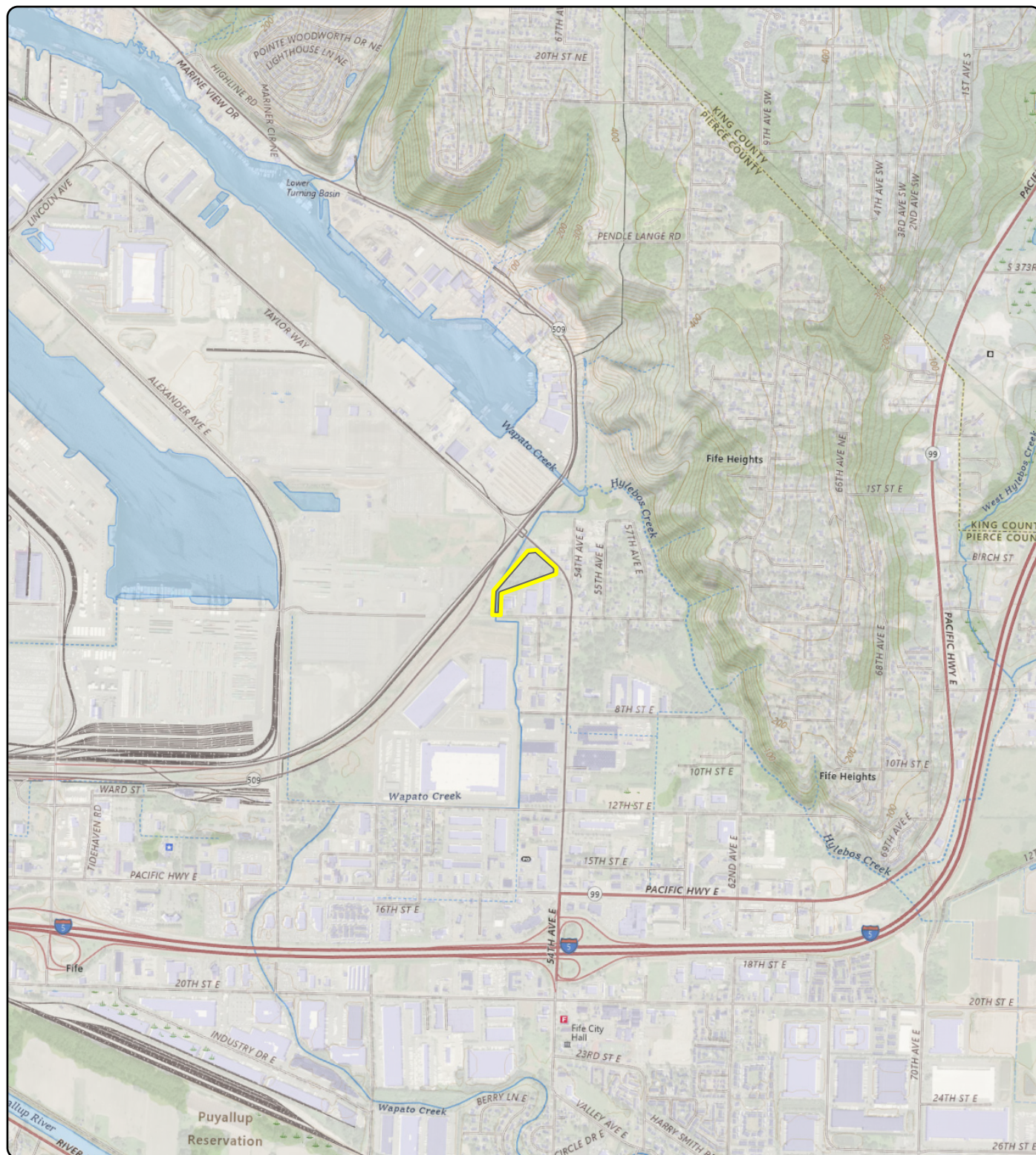
The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Figures



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Notes

U.S. Geological Survey 7.5-minute topographic quadrangle: Poverty Bay.
Township 30 north, range 3 east, section 1.

Data Source

Property boundary obtained from Pierce County.



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Legend



Parcel 12

Figure 1-1 Site Vicinity Map

3802 Taylor Way
Tacoma, WA

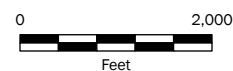




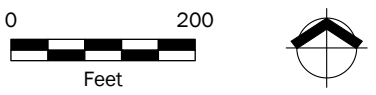
Figure 2-1
Parcel 12 Features and
Previous Sample Locations

3802 Taylor Way
Tacoma, WA

Legend

- ATCRC Monitoring Well (2025)
- Sediment Sample (Crete 2019)
- Sediment Sample (Ecology 1993)
- Wetland
- 75-foot Wetland Buffer
- Approximate Historical Extent of Wood Chip Pile (1990)
- Current Extent of Wood Chip Pile on Parcel 12 (2025)
- Area of Investigation A
- Area of Investigation B
- North Fife Ditch
- Stream
- Parcel 12
- WSDOT Property Boundary
- Tax Lot

Notes
All previous sample locations are approximate.
AOI = area of investigation.
As = arsenic.
ATCRC = Aqua Terra Cultural Resource Consultants.
Crete = Crete Consulting, Inc.
Ecology = Washington State Department of Ecology.
mg/kg = milligrams per kilogram.
N = based on matrix spike recoveries, result may show a slight bias toward higher concentration.



Data Sources
Aerial photograph (2025) obtained from Google Maps;
wetland and buffer, areas of interest, current wood chip pile,
and monitoring well locations obtained from June 2025 Sitts
& Hill *Parcel 12 Boundary and Survey Control* provided by
Port of Tacoma; historical wood chip pile obtained from 1990
City of Tacoma aerial photograph; tax lot data and stream
features obtained from Pierce County.

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Path: X:\0_MFA_Projects\M0615\34\003\Proj\M0615_34_003_001.aprx Fig 2-2 Relevant Drainage Features
Print Date: 4/24/2025
Reviewed By:
Produced By: gignavata
Project: M0615 34 003

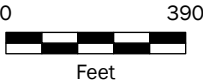


Figure 2-2
Relevant Drainage Features

3802 Taylor Way
Tacoma, WA

Legend

-  WSDOT Property Boundary
-  Parcel 12



Data Sources
Aerial photograph obtained from Bing; tax lot data obtained from Pierce County GIS.

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Path: X:\0_MFA Projects\M0615\34\002\Pro\M0615_34_002_002.aprx Fig 3-1 Sampling Locations
Project: M0615 34 002 Produced By: sturner Reviewed By: thellows Print Date: 4/16/2026

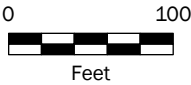


Figure 3-1
Sampling Locations
3802 Taylor Way
Tacoma, WA

Legend

- Exploratory Boring (September 2025)
- Sonic Boring (November 2025)
- Direct-Push Boring (September 2025)
- Trench (September 2025)
- Estimated Boundary of Slag-like Material (September 2025)
- Wetland
- 75-foot Wetland Buffer
- Approximate Historical Extent of Wood Chip Pile (1990)
- Current Extent of Wood Chip Pile on Parcel 12 (2025)
- Area of Investigation A
- Area of Investigation B
- North Fife Ditch
- Stream
- WSDOT Property Boundary
- Parcel 12
- Tax Lot

Notes
AOI = area of investigation.



Data Sources
Aerial photograph (2025) obtained from Google Maps; wetland and buffer, areas of interest, current wood chip pile, and monitoring well locations obtained from June 2025 Sitts & Hill *Parcel 12 Boundary and Survey Control* provided by Port of Tacoma; historical wood chip pile obtained from 1990 City of Tacoma aerial photograph; tax lot data and stream features obtained from Pierce County.

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Tables

Table 2-1
Historical Sediment Analytical Results
Fife Ditch, Tacoma, Washington



Data Source:	SMS Freshwater Sediment Criteria ^{(a)(1)}		1993 Ecology ⁽²⁾					2019 Crete ⁽³⁾					
Area Relative to Property:			On-Property		Off-Property (downstream)			Off-Property (upstream)	On-Property	Off-Property (downstream)			
Location:	Sediment Cleanup Objective (SCO)	Cleanup Screening Level (CSL)	HYAS 9	HYAS 8	HYAS 6A	HYAS 6	HYAS 5	Transect 7	Transect 8	Transect 9	Transect 10	Transect 11	Transect 12
Collection Date:			February 1993	February 1993	February 1993	February 1993	February 1993	05/15/2019	05/15/2019	05/15/2019	05/15/2019	05/15/2019	05/15/2019
Collection Depth (bml):			0-6 cm	0-6 cm	0-6 cm	0-6 cm	0-6 cm	0-25 inches	0-13 inches	0-25 inches	0-18 inches	0-13 inches	0-20 inches
TPH (mg/kg-dw)													
Gasoline-range hydrocarbons	NV	NV	--	--	--	--	--	5 U	5 U	5 U	5 U	5 U	10
Diesel-range hydrocarbons	340	510	--	--	--	--	--	200	140	110	140	50 U	100 U
Lube-oil-range hydrocarbons	3,600	4,400	--	--	--	--	--	500 U	250 U	250 U	720	250 U	500 U
Metals (mg/kg-dw)													
Arsenic	14	120	7.1 N	126	45.4	35.9	136	11.8	25.8	24.3	6.3	10.0	43.3
Barium	NV	NV	--	--	--	--	--	81.1	52.9	46.2	33.3	33.0	36.7
Cadmium	2	5	--	--	--	--	--	2 U	1 U	1 U	1 U	1 U	2 U
Chromium	72	88	--	--	--	--	--	15.5	19.1	18.9	17.2	15.5	20.5
Copper	400	1,200	--	--	--	--	--	32.4	41.3	44.3	24.1	25.0	59.5
Lead	360	>1,300 ^(b)	--	--	--	--	--	29.9	11.8	24.8	8.2	11.4	32.8
Mercury	0.66	0.80	--	--	--	--	--	2 U	1 U	1 U	1 U	1 U	2 U
Nickel	26	110	--	--	--	--	--	15.5	14.6	15.2	11.5	10.7	15.5
Selenium	11	>20 ^(b)	--	--	--	--	--	2 U	1 U	1 U	1 U	1 U	2 U
Silver	0.57	1.70	--	--	--	--	--	2 U	1 U	1 U	1 U	1 U	2 U
Zinc	3,200	>4,200 ^(b)	--	--	--	--	--	179	139	115	42	45	226
PAHs (mg/kg-dw)													
Acenaphthene	NV	NV	--	--	--	--	--	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U
Acenaphthylene	NV	NV	--	--	--	--	--	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U
Anthracene	NV	NV	--	--	--	--	--	0.02 U	0.01 U	0.01 U	0.015	0.01 U	0.02 U
Benzo(a)anthracene	NV	NV	--	--	--	--	--	0.032	0.022	0.027	0.087	0.01 U	0.053
Benzo(a)pyrene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.032	0.053	0.01 U	0.2 U
Benzo(b)fluoranthene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.077	0.087	0.02	0.2 U
Benzo(ghi)perylene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.019	0.012	0.01 U	0.2 U
Benzo(k)fluoranthene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.022	0.025	0.01 U	0.2 U
Chrysene	NV	NV	--	--	--	--	--	0.06	0.069	0.056	0.078	0.015	0.2 U
Dibenzo(a,h)anthracene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.01 U	0.01 U	0.01 U	0.2 U
Indeno(1,2,3-cd)pyrene	NV	NV	--	--	--	--	--	0.2 U	0.1 U	0.018	0.17	0.021	0.18
Fluoranthene	NV	NV	--	--	--	--	--	0.087	0.061	0.093	0.01 U	0.01 U	0.02 U
Fluorene	NV	NV	--	--	--	--	--	0.02 U	0.01 U	0.01 U	0.014	0.01 U	0.2 U
Naphthalene	NV	NV	--	--	--	--	--	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U
Phenanthrene	NV	NV	--	--	--	--	--	0.02 U	0.028	0.018	0.036	0.01 U	0.024
Pyrene	NV	NV	--	--	--	--	--	0.12	0.077	0.12	0.18	0.026	0.2
Total PAHs ^{(c)(1)}	17	30	--	--	--	--	--	0.96 T	0.58 T	0.51 T	0.78 T	0.14 T	1.2 T

Table 2-1
Historical Sediment Analytical Results
Fife Ditch, Tacoma, Washington



Notes Screening criteria are shown for reference only and not shaded for exceedances. -- = not analyzed. bml = below mudline. cm = centimeters. CSL = cleanup screening level. mg/kg-dw = milligrams per kilogram, dry-weight. N = based on matrix spike recoveries, result may show a slight bias toward higher concentration. NV = no value. PAH = polycyclic aromatic hydrocarbon. Property = Parcel 12, 3802 Taylor Way, Tacoma, Washington. SCO = sediment cleanup objective. SMS = Sediment Management Standards. T = result is calculated. TPH = total petroleum hydrocarbons. U = result is non-detect at the method reporting limit. ^(a)Sediment cleanup objectives are not applicable to these samples per Washington Administrative Code 173-204-563(2)(b). ^(b)Greater than (<) value indicates toxicity above this concentration, but the upper bound is unknown. ^(c)Total PAHs calculated as the sum of: 1-methylnaphthalene, 2-methylnaphthalene , acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d) pyrene, naphthalene phenanthrene, pyrene, and total benzofluoranthenes(b+j+k). 1-methylnaphthalene, 2-methylnaphthalene results are not available. Non-detect values are multiplied by one-half. References ⁽¹⁾Ecology. 2025. <i>Sediment Cleanup User's Manual (SCUM)</i> . Publication No. 12-09-057. Washington State Department of Ecology. December. ⁽²⁾Ecology. 1993. Joyce Mercuri, Washington State Department of Ecology. <i>Hylebos Creek and Fife Ditch Arsenic Study</i>. Memorandum to Karen Keeley, U.S. Environmental Protection Agency. April 13. ⁽³⁾Crete. 2019. Grant Hainsworth, CRETE Consulting Inc. <i>Sediment Sampling and Characterization for Disposal, DD23</i>. Memorandum to Margaret Schwertner, Moffatt & Nichol. July 15.
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Table 3-1
AOI A Soil Sample Summary
Parcel 12, Port of Tacoma

Location	Location Type	Sample Date	Sample Depth (feet bgs)	Sample Name	Field XRF Arsenic Reading (ppm)	Lab Arsenic Result (mg/kg)	Soil Description	Notes
T5	Trench	09/18/2025	0-1	T5-S-0-1	7.6	3.9	Sandy silt; light brown; roots and rootlets; dry; no odor.	
			1-4	T5-S-1-4	<1	--	Sandy silt; light to medium brown with reddish gray silty sand clumps; dry; no odor.	
			4-8	T5-S-4-8	<1	--	Silty sand; grayish brown; mostly dry; no odor.	
			8-12	T5-S-8-12	<1	--	Silty sand with some clays; dark brown to dark gray; partially moist; no odor.	
T6	Trench	09/18/2025	0-1	T6-S-0-1	5.8	5.6	Sandy silt; light brown; roots and rootlets; dry; no odor.	
			1-5	T6-S-1-5	3.0	--	Sandy silt; light to medium brown with some reddish gray silty sand clumps; dry; rootlets; no odor.	
			5-8	T6-S-5-8	<1	--	Silty sand; dark brown to dark gray; mostly dry; no odor.	
				T6-S-5-8-DUP	3.3	--		Field duplicate.
			8-12	T6-S-8-12	<1	--	Silty sand with some clays; dark brown to dark gray; partially moist; no odor.	
T14	Trench	09/18/2025	0-1	T14-S-0-1	15	26	Sandy silt; reddish brown; dry; roots and rootlets; small rocks.	XRF replicate 2 = 13 ppm, XRF replicate 3 = 11 ppm.
			1-2	T14-S-1-2	13	13	Sandy silt; reddish brown; large (up to 8" diameter) and small slag pieces intermixed; dry; no odor.	Slag-impacted interval.
				T14-S-1-2-DUP	7.2	13		Field duplicate.
			2-3	T14-S-2-3	3.6	--	Silty sand; reddish brown; dry; no odor.	
			3-6	T14-S-3-6	1.2	--	Silty sand; dark brown to gray with some reddish brown sand; partially moist; no odor.	
			6-8	T14-S-6-8	2.0	--	Silty sand; dark brown to blackish gray with some reddish brown sand; some large wood pieces covered in gray clay; partially moist; no odor.	
T27	Trench	09/17/2025	0-1	T27-S-0-1	3.6	3.3	Sandy silt; light brown; dry; rootlets; small rocks; no odor.	Trash and debris on surface with vegetation.
			1-3	T27-S-1-3	1.2	--	Sandy silt; light brown; dry; rootlets; small rocks; no odor.	
			3-6.6	T27-S-3-6.6	2.5	--	Sandy silt; light to medium brown with reddish silty sand clumps; mostly dry; no odor.	
			8-10	T27-S-8-10	<1	--	Silty sand; dark brown with some reddish silty sand clumps; partially moist; no odor.	
			10-12.3	T27-S-10-12.3	1.8	--	Silty sand; dark brown to dark gray; some moist woody debris; partially moist; no odor.	
T53	Trench	09/18/2025	0-1	T53-S-0-1	5.3	4.5	Sandy silt; light brown; dry; rootlets; small rocks; some trash/debris intermixed; no odor.	
			1-6	T53-S-1-6	3.0	--	Sandy silt; light to medium brown with reddish silty sand clumps; mostly dry; no odor.	
			6-9	T53-S-6-9	<1	--	Silty sand; dark brown to dark gray with reddish silty sand clumps; some rootlets; mostly dry; no odor.	
			9-12	T53-S-9-12	<1	--	Silty sand with some silty clay; dark brown to dark gray with reddish silty sand clumps; partially moist; no odor.	

Table 3-1
AOI A Soil Sample Summary
Parcel 12, Port of Tacoma

Location	Location Type	Sample Date	Sample Depth (feet bgs)	Sample Name	Field XRF Arsenic Reading (ppm)	Lab Arsenic Result (mg/kg)	Soil Description	Notes
T70	Trench	09/17/2025	0-1	T70-S-0-1	1.5	3.1	Sandy silt; light brown; dry; rootlets; small rocks; no odor.	Trash and debris on surface.
			3-5.7	T70-S-3-5.7	3.3	--	Sandy silt; light to medium brown with reddish silty sand clumps; mostly dry; no odor.	
			5.7-9	T70-S-5.7-9	3.0	--	Silty sand; dark brown with some reddish silty sand clumps; partially moist; no odor.	
			9-12	T70-S-9-12	1.2	--	Silty sand with some silty clay; dark brown to dark gray; some moist woody debris; partially moist; no odor.	
T73	Trench	09/17/2025	0-1	T73-S-0-1	<1	1.8	Sandy silt; light brown; dry; rootlets; small rocks; no odor.	
			1-3	T73-S-1-3	<1	--	Sandy silt; light brown; dry; rootlets; small rocks; no odor.	
			3-5	T73-S-3-5	1.5	--	Sandy silt; light to medium brown with reddish silty sand clumps; mostly dry; no odor.	
			5-6.6	T73-S-5-6.6	1.2	--	Sandy silt; light to medium brown with reddish silty sand clumps; mostly dry; no odor.	
			6.6-9.3	T73-S-6.6-9.3	<1	--	Silty sand; dark brown to dark gray; some rootlets; mostly dry; no odor.	
			9.3-12	T73-S-9.3-12	2.4	--	Silty sand with some silty clay; dark brown to dark gray; some moist woody debris; partially moist; no odor.	XRF replicate 2 = 2.1 ppm
B12	Boring	09/29/205	0-1	B12-S-0-1	2.1	5.1	Light brown, Trash/debris, rootlets, sandy silt, no odor	80% recovery
			3-5	B12-S-3-5	<1	--	Medium brown/ w reddish sand, partially moist, no debris, silty sand	80% recovery
			5-10	B-12-S-5-10	<1	--	Dark brown to grey, silty sand, moist, no odor	80% recovery
			10-15	B-12-S-10-15	1.3	--	Dark brown to grey, silty sand, moist, no odor	Full recovery
B21	Boring	09/29/2025	0-1	B21-S-0-1	4.3	4.2	Light to medium brown, dry, rootlets, no odor, sandy silt	60% recovery
			1-5	B21-S-1-5	1.4	--	Medium brown, sandy silt, partially moist, no odor	60% recovery
			5-8	B21-S-5-8	1.7	--	Brown w/ reddish sand, silty sand, wet no odor	60% recovery
			8-10	B21-S-8-10	1.2	--	Dark brown to grey, silty sand, wet, no odor	60% recovery
			10-15	B21-S-10-15	1.6	--	Dark brown to grey, silty sand, no odor, wet, some grey clays	Full recovery
B22	Boring	09/29/2025	0-1	B22-S-0-1	6.0	6.4	Light brown to brown, dry, roots/rootlets, no odor, sandy silt	80% recovery
			1-5	B22-S-1-5	1.4	--	Light to medium brown, dry, slty sand, no odor	70% recovery
			5-8	B22-S-5-8	1.5	--	Dark brown to grey, wood waste, partially moist, no odor, silty sand	
			8-10	B22-S-8-10	<1	--	Dark brownish gray, moist, silty sand, no odor	
			10-15	B22-S-10-15	<1	--	Dark brownish gray, moist, silty sand, no odor	
B33	Boring	09/29/2025	0-1	B33-S-0-1	5.3	5.1	Light to medium brown, dry, rootlets, no odor, sandy silt	
			1-2	B33-S-1-2	2.7	--	Medium brown w/ reddish clumps, rootlets, mostly dry, sandy silt	
			5-8	B33-S-5-8	<1	--	Dark brown, silty sand, partially moist, no odor	
			8-10	B33-S-8-10	<1	--	Dark brown to grey, silty sand, moist, no odor	
			10-15	B33-S-10-15	1.4	--	Dark brown to grey, silty sand, moist, no odor	
B44	Boring	09/29/2025	0-1	B44-S-0-1	4.3	4	Light to medium brown, dry, sandy silt, no odor, leaflets	70% recovery
			1-5	B44-S-1-5	2.7	--	Medium brown, silty sand, dry, no odor	
			5-7	B44-S-5-7	<1	--	Dark brown, silty sand, partially moist, no odor	
			7-10	B44-S-7-10	1.9	--	Dark brown to grey, wet, silty sand, no odor	
			10-15	B44-S-10-15	<1	--	Dark brown to grey, wet, silty sand with some clays, no odor	

Table 3-1
AOI A Soil Sample Summary
Parcel 12, Port of Tacoma

Location	Location Type	Sample Date	Sample Depth (feet bgs)	Sample Name	Field XRF Arsenic Reading (ppm)	Lab Arsenic Result (mg/kg)	Soil Description	Notes
B45	Boring	09/29/2025	0-1	B45-S-0-1	3.6	3.6	Light brown,Moss, rootlets, no odor, dry, sandy silt	70% recovery
			1-5	B45-S-1-5	<1	--	Light to medium brown, silty sand, reddish sand, dry, no odor	70% recovery
			5-7.5	B45-S-5-7.5	3.1	--	Dark brown with reddish clumps, moist, silty sand, no odor	60% recovery
				B45-S-5-7.5-DUP	<1	--		Field duplicate.
			7.5-10	B45-S-7.5-10	1.0	--	Dark brown to grey with reddish clumps, Wood waste, moist, no odor	60% recovery
			10-15	B45-S-10-15	<1	--	Dark brown to grey, wood waste, wet, clayey silty sands, no odor	
B50	Boring	09/29/2025	0-1	B50-S-0-1	4.8	4	Light brown, Rootlets, dry, no odor, sandy silt	
			1-5	B50-S-1-5	3.3	--	Light to medium brown, lenses of reddish sand, sandy silt, no odor	
			5-7	B50-S-5-7	3.9	--	Medium brown w/ reddish sand, mostly dry, no odor, rootlets	
			7-10	B50-S-7-10	<1	--	Dark brown to grey, silty sand, moist, no odor	
			10-12	B50-S-10-12	3.6	--	Dark brown to grey, silty sand, moist, no odor	
			12-15	B50-S-12-15	<1	--	Dark brownish grey, wood waste, black/ gray clays, wet, no odor	
				B50-S-12-15-DUP	1.5	--		Field duplicate.
B55	Boring	09/29/2025	0-1	B55-S-0-1	3.9	3.4	Light Brown to brown, Dry, sandy silt, rootlets, no odor	
			2-4	B55-S-2-4	4.9	--	Light Brown, dry, sandy silt, rootlets.no odor	
			6-8	B55-S-6-8	<1	--	Medium brown w/ reddish gray sand, silty sand, dry, no odor	
			8-10	B55-S-8-10	<1	--	Darkish brown to gray, no odor, partially moist, silty sand, lens of woodwaste around 9ft	
			10-15	B55-S-10-15	2.9	--	Dark brown to grey, moist, sandy silt w/ clay, low plasticity, no odor	
B76	Boring	09/29/2025	0-1	B76-S-0-1	1.3	3.3	Light brown, wood waste,dry, sandy silt, no odor	70% recovery
			1-5	B76-S-1-5	2.7	--	Light/ medium brown w/ reddish grey sand , sandy silt, no odor, mostly dry	70% recovery
			5-10	B76-S-5-10	<1	--	Dark brown w/ reddish sand, Silty sand, mostly dry, no odor	40% recovery
			10-15	B76-S-10-15	1.9	--	Dark brown to grey, clayey silt, low plasticity, wet, no odor	
				B76-S-10-15 DUP	<1	--		Field duplicate.
Notes Trench samples collected as 5-point composites from trench piles. Boring samples collected as grab samples directly from core. XRF readings measured ex-situ using Sci-Aps 550X analyzer. All trench samples collected into one 8-ounce glass jar and three 40-milliliter unpreserved vials (5035 kit). All boring samples collected into one 4-ounce glass jar and three 40-milliliter methanol-preserved vials (5035 kit). -- = not analyzed. < = non-detect at specified reporting limit. bgs = below ground surface. mg/kg = milligrams per kilogram. ppm = parts per million. XRF = x-ray fluorescence.								

Table 3-2
AOI B Soil Sample Summary
Parcel 12, Port of Tacoma



Location	Sample Date	Sample Depth (feet bgs)	Sample Name	Field XRF Arsenic Reading (ppm)	Lab Arsenic Result (mg/kg)	Notes
SB01	11/03/2025	1.5	SB01-S-1.5	<7.6	2.9	
		2.5	SB01-S-2.5	<7.9	--	
		6	SB01-S-6	<6.7	--	Field duplicate.
			SB01-S-6-DUP			
		12	SB01-S-12	<6.8	--	
		18	SB01-S-18	8.1	--	
SB02	11/03/2025	0.5	SB02-S-0.5	<10.7	3.5	
		1.5	SB02-S-1.5	<7.4	--	
		5.5	SB02-S-5.5	<5.5	--	
		12	SB02-S-12	<11.6	--	
		17	SB02-S-17	<5.8	--	
SB03	11/03/2025	0.5	SB03-S-0.5	<10.9	9.7	
		1.5	SB03-S-1.5	<9.6	6.7	
		6	SB03-S-6.0	<6.1	--	
		11.5	SB03-S-11.5	<14.9	--	
		16	SB03-S-16	<6.1	--	
SB04	11/03/2025	0.5	SB04-S-0.5	<8.1	3.2	
		1.5	SB04-S-1.5	<10.2	--	
		4.5	SB04-S-4.5	<6.3	--	
		8	SB04-S-8	7	--	Field duplicate.
			SB04-S-8-DUP		--	
		12	SB04-S-12	<6.7	--	
SB05	11/03/2025	17	SB04-S-17	<7.6	--	
		3.5	SB05-S-3.5	<5.9	<1	
		4.5	SB05-S-4.5	<6.3	--	
		8	SB05-S-8	<7.5	--	
		13	SB05-S-13	<7.3	--	
SB06	11/03/2025	17	SB05-S-17	--	--	
		2	SB06-S-2	<6.9	1.4	
		3.5	SB06-S-3.5	<6.4	--	
		8.5	SB06-S-8.5	<6.7	--	
		12	SB06-S-12	6.7	--	Field duplicate.
			SB06-S-12-DUP		--	
SB07	11/03/2025	17	SB06-S-17	<6.9	--	
		1.5	SB07-S-1.5	<13.4	3.0	
		6	SB07-S-6	<6.8	--	
		11	SB07-S-11	<8.5	--	
		16	SB07-S-16	<7.6	--	

Table 3-2
AOI B Soil Sample Summary
Parcel 12, Port of Tacoma



Notes

XRF readings measured ex-situ using Thermo Niton XL3t 600 XRF analyzer. XRF reporting limits were raised due to high moisture in the samples.

-- = not analyzed.

< = non-detect at specified reporting limit.

bgs = below ground surface.

mg/kg = milligrams per kilogram.

ppm = parts per million.

XRF = x-ray fluorescence.

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a),(b),(1)}	Natural Background, Puget Sound ⁽²⁾	B12				B21					B22				
Sample Name:				B12-S-0-1	B12-S-3-5	B12-S-5-10	B12-S-10-15	B21-S-0-1	B21-S-1-5	B21-S-5-8	B21-S-8-10	B21-S-10-15	B22-S-0-1	B22-S-1-5	B22-S-5-8	B22-S-8-10	B22-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	3-5	5-10	10-15	0-1	1-5	5-8	8-10	10-15	0-1	1-5	5-8	8-10	10-15
Sample Type:				N	N	N	N	N	N	N	N	N	N	N	N	N	N
TPH (mg/kg)																	
Gasoline-range hydrocarbons	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbons	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)																	
Arsenic	20	NA	7	5.1	--	--	--	4.2	--	--	--	--	6.4	--	--	--	--
Barium	NV	16,000	NV	36	--	--	--	32	--	--	--	--	59	--	--	--	--
Cadmium	2.0	NA	1	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--
Chromium ^(e)	2,000	NA	48	11	--	--	--	10	--	--	--	--	12	--	--	--	--
Lead	250	NV	24	12	--	--	--	12	--	--	--	--	47	--	--	--	--
Mercury	2.0	NV	0.07	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--
Selenium	NV	400	NV	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--
Silver	NV	400	NV	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--
Organochlorine Pesticides (mg/kg)																	
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	B12				B21					B22				
Sample Name:				B12-S-0-1	B12-S-3-5	B12-S-5-10	B12-S-10-15	B21-S-0-1	B21-S-1-5	B21-S-5-8	B21-S-8-10	B21-S-10-15	B22-S-0-1	B22-S-1-5	B22-S-5-8	B22-S-8-10	B22-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	3-5	5-10	10-15	0-1	1-5	5-8	8-10	10-15	0-1	1-5	5-8	8-10	10-15
Sample Type:				N	N	N	N	N	N	N	N	N	N	N	N	N	N
Organophosphorus Pesticides (mg/kg)																	
Coumaphos	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Demeton-S	NV	NV	NV	0.016 U	--	--	--	0.016 U	--	--	--	--	0.016 U	--	--	--	--
Diazinon	NV	56	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Dichlorvos	NV	3.4	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Dimethoate	NV	180	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Disulfoton	NV	3.2	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Dursban (Chloropyrifos)	NV	80	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Ethoprop	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Fensulfothion	NV	NV	NV	0.056 U	--	--	--	0.056 U	--	--	--	--	0.057 U	--	--	--	--
Fenthion	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Guthion (Azinphos-Methyl)	NV	240	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Merphos	NV	2.4	NV	0.056 U	--	--	--	0.056 U	--	--	--	--	0.057 U	--	--	--	--
Methyl parathion	NV	20	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Mevinphos	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Monocrotophos	NV	NV	NV	0.056 U	--	--	--	0.056 U	--	--	--	--	0.057 U	--	--	--	--
Naled	NV	160	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Parathion	NV	480	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Phorate	NV	16	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Ronnel	NV	4,000	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Santox (EPN)	NV	0.80	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Sulfotepp	NV	40	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Sulprofos (Bolstar)	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Sumitox (Malathion)	NV	1,600	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Tetrachlorovinphos	NV	42	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Tokuthion	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Trichloronate	NV	NV	NV	0.023 U	--	--	--	0.022 U	--	--	--	--	0.023 U	--	--	--	--
Chlorinated Herbicides (mg/kg)																	
2,4,5-T	NV	800	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
2,4-D	NV	800	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
2,4-DB	NV	NV	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
4-Nitrophenol	NV	NV	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Acifluorfen	NV	NV	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Bentazon	NV	2,400	NV	0.0222 UJ	--	--	--	0.0216 UJ	--	--	--	--	0.0209 UJ	--	--	--	--
Chloramben	NV	1,200	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Dacthal	NV	800	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Dalapon	NV	2,400	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Dicamba	NV	2,400	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Dichlorprop	NV	NV	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
Dinoseb	NV	80	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--
MCPA	NV	40	NV	0.333 U	--	--	--	0.324 U	--	--	--	--	0.314 U	--	--	--	--
MCPP (Mecoprop)	NV	80	NV	0.222 U	--	--	--	0.216 U	--	--	--	--	0.209 U	--	--	--	--
Picloram	NV	5,600	NV	0.0222 UJ	--	--	--	0.0216 UJ	--	--	--	--	0.0209 UJ	--	--	--	--
Silvex	NV	640	NV	0.0222 U	--	--	--	0.0216 U	--	--	--	--	0.0209 U	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	B33					B44					B45					
Sample Name:				B33-S-0-1	B33-S-1-2	B33-S-5-8	B33-S-8-10	B33-S-10-15	B44-S-0-1	B44-S-1-5	B44-S-5-7	B44-S-7-10	B44-S-10-15	B45-S-0-1	B45-S-1-5	B45-S-5-7.5	B45-S-5-7.5- DUP	B45-S-7.5- 10	B45-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	1-2	5-8	8-10	10-15	0-1	1-5	5-7	7-10	10-15	0-1	1-5	5-7.5	5-7.5	7.5-10	10-15
Sample Type:				N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
TPH (mg/kg)																			
Gasoline-range hydrocarbor	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbor	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)																			
Arsenic	20	NA	7	5.1	--	--	--	--	4	--	--	--	--	3.6	--	--	--	--	--
Barium	NV	16,000	NV	39	--	--	--	--	34	--	--	--	--	38	--	--	--	--	--
Cadmium	2.0	NA	1	1 U	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--	--
Chromium ^(e)	2,000	NA	48	9.2	--	--	--	--	10	--	--	--	--	11	--	--	--	--	--
Lead	250	NV	24	15	--	--	--	--	10	--	--	--	--	8.2	--	--	--	--	--
Mercury	2.0	NV	0.07	1 U	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--	--
Selenium	NV	400	NV	1 U	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--	--
Silver	NV	400	NV	1 U	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--	--
Organochlorine Pesticides (mg/kg)																			
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	B33					B44					B45					
Sample Name:				B33-S-0-1	B33-S-1-2	B33-S-5-8	B33-S-8-10	B33-S-10-15	B44-S-0-1	B44-S-1-5	B44-S-5-7	B44-S-7-10	B44-S-10-15	B45-S-0-1	B45-S-1-5	B45-S-5-7.5	B45-S-5-7.5- DUP	B45-S-7.5- 10	B45-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	1-2	5-8	8-10	10-15	0-1	1-5	5-7	7-10	10-15	0-1	1-5	5-7.5	5-7.5	7.5-10	10-15
Sample Type:				N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
Organophosphorus Pesticides (mg/kg)																			
Coumaphos	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Demeton-S	NV	NV	NV	0.016 U	--	--	--	--	0.015 U	--	--	--	--	0.016 U	--	--	--	--	
Diazinon	NV	56	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Dichlorvos	NV	3.4	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Dimethoate	NV	180	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Disulfoton	NV	3.2	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Dursban (Chloropyrifos)	NV	80	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Ethoprop	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Fensulfothion	NV	NV	NV	0.058 U	--	--	--	--	0.055 U	--	--	--	--	0.056 U	--	--	--	--	
Fenthion	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Guthion (Azinphos-Methyl)	NV	240	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Merphos	NV	2.4	NV	0.058 U	--	--	--	--	0.055 U	--	--	--	--	0.056 U	--	--	--	--	
Methyl parathion	NV	20	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Mevinphos	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Monocrotophos	NV	NV	NV	0.058 U	--	--	--	--	0.055 U	--	--	--	--	0.056 U	--	--	--	--	
Naled	NV	160	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Parathion	NV	480	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Phorate	NV	16	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Ronnel	NV	4,000	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Santox (EPN)	NV	0.80	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Sulfotepp	NV	40	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Sulprofos (Bolstar)	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Sumitox (Malathion)	NV	1,600	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Tetrachlorovinphos	NV	42	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Tokuthion	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Trichloronate	NV	NV	NV	0.023 U	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--	--	
Chlorinated Herbicides (mg/kg)																			
2,4,5-T	NV	800	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
2,4-D	NV	800	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
2,4-DB	NV	NV	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
4-Nitrophenol	NV	NV	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Acifluorfen	NV	NV	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Bentazon	NV	2,400	NV	0.0228 UJ	--	--	--	--	0.021 UJ	--	--	--	--	0.0218 UJ	--	--	--	--	
Chloramben	NV	1,200	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Dacthal	NV	800	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Dalapon	NV	2,400	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Dicamba	NV	2,400	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Dichlorprop	NV	NV	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
Dinoseb	NV	80	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	
MCPA	NV	40	NV	0.342 U	--	--	--	--	0.316 U	--	--	--	--	0.327 U	--	--	--	--	
MCPP (Mecoprop)	NV	80	NV	0.228 U	--	--	--	--	0.21 U	--	--	--	--	0.218 U	--	--	--	--	
Picloram	NV	5,600	NV	0.0228 UJ	--	--	--	--	0.021 UJ	--	--	--	--	0.0218 UJ	--	--	--	--	
Silvex	NV	640	NV	0.0228 U	--	--	--	--	0.021 U	--	--	--	--	0.0218 U	--	--	--	--	

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a),(b),(1)}	Natural Background, Puget Sound ⁽²⁾	B50					B50		B55				
Sample Name:				B50-S-0-1	B50-S-1-5	B50-S-5-7	B50-S-7-10	B50-S-10-12	B50-S-12-15	B50-S-12-15- DUP	B55-S-0-1	B55-S-2-4	B55-S-6-8	B55-S-8-10	B55-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	1-5	5-7	7-10	10-12	12-15	12-15	0-1	2-4	6-8	8-10	10-15
Sample Type:				N	N	N	N	N	N	FD	N	N	N	N	N
TPH (mg/kg)															
Gasoline-range hydrocarbon	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbon	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)															
Arsenic	20	NA	7	4	--	--	--	--	--	--	3.4	--	--	--	--
Barium	NV	16,000	NV	58	--	--	--	--	--	--	37	--	--	--	--
Cadmium	2.0	NA	1	1 U	--	--	--	--	--	--	1 U	--	--	--	--
Chromium ^(e)	2,000	NA	48	12	--	--	--	--	--	--	12	--	--	--	--
Lead	250	NV	24	11	--	--	--	--	--	--	9.9	--	--	--	--
Mercury	2.0	NV	0.07	1 U	--	--	--	--	--	--	1 U	--	--	--	--
Selenium	NV	400	NV	1 U	--	--	--	--	--	--	1 U	--	--	--	--
Silver	NV	400	NV	1 U	--	--	--	--	--	--	1 U	--	--	--	--
Organochlorine Pesticides (mg/kg)															
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	--	--	--	0.01 U	--	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	--	--	--	1 U	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a),(b),(1)}	Natural Background, Puget Sound ⁽²⁾	B50					B50		B55				
Sample Name:				B50-S-0-1	B50-S-1-5	B50-S-5-7	B50-S-7-10	B50-S-10-12	B50-S-12-15	B50-S-12-15- DUP	B55-S-0-1	B55-S-2-4	B55-S-6-8	B55-S-8-10	B55-S-10-15
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025
Collection Depth (ft bgs):				0-1	1-5	5-7	7-10	10-12	12-15	12-15	0-1	2-4	6-8	8-10	10-15
Sample Type:				N	N	N	N	N	N	FD	N	N	N	N	N
Organophosphorus Pesticides (mg/kg)															
Coumaphos	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Demeton-S	NV	NV	NV	0.016 U	--	--	--	--	--	--	0.016 U	--	--	--	--
Diazinon	NV	56	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Dichlorvos	NV	3.4	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Dimethoate	NV	180	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Disulfoton	NV	3.2	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Dursban (Chloropyrifos)	NV	80	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Ethoprop	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Fensulfothion	NV	NV	NV	0.057 U	--	--	--	--	--	--	0.056 U	--	--	--	--
Fenthion	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Guthion (Azinphos-Methyl)	NV	240	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Merphos	NV	2.4	NV	0.057 U	--	--	--	--	--	--	0.056 U	--	--	--	--
Methyl parathion	NV	20	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Mevinphos	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Monocrotophos	NV	NV	NV	0.057 U	--	--	--	--	--	--	0.056 U	--	--	--	--
Naled	NV	160	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Parathion	NV	480	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Phorate	NV	16	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Ronnel	NV	4,000	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Santox (EPN)	NV	0.80	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Sulfotepp	NV	40	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Sulprofos (Bolstar)	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Sumitox (Malathion)	NV	1,600	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Tetrachlorovinphos	NV	42	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Tokuthion	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Trichloronate	NV	NV	NV	0.023 U	--	--	--	--	--	--	0.023 U	--	--	--	--
Chlorinated Herbicides (mg/kg)															
2,4,5-T	NV	800	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
2,4-D	NV	800	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
2,4-DB	NV	NV	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
4-Nitrophenol	NV	NV	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Acifluorfen	NV	NV	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Bentazon	NV	2,400	NV	0.0218 UJ	--	--	--	--	--	--	0.0232 UJ	--	--	--	--
Chloramben	NV	1,200	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Dacthal	NV	800	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Dalapon	NV	2,400	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Dicamba	NV	2,400	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Dichlorprop	NV	NV	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
Dinoseb	NV	80	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--
MCPA	NV	40	NV	0.327 U	--	--	--	--	--	--	0.348 U	--	--	--	--
MCPP (Mecoprop)	NV	80	NV	0.218 U	--	--	--	--	--	--	0.232 U	--	--	--	--
Picloram	NV	5,600	NV	0.0218 UJ	--	--	--	--	--	--	0.0232 UJ	--	--	--	--
Silvex	NV	640	NV	0.0218 U	--	--	--	--	--	--	0.0232 U	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a),(b),(1)}	Natural Background, Puget Sound ⁽²⁾	B76					T5				T6				
Sample Name:				B76-S-0-1	B76-S-1-5	B76-S-5-10	B76-S-10-15	B76-S-10-15- DUP	T5-S-0-1	T5-S-1-4	T5-S-4-8	T5-S-8-12	T6-S-0-1	T6-S-1-5	T6-S-5-8	T6-S-5-8-DUP	T6-S-8-12
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025
Collection Depth (ft bgs):				0-1	1-5	5-10	10-15	10-15	0-1	1-4	4-8	8-12	0-1	1-5	5-8	5-8	8-12
Sample Type:				N	N	N	N	FD	N	N	N	N	N	N	N	N	N
TPH (mg/kg)																	
Gasoline-range hydrocarbon	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbon	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)																	
Arsenic	20	NA	7	3.3	--	--	--	--	3.9	--	--	--	5.6	--	--	--	--
Barium	NV	16,000	NV	32	--	--	--	--	37	--	--	--	46	--	--	--	--
Cadmium	2.0	NA	1	1 U	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--
Chromium ^(e)	2,000	NA	48	12	--	--	--	--	13	--	--	--	14	--	--	--	--
Lead	250	NV	24	7.5	--	--	--	--	8.1	--	--	--	12	--	--	--	--
Mercury	2.0	NV	0.07	1 U	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--
Selenium	NV	400	NV	1 U	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--
Silver	NV	400	NV	1 U	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--
Organochlorine Pesticides (mg/kg)																	
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	--	0.01 U	--	--	--	0.01 U	--	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a),(b),(1)}	Natural Background, Puget Sound ⁽²⁾	B76					T5				T6				
Sample Name:				B76-S-0-1	B76-S-1-5	B76-S-5-10	B76-S-10-15	B76-S-10-15-DUP	T5-S-0-1	T5-S-1-4	T5-S-4-8	T5-S-8-12	T6-S-0-1	T6-S-1-5	T6-S-5-8	T6-S-5-8-DUP	T6-S-8-12
Collection Date:				09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/29/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025
Collection Depth (ft bgs):				0-1	1-5	5-10	10-15	10-15	0-1	1-4	4-8	8-12	0-1	1-5	5-8	5-8	8-12
Sample Type:				N	N	N	N	FD	N	N	N	N	N	N	N	FD	N
Organophosphorus Pesticides (mg/kg)																	
Coumaphos	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Demeton-S	NV	NV	NV	0.015 U	--	--	--	--	0.016 U	--	--	--	0.016 U	--	--	--	--
Diazinon	NV	56	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Dichlorvos	NV	3.4	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Dimethoate	NV	180	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Disulfoton	NV	3.2	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Dursban (Chloropyrifos)	NV	80	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Ethoprop	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Fensulfothion	NV	NV	NV	0.055 U	--	--	--	--	0.056 U	--	--	--	0.057 U	--	--	--	--
Fenthion	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Guthion (Azinphos-Methyl)	NV	240	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Merphos	NV	2.4	NV	0.055 U	--	--	--	--	0.056 U	--	--	--	0.057 U	--	--	--	--
Methyl parathion	NV	20	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Mevinphos	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Monocrotophos	NV	NV	NV	0.055 U	--	--	--	--	0.056 U	--	--	--	0.057 U	--	--	--	--
Naled	NV	160	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Parathion	NV	480	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Phorate	NV	16	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Ronnel	NV	4,000	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Santox (EPN)	NV	0.80	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Sulfotepp	NV	40	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Sulprofos (Bolstar)	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Sumitox (Malathion)	NV	1,600	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Tetrachlorovinphos	NV	42	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Tokuthion	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Trichloronate	NV	NV	NV	0.022 U	--	--	--	--	0.022 U	--	--	--	0.023 U	--	--	--	--
Chlorinated Herbicides (mg/kg)																	
2,4,5-T	NV	800	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
2,4-D	NV	800	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
2,4-DB	NV	NV	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
4-Nitrophenol	NV	NV	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Acifluorfen	NV	NV	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Bentazon	NV	2,400	NV	0.0219 UJ	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Chloramben	NV	1,200	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Dacthal	NV	800	NV	0.0219 U	--	--	--	--	-- R	--	--	--	0.0192 UJ	--	--	--	--
Dalapon	NV	2,400	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Dicamba	NV	2,400	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Dichlorprop	NV	NV	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
Dinoseb	NV	80	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--
MCPA	NV	40	NV	0.329 U	--	--	--	--	0.3 UJ	--	--	--	0.288 UJ	--	--	--	--
MCPP (Mecoprop)	NV	80	NV	0.219 U	--	--	--	--	0.2 UJ	--	--	--	0.192 UJ	--	--	--	--
Picloram	NV	5,600	NV	0.0219 UJ	--	--	--	--	-- R	--	--	--	0.0192 UJ	--	--	--	--
Silvex	NV	640	NV	0.0219 U	--	--	--	--	0.02 UJ	--	--	--	0.0192 UJ	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	T14			T14			T27					T53			
Sample Name:				T14-S-0-1	T14-S-1-2	T14-S-1-2- DUP	T14-S-2-3	T14-S-3-6	T14-S-6-8	T27-S-0-1	T27-S-1-3	T27-S-3-6.6	T27-S-8-10	T27-S-10- 12.3	T53-S-0-1	T53-S-1-6	T53-S-6-9	T53-S-9-12
Collection Date:				09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025
Collection Depth (ft bgs):				0-1	1-2	1-2	2-3	3-6	6-8	0-1	1-3	3-6.6	8-10	10-12.3	0-1	1-6	6-9	9-12
Sample Type:				N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N
TPH (mg/kg)																		
Gasoline-range hydrocarbon	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbon	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)																		
Arsenic	20	NA	7	26	13	13	--	--	--	3.3	--	--	--	--	4.5	--	--	--
Barium	NV	16,000	NV	220	130	130	--	--	--	33	--	--	--	--	36	--	--	--
Cadmium	2.0	NA	1	1 U	1 U	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--
Chromium ^(e)	2,000	NA	48	11	7.2	6.8	--	--	--	9.6	--	--	--	--	13	--	--	--
Lead	250	NV	24	14	4.6	3.7	--	--	--	6.1	--	--	--	--	13	--	--	--
Mercury	2.0	NV	0.07	1 U	1 U	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--
Selenium	NV	400	NV	1 U	1 U	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--
Silver	NV	400	NV	1 U	1 U	1 U	--	--	--	1 U	--	--	--	--	1 U	--	--	--
Organochlorine Pesticides (mg/kg)																		
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	--	--	0.01 U	--	--	--	--	0.01 U	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	--	--	1 U	--	--	--	--	1 U	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	T14			T14			T27					T53			
Sample Name:				T14-S-0-1	T14-S-1-2	T14-S-1-2-DUP	T14-S-2-3	T14-S-3-6	T14-S-6-8	T27-S-0-1	T27-S-1-3	T27-S-3-6.6	T27-S-8-10	T27-S-10-12.3	T53-S-0-1	T53-S-1-6	T53-S-6-9	T53-S-9-12
Collection Date:				09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/18/2025	09/18/2025	09/18/2025	09/18/2025
Collection Depth (ft bgs):				0-1	1-2	1-2	2-3	3-6	6-8	0-1	1-3	3-6.6	8-10	10-12.3	0-1	1-6	6-9	9-12
Sample Type:				N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N
Organophosphorus Pesticides (mg/kg)																		
Coumaphos	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Demeton-S	NV	NV	NV	0.022 U	--	--	--	--	--	0.015 U	--	--	--	--	0.016 U	--	--	--
Diazinon	NV	56	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Dichlorvos	NV	3.4	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Dimethoate	NV	180	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Disulfoton	NV	3.2	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Dursban (Chloropyrifos)	NV	80	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Ethoprop	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Fensulfothion	NV	NV	NV	0.079 U	--	--	--	--	--	0.054 U	--	--	--	--	0.056 U	--	--	--
Fenthion	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Guthion (Azinphos-Methyl)	NV	240	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Merphos	NV	2.4	NV	0.079 U	--	--	--	--	--	0.054 U	--	--	--	--	0.056 U	--	--	--
Methyl parathion	NV	20	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Mevinphos	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Monocrotophos	NV	NV	NV	0.079 U	--	--	--	--	--	0.054 U	--	--	--	--	0.056 U	--	--	--
Naled	NV	160	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Parathion	NV	480	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Phorate	NV	16	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Ronnel	NV	4,000	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Santox (EPN)	NV	0.80	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Sulfotepp	NV	40	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Sulprofos (Bolstar)	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Sumitox (Malathion)	NV	1,600	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Tetrachlorovinphos	NV	42	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Tokuthion	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Trichloronate	NV	NV	NV	0.032 U	--	--	--	--	--	0.022 U	--	--	--	--	0.022 U	--	--	--
Chlorinated Herbicides (mg/kg)																		
2,4,5-T	NV	800	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
2,4-D	NV	800	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
2,4-DB	NV	NV	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
4-Nitrophenol	NV	NV	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Acifluorfen	NV	NV	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Bentazon	NV	2,400	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Chloramben	NV	1,200	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Dacthal	NV	800	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Dalapon	NV	2,400	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Dicamba	NV	2,400	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Dichlorprop	NV	NV	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Dinoseb	NV	80	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
MCPA	NV	40	NV	0.29 UJ	--	--	--	--	--	0.287 UJ	--	--	--	--	0.287 UJ	--	--	--
MCPP (Mecoprop)	NV	80	NV	0.193 UJ	--	--	--	--	--	0.191 UJ	--	--	--	--	0.191 UJ	--	--	--
Picloram	NV	5,600	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--
Silvex	NV	640	NV	0.0193 UJ	--	--	--	--	--	0.0191 UJ	--	--	--	--	0.0191 UJ	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	T70				T73					
Sample Name:				T70-S-0-1	T70-S-3-5.7	T70-S-5.7-9	T70-S-9-12	T73-S-0-1	T73-S-1-3	T73-S-3-5	T73-S-5-6.6	T73-S-6.6-9.3	T73-S-9.3-12
Collection Date:				09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025
Collection Depth (ft bgs):				0-1	3-5.7	5.7-9	9-12	0-1	1-3	3-5	5-6.6	6.6-9.3	9.3-12
Sample Type:				N	N	N	N	N	N	N	N	N	N
TPH (mg/kg)													
Gasoline-range hydrocarbon	100 ^(c)	NV	NV	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diesel-range hydrocarbons	2,000	NV	NV	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Motor oil-range hydrocarbon	2,000	NV	NV	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Diesel + Oil ^(d)	2,000	NV	NV	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT	200 UT
Metals (mg/kg)													
Arsenic	20	NA	7	3.1	--	--	--	1.8	--	--	--	--	--
Barium	NV	16,000	NV	43	--	--	--	25	--	--	--	--	--
Cadmium	2.0	NA	1	1 U	--	--	--	1 U	--	--	--	--	--
Chromium ^(e)	2,000	NA	48	16	--	--	--	11	--	--	--	--	--
Lead	250	NV	24	5.3	--	--	--	4	--	--	--	--	--
Mercury	2.0	NV	0.07	1 U	--	--	--	1 U	--	--	--	--	--
Selenium	NV	400	NV	1 U	--	--	--	1 U	--	--	--	--	--
Silver	NV	400	NV	1 U	--	--	--	1 U	--	--	--	--	--
Organochlorine Pesticides (mg/kg)													
4,4'-DDD	NV	4.2	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
4,4'-DDE	NV	2.9	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
4,4'-DDT	3.0	NA	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Aldrin	NV	0.059	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
alpha-BHC	NV	0.16	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
alpha-Chlordane	NV	40	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
beta-BHC	NV	0.56	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
beta-Chlordane	NV	40	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
delta-BHC	NV	0.0048	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Dieldrin	NV	0.063	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endosulfan I	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endosulfan II (beta)	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endosulfan sulfate	NV	480	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endrin	NV	24	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endrin aldehyde	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Endrin ketone	NV	NV	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Heptachlor	NV	0.22	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Heptachlor epoxide	NV	0.11	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Lindane	0.010	NA	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Methoxychlor	NV	400	NV	0.01 U	--	--	--	0.01 U	--	--	--	--	--
Toxaphene	NV	0.91	NV	1 U	--	--	--	1 U	--	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Location:	MTCA Method A, Unrestricted Land Use ⁽¹⁾	MTCA Method B ^{(a)(b)(1)}	Natural Background, Puget Sound ⁽²⁾	T70				T73					
Sample Name:				T70-S-0-1	T70-S-3-5.7	T70-S-5.7-9	T70-S-9-12	T73-S-0-1	T73-S-1-3	T73-S-3-5	T73-S-5-6.6	T73-S-6.6-9.3	T73-S-9.3-12
Collection Date:				09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025	09/17/2025
Collection Depth (ft bgs):				0-1	3-5.7	5.7-9	9-12	0-1	1-3	3-5	5-6.6	6.6-9.3	9.3-12
Sample Type:				N	N	N	N	N	N	N	N	N	N
Organophosphorus Pesticides (mg/kg)													
Coumaphos	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Demeton-S	NV	NV	NV	0.016 U	--	--	--	0.015 U	--	--	--	--	--
Diazinon	NV	56	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Dichlorvos	NV	3.4	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Dimethoate	NV	180	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Disulfoton	NV	3.2	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Dursban (Chloropyrifos)	NV	80	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Ethoprop	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Fensulfothion	NV	NV	NV	0.055 U	--	--	--	0.054 U	--	--	--	--	--
Fenthion	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Guthion (Azinphos-Methyl)	NV	240	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Merphos	NV	2.4	NV	0.055 U	--	--	--	0.054 U	--	--	--	--	--
Methyl parathion	NV	20	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Mevinphos	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Monocrotophos	NV	NV	NV	0.055 U	--	--	--	0.054 U	--	--	--	--	--
Naled	NV	160	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Parathion	NV	480	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Phorate	NV	16	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Ronnel	NV	4,000	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Santox (EPN)	NV	0.80	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Sulfotepp	NV	40	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Sulprofos (Bolstar)	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Sumitox (Malathion)	NV	1,600	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Tetrachlorovinphos	NV	42	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Tokuthion	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Trichloronate	NV	NV	NV	0.022 U	--	--	--	0.022 U	--	--	--	--	--
Chlorinated Herbicides (mg/kg)													
2,4,5-T	NV	800	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
2,4-D	NV	800	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
2,4-DB	NV	NV	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
3,5-Dichlorobenzoic acid	NV	NV	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
4-Nitrophenol	NV	NV	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Acifluorfen	NV	NV	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Bentazon	NV	2,400	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Chloramben	NV	1,200	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Dacthal	NV	800	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Dalapon	NV	2,400	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Dicamba	NV	2,400	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Dichlorprop	NV	NV	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Dinoseb	NV	80	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
MCPA	NV	40	NV	0.294 UJ	--	--	--	0.285 UJ	--	--	--	--	--
MCPP (Mecoprop)	NV	80	NV	0.196 UJ	--	--	--	0.19 UJ	--	--	--	--	--
Picloram	NV	5,600	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--
Silvex	NV	640	NV	0.0196 UJ	--	--	--	0.019 UJ	--	--	--	--	--

Table 4-1
AOI A Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma

Notes
Metals results screened to MTCA cleanup levels only if results are above Washington State Natural Background Metals values (if available).
Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) and rejected results (R) were not compared with screening criteria.
MTCA Method A, Unrestricted Land Use
AOI = area of interest.
FD = field duplicate sample.
ft bgs = feet below ground surface.
mg/kg = milligrams per kilogram.
MTCA = Model Toxics Control Act.
N = normal environmental sample.
NA = not applicable.
NV = no value.
R = result is rejected. The analyte may or may not be present in the sample. Rejected results are displayed as "--".
U = result is non-detect at the method reporting limit.
UJ = result is non-detect with an estimated method reporting limit.
T = result is calculated.
^(a) Lower of cancer and noncancer values are shown.
^(b) When MTCA Method A value is available, value is not screened to MTCA Method B. When MTCA Method A value is not available, value is screened against MTCA Method B.
^(c) Screening level for gasoline-range hydrocarbons with no detectable benzene.
^(d) Diesel+Oil is the sum of diesel- and oil-range hydrocarbons. When all results are non-detect, the highest reporting limit is provided as the sum.
^(e) Cleanup level for trivalent chromium is used when the cleanup level for total chromium is not available.
References
⁽¹⁾ Ecology. 2025. <i>Cleanup Levels and Risk Calculation (CLARC) table</i> . Washington State Department of Ecology, Toxics Cleanup Program. February.
⁽²⁾ Ecology. 1994. <i>Natural Background Soil Metals Concentrations in Washington State</i> . Publication 94-115. Washington State Department of Ecology. October.

Table 4-2
AOI B Soil Analytical Results
Parcel 12 Soil Investigation
Port of Tacoma



Location	Sample Name	Collection Date	Collection Depth (ft bgs)	Arsenic (mg/kg)
MTCA Method A, Unrestricted Land Use ⁽¹⁾				20
Natural Background, Puget Sound ^{(c)(2)}				7
SB01	SB01-S-1.5	11/03/2025	1.5	2.9
SB02	SB02-S-0.5	11/03/2025	0.5	3.5
SB03	SB03-S-0.5	11/03/2025	0.5	9.7
	SB03-S-1.5	11/03/2025	1.5	6.7
SB04	SB04-S-0.5	11/03/2025	0.5	3.2
SB05	SB05-S-3.5	11/03/2025	3.5	1 U
SB06	SB06-S-2	11/03/2025	2.0	1.4
SB07	SB07-S-1.5	11/03/2025	1.5	3.0

Notes

Metals results screened to MTCA cleanup levels only if results are above Washington State Natural Background Metals values.

Detected results were compared with screening criteria and no exceedances were identified.

°C = degrees Celsius.

AOI = area of interest.

ft bgs = feet below ground surface.

GW = groundwater.

mg/kg = milligrams per kilogram.

MTCA = Model Toxics Control Act.

SW = surface water.

U = result is non-detect at the method reporting limit.

References

⁽¹⁾Ecology. 2025. *Cleanup Levels and Risk Calculation (CLARC) table*. Washington State Department of Ecology, Toxics Cleanup Program. February.

⁽²⁾Ecology. 1994. *Natural Background Soil Metals Concentrations in Washington State*. Publication 94-115. Washington State Department of Ecology. October.

Appendix A

Aerial Photographs



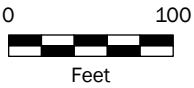
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Figure
1931 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.



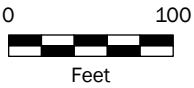
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Figure
1940 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.



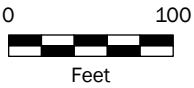
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Figure
1950 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.



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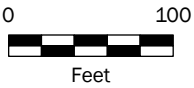


Figure
1957 Aerial Photograph

3802 Taylor Way
Tacoma, WA

Legend

-  Parcel 12
-  WSDOT Property Boundary
-  Tax Lot



Data Sources
Aerial photograph obtained from the U.S. Geological Survey;
tax lot data obtained from Pierce County.



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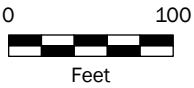
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Figure 1968 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the U.S. Geological Survey;
tax lot data obtained from Pierce County.



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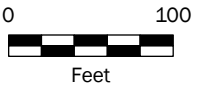
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Figure
1973 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.



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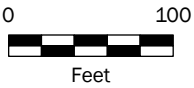


Figure
1990 Aerial Photograph

3802 Taylor Way
Tacoma, WA

Legend

-  Parcel 12
-  WSDOT Property Boundary
-  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.



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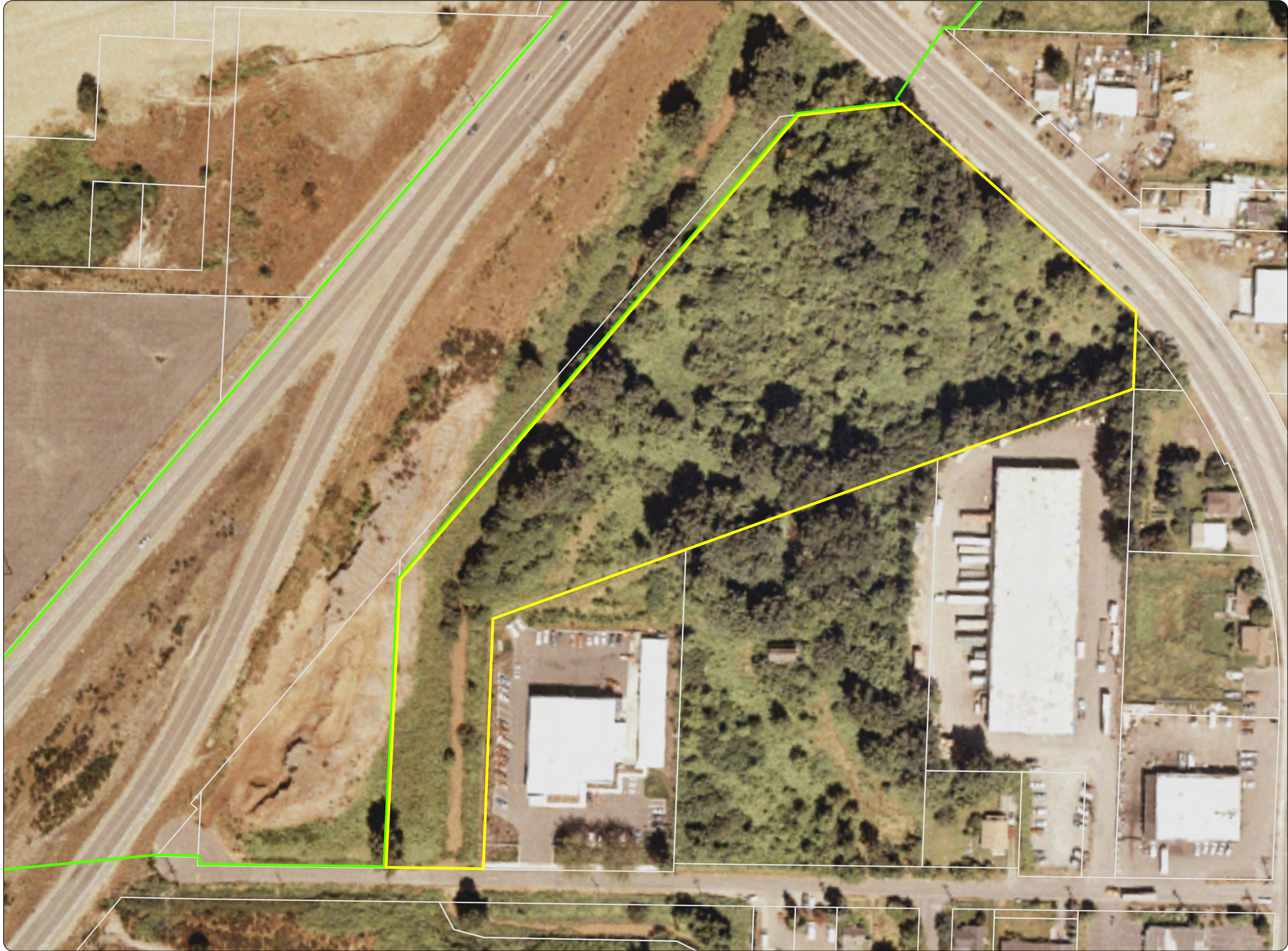
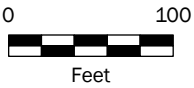


Figure
1998 Aerial Photograph

3802 Taylor Way
Tacoma, WA

Legend

-  Parcel 12
-  WSDOT Property Boundary
-  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.

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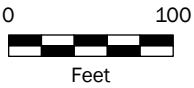
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Figure
2008 Aerial Photograph

3802 Taylor Way
Tacoma, WA

- Legend**
-  Parcel 12
 -  WSDOT Property Boundary
 -  Tax Lot



Data Sources
Aerial photograph obtained from the City of Tacoma; tax lot data obtained from Pierce County.

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Appendix B

2019 Crete Report



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TO: Margaret Schwertner, Moffatt & Nichol

FROM: Grant Hainsworth – CRETE Consulting Inc.

PROJECT: DD23 Ditch Maintenance Feasibility Report – Port of Tacoma, Tacoma, WA
Professional Services 101441.01

SUBJECT: Sediment Sampling and Characterization for Disposal, DD23

DATE: July 15, 2019

CC: Dave Myers – Port of Tacoma

This memorandum presents a summary of Drainage District (DD) 23 ditch sampling, sediment analytical testing results, and implications of the analytical data for upland disposal of any removed sediment. The ditch runs from 12th Street North, about 5,500 feet in length, and ends at the Port's existing outfall structures and tideflex gates that discharge to the Hylebos Waterway. The length of the ditch is divided into eleven sections, with 12 transects roughly 500 feet apart.

Sediment sampling was performed on May 15 and 16, 2019. Sediment samples were collected at 12 transects identified along the DD23 ditch by the Port of Tacoma (Port; Figure 1). The sample locations were not surveyed, but the sample locations were collected at each transect that was surveyed and flagged on May 13, 14 and 15, 2019 by Pacific Geomatic Services, Inc. Sediment samples were collected from close to the center of the ditch by wading or using a small boat. A decontaminated 2 ½-inch ID Lexan sample tube was manually pushed through the sediment until refusal. The top of the tube was taped to retain the sample when the tube was manually removed from the ditch. Each core was logged and screened for volatile organic contaminants using a photoionization detector (PID). The sediment was generally a black to dark brown sandy to clayey silt with abundant organic material. The only PID detection occurred at transect 12. Sheen was noted at transect 4 and sheen and odor were noted at transect 2, but they were believed to be derived from natural organics at the time of sampling. Recovered sample core lengths are provided below:

Transect Number	Sediment Core Length (inches)
1	13
2	23
3	19
4	28
5	23
6	16
7	25
8	13
9	25
10	18
11	13
12	20

Sediment Analytical Testing for Disposal

The sediment analytical testing program was developed in consultation with the Tacoma-Pierce County Health Department (Johnston 2019¹) to reflect common urban runoff contamination that may be present in the ditch sediment and could affect off-site landfill disposal options or remediation requirements.

Sediment samples were collected and analyzed from each transect for the following compounds:

- RCRA 8 metals plus copper, nickel, and zinc;
- Polycyclic Aromatic Hydrocarbons (PAHs); and,
- Gasoline, Diesel, and Oil Range Petroleum Hydrocarbons (NWTPH-G/Dx).

Sediment samples for analytical testing were transferred to sample jars and labeled. All sample jars were placed on ice in a cooler and delivered to Friedman & Bruya analytical laboratories in Seattle, Washington.

Sediment analytical data indicated that sediment to be removed and disposed does not contain Dangerous or Hazardous Waste and can, therefore, be disposed at LRI in Graham, Washington without requiring pre-treatment to reduce chemical concentrations. Two of the samples (transects 2 and 3) had lead concentrations that were more than 20 times the toxicity characteristic leaching protocol (TCLP) criteria for toxic Dangerous Waste. TCLP testing of these samples demonstrated that the TCLP was <1 mg/L, below the 5 mg/L Dangerous Waste threshold. Analytical data is summarized in Table 1 and the analytical data reports are provided in Attachment 1.

Four (4) samples were collected for physical testing (grain size with hydrometer, moisture content, total organic carbon, and Atterberg limits). The ditch was divided into 4 reaches and a single composite sample was submitted from each reach (Transects 1 through 4, 5 through 7, 8 through 9, and 10 through 12). These data are provided in Attachment 1 and can be used to assist in evaluation of sediment handling characteristics.

Potential Sediment Contamination and Sources

The analytical data was compared to soil regulatory criteria to help identify if other sources of contamination other than urban runoff may have contributed to the ditch sediment contamination. This evaluation is preliminary and additional testing and evaluation would be necessary to determine if anything other than urban runoff has contributed to contamination in the ditch.

There is slightly elevated arsenic at transects 2, 3, 8, 9, and 12 with the highest concentration of 43.3 mg/kg at transect 12. The elevated arsenic at transects 8 and 9 was expected since Parcel 12 (a parcel adjacent to the ditch) is reported to have elevated arsenic. The source of arsenic at transect 12 is not known.

Transects 2 and 3 have elevated arsenic but also have elevated lead and PAH concentrations and TPH-diesel/oil concentrations exceed the MTCA Method A cleanup level. This doesn't affect off-site landfill disposal but does suggest that there may be or may have been a source of contamination to these areas. Additional data collection and evaluation would be necessary to determine if there is a potential nearby source for the contamination.

¹ Johnston, Keith, Environmental Health Supervisor Waste Management/Solid Waste/Tacoma-Pierce County Health Department. "Re: WDA - question on LRI waste stream." Message to Jamie Stevens/CRETE. 13 May 2019. E-mail.



7/15/19

Page 3 of 3

The Washington Department of Ecology (Ecology) lists 2 contaminated properties near transect 2:

1. Trans National Leasing Inc. (Cleanup Site ID 5013, Facility/Site ID 1330, UST ID 1036)
<https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=5013>
2. Smith Fire Systems, Inc. (Cleanup Site ID 10585, Facility/Site ID 80726454, UST ID 2125)
<https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=10585>

The Trans National Leasing site is a petroleum leaking underground storage tank (LUST) site that received a No Further Action determination in 1996 and is located on 54th Avenue East, a short distance from the ditch. The Smith Fire Systems site is a gasoline LUST site with a site status of "cleanup started" and is active in the Voluntary Cleanup Program. It is also located on 54th Avenue East. Additional information on these sites may be available by completing an Ecology document review.

Other current and former industrial facilities in the vicinity of the ditch near transects 2 and 3 are potential sources of contamination, but they were not listed as cleanup sites by Ecology.

Condition E. 13 of the Water Quality Certification (Order No. 15819 and Corps Reference No. NWS - 2017-32-WRD dated May 18, 2018) states that Ecology must be notified as indicated in Condition A. 2 if soil contamination is discovered.

* * * * *

Enclosures: Table 1, Figure 1, Attachment 1 – Laboratory Analytical Data



Tables and Figures

Table 1 - Ditch DD23 Analytical Data Summary
Port of Tacoma

Sample ID:	Ditch Transect												Potential CUL (mg/kg)	MTCA Potential CUL Source (lowest)	20xTCLP Value
	1	2	3	4	5	6	7	8	9	10	11	12			
	Date Sampled:	5/16/19	5/16/19	5/16/19	5/16/19	5/15/19	5/15/19	5/15/19	5/15/19	5/15/19	5/15/19	5/15/19			
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
Diesel Range Organics	250	1600	720	320	360	330	200	140	110	140	50 U	100 U	2000.00	Method A	NS
Lube Oil	1200	6000	2400	720	1000	1500	500 U	250 U	250 U	720	250 U	500 U	2000.00	Method A	NS
Gasoline Range Organics	10 U	18	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10	100.00	Method A	NS
Arsenic	6.41	21.5	23	6.63	17.7	15.1	11.8	25.8	24.3	6.3	10	43.3	20.00	Background	100
Barium	35.7	139	131	55.1	143	102	81.1	52.9	46.2	33.3	33	36.7	82.57	Protective of GW	2000
Cadmium	2 U	2.59	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	2.00	Method A	200
Chromium	19.1	29.6	25.1	14.9	21.7	16.7	15.5	19.1	18.9	17.2	15.5	20.5	NS		100
Copper	40.6	70.6	62.7	22	54.5	44.5	32.4	41.3	44.3	24.1	25	59.5	14.26	Protective of GW	NS
Lead	29.5	127	122	18.9	39.5	22.8	29.9	11.8	24.8	8.21	11.4	32.8	150.00	Protective of GW	100
Mercury	2 U	2 U	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	0.10	Protective of GW	4
Nickel	16.1	19.6	22	12.1	18.2	13.5	15.5	14.6	15.2	11.5	10.7	15.5	6.53	Protective of GW	NS
Selenium	2 U	2 U	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	0.26	Protective of GW	20
Silver	2 U	2 U	2 U	1 U	2 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	0.69	Protective of GW	100
Zinc	241	540	350	138	321	332	179	139	115	41.9	44.7	226	298.98	Protective of GW	NS
Acenaphthene	0.02 U	0.2 U	0.2 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	4.98	Protective of GW	NS
Acenaphthylene	0.02 U	0.2 U	0.2 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	NS		NS
Anthracene	0.02	0.14	0.2 U	0.011	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.015	0.01 U	0.02 U	114.14	Protective of GW	NS
Benzo(ghi)perylene	0.2 U	0.56	0.2 U	0.1 U	0.024	0.2 U	0.2 U	0.1 U	0.019	0.012	0.01 U	0.2 U	NS		NS
Fluoranthene	0.3	4.3	0.6	0.09	0.15	0.32	0.087	0.061	0.093	0.17	0.021	0.18	31.60	Protective of GW	NS
Fluorene	0.02 U	0.2 U	0.2 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	5.12	Protective of GW	NS
Naphthalene	0.02 U	0.2 U	0.2 U	0.01 U	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.24	Protective of GW	NS
Phenanthrene	0.087	0.61	0.2 U	0.017	0.033	0.065	0.02 U	0.028	0.018	0.036	0.01 U	0.024	NS		NS
Pyrene	0.33	4.2	0.67	0.1	0.18	0.32	0.12	0.077	0.12	0.18	0.026	0.2	32.77	Protective of GW	NS
Benzo(a)pyrene	0.2 U	1.7	0.31	0.1 U	0.052	0.2 U	0.2 U	0.1 U	0.032	0.053	0.01 U	0.2 U	0.10	Method A	NS
Benz[a]anthracene	0.11	1.3	0.24	0.034	0.042	0.073	0.032	0.022	0.027	0.087	0.01 U	0.053	0.04	Protective of GW	NS
Chrysene	0.2	2.1	0.4	0.065	0.12	0.21	0.06	0.069	0.056	0.078	0.015	0.2 U	4.77	Protective of GW	NS
Benzo(k)fluoranthene	0.2 U	1.2	0.2 U	0.1 U	0.043	0.2 U	0.2 U	0.1 U	0.022	0.025	0.01 U	0.2 U	1.47	Protective of GW	NS
Dibenzo(a,h)anthracene	0.2 U	0.2 U	0.2 U	0.1 U	0.02 U	0.2 U	0.2 U	0.1 U	0.01 U	0.01 U	0.01 U	0.2 U	0.02	Protective of GW	NS
Indeno(1,2,3-cd)pyrene	0.2 U	0.6	0.2 U	0.1 U	0.024	0.2 U	0.2 U	0.1 U	0.018	0.014	0.01 U	0.2 U	0.42	Protective of GW	NS
Benzo(b)fluoranthene	0.32	4.1	0.69	0.1 U	0.15	0.35	0.2 U	0.1 U	0.077	0.087	0.02	0.2 U	0.15	Protective of GW	NS
cPAHS (tef)	0.305	2.461	0.467	0.144	0.081	0.304	0.284	0.143	0.057	0.085	0.142	0.287	0.10	Method A	NS

Notes:

- above lowest potential soil CUL
- above 20x TCLP standard

Bold denotes a detections

MTCA = Model Toxics Control Act

cPAH tef = Carcinogenic Polycyclic Aromatic Hydrocarbons Toxicity Equivalency Factors (full detections levels used for non-detects)

CUL = Cleanup Level

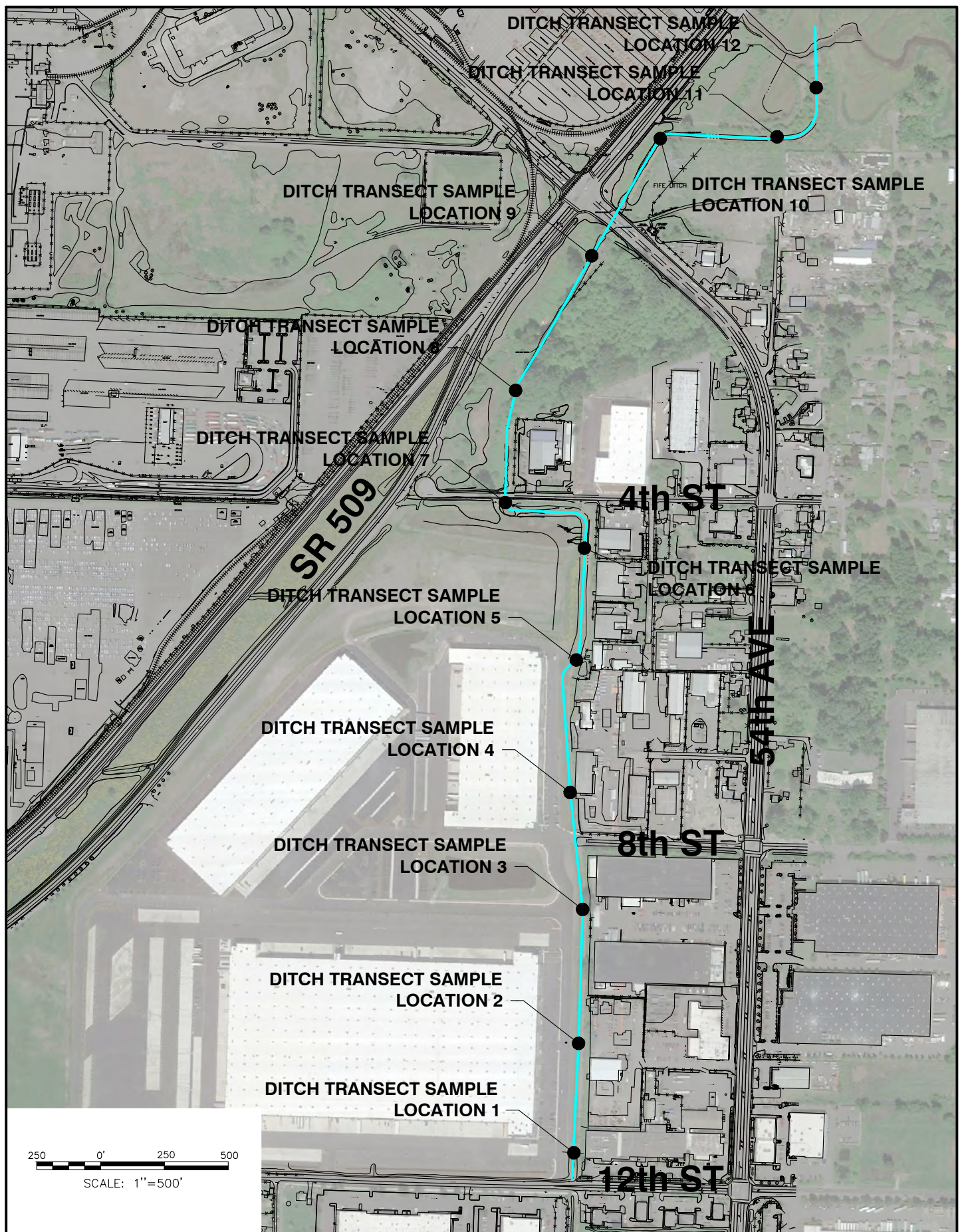
TCLP = Toxicity Characteristic Leaching Procedure

GW = Groundwater

NS = No Standard

mg/kg = milligrams per kilograms

U = laboratory reporting limit



DRAINAGE DISTRICT 23



Attachment 1

Laboratory Analytical Data

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 30, 2019

Jamie Stevens, Project Manager
Crete Consulting
108 S. Washington St., Suite 300
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on May 16, 2019 from the Port of Tacoma Ditch DD 23 , F&BI 905349 project. There are 49 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
CTC0530R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 16, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Port of Tacoma Ditch DD 23 , F&BI 905349 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
905349 -01	1
905349 -02	2
905349 -03	3
905349 -04	4
905349 -05	5
905349 -06	6
905349 -07	7
905349 -08	8
905349 -09	9
905349 -10	10
905349 -11	11
905349 -12	12
905349 -13	1-2-3-4
905349 -14	5-6-7
905349 -15	8-9
905349 -16	10-12

Samples 1-2-3-4, 5-6-7, 8-9, and 10-12 were sent to Fremont Analytical for grain size analysis and to Eurofins-Test America-Burlington for Atterberg Limits. The Fremont report is included. The report from Test America will be forwarded upon receipt.

A 6020B internal standard failed the acceptance criteria for several samples. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

An 8270D internal standard failed the acceptance criteria for several samples. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23, F&BI 905349

Date Extracted: 05/17/19

Date Analyzed: 05/20/19

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
1 905349-01	<10	121
2 905349-02	18	110
3 905349-03	<10	109
4 905349-04	<5	110
5 905349-05	<10	110
6 905349-06	<10	110
7 905349-07	<5	103
8 905349-08	<5	115
9 905349-09	<5	114
10 905349-10	<5	109

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23, F&BI 905349

Date Extracted: 05/17/19

Date Analyzed: 05/20/19

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u>
Laboratory ID		(Limit 50-150)
11 905349-11	<5	118
12 905349-12	10	121
Method Blank 09-852 MB	<5	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23, F&BI 905349

Date Extracted: 05/17/19

Date Analyzed: 05/17/19

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
1 905349-01	250 x	1,200	89
2 905349-02	1,600 x	6,000	79
3 905349-03	720 x	2,400	88
4 905349-04	320 x	720	87
5 905349-05	360 x	1,000	88
6 905349-06	330 x	1,500	87
7 905349-07 1/2	200 x	<500	84
8 905349-08	140 x	<250	83
9 905349-09	110 x	<250	83
10 905349-10	140 x	720	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23, F&BI 905349

Date Extracted: 05/17/19

Date Analyzed: 05/17/19

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
11 905349-11	<50	<250	84
12 905349-12 1/2	<100	<500	88
Method Blank 09-1164 MB	<50	<250	96

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	1	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-01
Date Analyzed:	05/20/19	Data File:	905349-01.071
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	6.41
Barium	35.7
Cadmium	<2
Chromium	19.1
Copper	40.6
Lead	29.5
Mercury	<2
Nickel	16.1
Selenium	<2
Silver	<2
Zinc	241

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	2	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-02
Date Analyzed:	05/20/19	Data File:	905349-02.072
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	21.5
Barium	139
Cadmium	2.59
Chromium	29.6
Copper	70.6
Lead	127
Mercury	<2
Nickel	19.6
Selenium	<2
Silver	<2
Zinc	540

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	3	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-03
Date Analyzed:	05/20/19	Data File:	905349-03.073
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	23.0
Barium	131
Cadmium	<2
Chromium	23.6 J
Copper	51.3 J
Lead	122
Mercury	<2
Nickel	18.0 J
Selenium	<2
Silver	<2
Zinc	303 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	3	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-03 x5
Date Analyzed:	05/22/19	Data File:	905349-03 x5.030
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	25.1
Copper	62.7
Nickel	22.0
Zinc	350

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	4	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-04
Date Analyzed:	05/20/19	Data File:	905349-04.074
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	6.63
Barium	55.1
Cadmium	<1
Chromium	14.9
Copper	22.0
Lead	18.9
Mercury	<1
Nickel	12.1
Selenium	<1
Silver	<1
Zinc	138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	5	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-05
Date Analyzed:	05/20/19	Data File:	905349-05.075
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	17.7
Barium	143
Cadmium	<2
Chromium	22.0 J
Copper	45.9 J
Lead	39.5
Mercury	<2
Nickel	15.6 J
Selenium	<2
Silver	<2
Zinc	279 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	5	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-05 x5
Date Analyzed:	05/22/19	Data File:	905349-05 x5.031
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	21.7
Copper	54.5
Nickel	18.2
Zinc	321

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	6	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-06
Date Analyzed:	05/20/19	Data File:	905349-06.076
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	15.1
Barium	102
Cadmium	<2
Chromium	16.7 J
Copper	37.0 J
Lead	22.8
Mercury	<2
Nickel	11.5 J
Selenium	<2
Silver	<2
Zinc	279 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	6	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-06 x5
Date Analyzed:	05/22/19	Data File:	905349-06 x5.032
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	17.7
Copper	44.5
Nickel	13.5
Zinc	332

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	7	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-07
Date Analyzed:	05/20/19	Data File:	905349-07.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	11.8
Barium	81.1
Cadmium	<2
Chromium	15.8 J
Copper	28.9 J
Lead	29.9
Mercury	<2
Nickel	14.1 J
Selenium	<2
Silver	<2
Zinc	157 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	7	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-07 x2
Date Analyzed:	05/21/19	Data File:	905349-07 x2.102
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	15.5
Copper	32.4
Nickel	15.5
Zinc	179

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	8	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-08
Date Analyzed:	05/20/19	Data File:	905349-08.078
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	25.8
Barium	52.9
Cadmium	<1
Chromium	17.8 J
Copper	35.3 J
Lead	11.8
Mercury	<1
Nickel	12.6 J
Selenium	<1
Silver	<1
Zinc	118 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	8	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-08 x2
Date Analyzed:	05/21/19	Data File:	905349-08 x2.103
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	19.1
Copper	41.3
Nickel	14.6
Zinc	139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	9	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-09
Date Analyzed:	05/20/19	Data File:	905349-09.079
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	24.3
Barium	46.2
Cadmium	<1
Chromium	19.9 J
Copper	38.8 J
Lead	24.8
Mercury	<1
Nickel	13.5 J
Selenium	<1
Silver	<1
Zinc	100 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	9	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-09 x2
Date Analyzed:	05/21/19	Data File:	905349-09 x2.104
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	18.9
Copper	44.3
Nickel	15.2
Zinc	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	10	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-10
Date Analyzed:	05/20/19	Data File:	905349-10.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	6.30
Barium	33.3
Cadmium	<1
Chromium	17.2
Copper	24.1
Lead	8.21
Mercury	<1
Nickel	11.5
Selenium	<1
Silver	<1
Zinc	41.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	11	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-11
Date Analyzed:	05/20/19	Data File:	905349-11.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	10.0
Barium	33.0
Cadmium	<1
Chromium	15.5
Copper	25.0
Lead	11.4
Mercury	<1
Nickel	10.7
Selenium	<1
Silver	<1
Zinc	44.7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	12	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-12
Date Analyzed:	05/20/19	Data File:	905349-12.084
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	43.3
Barium	36.7
Cadmium	<2
Chromium	20.4 J
Copper	48.9 J
Lead	32.8
Mercury	<2
Nickel	11.3 J
Selenium	<2
Silver	<2
Zinc	187 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	12	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	905349-12 x5
Date Analyzed:	05/22/19	Data File:	905349-12 x5.033
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	20.5
Copper	59.5
Nickel	15.5
Zinc	226

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/20/19	Lab ID:	I9-326 mb
Date Analyzed:	05/20/19	Data File:	I9-326 mb.056
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Mercury	<1
Nickel	<1
Selenium	<1
Silver	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	1	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-01 1/10
Date Analyzed:	05/22/19	Data File:	052133.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80	31	163
Benzo(a)anthracene-d12	91	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	0.087
Anthracene	0.02
Fluoranthene	0.30
Pyrene	0.33
Benz(a)anthracene	0.11
Chrysene	0.20
Benzo(a)pyrene	0.17 J
Benzo(b)fluoranthene	0.35 J
Benzo(k)fluoranthene	0.12 J
Indeno(1,2,3-cd)pyrene	0.15 J
Dibenz(a,h)anthracene	0.030 J
Benzo(g,h,i)perylene	0.14 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	1	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-01 1/100
Date Analyzed:	05/21/19	Data File:	052105.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90 d	31	163
Benzo(a)anthracene-d12	89 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	<0.2
Anthracene	<0.2
Fluoranthene	0.30
Pyrene	0.26
Benz(a)anthracene	<0.2
Chrysene	<0.2
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	0.32
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	2	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-02 1/100
Date Analyzed:	05/21/19	Data File:	052116.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	109 d	31	163
Benzo(a)anthracene-d12	103 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	0.61
Anthracene	0.14
Fluoranthene	4.3
Pyrene	4.2
Benz(a)anthracene	1.3
Chrysene	2.1
Benzo(a)pyrene	1.7
Benzo(b)fluoranthene	4.1
Benzo(k)fluoranthene	1.2
Indeno(1,2,3-cd)pyrene	0.60
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	0.56

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	3	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-03 1/100
Date Analyzed:	05/21/19	Data File:	052113.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101 d	31	163
Benzo(a)anthracene-d12	103 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	<0.2
Anthracene	<0.2
Fluoranthene	0.60
Pyrene	0.67
Benz(a)anthracene	0.24
Chrysene	0.40
Benzo(a)pyrene	0.31
Benzo(b)fluoranthene	0.69
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	4	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-04 1/5
Date Analyzed:	05/22/19	Data File:	052134.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	31	163
Benzo(a)anthracene-d12	88	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.017
Anthracene	0.011
Fluoranthene	0.090
Pyrene	0.10
Benz(a)anthracene	0.034
Chrysene	0.065
Benzo(a)pyrene	0.041 J
Benzo(b)fluoranthene	0.082 J
Benzo(k)fluoranthene	0.027 J
Indeno(1,2,3-cd)pyrene	0.028 J
Dibenz(a,h)anthracene	<0.01 J
Benzo(g,h,i)perylene	0.031 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	4	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-04 1/50
Date Analyzed:	05/21/19	Data File:	052106.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102 d	31	163
Benzo(a)anthracene-d12	95 d	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	5	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-05 1/10
Date Analyzed:	05/21/19	Data File:	052112.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	31	163
Benzo(a)anthracene-d12	96	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	0.033
Anthracene	<0.02
Fluoranthene	0.15
Pyrene	0.18
Benz(a)anthracene	0.042
Chrysene	0.12
Benzo(a)pyrene	0.052
Benzo(b)fluoranthene	0.15
Benzo(k)fluoranthene	0.043
Indeno(1,2,3-cd)pyrene	0.024
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	0.024

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	6	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-06 1/10
Date Analyzed:	05/22/19	Data File:	052138.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	31	163
Benzo(a)anthracene-d12	96	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	0.065
Anthracene	<0.02
Fluoranthene	0.19
Pyrene	0.32
Benz(a)anthracene	0.073
Chrysene	0.21
Benzo(a)pyrene	0.11 J
Benzo(b)fluoranthene	0.34 J
Benzo(k)fluoranthene	0.098 J
Indeno(1,2,3-cd)pyrene	0.099 J
Dibenz(a,h)anthracene	0.020 J
Benzo(g,h,i)perylene	0.11 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	6	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-06 1/100
Date Analyzed:	05/21/19	Data File:	052115.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97 d	31	163
Benzo(a)anthracene-d12	99 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	<0.2
Anthracene	<0.2
Fluoranthene	0.22
Pyrene	0.26
Benz(a)anthracene	<0.2
Chrysene	0.22
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	0.35
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	7	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-07 1/10
Date Analyzed:	05/22/19	Data File:	052135.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	31	163
Benzo(a)anthracene-d12	90	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	0.087
Pyrene	0.12
Benz(a)anthracene	0.032
Chrysene	0.060
Benzo(a)pyrene	0.042 J
Benzo(b)fluoranthene	0.12 J
Benzo(k)fluoranthene	0.031 J
Indeno(1,2,3-cd)pyrene	0.029 J
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	0.031 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	7	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-07 1/100
Date Analyzed:	05/21/19	Data File:	052107.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100 d	31	163
Benzo(a)anthracene-d12	99 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	<0.2
Anthracene	<0.2
Fluoranthene	<0.2
Pyrene	<0.2
Benz(a)anthracene	<0.2
Chrysene	<0.2
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	<0.2
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	8	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-08 1/5
Date Analyzed:	05/22/19	Data File:	052136.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	89	31	163
Benzo(a)anthracene-d12	92	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.028
Anthracene	<0.01
Fluoranthene	0.061
Pyrene	0.077
Benz(a)anthracene	0.022
Chrysene	0.069
Benzo(a)pyrene	0.030 J
Benzo(b)fluoranthene	0.10 J
Benzo(k)fluoranthene	0.030 J
Indeno(1,2,3-cd)pyrene	0.029 J
Dibenz(a,h)anthracene	<0.01 J
Benzo(g,h,i)perylene	0.031 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	8	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-08 1/50
Date Analyzed:	05/21/19	Data File:	052108.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83 d	31	163
Benzo(a)anthracene-d12	93 d	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	9	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-09 1/5
Date Analyzed:	05/21/19	Data File:	052109.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83	31	163
Benzo(a)anthracene-d12	90	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.018
Anthracene	<0.01
Fluoranthene	0.093
Pyrene	0.12
Benz(a)anthracene	0.027
Chrysene	0.056
Benzo(a)pyrene	0.032
Benzo(b)fluoranthene	0.077
Benzo(k)fluoranthene	0.022
Indeno(1,2,3-cd)pyrene	0.018
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.019

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	10	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-10 1/5
Date Analyzed:	05/21/19	Data File:	052110.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	82	31	163
Benzo(a)anthracene-d12	92	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.036
Anthracene	0.015
Fluoranthene	0.17
Pyrene	0.18
Benz(a)anthracene	0.087
Chrysene	0.078
Benzo(a)pyrene	0.053
Benzo(b)fluoranthene	0.087
Benzo(k)fluoranthene	0.025
Indeno(1,2,3-cd)pyrene	0.014
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.012

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	11	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-11 1/5
Date Analyzed:	05/21/19	Data File:	052111.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	86	31	163
Benzo(a)anthracene-d12	93	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	0.021
Pyrene	0.026
Benz(a)anthracene	<0.01
Chrysene	0.015
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.020
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	12	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-12 1/10
Date Analyzed:	05/22/19	Data File:	052137.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83	31	163
Benzo(a)anthracene-d12	86	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.02
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	0.024
Anthracene	<0.02
Fluoranthene	0.18
Pyrene	0.20
Benz(a)anthracene	0.053
Chrysene	0.081
Benzo(a)pyrene	0.063 J
Benzo(b)fluoranthene	0.19 J
Benzo(k)fluoranthene	0.045 J
Indeno(1,2,3-cd)pyrene	0.029 J
Dibenz(a,h)anthracene	<0.02 J
Benzo(g,h,i)perylene	0.039 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	12	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	905349-12 1/100
Date Analyzed:	05/21/19	Data File:	052114.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96 d	31	163
Benzo(a)anthracene-d12	96 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.2
Acenaphthylene	<0.2
Acenaphthene	<0.2
Fluorene	<0.2
Phenanthrene	<0.2
Anthracene	<0.2
Fluoranthene	0.20
Pyrene	<0.2
Benz(a)anthracene	<0.2
Chrysene	<0.2
Benzo(a)pyrene	<0.2
Benzo(b)fluoranthene	<0.2
Benzo(k)fluoranthene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	05/17/19	Lab ID:	09-1163 mb 1/5
Date Analyzed:	05/20/19	Data File:	052006.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	82	31	163
Benzo(a)anthracene-d12	94	24	168

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23 , F&BI 905349

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

Laboratory Code: 905362-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	75	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23 , F&BI 905349

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

Laboratory Code: 905376-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	92	94	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	74-139

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23 , F&BI 905349

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

Laboratory Code: 905331-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	57.8	72 b	72 b	75-125	0 b
Barium	mg/kg (ppm)	50	37.6	88	90	75-125	2
Cadmium	mg/kg (ppm)	10	13.9	90	94	75-125	4
Chromium	mg/kg (ppm)	50	18,900 ve	0 b	0 b	75-125	0 b
Copper	mg/kg (ppm)	50	1,260	0 b	0 b	75-125	0 b
Lead	mg/kg (ppm)	50	1,750	0 b	38 b	75-125	200 b
Mercury	mg/kg (ppm)	5	<10	95	93	75-125	2
Nickel	mg/kg (ppm)	25	2,300	0 b	0 b	75-125	0 b
Selenium	mg/kg (ppm)	5	247	238 b	136 b	75-125	55 b
Silver	mg/kg (ppm)	10	16.1	101	103	75-125	2
Zinc	mg/kg (ppm)	50	3,920	0 b	70 b	75-125	200 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	83	80-120
Barium	mg/kg (ppm)	50	100	80-120
Cadmium	mg/kg (ppm)	10	99	80-120
Chromium	mg/kg (ppm)	50	90	80-120
Copper	mg/kg (ppm)	50	90	80-120
Lead	mg/kg (ppm)	50	95	80-120
Mercury	mg/kg (ppm)	5	87	80-120
Nickel	mg/kg (ppm)	25	96	80-120
Selenium	mg/kg (ppm)	5	92	80-120
Silver	mg/kg (ppm)	10	95	80-120
Zinc	mg/kg (ppm)	50	100	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/30/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23 , F&BI 905349

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

Laboratory Code: 905330-02 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	70	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	74	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	73	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	78	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	75	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	74	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	78	16-160
Pyrene	mg/kg (ppm)	0.17	<0.01	83	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	80	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	78	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	77	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	79	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	78	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	74	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	73	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	67	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	82	83	58-121	1
Acenaphthylene	mg/kg (ppm)	0.17	86	86	54-121	0
Acenaphthene	mg/kg (ppm)	0.17	85	87	54-123	2
Fluorene	mg/kg (ppm)	0.17	90	88	56-127	2
Phenanthrene	mg/kg (ppm)	0.17	86	88	55-122	2
Anthracene	mg/kg (ppm)	0.17	86	85	50-120	1
Fluoranthene	mg/kg (ppm)	0.17	88	84	54-129	5
Pyrene	mg/kg (ppm)	0.17	89	95	53-127	7
Benz(a)anthracene	mg/kg (ppm)	0.17	89	92	51-115	3
Chrysene	mg/kg (ppm)	0.17	87	92	55-129	6
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	85	85	56-123	0
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	83	89	54-131	7
Benzo(a)pyrene	mg/kg (ppm)	0.17	81	84	51-118	4
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	89	99	49-148	11
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	90	98	50-141	9
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	85	92	52-131	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

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

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

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

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

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

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

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

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

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

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
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June 11, 2019

Jamie Stevens, Project Manager
Crete Consulting
108 S. Washington St., Suite 300
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on May 16, 2019 from the Port of Tacoma Ditch DD 23, F&BI 905349 project. There are 6 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
CTC0611R.DOC

FRIEDMAN & BRUYA, INC.ENVIRONMENTAL CHEMISTSCASE NARRATIVE

This case narrative encompasses samples received on May 16, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Port of Tacoma Ditch DD 23, F&BI 905349 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
905349 -01	1
905349 -02	2
905349 -03	3
905349 -04	4
905349 -05	5
905349 -06	6
905349 -07	7
905349 -08	8
905349 -09	9
905349 -10	10
905349 -11	11
905349 -12	12
905349 -13	1-2-3-4
905349 -14	5-6-7
905349 -15	8-9
905349 -16	10-12

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	2	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	06/05/19	Lab ID:	905349-02
Date Analyzed:	06/06/19	Data File:	905349-02.084
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	3	Client:	Crete Consulting
Date Received:	05/16/19	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	06/05/19	Lab ID:	905349-03
Date Analyzed:	06/06/19	Data File:	905349-03.085
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Method 6020B and 1311

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Port of Tacoma Ditch DD 23
Date Extracted:	06/05/19	Lab ID:	I9-353 mb
Date Analyzed:	06/06/19	Data File:	I9-353 mb.033
Matrix:	Soil/Solid	Instrument:	ICPMS2
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 06/11/19

Date Received: 05/16/19

Project: Port of Tacoma Ditch DD 23, F&BI 905349

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL/SOLID SAMPLES
FOR TCLP METALS USING
EPA METHODS 6020B AND 1311**

Laboratory Code: 905460-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/L (ppm)	1.0	<1	91	90	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	96	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

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

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

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

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

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

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

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

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

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

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

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

905349

SAMPLE CHAIN OF CUSTODY

ME 05-16-19

B14 / 15-24

Report To Jamie StevensCompany CRETE ConsultingAddress 108 S. Washington StreetCity, State, ZIP Seattle, WA 98104Phone 206-799-2744 Email _____SAMPLERS (signature) [Signature]Page # 1 of 2PROJECT NAME
Port of Tacoma Ditch DD 23

PO #

REMARKS

INVOICE TO
J. StevensTURNAROUND TIME
Standard Turnaround
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples

Other _____

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars											Notes	
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	PAHs 8270D SIM	RCRA 8 W/Cu, Ni, Zn	Grainsize	atterberg limits	% moisture		TCUP PL
#1	01 A-C	5/16/19	9:15	Sed.	3		X	X			X	X					2 405 402
#2	02 T	5/16/19	9:00	Sed.	3		X	X			X	X					
#3	03	5/16/19	8:38	Sed.	3		X	X			X	X					
#4	04	5/16/19	8:20	Sed.	3		X	X			X	X					
#5	05	5/15/19	13:51	Sed.	3		X	X			X	X					
#6	06	5/15/19	13:30	Sed.	3		X	X			X	X					
#7	07	5/15/19	11:20	Sed.	3		X	X			X	X					
#8	08	5/15/19	12:01	Sed.	3		X	X			X	X					
#9	09	5/15/19	12:25	Sed.	3		X	X			X	X					Samples received at 3:00
#10	10	5/15/19	15:44	Sed.	3		X	X			X	X					

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Relinquished by: <u>[Signature]</u>	<u>Michael Bruya</u>	<u>CRETE</u>	<u>5/16/19</u>	
Received by: <u>[Signature]</u>	<u>K. Taylor</u>	<u>FELIX</u>	<u>5/16/19</u>	<u>1150</u>
Relinquished by: <u>[Signature]</u>				
Received by: <u>[Signature]</u>	<u>Nhan Phan</u>	<u>FBI</u>	<u>5/16/19</u>	<u>1240</u>

905349

SAMPLE CHAIN OF CUSTODY

ME 05-16-19

Bry/15.24

Report To Jamie Stevens

Company CRETE Consulting

Address 108 S. Washington Street

City, State, ZIP Seattle, WA 98104

Phone 206-799-2744 Email

SAMPLERS (signature)

PROJECT NAME
Port of Tacoma Ditch DD 23

PO #

REMARKS

INVOICE TO
J. Stevens

Page # 2 of 2

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

ANALYSES REQUESTED																
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	PAHs 8270D SIM	RCRA 8 W/Cu, Ni, Zn	Grainsize	atterberg limits	% moisture	Notes
#11	11A-C	5/15/19	15:22	Sed.	3		X	X			X	X				2.40% 1.40%
#12	12T	5/15/19	15:03	Sed.	3		X	X			X	X				↑
1-2-3-4	13A-B	5/16/19	5/16/19	Sed.	2								X	X	X	composite sample - no time
5-6-7	14	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)
8-9	15	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)
10-12	16	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>Michael Ryan</i>	Michael Ryan	CRETE	5/16/19	
Received by: <i>K. Taylor</i>	K. Taylor	FeBET	5/16/19	11:50
Relinquished by:				
Received by: <i>Michael Ryan</i>	Michael Ryan	FeBET	5/16/19	12:40

Samples received at 3 oc



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

Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 905349
Work Order Number: 1905290

May 29, 2019

Attention Michael Erdahl:

Fremont Analytical, Inc. received 4 sample(s) on 5/20/2019 for the analyses presented in the following report.

Grain Size by ASTM D422

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,

A handwritten signature in black ink, appearing to read "Mike C. Ridgeway". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mike Ridgeway
Laboratory Director



Date: 05/29/2019

CLIENT: Friedman & Bruya
Project: 905349
Work Order: 1905290

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1905290-001	1-2-3-4	05/16/2019 12:00 AM	05/20/2019 12:50 PM
1905290-002	5-6-7	05/15/2019 12:00 AM	05/20/2019 12:50 PM
1905290-003	8-9	05/15/2019 12:00 AM	05/20/2019 12:50 PM
1905290-004	10-12	05/15/2019 12:00 AM	05/20/2019 12:50 PM



3600 Fremont Ave. N
 Seattle, WA 98103
 Tel: 206-352-3790
 Fax: 206-352-7178
 Email: info@fremontanalytical.com

Grain Size by ASTM D422

Project: 905349
 Client: Friedman & Bruya
 Lab Project #: 1905290

Percent Finer (Passing) than the Indicated Size

UOM = Percent

Grain Size Classification	Gravel						Coarse Sand	Medium Sand		Fine Sand			Silt		
Sieve Size	3"	2"	1 1/2"	1"	3/4"	3/8"	#4	#10	#20	#40	#60	#140	#200	#325	#450
Particle Size (Microns)	76200	50800	38100	25400	19050	9525	4750	2000	850	425	250	106	75	45	34
1-2-3-4	100%	100%	100%	100%	100%	95.4%	88.2%	83.6%	79.1%	68.2%	56.7%	35.9%	27.6%	20.0%	13.6%
5-6-7	100%	100%	100%	100%	88.4%	66.1%	58.0%	53.8%	50.8%	47.6%	44.3%	34.7%	29.3%	22.6%	16.7%
8-9	100%	100%	100%	100%	65.4%	40.4%	33.0%	29.5%	27.1%	24.6%	22.5%	18.5%	16.4%	14.1%	9.08%
10-12	100%	100%	100%	100%	83.0%	67.5%	58.5%	54.4%	50.8%	47.1%	43.2%	34.0%	29.6%	24.2%	16.0%



3600 Fremont Ave. N.

Seattle, WA 98103

Tel: 206-352-3790

Fax: 206-352-7178

Email: info@fremontanalytical.com

Grain Size by ASTM D422

Project: 905349

Client: Friedman & Bruya

Lab Project #: 1905290

Percent Retained in Each Size Fraction

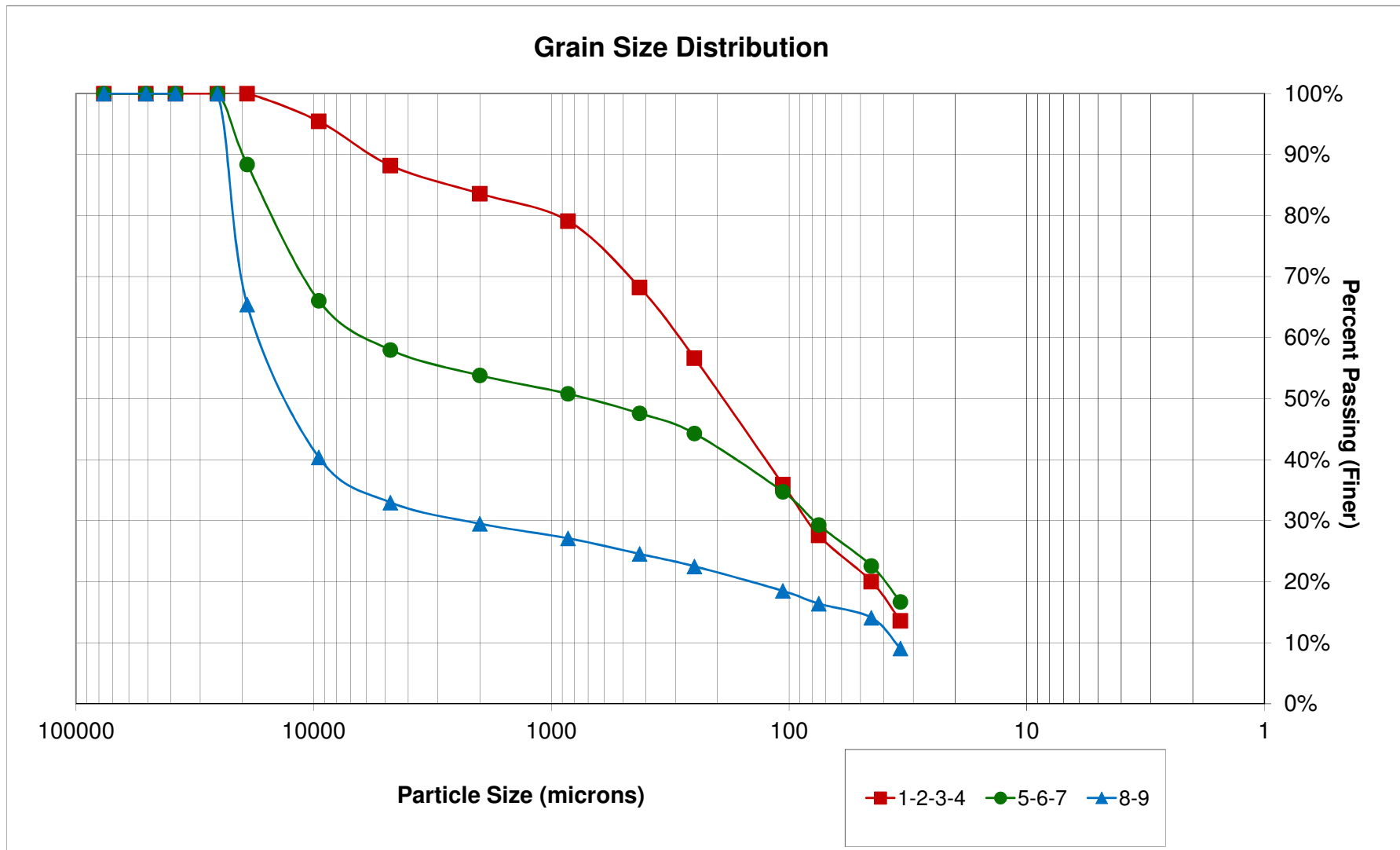
UOM = Percent

Grain Size Classification	Gravel							Coarse Sand	Medium Sand		Fine Sand			Silt		
Sieve Size (Microns)	>76200	76200-50800	50800-38100	38100-25400	25400-19000	19050-9525	9525-4750	4750-2000	2000-850	850-425	425-250	250-106	106-75	75-45	45-34	<34
1-2-3-4	0.00%	0.00%	0.00%	0.00%	0.00%	4.51%	7.20%	4.56%	4.44%	10.8%	11.5%	20.6%	8.25%	7.50%	6.36%	13.5%
5-6-7	0.00%	0.00%	0.00%	0.00%	11.6%	22.2%	8.04%	4.15%	3.00%	3.20%	3.27%	9.52%	5.42%	6.67%	5.86%	16.6%
8-9	0.00%	0.00%	0.00%	0.00%	34.5%	24.9%	7.40%	3.47%	2.38%	2.56%	2.02%	4.02%	2.10%	2.27%	5.03%	9.06%
10-12	0.00%	0.00%	0.00%	0.00%	16.9%	15.4%	8.88%	4.07%	3.60%	3.70%	3.85%	9.21%	4.35%	5.42%	8.10%	15.9%



Grain Size by ASTM D422

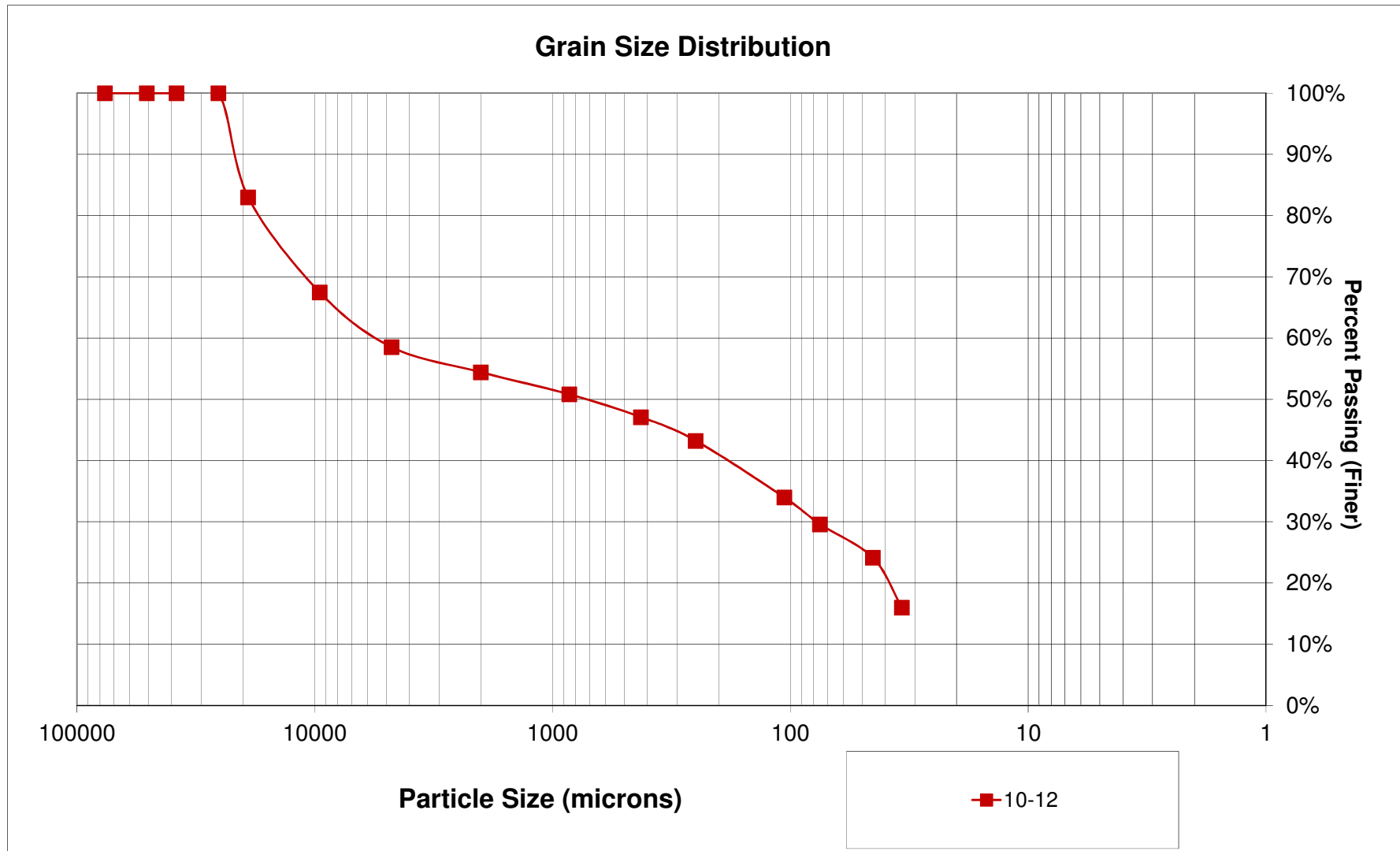
Project: 905349
Client: Friedman & Bruya
Lab Project #: 1905290





Grain Size by ASTM D422

Project: 905349
Client: Friedman & Bruya
Lab Project #: 1905290





Sample Log-In Check List

Client Name: **FB**Work Order Number: **1905290**Logged by: **Mike Ridgeway**Date Received: **5/20/2019 12:50:00 PM**

Chain of Custody

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

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 Required ☐
6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
7. Were all items received at a temperature of $>0^{\circ}\text{C}$ to 10.0°C * Yes ☐ No ☒ NA ☐

Grainsize Analysis

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 °C
Cooler	12.2
Sample	11.9

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

Phone # (206) 285-8282 Fax # (206) 283-5044

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Page # of

Page 8 of 8

[illegible]

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Michael Erdahl	Friedman & Bryna	5/20/19	9:10
Received by: 	Phoebe Autio	F-A-I	5/20/19	1250
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

905349

SAMPLE CHAIN OF CUSTODY

ME 05-16-19

B14 / 18-24

Report To Jamie Stevens

Company CRETE Consulting

Address 108 S. Washington Street

City, State, ZIP Seattle, WA 98104

Phone 206-799-2744 Email

SAMPLERS (signature) <i>J. Stevens</i>		Page # 1 of 2
PROJECT NAME Port of Tacoma Ditch DD 23	PO #	TURNAROUND TIME Standard Turnaround RUSH Rush charges authorized by:
REMARKS	INVOICE TO J. Stevens	SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	PAHs 8270D SIM	RCRA 8 W/Cu, Ni, Zn	
#1	01 Arc	5/16/19	9:15	Sed.	3	X	X	X			X	X	2, 4, 6, 8, 10, 12
#2	02 T	5/16/19	9:00	Sed.	3	X	X	X			X	X	
#3	03	5/16/19	8:38	Sed.	3	X	X	X			X	X	
#4	04	5/16/19	8:20	Sed.	3	X	X	X			X	X	
#5	05	5/15/19	13:51	Sed.	3	X	X	X			X	X	
#6	06	5/15/19	13:30	Sed.	3	X	X	X			X	X	
#7	07	5/15/19	11:20	Sed.	3	X	X	X			X	X	
#8	08	5/15/19	12:01	Sed.	3	X	X	X			X	X	
#9	09	5/15/19	12:25	Sed.	3	X	X	X			X	X	Samples received at 3:00
#10	10	5/15/19	15:44	Sed.	3	X	X	X			X	X	

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>Michael Bruya</i>	Michael Bruya	CRETE	5/16/19	
Received by: <i>K. Taylor</i>	K. Taylor	FedEx	5/16/19	1150
Relinquished by:				
Received by: <i>M. Stevens</i>	M. Stevens	FedEx	5/16/19	1240

905349

SAMPLE CHAIN OF CUSTODY

ME 05-16-19

Bry/15-24

Report To Jamie StevensCompany CRETE ConsultingAddress 108 S. Washington StreetCity, State, ZIP Seattle, WA 98104Phone 206-799-2744 Email _____Page # 2 of 2

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other _____

SAMPLERS (signature) Michael Ryan

PROJECT NAME

Port of Tacoma Ditch DD 23

PO #

REMARKS

INVOICE TO

J. Stevens

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	PAHs 8270D SIM	RCRA 8 W/Cu, Ni, Zn	Grainsize	atterberg limits	% moisture	Notes
#11	11A-C	5/15/19	15:22	Sed.	3		X	X			X	X				2 vol 1, 402
#12	12T	5/15/19	15:03	Sed.	3		X	X			X	X				↓
1-2-3-4	13A-B	5/16/19	5/16/19	Sed.	2								X	X	X	composite sample - no time
5-6-7	14	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)
8-9	15	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)
10-12	16	5/15/19	5/15/19	Sed.	2								X	X	X	(see above)

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Relinquished by: Michael RyanMichael RyanMichael RyanCRETE5/16/19Received by: K. TaylorK. TaylorK. TaylorFedEx5/16/191150

Relinquished by: _____

Received by: Michael RyanMichael RyanMichael RyanFEDEX5/16/191240Samples received at 3 oc



Environment Testing
TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

Laboratory Job ID: 200-48876-1

Client Project/Site: Atterberg Limits & WAD CN

For:

Friedman & Bruya
3012 16TH AVENUE WEST
Seattle, Washington 98119-2029

Attn: Michael Erdahl

Authorized for release by:
5/30/2019 2:12:29 PM

Kayse Zalmai, Project Manager I
(253)922-2310
kayse.zalmai@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

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Table of Contents

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Client Sample Results	6
QC Association Summary	7
Lab Chronicle	8
Certification Summary	9
Method Summary	10
Sample Summary	11
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Receipt Checklists	14



Definitions/Glossary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Job ID: 200-48876-1

Laboratory: Eurofins TestAmerica, Burlington

Narrative

CASE NARRATIVE Client: Friedman & Bruya Project: Atterberg Limits & WAD CN Report Number: 200-48876-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 05/23/2019; the samples arrived in good condition.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

Samples 1-2-3-4 (200-48876-1), 5-6-7 (200-48876-2), 8-9 (200-48876-3) and 10-12 (200-48876-4) were analyzed for Liquid Limit, Plastic Limit and Plasticity Index of Soils in accordance with ASTM D4318. The samples were analyzed on 05/24/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples 1-2-3-4 (200-48876-1), 5-6-7 (200-48876-2), 8-9 (200-48876-3) and 10-12 (200-48876-4) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 05/28/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Client Sample ID: 1-2-3-4

Lab Sample ID: 200-48876-1

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Liquid Limit	68				NONE	1		D4318	Total/NA
Plastic Limit	40				NONE	1		D4318	Total/NA
Plasticity Index	28				NONE	1		D4318	Total/NA

Client Sample ID: 5-6-7

Lab Sample ID: 200-48876-2

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Liquid Limit	81				NONE	1		D4318	Total/NA
Plastic Limit	46				NONE	1		D4318	Total/NA
Plasticity Index	35				NONE	1		D4318	Total/NA

Client Sample ID: 8-9

Lab Sample ID: 200-48876-3

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Liquid Limit	66				NONE	1		D4318	Total/NA
Plastic Limit	36				NONE	1		D4318	Total/NA
Plasticity Index	30				NONE	1		D4318	Total/NA

Client Sample ID: 10-12

Lab Sample ID: 200-48876-4

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Liquid Limit	49				NONE	1		D4318	Total/NA
Plastic Limit	31				NONE	1		D4318	Total/NA
Plasticity Index	18				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Burlington

Client Sample Results

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Client Sample ID: 1-2-3-4

Date Collected: 05/16/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-1

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	34.8		0.3		%			05/28/19 18:00	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	68				NONE			05/24/19 20:19	1
Plastic Limit	40				NONE			05/24/19 20:19	1
Plasticity Index	28				NONE			05/24/19 20:19	1

Client Sample ID: 5-6-7

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-2

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	40.7		0.3		%			05/28/19 18:00	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	81				NONE			05/24/19 20:19	1
Plastic Limit	46				NONE			05/24/19 20:19	1
Plasticity Index	35				NONE			05/24/19 20:19	1

Client Sample ID: 8-9

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-3

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	47.2		0.3		%			05/28/19 18:00	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	66				NONE			05/24/19 20:19	1
Plastic Limit	36				NONE			05/24/19 20:19	1
Plasticity Index	30				NONE			05/24/19 20:19	1

Client Sample ID: 10-12

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-4

Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	44.5		0.3		%			05/28/19 18:00	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	49				NONE			05/24/19 20:19	1
Plastic Limit	31				NONE			05/24/19 20:19	1
Plasticity Index	18				NONE			05/24/19 20:19	1

QC Association Summary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

General Chemistry

Analysis Batch: 143505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48876-1	1-2-3-4	Total/NA	Solid	Moisture	
200-48876-2	5-6-7	Total/NA	Solid	Moisture	
200-48876-3	8-9	Total/NA	Solid	Moisture	
200-48876-4	10-12	Total/NA	Solid	Moisture	

Geotechnical

Analysis Batch: 143448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48876-1	1-2-3-4	Total/NA	Solid	D4318	
200-48876-2	5-6-7	Total/NA	Solid	D4318	
200-48876-3	8-9	Total/NA	Solid	D4318	
200-48876-4	10-12	Total/NA	Solid	D4318	

Lab Chronicle

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Client Sample ID: 1-2-3-4

Date Collected: 05/16/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	143505	05/28/19 18:00	MJZ	TAL BUR
Total/NA	Analysis	D4318		1	143448	05/24/19 20:19	MAP	TAL BUR

Client Sample ID: 5-6-7

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	143505	05/28/19 18:00	MJZ	TAL BUR
Total/NA	Analysis	D4318		1	143448	05/24/19 20:19	MAP	TAL BUR

Client Sample ID: 8-9

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	143505	05/28/19 18:00	MJZ	TAL BUR
Total/NA	Analysis	D4318		1	143448	05/24/19 20:19	MAP	TAL BUR

Client Sample ID: 10-12

Date Collected: 05/15/19 00:00

Date Received: 05/23/19 09:15

Lab Sample ID: 200-48876-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	143505	05/28/19 18:00	MJZ	TAL BUR
Total/NA	Analysis	D4318		1	143448	05/24/19 20:19	MAP	TAL BUR

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Laboratory: Eurofins TestAmerica, Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
ANAB	DoD		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-20
Florida	NELAP	4	E87467	06-30-19 *
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-19 *
New York	NELAP	2	10391	04-01-20
Pennsylvania	NELAP	3	68-00489	04-30-20
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Burlington

Method Summary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Method	Method Description	Protocol	Laboratory
Moisture	Percent Moisture	EPA	TAL BUR
D4318	Liquid Limit, Plastic Limit and Plasticity Index of Soils	ASTM	TAL BUR

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency

Laboratory References:

- TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Friedman & Bruya
Project/Site: Atterberg Limits & WAD CN

Job ID: 200-48876-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
200-48876-1	1-2-3-4	Solid	05/16/19 00:00	05/23/19 09:15	
200-48876-2	5-6-7	Solid	05/15/19 00:00	05/23/19 09:15	
200-48876-3	8-9	Solid	05/15/19 00:00	05/23/19 09:15	
200-48876-4	10-12	Solid	05/15/19 00:00	05/23/19 09:15	

Page # 1 of 1

SUBCONTRACTOR TA - Vermont		PO #
PROJECT NAME/NO.	905349	B-270
REMARKS		
Please Email Results 5801455		

Send Report To Michael Erdahl
Company Friedman and Bruya, Inc.
Address 3012 16th Ave W
City, State, ZIP Seattle, WA 98119
Phone # (206) 285-8282 Fax # (206) 283-5044

[illegible]

10090 1100

FedEx® Package Express® US Airbill

Tracking Number: 8137 9559 7843

1 From
 Date: 11/11/11
 Sender's Name: [REDACTED]
 Company: FRIEDMAN & BRUYA INC.
 Address: 3012 16TH AVE W
 City: SEATTLE State: WA ZIP: 98119-2029
 Dept./Floor/Suite/Room: [REDACTED]
 Phone: 206-461-1110

2 Your Internal Billing Reference

3 To
 Recipient's Name: [REDACTED]
 Company: [REDACTED]
 Address: [REDACTED]
 We cannot deliver to PO boxes or P.O. ZIP codes.
 Address: [REDACTED]
 Use this line for the H.O.D. location address or for continuation of your shipping address.
 City: [REDACTED] State: VT ZIP: 05403-1609
 Dept./Floor/Suite/Room: [REDACTED]
 Phone: [REDACTED]

4 Express Package Service *To most locations.
 Packages up to 150 lbs.
 FedEx Express Fragments US Adult.

Next Business Day
☐ FedEx First Overnight
 Earliest next business morning delivery to select business locations. Delivery is guaranteed on Monday unless Saturday Delivery is selected.
☐ FedEx Priority Overnight
 Second business morning delivery to select business locations. Delivery is guaranteed on Monday unless Saturday Delivery is selected.
☒ FedEx Standard Overnight
 Next business day delivery to select business locations. Saturday Delivery NOT available.

2 or 3 Business Days
☐ FedEx 2Day A.M.
 Second business morning delivery to select business locations. Saturday Delivery NOT available.
☐ FedEx 2Day
 Second business afternoon delivery to select business locations. Thursday shipments delivered on Friday unless Saturday Delivery is selected.
☐ FedEx Express Saver
 Third business day delivery to select business locations. Saturday Delivery NOT available.

5 Packaging *Declared value limit \$500.
☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☒ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.
☐ Saturday Delivery
 NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
☐ No Signature Required
 Packages may be left without obtaining a signature for delivery.
☐ Direct Signature
 Someone at recipient's address may sign for delivery.
☐ Indirect Signature
 If address, someone at recipient's address may sign for delivery for residential deliveries only.
 Does this shipment contain dangerous goods?
 One box must be checked.
☐ No ☐ Yes ☐ Yes ☐ Yes
 Shipper's Declaration not required. Dry Ice Dry Ice 3, UN 1845
 Reactions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment Bill to:
☒ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
 Obtain recip. Acct. No.
 Total Packages: [REDACTED] Total Weight: [REDACTED] lbs.
 Credit Card Auth. [REDACTED]
 Your liability is limited to USD unless you declare a higher value. See the current FedEx Service Guide for details.
 Rev. Date 5/15 • Form 715/1/11 • © 2011 FedEx • PRINTED IN U.S.A. SRA

8137 9559 7843

fedex.com 1800.GoFedEx 1.800.463.3339

Login Sample Receipt Checklist

Client: Friedman & Bruya

Job Number: 200-48876-1

Login Number: 48876**List Number: 1****Creator: McNabb, Robert W****List Source: Eurofins TestAmerica, Burlington**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	21.0°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix C

Photograph Log



MAUL
FOSTER
ALONGI

Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 1.

Description

Sample taken from Trench 27 from an interval of 1 to 3 feet below ground surface (bgs) on September 17, 2025.



Photo No. 2.

Description

Soil from Trench 27 from an interval of 3 to 6.6 feet bgs on September 17, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 3.

Description

Soil from Trench 27 from an interval of 8 to 10 feet bgs on September 17, 2025.



Photo No. 4.

Description

Soil and wood waste from Trench 27 from an interval of 10 to 12.3 feet bgs on September 17, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 5.

Description

Trench 27
following trenching
activities, prior to
backfilling on
September 17,
2025.



Photo No. 6.

Description

Soil samples taken
from Trench 73
from intervals of 0
to 1 foot bgs, 1 to
3 feet bgs, and 3 to
5 feet bgs on
September 17,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 7.

Description

Soil samples taken from Trench 73 from intervals of 5 to 6.6 feet bgs and 9.3 to 12 feet bgs on September 17, 2025.



Photo No. 8.

Description

Jarred soil sample taken from Trench 73 from an interval of 9.3 to 12 feet bgs on September 17, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 9.

Description

Trench 73
following trenching
activities. prior to
backfilling on
September 17,
2025.



Photo No. 10.

Description

Jarred soil samples
from Trench 70
from intervals of 0
to 1 feet bgs, 3 to
5.7 feet bgs, and
5.7 to 9 feet bgs
on September 17,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 11.

Description

Soil from Trench 70 from an interval of 9 to 12 feet bgs on September 17, 2025.



Photo No. 12.

Description

Trench 70 following trenching activities, prior to backfilling on September 17, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 13.

Description

Soil from sample T70-S-0-1 transferred from glass jar to unpreserved volatile organic analysis containers at Friedman & Bruya, Inc. laboratory on September 17, 2025. All soil samples collected on September 17, 2025 were containerized using this method within 12 hours of sample collection.



Photo No. 14.

Description

Soil samples from sample T53-S-0-1 on September 18, 2025. All soil samples collected on September 18, 2025, were sampled into glass jars and unpreserved organic analysis containers in the field.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 15.

Description

Trench 53
following trenching
activities, prior to
backfilling on
September 18,
2025.



Photo No. 16.

Description

Soil from Trench
14 from an interval
of 0 to 1 feet bgs
on September 18,
2025. Red staining
is visible.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 17.

Description

Soil from Trench 14 from an interval of 1 to 3 feet bgs on September 18, 2025. Red staining and slag-like material is visible.



Photo No. 18.

Description

Slag-like material found from 1 to 3 feet bgs at Trench 14 during trenching activities on September 18, 2025. Large, medium, and small slag-like pieces are visible.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 19.

Description

Slag-like materials found from 1 to 3 feet bgs at Trench 14 during trenching activities on September 18, 2025. Close view of slag-like pieces.



Photo No. 20.

Description

Soil from Trench 14 from an interval of 3-6 feet bgs on September 18, 2025, below slag-like material impacts.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 21.

Description

Soil from Trench 14 from an interval of 6 to 8 feet bgs on September 18, 2025, below slag-like material impacts.



Photo No. 22.

Description

Wood waste observed in Trench 14 from an interval of 6 to 8 feet bgs on September 18, 2025, below slag-like material impacts.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 23.

Description

Soil samples from Trench 5 from intervals of 0 to 1 feet bgs, 1 to 4 feet bgs, 4 to 8 feet bgs, and 8 to 12 feet bgs on September 18, 2025.



Photo No. 24.

Description

Soil piles from Trench 5 following trenching activity on September 18, 2025. Shallower soil is piled on the left and deeper soils are towards the right.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 25.

Description

Field screening performed on soil from Trench 6 using an x-ray fluorescence instrument on September 18, 2025. All field soil samples were screened for arsenic using this method.



Photo No. 26.

Description

Trench 6 following trenching activities, prior to backfilling on September 18, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 27.

Description

Backfilling of Trench 6 by excavator following trenching activities on September 18, 2025.



Photo No. 28.

Description

Containerized soil samples collected from Trench 6 on September 18, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 29.

Description

Solid waste (battery) observed at push probe location B12 at an interval of 0 to 1 foot bgs on September 29, 2025.



Photo No. 30.

Description

Soil samples collected from push probe location B12 at intervals of 0 to 1 foot bgs, 3 to 5 feet bgs, 5 to 10 feet bgs, and 10 to 15 feet bgs on September 29, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 31.

Description

Push probe
location B21 at an
interval of 0 to 1
foot bgs on
September 29,
2025.



Photo No. 32.

Description

Push probe
location B21 at an
interval of 1 to 5
feet bgs on
September 29,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 33.

Description

Push probe location B21
at an interval of 5 to 8
feet bgs on September
29, 2025.



Photo No. 34.

Description

Push probe location B21
at an interval of 8 to 10
feet bgs on September
29, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 35.

Description

Push probe location B21
at an interval of 10 to
15 feet bgs on
September 29, 2025.



Photo No. 36.

Description

Soil samples collected from
push probe
location B22 at
intervals of 0 to
1 foot bgs, 1 to
5 feet bgs, 5 to
8 feet bgs, 8 to
10 feet bgs, and
10 to 15 feet
bgs on
September 29,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 37.

Description

Wood waste observed
in push probe location
B22 at an interval of 5
to 8 feet bgs.



Photo No. 38.

Description

Push probe location
B33 at an interval of 0
to 1 feet bgs on
September 29, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 39.

Description

Push probe location
B33 at an interval of 1
to 5 feet bgs on
September 29, 2025.



Photo No. 40.

Description

Push probe location
B33 at an interval of
5 to 8 feet bgs on
September 29,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 41.

Description

Push probe location
B33 at an interval of
8 to 10 feet bgs on
September 29,
2025.



Photo No. 42.

Description

Push probe location
B33 at an interval of
10 to 15 feet bgs on
September 29,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 43.

Description

Track-mounted
Geoprobe direct-
push drill rig at
location B33 on
September 29,
2025.



Photo No. 44.

Description

Soil samples
collected from push
probe location B44
at intervals of 0 to 1
foot bgs, 1 to 5 feet
bgs, 5 to 7 feet bgs,
7 to 10 feet bgs, and
10 to 15 feet bgs on
September 29,
2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 45.

Description

Push probe location B45 at an interval of 5 to 7.5 feet bgs on September 29, 2025. A field duplicate sample was also taken from this interval.



Photo No. 46.

Description

Wood waste observed at push probe location B33 at approximately 10 feet bgs on September 29, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 47.

Description

Push probe location
B45 at an interval
of 10 to 15 feet bgs
on September 29,
2025.



Photo No. 48.

Description

Push probe location
B50 at an interval
of 1 to 5 feet bgs on
September 29,
2025. Reddish soil
lenses are visible.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 49.

Description

Push probe location
B50 at an interval
of 5 to 7 feet bgs on
September 29,
2025.



Photo No. 50.

Description

Push probe location
B50 at an interval
of X10 to 15 feet
bgs on September
29, 2025. A field
duplicate sample
was also taken from
this interval.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 51.

Description

Soil samples collected from push probe location B55 at intervals of 0 to 1 foot bgs, 2 to 4 feet bgs, 6 to 8 feet bgs, 8 to 10 feet bgs, and 10 to 15 feet bgs on September 29, 2025.



Photo No. 52.

Description

Push probe location B76 at an interval of 5 to 10 feet bgs on September 29, 2025.





Photographs

Project Name: Parcel 12 Soil Investigation—AOI A

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No. 53.

Description

Push probe location B76 following sampling and decommissioning on September 29, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
54.

Description

Sonic
location
SB01 at
intervals of
0 to 5 feet
below
ground
surface
(bgs) and 10
to 15 ft bgs
on
November
3, 2025.



Photo No.
55.

Description

Sonic
location
SB01 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
56.

Description

Sonic
location
SB01 at an
interval of
15 to 20
feet bgs on
November
3, 2025.

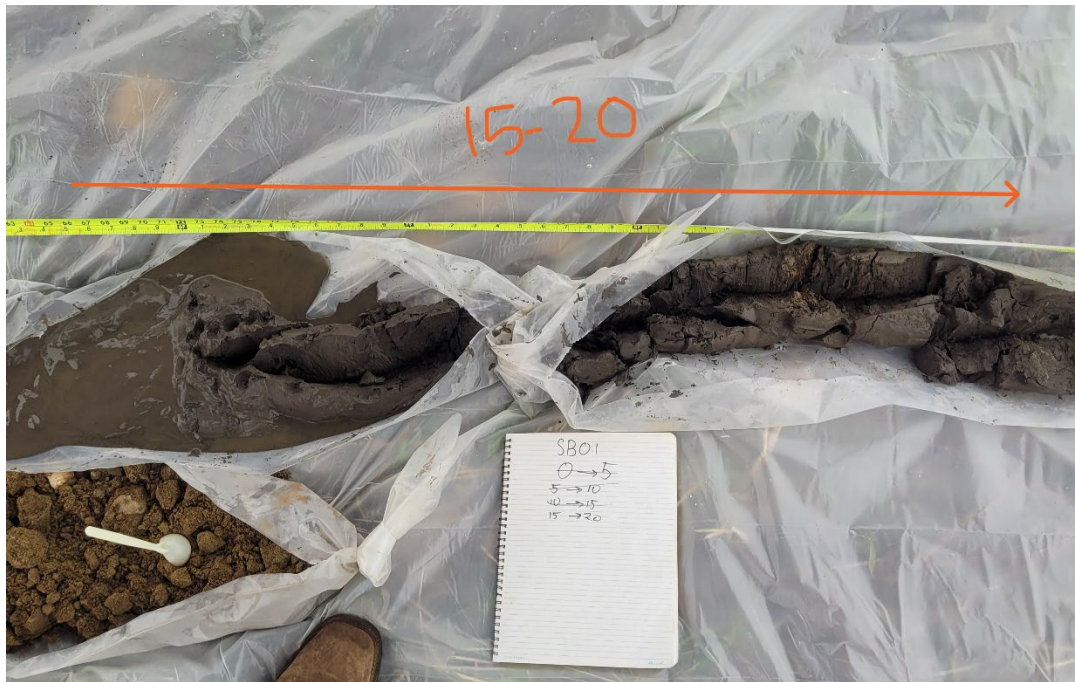


Photo No.
57.

Description

Sonic
location
SB02 at an
interval of 0
to 5 feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
58.

Description

Sonic
location
SB02 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photo No.
59.

Description

Sonic
location
SB02 at an
interval of
10 to 15
feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
60.

Description

Sonic
location
SB02 at an
interval of
15 to 20
feet bgs on
November
3, 2025.



Photo No.
61.

Description

Sonic
location
SB03 at
intervals of
0 to 5 feet
bgs and 10
to 15 feet
bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
62.

Description

Sonic
location
SB03 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photo No.
63.

Description

Sonic
location
SB03 at an
interval of
15 to 20
feet bgs on
November
3, 2025.



Photo No.
64.

Description

Sonic
location
SB04 at an
interval of 0
to 5 feet bgs
on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
65.

Description

Sonic
location
SB04 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.

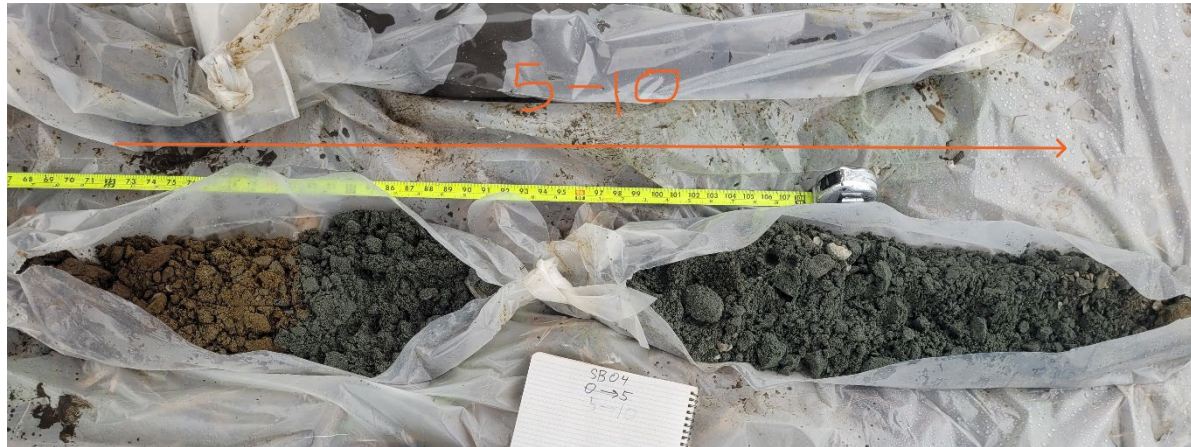


Photo No.
66.

Description

Sonic
location
SB04 at an
interval of
10 to 15
feet bgs on
November
3, 2025.



Photo No.
67.

Description

Sonic
location
SB04 at an
interval of
15 to 20
feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
68.

Description

Sonic
location
SB05 at an
interval of 0
to 5 feet bgs
on
November
3, 2025. X-
ray
fluorescence
instrument
used for
field
screening is
visible.



Photo No.
69.

Description

Sonic
location
SB05 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
70.

Description

Sonic
location
SB05 at an
interval of
10 to 15
feet bgs on
November
3, 2025.



Photo No.
71.

Description

Sonic
location
SB05 at an
interval of
15 to 20
feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
72.

Description

Sonic
location
SB06 at an
interval of 0
to 5 feet bgs
on
November
3, 2025.
Soil samples
collected
directly into
glass jar
using
disposable
spoons.



Photo No.
73.

Description

Sonic
location
SB06 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
74.

Description

Sonic
location
SB06 at an
interval of
10 to 15
feet bgs on
November
3, 2025.



Photo No.
75.

Description

Sonic
location
SB07 at an
interval of 0
to 5 feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

Photo No.
76.

Description

Sonic
location
SB07 at an
interval of 5
to 10 feet
bgs on
November
3, 2025.



Photo No.
77.

Description

Sonic
location
SB07 at an
interval of
10 to 15
feet bgs on
November
3, 2025.



Photo No.
78.

Description

Sonic
location
SB07 at an
interval of
15 to 20
feet bgs on
November
3, 2025.



Photographs

Project Name: Parcel 12 Soil Investigation—AOI B

Project Number: M0615.34.002

Location: Tacoma, Washington

**Photo No.
79.**

Description

Drummed
soil waste
on
November
11, 2025.



**Photo No.
80.**

Description

Drum
location
near 4th
Street gate
on
November
11, 2025.



Appendix D

Boring Logs



MAUL
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Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 705789.582 East: 1178280.477
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.0 feet: WOODY DEBRIS; brown; 100% wood chips.		100	< 3.0	
2		1.0 feet to 3.7 feet: POORLY GRADED SAND (SP); dark brown; trace fines; 100% sand, fine to medium grained; very loose; no odor; moist.			< 7.6	SB01-S-1.5
3					< 7.9	SB01-S-2.5
4		3.7 feet to 7.0 feet: GRAVELLY SAND (SP); medium brown; 80% sand, medium grained; 20% gravel, coarse, rounded; very loose; no odor; moist.		< 7.3		
5				40		
6				< 6.7		SB01-S-6.0
7		7.0 feet to 10.0 feet: NO RECOVERY.				SB01-S-6.0-DUP
8						
9						
10		10.0 feet to 11.0 feet: GRAVELLY SAND (SP); medium brown; 80% sand, medium grained; 20% gravel, coarse, rounded; very loose; no odor; moist.		100		
11		11.0 feet to 20.0 feet: SILTY SAND (SM); dark gray; 30% fines, medium plasticity; 70% sand, fine grained; medium dense; no odor; wet.			< 6.8	SB01-S-12.0
12		@ 12.5 feet: 1-inch-thick band of brown coloration.				
13						
14					< 6.3	
15				100		
16						
17						
18					8.1	SB01-S-18.0
19		@ 18.7 feet: 1/2-inch-thick layer of gray clay.				
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

Soil becomes wet at 11.0 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 705839.557 East: 1178282.056
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.5 feet: SILTY SAND (SM); brown; 20% fines, low to medium plasticity; 80% sand, fine to medium grained; loose; no odor; moist.		100	< 10.7	SB02-S-0.5
2		@ 0.7 to 1.2 feet: Some red friable particles up to 0.25 inches in size.			< 7.4	SB02-S-1.5
3		1.5 feet to 3.2 feet: SANDY SILT WITH GRAVEL (ML); brown; 50% fines, low to medium plasticity; 40% sand, fine grained; 10% gravel, fine to medium, subrounded to rounded; soft; no odor; moist.				
4		3.2 feet to 4.7 feet: GRAVELLY SAND WITH SILT (SP-SM); light brown; 10% fines, nonplastic; 70% sand, medium grained; 20% gravel, fine to coarse, subangular to subrounded; loose; no odor; moist.			< 6.6	
5		4.7 feet to 5.2 feet: GRAVELLY SILTY SAND (SM); greenish gray; 20% fines, nonplastic; 50% sand, medium grained; 30% gravel, fine to coarse, subrounded to rounded; dense; no odor; moist.		100	< 5.5	SB02-S-5.5
6		5.2 feet to 11.0 feet: SAND (SP); greenish gray; 100% sand, medium grained; very loose; no odor; moist.				
7						
8						
9					< 5.8	
10				70	< 6.4	
11	▽	11.0 feet to 13.5 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine grained; medium dense; no odor; wet.			< 11.6	SB02-S-12
12						
13						
14		13.5 feet to 15.0 feet: NO RECOVERY.				
15		15.0 feet to 20.0 feet: SANDY SILT (ML); dark gray; 50% fines, low to medium plasticity; 50% sand, fine grained; firm; no odor; wet.		100	< 5.8	SB02-S-17
16						
17						
18						
19						
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 11.0 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 705889.532 East: 1178283.636
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.2 feet: SAND WITH SILT (SP-SM); reddish brown; 10% fines; 90% sand, fine to medium grained; loose; no odor; moist.		100	< 10.9	SB03-S-0.5
2		1.2 feet to 1.8 feet: SILT WITH SAND (ML); reddish gray; 70% fines, low plasticity; 30% sand, fine grained; firm; no odor; moist.			< 9.6	SB03-S-1.5
3		1.8 feet to 2.6 feet: SAND WITH SILT (SP-SM); reddish brown; 10% fines; 90% sand, fine to medium grained; loose; no odor; moist.				
4		2.6 feet to 4.0 feet: SAND (SP); grayish brown; trace fines; 100% sand, fine grained; loose; no odor; moist.			< 7.4	
5		@ 3.4 feet: Becomes orangish brown; no fines.				
6		4.0 feet to 5.0 feet: GRAVELLY SAND (SP); tan; 80% sand, medium grained; 20% gravel, fine to medium, subangular to subrounded; very loose; no odor; moist.		100	< 6.1	SB03-S-6.0
7		5.0 feet to 12.5 feet: SILTY SAND (SM); greenish gray; 20% fines, nonplastic; 80% sand, fine to medium grained; trace gravel, medium, rounded; very loose; no odor; moist.				
8						
9					< 6.2	
10				50	< 6.1	
11		@ 11.0 feet: Becomes dark gray; 80% fine grained sand; 20% low to medium plasticity fines; no gravel; medium dense; no odor; moist.			< 14.9	SB03-S-11.5
12						
13		12.5 feet to 15.0 feet: NO RECOVERY.				
14						
15						
16		15.0 feet to 20.0 feet: dark gray; 20% fines, low to medium plasticity; 80% sand, fine grained; medium dense; no odor; moist.		100	< 6.1	SB03-S-16.0
17						
18						
19	▽	@ 18.7 feet: Becomes wet.			< 6.0	
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 18.7 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 705939.507 East: 1178285.215
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.0 feet: GRAVELLY SAND (SP); brown; 80% sand, medium grained; 20% gravel, medium to coarse, rounded; very loose; no odor; moist.		100	< 8.1	SB04-S-0.5
2		1.0 feet to 2.2 feet: SANDY SILT (ML); brown; 60% fines, low to medium plasticity; 40% sand, fine to medium grained; soft; wormholes present; no odor; moist.			< 10.2	SB04-S-1.5
3		2.2 feet to 4.7 feet: SILTY SAND (SM); brown; 30% fines, low plasticity; 70% sand, fine grained; loose; no odor; moist.			< 8.6	
4					< 6.3	SB04-S-4.5
5		4.7 feet to 7.0 feet: SAND (SP); yellowish brown; 100% sand, medium grained; very loose; no odor; moist.		100	< 5.9	
6						
7		7.0 feet to 11.0 feet: SAND WITH GRAVEL (SP); greenish gray; 90% sand, medium grained; 10% gravel, medium, rounded; very loose; no odor; moist.			7	SB04-S-8.0
8						SB04-S-8-DUP
9					< 6.2	
10				80		
11		11.0 feet to 14.0 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine grained; medium dense; no odor; moist.			< 6.7	SB04-S-12
12						
13	▽	@ 13.0 feet: Becomes wet.				
14		14.0 feet to 15.0 feet: NO RECOVERY.				
15		15.0 feet to 18.0 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine grained; medium dense; no odor; wet.		60		
16					< 7.6	SB04-S-17
17						
18		18.0 feet to 20.0 feet: NO RECOVERY.				
19						
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 11.0 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 705989.482 East: 1178286.794
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 3.0 feet: WOODY DEBRIS; reddish brown; 100% wood chips; very loose; no odor; moist.		100		
2						
3		3.0 feet to 7.3 feet: SAND WITH SILT AND GRAVEL (SP-SM); greenish gray; 10% fines; 80% sand, medium grained; 10% gravel, fine to medium, rounded; very loose; no odor; moist.			< 5.9	SB05-S-3.5
4					< 6.3	SB05-S-4.5
5				80		
6					< 6.1	
7						
8		7.3 feet to 9.0 feet: GRAVELLY SAND WITH SILT (SP-SM); greenish gray; 10% fines; 50% sand, fine to medium grained; 40% gravel, medium to coarse, subangular to rounded; very loose; no odor; moist.			< 7.5	SB05-S-8
9		9.0 feet to 10.0 feet: NO RECOVERY.				
10		10.0 feet to 11.5 feet: SAND WITH SILT AND GRAVEL (SP-SM); greenish gray; 10% fines; 80% sand, medium grained; 10% gravel, fine to medium, rounded; very loose; no odor; moist.		80		
11					< 6.6	
12	▽	11.5 feet to 14.0 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine grained; medium dense; no odor; moist.				
13		@ 12.5 feet: Becomes wet.			< 7.3	SB05-S-13
14		14.0 feet to 15.0 feet: NO RECOVERY.				
15		15.0 feet to 19.0 feet: SAND WITH SILT (SP-SM); dark gray; 10% fines; 90% sand, fine grained; medium dense; no odor; wet.		80		
16					< 6.5	
17						
18						
19		19.0 feet to 20.0 feet: NO RECOVERY.				
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 12.5 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
 Project Name: Parcel 12 Soil Investigation
 Project Location: 3802 Taylor Way, Tacoma, Washington
 Date Started: 11/03/2025 Completed: 11/03/2025
 Logged By: C. Sifford

Surface Elevation: N/A
 Boring Location: North: 706039.458 East: 1178288.374
 Drill Rig: Sonic / Anderson Environmental Contracting
 Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.5 feet: WOODY DEBRIS; brown; 100% wood chips; very loose.		80		
2		1.5 feet to 2.7 feet: SAND (SP); tan; trace fines; 100% sand, medium grained; loose; no odor; moist.			< 6.9	SB06-S-2
3		2.7 feet to 4.0 feet: SILTY SAND (SP-SM); grayish brown; 10% fines; 90% sand, fine grained; trace gravel, medium, rounded; loose; no odor; moist.			< 6.4	SB06-S-3.5
4		4.0 feet to 5.0 feet: NO RECOVERY.				
5		5.0 feet to 7.5 feet: SILTY SAND (SP-SM); grayish brown; 10% fines; 90% sand, fine grained; trace gravel, medium, rounded; loose; no odor; moist.		100		
6					< 6.9	
7						
8		7.5 feet to 11.0 feet: SAND (SP); greenish gray; 100% sand, medium grained; loose; no odor; moist.			< 6.7	SB06-S-8.5
9						
10				100		
11		11.0 feet to 20.0 feet: SILTY SAND (SM); dark gray; 20% fines, low to medium plasticity; 80% sand, fine grained; medium dense; no odor; moist.			< 6.2	
12					6.7	SB06-S-12
13		@ 12.5 feet: Becomes wet.				SB06-S-12-DUP
14						
15				100		
16						
17					< 6.9	SB06-S-17
18						
19					< 8.6	
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 12.5 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.



Project Number: M0615.34.002
Project Name: Parcel 12 Soil Investigation
Project Location: 3802 Taylor Way, Tacoma, Washington
Date Started: 11/03/2025 Completed: 11/03/2025
Logged By: M. Karn

Surface Elevation: N/A
Boring Location: North: 706089.433 East: 1178289.953
Drill Rig: Sonic / Anderson Environmental Contracting
Completion Depth: 20.00'

Depth (feet)	Water Levels	Soil Description and Remarks	Graphic Log	Recovery (%)	Samples	
					As XRF (ppm)	Sample ID
1		0.0 feet to 1.0 feet: WOODY DEBRIS; brown; 100% wood chips; very loose; moist.		44	< 13.4	SB07-S-1.5
2		1.0 feet to 2.2 feet: SILTY SAND (SM); dark gray; 20% fines, low plasticity; 80% sand, fine grained; medium dense; no odor; moist.				
3		2.2 feet to 5.0 feet: NO RECOVERY.				
4						
5		5.0 feet to 8.0 feet: SILTY SAND (SM); dark gray; 20% fines, low plasticity; 80% sand, fine grained; medium dense; no odor; moist.		60	< 6.8	SB07-S-6
6						
7						
8		8.0 feet to 10.0 feet: NO RECOVERY.				
9						
10		10.0 feet to 20.0 feet: SILTY SAND (SM); dark gray; 20% fines, low plasticity; 80% sand, fine grained; medium dense; no odor; moist.		100	< 8.5	SB07-S-11
11						
12		@ 11.5 feet: Becomes wet.				
13						
14					< 7.8	
15						
16				100	< 7.6	SB-07-S-16
17						
18						
19					< 6.5	
20						

Notes

1) Depths are relative to feet below ground surface. 2) < = not detected at the detection limit shown. 3) As = arsenic. 4) bgs = below ground surface. 5) ppm = parts per million. 6) XRF = x-ray fluorescence.

▽ Soil becomes wet at 11.5 feet bgs as observed in core sample.

Borehole Completion Details

0.0 to 20.0 feet bgs: 4-inch borehole.

Borehole Abandonment Details

0.0 to 20.0 feet bgs: Bentonite chips hydrated with potable water.

Appendix E

Analytical Laboratory Reports



MAUL
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ALONGI

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on September 17, 2025 from the Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303 project. There are 22 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Fiona Bellows
MFA1008R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 17, 2025 by Friedman & Bruya, Inc. from the Maul Foster Alongi Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
509303 -01	T27-S-0-1
509303 -02	T27-S-1-3
509303 -03	T27-S-3-6.6
509303 -04	T27-S-8-10
509303 -05	T27-S-10-12.3
509303 -06	T73-S-0-1
509303 -07	T73-S-1-3
509303 -08	T73-S-3-5
509303 -09	T73-S-5-6.6
509303 -10	T73-S-6.6-9.3
509303 -11	T73-S-9.3-12
509303 -12	T70-S-0-1
509303 -13	T70-S-3-5.7
509303 -14	T70-S-5.7-9
509303 -15	T70-S-9-12

Samples T27-S-0-1, T73-S-0-1, and T70-S-0-1 were sent to Alliance Technical Group and to Onsite Environmental for herbicide and organophosphorus pesticide testing, respectively. The reports are enclosed.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: NA

Date Analyzed: 09/25/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
T27-S-0-1 509303-01	9
T27-S-1-3 509303-02	6
T27-S-3-6.6 509303-03	14
T27-S-8-10 509303-04	23
T27-S-10-12.3 509303-05	26
T73-S-0-1 509303-06	9
T73-S-1-3 509303-07	8
T73-S-3-5 509303-08	12
T73-S-5-6.6 509303-09	20
T73-S-6.6-9.3 509303-10	21
T73-S-9.3-12 509303-11	28

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: NA

Date Analyzed: 09/25/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u>	<u>% Moisture</u>
Laboratory ID	
T70-S-0-1 509303-12	10
T70-S-3-5.7 509303-13	17
T70-S-5.7-9 509303-14	24
T70-S-9-12 509303-15	25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: 09/26/25

Date Analyzed: 09/29/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery)
Laboratory ID		(Limit 50-150)
T27-S-0-1 509303-01	<5	109
T27-S-1-3 509303-02	<5	110
T27-S-3-6.6 509303-03	<5	111
T27-S-8-10 509303-04	<5	112
T27-S-10-12.3 509303-05	<5	113
T73-S-0-1 509303-06	<5	109
T73-S-1-3 509303-07	<5	107
T73-S-3-5 509303-08	<5	110
T73-S-5-6.6 509303-09	<5	107
T73-S-6.6-9.3 509303-10	<5	111
T73-S-9.3-12 509303-11	<5	104

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: 09/26/25

Date Analyzed: 09/29/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
T70-S-0-1 509303-12	<5	109
T70-S-3-5.7 509303-13	<5	111
T70-S-5.7-9 509303-14	<5	109
T70-S-9-12 509303-15	<5	110
Method Blank 05-2316 MB2	<5	113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: 09/25/25

Date Analyzed: 09/26/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T27-S-0-1 509303-01	<50	<200	125
T27-S-1-3 509303-02	<50	<200	124
T27-S-3-6.6 509303-03	<50	<200	128
T27-S-8-10 509303-04	<50	<200	123
T27-S-10-12.3 509303-05	<50	<200	124
T73-S-0-1 509303-06	<50	<200	126
T73-S-1-3 509303-07	<50	<200	125
T73-S-3-5 509303-08	<50	<200	124
T73-S-5-6.6 509303-09	<50	<200	125
T73-S-6.6-9.3 509303-10	<50	<200	123
T73-S-9.3-12 509303-11	<50	<200	126

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

Date Extracted: 09/25/25

Date Analyzed: 09/26/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T70-S-0-1 509303-12	<50	<200	125
T70-S-3-5.7 509303-13	<50	<200	125
T70-S-5.7-9 509303-14	<50	<200	125
T70-S-9-12 509303-15	<50	<200	123
Method Blank 05-2439 MB	<50	<200	127

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T27-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-01
Date Analyzed:	09/25/25	Data File:	509303-01.158
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	3.3
Barium	33
Cadmium	<1
Chromium	9.6
Lead	6.1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T73-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-06
Date Analyzed:	09/25/25	Data File:	509303-06.159
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	1.8
Barium	25
Cadmium	<1
Chromium	11
Lead	4.0
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T70-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-12
Date Analyzed:	09/25/25	Data File:	509303-12.160
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	3.1
Barium	43
Cadmium	<1
Lead	5.3
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T70-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-12 x5
Date Analyzed:	09/27/25	Data File:	509303-12 x5.411
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Chromium	16
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	I5-825 mb
Date Analyzed:	09/24/25	Data File:	I5-825 mb.114
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T27-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-01 1/30
Date Analyzed:	09/24/25	Data File:	092422.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	68	20	134
Decachlorobiphenyl	77	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T73-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-06 1/30
Date Analyzed:	09/24/25	Data File:	092423.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	72	20	134
Decachlorobiphenyl	80	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T70-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/17/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509303-12 1/30
Date Analyzed:	09/24/25	Data File:	092424.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	73	20	134
Decachlorobiphenyl	82	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	05-2432 mb 1/30
Date Analyzed:	09/24/25	Data File:	092421.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80	20	134
Decachlorobiphenyl	91	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

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

Laboratory Code: 509411-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	120	150	26 hr

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	112	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

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

Laboratory Code: 509303-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	120	112	64-136	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	116	78-121

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

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

Laboratory Code: 509410-04 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	110	122	75-125	10
Barium	mg/kg (ppm)	50	32.0	107 b	124 b	75-125	15 b
Cadmium	mg/kg (ppm)	10	<5	102	110	75-125	8
Chromium	mg/kg (ppm)	50	14.1	100 b	107 b	75-125	7 b
Lead	mg/kg (ppm)	50	<5	99	107	75-125	8
Mercury	mg/kg (ppm)	5	<5	106	117	75-125	10
Selenium	mg/kg (ppm)	5	<5	102	106	75-125	4
Silver	mg/kg (ppm)	10	<5	101	109	75-125	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	113	80-120
Barium	mg/kg (ppm)	50	95	80-120
Cadmium	mg/kg (ppm)	10	97	80-120
Chromium	mg/kg (ppm)	50	104	80-120
Lead	mg/kg (ppm)	50	91	80-120
Mercury	mg/kg (ppm)	5	100	80-120
Selenium	mg/kg (ppm)	5	114	80-120
Silver	mg/kg (ppm)	10	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
ORGANOCHLORINE PESTICIDES
BY EPA METHOD 8081B**

Laboratory Code: 509303-01 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
alpha-BHC	mg/kg (ppm)	0.1	<0.01	60	68	17-122	12
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	<0.01	60	67	18-128	11
beta-BHC	mg/kg (ppm)	0.1	<0.01	58	64	17-130	10
delta-BHC	mg/kg (ppm)	0.1	<0.01	61	67	20-124	9
Heptachlor	mg/kg (ppm)	0.1	<0.01	61	68	15-133	11
Aldrin	mg/kg (ppm)	0.1	<0.01	58	65	50-150	11
Heptachlor Epoxide	mg/kg (ppm)	0.1	<0.01	58	65	19-132	11
trans-Chlordane	mg/kg (ppm)	0.1	<0.01	73	79	15-157	8
cis-Chlordane	mg/kg (ppm)	0.1	<0.01	62	69	17-133	11
4,4'-DDE	mg/kg (ppm)	0.1	<0.01	63	69	17-139	9
Endosulfan I	mg/kg (ppm)	0.1	<0.01	59	66	19-130	11
Dieldrin	mg/kg (ppm)	0.1	<0.01	61	68	17-140	11
Endrin	mg/kg (ppm)	0.1	<0.01	71	78	20-143	9
4,4'-DDD	mg/kg (ppm)	0.1	<0.01	63	72	20-143	13
Endosulfan II	mg/kg (ppm)	0.1	<0.01	60	67	21-133	11
4,4'-DDT	mg/kg (ppm)	0.1	<0.01	60	68	10-385	12
Endrin Aldehyde	mg/kg (ppm)	0.1	<0.01	53	59	12-123	11
Methoxychlor	mg/kg (ppm)	0.1	<0.01	65	74	10-226	13
Endosulfan Sulfate	mg/kg (ppm)	0.1	<0.01	58	65	17-134	11
Endrin Ketone	mg/kg (ppm)	0.1	<0.01	60	66	10-153	10
Toxaphene	mg/kg (ppm)	4	<0.1	70	71	12-123	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/25

Date Received: 09/17/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509303

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
ORGANOCHLORINE PESTICIDES
BY EPA METHOD 8081B**

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
alpha-BHC	mg/kg (ppm)	0.1	86	53-132
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	87	70-130
beta-BHC	mg/kg (ppm)	0.1	83	61-129
delta-BHC	mg/kg (ppm)	0.1	88	56-136
Heptachlor	mg/kg (ppm)	0.1	88	56-125
Aldrin	mg/kg (ppm)	0.1	84	50-131
Heptachlor Epoxide	mg/kg (ppm)	0.1	84	54-131
trans-Chlordane	mg/kg (ppm)	0.1	90	58-133
cis-Chlordane	mg/kg (ppm)	0.1	91	59-128
4,4'-DDE	mg/kg (ppm)	0.1	91	64-134
Endosulfan I	mg/kg (ppm)	0.1	87	57-128
Dieldrin	mg/kg (ppm)	0.1	89	52-132
Endrin	mg/kg (ppm)	0.1	103	53-128
4,4'-DDD	mg/kg (ppm)	0.1	93	55-132
Endosulfan II	mg/kg (ppm)	0.1	89	58-126
4,4'-DDT	mg/kg (ppm)	0.1	99	60-123
Endrin Aldehyde	mg/kg (ppm)	0.1	87	48-111
Methoxychlor	mg/kg (ppm)	0.1	104	61-124
Endosulfan Sulfate	mg/kg (ppm)	0.1	90	60-129
Endrin Ketone	mg/kg (ppm)	0.1	88	50-129
Toxaphene	mg/kg (ppm)	4	99	37-185

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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

509303

SAMPLE CHAIN OF CUSTODY

09/17/25 vsc2/G4 2

Report To Audrey HackettCompany Maul Foster AlongiAddress 2815 2nd Avenue, Suite 540City, State, ZIP Seattle WA 98121Phone 206-331-1835 Email ahackett@maulfoster.comSAMPLERS (signature) Page # 1 of 2

PROJECT NAME

PO #

Port of Tacoma Parcel 12

M0615.34.002

REMARKS

cc: fbellows@maulfoster.com

Project Specific RLs - Yes ☒ No

INVOICE TO

accounting@maulfoster.com

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Project Specific RLs - Yes / No						ANALYSES REQUESTED												Other	
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organophosphorus and chlorinated)	HOLD	Notes		
T27-S-0-1	01 A-D	09/17/25	0815	SO	4	X	X							X	X	X	X		
T27-S-1-3	02	09/17/25	0830	SO	4	X	X										X		
T27-S-3-6.6	03	09/17/25	0845	SO	4	X	X										X		
T27-S-8-10	04	09/17/25	0905	SO	4	X	X										X		
T27-S-10-12.3	05	09/17/25	0925	SO	4	X	X										X		
T73-S-0-1	06	09/17/25	1045	SO	4	X	X							X	X	X	X		
T73-S-1-3	07	09/17/25	1047	SO	4	X	X										X		
T73-S-3-5	08	09/17/25	1050	SO	4	X	X										X		
T73-S-5-6.6	09	09/17/25	1110	SO	4	X	X										X		
T73-S-6.6-9.3	10	09/17/25	1112	SO	4	X	X										X		

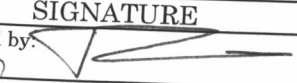
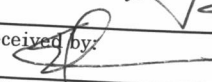
Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

FORMS\COC\COC.DOC

SIGNATURE		PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Fiona Bellows	MFA	9/17/25	1642
Received by:		Eric Young	Fe B	9/17/25	1642
Relinquished by:					
Received by:					

Files received at 2 °C

509303

SAMPLE CHAIN OF CUSTODY

09/17/25

VSC2/G4

Page # 2 of 2

Report To **Audrey Hackett**Company **Maul Foster Alongi**Address **2815 2nd Avenue, Suite 540**City, State, ZIP **Seattle WA 98121**Phone **206-331-1835** Email **ahackett@maulfoster.com**SAMPLERS (signature) 

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: **fbellows@maulfoster.com**Project Specific RLs - Yes ☒ No

INVOICE TO

accounting@maulfoster.com

TURNAROUND TIME

Standard Turnaround
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals			HOLD	
T73-S-9.3-12	11 A-D	09/17/25	1125	SO	4	X	X										X
T70-S-0-1	12	09/17/25	1210	SO	4	X	X						X	X	X	X	
T70-S-3-5.7	13	09/17/25	1235	SO	4	X	X									X	
T70-S-5.7-9	14	09/17/25	1305	SO	4	X	X									X	
T70-S-9-12	15	09/17/25	1330	SO	4	X	X									X	
		09/ /25		SO													
		09/ /25		SO													
		09/ /25		SO													
		09/ /25		SO													
		09/ /25		SO													

FMB 9/17/25

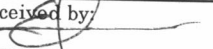
Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Fiona Bellows	MFA	9/17/25	1642
Received by: 	Eric Fournier	FMB	9/17/25	1642
Relinquished by:				
Received by:		Samples received at 2 °C		

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 507303 CLIENT MFA INITIALS/DATE: [Signature] 09/17/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☒ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/Date: (NP) 9/18
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days
REC 9/18

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☒ Yes ☐ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☐ Yes ☒ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters** Number of unused TO17 tubes

**Fill out Green manifolds billing sheet



**OnSite
Environmental Inc.**

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 2, 2025

Michael Erdahl
Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108

Re: Analytical Data for Project 509303
Laboratory Reference No. 2509-340

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on September 24, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 2, 2025
Samples Submitted: September 24, 2025
Laboratory Reference: 2509-340
Project: 509303

Case Narrative

Samples were collected on September 17, 2025 and received by the laboratory on September 24, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-340
 Project: 509303

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T27-S-0-1					
Laboratory ID:	09-340-01					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.015	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>125</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>101</i>	<i>66-133</i>				



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-340
 Project: 509303

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T73-S-0-1					
Laboratory ID:	09-340-02					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.015	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.054	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>116</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>97</i>	<i>66-133</i>				



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-340
 Project: 509303

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T70-S-0-1					
Laboratory ID:	09-340-03					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.055	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.055	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.055	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>112</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>95</i>	<i>66-133</i>				



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-340
 Project: 509303

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1001S1					
Dichlorvos(DDVP)	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.014	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	126	39-158				
<i>Triphenyl phosphate</i>	99	66-133				



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-340
 Project: 509303

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1001S1									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorvos(DDVP)	0.0998	0.0981	0.100	0.100	100	98	62-132	2	22	
Mevinphos/Phosdrin	0.0920	0.0889	0.100	0.100	92	89	47-136	3	21	
Ethoprophos	0.0859	0.0786	0.100	0.100	86	79	58-132	9	25	
Sulfotepp	0.0840	0.0950	0.100	0.100	84	95	65-122	12	40	
Phorate	0.0879	0.0878	0.100	0.100	88	88	61-128	0	32	
Dimethoate	0.102	0.0994	0.100	0.100	102	99	49-139	3	26	
Demeton-S	0.0721	0.0702	0.0700	0.0700	103	100	56-133	3	31	
Diazinon	0.0981	0.0923	0.100	0.100	98	92	60-134	6	27	
Disulfoton	0.0845	0.0871	0.100	0.100	85	87	56-132	3	24	
Parathion-methyl	0.0996	0.0972	0.100	0.100	100	97	61-133	2	28	
Fenchlorphos/Ronnel	0.0969	0.0949	0.100	0.100	97	95	66-126	2	21	
Malathion	0.0904	0.0943	0.100	0.100	90	94	69-143	4	19	
Fenthion	0.0998	0.0934	0.100	0.100	100	93	66-127	7	20	
Parathion-ethyl	0.0984	0.103	0.100	0.100	98	103	66-131	5	21	
Chlorpyrifos/Dursban	0.102	0.0983	0.100	0.100	102	98	69-124	4	20	
Trichloronate	0.101	0.0934	0.100	0.100	101	93	68-126	8	21	
Stirofos/Tetrachlorvinphos	0.0990	0.100	0.100	0.100	99	100	54-164	1	24	
Tokuthion/Prothiofos	0.0973	0.0957	0.100	0.100	97	96	68-129	2	21	
Fensulfothion	0.0950	0.0927	0.100	0.100	95	93	55-158	2	21	
Bolstar/Sulprofos	0.0975	0.0986	0.100	0.100	98	99	65-131	1	21	
EPN	0.0952	0.0998	0.100	0.100	95	100	65-136	5	23	
Azinphos-methyl/Guthion	0.101	0.0993	0.100	0.100	101	99	63-161	2	22	
Coumaphos	0.0997	0.100	0.100	0.100	100	100	57-163	0	26	
Surrogate:										
Tributyl phosphate					118	119	39-158			
Triphenyl phosphate					97	99	66-133			



Date of Report: October 2, 2025
Samples Submitted: September 24, 2025
Laboratory Reference: 2509-340
Project: 509303

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
T27-S-0-1	09-340-01	8	10-1-25
T73-S-0-1	09-340-02	8	10-1-25
T70-S-0-1	09-340-03	10	10-1-25





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- X2 - Sample extract treated with a silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



Send Report To Michael Erdahl
 Company Friedman and Bruya, Inc.
 Address 5500 4th Ave S
 City, State, ZIP Seattle, WA 98108
 email: merdahl@friedmanandbruya.com

SUBCONTRACTOR Onsite		09-340
PROJECT NAME/NO.	509303	PO # F-468
REMARKS EQ154		

Page # 1 of 1

TURNAROUND TIME

☒ Standard

RUSH _____

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

[illegible]

Sample/Cooler Receipt and Acceptance Checklist

Client: FB1
 Client Project Name/Number: 509303
 OnSite Project Number: 09-340

Initiated by: AP
 Date Initiated: 9/24/25

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	☒ No	N/A	1	2	3	4
1.2 Were the custody seals intact?	Yes	No	☒ N/A	1	2	3	4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	☒ N/A	1	2	3	4
1.4 Were the samples delivered on ice or blue ice?	☒ Yes	No	N/A	1	2	3	4
1.5 Were samples received between 0-6 degrees Celsius?	☒ Yes	No	N/A	Temperature: <u>5</u>			
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	☒ N/A					
1.7 How were the samples delivered?	☒ Client	☐ Courier	☐ UPS/FedEx	☐ OSE Pickup	☐ Other		

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	☒ Yes	No	1	2	3	4
2.2 Was the COC legible and written in permanent ink?	☒ Yes	No	1	2	3	4
2.3 Have samples been relinquished and accepted by each custodian?	☒ Yes	No	1	2	3	4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	☒ Yes	No	1	2	3	4
2.5 Were all of the samples listed on the COC submitted?	☒ Yes	No	1	2	3	4
2.6 Were any of the samples submitted omitted from the COC?	Yes	☒ No	1	2	3	4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	☒ No	1	2	3	4	
3.2 Were any sample labels missing or illegible?	Yes	☒ No	1	2	3	4	
3.3 Have the correct containers been used for each analysis requested?	☒ Yes	No	1	2	3	4	
3.4 Have the samples been correctly preserved?	Yes	No	☒ N/A	1	2	3	4
3.5 Are volatile samples free from headspace and bubbles greater than 6mm?	Yes	No	☒ N/A	1	2	3	4
3.6 Is there sufficient sample submitted to perform requested analyses?	☒ Yes	No	1	2	3	4	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	☒ No	1	2	3	4	
3.8 Was method 5035A used?	Yes	No	☒ N/A	1	2	3	4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	☒ N/A	1	2	3	4	

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

Friedman & Bruya

Michael Erdahl

5500 4th Ave S

Seattle, WA 98108

RE: 509303,

Work Order Number: 2509600

October 07, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 3 sample(s) on 9/24/2025 for the analyses presented in the following report.

Herbicides by EPA 8151A

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,



Lyann Rivera
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original





Date: 10/07/2025

CLIENT: Friedman & Bruya
Project: 509303
Work Order: 2509600

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2509600-001	T27-S-0-1	09/17/2025 8:15 AM	09/24/2025 3:40 PM
2509600-002	T73-S-0-1	09/17/2025 10:45 AM	09/24/2025 3:40 PM
2509600-003	T70-S-0-1	09/17/2025 12:10 PM	09/24/2025 3:40 PM

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

CLIENT: Friedman & Bruya

Project: 509303

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.

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

CLIENT: Friedman & Bruya
Project: 509303

Lab ID: 2509600-001

Collection Date: 9/17/2025 8:15:00 AM

Client Sample ID: T27-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
2,4-D	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
2,4-DP	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
2,4,5-TP (Silvex)	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
2,4,5-T	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Dinoseb	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Dalapon	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
2,4-DB	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
MCP	ND	191		µg/Kg	1	10/2/2025 5:35:27 AM
MCPA	ND	287		µg/Kg	1	10/2/2025 5:35:27 AM
Picloram	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Bentazon	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Chloramben	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Acifluorfen	ND	19.1	Q	µg/Kg	1	10/2/2025 5:35:27 AM
3,5-Dichlorobenzoic acid	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
4-Nitrophenol	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Dacthal (DCPA)	ND	19.1		µg/Kg	1	10/2/2025 5:35:27 AM
Surr: 2,4-Dichlorophenylacetic acid	62.9	11.7 - 155		%Rec	1	10/2/2025 5:35:27 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria(77.5%, nominal 80-120%). Result may be low-biased.

CLIENT: Friedman & Bruya
Project: 509303

Lab ID: 2509600-002

Collection Date: 9/17/2025 10:45:00 AM

Client Sample ID: T73-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
2,4-D	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
2,4-DP	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
2,4,5-TP (Silvex)	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
2,4,5-T	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Dinoseb	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Dalapon	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
2,4-DB	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
MCP	ND	190		µg/Kg	1	10/2/2025 5:52:10 AM
MCPA	ND	285		µg/Kg	1	10/2/2025 5:52:10 AM
Picloram	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Bentazon	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Chloramben	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Acifluorfen	ND	19.0	Q	µg/Kg	1	10/2/2025 5:52:10 AM
3,5-Dichlorobenzoic acid	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
4-Nitrophenol	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Dacthal (DCPA)	ND	19.0		µg/Kg	1	10/2/2025 5:52:10 AM
Surr: 2,4-Dichlorophenylacetic acid	88.1	11.7 - 155		%Rec	1	10/2/2025 5:52:10 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria(77.5%, nominal 80-120%). Result may be low-biased.

CLIENT: Friedman & Bruya
Project: 509303

Lab ID: 2509600-003

Collection Date: 9/17/2025 12:10:00 PM

Client Sample ID: T70-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
2,4-D	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
2,4-DP	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
2,4,5-TP (Silvex)	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
2,4,5-T	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Dinoseb	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Dalapon	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
2,4-DB	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
MCP	ND	196		µg/Kg	1	10/2/2025 6:08:50 AM
MCPA	ND	294		µg/Kg	1	10/2/2025 6:08:50 AM
Picloram	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Bentazon	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Chloramben	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Acifluorfen	ND	19.6	Q	µg/Kg	1	10/2/2025 6:08:50 AM
3,5-Dichlorobenzoic acid	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
4-Nitrophenol	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Dacthal (DCPA)	ND	19.6		µg/Kg	1	10/2/2025 6:08:50 AM
Surr: 2,4-Dichlorophenylacetic acid	58.4	11.7 - 155		%Rec	1	10/2/2025 6:08:50 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria(77.5%, nominal 80-120%). Result may be low-biased.

Work Order: 2509600
CLIENT: Friedman & Bruya
Project: 509303

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: MB-49402	SampType: MBLK	Units: µg/Kg				Prep Date: 9/26/2025				RunNo: 103465		
Client ID: MBLKS	Batch ID: 49402					Analysis Date: 9/30/2025				SeqNo: 2158433		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Dicamba	ND	20.0										
2,4-D	ND	20.0										
2,4-DP	ND	20.0										
2,4,5-TP (Silvex)	ND	20.0										
2,4,5-T	ND	20.0										
Dinoseb	ND	20.0										
Dalapon	ND	20.0										
2,4-DB	ND	20.0										
MCPP	ND	200										
MCPA	ND	300										
Picloram	ND	20.0										
Bentazon	ND	20.0										
Chloramben	ND	20.0									Q	
Acifluorfen	ND	20.0										
3,5-Dichlorobenzoic acid	ND	20.0										
4-Nitrophenol	ND	20.0										
Dacthal (DCPA)	ND	20.0										
Surr: 2,4-Dichlorophenylacetic acid	844		1.000		84.4	5	150					

NOTES:

Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: LCS-49402	SampType: LCS	Units: µg/Kg				Prep Date: 9/26/2025			RunNo: 103465		
Client ID: LCSS	Batch ID: 49402	Analysis Date: 10/2/2025							SeqNo: 2158370		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	218	20.0	200.0	0	109	6.87	123				
2,4-D	247	20.0	200.0	0	123	13.2	123				S
2,4-DP	223	20.0	200.0	0	112	17.2	120				
2,4,5-TP (Silvex)	235	20.0	200.0	0	118	22.3	124				
2,4,5-T	202	20.0	200.0	0	101	17.5	122				
Dinoseb	189	20.0	200.0	0	94.5	13	115				
Dalapon	1,160	20.0	1,000	0	116	5.02	155				

Work Order: 2509600
CLIENT: Friedman & Bruya
Project: 509303

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: LCS-49402		SampType: LCS		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: LCSS		Batch ID: 49402				Analysis Date: 10/2/2025		SeqNo: 2158370			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-DB	141	20.0	200.0	0	70.3	40.9	123				
MCP	1,370	200	1,000	0	137	19.2	142				
MCPA	1,090	300	1,000	0	109	6.41	143				
Picloram	229	20.0	200.0	0	114	5.42	148				
Bentazon	201	20.0	200.0	0	100	21.5	133				
Chloramben	199	20.0	200.0	0	99.5	8.88	94.8				S
Acifluorfen	191	20.0	200.0	0	95.7	5.24	110				
3,5-Dichlorobenzoic acid	210	20.0	200.0	0	105	12.3	132				
4-Nitrophenol	149	20.0	200.0	0	74.4	13	148				
Dacthal (DCPA)	220	20.0	200.0	0	110	12.7	122				
Surr: 2,4-Dichlorophenylacetic acid	1,110		1,000		111	11.7	155				

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements.

Sample ID: 2509599-003AMS		SampType: MS		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: BATCH		Batch ID: 49402				Analysis Date: 10/2/2025		SeqNo: 2158374			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	78.1	19.9	199.4	0	39.1	6.87	123				
2,4-D	55.6	19.9	199.4	0	27.9	13.2	123				
2,4-DP	77.0	19.9	199.4	0	38.6	17.2	120				
2,4,5-TP (Silvex)	91.7	19.9	199.4	0	46.0	22.3	124				
2,4,5-T	55.9	19.9	199.4	0	28.0	17.5	122				
Dinoseb	107	19.9	199.4	0	53.7	13	115				
Dalapon	173	19.9	997.0	0	17.3	5.02	155				
2,4-DB	98.2	19.9	199.4	0	49.2	40.9	123				
MCP	839	199	997.0	0	84.2	19.2	142				
MCPA	596	299	997.0	0	59.8	6.41	143				
Picloram	7.56	19.9	199.4	0	3.79	5.42	148				S
Bentazon	97.0	19.9	199.4	0	48.7	21.5	133				
Chloramben	65.6	19.9	199.4	0	32.9	8.88	94.8				
Acifluorfen	64.4	19.9	199.4	0	32.3	5.24	110				

Work Order: 2509600
CLIENT: Friedman & Bruya
Project: 509303

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: 2509599-003AMS	SampType: MS	Units: µg/Kg			Prep Date: 9/26/2025			RunNo: 103465			
Client ID: BATCH	Batch ID: 49402				Analysis Date: 10/2/2025			SeqNo: 2158374			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,5-Dichlorobenzoic acid	94.0	19.9	199.4	0	47.1	12.3	132				
4-Nitrophenol	85.2	19.9	199.4	0	42.7	13	148				
Dacthal (DCPA)	ND	19.9	199.4	0	0	12.7	122				S
Surr: 2,4-Dichlorophenylacetic acid	696		997.0		69.8	11.7	155				

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2509599-003AMSD	SampType: MSD	Units: µg/Kg			Prep Date: 9/26/2025			RunNo: 103465			
Client ID: BATCH	Batch ID: 49402				Analysis Date: 10/2/2025			SeqNo: 2158375			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	71.8	20.0	199.8	0	35.9	6.87	123	78.06	8.32	30	
2,4-D	52.8	20.0	199.8	0	26.4	13.2	123	55.59	5.18	30	
2,4-DP	73.2	20.0	199.8	0	36.7	17.2	120	77.03	5.05	30	
2,4,5-TP (Silvex)	84.6	20.0	199.8	0	42.4	22.3	124	91.69	8.01	30	
2,4,5-T	50.0	20.0	199.8	0	25.0	17.5	122	55.91	11.2	30	
Dinoseb	110	20.0	199.8	0	55.1	13	115	107.1	2.83	30	
Dalapon	167	20.0	999.0	0	16.8	5.02	155	172.5	3.01	30	
2,4-DB	79.9	20.0	199.8	0	40.0	40.9	123	98.17	20.6	30	S
MCPD	917	200	999.0	0	91.8	19.2	142	839.1	8.85	30	
MCPA	582	300	999.0	0	58.2	6.41	143	596.0	2.44	30	
Picloram	6.12	20.0	199.8	0	3.06	5.42	148	0		30	S
Bentazon	85.5	20.0	199.8	0	42.8	21.5	133	97.01	12.7	30	
Chloramben	57.3	20.0	199.8	0	28.7	8.88	94.8	65.61	13.5	30	
Acifluorfen	62.4	20.0	199.8	0	31.2	5.24	110	64.42	3.15	30	
3,5-Dichlorobenzoic acid	86.2	20.0	199.8	0	43.1	12.3	132	93.97	8.68	30	
4-Nitrophenol	84.5	20.0	199.8	0	42.3	13	148	85.19	0.761	30	
Dacthal (DCPA)	ND	20.0	199.8	0	0	12.7	122	0		30	S
Surr: 2,4-Dichlorophenylacetic acid	637		999.0		63.7	11.7	155		0		

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

S - Outlying spike recovery observed. A duplicate analysis was performed and recovered within range.

Client Name: **FB**
Logged by: **Lyann Rivera**

Work Order Number: **2509600**
Date Received: **9/24/2025 3:40:00 PM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

16. 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:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	13.1

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

SUBCONTRACTOR

PROJECT NAME/NO.

PO #

509303

F-467

REMARKS

Goals 4

2509600

TURNAROUND TIME

☒ Standard

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Will call with instructions

SUBCONTRACTOR ATG	
PROJECT NAME/NO.	PO #
509303	F-467
REMARKS E0154 2509600	

Page # 1 of 1

TURNAROUND TIME

☒ Standard
RUSH _____

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Michael Erdahl	Friedman & Bruya	9/24/17	0835
Received by: 	Gina Sprad	ATG	9/24/25	3:40PM
Relinquished by:				
Received by:				

Page 12 of 12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

October 10, 2025

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on September 18, 2025 from the Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349 project. There are 31 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Fiona Bellows
MFA1010R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 18, 2025 by Friedman & Bruya, Inc. from the Maul Foster Alongi Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
509349 -01	T53-S-0-1
509349 -02	T53-S-1-6
509349 -03	T53-S-6-9
509349 -04	T53-S-9-12
509349 -05	T14-S-0-1
509349 -06	T14-S-1-2
509349 -07	T14-S-1-2-DUP
509349 -08	T14-S-2-3
509349 -09	T14-S-3-6
509349 -10	T14-S-6-8
509349 -11	T5-S-0-1
509349 -12	T5-S-1-4
509349 -13	T5-S-4-8
509349 -14	T5-S-8-12
509349 -15	T6-S-0-1
509349 -16	T6-S-1-5
509349 -17	T6-S-5-8
509349 -18	T6-S-5-8-DUP
509349 -19	T6-S-8-12

Samples T53-S-0-1, T14-S-0-1, T5-S-0-1, and T6-S-0-1 were sent to Alliance Technical Group and to Onsite Environmental for herbicide and organophosphorus pesticide testing, respectively. The reports are enclosed.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: NA

Date Analyzed: 09/25/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
T53-S-0-1 509349-01	11
T53-S-1-6 509349-02	17
T53-S-6-9 509349-03	22
T53-S-9-12 509349-04	25
T14-S-0-1 509349-05	23
T14-S-1-2 509349-06	11
T14-S-1-2-DUP 509349-07	4
T14-S-2-3 509349-08	10
T14-S-3-6 509349-09	12
T14-S-6-8 509349-10	18
T5-S-0-1 509349-11	20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: NA

Date Analyzed: 09/25/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
T5-S-1-4 509349-12	24
T5-S-4-8 509349-13	13
T5-S-8-12 509349-14	15
T6-S-0-1 509349-15	22
T6-S-1-5 509349-16	22
T6-S-5-8 509349-17	24
T6-S-5-8-DUP 509349-18	22
T6-S-8-12 509349-19	24

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: 09/25/25

Date Analyzed: 09/25/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
T53-S-0-1 509349-01	<5	111
T53-S-1-6 509349-02	<5	112
T53-S-6-9 509349-03	<5	112
T53-S-9-12 509349-04	<5	112
T14-S-0-1 509349-05	<5	112
T14-S-1-2 509349-06	<5	115
T14-S-1-2-DUP 509349-07	<5	113
T14-S-2-3 509349-08	<5	109
T14-S-3-6 509349-09	<5	112
T14-S-6-8 509349-10	<5	112

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: 09/25/25

Date Analyzed: 09/25/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
T5-S-0-1 509349-11	<5	113
T5-S-1-4 509349-12	<5	112
T5-S-4-8 509349-13	<5	103
T5-S-8-12 509349-14	<5	111
T6-S-0-1 509349-15	<5	108
T6-S-1-5 509349-16	<5	112
T6-S-5-8 509349-17	<5	111
T6-S-5-8-DUP 509349-18	<5	111
T6-S-8-12 509349-19	<5	111
Method Blank 05-2315 MB	<5	112

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: 09/25/25

Date Analyzed: 09/25/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T53-S-0-1 509349-01	<50	<200	124
T53-S-1-6 509349-02	<50	<200	120
T53-S-6-9 509349-03	<50	<200	123
T53-S-9-12 509349-04	<50	<200	121
T14-S-0-1 509349-05	<50	<200	125
T14-S-1-2 509349-06	<50	<200	125
T14-S-1-2-DUP 509349-07	<50	<200	121
T14-S-2-3 509349-08	<50	<200	124
T14-S-3-6 509349-09	<50	<200	123
T14-S-6-8 509349-10	<50	<200	121
T5-S-0-1 509349-11	<50	<200	123
T5-S-1-4 509349-12	<50	<200	122

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

Date Extracted: 09/25/25

Date Analyzed: 09/25/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
T5-S-4-8 509349-13	<50	<200	121
T5-S-8-12 509349-14	<50	<200	122
T6-S-0-1 509349-15	<50	<200	123
T6-S-1-5 509349-16	<50	<200	122
T6-S-5-8 509349-17	<50	<200	124
T6-S-5-8-DUP 509349-18	<50	<200	123
T6-S-8-12 509349-19	<50	<200	120
Method Blank 05-2437 MB	<50	<200	120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T53-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-01
Date Analyzed:	09/25/25	Data File:	509349-01.161
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	4.5
Barium	36
Cadmium	<1
Lead	13
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T53-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-01 x5
Date Analyzed:	09/27/25	Data File:	509349-01 x5.412
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	13
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-05
Date Analyzed:	09/25/25	Data File:	509349-05.163
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	26
Barium	220
Cadmium	<1
Lead	14
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-05 x5
Date Analyzed:	09/27/25	Data File:	509349-05 x5.413
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	11
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-1-2	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-06
Date Analyzed:	09/25/25	Data File:	509349-06.165
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	13
Barium	130
Cadmium	<1
Lead	4.6
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-1-2	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-06 x5
Date Analyzed:	09/27/25	Data File:	509349-06 x5.421
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	7.2
----------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-1-2-DUP	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-07
Date Analyzed:	09/25/25	Data File:	509349-07.173
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	13
Barium	130
Cadmium	<1
Lead	3.7
Mercury	<1 k
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T14-S-1-2-DUP	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-07 x5
Date Analyzed:	09/27/25	Data File:	509349-07 x5.422
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	6.8
----------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T5-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-11
Date Analyzed:	09/25/25	Data File:	509349-11.174
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	3.9
Barium	37
Cadmium	<1
Lead	8.1
Mercury	<1 k
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T5-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-11 x5
Date Analyzed:	09/27/25	Data File:	509349-11 x5.423
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	13
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T6-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-15
Date Analyzed:	09/25/25	Data File:	509349-15.175
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	5.6
Barium	46
Cadmium	<1
Lead	12
Mercury	<1 k
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	T6-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-15 x5
Date Analyzed:	09/27/25	Data File:	509349-15 x5.424
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	14
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	I5-825 mb
Date Analyzed:	09/24/25	Data File:	I5-825 mb.114
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T53-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-01 1/30
Date Analyzed:	09/24/25	Data File:	092425.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	20	134
Decachlorobiphenyl	65	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T14-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-05 1/30
Date Analyzed:	09/24/25	Data File:	092426.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	64	20	134
Decachlorobiphenyl	115	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T5-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-11 1/30
Date Analyzed:	09/24/25	Data File:	092427.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	56	20	134
Decachlorobiphenyl	67	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	T6-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/18/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	509349-15 1/30
Date Analyzed:	09/24/25	Data File:	092428.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	20	134
Decachlorobiphenyl	69	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Port of Tacoma Parcel 12
Date Extracted:	09/24/25	Lab ID:	05-2432 mb 1/30
Date Analyzed:	09/24/25	Data File:	092421.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	JH

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	80	20	134
Decachlorobiphenyl	91	20	139

Compounds:	Concentration mg/kg (ppm)
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

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

Laboratory Code: 509349-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	102	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

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

Laboratory Code: 509349-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	112	108	63-146	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	77-123

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

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

Laboratory Code: 509410-04 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	110	122	75-125	10
Barium	mg/kg (ppm)	50	32.0	107 b	124 b	75-125	15 b
Cadmium	mg/kg (ppm)	10	<5	102	110	75-125	8
Chromium	mg/kg (ppm)	50	14.1	100 b	107 b	75-125	7 b
Lead	mg/kg (ppm)	50	<5	99	107	75-125	8
Mercury	mg/kg (ppm)	5	<5	106	117	75-125	10
Selenium	mg/kg (ppm)	5	<5	102	106	75-125	4
Silver	mg/kg (ppm)	10	<5	101	109	75-125	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	113	80-120
Barium	mg/kg (ppm)	50	95	80-120
Cadmium	mg/kg (ppm)	10	97	80-120
Chromium	mg/kg (ppm)	50	104	80-120
Lead	mg/kg (ppm)	50	91	80-120
Mercury	mg/kg (ppm)	5	100	80-120
Selenium	mg/kg (ppm)	5	114	80-120
Silver	mg/kg (ppm)	10	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
ORGANOCHLORINE PESTICIDES
BY EPA METHOD 8081B**

Laboratory Code: 509303-01 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
alpha-BHC	mg/kg (ppm)	0.1	<0.01	60	68	17-122	12
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	<0.01	60	67	18-128	11
beta-BHC	mg/kg (ppm)	0.1	<0.01	58	64	17-130	10
delta-BHC	mg/kg (ppm)	0.1	<0.01	61	67	20-124	9
Heptachlor	mg/kg (ppm)	0.1	<0.01	61	68	15-133	11
Aldrin	mg/kg (ppm)	0.1	<0.01	58	65	50-150	11
Heptachlor Epoxide	mg/kg (ppm)	0.1	<0.01	58	65	19-132	11
trans-Chlordane	mg/kg (ppm)	0.1	<0.01	73	79	15-157	8
cis-Chlordane	mg/kg (ppm)	0.1	<0.01	62	69	17-133	11
4,4'-DDE	mg/kg (ppm)	0.1	<0.01	63	69	17-139	9
Endosulfan I	mg/kg (ppm)	0.1	<0.01	59	66	19-130	11
Dieldrin	mg/kg (ppm)	0.1	<0.01	61	68	17-140	11
Endrin	mg/kg (ppm)	0.1	<0.01	71	78	20-143	9
4,4'-DDD	mg/kg (ppm)	0.1	<0.01	63	72	20-143	13
Endosulfan II	mg/kg (ppm)	0.1	<0.01	60	67	21-133	11
4,4'-DDT	mg/kg (ppm)	0.1	<0.01	60	68	10-385	12
Endrin Aldehyde	mg/kg (ppm)	0.1	<0.01	53	59	12-123	11
Methoxychlor	mg/kg (ppm)	0.1	<0.01	65	74	10-226	13
Endosulfan Sulfate	mg/kg (ppm)	0.1	<0.01	58	65	17-134	11
Endrin Ketone	mg/kg (ppm)	0.1	<0.01	60	66	10-153	10
Toxaphene	mg/kg (ppm)	4	<0.1	70	71	12-123	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/10/25

Date Received: 09/18/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509349

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
ORGANOCHLORINE PESTICIDES
BY EPA METHOD 8081B**

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
alpha-BHC	mg/kg (ppm)	0.1	86	53-132
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	87	70-130
beta-BHC	mg/kg (ppm)	0.1	83	61-129
delta-BHC	mg/kg (ppm)	0.1	88	56-136
Heptachlor	mg/kg (ppm)	0.1	88	56-125
Aldrin	mg/kg (ppm)	0.1	84	50-131
Heptachlor Epoxide	mg/kg (ppm)	0.1	84	54-131
trans-Chlordane	mg/kg (ppm)	0.1	90	58-133
cis-Chlordane	mg/kg (ppm)	0.1	91	59-128
4,4'-DDE	mg/kg (ppm)	0.1	91	64-134
Endosulfan I	mg/kg (ppm)	0.1	87	57-128
Dieldrin	mg/kg (ppm)	0.1	89	52-132
Endrin	mg/kg (ppm)	0.1	103	53-128
4,4'-DDD	mg/kg (ppm)	0.1	93	55-132
Endosulfan II	mg/kg (ppm)	0.1	89	58-126
4,4'-DDT	mg/kg (ppm)	0.1	99	60-123
Endrin Aldehyde	mg/kg (ppm)	0.1	87	48-111
Methoxychlor	mg/kg (ppm)	0.1	104	61-124
Endosulfan Sulfate	mg/kg (ppm)	0.1	90	60-129
Endrin Ketone	mg/kg (ppm)	0.1	88	50-129
Toxaphene	mg/kg (ppm)	4	99	37-185

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

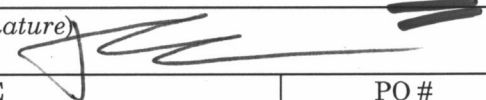
vo - The value reported fell outside the control limits established for this analyte.

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

509349

SAMPLE CHAIN OF CUSTODY

09/18/25 VSC2/G4

Report To Audrey HackettCompany Maul Foster AlongiAddress 2815 2nd Avenue, Suite 540City, State, ZIP Seattle WA 98121Phone 206-331-1835 Email ahackett@maulfoster.comSAMPLERS (signature) 

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: fbellows@maulfoster.com

Project Specific RLs - Yes ☒ No

INVOICE TO

accounting@maulfoster.com

Page # 1 of 2

TURNAROUND TIME

Standard Turnaround
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

						ANALYSES REQUESTED												
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organophosphorus chlorinated)	HOLD	X per AH 09/23/25 ME Notes	
T53-S-0-1	01A-D	09/18/25	0820	SO	4	X	X						X	X	X	X		
T53-S-1-6	02	09/18/25	0825	SO	4	X	X									X		
T53-S-6-9	03	09/18/25	0847	SO	4	X	X									X		
T53-S-9-12	04	09/18/25	0850	SO	4	X	X									X		
T14-S-0-1	05	09/18/25	0925	SO	4	X	X						X	X	X	X		
T14-S-1-2	06	09/18/25	1040	SO	4	X	X						X			X		
T14-S-1-2-DUP	07	09/18/25	1040	SO	4	X	X						X			X		
T14-S-2-3	08	09/18/25	1055	SO	4	X	X									X		
T14-S-3-6	09	09/18/25	1100	SO	4	X	X									X		
T14-S-6-8	10	09/18/25	1105	SO	4	X	X									X		

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Fiona Bellows	MFA	9/18/25	1525
Received by: 	VINH	FBI	9-18-25	1525
Relinquished by:		Samples received at <u>2</u> °C		
Received by:				

509349

SAMPLE CHAIN OF CUSTODY

09/18/25 VSC2/G4

Report To Audrey HackettCompany Maul Foster AlongiAddress 2815 2nd Avenue, Suite 540City, State, ZIP Seattle WA 98121Phone 206-331-1835 Email ahackett@maulfoster.comSAMPLERS (signature) 

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: fbellow@maulfoster.com

Project Specific RLs - Yes ☒ No ☐

INVOICE TO

accounting@maulfoster.com

Page # 2 of 2

TURNAROUND TIME

Standard Turnaround
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

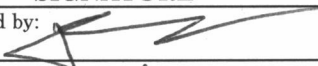
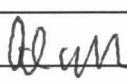
						ANALYSES REQUESTED												
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides	HOLD	Notes	
T5-S-0-1	11 A-D	09/18/25	1150	SO	4	X	X						X	X	X	X		
T5-S-1-4	12	09/18/25	1152	SO	4	X	X										X	
T5-S-4-8	13	09/18/25	1155	SO	4	X	X										X	
T5-S-8-12	14	09/18/25	1200	SO	4	X	X										X	
T6-S-0-1	15	09/18/25	1237	SO	4	X	X						X	X	X	X		
T6-S-1-5	16	09/18/25	1255	SO	4	X	X										X	
T6-S-5-8	17	09/18/25	1315	SO	4	X	X										X	
T6-S-5-8-DUP	18	09/18/25	1315	SO	4	X	X										X	
T6-S-8-12	19 ✓	09/18/25	1330	SO	4	X	X										X	
		09/ /25		SO													FMB 9/18	

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Fiona Bellows	MFA	9/18/25	1525
Received by: 	VINH	FBI	9-18-25	1525
Relinquished by:		Samples received at 2 °C		
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 509349 CLIENT MFA INITIALS/ AP
DATE: 9/18/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 2 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☒ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 9/19/25

Number of days samples have been sitting prior to receipt at laboratory 0 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☒ Yes ☐ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☒ Yes ☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters** Number of unused TO17 tubes

**Fill out Green manifolds billing sheet



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 2, 2025

Michael Erdahl
Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108

Re: Analytical Data for Project 509349
Laboratory Reference No. 2509-341

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on September 24, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'DB', with a long horizontal line extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 2, 2025
Samples Submitted: September 24, 2025
Laboratory Reference: 2509-341
Project: 509349

Case Narrative

Samples were collected on September 18, 2025 and received by the laboratory on September 24, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 2, 2025
 Samples Submitted: September 24, 2025
 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T53-S-0-1					
Laboratory ID:	09-341-01					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>86</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>88</i>	<i>66-133</i>				



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 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T14-S-0-1					
Laboratory ID:	09-341-02					
Dichlorvos(DDVP)	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.079	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.079	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.079	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.032	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>112</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>79</i>	<i>66-133</i>				



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 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T5-S-0-1					
Laboratory ID:	09-341-03					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	96	39-158				
<i>Triphenyl phosphate</i>	96	66-133				



Date of Report: October 2, 2025
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 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	T6-S-0-1					
Laboratory ID:	09-341-04					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.057	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.057	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.057	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>78</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>75</i>	<i>66-133</i>				



Date of Report: October 2, 2025
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 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1001S1					
Dichlorvos(DDVP)	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Mevinphos/Phosdrin	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Ethoprophos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Monocrotophos	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Naled	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Sulfotepp	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Phorate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Dimethoate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Demeton-S	ND	0.014	EPA 8270E/SIM	10-1-25	10-1-25	
Diazinon	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Disulfoton	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-methyl	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Fenchlorphos/Ronnel	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Malathion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Fenthion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Parathion-ethyl	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Chlorpyrifos/Dursban	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Trichloronate	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Stirofos/Tetrachlorvinphos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Tokuthion/Prothiofos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Merphos&Merphos-oxone	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Fensulfothion	ND	0.050	EPA 8270E/SIM	10-1-25	10-1-25	
Bolstar/Sulprofos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
EPN	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Azinphos-methyl/Guthion	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
Coumaphos	ND	0.020	EPA 8270E/SIM	10-1-25	10-1-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	126	39-158				
<i>Triphenyl phosphate</i>	99	66-133				



Date of Report: October 2, 2025
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 Laboratory Reference: 2509-341
 Project: 509349

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1001S1									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorvos(DDVP)	0.0998	0.0981	0.100	0.100	100	98	62-132	2	22	
Mevinphos/Phosdrin	0.0920	0.0889	0.100	0.100	92	89	47-136	3	21	
Ethoprophos	0.0859	0.0786	0.100	0.100	86	79	58-132	9	25	
Sulfotepp	0.0840	0.0950	0.100	0.100	84	95	65-122	12	40	
Phorate	0.0879	0.0878	0.100	0.100	88	88	61-128	0	32	
Dimethoate	0.102	0.0994	0.100	0.100	102	99	49-139	3	26	
Demeton-S	0.0721	0.0702	0.0700	0.0700	103	100	56-133	3	31	
Diazinon	0.0981	0.0923	0.100	0.100	98	92	60-134	6	27	
Disulfoton	0.0845	0.0871	0.100	0.100	85	87	56-132	3	24	
Parathion-methyl	0.0996	0.0972	0.100	0.100	100	97	61-133	2	28	
Fenchlorphos/Ronnel	0.0969	0.0949	0.100	0.100	97	95	66-126	2	21	
Malathion	0.0904	0.0943	0.100	0.100	90	94	69-143	4	19	
Fenthion	0.0998	0.0934	0.100	0.100	100	93	66-127	7	20	
Parathion-ethyl	0.0984	0.103	0.100	0.100	98	103	66-131	5	21	
Chlorpyrifos/Dursban	0.102	0.0983	0.100	0.100	102	98	69-124	4	20	
Trichloronate	0.101	0.0934	0.100	0.100	101	93	68-126	8	21	
Stirofos/Tetrachlorvinphos	0.0990	0.100	0.100	0.100	99	100	54-164	1	24	
Tokuthion/Prothiofos	0.0973	0.0957	0.100	0.100	97	96	68-129	2	21	
Fensulfothion	0.0950	0.0927	0.100	0.100	95	93	55-158	2	21	
Bolstar/Sulprofos	0.0975	0.0986	0.100	0.100	98	99	65-131	1	21	
EPN	0.0952	0.0998	0.100	0.100	95	100	65-136	5	23	
Azinphos-methyl/Guthion	0.101	0.0993	0.100	0.100	101	99	63-161	2	22	
Coumaphos	0.0997	0.100	0.100	0.100	100	100	57-163	0	26	
Surrogate:										
Tributyl phosphate					118	119	39-158			
Triphenyl phosphate					97	99	66-133			



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Laboratory Reference: 2509-341
Project: 509349

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
T53-S-0-1	09-341-01	10	10-1-25
T14-S-0-1	09-341-02	37	10-1-25
T5-S-0-1	09-341-03	10	10-1-25
T6-S-0-1	09-341-04	13	10-1-25





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- X2 - Sample extract treated with a silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



Page # 1 of 1

Company Friedman and Bruya, Inc.

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbrya.com

SUBCONTRACTOR	
Onsite	
PROJECT NAME/NO.	PO #
509349	F-468
REMARKS	
EQuisly	

TURNAROUND TIME

☒ Standard
RUSH_____

Rush charges authorized by: _____

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

[illegible]

Sample/Cooler Receipt and Acceptance Checklist

Client: FBI

Client Project Name/Number: 509349

OnSite Project Number: 09-341

Initiated by: hr

Date Initiated: 9/24/2025

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	☒ No	N/A	Temperature: <u>5.1°C</u>	
1.2 Were the custody seals intact ?	Yes	No	☒ N/A		
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	☒ N/A		
1.4 Were the samples delivered on ice or blue ice?	Yes	☒ No	N/A		
1.5 Were samples received between 0-6 degrees Celsius?	☒ Yes	No	N/A		
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	☒ N/A			
1.7 How were the samples delivered ?	☒ Client	☐ Courier	☐ UPS/FedEx		☐ OSE Pickup

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	☒ Yes	No
2.2 Was the COC legible and written in permanent ink?	☒ Yes	No
2.3 Have samples been relinquished and accepted by each custodian?	☒ Yes	No
2.4 Did the sample labels (ID, date , time, preservative) agree with COC?	☒ Yes	No
2.5 Were all of the samples listed on the COC submitted?	☒ Yes	No
2.6 Were any of the samples submitted omitted from the COC?	Yes	☒ No

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	☒ No	
3.2 Were any sample labels missing or illegible?	Yes	☒ No	
3.3 Have the correct containers been used for each analysis requested?	☒ Yes	No	
3.4 Have the samples been correctly preserved?	Yes	No	☒ N/A
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	☒ N/A
3.6 Is there sufficient sample submitted to perform requested analyses?	☒ Yes	No	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	☒ No	
3.8 Was method 5035A used?	Yes	No	☒ N/A
3.9 If 5035A was used, which sampling option was used (#1 or #2).	#		☒ N/A

5035 is for Soil. #1 is for pre-weighed, unpreserved VOAs. #2 is for pre-weighed VOAs preserved with Sodium Bisulfate and/or Methanol

Explain any discrepancies:

1 - Discuss issue in Case Narrative

3 - Client contacted to discuss problem

2 - Process Sample As-is

4 - Sample cannot be analyzed or client does not wish to proceed

Friedman & Bruya

Michael Erdahl

5500 4th Ave S

Seattle, WA 98108

RE: 509349,

Work Order Number: 2509599

October 09, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 4 sample(s) on 9/25/2025 for the analyses presented in the following report.

Herbicides by EPA 8151A

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,



Lyann Rivera

Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original



CLIENT: Friedman & Bruya
Project: 509349
Work Order: 2509599

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2509599-001	T53-S-0-1	09/18/2025 8:20 AM	09/25/2025 8:00 AM
2509599-002	T14-S-0-1	09/18/2025 9:25 AM	09/25/2025 8:00 AM
2509599-003	T5-S-0-1	09/18/2025 11:50 AM	09/25/2025 8:00 AM
2509599-004	T6-S-0-1	09/18/2025 12:37 PM	09/25/2025 8:00 AM

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

CLIENT: Friedman & Bruya

Project: 509349

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.

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

CLIENT: Friedman & Bruya
Project: 509349

Lab ID: 2509599-001

Collection Date: 9/18/2025 8:20:00 AM

Client Sample ID: T53-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
2,4-D	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
2,4-DP	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
2,4,5-TP (Silvex)	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
2,4,5-T	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Dinoseb	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Dalapon	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
2,4-DB	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
MCP	ND	191		µg/Kg	1	10/2/2025 3:55:14 AM
MCPA	ND	287		µg/Kg	1	10/2/2025 3:55:14 AM
Picloram	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Bentazon	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Chloramben	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Acifluorfen	ND	19.1	Q	µg/Kg	1	10/2/2025 3:55:14 AM
3,5-Dichlorobenzoic acid	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
4-Nitrophenol	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Dacthal (DCPA)	ND	19.1		µg/Kg	1	10/2/2025 3:55:14 AM
Surr: 2,4-Dichlorophenylacetic acid	63.4	11.7 - 155		%Rec	1	10/2/2025 3:55:14 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria (77.5%, nominal 80-120%). Result may be low-biased.

CLIENT: Friedman & Bruya
Project: 509349

Lab ID: 2509599-002

Collection Date: 9/18/2025 9:25:00 AM

Client Sample ID: T14-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
2,4-D	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
2,4-DP	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
2,4,5-TP (Silvex)	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
2,4,5-T	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Dinoseb	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Dalapon	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
2,4-DB	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
MCP	ND	193		µg/Kg	1	10/2/2025 4:11:55 AM
MCPA	ND	290		µg/Kg	1	10/2/2025 4:11:55 AM
Picloram	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Bentazon	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Chloramben	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Acifluorfen	ND	19.3	Q	µg/Kg	1	10/2/2025 4:11:55 AM
3,5-Dichlorobenzoic acid	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
4-Nitrophenol	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Dacthal (DCPA)	ND	19.3		µg/Kg	1	10/2/2025 4:11:55 AM
Surr: 2,4-Dichlorophenylacetic acid	43.6	11.7 - 155		%Rec	1	10/2/2025 4:11:55 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria (77.5%, nominal 80-120%). Result may be low-biased.

CLIENT: Friedman & Bruya
Project: 509349

Lab ID: 2509599-003

Collection Date: 9/18/2025 11:50:00 AM

Client Sample ID: T5-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
2,4-D	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
2,4-DP	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
2,4,5-TP (Silvex)	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
2,4,5-T	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Dinoseb	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Dalapon	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
2,4-DB	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
MCP	ND	200		µg/Kg	1	10/2/2025 4:28:40 AM
MCPA	ND	300		µg/Kg	1	10/2/2025 4:28:40 AM
Picloram	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Bentazon	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Chloramben	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Acifluorfen	ND	20.0	Q	µg/Kg	1	10/2/2025 4:28:40 AM
3,5-Dichlorobenzoic acid	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
4-Nitrophenol	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Dacthal (DCPA)	ND	20.0		µg/Kg	1	10/2/2025 4:28:40 AM
Surr: 2,4-Dichlorophenylacetic acid	72.4	11.7 - 155		%Rec	1	10/2/2025 4:28:40 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria (77.5%, nominal 80-120%). Result may be low-biased.

CLIENT: Friedman & Bruya
Project: 509349

Lab ID: 2509599-004

Collection Date: 9/18/2025 12:37:00 PM

Client Sample ID: T6-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49402

Analyst: CO

Dicamba	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
2,4-D	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
2,4-DP	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
2,4,5-TP (Silvex)	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
2,4,5-T	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Dinoseb	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Dalapon	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
2,4-DB	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
MCP	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
MCPA	ND	288		µg/Kg	1	10/2/2025 5:18:41 AM
Picloram	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Bentazon	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Chloramben	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Acifluorfen	ND	19.2	Q	µg/Kg	1	10/2/2025 5:18:41 AM
3,5-Dichlorobenzoic acid	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
4-Nitrophenol	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Dacthal (DCPA)	ND	19.2		µg/Kg	1	10/2/2025 5:18:41 AM
Surr: 2,4-Dichlorophenylacetic acid	69.4	11.7 - 155		%Rec	1	10/2/2025 5:18:41 AM

NOTES:

Q - Associated calibration verification is below acceptance criteria (77.5%, nominal 80-120%). Result may be low-biased.

Work Order: 2509599
CLIENT: Friedman & Bruya
Project: 509349

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: MB-49402		SampType: MBLK		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: MBLKS		Batch ID: 49402				Analysis Date: 9/30/2025		SeqNo: 2158433			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	ND	20.0									
2,4-D	ND	20.0									
2,4-DP	ND	20.0									
2,4,5-TP (Silvex)	ND	20.0									
2,4,5-T	ND	20.0									
Dinoseb	ND	20.0									
Dalapon	ND	20.0									
2,4-DB	ND	20.0									
MCP	ND	200									
MCPA	ND	300									
Picloram	ND	20.0									
Bentazon	ND	20.0									
Chloramben	ND	20.0									Q
Acifluorfen	ND	20.0									
3,5-Dichlorobenzoic acid	ND	20.0									
4-Nitrophenol	ND	20.0									
Dacthal (DCPA)	ND	20.0									
Surr: 2,4-Dichlorophenylacetic acid	844		1,000		84.4	5	150				

NOTES:

Q - Associated calibration verification is below acceptance criteria. Result may be low-biased.

Sample ID: LCS-49402		SampType: LCS		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: LCSS		Batch ID: 49402				Analysis Date: 10/2/2025		SeqNo: 2158370			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	218	20.0	200.0	0	109	6.87	123				
2,4-D	247	20.0	200.0	0	123	13.2	123				S
2,4-DP	223	20.0	200.0	0	112	17.2	120				
2,4,5-TP (Silvex)	235	20.0	200.0	0	118	22.3	124				
2,4,5-T	202	20.0	200.0	0	101	17.5	122				
Dinoseb	189	20.0	200.0	0	94.5	13	115				
Dalapon	1,160	20.0	1,000	0	116	5.02	155				

Work Order: 2509599
CLIENT: Friedman & Bruya
Project: 509349

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: LCS-49402		SampType: LCS		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: LCSS		Batch ID: 49402				Analysis Date: 10/2/2025		SeqNo: 2158370			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-DB	141	20.0	200.0	0	70.3	40.9	123				
MCP	1,370	200	1,000	0	137	19.2	142				
MCPA	1,090	300	1,000	0	109	6.41	143				
Picloram	229	20.0	200.0	0	114	5.42	148				
Bentazon	201	20.0	200.0	0	100	21.5	133				
Chloramben	199	20.0	200.0	0	99.5	8.88	94.8				S
Acifluorfen	191	20.0	200.0	0	95.7	5.24	110				
3,5-Dichlorobenzoic acid	210	20.0	200.0	0	105	12.3	132				
4-Nitrophenol	149	20.0	200.0	0	74.4	13	148				
Dacthal (DCPA)	220	20.0	200.0	0	110	12.7	122				
Surr: 2,4-Dichlorophenylacetic acid	1,110		1,000		111	11.7	155				

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements.

Sample ID: 2509599-003AMS		SampType: MS		Units: µg/Kg		Prep Date: 9/26/2025		RunNo: 103465			
Client ID: T5-S-0-1		Batch ID: 49402				Analysis Date: 10/2/2025		SeqNo: 2158374			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	78.1	19.9	199.4	0	39.1	6.87	123				
2,4-D	55.6	19.9	199.4	0	27.9	13.2	123				
2,4-DP	77.0	19.9	199.4	0	38.6	17.2	120				
2,4,5-TP (Silvex)	91.7	19.9	199.4	0	46.0	22.3	124				
2,4,5-T	55.9	19.9	199.4	0	28.0	17.5	122				
Dinoseb	107	19.9	199.4	0	53.7	13	115				
Dalapon	173	19.9	997.0	0	17.3	5.02	155				
2,4-DB	98.2	19.9	199.4	0	49.2	40.9	123				
MCP	839	199	997.0	0	84.2	19.2	142				
MCPA	596	299	997.0	0	59.8	6.41	143				
Picloram	7.56	19.9	199.4	0	3.79	5.42	148				S
Bentazon	97.0	19.9	199.4	0	48.7	21.5	133				
Chloramben	65.6	19.9	199.4	0	32.9	8.88	94.8				
Acifluorfen	64.4	19.9	199.4	0	32.3	5.24	110				

Work Order: 2509599
CLIENT: Friedman & Bruya
Project: 509349

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: 2509599-003AMS		SampType: MS		Units: µg/Kg		Prep Date: 9/26/2025			RunNo: 103465		
Client ID: T5-S-0-1		Batch ID: 49402		Analysis Date: 10/2/2025						SeqNo: 2158374	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,5-Dichlorobenzoic acid	94.0	19.9	199.4	0	47.1	12.3	132				
4-Nitrophenol	85.2	19.9	199.4	0	42.7	13	148				
Dacthal (DCPA)	ND	19.9	199.4	0	0	12.7	122				S
Surr: 2,4-Dichlorophenylacetic acid	696		997.0		69.8	11.7	155				

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2509599-003AMSD	SampType: MSD	Units: µg/Kg			Prep Date: 9/26/2025			RunNo: 103465			
Client ID: T5-S-0-1	Batch ID: 49402				Analysis Date: 10/2/2025			SeqNo: 2158375			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	71.8	20.0	199.8	0	35.9	6.87	123	78.06	8.32	30	
2,4-D	52.8	20.0	199.8	0	26.4	13.2	123	55.59	5.18	30	
2,4-DP	73.2	20.0	199.8	0	36.7	17.2	120	77.03	5.05	30	
2,4,5-TP (Silvex)	84.6	20.0	199.8	0	42.4	22.3	124	91.69	8.01	30	
2,4,5-T	50.0	20.0	199.8	0	25.0	17.5	122	55.91	11.2	30	
Dinoseb	110	20.0	199.8	0	55.1	13	115	107.1	2.83	30	
Dalapon	167	20.0	999.0	0	16.8	5.02	155	172.5	3.01	30	
2,4-DB	79.9	20.0	199.8	0	40.0	40.9	123	98.17	20.6	30	S
MCPD	917	200	999.0	0	91.8	19.2	142	839.1	8.85	30	
MCPA	582	300	999.0	0	58.2	6.41	143	596.0	2.44	30	
Picloram	6.12	20.0	199.8	0	3.06	5.42	148	0		30	S
Bentazon	85.5	20.0	199.8	0	42.8	21.5	133	97.01	12.7	30	
Chloramben	57.3	20.0	199.8	0	28.7	8.88	94.8	65.61	13.5	30	
Acifluorfen	62.4	20.0	199.8	0	31.2	5.24	110	64.42	3.15	30	
3,5-Dichlorobenzoic acid	86.2	20.0	199.8	0	43.1	12.3	132	93.97	8.68	30	
4-Nitrophenol	84.5	20.0	199.8	0	42.3	13	148	85.19	0.761	30	
Dacthal (DCPA)	ND	20.0	199.8	0	0	12.7	122	0		30	S
Surr: 2,4-Dichlorophenylacetic acid	637		999.0		63.7	11.7	155		0		

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Client Name: **FB**
Logged by: **Lyann Rivera**

Work Order Number: **2509599**
Date Received: **9/25/2025 8:00:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

16. 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:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	13.1

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

Page # 1 of 1

email: merdahl@friedmanandbrya.com

TURNAROUND TIME
☒ Standard
 RUSH _____
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Return samples
 Will call with instructions

[illegible]

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

November 13, 2025

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included is the amended report from the testing of material submitted on September 30, 2025 from the Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491 project. The percent moisture results have been included in the report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: fbellows@maulfoster.com, Mary Benzinger
MFA1020R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

October 20, 2025

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on September 30, 2025 from the Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491 project. There are 46 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: fbellows@maulfoster.com
MFA1020R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 30, 2025 by Friedman & Bruya, Inc. from the Maul Foster Alongi Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
509491 -01	B55-S-0-1
509491 -02	B55-S-2-4
509491 -03	B55-S-6-8
509491 -04	B55-S-8-10
509491 -05	B55-S-10-15
509491 -06	B33-S-0-1
509491 -07	B33-S-1-2
509491 -08	B33-S-5-8
509491 -09	B33-S-8-10
509491 -10	B33-S-10-15
509491 -11	B12-S-0-1
509491 -12	B12-S-3-5
509491 -13	B12-S-5-10
509491 -14	B12-S-10-15
509491 -15	B21-S-0-1
509491 -16	B21-S-1-5
509491 -17	B21-S-5-8
509491 -18	B21-S-8-10
509491 -19	B21-S-10-15
509491 -20	B22-S-0-1
509491 -21	B22-S-1-5
509491 -22	B22-S-5-8
509491 -23	B22-S-8-10
509491 -24	B22-S-10-15
509491 -25	B44-S-0-1
509491 -26	B44-S-1-5
509491 -27	B44-S-5-7
509491 -28	B44-S-7-10
509491 -29	B44-S-10-15
509491 -30	B45-S-0-1
509491 -31	B45-S-1-5
509491 -32	B45-S-5-7.5
509491 -33	B45-S-5-7.5-DUP
509491 -34	B45-S-7.5-10
509491 -35	B45-S-10-15
509491 -36	B76-S-0-1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
509491 -37	B76-S-1-5
509491 -38	B76-S-5-10
509491 -39	B76-S-10-15
509491 -40	B76-S-10-15-DUP
509491 -41	B50-S-0-1
509491 -42	B50-S-1-5
509491 -43	B50-S-5-7
509491 -44	B50-S-7-10
509491 -45	B50-S-10-12
509491 -46	B50-S-12-15
509491 -47	B50-S-12-15-DUP

Samples B55-S-0-1, B33-S-0-1, B12-S-0-1, B21-S-0-1, B22-S-0-1, B44-S-0-1, B45-S-0-1, B76-S-0-1, B50-S-0-1 were sent to Alliance Technical Group and to Onsite Environmental for herbicide and organophosphorus pesticide testing, respectively. The reports are enclosed.

The 6020B mercury calibration standard exceeded the acceptance criteria for the method blank. The metal was not detected, therefore this did not represent an out of control condition, and were qualified with a “k” qualifier.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: NA

Date Analyzed: 10/06/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
B55-S-0-1 509491-01	11
B55-S-2-4 509491-02	10
B55-S-6-8 509491-03	12
B55-S-8-10 509491-04	23
B55-S-10-15 509491-05	29
B33-S-0-1 509491-06	13
B33-S-1-2 509491-07	18
B33-S-5-8 509491-08	20
B33-S-8-10 509491-09	23
B33-S-10-15 509491-10	23
B12-S-0-1 509491-11	11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

B12-S-3-5
509491-12

9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: NA

Date Analyzed: 10/06/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
B12-S-5-10 509491-13	16
B12-S-10-15 509491-14	18
B21-S-0-1 509491-15	12
B21-S-1-5 509491-16	17
B21-S-5-8 509491-17	26
B21-S-8-10 509491-18	25
B21-S-10-15 509491-19	24
B22-S-0-1 509491-20	12
B22-S-1-5 509491-21	8
B22-S-5-8 509491-22	15
B22-S-8-10 509491-23	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: NA

Date Analyzed: 10/06/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
B44-S-0-1 509491-25	8
B44-S-1-5 509491-26	11
B44-S-5-7 509491-27	18
B44-S-7-10 509491-28	22
B44-S-10-15 509491-29	26
B45-S-0-1 509491-30	10
B45-S-1-5 509491-31	14
B45-S-5-7.5 509491-32	22
B45-S-5-7.5-DUP 509491-33	20
B45-S-7.5-10 509491-34	25
B45-S-10-15 509491-35	25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

B76-S-0-1
509491-36

9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: NA

Date Analyzed: 10/06/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
B76-S-1-5 509491-37	16
B76-S-5-10 509491-38	23
B76-S-10-15 509491-39	27
B76-S-10-15-DUP 509491-40	25
B50-S-0-1 509491-41	13
B50-S-1-5 509491-42	13
B50-S-5-7 509491-43	25
B50-S-7-10 509491-44	25
B50-S-10-12 509491-45	30
B50-S-12-15 509491-46	29
B50-S-12-15-DUP 509491-47	29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25 and 10/08/25 and 10/09/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
Laboratory ID		
B55-S-0-1 509491-01	<5	113
B55-S-2-4 509491-02	<5	108
B55-S-6-8 509491-03	<5	114
B55-S-8-10 509491-04	<5	113
B55-S-10-15 509491-05	<5	111
B33-S-0-1 509491-06	<5	112
B33-S-1-2 509491-07	<5	111
B33-S-5-8 509491-08	<5	112
B33-S-8-10 509491-09	<5	112
B33-S-10-15 509491-10	<5	110
B12-S-0-1 509491-11	<5	114

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25 and 10/08/25 and 10/09/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
Laboratory ID		
B12-S-3-5 509491-12	<5	112
B12-S-5-10 509491-13	<5	113
B12-S-10-15 509491-14	<5	113
B21-S-0-1 509491-15	<5	112
B21-S-1-5 509491-16	<5	115
B21-S-5-8 509491-17	<5	112
B21-S-8-10 509491-18	<5	112
B21-S-10-15 509491-19	<5	112
B22-S-0-1 509491-20	<5	113
B22-S-1-5 509491-21	<5	113
B22-S-5-8 509491-22	<5	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25 and 10/08/25 and 10/09/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
Laboratory ID		
B22-S-8-10 509491-23	<5	115
B22-S-10-15 509491-24	<5	113
B44-S-0-1 509491-25	<5	119
B44-S-1-5 509491-26	<5	116
B44-S-5-7 509491-27	<5	114
B44-S-7-10 509491-28	<5	117
B44-S-10-15 509491-29	<5	117
B45-S-0-1 509491-30	<5	116
B45-S-1-5 509491-31	<5	116
B45-S-5-7.5 509491-32	<5	116
B45-S-5-7.5-DUP 509491-33	<5	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25 and 10/08/25 and 10/09/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery)
Laboratory ID		(Limit 50-150)
B45-S-7.5-10 509491-34	<5	118
B45-S-10-15 509491-35	<5	116
B76-S-0-1 509491-36	<5	115
B76-S-1-5 509491-37	<5	113
B76-S-5-10 509491-38	<5	115
B76-S-10-15 509491-39	<5	113
B76-S-10-15-DUP 509491-40	<5	117
B50-S-0-1 509491-41	<5	114
B50-S-1-5 509491-42	<5	112
B50-S-5-7 509491-43	<5	108
B50-S-7-10 509491-44	<5	109

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25 and 10/08/25 and 10/09/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 50-150)
Laboratory ID		
B50-S-10-12 509491-45	<5	106
B50-S-12-15 509491-46	<5	112
B50-S-12-15-DUP 509491-47	<5	112
Method Blank 05-2510 MB	<5	115
Method Blank 05-2511 MB	<5	116
Method Blank 05-2512 MB	<5	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B55-S-0-1 509491-01	<50	<200	100
B55-S-2-4 509491-02	<50	<200	100
B55-S-6-8 509491-03	<50	<200	97
B55-S-8-10 509491-04	<50	<200	98
B55-S-10-15 509491-05	<50	<200	98
B33-S-0-1 509491-06	<50	<200	100
B33-S-1-2 509491-07	<50	<200	100
B33-S-5-8 509491-08	<50	<200	96
B33-S-8-10 509491-09	<50	<200	100
B33-S-10-15 509491-10	<50	<200	100
B12-S-0-1 509491-11	<50	<200	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B12-S-3-5 509491-12	<50	<200	100
B12-S-5-10 509491-13	<50	<200	97
B12-S-10-15 509491-14	<50	<200	100
B21-S-0-1 509491-15	<50	<200	99
B21-S-1-5 509491-16	<50	<200	99
B21-S-5-8 509491-17	<50	<200	100
B21-S-8-10 509491-18	<50	<200	99
B21-S-10-15 509491-19	<50	<200	98
B22-S-0-1 509491-20	<50	<200	99
B22-S-1-5 509491-21	<50	<200	100
B22-S-5-8 509491-22	<50	<200	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B22-S-8-10 509491-23	<50	<200	99
B22-S-10-15 509491-24	<50	<200	99
B44-S-0-1 509491-25	<50	<200	101
B44-S-1-5 509491-26	<50	<200	99
B44-S-5-7 509491-27	<50	<200	99
B44-S-7-10 509491-28	<50	<200	97
B44-S-10-15 509491-29	<50	<200	98
B45-S-0-1 509491-30	<50	<200	99
B45-S-1-5 509491-31	<50	<200	97
B45-S-5-7.5 509491-32	<50	<200	99
B45-S-5-7.5-DUP 509491-33	<50	<200	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B45-S-7.5-10 509491-34	<50	<200	98
B45-S-10-15 509491-35	<50	<200	98
B76-S-0-1 509491-36	<50	<200	96
B76-S-1-5 509491-37	<50	<200	99
B76-S-5-10 509491-38	<50	<200	97
B76-S-10-15 509491-39	<50	<200	96
B76-S-10-15-DUP 509491-40	<50	<200	99
B50-S-0-1 509491-41	<50	<200	98
B50-S-1-5 509491-42	<50	<200	97
B50-S-5-7 509491-43	<50	<200	98
B50-S-7-10 509491-44	<50	<200	97
B50-S-10-12 509491-45	<50	<200	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

Date Extracted: 10/06/25

Date Analyzed: 10/06/25 and 10/07/25

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

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B50-S-12-15 509491-46	<50	<200	97
B50-S-12-15-DUP 509491-47	<50	<200	94
Method Blank 05-2542 MB	<50	<200	101
Method Blank 05-2543 MB	<50	<200	101
Method Blank 05-2544 MB	<50	<200	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B55-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-01
Date Analyzed:	10/03/25	Data File:	509491-01.209
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	3.4
Barium	37
Cadmium	<1
Chromium	12
Lead	9.9
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B33-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-06
Date Analyzed:	10/03/25	Data File:	509491-06.210
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	5.1
Barium	39
Cadmium	<1
Chromium	9.2
Lead	15
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B12-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-11
Date Analyzed:	10/03/25	Data File:	509491-11.211
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	5.1
Barium	36
Cadmium	<1
Chromium	11
Lead	12
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B21-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-15
Date Analyzed:	10/03/25	Data File:	509491-15.212
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	4.2
Barium	32
Cadmium	<1
Chromium	10
Lead	12
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B22-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-20
Date Analyzed:	10/03/25	Data File:	509491-20.213
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	6.4
Barium	59
Cadmium	<1
Chromium	12
Lead	47
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B44-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-25
Date Analyzed:	10/03/25	Data File:	509491-25.214
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	4.0
Barium	34
Cadmium	<1
Chromium	10
Lead	10
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B45-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-30
Date Analyzed:	10/03/25	Data File:	509491-30.217
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	3.6
Barium	38
Cadmium	<1
Chromium	11
Lead	8.2
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B76-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-36
Date Analyzed:	10/03/25	Data File:	509491-36.218
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	3.3
Barium	32
Cadmium	<1
Chromium	12
Lead	7.5
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	B50-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	509491-41
Date Analyzed:	10/03/25	Data File:	509491-41.219
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	4.0
Barium	58
Cadmium	<1
Chromium	12
Lead	11
Mercury	<1
Selenium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/03/25	Lab ID:	I5-855 mb
Date Analyzed:	10/03/25	Data File:	I5-855 mb.105
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B55-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-01 1/30
Date Analyzed:	10/08/25	Data File:	100814.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	68	20	134
Decachlorobiphenyl	82	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B33-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-06 1/30
Date Analyzed:	10/08/25	Data File:	100815.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	60	20	134
Decachlorobiphenyl	75	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B12-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-11 1/30
Date Analyzed:	10/08/25	Data File:	100816.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	20	134
Decachlorobiphenyl	70	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B21-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-15 1/30
Date Analyzed:	10/08/25	Data File:	100817.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	57	20	134
Decachlorobiphenyl	72	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B22-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-20 1/30
Date Analyzed:	10/08/25	Data File:	100818.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	67	20	134
Decachlorobiphenyl	90	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B44-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-25 1/30
Date Analyzed:	10/08/25	Data File:	100819.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	51	20	134
Decachlorobiphenyl	70	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
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alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B45-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-30 1/30
Date Analyzed:	10/08/25	Data File:	100820.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	59	20	134
Decachlorobiphenyl	73	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
------------	---

alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B76-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-36 1/30
Date Analyzed:	10/08/25	Data File:	100821.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	55	20	134
Decachlorobiphenyl	67	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	B50-S-0-1	Client:	Maul Foster Alongi
Date Received:	09/30/25	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	509491-41 1/30
Date Analyzed:	10/08/25	Data File:	100822.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	58	20	134
Decachlorobiphenyl	77	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Organochlorine Pesticides By EPA Method 8081B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Port of Tacoma Parcel 12
Date Extracted:	10/07/25	Lab ID:	05-2254 mb2 1/30
Date Analyzed:	10/08/25	Data File:	100807.D
Matrix:	Soil	Instrument:	GC12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	83	20	134
Decachlorobiphenyl	102	20	139

Compounds:	Concentration mg/kg (ppm) Dry Weight
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alpha-BHC	<0.01
gamma-BHC (Lindane)	<0.01
beta-BHC	<0.01
delta-BHC	<0.01
Heptachlor	<0.01
Aldrin	<0.01
Heptachlor Epoxide	<0.01
trans-Chlordane	<0.01
cis-Chlordane	<0.01
4,4'-DDE	<0.01
Endosulfan I	<0.01
Dieldrin	<0.01
Endrin	<0.01
4,4'-DDD	<0.01
Endosulfan II	<0.01
4,4'-DDT	<0.01
Endrin Aldehyde	<0.01
Methoxychlor	<0.01
Endosulfan Sulfate	<0.01
Endrin Ketone	<0.01
Toxaphene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 509491-41 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	102	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 509491-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	105	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 509491-21 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	40	107	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 510084-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	108	108	63-146	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	102	77-123

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 509491-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	108	110	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	77-123

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 509491-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	110	108	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	77-123

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

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

Laboratory Code: 510047-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	3.61	113 b	123 b	75-125	8 b
Barium	mg/kg (ppm)	50	17.1	113 b	98 b	75-125	14 b
Cadmium	mg/kg (ppm)	10	<1	97	99	75-125	2
Chromium	mg/kg (ppm)	50	12.0	94 b	96 b	75-125	2 b
Lead	mg/kg (ppm)	50	10.0	92	100	75-125	8
Mercury	mg/kg (ppm)	5	2.69	63 b	106 b	75-125	51 b
Selenium	mg/kg (ppm)	5	<1	100	104	75-125	4
Silver	mg/kg (ppm)	10	<1	98	101	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	115	80-120
Barium	mg/kg (ppm)	50	101	80-120
Cadmium	mg/kg (ppm)	10	100	80-120
Chromium	mg/kg (ppm)	50	111	80-120
Lead	mg/kg (ppm)	50	99	80-120
Mercury	mg/kg (ppm)	5	108	80-120
Selenium	mg/kg (ppm)	5	105	80-120
Silver	mg/kg (ppm)	10	104	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR ORGANOCHLORINE PESTICIDES BY EPA METHOD 8081B

Laboratory Code: 510100-01 1/30 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
alpha-BHC	mg/kg (ppm)	0.1	<0.01	64	66	17-122	3
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	<0.01	62	63	18-128	2
beta-BHC	mg/kg (ppm)	0.1	<0.01	55	56	17-130	2
delta-BHC	mg/kg (ppm)	0.1	<0.01	63	64	20-124	2
Heptachlor	mg/kg (ppm)	0.1	<0.01	61	61	15-133	0
Aldrin	mg/kg (ppm)	0.1	<0.01	57	59	26-125	3
Heptachlor Epoxide	mg/kg (ppm)	0.1	<0.01	56	59	19-132	5
trans-Chlordane	mg/kg (ppm)	0.1	<0.01	60	62	15-157	3
cis-Chlordane	mg/kg (ppm)	0.1	<0.01	53	55	17-133	4
4,4'-DDE	mg/kg (ppm)	0.1	<0.01	53	55	17-139	4
Endosulfan I	mg/kg (ppm)	0.1	<0.01	55	57	19-130	4
Dieldrin	mg/kg (ppm)	0.1	0.011	43	45	17-140	5
Endrin	mg/kg (ppm)	0.1	<0.01	64	65	20-143	2
4,4'-DDD	mg/kg (ppm)	0.1	<0.01	53	56	20-143	6
Endosulfan II	mg/kg (ppm)	0.1	<0.01	50	53	21-133	6
4,4'-DDT	mg/kg (ppm)	0.1	<0.01	45	45	10-385	0
Endrin Aldehyde	mg/kg (ppm)	0.1	<0.01	51	53	12-123	4
Methoxychlor	mg/kg (ppm)	0.1	<0.01	52	50	10-226	4
Endosulfan Sulfate	mg/kg (ppm)	0.1	<0.01	50	52	17-134	4
Endrin Ketone	mg/kg (ppm)	0.1	<0.01	47	49	10-153	4
Toxaphene	mg/kg (ppm)	4	<0.1	31	27	12-123	14

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/20/25

Date Received: 09/30/25

Project: Port of Tacoma Parcel 12 M0615.34.002, F&BI 509491

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
ORGANOCHLORINE PESTICIDES
BY EPA METHOD 8081B**

Laboratory Code: Laboratory Control Sample 1/30

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
alpha-BHC	mg/kg (ppm)	0.1	86	57-116
gamma-BHC (Lindane)	mg/kg (ppm)	0.1	86	59-118
beta-BHC	mg/kg (ppm)	0.1	84	63-113
delta-BHC	mg/kg (ppm)	0.1	87	58-124
Heptachlor	mg/kg (ppm)	0.1	84	60-117
Aldrin	mg/kg (ppm)	0.1	81	63-113
Heptachlor Epoxide	mg/kg (ppm)	0.1	82	70-130
trans-Chlordane	mg/kg (ppm)	0.1	83	70-130
cis-Chlordane	mg/kg (ppm)	0.1	81	70-130
4,4'-DDE	mg/kg (ppm)	0.1	86	69-121
Endosulfan I	mg/kg (ppm)	0.1	82	70-130
Dieldrin	mg/kg (ppm)	0.1	83	70-130
Endrin	mg/kg (ppm)	0.1	95	65-140
4,4'-DDD	mg/kg (ppm)	0.1	85	70-130
Endosulfan II	mg/kg (ppm)	0.1	82	70-130
4,4'-DDT	mg/kg (ppm)	0.1	90	57-135
Endrin Aldehyde	mg/kg (ppm)	0.1	81	25-133
Methoxychlor	mg/kg (ppm)	0.1	90	57-147
Endosulfan Sulfate	mg/kg (ppm)	0.1	83	70-130
Endrin Ketone	mg/kg (ppm)	0.1	79	70-130
Toxaphene	mg/kg (ppm)	4	85	53-143

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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

509491

SAMPLE CHAIN OF CUSTODY

09/30/05

04/413

Report To **Audrey Hackett**

Company **Maul Foster Alongi**

Address **2815 2nd Avenue, Suite 540**

City, State, ZIP **Seattle WA 98121**

Phone **206-331-1835** Email **ahackett@maulfoster.com**

SAMPLERS (signature)

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: **fbellows@maulfoster.com**
Project Specific RIs - Yes / **No**

INVOICE TO

accounting@maulfoster.com

Page # **1** of **5**

TURNAROUND TIME
Standard Turnaround
ROSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days
Archive Samples
Other:

						ANALYSES REQUESTED												
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organo-chlorine+phosphorous)	HOLD	Notes	
B55-S-0-1	01 A-D	09/29/25	0925	SO	4	X	X						X	X	X	X		
B55-S-2-4	02	09/29/25	0938	SO	1	X	X									X		
B55-S-6-8	03	09/29/25	1442	SO		X	X										X	
B55-S-8-10	04	09/29/25	1445	SO		X	X										X	
B55-S-10-15	05	09/29/25	1450	SO		X	X										X	
B33-S-0-1	06	09/29/25	1500	SO		X	X						X	X	X	X		
B33-S-1-2	07	09/29/25	1505	SO		X	X										X	
B33-S-5-8	08	09/29/25	1510	SO		X	X										X	
B33-S-8-10	09	09/29/25	1515	SO		X	X										X	
B33-S-10-15	10 1	09/29/25	1517	SO	1	X	X										X	

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by:

Fiona Bellows

MFA

9/30/05 0915

Received by:

Eric Fournier

9/30/05 0915

Relinquished by:

Received by:

Samples received at 4

509491

SAMPLE CHAIN OF CUSTODY

09/30/05

04/H3

Page # 2 of 5

Report To **Audrey Hackett**Company **Maul Foster Alongi**Address **2815 2nd Avenue, Suite 540**City, State, ZIP **Seattle WA 98121**Phone **206-331-1835** Email **ahackett@maulfoster.com**SAMPLERS (signature) 

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: **fbellows@maulfoster.com**Project Specific RIs - Yes ☒ No ☐

INVOICE TO

accounting@maulfoster.com

TURNAROUND TIME
Standard Turnaround
RUSH
Rush charges authorized by: _____SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other _____

						ANALYSES REQUESTED										Notes	
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organo-chlorine+phosphorous)		HOLD
B12-S-0-1	11 A-D	09/29/25	1536	SO	4	X	X							X	X	X	X
B12-S-3-5	12	09/29/25	1535	SO	1	X	X										X
B12-S-5-10	13	09/29/25	1538	SO		X	X										X
B12-S-10-15	14	09/29/25	1540	SO		X	X										X
B21-S-0-1	15	09/29/25	1545	SO		X	X							X	X	X	X
B21-S-1-5	16	09/29/25	1547	SO		X	X										X
B21-S-5-8	17	09/29/25	1550	SO		X	X										X
B21-S-8-10	18	09/29/25	1552	SO		X	X										X
B21-S-10-15	19	09/29/25	1555	SO		X	X										X
B22-S-0-1	20	09/29/25	1610	SO	1	X	X							X	X	X	X

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

Relinquished by: 

Fiona Bellows

MFA

9/30/05

0915

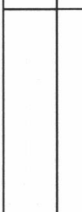
Received by: Relinquished by: 

Fiona Bellows

MFA

9/30/05

0915

Received by: 

Fiona Bellows

MFA

9/30/05

0915

Samples received at 4

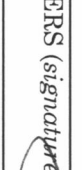
509491

SAMPLE CHAIN OF CUSTODY

09/30/25

04/43

Page # 3 of 5

Report To Audrey HackettCompany Maul Foster AlongiAddress 2815 2nd Avenue, Suite 540City, State, ZIP Seattle WA 98121Phone 206-331-1835 Email ahackett@maulfoster.comSAMPLERS (signature) 

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: fbellows@maulfoster.comProject Specific RIs - Yes / No

INVOICE TO

accounting@maulfoster.comRush charges authorized by: Standard TurnaroundSAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organochlorine+phosphorous)	
B22-S-1-5	21 A-D	09/29/25	1612	SO	4	X	X								X	
B22-S-5-8	22	09/29/25	1615	SO		X	X								X	
B22-S-8-1D	23	09/29/25	1617	SO		X	X								X	
B22-S-10-15	24	09/29/25	1620	SO		X	X								X	
B44-S-0-1	25	09/29/25	1625	SO		X	X						X	X	X	
B44-S-1-5	26	09/29/25	1628	SO		X	X								X	
B44-S-5-7	27	09/29/25	1631	SO		X	X								X	
B44-S-7-1D	28	09/29/25	1634	SO		X	X								X	
B44-S-10-15	29	09/29/25	1637	SO		X	X								X	
B45-S-0-1	30	09/29/25	1645	SO		X	X						X	X	X	

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

FORMS\COA\COA.DOC

Relinquished by:

Received by:

Fiona Bellows

MFA

Relinquished by:



F4B

9/30/25 9:15

Received by:

Samples received at 4

C

509491

SAMPLE CHAIN OF CUSTODY

09/30/25

11/4/25

5

Page # of

Report To **Andrey Hackett**Company **Maul Foster Alongi**Address **2815 2nd Avenue, Suite 540**City, State, ZIP **Seattle WA 98121**Phone **206-331-1835** Email **ahackett@maulfoster.com**

SAMPLERS (signature)

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: **fbellows@maulfoster.com**Project Specific RIs - Yes ☒ No ☐

INVOICE TO

accounting@maulfoster.com

TURNAROUND TIME

Standard Turnaround

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organochlorine+phosphorous)	
B45-S-1-S	31A-D	09/29/25	1647	SO	4	X	X								X	
B45-S-5-7-S	32	09/29/25	1650	SO		X	X								X	
B45-S-7-S-DUP	33	09/29/25	1650	SO		X	X								X	
B45-S-7-S-10	34	09/29/25	1652	SO		X	X								X	
B45-S-10-15	35	09/29/25	1655	SO		X	X								X	
B76-S-0-1	36	09/29/25	1700	SO		X	X						X	X	X	
B76-S-1-5	37	09/29/25	1703	SO		X	X								X	
B76-S-5-10	38	09/29/25	1706	SO		X	X								X	
B76-S-10-15	39	09/29/25	1709	SO		X	X								X	
B76-S-10-15-DUP	40	09/29/25	1709	SO		X	X								X	

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

FORMS\COG\COG.DOC

Relinquished by:

Received by:

Relinquished by:

Received by:

Fiona Bellows

MFA

9/30/25 0915

Self/Owner

FEB

9/30/25 0915

Samples received at 4 °C

509491

SAMPLE CHAIN OF CUSTODY

09/30/25

N4/H3

5 5

Report To **Audrey Hackett**

Company **Maul Foster Alongi**

Address **2815 2nd Avenue, Suite 540**

City, State, ZIP **Seattle WA 98121**

Phone **206-331-1835** Email **ahackett@maulfoster.com**

SAMPLES (signature)

PROJECT NAME

Port of Tacoma Parcel 12

PO #

M0615.34.002

REMARKS

cc: **fbellows@maulfoster.com**
Project Specific RIs - Yes **No**

INVOICE TO

accounting@maulfoster.com

Page # 5 of 5

TURNAROUND TIME
Standard Turnaround
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic EPA 6020B	RCRA 8 Metals	Herbicides	Pesticides (organochlorine+phosphorus)	
B50-S-0-1	41 A.D	09/29/25	1720	SO	4	X	X						X	X	X	
B50-S-1-5	42	09/29/25	1723	SO	1	X	X								X	
B50-S-5-7	43	09/29/25	1726	SO	1	X	X								X	
B50-S-7-10	44	09/29/25	1729	SO	1	X	X								X	
B50-S-10-12	45	09/29/25	1732	SO	1	X	X								X	
B50-S-12-15	46	09/29/25	1735	SO	1	X	X								X	
B50-S-12-15-DUP	47	09/29/25	1735	SO	1	X	X								X	
		09/ 25		SO												
		09/ 25		SO												
		09/ 25		SO												
		09/ 25		SO												

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by:

Fiona Bellows

MFA

9/30/25

0915

Received by:

Eric Young

ECB

9/30/25

0925

Relinquished by:

Received by:

Samples received at 4 °C

Friedman & Bruya, Inc.

5500 4th Avenue S

Seattle, WA 98108

Ph. (206) 285-8282

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # SO9491 CLIENT MTA INITIALS/DATE (NP) 9/30/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature _____ °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☒ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/Date: (NP) 9/30

*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label? (explain "no" answer below)

Sample ID's	☒ Yes ☐ No	_____	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	_____	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	_____	☐ Not on COC/label
# of Containers	☒ Yes ☐ No	_____	
Relinquished	☒ Yes ☐ No	_____	
Requested analysis	☐ Yes ☒ On Hold	_____	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters* _____ Number of unused TO17 tubes _____

*Fill out Green manifolds billing sheet



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 13, 2025

Michael Erdahl
Friedman & Bruya, Inc.
5500 4th Avenue South
Seattle, WA 98108

Re: Analytical Data for Project 509491
Laboratory Reference No. 2510-065

Dear Michael:

Enclosed are the analytical results and associated quality control data for samples submitted on October 3, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal line extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 13, 2025
Samples Submitted: October 3, 2025
Laboratory Reference: 2510-065
Project: 509491

Case Narrative

Samples were collected on September 29, 2025 and received by the laboratory on October 3, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Organophosphorus Pesticides by EPA 8270/SIM Analysis

Samples B55-S-0-1, B21-S-0-1, B22-S-0-1, B44-S-0-1, B45-S-0-1, B76-S-0-1, and B50-S-0-1 had one surrogate recovery outside of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B55-S-0-1					
Laboratory ID:	10-065-01					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>85</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>139</i>	<i>66-133</i>				Q



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B33-S-0-1					
Laboratory ID:	10-065-02					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.058	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.058	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.058	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>96</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>111</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B12-S-0-1					
Laboratory ID:	10-065-03					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>107</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>97</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B21-S-0-1					
Laboratory ID:	10-065-04					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>171</i>	<i>39-158</i>				Q
<i>Triphenyl phosphate</i>	<i>103</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B22-S-0-1					
Laboratory ID:	10-065-05					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>258</i>	<i>39-158</i>				Q
<i>Triphenyl phosphate</i>	<i>105</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B44-S-0-1					
Laboratory ID:	10-065-06					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.015	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>272</i>	<i>39-158</i>				Q
<i>Triphenyl phosphate</i>	<i>110</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B45-S-0-1					
Laboratory ID:	10-065-07					
Dichlorvos/DDVP)	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.056	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>280</i>	<i>39-158</i>				Q
<i>Triphenyl phosphate</i>	<i>103</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B76-S-0-1					
Laboratory ID:	10-065-08					
Dichlorvos(DDVP)	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.015	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.055	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.022	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>283</i>	<i>39-158</i>				Q
<i>Triphenyl phosphate</i>	<i>101</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B50-S-0-1					
Laboratory ID:	10-065-09					
Dichlorvos(DDVP)	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.016	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.057	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.023	EPA 8270E/SIM	10-7-25	10-10-25	
Surrogate:	Percent Recovery	Control Limits				
<i>Tributyl phosphate</i>	273	39-158				Q
<i>Triphenyl phosphate</i>	94	66-133				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007S2					
Dichlorvos(DDVP)	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Mevinphos/Phosdrin	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Ethoprophos	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Monocrotophos	ND	0.050	EPA 8270E/SIM	10-7-25	10-10-25	
Naled	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Sulfotepp	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Phorate	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Dimethoate	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Demeton-S	ND	0.014	EPA 8270E/SIM	10-7-25	10-10-25	
Diazinon	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Disulfoton	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-methyl	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Fenchlorphos/Ronnel	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Malathion	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Fenthion	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Parathion-ethyl	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Chlorpyrifos/Dursban	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Trichloronate	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Stirofos/Tetrachlorvinphos	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Tokuthion/Prothiofos	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Merphos&Merphos-oxone	ND	0.050	EPA 8270E/SIM	10-7-25	10-10-25	
Fensulfothion	ND	0.050	EPA 8270E/SIM	10-7-25	10-10-25	
Bolstar/Sulprofos	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
EPN	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Azinphos-methyl/Guthion	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
Coumaphos	ND	0.020	EPA 8270E/SIM	10-7-25	10-10-25	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>81</i>	<i>39-158</i>				
<i>Triphenyl phosphate</i>	<i>111</i>	<i>66-133</i>				



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270E/SIM
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1007S2									
	SB	SBD	SB	SBD	SB	SBD				
Dichlorvos(DDVP)	0.0956	0.0981	0.100	0.100	96	98	62-132	3	22	
Mevinphos/Phosdrin	0.0986	0.0992	0.100	0.100	99	99	47-136	1	21	
Ethoprophos	0.0921	0.0942	0.100	0.100	92	94	58-132	2	25	
Sulfotepp	0.0665	0.0714	0.100	0.100	67	71	65-122	7	40	
Phorate	0.108	0.112	0.100	0.100	108	112	61-128	4	32	
Dimethoate	0.131	0.129	0.100	0.100	131	129	49-139	2	26	
Demeton-S	0.0451	0.0514	0.0700	0.0700	64	73	56-133	13	31	
Diazinon	0.109	0.109	0.100	0.100	109	109	60-134	0	27	
Disulfoton	0.0788	0.0794	0.100	0.100	79	79	56-132	1	24	
Parathion-methyl	0.122	0.116	0.100	0.100	122	116	61-133	5	28	
Fenchlorphos/Ronnel	0.0978	0.101	0.100	0.100	98	101	66-126	3	21	
Malathion	0.0957	0.0991	0.100	0.100	96	99	69-143	3	19	
Fenthion	0.106	0.109	0.100	0.100	106	109	66-127	3	20	
Parathion-ethyl	0.0956	0.102	0.100	0.100	96	102	66-131	6	21	
Chlorpyrifos/Dursban	0.106	0.102	0.100	0.100	106	102	69-124	4	20	
Trichloronate	0.105	0.108	0.100	0.100	105	108	68-126	3	21	
Stirofos/Tetrachlorvinphos	0.104	0.104	0.100	0.100	104	104	54-164	0	24	
Tokuthion/Prothiofos	0.103	0.105	0.100	0.100	103	105	68-129	2	21	
Fensulfothion	0.0953	0.0949	0.100	0.100	95	95	55-158	0	21	
Bolstar/Sulprofos	0.106	0.105	0.100	0.100	106	105	65-131	1	21	
EPN	0.101	0.103	0.100	0.100	101	103	65-136	2	23	
Azinphos-methyl/Guthion	0.106	0.106	0.100	0.100	106	106	63-161	0	22	
Coumaphos	0.104	0.113	0.100	0.100	104	113	57-163	8	26	
Surrogate:										
Tributyl phosphate					75	81	39-158			
Triphenyl phosphate					101	104	66-133			



Date of Report: October 13, 2025
 Samples Submitted: October 3, 2025
 Laboratory Reference: 2510-065
 Project: 509491

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
B55-S-0-1	10-065-01	11	10-7-25
B33-S-0-1	10-065-02	13	10-7-25
B12-S-0-1	10-065-03	11	10-7-25
B21-S-0-1	10-065-04	11	10-7-25
B22-S-0-1	10-065-05	12	10-7-25
B44-S-0-1	10-065-06	9	10-7-25
B45-S-0-1	10-065-07	10	10-7-25
B76-S-0-1	10-065-08	9	10-7-25
B50-S-0-1	10-065-09	12	10-7-25





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- X2 - Sample extract treated with a silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER Onsite		10-065	
PROJECT NAME/NO.	509491	PO #	F-490
REMARKS EQUIS 4			

Page # 1 of 1

TURNAROUND TIME

☒ Standard
RUSH _____

Rush charges authorized by: _____

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	organophosphorus pesticides	ANALYSES REQUESTED										Notes
B55-S-0-1	1	9/29/2025	925	soil	1	x											Bioscience 2
B33-S-0-1	2	9/29/2025	1500	soil	1	x											
B12-S-0-1	3	9/29/2025	1530	soil	1	x											
B21-S-0-1	4	9/29/2025	1545	soil	1	x											
B22-S-0-1	5	9/29/2025	1610	soil	1	x											
B44-S-0-1	6	9/29/2025	1625	soil	1	x											
B45-S-0-1	7	9/29/2025	1645	soil	1	x											
B76-S-0-1	8	9/29/2025	1700	soil	1	x											
B50-S-0-1	9	9/29/2025	1720	soil	1	x											

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

SIGNATURE		PRINT NAME		COMPANY		DATE		TIME	
		Michael Erdahl		Friedman & Bruya		10/3/15		0804	
Received by:						10/3/15		1530	
Relinquished by:									
Received by:									

Sample/Cooler Receipt and Acceptance Checklist

Client: FB1
 Client Project Name/Number: 509491
 OnSite Project Number: 10-065

Initiated by: AMV
 Date Initiated: 10/3/25

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	☒ No	N/A	1	2	3	4
1.2 Were the custody seals intact?	Yes	No	☒ N/A	1	2	3	4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	☒ N/A	1	2	3	4
1.4 Were the samples delivered on ice or blue ice?	☒ Yes	No	N/A	1	2	3	4
1.5 Were samples received between 0-6 degrees Celsius?	☒ Yes	No	Temperature: <u>5</u>				
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	☒ N/A					
1.7 How were the samples delivered?	☒ Client	☐ Courier	☐ UPS/FedEx	☐ OSE Pickup	☐ Other		

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	☒ Yes	No	1	2	3	4
2.2 Was the COC legible and written in permanent ink?	☒ Yes	No	1	2	3	4
2.3 Have samples been relinquished and accepted by each custodian?	☒ Yes	No	1	2	3	4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	☒ Yes	No	1	2	3	4
2.5 Were all of the samples listed on the COC submitted?	☒ Yes	No	1	2	3	4
2.6 Were any of the samples submitted omitted from the COC?	Yes	☒ No	1	2	3	4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	☒ No	1	2	3	4	
3.2 Were any sample labels missing or illegible?	Yes	☒ No	1	2	3	4	
3.3 Have the correct containers been used for each analysis requested?	☒ Yes	No	1	2	3	4	
3.4 Have the samples been correctly preserved?	Yes	No	☒ N/A	1	2	3	4
3.5 Are volatile samples free from headspace and bubbles greater than 6mm?	Yes	No	☒ N/A	1	2	3	4
3.6 Is there sufficient sample submitted to perform requested analyses?	☒ Yes	No	1	2	3	4	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	☒ No	1	2	3	4	
3.8 Was method 5035A used?	Yes	No	☒ N/A	1	2	3	4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	☒ N/A	1	2	3	4	

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

Friedman & Bruya

Michael Erdahl

5500 4th Ave S

Seattle, WA 98108

RE: 509491,

Work Order Number: 2510110

October 17, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 9 sample(s) on 10/3/2025 for the analyses presented in the following report.

Herbicides by EPA 8151A

Sample Moisture (Percent Moisture)

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,



Lyann Rivera

Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original



CLIENT: Friedman & Bruya
Project: 509491
Work Order: 2510110

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2510110-001	B55-S-0-1	09/29/2025 9:25 AM	10/03/2025 10:55 AM
2510110-002	B33-S-0-1	09/29/2025 3:00 PM	10/03/2025 10:55 AM
2510110-003	B12-S-0-1	09/29/2025 3:30 PM	10/03/2025 10:55 AM
2510110-004	B21-S-0-1	09/29/2025 3:45 PM	10/03/2025 10:55 AM
2510110-005	B22-S-0-1	09/29/2025 4:10 PM	10/03/2025 10:55 AM
2510110-006	B44-S-0-1	09/29/2025 4:25 PM	10/03/2025 10:55 AM
2510110-007	B45-S-0-1	09/29/2025 4:45 PM	10/03/2025 10:55 AM
2510110-008	B76-S-0-1	09/29/2025 5:00 PM	10/03/2025 10:55 AM
2510110-009	B50-S-0-1	09/29/2025 5:20 PM	10/03/2025 10:55 AM

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

CLIENT: Friedman & Bruya

Project: 509491

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.

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

CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-001

Collection Date: 9/29/2025 9:25:00 AM

Client Sample ID: B55-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
2,4-D	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
2,4-DP	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
2,4,5-TP (Silvex)	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
2,4,5-T	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Dinoseb	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Dalapon	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
2,4-DB	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
MCP	ND	232		µg/Kg-dry	1	10/10/2025 6:26:34 AM
MCPA	ND	348		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Picloram	ND	23.2	Q	µg/Kg-dry	1	10/10/2025 6:26:34 AM
Bentazon	ND	23.2	Q	µg/Kg-dry	1	10/10/2025 6:26:34 AM
Chloramben	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Acifluorfen	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
3,5-Dichlorobenzoic acid	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
4-Nitrophenol	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Dacthal (DCPA)	ND	23.2		µg/Kg-dry	1	10/10/2025 6:26:34 AM
Surr: 2,4-Dichlorophenylacetic acid	82.8	11.7 - 155		%Rec	1	10/10/2025 6:26:34 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	11.2	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-002

Collection Date: 9/29/2025 3:00:00 PM

Client Sample ID: B33-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
2,4-D	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
2,4-DP	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
2,4,5-TP (Silvex)	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
2,4,5-T	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Dinoseb	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Dalapon	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
2,4-DB	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
MCP	ND	228		µg/Kg-dry	1	10/10/2025 6:43:02 AM
MCPA	ND	342		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Picloram	ND	22.8	Q	µg/Kg-dry	1	10/10/2025 6:43:02 AM
Bentazon	ND	22.8	Q	µg/Kg-dry	1	10/10/2025 6:43:02 AM
Chloramben	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Acifluorfen	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
3,5-Dichlorobenzoic acid	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
4-Nitrophenol	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Dacthal (DCPA)	ND	22.8		µg/Kg-dry	1	10/10/2025 6:43:02 AM
Surr: 2,4-Dichlorophenylacetic acid	52.4	11.7 - 155		%Rec	1	10/10/2025 6:43:02 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	12.5	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-003

Collection Date: 9/29/2025 3:30:00 PM

Client Sample ID: B12-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
2,4-D	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
2,4-DP	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
2,4,5-TP (Silvex)	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
2,4,5-T	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Dinoseb	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Dalapon	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
2,4-DB	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
MCP	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
MCPA	ND	333		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Picloram	ND	22.2	Q	µg/Kg-dry	1	10/10/2025 6:59:26 AM
Bentazon	ND	22.2	Q	µg/Kg-dry	1	10/10/2025 6:59:26 AM
Chloramben	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Acifluorfen	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
3,5-Dichlorobenzoic acid	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
4-Nitrophenol	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Dacthal (DCPA)	ND	22.2		µg/Kg-dry	1	10/10/2025 6:59:26 AM
Surr: 2,4-Dichlorophenylacetic acid	51.9	11.7 - 155		%Rec	1	10/10/2025 6:59:26 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	11.7	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-004

Collection Date: 9/29/2025 3:45:00 PM

Client Sample ID: B21-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
2,4-D	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
2,4-DP	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
2,4,5-TP (Silvex)	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
2,4,5-T	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Dinoseb	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Dalapon	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
2,4-DB	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
MCPP	ND	216		µg/Kg-dry	1	10/10/2025 7:15:49 AM
MCPA	ND	324		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Picloram	ND	21.6	Q	µg/Kg-dry	1	10/10/2025 7:15:49 AM
Bentazon	ND	21.6	Q	µg/Kg-dry	1	10/10/2025 7:15:49 AM
Chloramben	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Acifluorfen	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
3,5-Dichlorobenzoic acid	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
4-Nitrophenol	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Dacthal (DCPA)	ND	21.6		µg/Kg-dry	1	10/10/2025 7:15:49 AM
Surr: 2,4-Dichlorophenylacetic acid	72.3	11.7 - 155		%Rec	1	10/10/2025 7:15:49 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	11.0	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-005

Collection Date: 9/29/2025 4:10:00 PM

Client Sample ID: B22-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
2,4-D	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
2,4-DP	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
2,4,5-TP (Silvex)	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
2,4,5-T	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Dinoseb	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Dalapon	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
2,4-DB	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
MCPP	ND	209		µg/Kg-dry	1	10/10/2025 7:32:06 AM
MCPA	ND	314		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Picloram	ND	20.9	Q	µg/Kg-dry	1	10/10/2025 7:32:06 AM
Bentazon	ND	20.9	Q	µg/Kg-dry	1	10/10/2025 7:32:06 AM
Chloramben	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Acifluorfen	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
3,5-Dichlorobenzoic acid	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
4-Nitrophenol	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Dacthal (DCPA)	ND	20.9		µg/Kg-dry	1	10/10/2025 7:32:06 AM
Surr: 2,4-Dichlorophenylacetic acid	52.4	11.7 - 155		%Rec	1	10/10/2025 7:32:06 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	12.2	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-006

Collection Date: 9/29/2025 4:25:00 PM

Client Sample ID: B44-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
2,4-D	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
2,4-DP	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
2,4,5-TP (Silvex)	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
2,4,5-T	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Dinoseb	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Dalapon	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
2,4-DB	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
MCP	ND	210		µg/Kg-dry	1	10/10/2025 7:48:28 AM
MCPA	ND	316		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Picloram	ND	21.0	Q	µg/Kg-dry	1	10/10/2025 7:48:28 AM
Bentazon	ND	21.0	Q	µg/Kg-dry	1	10/10/2025 7:48:28 AM
Chloramben	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Acifluorfen	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
3,5-Dichlorobenzoic acid	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
4-Nitrophenol	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Dacthal (DCPA)	ND	21.0		µg/Kg-dry	1	10/10/2025 7:48:28 AM
Surr: 2,4-Dichlorophenylacetic acid	59.0	11.7 - 155		%Rec	1	10/10/2025 7:48:28 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	9.50	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-007

Collection Date: 9/29/2025 4:45:00 PM

Client Sample ID: B45-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
2,4-D	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
2,4-DP	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
2,4,5-TP (Silvex)	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
2,4,5-T	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Dinoseb	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Dalapon	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
2,4-DB	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
MCP	ND	218		µg/Kg-dry	1	10/10/2025 8:04:50 AM
MCPA	ND	327		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Picloram	ND	21.8	Q	µg/Kg-dry	1	10/10/2025 8:04:50 AM
Bentazon	ND	21.8	Q	µg/Kg-dry	1	10/10/2025 8:04:50 AM
Chloramben	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Acifluorfen	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
3,5-Dichlorobenzoic acid	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
4-Nitrophenol	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Dacthal (DCPA)	ND	21.8		µg/Kg-dry	1	10/10/2025 8:04:50 AM
Surr: 2,4-Dichlorophenylacetic acid	59.6	11.7 - 155		%Rec	1	10/10/2025 8:04:50 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	10.9	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-008

Collection Date: 9/29/2025 5:00:00 PM

Client Sample ID: B76-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
2,4-D	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
2,4-DP	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
2,4,5-TP (Silvex)	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
2,4,5-T	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Dinoseb	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Dalapon	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
2,4-DB	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
MCP	ND	219		µg/Kg-dry	1	10/10/2025 8:21:13 AM
MCPA	ND	329		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Picloram	ND	21.9	Q	µg/Kg-dry	1	10/10/2025 8:21:13 AM
Bentazon	ND	21.9	Q	µg/Kg-dry	1	10/10/2025 8:21:13 AM
Chloramben	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Acifluorfen	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
3,5-Dichlorobenzoic acid	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
4-Nitrophenol	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Dacthal (DCPA)	ND	21.9		µg/Kg-dry	1	10/10/2025 8:21:13 AM
Surr: 2,4-Dichlorophenylacetic acid	73.4	11.7 - 155		%Rec	1	10/10/2025 8:21:13 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	9.74	0.500		wt%	1	10/6/2025 9:46:01 AM
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CLIENT: Friedman & Bruya
Project: 509491

Lab ID: 2510110-009

Collection Date: 9/29/2025 5:20:00 PM

Client Sample ID: B50-S-0-1

Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Herbicides by EPA 8151A

Batch ID: 49530

Analyst: CO

Dicamba	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
2,4-D	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
2,4-DP	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
2,4,5-TP (Silvex)	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
2,4,5-T	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Dinoseb	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Dalapon	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
2,4-DB	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
MCPP	ND	218		µg/Kg-dry	1	10/10/2025 8:37:34 AM
MCPA	ND	327		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Picloram	ND	21.8	Q	µg/Kg-dry	1	10/10/2025 8:37:34 AM
Bentazon	ND	21.8	Q	µg/Kg-dry	1	10/10/2025 8:37:34 AM
Chloramben	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Acifluorfen	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
3,5-Dichlorobenzoic acid	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
4-Nitrophenol	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Dacthal (DCPA)	ND	21.8		µg/Kg-dry	1	10/10/2025 8:37:34 AM
Surr: 2,4-Dichlorophenylacetic acid	64.5	11.7 - 155		%Rec	1	10/10/2025 8:37:34 AM

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample Moisture (Percent Moisture)

Batch ID: R10355

Analyst: SL

Percent Moisture	12.0	0.500		wt%	1	10/6/2025 9:46:01 AM
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Work Order: 2510110
CLIENT: Friedman & Bruya
Project: 509491

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: MB-49530		SampType: MBLK		Units: µg/Kg		Prep Date: 10/6/2025			RunNo: 103697		
Client ID: MBLKS		Batch ID: 49530					Analysis Date: 10/10/2025			SeqNo: 2163456	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dicamba	ND	20.0									
2,4-D	ND	20.0									
2,4-DP	ND	20.0									
2,4,5-TP (Silvex)	ND	20.0									
2,4,5-T	ND	20.0									
Dinoseb	ND	20.0									
Dalapon	ND	20.0									
2,4-DB	ND	20.0									
MCP	ND	200									
MCPA	ND	300									
Picloram	ND	20.0									Q
Bentazon	ND	20.0									Q
Chloramben	ND	20.0									
Acifluorfen	ND	20.0									
3,5-Dichlorobenzoic acid	ND	20.0									
4-Nitrophenol	ND	20.0									
Dacthal (DCPA)	ND	20.0									
Surr: 2,4-Dichlorophenylacetic acid	904		1,000		90.4	5	150				

NOTES:

Q - Initial calibration verification for this analyte exceeds acceptance criteria.

Sample ID: LCS-49530		SampType: LCS			Units: µg/Kg		Prep Date: 10/6/2025		RunNo: 103697		
Client ID: LCSS		Batch ID: 49530			Analysis Date: 10/10/2025				SeqNo: 2163457		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dicamba	180	20.0	200.0	0	89.8	6.87	123				
2,4-D	211	20.0	200.0	0	106	13.2	123				
2,4-DP	181	20.0	200.0	0	90.6	17.2	120				
2,4,5-TP (Silvex)	188	20.0	200.0	0	93.8	22.3	124				
2,4,5-T	174	20.0	200.0	0	87.0	17.5	122				
Dinoseb	116	20.0	200.0	0	57.8	13	115				
Dalapon	822	20.0	1,000	0	82.2	5.02	155				

Work Order: 2510110
CLIENT: Friedman & Bruya
Project: 509491

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: LCS-49530	SampType: LCS	Units: µg/Kg				Prep Date: 10/6/2025			RunNo: 103697		
Client ID: LCSS	Batch ID: 49530	Analysis Date: 10/10/2025							SeqNo: 2163457		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-DB	123	20.0	200.0	0	61.5	40.9	123				S
MCPP	1,750	200	1,000	0	175	19.2	142				
MCPA	1,210	300	1,000	0	121	6.41	143				
Picloram	196	20.0	200.0	0	98.1	5.42	148				
Bentazon	160	20.0	200.0	0	80.2	21.5	133				
Chloramben	128	20.0	200.0	0	64.0	8.88	94.8				
Acifluorfen	115	20.0	200.0	0	57.3	5.24	110				
3,5-Dichlorobenzoic acid	162	20.0	200.0	0	81.0	12.3	132				
4-Nitrophenol	116	20.0	200.0	0	58.0	13	148				
Dacthal (DCPA)	168	20.0	200.0	0	83.9	12.7	122				
Surr: 2,4-Dichlorophenylacetic acid	772		1,000		77.2	11.7	155				

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect; result meets QC requirements.

Sample ID: 2510157-001AMS	SampType: MS	Units: µg/Kg				Prep Date: 10/6/2025			RunNo: 103697		
Client ID: BATCH	Batch ID: 49530	Analysis Date: 10/10/2025							SeqNo: 2163470		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	ND	19.0	190.1	0	0	6.87	123				S
2,4-D	22.7	19.0	190.1	0	11.9	13.2	123				S
2,4-DP	ND	19.0	190.1	0	6.74	17.2	120				S
2,4,5-TP (Silvex)	ND	19.0	190.1	0	8.74	22.3	124				S
2,4,5-T	ND	19.0	190.1	0	7.26	17.5	122				S
Dinoseb	31.4	19.0	190.1	0	16.5	13	115				
Dalapon	37.5	19.0	950.6	0	3.94	5.02	155				S
2,4-DB	51.1	19.0	190.1	0	26.9	40.9	123				S
MCPP	ND	190	950.6	0	14.2	19.2	142				S
MCPA	502	285	950.6	0	52.8	6.41	143				
Picloram	ND	19.0	190.1	0	3.67	5.42	148				S
Bentazon	ND	19.0	190.1	0	4.40	21.5	133				S
Chloramben	ND	19.0	190.1	0	2.58	8.88	94.8				S
Acifluorfen	ND	19.0	190.1	0	6.87	5.24	110				

Work Order: 2510110
CLIENT: Friedman & Bruya
Project: 509491

QC SUMMARY REPORT

Herbicides by EPA 8151A

Sample ID: 2510157-001AMS	SampType: MS	Units: µg/Kg				Prep Date: 10/6/2025			RunNo: 103697		
Client ID: BATCH	Batch ID: 49530	Analysis Date: 10/10/2025							SeqNo: 2163470		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,5-Dichlorobenzoic acid	ND	19.0	190.1	0	5.34	12.3	132				S
4-Nitrophenol	32.3	19.0	190.1	0	17.0	13	148				
Dacthal (DCPA)	ND	19.0	190.1	0	0	12.7	122				S
Surr: 2,4-Dichlorophenylacetic acid	50.4		950.6		5.30	11.7	155				S

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed and recovered within range.

S - Outlying spike and surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2510157-001AMSD	SampType: MSD	Units: µg/Kg				Prep Date: 10/6/2025			RunNo: 103697		
Client ID: BATCH	Batch ID: 49530	Analysis Date: 10/10/2025							SeqNo: 2163471		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dicamba	ND	19.0	190.5	0	4.75	6.87	123	0		30	S
2,4-D	30.1	19.0	190.5	0	15.8	13.2	123	22.70	28.1	30	
2,4-DP	21.2	19.0	190.5	0	11.1	17.2	120	12.80	49.4	30	S
2,4,5-TP (Silvex)	29.9	19.0	190.5	0	15.7	22.3	124	16.62	57.2	30	S
2,4,5-T	21.8	19.0	190.5	0	11.4	17.5	122	13.81	44.8	30	S
Dinoseb	42.9	19.0	190.5	0	22.5	13	115	31.36	31.1	30	
Dalapon	55.2	19.0	952.4	0	5.80	5.02	155	37.45	38.4	30	
2,4-DB	79.3	19.0	190.5	0	41.6	40.9	123	51.10	43.3	30	
MCPD	235	190	952.4	0	24.7	19.2	142	135.3	53.8	30	
MCPA	538	286	952.4	0	56.5	6.41	143	502.1	6.87	30	
Picloram	ND	19.0	190.5	0	5.95	5.42	148	0		30	
Bentazon	ND	19.0	190.5	0	8.16	21.5	133	0		30	S
Chloramben	ND	19.0	190.5	0	5.21	8.88	94.8	0		30	S
Acifluorfen	58.3	19.0	190.5	0	30.6	5.24	110	13.06	127	30	
3,5-Dichlorobenzoic acid	27.5	19.0	190.5	0	14.5	12.3	132	10.16	92.2	30	
4-Nitrophenol	62.9	19.0	190.5	0	33.0	13	148	32.31	64.3	30	
Dacthal (DCPA)	ND	19.0	190.5	0	0	12.7	122	0		30	S
Surr: 2,4-Dichlorophenylacetic acid	168		952.4		17.7	11.7	155		0		

NOTES:

S - Outlying spike recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Client Name: **FB**

Work Order Number: **2510110**

Logged by: **Morgan Wilson**

Date Received: **10/3/2025 10:55:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

16. 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:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	6.0

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

75 10 110

TURNAROUND TIME

☒ Standard
RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Return samples

TURNAROUND TIME
☒ Standard
☐ RUSH _____
 Rush charges authorized by: _____

SAMPLE DISPOSAL
 Dispose after 30 days
 Return samples
 Will call with instructions

TIME

6.000

3

100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

November 11, 2025

Fiona Bellows, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Bellows:

Included are the results from the testing of material submitted on November 4, 2025 from the Parcel 12 M0615.34.002, F&BI 511037 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
MFA1111R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 4, 2025 by Friedman & Bruya, Inc. from the Maul Foster Alongi Parcel 12 M0615.34.002, F&BI 511037 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
511037 -01	DRUM01
511037 -02	SB01-S-1.5
511037 -03	SB01-S-2.5
511037 -04	SB01-S-6
511037 -05	SB01-S-6-DUP
511037 -06	SB01-S-12
511037 -07	SB01-S-18
511037 -08	SB02-S-0.5
511037 -09	SB02-S-1.5
511037 -10	SB02-S-5.5
511037 -11	SB02-S-12
511037 -12	SB02-S-17
511037 -13	SB03-S-0.5
511037 -14	SB03-S-1.5
511037 -15	SB03-S-6.0
511037 -16	SB03-S-11.5
511037 -17	SB03-S-16
511037 -18	SB04-S-0.5
511037 -19	SB04-S-1.5
511037 -20	SB04-S-4.5
511037 -21	SB04-S-8
511037 -22	SB04-S-8-DUP
511037 -23	SB04-S-12
511037 -24	SB04-S-17
511037 -25	SB05-S-3.5
511037 -26	SB05-S-4.5
511037 -27	SB05-S-8
511037 -28	SB05-S-13
511037 -29	SB06-S-2
511037 -30	SB06-S-3.5
511037 -31	SB06-S-8.5
511037 -32	SB06-S-12
511037 -33	SB06-S-12-DUP
511037 -34	SB06-S-17
511037 -35	SB07-S-1.5
511037 -36	SB07-S-6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
511037 -37	SB07-S-11
511037 -38	SB07-S-16
511037 -39	SB05-S-17

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/25
Date Received: 11/04/25
Project: Parcel 12 M0615.34.002, F&BI 511037
Date Extracted: NA
Date Analyzed: 11/05/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

<u>Sample ID</u> Laboratory ID	<u>% Moisture</u>
SB01-S-1.5 511037-02	15
SB02-S-0.5 511037-08	22
SB03-S-0.5 511037-13	23
SB04-S-0.5 511037-18	11
SB05-S-3.5 511037-25	14
SB06-S-2 511037-29	13
SB07-S-1.5 511037-35	21

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB01-S-1.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-02
Date Analyzed:	11/05/25	Data File:	511037-02.132
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	2.9
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB02-S-0.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-08
Date Analyzed:	11/05/25	Data File:	511037-08.234
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	3.5
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB03-S-0.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-13
Date Analyzed:	11/05/25	Data File:	511037-13.246
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	9.7
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB04-S-0.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-18
Date Analyzed:	11/05/25	Data File:	511037-18.257
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	3.2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB05-S-3.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-25
Date Analyzed:	11/05/25	Data File:	511037-25.268
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB06-S-2	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-29
Date Analyzed:	11/05/25	Data File:	511037-29.269
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	1.4
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB07-S-1.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-35
Date Analyzed:	11/05/25	Data File:	511037-35.270
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	3.0
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	I5-972 mb
Date Analyzed:	11/05/25	Data File:	I5-972 mb.123
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Methods 6020B and 1311

Client Sample ID:	DRUM01	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	511037-01
Date Analyzed:	11/06/25	Data File:	511037-01.072
Matrix:	Soil/Solid	Instrument:	ICPMS3
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Arsenic	<1	5.0
Barium	<1	100
Cadmium	<1	1.0
Chromium	<1	5.0
Lead	<1	5.0
Mercury	<0.1	0.2
Selenium	<1	1.0
Silver	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis for TCLP Metals By EPA Methods 6020B and 1311

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/05/25	Lab ID:	I5-974 mb
Date Analyzed:	11/06/25	Data File:	I5-974 mb.070
Matrix:	Soil/Solid	Instrument:	ICPMS3
Units:	mg/L (ppm)	Operator:	SP

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Arsenic	<1	5.0
Barium	<1	100
Cadmium	<1	1.0
Chromium	<1	5.0
Lead	<1	5.0
Mercury	<0.1	0.2
Selenium	<1	1.0
Silver	<1	5.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/25

Date Received: 11/04/25

Project: Parcel 12 M0615.34.002, F&BI 511037

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

Laboratory Code: 511037-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.43	87 b	81 b	75-125	7 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/11/25

Date Received: 11/04/25

Project: Parcel 12 M0615.34.002, F&BI 511037

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL/SOLID SAMPLES
FOR TCLP METALS USING
EPA METHODS 6020B AND 1311**

Laboratory Code: 511037-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/L (ppm)	1.0	<1	96	94	75-125	2
Barium	mg/L (ppm)	5.0	<1	96	96	75-125	0
Cadmium	mg/L (ppm)	0.5	<1	98	98	75-125	0
Chromium	mg/L (ppm)	2.0	<1	94	95	75-125	1
Lead	mg/L (ppm)	1.0	<1	95	95	75-125	0
Mercury	mg/L (ppm)	1.0	<0.1	94	91	75-125	3
Selenium	mg/L (ppm)	0.5	<1	100	96	75-125	4
Silver	mg/L (ppm)	0.5	<1	96	95	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/L (ppm)	1.0	94	80-120
Barium	mg/L (ppm)	5.0	94	80-120
Cadmium	mg/L (ppm)	0.5	95	80-120
Chromium	mg/L (ppm)	2.0	92	80-120
Lead	mg/L (ppm)	1.0	93	80-120
Mercury	mg/L (ppm)	1.0	89	80-120
Selenium	mg/L (ppm)	0.5	94	80-120
Silver	mg/L (ppm)	0.5	93	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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

511037

SAMPLE CHAIN OF CUSTODY

11/4/85

M4

Page # 1 of 4

Report To Fiona BellowsCompany Maul Foster & AlonziAddress 2813 2nd Ave, Suite 340City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email FBellows@maulfoster.com

SAMPLERS (signature)

PROJECT NAME

Parcel 12

PO #

MO615.34.002

REMARKS

X = Analyze
O = Hold

INVOICE TO

accounting @ maulfoster.com

Project specific RLS? - Yes / No

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Archive samples

☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8 TCLP	Archive	Notes
DRUM01	Q1A-B	11/3/25	14:15	Soil	2									X		
SB01-S-1.5	Q2	11/3/25	9:30	Soil	1								X			
SB01-S-2.5	Q3	11/3/25	9:35	Soil	1											
SB01-S-6.0 SB01-S-6.0	Q4	11/3/25	9:40	Soil	1											
SB01-S-6-DUP	Q5	11/3/25	9:40	Soil	1											
SB01-S-12	Q6	11/3/25	9:45	Soil	1											
SB01-S-18	Q7	11/3/25	9:50	Soil	1											
SB02-S-0.5	Q8	11/3/25	10:00	Soil	1								X			
SB02-S-1.5	Q9	11/3/25	10:05	Soil	1											
SB02-S-5.5	Q10	11/3/25	10:10	Soil	1											

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: _____

Received by: _____

Relinquished by: _____

Received by: _____

Received by: _____

Received by: _____

Christian Sifford

Okaw Phaw

11/4

Fe B I

11/4/25

12:30

12:30

12:30

Samples received at

3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/25 M4

Page # 2 of 4

Report To Fiona BellowsCompany Maui Foster & AlongiAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email Fbellows@maui-foster.com

SAMPLES (signature)

PROJECT NAME

Parcel 12

PO #

MO615,34.002

REMARKS

X = Ana1320
O = He1c1

INVOICE TO

accuhting @
maui-foster.com

Project specific RIs? - Yes / No

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Archive samples

☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA TCLP	Notes
SB02-S-12	11	11/3/25	10:15	Soil	1										Archive
SB02-S-17	12	11/3/25	10:25	Soil	1										
SB03-S-0.5	13	11/3/25	10:35	Soil	1								X		
SB03-S-1.5	14	11/3/25	10:40	Soil	1										
SB03-S-6.0	15	11/3/25	10:50	Soil	1										
SB03-S-11.5	16	11/3/25	10:55	Soil	1										
SB03-S-16	17	11/3/25	11:00	Soil	1										
SB04-S-0.5	18	11/3/25	11:10	Soil	1								X		
SB04-S-1.5	19	11/3/25	11:15	Soil	1										
SB04-S-4.5	20	11/3/25	11:20	Soil	1										

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: Received by: Relinquished by: Received by: 

Christian Sifford

Phan Phan

MFA

F&B

11/4/25 12:50

11/4/25 12:50

Received by:

Samples received at 3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/85 M4

Page # 3 of 4

Report To Fiona BellowsCompany MacI Foster & HongAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email fbellows@macifoster.com

SAMPLERS (signature)

PROJECT NAME

Parcel 12

PO #

M0615, 34, 002

REMARKS

X = Analysis
0 = Hold

INVOICE TO

accounting @
macifoster.com

TURNAROUND TIME

☒ Standard turnaround☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☒ Archive samples☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8	TELP	Notes
SB04-S-8	21	11/3/25	11:25	Soil	1											Archive
SB04-S-8-DUP	22	11/3/25	11:25	Soil	1											Archive
SB04-S-12	23	11/3/25	11:35	Soil	1											Archive
SB04-S-17	24	11/3/25	11:40	Soil	1											Archive
SB05-S-35	25	11/3/25	12:00	Soil	1											
SB05-S-45	26	11/3/25	12:05	Soil	1											Archive
SB05-S-8	27	11/3/25	12:10	Soil	1											Archive
SB05-S-13	28	11/3/25	12:15	Soil	1											Archive
SB06-S-2	29	11/3/25	12:40	Soil	1											
SB06-S-35	30	11/3/25	12:45	Soil	1											Archive

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: [Signature]Christian SiffordMFA11/4/25 12:50Received by: [Signature]Nokan PhanFEB I11/4/25 12:50

Relinquished by:

Received by:

Samples received at 3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/25

M4

Page # 4 of 4

Report To Fiona BellowsCompany Maul Foster & AlongiAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 356 2030 Email Fbellows@maulfosterandalongi.com

SAMPLES (signature)

PROJECT NAME

Parcel 12

PO #

MO615.34.002

REMARKS

X = Analyze

O = Hold

Project specific RI's? - Yes / No

INVOICE TO

accounting@maulfosterandalongi.com

TURNAROUND TIME

☒ Standard turnaround☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☒ Archive samples☐ Other

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8 TSP	Notes
SB06-S-8.5	31	11/3/25	12:50	Soil	1										Archive
SB06-S-12	32	11/3/25	12:55	Soil	1										
SB06-S-12-DUP	33	11/3/25	12:55	Soil	1										
SB06-S-17	34	11/3/25	13:00	Soil	1										
SB07-S-1.5	35	11/3/25	13:45	Soil	1										
SB07-S-6	36	11/3/25	13:50	Soil	1										
SB07-S-11	37	11/3/25	13:55	Soil	1										
SB07-S-16	38	11/3/25	14:00	Soil	1										
SB05-S-17	39	11/3/25	12:20	Soil	1										
Drum A #11/4	40	11/3/25	14:15	Soil	1										

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by:

Received by:

Relinquished by:

Received by:

Christian Sifford

Dhan Phan

MFA

FEB 25

11/4/25

12:50

Samples received at 3 °C

Friedman & Bruya, Inc.
 5500 4th Ave S.
 Seattle WA 98108
 (206) 285-8282
 office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 511037 CLIENT MFA INITIALS/DATE: (NP) 11/4/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☒ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/Date: AP 11/4/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label? (explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☐ Yes ☒ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☒ Yes ☐ On Hold	

Other comments (use a separate page if needed)
Added sample on COC SBO5-S-17 (39)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters** Number of unused TO17 tubes

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya
Ann Webber-Bruya
Michael Erdahl
Vineta Mills
Eric Young

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

November 20, 2025

Fiona Bellows, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Bellows:

Included are the additional results from the testing of material submitted on November 4, 2025 from the Parcel 12 M0615.34.002, F&BI 511037 project. There are 7 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
MFA1120R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 4, 2025 by Friedman & Bruya, Inc. from the Maul Foster Alongi Parcel 12 M0615.34.002, F&BI 511037 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
511037 -01	DRUM01
511037 -02	SB01-S-1.5
511037 -03	SB01-S-2.5
511037 -04	SB01-S-6
511037 -05	SB01-S-6-DUP
511037 -06	SB01-S-12
511037 -07	SB01-S-18
511037 -08	SB02-S-0.5
511037 -09	SB02-S-1.5
511037 -10	SB02-S-5.5
511037 -11	SB02-S-12
511037 -12	SB02-S-17
511037 -13	SB03-S-0.5
511037 -14	SB03-S-1.5
511037 -15	SB03-S-6.0
511037 -16	SB03-S-11.5
511037 -17	SB03-S-16
511037 -18	SB04-S-0.5
511037 -19	SB04-S-1.5
511037 -20	SB04-S-4.5
511037 -21	SB04-S-8
511037 -22	SB04-S-8-DUP
511037 -23	SB04-S-12
511037 -24	SB04-S-17
511037 -25	SB05-S-3.5
511037 -26	SB05-S-4.5
511037 -27	SB05-S-8
511037 -28	SB05-S-13
511037 -29	SB06-S-2
511037 -30	SB06-S-3.5
511037 -31	SB06-S-8.5
511037 -32	SB06-S-12
511037 -33	SB06-S-12-DUP
511037 -34	SB06-S-17
511037 -35	SB07-S-1.5
511037 -36	SB07-S-6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
511037 -37	SB07-S-11
511037 -38	SB07-S-16
511037 -39	SB05-S-17

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/20/25

Date Received: 11/04/25

Project: Parcel 12 M0615.34.002, F&BI 511037

Date Extracted: NA

Date Analyzed: 11/17/25

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR PERCENT MOISTURE
USING ASTM D2216-98**

Sample ID

% Moisture

Laboratory ID

SB03-S-1.5

25

511037-14

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	SB03-S-1.5	Client:	Maul Foster Alongi
Date Received:	11/04/25	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/17/25	Lab ID:	511037-14
Date Analyzed:	11/18/25	Data File:	511037-14.067
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	6.7
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Parcel 12 M0615.34.002
Date Extracted:	11/17/25	Lab ID:	I5-1023 mb
Date Analyzed:	11/17/25	Data File:	I5-1023 mb.137
Matrix:	Soil	Instrument:	ICPMS3
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/20/25

Date Received: 11/04/25

Project: Parcel 12 M0615.34.002, F&BI 511037

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

Laboratory Code: 511229-06 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	5.11	98 b	93 b	75-125	5 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	93	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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

511037

SAMPLE CHAIN OF CUSTODY

11/4/85

M4

Page # 1 of 4

Report To Fiona BellowsCompany Maul Foster & AlonziAddress 2813 2nd Ave, Suite 340City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email FBellows@maulfoster.com

SAMPLERS (signature)

PROJECT NAME

Parcel 12

PO #

MO615.34.002

REMARKS

X = Analyze
O = Hold

INVOICE TO

accounting @ maulfoster.com

Project specific RLS? - Yes / No

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Archive samples

☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8 TCLP	Archive	Notes
DRUM01	Q1A-B	11/3/25	14:15	Soil	2									X		
SB01-S-1.5	Q2	11/3/25	9:30	Soil	1								X			
SB01-S-2.5	Q3	11/3/25	9:35	Soil	1											
SB01-S-6.0 SB01-S-6.0	Q4	11/3/25	9:40	Soil	1											
SB01-S-6-DUP	Q5	11/3/25	9:40	Soil	1											
SB01-S-12	Q6	11/3/25	9:45	Soil	1											
SB01-S-18	Q7	11/3/25	9:50	Soil	1											
SB02-S-0.5	Q8	11/3/25	10:00	Soil	1								X			
SB02-S-1.5	Q9	11/3/25	10:05	Soil	1											
SB02-S-5.5	Q10	11/3/25	10:10	Soil	1											

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: [Signature]Received by: [Signature]Relinquished by: [Signature]Received by: [Signature]

Christian Sifford

Okaw Phaw

11F4

Fe B I

11/4/25

11/4/25 12:30

Received by:

Samples received at

3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/25 M4

Page # 2 of 4

Report To Fiona BellowsCompany Maui Foster & AlongiAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email Fbellows@maui-foster.com

SAMPLES (signature)

PROJECT NAME

Parcel 12

PO #

MO615,34.002

REMARKS

X = Ana1320
O = He161

INVOICE TO

accuinity @
maui-foster.com

Project specific RIs? - Yes / No

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Archive samples

☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA TCLP	Archive	A-analyze per FB 11/14/25 ME Notes
SB02-S-12	11	11/3/25	10:15	Soil	1											
SB02-S-17	12	11/3/25	10:25	Soil	1											
SB03-S-0.5	13	11/3/25	10:35	Soil	1								X			
SB03-S-1.5	14	11/3/25	10:40	Soil	1								A			
SB03-S-6.0	15	11/3/25	10:50	Soil	1											
SB03-S-11.5	16	11/3/25	10:55	Soil	1											
SB03-S-16	17	11/3/25	11:00	Soil	1											
SB04-S-0.5	18	11/3/25	11:10	Soil	1								X			
SB04-S-1.5	19	11/3/25	11:15	Soil	1											
SB04-S-4.5	20	11/3/25	11:20	Soil	1											

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: Received by: 

Relinquished by: _____

Received by: _____

Christian Sifford

Phan Phan

MFA

F&B I

11/4/25

11/4/25

12:50

12:50

Received by: _____

Samples received at 3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/85 M4

Page # 3 of 4

Report To Fiona BellowsCompany MacI Foster & HongAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 556 2020 Email fbellows@macifoster.com

SAMPLERS (signature)

PROJECT NAME

Parcel 12

PO #

M0615, 34, 002

REMARKS

X = Analysis
0 = Hold

INVOICE TO

accounting @
macifoster.com

TURNAROUND TIME

☒ Standard turnaround☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☒ Archive samples☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8	TELP	Notes
SB04-S-8	21	11/3/25	11:25	Soil	1											Archive
SB04-S-8-DUP	22	11/3/25	11:25	Soil	1											Archive
SB04-S-12	23	11/3/25	11:35	Soil	1											Archive
SB04-S-17	24	11/3/25	11:40	Soil	1											Archive
SB05-S-35	25	11/3/25	12:00	Soil	1								X			
SB05-S-45	26	11/3/25	12:05	Soil	1											Archive
SB05-S-8	27	11/3/25	12:10	Soil	1											Archive
SB05-S-13	28	11/3/25	12:15	Soil	1											Archive
SB06-S-2	29	11/3/25	12:40	Soil	1								X			
SB06-S-35	30	11/3/25	12:45	Soil	1											Archive

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by: [Signature]Received by: [Signature]Relinquished by: [Signature]Received by: [Signature]Christian SiffordNokan PhamMFAFEB I11/4/25 12:5011/4/25 12:50

Received by: _____

Samples received at 3 °C

511037

SAMPLE CHAIN OF CUSTODY

11/4/25 M4

Page # 4 of 4

Report To Fiona BellowsCompany Maul Foster & AlengAddress 2815 2nd Ave, Suite 540City, State, ZIP Seattle WA 98121Phone 206 356 2030 Email Fbellows@maulfoster.com

SAMPLES (signature)

PROJECT NAME

Parcel 12

PO #

MO615.34.002

REMARKS

X = Analyze

O = Hold

Project specific RIAs? - Yes / No

INVOICE TO

accounting@maulfoster.com

TURNAROUND TIME

☒ Standard turnaround☐ RUSH

Rush charges authorized by: _____

SAMPLE DISPOSAL

☒ Archive samples☐ Other _____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total As EPA 6020	RCRA 8 TAP	Notes
SB06-S-8.5	31	11/3/25	12:50	Soil	1										Archive
SB06-S-12	32	11/3/25	12:55	Soil	1										
SB06-S-12-DUP	33	11/3/25	12:55	Soil	1										
SB06-S-17	34	11/3/25	13:00	Soil	1										
SB07-S-1.5	35	11/3/25	13:45	Soil	1										
SB07-S-6	36	11/3/25	13:50	Soil	1										
SB07-S-11	37	11/3/25	13:55	Soil	1										
SB07-S-16	38	11/3/25	14:00	Soil	1										
SB05-S-17	39	11/3/25	12:20	Soil	1										
Drum A #11/4	40	11/3/25	14:15	Soil	1										

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Friedman & Bruya, Inc.

5500 4th Ave S.

Seattle WA 98108

(206) 285-8282

office@friedmanandbruya.com

Relinquished by:

Received by:

Relinquished by:

Received by:

Christian Sifford

Dhan Phan

MFA

FEB 25

11/4/25

12:50

Samples received at 3 °C

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 511037 CLIENT MFA INITIALS/DATE: (NP) 11/4/25

If custody seals are present on cooler, are they intact? ☒ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☒ Over the Counter ☐ Picked up by F&BI ☐ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/Date: AP 11/4/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☒ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label? (explain "no" answer below)

Sample ID's	☒ Yes ☐ No	☐ Not on COC/label
Date Sampled	☒ Yes ☐ No	☐ Not on COC/label
Time Sampled	☒ Yes ☐ No	☐ Not on COC/label
# of Containers	☐ Yes ☒ No	
Relinquished	☒ Yes ☐ No	
Requested analysis	☒ Yes ☐ On Hold	

Other comments (use a separate page if needed)
Added sample on COC SBO5-S-17 (39)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters** Number of unused TO17 tubes

Appendix F

Data Validation Memoranda



MAUL
FOSTER
ALONGI

Data Validation Memorandum

Project No. M0615.34.002 | November 11, 2025 | Port of Tacoma

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for soil and associated quality control samples collected in September 2025 at the Parcel 12 property located at 3802 Taylor Way in Tacoma, Washington.

Friedman & Bruya, Inc. (F&B), Alliance Technical Group dba Fremont Analytical, Inc. (Fremont), and Onsite Environmental (OE) performed the analyses. Portions of samples submitted to F&B were subcontracted to Fremont for chlorinated herbicide analysis and to OE for organophosphorus pesticide analysis. The Fremont and OE laboratory results are appended to the F&B reports. MFA reviewed F&B report numbers 509303, 509349, and 509491. The analyses performed and the samples analyzed are listed in the following tables. Not all analyses were performed on all samples.

Analysis	Reference
Chlorinated herbicides	EPA 8151A
Diesel- and motor oil-range hydrocarbons	NWTPH-Dx
Gasoline-range hydrocarbons	NWTPH-Gx
Organochlorine pesticides	EPA 8081B
Organophosphorus pesticides	EPA 8270E-SIM
Percent moisture	ASTM D2216-98
Total metals	EPA 6020B

Notes

ASTM = ASTM International.

EPA = U.S. Environmental Protection Agency.

NWTPH = Northwest Total Petroleum Hydrocarbons.

SIM = selected ion monitoring.

Samples Analyzed					
Report 509303	Report 509349		Report 509491		
T27-S-0-1	T53-S-0-1	T5-S-0-1	B55-S-0-1	B21-S-5-8	B45-S-5-7.5-DUP
T27-S-1-3	T53-S-1-6	T5-S-1-4	B55-S-2-4	B21-S-8-10	B45-S-7.5-10
T27-S-3-6.6	T53-S-6-9	T5-S-4-8	B55-S-6-8	B21-S-10-15	B45-S-10-15
T27-S-8-10	T53-S-9-12	T5-S-8-12	B55-S-8-10	B22-S-0-1	B76-S-0-1
T27-S-10-12.3	T14-S-0-1	T6-S-0-1	B55-S-10-15	B22-S-1-5	B76-S-1-5
T73-S-0-1	T14-S-1-2	T6-S-1-5	B33-S-0-1	B22-S-5-8	B76-S-5-10
T73-S-1-3	T14-S-1-2-DUP	T6-S-5-8	B33-S-1-2	B22-S-8-10	B76-S-10-15
T73-S-3-5	T14-S-2-3	T6-S-5-8-DUP	B33-S-5-8	B22-S-10-15	B76-S-10-15-DUP
T73-S-5-6.6	T14-S-3-6	T6-S-8-12	B33-S-8-10	B44-S-0-1	B50-S-0-1
T73-S-6.6-9.3	T14-S-6-8	--	B33-S-10-15	B44-S-1-5	B50-S-1-5
T73-S-9.3-12	--	--	B12-S-0-1	B44-S-5-7	B50-S-5-7
T70-S-0-1	--	--	B12-S-3-5	B44-S-7-10	B50-S-7-10
T70-S-3-5.7	--	--	B12-S-5-10	B44-S-10-15	B50-S-10-12
T70-S-5.7-9	--	--	B12-S-10-15	B45-S-0-1	B50-S-12-15
T70-S-9-12	--	--	B21-S-0-1	B45-S-1-5	B50-S-12-15-DUP
--	--	--	B21-S-1-5	B45-S-5-7.5	--

Data Validation Procedures

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020a, 2020b) and appropriate laboratory- and method-specific guidelines (EPA 1986, F&B 2024, Fremont 2023, OE 2024).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review guidelines do not specifically address (e.g., Northwest Total Petroleum Hydrocarbons [NWTPH]-Dx).

ASTM D2216-98 percent moisture results reported by the laboratory for dry-weight correction were reviewed for completeness but were not included in Stage 2A data validation.

Based on the data quality assurance/quality control review described herein, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- R = result is rejected. The analyte may or may not be present in the sample.
- U = result is non-detect at the method reporting limit (MRL).
- UJ = result is non-detect with an estimated MRL.

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) form accompanying the report(s), with the following exceptions.

According to the OE and Fremont subcontract COC forms provided with reports 509303 and 509491, there was a time gap of approximately 3 to 8.5 hours between the time of relinquishment by F&B and time of receipt by Fremont and OE. The reviewer confirmed that the sample coolers were relinquished by the F&B laboratory director, transported to each subcontract laboratory by an F&B courier, and held by the subcontract laboratory for an undocumented period of time before the coolers were opened, at which time, cooler temperature and sample receipt were recorded. The reviewer notified the laboratory of the receiving discrepancies and requested a review of sample receiving protocol.

According to the Fremont subcontract COC form provided with report 509349, there was a time gap of approximately 24 hours between the time of relinquishment by F&B and time of receipt by Fremont. Samples were relinquished by F&B on September 24, 2025 at 08:17. Samples were documented as received by Fremont on September 25, 2025 at 8:00. An original receipt time of 15:41 had been corrected by Fremont laboratory to "8 AM." The reviewer confirmed with F&B that samples associated with 509349 had been delivered to Fremont along with the samples associated with 509303, which were recorded by Fremont as received on September 24, 2025 at 15:40. The reviewer notified the laboratory of the receiving discrepancies and requested a review of sample receiving protocol.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

According to reports 509303 and 509348, samples were received by Fremont from the F&B courier at 13.1 degrees Celsius. The reviewer confirmed that samples were transferred from F&B to Fremont in a cooler containing wet ice, and that samples were removed from the cooler before the temperature was recorded. Because the temperature of the samples in the cooler at the time of receipt was not documented, and the length of time the samples were held by Fremont outside of the cooler was not available, the reviewer qualified the associated sample results, which were all non-detect, as shown in the following table.

Report	Sample	Analysis	Original Results	Qualification
509303	T27-S-0-1	EPA 8151A	Non-detect	UJ ^{(a)(b)}
	T73-S-0-1			
	T70-S-0-1			
509348	T53-S-0-1			
	T14-S-0-1			
	T5-S-0-1			
	T6-S-0-1			

Notes

UJ = result is non-detect with an estimated method reporting limit.

^(a)Sample T5-S-0-1 additionally qualified based on matrix spike and matrix spike duplicate recovery. Final qualification for these results is shown in the Matrix Spike and Matrix Spike Duplicate Results section below.

^(b)Acifluorfen results for all associated samples are also qualified based on continuing calibration verification exceedance. Final qualification is shown in the Continuing Calibration Verification Results section below.

The remaining samples were preserved and stored appropriately.

Reporting Limits

F&B, Fremont, and OE evaluated results to MRLs. OE reports MRLs as practical quantitation limits, which are equivalent to MRLs. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised MRLs.

The reviewer confirmed that when samples were diluted for analysis or when a higher sample volume was used for the extraction, F&B provided the preparation or dilution factor after the laboratory sample identification number.

Blank Results

Method Blanks

Laboratory method blanks are used to evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

All laboratory method blank results were non-detect to MRLs.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate the adequacy of the field equipment decontamination process when decontaminated sampling equipment is used to collect samples.

No equipment rinsate blanks were submitted for analysis. These blanks were not required for this sampling event, as all samples were collected using dedicated or single-use equipment.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results are used to evaluate laboratory precision and accuracy. Where LCSD results were not reported, laboratory precision was evaluated using laboratory duplicate and/or matrix spike (MS) and matrix spike duplicate (MSD) results. The LCS were prepared and analyzed at the required frequency. OE labeled LCS and LCSD results as spike blank and spike blank duplicate results, respectively.

According to reports 509303 and 509348, the EPA Method 8151A batch 49402 LCS results for 2,4-D and chloramben were above upper percent recovery acceptance limits, at 123 percent and 99.5 percent, respectively. The 2,4-D percent recovery was slightly above the upper limit and had been rounded down for reporting. The associated sample results were non-detect; thus, qualification was not required.

According to report 509491, the EPA Method 8151A batch 49530 LCS result for MCPP was above the upper percent recovery acceptance limit of 142 percent, at 175 percent. The associated sample results were non-detect; thus, qualification was not required.

All remaining LCS and LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision and sample homogeneity. All laboratory duplicate samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

Laboratory duplicate results greater than five times the MRL were evaluated using laboratory RPD control limits. A secondary criterion was used when laboratory duplicate results were non-detect or less than five times the MRL. Results meet the secondary criterion if the absolute difference of the laboratory duplicate sample result and the parent sample result, or the MRL for non-detects, is equal to or less than the MRL value of the parent sample.

In cases where the laboratory had prepared laboratory duplicates with samples from unrelated projects, laboratory duplicate RPD control limit exceedances did not require qualification because these sample matrices were not representative of project sample matrices.

All laboratory duplicate results met the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and target analyte recovery. All MS and MSD samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

When MS and MSD were prepared from samples with high concentrations of target analytes, associated MS and/or MSD percent recovery and/or RPD control limit exceedances did not require qualification because spike concentrations could not be accurately quantified. High concentrations of target analytes are defined as four times the spike amount for all analyses.

When MS and MSD were prepared with samples from unrelated projects, the MS and/or MSD percent recovery and/or RPD control limit exceedances did not require qualification because these sample matrices were not representative of project sample matrices.

According to reports 509303 and 509348, the EPA Method 8151A batch 49402 MS and MSD results for picloram were below the lower percent recovery acceptance limit of 5.42 percent, at 3.79 percent and 3.06 percent respectively. The MS and MSD also had no recovery for dacthal, and the MSD recovery for 2,4-DB was below the lower percent recovery acceptance limit of 40.9 percent, at 40.0 percent. The reviewer qualified the associated 2,4-DB result with UJ due to the minor percent recovery exceedance. The reviewer qualified the remaining associated sample results with R as shown in the following table.

Report	Sample	Analyte	Original Result (ug/kg)	Qualified Result (ug/kg)
509348	T5-S-0-1	2,4-DB	20.0 U	20.0 UJ ^(a)
		Picloram	20.0 U	20.0 R ^(a)
		Dacthal	20.0 U	20.0 R ^(a)

Notes

R = result is rejected. The analyte may or may not be present in the sample.

U = result is non-detect at the method reporting limit.

ug/kg = micrograms per kilogram.

UJ = result is non-detect with an estimated method reporting limit.

^(a)Results are also qualified based on receiving temperature, as described in the Preservation and Sample Storage section above. Final qualification, based on both temperature and MS and MSD recovery is shown here.

All remaining MS and MSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

Surrogate Results

Surrogate results are used to evaluate laboratory performance of target organic compounds for individual samples.

When surrogate results were outside percent recovery acceptance limits because of dilutions necessary to quantify high concentrations of target analytes, qualification by the reviewer was not required because surrogate concentrations could not be accurately quantified.

When batch quality control samples had surrogate percent recovery exceedances, qualification by the reviewer was not required when batch quality control target analyte results were within percent recovery acceptance limits.

According to report 509491, triphenyl phosphate exceeded the upper percent recovery acceptance limit of 133 percent for sample B55-S-0-1, at 139 percent. The tributyl phosphate surrogate result exceeded the upper percent recovery acceptance limit of 158 percent for samples B21-S-0-1, B22-S-0-1, B44-S-0-1, B45-S-0-1, B76-S-0-1, B50-S-0-1 ranging from 171 percent to 283 percent. The associated sample results were non-detect; thus, qualification was not required.

All remaining surrogate results were within percent recovery acceptance limits.

Continuing Calibration Verification Results

Continuing calibration verification (CCV) results are used to evaluate instrument sensitivity, precision, and accuracy throughout the analytical sequence.

CCV results are not required for Stage 2A validation, however, the reviewer evaluated results flagged by the laboratory for associated CCV exceedances. Surrogate or batch quality control results flagged by the laboratory based on CCV exceedances but meeting percent recovery and/or RPD acceptance criteria did not require qualification by the reviewer.

According to reports 509303 and 509348, all EPA Method 8151A acifluorfen results were flagged by OE due to a CCV result that was below the lower percent recovery acceptance limit of 80 percent, at 77.5 percent. OE noted that the associated sample results may have a low bias. The review qualified the results, which were all non-detect, with UJ, as shown in the following table.

Report	Sample	Analyte	Original Result (ug/kg)	Qualified Result (ug/kg)
509303	T27-S-0-1	Acifluorfen	19.1 U	19.1 UJ ^(a)
	T73-S-0-1		19.0 U	19.0 UJ ^(a)
	T70-S-0-1		19.6 U	19.6 UJ ^(a)
509348	T53-S-0-1		19.1 U	19.1 UJ ^(a)
	T14-S-0-1		19.3 U	19.3 UJ ^(a)
	T5-S-0-1		20.0 U	20.0 UJ ^(a)
	T6-S-0-1		19.2 U	19.2 UJ ^(a)

Notes

U = result is non-detect at the method reporting limit.

ug/kg = micrograms per kilogram.

UJ = result is non-detect with an estimated method reporting limit.

^(a)Results also qualified based on sample receiving temperature, as noted in the Preservation and Sample Storage section above. Final qualification is shown.

According to report 509941, all EPA Method 8151A picloram and bentazon sample results were flagged by OE due to initial calibration verification that exceeded the acceptance criteria. The review qualified the results, which were all non-detect, with UJ, as shown in the following table:

Report	Sample	Analyte	Original Result (ug/kg)	Qualified Result (ug/kg)
509941	B55-S-0-1	Picloram	23.2 U	23.2 UJ
	B33-S-0-1		22.8 U	22.8 UJ
	B12-S-0-1		22.2 U	22.2 UJ
	B21-S-0-1		21.6 U	21.6 UJ
	B22-S-0-1		20.9 U	20.9 UJ
	B44-S-0-1		21.0 U	21.0 UJ
	B45-S-0-1		21.8 U	21.8 UJ
	B76-S-0-1		21.9 U	21.9 UJ
	B50-S-0-1		21.8 U	21.8 UJ
	B55-S-0-1	Bentazon	23.2 U	23.2 UJ
	B33-S-0-1		22.8 U	22.8 UJ
	B12-S-0-1		22.2 U	22.2 UJ
	B21-S-0-1		21.6 U	21.6 UJ
	B22-S-0-1		20.9 U	20.9 UJ

Report	Sample	Analyte	Original Result (ug/kg)	Qualified Result (ug/kg)
	B44-S-0-1		21.0 U	21.0 UJ
	B45-S-0-1		21.8 U	21.8 UJ
	B76-S-0-1		21.9 U	21.9 UJ
	B50-S-0-1		21.8 U	21.8 UJ

Notes

U = result is non-detect at the method reporting limit.

ug/kg = micrograms per kilogram.

UJ = result is non-detect with an estimated method reporting limit.

According to reports 509349 and 509491, the EPA Method 6020B total mercury results associated with samples T14-S-1-2-DUP, T5-S-0-1, and T6-S-0-1 and the batch laboratory method blank (I5-855 mb) were flagged by F&B due to a CCV result that was above the upper percent recovery acceptance limit, indicating a potential high bias. The sample results and the batch laboratory method blank were non-detect; thus, qualification was not required.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. The following field duplicate and parent sample pairs were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
509349	T14-S-1-2	T14-S-1-2-DUP
	T6-S-5-8	T6-S-5-8-DUP

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect. When only one result in the sample pair was non-detect, RPD was evaluated using the MRL of the non-detect result.

All field duplicate results met the RPD acceptance criteria.

Data Package

The data package was reviewed for transcription errors, omissions, and anomalies.

The COC form provided with report 509303 indicates requests for both hold and a combination of analyses for all samples. The reviewer confirmed that all samples were originally submitted to F&B on hold and were later changed by the MFA project manager to analysis for the methods that are indicated. The reviewer confirmed that the correct analyses were performed. No additional action was required.

Report 509491 was reissued by F&B on November 13, 2025 to include ASTM D2216-98 percent moisture results, which were omitted from the original report.

No additional issues were found.

References

EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA

(1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020a. *National Functional Guidelines for Inorganic Superfund Methods Data Review*. EPA 542-R-20-006. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

EPA. 2020b. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

Fremont. 2023. *Quality Assurance*. Rev. 3.7. Fremont Analytical, Inc.: Seattle, WA. April 18.

F&B. 2024. *Quality Assurance Manual*. Rev. 19. Friedman & Bruya, Inc.: Seattle, WA. October 9.

OE. 2024. *Quality Assurance Manual*. Rev. 9.11. OnSite Environmental Inc.: Redmond, WA. June 25.

Data Validation Memorandum

Project No. M0615.34.002 | November 20, 2025 | Port of Tacoma

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for soil and associated quality control samples collected on November 3, 2025, at the Parcel 12 property located at 3802 Taylor Way in Tacoma, Washington.

Friedman & Bruya, Inc. (F&B) performed the analyses. MFA reviewed F&B report numbers 511037 and 511037-additional. The analyses performed and the samples analyzed are listed in the following tables. Samples submitted on hold are indicated below. Follow-up analysis for sample SB03-S-1.5 was requested by the MFA project manager after initial results were received. Toxicity characteristic leaching procedure analysis was only performed on investigation-derived waste sample DRUM01 for waste characterization purposes.

Analysis	Reference
Arsenic	EPA 6020B
Percent moisture	ASTM D2216-98
TCLP metals	EPA 1311/6020B

Notes

ASTM = ASTM International.

EPA = U.S. Environmental Protection Agency.

TCLP = toxicity characteristic leaching procedure.

Samples Analyzed		
Report 511037		
DRUM01	SB03-S-1.5 ^(a)	SB05-S-8 (hold)
SB01-S-1.5	SB03-S-6.0 (hold)	SB05-S-13 (hold)
SB01-S-2.5 (hold)	SB03-S-11.5 (hold)	SB06-S-2
SB01-S-6 (hold)	SB03-S-16 (hold)	SB06-S-3.5 (hold)
SB01-S-6-DUP (hold)	SB04-S-0.5	SB06-S-8.5 (hold)
SB01-S-12 (hold)	SB04-S-1.5 (hold)	SB06-S-12 (hold)
SB01-S-18 (hold)	SB04-S-4.5 (hold)	SB06-S-12-DUP (hold)
SB02-S-0.5	SB04-S-8 (hold)	SB06-S-17 (hold)
SB02-S-1.5 (hold)	SB04-S-8-DUP (hold)	SB07-S-1.5
SB02-S-5.5 (hold)	SB04-S-12 (hold)	SB07-S-6 (hold)
SB02-S-12 (hold)	SB04-S-17 (hold)	SB07-S-11 (hold)
SB02-S-17 (hold)	SB05-S-3.5	SB07-S-16 (hold)
SB03-S-0.5	SB05-S-4.5 (hold)	SB05-S-17 (hold)

Note

^(a)Sample analyzed in report 511037-additional.

Data Validation Procedures

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020) and appropriate laboratory- and method-specific guidelines (EPA 1986, F&B 2024).

ASTM International D2216-98 percent moisture results reported by the laboratory for dry-weight correction were reviewed for completeness but were not included in Stage 2A data validation.

Based on the data quality assurance/quality control review described herein, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifier:

- U = result is non-detect at the method reporting limit (MRL).

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) form accompanying the reports.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated results to MRLs.

Blank Results

Method Blanks

Laboratory method blanks are used to evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

All laboratory method blank results were non-detect to MRLs.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate the adequacy of the field equipment decontamination process when decontaminated sampling equipment is used to collect samples.

These blanks were not required for this sampling event, as all samples were collected using dedicated or single-use equipment.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results are used to evaluate laboratory precision and accuracy. No LCSD results were reported; laboratory precision was evaluated using matrix spike (MS) and matrix spike duplicate (MSD) results. All LCS were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

All LCS results were within acceptance limits for percent recovery.

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision and sample homogeneity. No laboratory duplicate results were reported; laboratory precision was evaluated using MS and MSD results.

Matrix Spike and Matrix Spike Duplicate Results

MS and MSD results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and target analyte recovery. All MS and MSD samples were prepared and analyzed at the required frequency, in accordance with laboratory- and method-specific requirements.

All MS and MSD results were within acceptance limits for percent recovery and relative percent difference.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. The following field duplicate and parent sample pairs were submitted on hold:

Report	Parent Sample	Field Duplicate Sample
511037	SB01-S-6	SB01-S-6-DUP
	SB04-S-8	SB04-S-8-DUP
	SB06-S-12	SB06-S-12-DUP

Data Package

The data package was reviewed for transcription errors, omissions, and anomalies.

According to the sample receipt form accompanying report 511037, F&B added sample SB05-S-17 to the COC form upon receipt using information provided on the sample label. The reviewer confirmed with the field sampler that this sample was collected and submitted on hold but erroneously omitted from the COC form.

No other issues were found.

References

EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*. EPA 542-R-20-006. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

F&B. 2024. *Quality Assurance Manual*. Rev. 19. Friedman & Bruya, Inc.: Seattle, WA. October 9.