Cleanup Action Plan

Eatonville Landfill
Eatonville, Washington

Facility Site ID No. 85933/Cleanup Site ID No. 15271

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Abbreviations and Acronyms

ARAR	applicable or relevant and appropriate requirement
Bgs	below ground surface
CFR	Code of Federal Regulations
CLARC	Cleanup Levels and Risk Calculation
COC	contaminant of concern
CSM	Conceptual Site Model
CUL	cleanup level
CWA	Clean Water Act
DAHP	Department of Archaeology and Historic Preservation
dCAP	draft Cleanup Action Plan
DRO	diesel-range organics
DU	decision unit
Ecology	Washington State Department of Ecology
EPA	U.S Environmental Protection Agency
FS	feasibility study
ft	feet or foot
GRO	gasoline-range organics
IC	institutional control
IDP	Inadvertent Discovery Plan
Landfill Area	the former municipal waste landfill on the Site
MNA	monitored natural attenuation
MTCA	Model Toxics Control Act
OMMP	Operations, Maintenance, and Monitoring Plan
ORO	oil-range organics
PBDE	polybrominated diphenyl ether
PCB	polychlorinated biphenyl
PCP	Pentachlorophenol
PLP	Potentially Liable Person
POC	point of compliance
Property	a 6.3-acre rectangular parcel of land owned by Weyerhaeuser Company (Weyerhaeuser) (Tax Parcel No. 0416201007)
RCW	Revised Code of Washington
RI	remedial investigation
RI/FS	remedial investigation/feasibility study

SEPA	State Environmental Policy Act
Site	the Former Eatonville Landfill near Eatonville, Washington
SL	screening level
SVOC	semivolatile organic compound
TEE	Terrestrial Ecological Evaluation
total cPAHs	total carcinogenic polycyclic aromatic hydrocarbons
Town	Town of Eatonville
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound
WAC	Washington Administrative Code
Wetland Area	the area beyond the toe of the landfill on the Site
Weyerhaeuser	Weyerhaeuser Company

Executive Summary

This document presents the draft Cleanup Action Plan (dCAP) for the Former Eatonville Landfill (Site) located near Eatonville, Washington. This dCAP was prepared by the Washington State Department of Ecology (Ecology) in collaboration with Weyerhaeuser Company (Weyerhaeuser) and the Town of Eatonville (Town), who Ecology has determined to be Potentially Liable Persons (PLPs) for the Site. The dCAP has been prepared to meet the requirements of the Model Toxics Control Act (MTCA) administered by Ecology under Chapter 173-340 of the Washington Administrative Code (WAC). This dCAP describes Ecology's final remedy for the Site and the requirements that must be met during the cleanup action itself.

Background

The Site is composed of a former municipal waste landfill (referred to as the "Landfill Area") and the area beyond the toe of the landfill (referred to as the "Wetland Area"), which contains limited solid wastes that have migrated away from the Landfill Area, receives stormwater and spring runoff from the landfill and the surrounding bluff, and has natural springs that discharge to the Wetland Area at various points along the bluff. The source of contamination at the Site is municipal household and other wastes that were dumped during and after the active landfilling period. Over time, limited wastes (i.e., tires and large metal debris) have migrated beyond the landfill prism into the Wetland Area. Separately, after landfill closure, recreational firearm shooting/target practice was conducted at the Site.

A 2017 investigation conducted by the Washington Department of Fish and Wildlife of the surrounding watershed identified the landfill as a potential source of polybrominated diphenyl ethers (PBDEs or BDEs) adversely affecting steelhead trout (*Oncorhynchus mykiss*) in the Mashel and Nisqually Rivers (O'Neill et al., 2020). Following the September 2020 release of the Washington Department of Fish and Wildlife's investigation results, the Nisqually Indian Tribe notified Ecology about potential releases of PBDEs to the Nisqually River from various sources within the watershed, including the Site (Bellon and Gavin, 2020). Weyerhaeuser and the Town agreed to further investigate the Site for PBDEs and other possible contaminants (Weyerhaeuser, 2020). The remedial investigation (RI) took place between 2021 and 2022 and included surface water, groundwater, and soil sampling and analysis for a suite of potential contaminants, including PBDEs.

Contaminants of concern (COCs) identified in Site media (soil, groundwater, and surface water) during the RI include the following:

- **Metals.** Arsenic, cadmium, chromium, copper, hexavalent chromium, iron, lead, nickel, and zinc
- **Semivolatile Organic Compounds (SVOCs).** Pentachlorophenol (PCP) and total carcinogenic polycyclic aromatic hydrocarbons (cPAHs)
- **Total Petroleum Hydrocarbons (TPH).** Gasoline range organics (GRO) and diesel-range/residual-range organics (DRO/ORO)

Cleanup levels (CULs) were developed as part of the combined RI and feasibility study (RI/FS) (GSI, 2024a) for the above-listed COCs. These CULs take into consideration the active pathways between media and the different receptor scenarios (human health and ecological) that have been shown to be active at the Site.

Cleanup Action

The final cleanup action for the Site includes two distinct parts (by area) as a result of their specific impacts and ecological conditions:

1. Full waste (approximately 21,500 cubic yards) and impacted soil (approximately 1,800 cubic yards) removal from the Landfill Area and restoration/mitigation of impacted wetlands beneath the waste prism and at the toe of the Landfill Area.
2. Removal of wastes, containment, monitored natural attenuation (MNA), and institutional controls (ICs) for the Wetland Area.

This combined cleanup action meets the MTCA requirements for the Site and was determined to be permanent to the maximum extent practicable. Additionally, this cleanup action prevents harm to the existing healthy and high value wetland ecosystem.

Institutional controls will be part of the cleanup action for the protection of human health. Access to the Wetland Area will be restricted until soils impacted by TPH-GRO naturally attenuate below direct contact CULs. The use of Site groundwater for human consumption will be restricted until concentrations of upgradient hexavalent chromium are below CULs. In addition, zinc will attenuate below CULs over time after the sources are removed. The use of surface water for human consumption will be restricted in the Landfill Area until upgradient concentrations of hexavalent chromium attenuate or drop below the CUL. An Operations, Maintenance, and Monitoring Plan (OMMP) will be developed to maintain and evaluate ICs until concentrations are found to be below CULs for human use.

A standard point of compliance (POC) for Landfill Area and Wetland Area soils will be used at the Site. Following waste and soil removal (combined, 23,300 cubic yards), this soil POC will extend from the ground surface to a depth of 15 feet (ft) below ground surface (bgs) (based on human exposure through direct contact), 6 ft (for screening based on ecological exposure), and in the soils throughout the Site (for groundwater protection). Standard POCs will also be used for groundwater and surface water. The soil, groundwater, and surface water CULs at their respective POCs will be met throughout the Site within reasonable restoration timeframes after completion of the cleanup action.

The overall restoration timeframe for the Site is 10 years, with Landfill Area soil expected to be restored immediately after waste and impacted soil removal to the maximum extent practicable. COCs in Wetland Area soil, Site groundwater, and Site surface water are expected to be below CULs within 10 years as a result of MNA and the removal of source materials associated with the landfill and fugitive wastes in the Wetland Area. Compliance monitoring, including protection, performance, and confirmation monitoring, will be performed to ensure the remedy has been completed and continues to perform as designed. If COCs are still above CULs at the end of the expected restoration timeframe, additional cleanup actions will be considered under an adaptive management plan.

1 Introduction

This document is the draft Cleanup Action Plan (dCAP) for the Former Eatonville Landfill (Site) located near Eatonville, Washington. It was prepared by the Washington State Department of Ecology (Ecology) in collaboration with Weyerhaeuser Company (Weyerhaeuser) and the Town of Eatonville (Town), who Ecology has determined to be Potentially Liable Persons (PLPs) for the Site. The Site is identified by Ecology using Facility Site ID No. 85933 and Cleanup Site ID No. 15271. The Site is located within and centered around the extents of a 6.3-acre rectangular parcel of land owned by Weyerhaeuser Company (Weyerhaeuser) (Tax Parcel No. 0416201007) (Property) adjoining Nisqually State Park property managed by Washington State Parks and Recreation Commission (State Parks). Figures 1-1 and 1-2 show the location of the Site and its setting within Nisqually State Park. A dCAP is required as part of the site cleanup process under Washington Administrative Code (WAC) Chapter 173-340, Model Toxics Control Act (MTCA) Cleanup Regulations. The purpose of the dCAP is to identify the proposed cleanup action (also known as remedial action) for the Site and to provide an explanatory document for public review. More specifically, this dCAP:

- Describes the Site setting, historical use, and current conditions.
- Summarizes the cleanup action alternatives considered in the remedy selection process.
- Summarizes the selected final cleanup actions and the rationale behind their selection.
- Describes the selected final cleanup action for the Site and the rationale for its selection.
- Identifies Site-specific cleanup levels (CULs) and points of compliance (POCs) for each contaminant of concern (COC), media (soil, groundwater, and surface water), and Site area (Landfill Area and Wetland Area).
- Identifies state/federal laws that are applicable or relevant and appropriate requirements (ARARs) for the cleanup action.
- Identifies residual contamination remaining on the Site post implementation of the cleanup action and the restrictions on future use/activities that will be put into place to ensure the continued protection of human and ecological health.
- Discusses restoration timeframes and compliance monitoring requirements.
- Establishes an adaptive management plan for the final cleanup action if groundwater is not likely to attenuate below CULs at the POC within the anticipated restoration timeframes.
- Presents the schedule for implementing the dCAP.

Ecology has made a preliminary determination that a cleanup conducted in conformance with this dCAP will comply with the requirements for selection of a remedy under WAC 173-340-360. Ecology has selected this remedy because it will be protective of human health and the environment. Furthermore, the selected remedy is consistent with the State of Washington’s preference for permanent solutions, as stated in Revised Code of Washington (RCW) 70.105D.030(1)(b). However, all Tribal and public input will be considered before finalizing this dCAP.

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2 Site Description and Background

The following sections provide a discussion of the Site's setting, history, areas, previous studies, human health and environmental risks, relevant COCs, and cleanup standards and POCs. Additional details concerning the Site description and background are presented in the draft RI/FS (GSI, 2024a)

2.1 Site Setting

The Site, defined as the area where the cleanup action will take place, is situated between the Puget Sound Lowland to the west and north and the Mount Rainier foothills to the east (Figures 1-1 and 1-2). The Site is contained within the 460,172-acre Nisqually River watershed (Figures 1-1 and 1-2). The Site is located upon a bluff north of the Mashel River. Natural slopes in the vicinity of the landfill are as steep as 1.5H:1V, and the slopes give way to vertical cliffs further from the Site. Anthropogenic landfill deposits of household and other wastes within the "Landfill Area" were placed on top of the natural slopes resulting in slopes as steep as 1H:1V. The steep bluff gives way to a flat region of land referred to as the "Wetland Area" that eventually transitions to the Mashel River floodplain and riverbanks.

The delineated wetlands south of the toe of the landfill receive stormwater runoff, along with spring and seep discharges at various points along the toe of the landfill, resulting in variably saturated soil conditions. Per the 2022 wetland delineation, the area is assumed to be a jurisdictional wetland covering 4.84 acres within the Site (Figure 1-2) (PHS, 2022). Additional delineation work in 2023 showed that areas immediately adjacent to the upgradient portions of the Weyerhaeuser property and the former borrow pit area did not contain any delineated wetlands (Confluence, 2024; Appendix A). The resource value of the wetland was also determined through the wetland rating process, using the Washington State Wetland Rating System for Western Washington (Hruby, 2014), which assesses wetland functions and values, sensitivity to disturbance, rarity, and irreplaceability (Confluence, 2024; Appendix A). The wetland was rated as Category I, and is, therefore, identified as a wetland of high conservation value (Confluence, 2024; Appendix A).

Surface waters from the Site have the potential to discharge to the Mashel River channel via an unnamed creek forming within the wetlands downgradient of the Site and flowing to the south-southwest when sufficient water is present. Surface water from the spring and seeps at the base of the landfill present largely as sheet flow discharge into the Wetland Area with discharge volumes varying significantly based on season. Stormwater either infiltrates in place or crosses the Wetland Area, mainly as sheet flow, and infiltrates within the Wetland Area or flows into the unnamed creek that that forms past the property line.

Groundwater at the Site is present within a shallow unconfined aquifer that may present as seeps or springs at the ground surface in some locations. Water supply wells located near the Site beneficially use water from the aquifer. However, these wells are not likely to be impacted by the Site as a result of the groundwater flow direction in the area. Groundwater at the Site is estimated to flow to the south-southwest toward the Mashel River and may present as surface water or remain in the unconfined shallow groundwater zone within the wetlands. A 3- to 5-foot (ft) thick lens of perched groundwater is present at shallow depths of approximately 22 to 25 ft below ground surface (bgs) overlying a fine-grained unit in the Vashon Formation upgradient of the landfill. Although the vertical and lateral extent of the perched groundwater was not delineated, it appears to emerge on the west side of the slope at the edge of the landfill as a spring. Figure 2-1 shows a conceptual site model (CSM) of the Site.

2.2 Historical Site Use

The following sections detail the cultural, private, and public use of the Site.

2.2.1 Cultural Use

The Site is centrally situated within the Nisqually River watershed, in the area where the Nisqually Indian Tribe—and its ancestors, the Squalli-absch—have resided for more than 10,000 years. The Nisqually Indian Tribe had established several villages in the basin, including a major village near the Mashel River (Nisqually Indian Tribe, 2021). The Nisqually Indian Tribe is a federally recognized sovereign nation and a successor-in-interest to the bands and Tribes who were signatories to the 1854 Treaty of Medicine Creek. *See* United States v. Washington, 384 F. Supp. 312, 367–68 (W.D. Wash. 1974), aff'd 520 F.2d 676 (9th Cir. 1975), cert. denied, 423 U.S. 1086, 96 S. Ct. 877 (1976); *see also* Treaty of Medicine Creek, 10 Stat. 1132 (1854). The Treaty of Medicine Creek recognizes the Nisqually Indian Tribe's sovereign right to self-governance and self-determination and guarantees the Nisqually Indian Tribe the reserved "right of taking fish, at all usual and accustomed grounds and stations [(U&A)], … together with the privilege of hunting, gathering roots and berries, and pasturing their horses on open and unclaimed lands[.]" 10 Stat. 1132, Art. 3.

2.2.2 Private and Public Use

Weyerhaeuser Timber Company acquired the land encompassing what is now Nisqually State Park by 1915. Their holdings were intermittently harvested for timber from 1915 to 2010, when the land was sold to State Parks (Trost, 2021). Weyerhaeuser retained ownership of the Property, which currently falls outside of Nisqually State Park. The Town of Eatonville (Town) leased the Property from Weyerhaeuser between November 1950 and March 1, 1980, for use as a municipal landfill (Tacoma-Pierce County Health Department, 2010; Weyerhaeuser, 2014; Ecology, 2021). The landfill was unlined and received municipal household and other wastes during operations. Additionally, tires, appliances, and car bodies were placed at the Property either during operation of the landfill or through illegal dumping after the landfill closure. The landfill was burned and treated several times to reduce rodent infestation (Tacoma-Pierce County Health Department, 2010). The nature of landfilling and burn activities was not closely monitored and/or documented, and operational details are limited.

The Property has been vacant and undeveloped since the closure of the landfill in 1980 (Parametrix, 1996; Tacoma-Pierce County Health Department, 2010). During closure of the landfill, a barrier of tree stumps and snags was placed at the upslope landfill ridge to restrict vehicle access; however, illegal dumping may have occurred, and firearm use did occur, after closure (Parametrix, 1996; GSI, 2024a).

In 2010, 1,230 acres of the land surrounding the Property was officially designated as Nisqually State Park (Fields, 2010). Before and during development of the state park, firearm use at the former borrow pit and Landfill Area was likely ongoing, as evidenced by the large amount of firearm related materials found throughout these areas. Unsanctioned shooting activities are still suspected to occur on occasion, given the apparent age, condition, and quantity of shooting evidence at the Site (GSI, 2024a).

2.3 Remediation Areas

Two distinct remediation areas of the Site were established for the purpose of creating distinct units for the design, implementation, and evaluation of the cleanup action:

1. Landfill Area
2. Wetland Area

Figure 2-2 shows these two remediation areas. The following sections describe these remediation areas for the purpose of implementing the cleanup action at the Site. Remedies are presented for each area, as described in the Remedial Investigation and Feasibility Study (RI/FS) (GSI, 2024a) and in Section 3 of this dCAP, because of their unique impacts and risks.

2.3.1 Landfill Area

The Landfill Area refers to the portion of the Site containing the waste prism, along the slope and inclusive of the interface between the waste prism and the Wetland Area. Also included in the Landfill Area is a small lobe ("toe") of delineated wetland along the waste prism/Wetland Area interface that has zinc impacts.

2.3.2 Wetland Area

The Wetland Area refers to the portions of the Site between the toe of the landfill and downgradient/downhill end of the Site delineated as wetlands or on the flanks of the delineated wetland. To assist with developing and studying alternatives, the RI/FS assumed that the delineated and inferred wetlands at the Site are jurisdictional, per the U.S. Army Corps of Engineers (USACE) *Wetland Delineation Manual* (USACE, 1987) and the *Regional Supplement to the USACE Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE, 2010). Additionally, the remedial alternatives in the feasibility study (FS) were designed with this designation in mind and intended to comply with all applicable state and federal regulations at the time the cleanup action is implemented.

The Wetland Area has a well-established root mass and canopy, and the presence of healthy flora provides a natural protective cover over soils and minimizes erosional processes. This type of ecological structure stabilizes contaminants such as metals through natural biological processes (Yan et al., 2020; Bhat et al., 2022). Access to the Wetland Area by humans is also difficult as a result of the steepness of the Landfill Area slope and the softness of soils at the base of the landfill, which serve as natural barriers to frequent and prolonged human use.

2.4 Previous Studies

Previous studies at the Site were conducted over three distinct phases of investigation. These phases of investigation include:

1. Pre-remedial investigation from 1996 to 2021
2. Remedial investigation (RI) from 2021 to 2023 (GSI, 2024a)
3. Post-remedial investigation waste characterization in 2023 (GSI, 2024b; Appendix B)

The work done during these phases of investigation and their respective field events are described in the sections below. Figure 2-2 shows the locations of different activities from previous investigations.

2.4.1 Pre-Remedial Investigation (1996–2021)

Several investigations were conducted at the Site between 1996 and 2021, including:

- **1996.** Surface water and seep sampling was performed for biological parameters (biological oxygen demand, N-ammonia, chloride, and sulfate) and metals (iron, manganese, and zinc) (Parametrix, 1996).
- **2013.** Twenty-seven test pits were excavated on the upper portion of the landfill to determine the geologic conditions underlying the landfill and to assess the types and compositions of wastes present (PES, 2013).

- **2017.** Eleven co-located water and biofilm samples were collected within the Mashel and Nisqually Rivers and analyzed for polybrominated diphenyl ethers (PBDEs) (O'Neill et al., 2020). The findings indicated that the Site is not likely to be a contributing source of PBDEs to the Mashel River.
- **January 2021.** Sampling of surface water at seepage points along the toe of the landfill was performed. Metals (lead and zinc) were detected above the applicable MTCA screening levels (SLs) for (Aquatic Life: Fresh Water/Chronic, 173-201A WAC) in four samples. Volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and PBDEs were not detected in any samples.

2.4.2 Remedial Investigation (2021–2023)

The RI was completed during several different field deployments between 2021 and 2023, including:

- **Dry Season Event (September and November 2021).** The dry season event was conducted to delineate the waste prism, collect geotechnical data, assess whether methane was present with the landfill, assess the chemical condition of the former borrow pit adjacent to the Site, and evaluate potential seasonal effects on water quality and groundwater/surface water interactions.
- **Wet Season Event (January and February 2022).** The wet season event was conducted to evaluate soil conditions in the Wetland Area and potential seasonal effects on water quality and groundwater/surface water interactions. This event also included a partial wetland delineation, land survey, and geophysical survey to characterize the extents of the waste prism.
- **Step-out Investigation (August 2022).** Soil samples collected at additional step-out locations in the Wetland Area were intended to further delineate metals concentrations.
- **Terrestrial Ecological Evaluation (September 2022).** Consistent with WAC 173-340-7493, a Site-specific Terrestrial Ecological Evaluation (TEE) Weight of Evidence approach was implemented to evaluate whether adverse impacts from COCs to Wetland Area soils have adverse effects on the ecological condition (plants, animals, and soil biota). No adverse effects were observed. The study also developed site-specific screening levels of metals protective of terrestrial ecological receptors in the Wetland Area.
- **Site Feature Survey (May 2023).** A Site feature survey was conducted to better understand the connection of the unnamed creek to the Mashel River, delineate the extent of fugitive wastes in the Wetland Area, and document evidence of shooting activities.

2.4.3 Post-Remedial Investigation (2023)

After the RI was completed, additional data collection was undertaken to characterize Site wastes for disposal in support of the development of a future remedial design. This waste characterization effort was conducted to inform the classification of wastes associated with the Site for disposal. These wastes included waste prism materials, native soils beneath the waste prism, and wetland soils from the zinc impacted lobe. In total, 17 test pits were completed and 5 wetland soil samples were collected. Findings indicate that the materials proposed for removal during the cleanup action do not qualify as federal hazardous wastes per 40 Code of Federal Regulations (CFR) § 261 based on the chemical and characteristic testing results (GSI, 2024b; Appendix B). No samples exhibited signs of leaching through the Toxicity Characteristic Leaching Procedure or exceeded the Toxic Substances Control Act 15 United States Code § 2605 threshold for polychlorinated biphenyl (PCB) concentrations (GSI, 2024b; Appendix B). Additionally, Landfill Area soils and waste materials do not qualify as Washington State Dangerous Wastes per WAC 173-303-100 as a result of their exemption in WAC 173-303-071(3)(c) (GSI, 2024b; Appendix B).

2.5 Human Health and Environmental Risks

The following sections describe the contamination found at the Site, exposure pathways of concern, potentially exposed human populations and ecological receptors, and the potential impacts of climate change on the environmental risks posed by the Site.

2.5.1 Media

The primary media at the Site that may pose human health and environmental risks are soil, groundwater (which may be expressed as seeps at the toe of the landfill and from the spring near the top of the landfill), and surface water. However, the RI also considered impacts to soil in the Wetland Area from landfill migration pathways, such as soil and waste erosion, wind-blown dust, ambient air from possible residual volatile compounds, and metals related to the recreational shooting of firearms. The following are generalized discussions of the contamination associated with different media at the Site.

Soil in the Landfill Area is contaminated with several COCs that pose risks to human health and/or the ecological condition. These COCs include metals, SVOCs (pentachlorophenol [PCP] and total carcinogenic polycyclic aromatic hydrocarbons [cPAHs]), and total petroleum hydrocarbons (TPH)—gasoline-range organics (GRO) and diesel-range/residual-range organics (DRO/ORO). In the Wetland Area, soil contamination risks to human health are limited to TPH-GRO, while ecological risks in Wetland Area soil are limited to TPH-DRO/ORO.

Site groundwater is contaminated with hexavalent chromium (upgradient source), iron, and zinc. Hexavalent chromium and zinc are risks to human health. Zinc also poses a chronic exposure risk to aquatic life due to the seepage occurring at the base of the landfill. Iron is above Potable Groundwater SL based on aesthetic concern.

Site surface water is contaminated with hexavalent chromium (upgradient source) and zinc. Hexavalent chromium is a risk to human health. Zinc poses a chronic exposure risk to aquatic life.

2.5.2 Exposure Pathways

Cleanup standards, TEE procedures, and a contaminant screening process guided by WAC 173-340-720, -730, -740, -747, and -7490 through -7494 were used to further evaluate migration pathways and media-specific exposure routes identified through the CSM (Figure 2-1).

The human exposure routes for Site COCs are through the following pathways:

- **Direct Contact (soil).** Future excavation and utility workers, park visitors, and occupational workers.
- **Ingestion/Direct Contact (groundwater).** Retained as a conservative measure (no beneficial use within 0.5 miles) in accordance with WAC 173-340-720, to protect the potential beneficial uses as a future source of drinking water or other designated uses and protection of surface water beneficial use.
- **Ingestion/Direct Contact (surface water).** Current and/or future park visitors or occupational workers. Other current surface water beneficial use is not known or suspected at or near the Site.

The most probable ecological exposure routes to contaminants originating at the Site are through direct soil contact, bioaccumulation, and groundwater or surface water ingestion and contact. However, the TEE conducted as part of the RI/FS concluded that metals and other contaminants in Wetland Area soils at the Site does not present a risk of significant adverse effects to terrestrial ecological receptors (GSI, 2024a). Surface water that has zinc concentrations exceeding the SL based on protection of aquatic life is limited within the Landfill Area.

The evaluation of the human health and environmental risks posed by the Site have also considered nearby Tribes, vulnerable populations, and overburdened communities and the potential for climate change to impact the cleanup action. The following sections discuss these aspects of the Site and its associated cleanup action.

2.5.3 Potentially Exposed Human Populations

The census tract in which the Site is located (073200) and the two surrounding tracts (073006 and 012510) were assessed per RCW 70A.02.010 and WAC 173-350(5) for vulnerable populations and overburdened communities using Ecology Implementation Memorandum No. 25 (Ecology, 2024). In addition, as the Nisqually Indian Tribe is known to use the Nisqually River, which connects to the Mashel River, the census tract containing the Nisqually Indian Tribe's main settlement (012320) was also similarly assessed.

Vulnerable populations include population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, because of the following:

- **Adverse Socioeconomic Factors.** Unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms
- **Sensitivity Factors.** Low birth weight and higher rates of hospitalization

Overburdened communities are defined as geographic areas where vulnerable populations face combined, multiple environmental harms and health impacts.

The Washington State Department of Health's Environmental Health Disparities Map (Washington State Department of Health, 2022) and EPA's EJScreen tool (EPA, 2023) were used to screen the Environmental Health Disparities Index, the Demographic Index, and the Supplemental Demographic Index. The following shows the result of the screening:

- **Environmental Health Disparities Index.** The Environmental Health Disparities Index is based on 19 indicators across four themes. The themes include environmental exposures, environmental effects, sensitive populations, and socioeconomic factors. The Site's census tract and the two surrounding tracts rank 2 out of 10, and the Nisqually Indian Tribe census tract ranks 4 out of 10. The criteria for a likely overburdened community or vulnerable population is a 9 or 10 out of 10.
- **Demographic Index.** The demographic index is based on the average of two socioeconomic indicators: low-income and people of color. The Site's census tract ranks in the 43rd percentile for Washington State. The two surrounding tracts rank in the 31st and 32nd percentiles, and the Nisqually Indian Tribe's census tract ranks in the 57th percentile. The criteria for a likely overburdened community or vulnerable population is at or above the 80th percentile.
- **Supplemental Demographic Index.** The supplemental demographic index is based on the average of five socioeconomic indicators: low-income, unemployment, limited English, less than high school education, and low life expectancy. The Site's census tract ranks in the 47th percentile for Washington State. The two surrounding tracts rank in the 38th and 55th percentiles, and the Nisqually Indian Tribe's census tract ranks in the 50th percentile. The criteria for a likely overburdened community or vulnerable population is at or above the 80th percentile.

Based on these results, the census tracts where the Site is located and in the surrounding vicinity are likely not home to overburdened communities or vulnerable populations. However, the Nisqually Indian Tribe's use of the Nisqually River watershed and its rights and interests in their Tribal lands presents a disproportionate risk for exposure to and contact with contaminants from the Site through contact with environmental media (soil, groundwater, and surface water) and in consumption of species that bioaccumulate contaminants. Therefore, the Nisqually Indian Tribe and members of other Tribes in the area that rely on the watershed may benefit from the implementation of a cleanup at the Site. The Site was historically used by native peoples and is of Tribal significance; these factors will also be considered during the cleanup actions through the Site-specific Inadvertent Discovery Plan (Town of Eatonville and Weyerhaeuser, 2020).

2.5.4 Potentially Exposed Ecological Receptors

Potential ecological receptors were identified based on current and potential future land use. The full suite of current and potential future ecological receptors is identified in the TEE (Appendix D to the RI/FS; GSI, 2024a) and includes the following:

- Terrestrial plants (such as Vine maple [*Acer circinatum*], red alder [*Alnus rubra*], and salmonberry [*Rubus spectabilis*])
- Soil biota (primarily pot worms and earthworms)
- Wildlife (such as American black bear, coyote [*Canis latrans*], blacktail deer, raccoons [*Procyon lotor*], Douglas squirrels [*Tamiasciurus douglasii*], Steller's jay [*Cyanocitta stelleri*], Cooper's hawk [*Accipiter cooperii*], and/or sharp-shinned hawk [*Accipiter striatus*])

The wetland ecosystem is not adequately inundated to support aquatic biota receptors. However, if groundwater impacts were identified and discharged to the surface water of the Mashel River, aquatic biota could be impacted and, therefore, aquatic biota are retained as potential receptors.

2.5.5 Potential Impacts of Climate Change

WAC 173-340-350(6)(f) notes that, based on best available science, the preferred cleanup action proposed for the Site in the RI/FS must consider current and projected local and regional climatological characteristics to determine factors that could affect the migration of hazardous substances or the resilience of cleanup action alternatives. The relevant climate change characteristics of the Site and their potential impacts are discussed below:

- **Seasonal Patterns of Rainfall.** Depending on the climate models referenced, changes in average annual precipitation in the vicinity of the Site in 2060 range from -2.2 to +6.7 percent (EPA, 2016). Increases in annual average precipitation could lead to erosion along the slope and increased flow along the ravine from the seep, which has the potential to expose hazardous materials in the landfill (if left in place) and mobilize impacted soil.
- **Magnitude and Frequency of Extreme Storm Event.** The Site ranks in the 83rd percentile for properties currently at flood risk and in the 82nd percentile of properties at flood risk in the next 30 years (EPA, 2023). However, the Site is not currently within a 100-year floodplain (EPA, 2023). In 2060, the change in 100-year storm intensity is projected to increase from between 5.7 and 16.8 percent (EPA, 2016). This increase in storm intensity has the potential to increase erosion at or near the Site and mobilize impacted soil.

- **Potential for Landslides.** The risk of landslides increases with increasing slope angles and high precipitation volumes. The Site is located on a steep slope and along a natural bluff, which may be vulnerable to landslides in the event of high-flow storms. As noted previously, anthropogenic landfill deposits on top of the erosional slope are as steep as 1H:1V, with evidence of ongoing slope instability and debris runout near the toe of the slope.

Other climate indicators were considered, including wildfire potential and temperature extremes, but the impacts of these indicators were relatively low at the Site (U.S. Federal Government, 2023).

2.6 Cleanup Standards

The following sections detail COCs and cleanup standards for each Site media.

2.6.1 Contaminants of Concern

Results of the investigations described in Section 2.4 were screened against Human Health and/or Ecological SLs as part of the RI/FS (GSI, 2024a) to identify a set of COCs for each media evaluated. SLs were derived from the Ecology Cleanup Levels and Risk Calculation (CLARC) Master Table (Ecology, 2023) and the statutes referenced therein. SLs were set to natural background (i.e., Ecology, 1994 and 2022) or practical quantitation limits, where necessary.

Surface water SLs were also applied to groundwater because human health and ecological groundwater exposure scenarios are present where groundwater seeps and daylights at the toe of the landfill.

Table 2-1 shows the soil, groundwater, and surface water COCs identified for the Site. COCs for Site groundwater and surface water are limited to select metals. While the RI indicates the source of the hexavalent chromium is associated with an upgradient background condition, it has been retained as a Site groundwater and surface water COC to ensure restrictions will be in place to prevent human exposure. Iron was identified in the RI/FS as a COC in the groundwater because it was found above the most stringent SLs in the groundwater (300 µg/L), which is a secondary drinking water standard based on factors other than health effects. The highest iron concentration in the groundwater samples is below the next most stringent standard, which is the MTCA Method B Cleanup Level calculated based on the risk to human health (11,000 µg/L; CLARC). Therefore, iron is not considered a COC in the groundwater.

For soils, the Site has two distinct sets of COCs, one for the Landfill Area and one for the Wetland Area. For Landfill Area soil, metals, SVOCs, cPAHs, and TPH-GRO and DRO/ORO are identified as COCs. The Wetland Area soil COCs account for the finding of no adverse effects to the terrestrial ecological receptors from the Site-specific TEE, consistent with WAC 173-340-7493. For the Wetland Area soil, zinc and TPH-GRO and DRO/ORO are identified as COCs. Iron was identified in the RI/FS as a COC in the soil because it was found above the SL established for the protection of groundwater. Because iron was eliminated as a COC in the groundwater, it is also eliminated as a COC in the soil.

2.6.2 Cleanup Levels

In accordance with WAC 173-340, Site-specific CULs for soil, groundwater, and surface water COCs were developed based on applicable receptors and exposure pathways as part of the RI/FS (GSI, 2024a). The soil CULs were developed for both the Landfill Area and Wetland Area separately to account for the differences in their pathways based on the CSM and the findings of the TEE (Appendix B to the RI/FS [GSI, 2024a]) that was completed in the Wetland Area. The CULs for soil (by Site remediation area), groundwater, and surface water are summarized in the following sections and in Table 2-2. No air CULs are required for this Site.

2.6.2.1 Soil

Soil CULs for the Landfill Area and Wetland Area of the Site differ because different metals were found to be present above SLs, and the Site-specific TEE resulted in adjusted CULs for zinc in the Wetland Area. The derivation of soil CULs for these two areas are discussed separately in the sections below.

2.6.2.1.1 Landfill Area

Among the soil Human Health and Ecological SLs, the lower, more protective value for pathways shown to be active was selected as the CUL with consideration for natural background concentrations. The CULs were based on the following:

- Soil ecological indicator for plants (cadmium, lead, nickel, zinc) and soil biota (copper, TPH-DRO/ORO)
- Natural background (arsenic, chromium, nickel, and zinc)
- MTCA Method B Protective of Groundwater to Surface Water, Saturated (zinc)
- MTCA Method B Direct Contact, Cancer (PCP, total cPAHs)
- MTCA Method A Unrestricted Land Use (TPH-GRO)

The CULs for these Landfill Area soil COCs are protective of Human Health and Ecological receptors.

2.6.2.1.2 Wetland Area

The TEE Weight of Evidence evaluation work conducted in the Wetland Area provides a basis for developing revised Ecological CULs based on Site-specific conditions for zinc. For the Human Health scenario and all other constituents, the CUL is based on MTCA Human Health and Ecological SLs representative of active pathways. Among the Human Health and Ecological SLs, the lower, more protective value for pathways shown to be active was selected as the CUL with consideration for natural background concentrations. The CULs were based on the following:

- TEE CUL protective of terrestrial ecological receptors (zinc)
- MTCA Method A Unrestricted Land Use (TPH-GRO)
- Soil Ecological Indicator - Soil Biota (TPH-DRO/ORO)

These CULs are protective of Human Health and Ecological receptors.

2.6.2.2 Groundwater

Hexavalent chromium and zinc were the only groundwater COCs identified at the Site. Site-wide groundwater CULs for these metals are based on the lowest applicable SLs, namely the following:

- MTCA Method B Cancer CUL (hexavalent chromium)
- WAC 173-201A-240 freshwater chronic aquatic life criteria (zinc)

The CULs for these groundwater COCs at the Site are protective of Human Health and Ecological receptors.

2.6.2.3 Surface Water

Hexavalent chromium and zinc are the only surface water COCs. The Site-wide surface water CULs for these metals are based on the lowest applicable SLs, namely the following:

- MTCA Method B Cancer CUL (hexavalent chromium)

- WAC 173-201A-240 freshwater chronic aquatic life criteria (zinc)

The CULs for these surface water COCs at the Site are protective of Human Health and Ecological receptors.

2.7 Points of Compliance

Points of compliance are the locations and media where the CULs identified in Section 2.6.2 must be attained. The POCs for the Site have been identified in accordance with the regulatory requirements contained within WAC 173-340-720 through 173-340-740. The POCs for soil, groundwater, and surface water at the Site are shown in Figure 2-3 and are discussed in the following sections.

2.7.1 Soil

A standard POC will be used for soil in both the Landfill Area and Wetland Area. This is where the soil CULs must be attained, consistent with WAC 173-340-740(6). The POC for soil is based on the human exposure via direct contact and ecological considerations based on the TEE. The CULs must be met in soils throughout the two areas of the Site (Figure 2-3) from the ground surface to 15 ft bgs for human exposure and 6 ft bgs for ecological exposure, and the entire saturated soil column for the protection of groundwater.

Following the excavation of wastes and impacted Landfill Area soils to the maximum extents practicable (removal of waste materials and recoverable particulates, visually impacted soils, and soils above CULs), soils will be evaluated across the entirety of the Landfill Area consistent with WAC 173-340-740(7). This ensures potential exposures by humans under future use scenarios (e.g., no development, construction, digging) are limited and provides a point of reference for evaluating the cleanup actions' performance in relation to the human health and ecological exposure scenarios under MTCA. Soil will also be evaluated across the extent of the Wetland Area thought to be impacted by TPH-GRO and TPH-DRO/ORO (Figure 2-3).

2.7.2 Groundwater

For groundwater, a standard POC will be used throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected (Figure 2-4). The standard groundwater POC is established where the groundwater CULs must be attained, consistent with WAC 173-340-720(8). Groundwater standard POC monitoring locations will be four monitoring wells installed within the central portions of the former landfill waste prism and immediately downgradient of the toe of the landfill to depths thought to be saturated year-round (Figure 2-3). The number of monitoring wells and the locations will be adjusted based on the degree of soil contamination observed during the implementation of the cleanup action and leave surface conditions. These groundwater POC locations will represent the portions of the aquifer beneath the Site where impacts are most likely to be observed.

2.7.3 Surface Water

A standard surface water POC is established for the Site. This POC will be at the downgradient end of the Wetland Area, which integrates spring and seep flows from the Landfill Area and is representative of surface water conditions leaving the Site. The surface water POC is where the surface water CULs must be attained, consistent with WAC 173-340-730(6), in a location where surface water runoff may concentrate along the generalized flow path to the Mashel River (Figure 2-3). This POC serves as an integrator of Site-wide surface water impacts and is the best indicator of any potential migration of Site associated surface water impacts to the Mashel River. Given that a defined channel with consistent flow is not thought to be present in the downgradient portions of the Site in the Wetland Area, data collection for determining compliance with the surface water POC will be designed to allow flexibility in identifying where water is concentrating near the property boundary during different times of year and under different flow conditions.

3 Considered Remedial Alternatives

The following sections discuss the development and evaluation of remedial alternatives for the Site and the selection of the preferred remedial alternative (cleanup action) in the FS.

As part of the FS (GSI, 2024a) and in accordance with WAC 173-340-350(8)(b)(i) and (ii), an initial screening of remedial alternative technologies was completed. Multiple alternatives were evaluated, including consideration of the characteristics and complexity of the Site, current Site conditions, and physical constraints. In accordance with applicable MTCA criteria, the evaluation included at least one permanent alternative and one alternative with a standard POC.

3.1 Development of Remedial Alternatives

The following types of remedial alternatives and technologies were eliminated from further analysis in the initial screening:

- Alternatives or technologies that clearly do not meet the minimum selection requirements in WAC 173-340-360, including alternatives with disproportionate costs in relation to the benefits.
- Alternatives or technologies that are not technically possible to implement on the Site.
- "No action" alternatives that do not involve any cleanup action at the Site.

Two remedial alternatives were then developed for both the Landfill and Wetland Areas of the Site. These alternatives, by area, included the following:

- Landfill Area
  - Alternative 1A - Waste and Impacted Soil Removal to the Maximum Practicable Extents
  - Alternative 1B - Partial Waste and Soil Removal and Capping
- Wetland Area
  - Alternative 2A - Full Impacted Soil Removal
  - Alternative 2B – Waste removal, Monitored Natural Attenuation, and Institutional Controls

These area-specific alternatives are believed to address Site-wide surface water and groundwater impacts.

3.2 Evaluation of Remedial Alternatives

The alternatives and process options remaining were determined to be applicable to the Site and were identified for further evaluation. Remedial alternatives were evaluated using the following criteria:

- **Protect Human Health and the Environment.** Consider the degree to which an alternative meets MTCA cleanup standards, the degree to which the remedy is permanent, and the short-term risk associated with implementing the remedy.
- **Comply with Cleanup Standards.** For an alternative to be considered viable, the cleanup action must comply with cleanup standards, including the CULs (Section 2.6.2), ARARs (Section 5), and POCs (Section 2.7). These are discussed in detail in the RI/FS, Section 9.1 (CULs), Section 9.3 (POCs), and Section 10.2 (ARARs) (GSI, 2024a).
- **Comply with Applicable State and Federal Laws.** Cleanup actions under MTCA must comply with applicable state and federal laws deemed relevant as discussed in Section 10.2 of the RI/FS (GSI, 2024a).

- **Provide for Compliance Monitoring.** Per WAC 173-340-410, compliance monitoring can include protection, performance, or confirmation monitoring. For remedies that propose on-site disposal, isolation, or containment as the selected cleanup action for all or a portion of a site, a long-term monitoring plan is required.

Per WAC 173-340-360(2)(b), cleanup actions that fulfill the threshold requirements must also meet other requirements, including the following:

- **Use Permanent Solutions to the Maximum Extent Practicable.** To determine whether a cleanup action uses permanent solutions to the maximum extent practicable, the Disproportionate Cost Analysis process shall be used (Section 13.2 of the RI/FS [GSI, 2024a]). The Disproportionate Cost Analysis is used to compare the costs and benefits of alternatives and select the alternative with incremental costs that are proportionate to the incremental benefits. This process defines the remedial action alternatives that are considered permanent to the maximum extent practicable. As outlined in WAC 173-340-360(3), MTCA provides a methodology that considers the following criteria:
    - Protectiveness
    - Permanence
    - Cost
    - Long-term effectiveness
    - Management of short-term risks
    - Implementability
    - Consideration of public concerns and Tribal rights and interests

- **Provide for a Reasonable Restoration Timeframe.** Per WAC 173-340-360(4), cleanup actions should provide for a reasonable restoration timeline, considering the following factors:
    - Potential risks posed by the Site to human health and the environment.
    - Practicability of achieving a shorter restoration timeframe.
    - Current use of the Site, surrounding areas, and associated resources that are, or may be, affected by releases from the Site.
    - Potential future use of the Site, surrounding areas, and associated resources that are, or may be, affected by releases from the Site.
    - Availability of alternative water supplies.
    - Likely effectiveness and reliability of ICs.
    - Ability to control and monitor migration of hazardous substances from the Site.
    - Toxicity of hazardous substances at the Site.
    - Natural processes that reduce concentrations of hazardous substances and have been documented to occur at the Site or under similar Site conditions.

- **Consider Public Concerns and Tribal Rights and Interests.** Public concerns shall be considered through the public notice and participation process described in WAC 173-340-600. Tribal rights and interests shall be identified under WAC 173-340-620.

Using all the above-listed criteria, a remedy was selected.

3.3 Remedy Selection

Based on the results of previous investigations and an analysis of remedial alternatives, as presented in the RI/FS (GSI, 2024a), the selected remedial alternatives (referred to as the cleanup action in this document) was developed from Alternatives 1A and 2B.

The Landfill Area remedy (Alternative 1A) represents the most comprehensive remedial alternative to address the contaminant source, impacted soil, and migration of COCs to downstream receptors, assuming removal or control of the source (landfill waste, uncontrolled leachate, and/or indiscriminate sport shooting). The removal of sources (including waste and impacted soil) in the Landfill Area and wastes in the Wetland Area to the maximum extent practicable, and avoidance of impacts to a critical wetland ecosystem, allows for shorter restoration timeframes. Table 3-1 shows the restoration timeframes for each Site area, COC, and media. Removal of contaminated media from the Landfill Area (both waste and soil) will immediately and permanently address soil contamination risks in the Landfill Area. Therefore, landfill soil will be restored immediately following the cleanup action in the Landfill Area.

TPH-GRO in Wetland Area soil presents a direct contact risk to human health. A restrictive convent that identifies the lateral limits and approximate depth of TPH-impacted soil will be placed on portions of the Wetland Area of the Site. TPH-GRO and TPH-DRO/ORO concentrations will be diminished to below the applicable direct contact (TPH-GRO) and ecological soil biota (TPH-DRO/ORO) risk levels via natural attenuation in approximately 10 years or less restoration timeframe after the source is removed from the Landfill Area. The natural attenuation will be monitored. Upon completion of the cleanup action, clean soil will be brought in to bring the wetland back to existing grade and all disturbed areas will be planted with native vegetation. A separate, detailed restoration plan will be prepared with the assistance of Ecology and the USACE. If necessary, additional mitigation measures will be taken to meet the regulatory requirements.

Site-related contaminants in groundwater and surface water at the Site will begin to attenuate after Landfill Area sources and Wetland Area wastes are removed, with a 10-year restoration timeframe. Institutional controls (ICs) will be used to restrict human consumption of groundwater and surface water if the hexavalent chromium is still above its CULs in groundwater and surface water.

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4 Description of the Cleanup Action

The following sections describe the Site and the cleanup action selected for it.

4.1 Site Description

The Site is identified by Ecology using Facility Site ID No. 85933 and Cleanup Site ID No. 15271. The Site is located within and centered around the extents of a 6.3-acre rectangular parcel of land owned by Weyerhaeuser (Tax Parcel No. 0416201007) adjoining Nisqually State Park. Figures 1-1 and 1-2 show the location of the Site and its setting within Nisqually State Park.

4.2 Selected Cleanup Action

The selected cleanup action technologies by Site area are detailed in the RI/FS (GSI, 2024a) and summarized in the following sections. The cleanup action technologies are shown in Figures 2-3 and 2-4. Figure 2-3 shows the plan view of the cleanup action, and Figure 2-4 shows a cross section of the cleanup action through the center of the former landfill waste prism. The cleanup action boundaries have been selected to encompass all areas of the Property for implementation of the remedy, ICs, POCs, and performance monitoring.

A conceptual design of the remedy for the individual remediation areas (Landfill Area and Wetland Area) is further described below.

4.2.1 Landfill Area

The selected cleanup action for the Landfill Area includes both waste and impacted soil removal and ICs. These two aspects are discussed in the following sections.

4.2.1.1 Waste and Impacted Soil Removal

All waste and the impacted soil beneath the waste prism exceeding CULs in the Landfill Area will be excavated to the maximum extent practicable and disposed of at an off-site facility permitted to receive such waste. It is estimated that approximately 23,300 cubic yards of combined soil and waste will need to be removed. This component of the cleanup action will eliminate the source of contamination and leachate to the Wetland Area. The remaining slope will be cut back, as needed, to a final angle of approximately 2H:1V (Figure 2-4), and benches will be installed (Figure 2-3) to create a stable slope resistant to mass wasting (i.e., downhill movement of soil and rock) and allow for restoration of the ground surface and installation and future removal of the groundwater POC monitoring wells. The final leave surface identified through the performance monitoring program (soil concentrations below Landfill Area CULs) will be covered with matting, topsoil, erosion control material, and/or restoration plantings to allow for the recovery and restoration of the remediated surface. The actual cleanup action in the Landfill Area will be limited to the waste prism, which is shown as a yellow dotted line on Figure 2-3, the area directly above the waste prism, and two small areas that extend off the waste prism to the northwest and southeast. The southeastern lobe at the toe of the waste prism (0.05 acre, or 2,178 square feet), which extends into the delineated wetlands past HA-01D, is impacted by lead and zinc at levels that exceed both Human Health and Ecological SLs and, therefore, present risks to both human and ecological health. The northwestern area (0.062 acre or 2,696 square feet), which extends to the other side of the ravine and up the slope to location HA-X, is an isolated area impacted by lead and zinc, both representing risks to human and ecological health. The eastern lobe that extends to transect H-01F (0.04 acre or 1,744 square feet) is impacted by lead and poses a risk to human health. A total footprint of 1.71 acres or 74,488 square feet is planned for removal. This removal will require restoration of the delineated wetland footprint when feasible, and/or mitigation depending on the regulatory requirements identified.

4.2.1.2 Institutional Controls

Although the removal of waste and impacted soil will eliminate the site-related impact in the Landfill Area, ICs will be needed to prevent activities that may result in exposure to groundwater due to the presence of (1) hexavalent chromium detected above its CUL in the upgradient perched groundwater, and (2) hexavalent chromium detected above its CUL in surface water as a result of hexavalent chromium CUL exceedances discharging from the upgradient spring. These ICs will be put in place through environmental covenant immediately following the completion of the cleanup action. The environmental covenant will have the following elements:

1. Prohibit the use of groundwater and surface water for potable water (Site-wide IC).
2. Establish and maintain on-site features, such as signs and/or fencing, to prevent human access to the spring and its flow path.
3. Manage, treat, and discharge groundwater and surface water collected during construction or other non-potable purposes in conformance with an Ecology-approved soil and groundwater management plan. The soil and groundwater management plan will be prepared following entry of the consent decree for the final cleanup action.
4. Conduct intrusive activities that involve worker contact with contaminated groundwater and surface water (the spring) using individuals that have the appropriate training and certifications for working on hazardous waste sites and in conformance with a Site-specific health and safety plan.

Institutional controls will be required until concentrations of COCs in the surface water and groundwater at the monitoring points identified in the OMMP are found to be below CULs or trends indicate they will be The specific ICs that will be implemented as part of the cleanup action will be presented in the Engineering Design Report (EDR).

4.2.2 Wetland Area

The selected remedy in the Wetland Area includes waste removal, monitored natural attenuation (MNA), and ICs. These aspects are discussed in the following sections.

4.2.2.1 Waste Removal

Waste that has migrated to the Wetland Area beyond the extent of the landfill waste prism (Figure 2-3) will be removed and disposed of at an off-site facility. Large wastes that can be handled (e.g., tires, car bodies, appliances, etc.) will be removed from the Wetland Area. Waste particles from weathered materials and soils adjacent to wastes will not be removed unless they comprise a significant percentage (>50 percent of volume) of the total soil volume and can be removed via manual methods. Areas disturbed in the wetland will be restored by using clean topsoil to bring the elevation back to existing grade and planting the area with native vegetation.

4.2.2.2 Monitored Natural Attenuation

Soil with elevated metals and TPH concentrations in the Wetland Area, has been determined to have no adverse effect on terrestrial ecological receptors and poses a limited threat to human health. These soils will remain in place to preserve the existing and well-functioning wetland ecosystem. TPH-GRO/DRO concentrations in Wetland Area soil will naturally attenuate following the removal of Landfill Area waste and soil, and Wetland Area waste. The natural attenuation of gasoline and diesel compounds has been demonstrated through research (Kao and Prosser, 2001; Kampbell et al., 2001; Boopathy, 2004; Eriksson et al., 1998; Ledezma-Villanueva et al., 2016). The rate of natural attenuation will be evaluated through monitoring in MNA. MNA has been accepted for use as a remedial technology at petroleum spill cleanup sites (i.e., Pacific Northwest National Laboratory, 2001; Wisconsin Department of Natural Resources, 2004; EPA, 1999; ITRC, 2018). Concentrations of TPH-DRO/ORO will be monitored until natural attenuation processes have reduced TPH-DRO/RRO concentrations below the CUL. Details of this monitoring are discussed in Section 4.3.

4.2.2.3 Institutional Controls

Based on the TEE (Appendix B to the RI/FS [GSI, 2024a]), contaminant levels in Wetland Area soil do not pose a risk to ecological receptors. However, human contact with Wetland Area soil needs to be controlled due to concentrations of TPH-GRO above direct contact CULs. A Wetland Area IC will be established to limit direct contact with Wetland Area soil in areas with elevated TPH-GRO concentrations (Figures 2-3 and 2-4). The Wetland Area is difficult to access because of steep slopes, dense vegetation, and soft ground, which also deters human access. The environmental covenant will have the following elements:

1. Prohibit the use of groundwater and surface water as potable water (Site-wide IC).
2. Establish and maintain on-site features, such as signs, to prevent human access to the Wetland Area, up to transect HA-04 and minimize contact with soil contaminated with TPH-GRO.
3. Intrusive activities that involve worker contact with TPH-contaminated soil will be conducted by individuals that have the appropriate training and certifications for working on hazardous waste sites and in conformance with a Site-specific health and safety plan.
4. TPH-contaminated soil excavated during intrusive activities will be managed, treated, and disposed of in conformance with an Ecology-approved soil and groundwater management plan.

These ICs can be put in place immediately following the completion of the cleanup action. Institutional controls will be required at the monitoring points identified in the OMMP until concentrations of COCs in Wetland Area soil are found to be below CULs or trends indicate they will be. The specific ICs that will be implemented as part of the cleanup action will be presented in the EDR.

4.3 Compliance Monitoring

A compliance monitoring program will be implemented at the Site during and after the cleanup action pursuant to WAC 173-340-410. This program will consist of protection, performance, and confirmation monitoring programs each with a unique set of objectives. Different levels of compliance monitoring will be required in the two Site remediation areas (Landfill Area and Wetland Area). Each of these monitoring programs, and their application to the different Site remediation areas, is described in the following sections. Specific requirements for each of these types of monitoring will be provided in an OMMP and in the Construction Plans and Specifications developed as part of the remedial design process.

4.3.1 Protection Monitoring

Protection monitoring protects human health and the environment during construction and maintenance of the remedy. This monitoring is applicable to both the Landfill Area and the Wetland Area. The specific details of the protection monitoring programs for each Site area will be addressed in the applicable safety, health, and design plans, including the following:

- **Site Control Plan.** This plan defines how potential conflicts between the cleanup action and the use of State Parks' land and surrounding roadways will be addressed. In addition, this plan will identify zones where cultural resources may be encountered and what level of archaeological monitoring is required in the different zones.

- **Health and Safety Plan.** This plan outlines necessary human health and safety protocols related to Site work.
- **Stormwater Pollution Prevention Plan and Erosion Prevention Plan.** This plan details how stormwater and erosion will be managed such that contaminants will not be transported off site. This is an attachment to the Construction Plans and Specifications.
- **Contaminated Media Management Plan.** This plan describes the protocols used to manage, handle, and dispose of impacted soil, groundwater, surface water, and wastes at the Site during and after the cleanup action. This plan is an attachment to the Construction Plans and Specifications.

Protection monitoring will include the implementation of the following protections:

- **Landfill Area.** Human health protection will be accomplished using best management practices, including limiting human contact with soils with COC concentrations above CULs, monitoring and enforcing the use of personal protection equipment, dust control, and monitoring down-gradient turbidity in surface water. Ecological protection will be accomplished by limiting soil erosion and migration (i.e., mass wasting) from the Landfill Area into the Wetland Area or surface waters. Erosion from the Landfill Area and turbidity in surface water downgradient of the Landfill Area will be limited, namely the flow path originating at the spring and migrating through the Landfill Area to the Wetland Area (Figure 2-2).
- **Wetland Area.** Human health protection will be accomplished by limiting human contact with soils with TPH-GRO concentrations above the direct contact CUL. Dust production is not a concern in the Wetland Area, where soil is generally damp or waterlogged and will not be removed. Ecological protection will be accomplished by minimizing soil disturbance when removing waste from the Wetland Area.

4.3.2 Performance Monitoring

Performance monitoring is conducted to assess whether the cleanup action has been successfully implemented and to measure when the CULs for the different media and Site remediation areas are met. Performance monitoring is required for Landfill Area soil and Site groundwater and surface water and the specific components of each performance monitoring program for each Site area/media are described in the following sections. A Performance Monitoring Plan will be developed as part of the Construction Plans and Specifications to detail the scope and schedule of performance monitoring at the Site that will be used to verify that the cleanup action meets its design objectives.

4.3.2.1 Soil Performance Monitoring

Soil performance monitoring will be conducted in the Landfill Area. Performance monitoring of soil in the Landfill Area will be composed of leave surface sampling for arsenic, cadmium, chromium, copper, lead, nickel, zinc, PCP, total polycyclic aromatic hydrocarbons, TPH-GRO, and TPH-DRO/ORO-post-removal of wastes and impacted soil. The top foot of soil post-removal will be sampled to determine if additional removal is necessary to achieve CULs. Sampling will be conducted using a methodology consistent with WAC 173-340-740(7) to characterize soil COC concentrations within the Landfill Area. To provide monitoring coverage across different portions of the Landfill Area, it will be broken into distinct decision units (DUs) during the design process. These DUs will cover the landfill waste prism footprint, the small lobe of land at the base of the landfill that extends into the Wetland Area, and the two radial areas extending to RI sampling locations HA-X and HA-01f (Figure 2-2). As a result of the mixed till material found at the Site, special consideration must be given to grain size distribution when designing monitoring programs because contaminants concentrate within the fine fraction of soil and not in coarse materials. As a result of this, COC concentrations may need to be adjusted based on grain size composition of the leave surface. The leave surface may contain large boulders, cobbles, and gravels that are not readily analyzed and are not thought to adsorb significant concentrations of COCs.

Following completion of the Landfill Area removal efforts, sampling will be completed consistent with WAC 173-340-740(7) to determine whether additional removal is warranted. During the RI, reporting limits for several analytes were elevated above screening levels due to various laboratory issues with the soil matrix. These substances will be tested to confirm that the concentrations are below the screening levels. These analytes include hexavalent chromium (metal), 1,2,3-trichloropropane (VOC), dibromochloropropane (VOC), 2,6-dinitrotoluene (SVOC), N-nitrosodimethylamine (SVOC), and N-nitrosodi-n-propylamine (SVOC). Materials and soil planned for use as backfill will be evaluated to ensure that they are below Landfill Area soil CULs before placement. After a leave surface below Landfill Area soil CULs has been established, no additional performance monitoring will be needed in the Landfill Area.

4.3.2.2 Surface Water Performance Monitoring

Surface water performance monitoring will be undertaken at the Site surface water POC. Samples will be collected for dissolved zinc only since the presence of hexavalent chromium above human contact CULs is assumed. Zinc will be monitored to determine the effectiveness of zinc attenuation as a result of source removal. The locations for surface water monitoring will be evaluated and determined after the excavation evaluation and realignment of the springs flow path, as a re-routing of the spring might be needed during the implementation of the Landfill Area remedy.

4.3.2.3 Groundwater Performance Monitoring

Groundwater will be sampled for total hexavalent chromium and zinc after wells have been installed as part of the cleanup action. Hexavalent chromium will be monitored to determine if Site-wide human consumption ICs can be lifted. Zinc will be monitored to evaluate whether seeping groundwater poses a risk to aquatic life living in surface waters. This sampling will require monitoring wells to be installed as part of the cleanup action groundwater POC. Groundwater conditions at the Site are not expected to improve until waste and impacted soil is removed. Sampling will occur at the groundwater POCs, beneath the central portions of the landfill waste prism and immediately downgradient of the toe of the landfill near the boundary with the Wetland Area, from the uppermost level of the saturated zone, which is thought to represent the portions of the aquifer most likely to be impacted. The number of monitoring wells and the locations may be adjusted based on the degree of soil contamination before the implementation of the cleanup action and leave surface conditions. These groundwater POC locations will represent the portions of the aquifer beneath the Site where impacts are most likely to be observed. The selection of monitoring locations and well installation will be detailed in a Groundwater Monitoring Well Installation Work Plan.

The groundwater was not sampled for PCBs during the RI. PCBs will also be tested during groundwater performance monitoring. If the results indicate that PCB concentrations are below the relevant groundwater screening level (0.0943 µg/L, the PQL from the RI and a surrogate for the surface water Human Health, Consumption of Water + Organism ARAR; GSI, 2024a), PCBs will be removed from the monitoring program.

4.3.3 Confirmation Monitoring

Confirmation monitoring ensures that the remedy continues to be effective after CULs are initially met. Confirmation monitoring and 5-year reviews are required to confirm the performance of the remedy Site wide, including the Landfill Area and Wetland Area. A Confirmation Monitoring Plan will be developed as part of the OMMP. Confirmation monitoring will consist of the following monitoring events for all media (Wetland Area soil, and Site groundwater and surface water):

- Quarterly monitoring for the first year following completion of the cleanup action.
- Semi-annual monitoring for the second and third years following the completion of the cleanup action.
- Annual monitoring for the fourth and fifth years following completion of the cleanup action and annually thereafter until concentrations for all COCs and all media are below CULs.

Five-year periodic reviews will be required pursuant to WAC 173-340-420. For each monitoring event, data for all sampled media and chemical concentration trends will be evaluated to determine if the remedy is functioning as intended. The specific confirmation monitoring tasks involved with evaluating each Site area and media are described in the following sections.

4.3.3.1 Soil Confirmation Monitoring

Soil confirmation monitoring will be conducted as follows in the Landfill Area and Wetland Area:

- **Landfill Area.** No soil confirmation monitoring in the Landfill Area is proposed because the cleanup action is intended to remove all waste and soil above CULs and only place backfill materials that also meet CULs. Visual monitoring will be conducted to ensure that restoration plantings are establishing on the slope. Routine observations will be made to inspect for erosion and the health of the vegetative cover providing erosion control.
- **Wetland Area.** Soil confirmation monitoring in the Wetland Area will include soil sampling for TPH-GRO and TPH-DRO/ORO to track the progress of natural attenuation. TPH-GRO and TPH-DRO/ORO concentrations in Wetland Area soil are expected to decline via natural processes following removal of landfill wastes and contaminated soils (Kao and Prosser, 2001; Kampbell et al., 2001; Boopathy, 2004; Eriksson et al., 1998; Ledezma-Villanueva et al., 2016). Sampling will be conducted in the top foot of soil using a methodology consistent with WAC 173-340-740(7) throughout the monitoring area (Figure 2-3). The monitoring area will be broken into two DUs. The first DU will be adjacent to the toe of the landfill (roughly represented by the area between transects HA-01 and HA-02) and the next DU will be further from the landfill (roughly represented by the area between transects HA-03 and HA-04). Sampling will be conducted to obtain average concentrations of TPH-GRO and TPH-DRO/ORO in each DU. The first confirmation monitoring event will set a baseline for the evaluation of natural attenuation processes in the Wetland Area over time. Future monitoring in the Wetland Area may be waived if TPH-GRO and TPH-DRO/ORO concentrations attenuate below CULs.

4.3.3.2 Surface Water Confirmation Monitoring

Surface water confirmation monitoring will be conducted to ensure that Wetland Area soil impacts and seepage from the former landfill are not migrating to surface waters and do not contain COC concentrations above CULs. Dissolved hexavalent chromium and zinc will be sampled at the Site surface water POC and the hexavalent chromium will only be monitored at the Landfill Area surface water POCs (Figure 2-3). Note that monitoring for hexavalent chromium may cease if concentration trends are stable or decreasing because hexavalent chromium impacts are likely from an upgradient source and are not thought to be related to the Site.

4.3.3.3 Groundwater Confirmation Monitoring

Groundwater confirmation monitoring will be conducted to ensure no residual impacts to the groundwater aquifer are occurring from the contamination that originated from the landfill wastes. To assess for residual impacts, Site groundwater will be sampled at the POC for total hexavalent chromium and total zinc. Note that monitoring for hexavalent chromium may cease if concentration trends are stable or decreasing because hexavalent chromium impacts are likely from an upgradient source and are not thought to be related to the Site.

4.3.4 Adaptive Management

Part of the selected cleanup action includes leaving soil in the Wetland Area with iron, zinc, and TPH above the soil-to-groundwater and groundwater-to-surface water SLs because the data do not indicate that this soil will cause wetland area groundwater or surface water CUL exceedances for any of these COCs. TPH-GRO and TPH-DRO/ORO were also above soil human contact and ecological SLs but were not observed in Site groundwater at concentrations above SLs. After the cleanup action has been implemented, adaptive management techniques will be applied in the Wetland Area if it is determined that COCs in groundwater, surface water, and Wetland Area soil will not recover below CULs within the 10-year restoration timeframe. The Wetland Area soil restoration timeframe is based on the MNA of TPH-GRO and TPH-DRO/ORO. The Site groundwater and surface water impacts, except for hexavalent chromium, are thought to be the result of landfill wastes and will likely decline following their removal as part of the cleanup action. The progress of chemical concentration decline in the different Site media will be evaluated through trend analysis performed on data collected as part of the confirmation monitoring program. This confirmation monitoring program will be implemented for all media (groundwater, surface water, and Wetland Area soil). Site data will be reviewed quarterly for the first year, semi-annually for the second and third years, and annually for the fourth year following completion of the cleanup action, and annually thereafter until concentrations for all COCs and all media are below CULs. During 5-year reviews, evaluations of the cleanup actions condition will also be made consistent with WAC 173-340-420.

If recovery is not occurring, or if trends indicate that CULs for specific COCs and media may not be met within the 10-year restoration timeframe, media-specific contingency actions may be taken to address the identified exceedances and prevent remedy failure. If COCs in a specific media are found to not be recovering at rates that will allow for the attainment of CULs within the anticipated restoration timeframe, as assessed by the confirmation monitoring program, the following adaptive management process will be implemented by the PLPs:

- Identify the locations, medias, and COCs that are not projected to recover to concentrations below their respective CULs within the anticipated restoration timeframe based on results from the confirmation monitoring program. Review of the confirmation monitoring program results will commence after the first year of monitoring activities (four quarterly events) is completed to allow for trend analysis.
- Evaluate the CUL exceedances in the context of the Site’s CSM and the completed cleanup action.
- Identify if contingency action alternatives are warranted based on the results of the confirmation monitoring program and through discussion with Ecology.
- Develop and evaluate contingency action alternatives.
- Determine if a contingency action is needed to support the cleanup action or if the restoration timeframe for MNA should be extended based on an alternatives analysis pursuant to MTCA.
- Implement the contingency action approved by Ecology and monitor its performance.

The types of contingency actions proposed may include capping, spot removal of soils, the addition of amendments, additional time for MNA, or other remedial technologies. Full documentation, reporting, and any other necessary steps, including communication of any adaptive management needs with Ecology, will be conducted pursuant to MTCA.

4.4 Vegetation, Restoration, and Mitigation

After the cleanup action is complete and the removal areas are graded to final elevations with clean soil, the disturbed areas will be planted with native vegetation per a Restoration Plan. A mix of native trees, shrubs, and herbaceous vegetation will be planted and maintained per a Vegetation and Monitoring Plan, which will be developed in coordination with Ecology. A separate detailed restoration plan will be prepared in coordination with the USACE pursuant to permit requirements. The need for mitigation of wetland impacts is uncertain at this time. These needs will be identified in consultation with the USACE after a design for the cleanup action has been developed. Typically, mitigation is only needed for permanent impacts to wetlands or their associated buffer. The cleanup action is expected to only temporarily disturb the delineated wetlands during removal of wastes and impacted soil then restore them to their previous condition or better.

4.5 Applicable Local, State, and Federal Laws

Identifying applicable local, state, and federal laws is a requirement of cleanup actions conducted under MTCA per WAC 173-340-710. State and federal laws that are applicable are discussed in the WAC 173-340-710(1) through (8). The exemptions to local and state laws that can be provided under MTCA are detailed in WAC 173-340-710(9). Table 5-1 details the applicable federal, state, and local laws, and the potential for their exemption under MTCA.

4.5.1 Applicable or Relevant and Appropriate Requirements

Applicable requirements are defined in WAC 173-340-710(3). These requirements are legally applicable to the cleanup action and must be considered during the cleanup action (Table 5-1).

Relevant and appropriate requirements for a given cleanup action are evaluated by Ecology using the criteria established in WAC 173-340-710(4). The objective of this evaluation is to identify requirements that, while not legally applicable to the cleanup action, may address similar problems or issues that are relevant and appropriate to use.

During the design and implementation of the cleanup action, additional ARARs may be identified. When identified, these ARARs will be reviewed against the current cleanup action to determine compliance. If the newly identified requirements indicate that the cleanup action is no longer protective of human health and the environment, the need for modification will be evaluated by Ecology.

4.5.2 Permits and Exemptions

Certain permits and procedural requirements may be exempted for cleanup actions performed under a Consent Decree, Order, or Agreed Order per RCW 70A.305.090. Despite their exemption, the substantive requirements of these permits and procedures still need to be met by the cleanup action. This exemption shall not apply if Ecology determines that the exemption would result in the loss of a federal agency's approval necessary for the state to administer any federal law.

The PLPs, directed by Ecology, will consult with the state agencies and local governments to identify potential permits and to obtain written documentation from the consulted agencies regarding the substantive requirements for permits exempted under RCW 70.105D.090. The identification of the permits and procedural requirements subject to exemption, and their substantive requirements as they relate to the planned cleanup action, will be identified by Ecology when implementing the cleanup action for the Site. Ecology will issue a public notice of any permit exemption, proposed to be applied to the cleanup action.

4.6 Cultural Resources

As the cleanup action is being partially funded by an Ecology grant, it must comply with Executive Order 21-02, which mandates that Ecology must consult with the Washington Department of Archaeology and Historic Preservation (DAHP) and avoid or mitigate adverse effects to archaeological sites (State of Washington, 2021). Thus, a preliminary cultural resources assessment was completed in June 2021. The assessment determined that there was a high probability for pre-contact archaeological resources on the top of the terrace and from the toe of the terrace to the river, but there was a low probability of encountering pre-contact resources on the face of the bluff (AINW, 2021). Previous cultural resource studies at the Site have revealed 30 archaeological resources within the area, including lithic artifacts, 10 historical homesteads, a historical cistern, a historical school/mission house, and historical logging roads (AINW, 2021). One archaeological resource was mapped within the area of potential effects of the Site (AINW, 2021).

During the removal action, groundbreaking will occur in the Landfill Area (the slope) and waste will be removed from the Wetland Area. As documented in the cultural resources assessment, there is a low probability of encountering cultural resources on the slope, where removal will take place; however, there is a higher chance of encountering resources in the Wetland Area, where waste will be removed, but soil will not be removed. Planned work in both remediation areas of the Site indicates a potential to encounter cultural resources during soil and waste removal.

Therefore, prior to construction, the current Inadvertent Discovery Plan (IDP) will be updated to account for construction activities, consistent with WAC 173-340-815 (Ecology, 2020). A cultural resource firm will develop updates to the IDP in consultation with local Tribes and other stakeholders. GSI staff overseeing construction will be familiar with the IDP and will be trained in identification of cultural resources and in the necessary actions required upon discovery of cultural resources. If cultural resources are discovered, work will be stopped until an appropriate discovery boundary can be determined. In addition, a trained archaeologist will be on site for the duration of the removal action to identify any cultural artifacts that may be found.

4.7 Public Participation

Ecology considers public concerns during the cleanup process. Ecology has developed a Site-specific Public Participation Plan (Ecology, 2021), which was reviewed during a public comment period in 2021. The plan describes the process Ecology uses to inform the community about cleanup at the site and to provide notice and opportunity for public review during comment periods.

In accordance with the plan, the Consent Decree implementing the dCAP, the draft RI/FS (GSI, 2024a), and a State Environmental Policy Act (SEPA) checklist will be made available to the public for review and comment for 30 days, and public input will be considered before the dCAP is finalized. This opportunity for public review is intended to elicit the participation of community groups, local governments, Tribes, federal and state agencies, and any other persons or organizations with an interest in the Site. In addition, a public meeting, if requested by 10 or more people, will be held to discuss the selection of the cleanup remedy. After review and consideration of comments received during the public comment period, Ecology will issue a final CAP in accordance with WAC 173-340-380(3). If extensive comments were received, it may be more appropriate to provide a summary of the key issues raised in the dCAP, and a more detailed responsiveness summary prepared and published concurrent with the final dCAP.

4.8 Tribal Engagement

In accordance with the requirement of WAC173-340-620, Ecology will develop a site-specific Tribal Engagement Plan, with the objective of maintaining meaningful engagement with potentially affected Indian Tribes throughout the cleanup process. Ecology worked closely with the Nisqually Indian Tribe, continues to identify and address Tribal interests in advance of finalizing this dCAP, and will continue to do so during its implementation.

4.9 Schedule for Implementation

Public review of the dCAP and the RI/FS may extend until October 2024. Following public comment, the RI/FS and dCAP will be finalized, and remedial engineering design will begin. The draft Engineering Design Report plan is expected to be submitted to Ecology on or before January 2025. The first construction season may begin in May 2025 and end in October 2025. If construction is finished in one season, then the construction completion report and post-cleanup monitoring and reporting will begin and will be finalized in January 2025 and March of 2026, respectively. If a second construction season is required, it will take place between June and October 2026. The construction completion report and baseline long-term monitoring and reporting will occur after the second construction season, if it is required.

Vegetation restoration in the Landfill Area soil will begin immediately following the cleanup action and be monitored until the plants are established. TPH-GRO in Wetland Area soil, which presents the only direct contact risk to human health, will be contained using ICs. TPH-GRO and TPH-DRO/ORO concentrations are expected to diminish to below the applicable direct contact (TPH-GRO) and ecological soil biota (TPH-DRO/ORO) risk levels via natural attenuation within a restoration timeframe of 10 years or less. Site-related contaminants in groundwater and surface water will begin to attenuate after Landfill Area and Wetland Area sources are removed and are expected to recover with a restoration timeframe of 10 years.

5 References

AINW. 2021. Former Eatonville Landfill, Pierce County, Washington, Preliminary Cultural Resources Assessment. Memorandum from Teresa Trost to Josh Bale. June 14, 2021.

Bellon, M., and M. Gavin. 2020. *Sources of PBDEs and Other Contaminants Affecting Nisqually Steelhead.* Cascadia Law Group on Behalf of Nisqually Tribe. July 6, 2020.

Bhat, S.A., O. Bashir, S.A. U.I. Haq, T. Amin, A. Rafiq, M. Ali, J.H.P. Americo-Pinheiro, and F. Sher. 2022. "Phytoremediation of Heavy Metals in Soil and Water: An Eco-Friendly, Sustainable and Multidisciplinary Approach." *Chemosphere*, Volume 303, Part 1, September, 134788. Available at https://doi.org/10.1016/j.chemosphere.2022.134788.

Boopathy, R. 2004. "Anaerobic Biodegradation of No. 2 Diesel Fuel in Soil: a Soil Column Study." *Bioresource Technology*, 94(2), pp. 143-151.

Confluence. 2024. Former Eatonville Landfill Wetland Delineation Addendum, Updated. Prepared by Confluence Environmental Company. January 9, 2024.

Ecology. 1994. *Natural Background Soil Metals Concentrations in Washington State*. Washington State Department of Ecology. October 1994.

Ecology. 2020. Inadvertent Discovery Plan – Plan and Resources for the Discovery of Cultural Resources and Human Skeletal Remains. Former Eatonville Landfill, Parcel #0416201007. December 2020.

Ecology. 2021. Agreed Order No. DE 20072 between Weyerhaeuser Company, the Town of Eatonville, and State of Washington, Department of Ecology. Prepared by the Washington State Department of Ecology. Signed August 23, 2021.

Ecology. 2022. Natural Background Groundwater Arsenic Concentrations in Washington State. Study Results. Ecology Publication No. 14-09-044. January 2022.

Ecology. 2023. Cleanup Levels and Risk Calculation (CLARC). Prepared by the Washington State Department of Ecology. Updated January 2023.

Ecology. 2024. Implementation Memorandum No. 25: Identifying Likely Vulnerable Populations and Overburdened Communities under the Cleanup Regulations. Prepared by Kristopher Grinnell of the Washington State Department of Ecology. Publication number 24-09-044. Available at https://apps.ecology.wa.gov/publications/SummaryPages/2409044.html. January 2024.

EPA. 1999. Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites. OSWER Directive 9200.4-17P. April.

EPA. 2016. Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Scenarios Projection Map. Latest Update: Current version: 3.0; July 2016. Available at https://epa.maps.arcgis.com/apps/MapSeries/index.html?appid=3805293158d54846a29f750d63c6890e&platform#map.

EPA. 2023. EJScreen: Environmental Justice Screening and Mapping Tool. Last updated on November 14, 2023. Available at https://www.epa.gov/ejscreen.

Eriksson, M., A. Swartling, G. Dalhammar, J. Fäldt, and A.K. Borg-Karlson. 1998. "Biological Degradation of Diesel Fuel in Water and Soil Monitored with Solid-Phase Micro-Extraction and GC-MS." *Applied Microbiology and Biotechnology* 50, pp. 129-134.

Fields, N. 2010. *Nisqually State Park Management Plan*. Available at https://parks.state.wa.us/DocumentCenter/View/1521/Nisqually-Management-Plan-PDF.

GSI. 2024a. *Remedial Investigation/Feasibility Study, Former Eatonville Landfill*. Prepared by GSI Water Solutions, Inc. February 2024.

GSI. 2024b. Former Eatonville Landfill Waste Characterization Results Technical Memorandum. Sent to Washington State Department of Ecology and Tacoma-Pierce County Health Department. Prepared by GSI Water Solutions, Inc. January 11, 2024.

Hruby, T. 2014. Washington State Wetland Rating System for Western Washington, 2014 Update. Washington State Department of Ecology, Olympia. Publication # 14-06-029.

ITRC. 2018. TPH Risk Evaluation at Petroleum-Contaminated Sites. TPHRisk-1. Washington, D.C.: Interstate Technology & Regulatory Council, TPH Risk Evaluation Team. Available online at https://tphrisk-1.itrcweb.org.

Kampbell, D., J. Hansen, B. Henry, J. Hicks. 2001. Natural Attenuation of Fuel Hydrocarbons at Multiple Air Force Base Demonstration Sites. Presentation at First International Congress on Petroleum Contaminated Soils, Sediments, & Water, London, UK. August 2001.

Kao, C. and J. Prosser. 2001. “Evaluation of Natural Attenuation Rate at a Gasoline Spill Site.” *Journal of Hazardous Materials* 82(3):275-90. May 2001.

Ledezma-Villanueva, A., J.M. Adame-Rodríguez, I.A. O’Connor-Sánchez, J.F. Villarreal-Chiu, and E.T. Aréchiga-Carvajal. 2016. “Biodegradation Kinetic Rates of Diesel-Contaminated Sandy Soil Samples by Two Different Microbial Consortia.” *Annals of Microbiology* 66, pp. 197-206.

Nisqually Indian Tribe. 2021. Heritage, Culture, Land, and History. Available at http://www.nisqually-nsn.gov/index.php/heritage/.

O’Neill, S., A. Carey, and W. Hobbs. 2020. *Persistent Organic Pollutant Sources and Pathways to Juvenile Steelhead Trout in the Nisqually River.* Washington Department of Fish and Wildlife. April 2020.

Pacific Northwest National Laboratory. 2001. Subsurface Contaminant Focus Area: Monitored Natural Attenuation (MNA) – Programmatic, Technical, and Regulatory Issues. Prepared for the U.S. Department of Energy by K.M Krupka and W.J. Martin. July.

Parametrix. 1996. *Site Investigation and Preliminary Economic Analysis for Corrective Action Alternatives.* November 1996.

PES. 2013. *Preliminary Alternative Landfill Cover Rehabilitation Evaluation, Eatonville Landfill.* Prepared by PES Environmental, Inc. April 23, 2013.

PHS. 2022. Wetland Delineation for the Eatonville Landfill Property, Pierce County, Washington. Pacific Habitat Services. March 9, 2022.

State of Washington. 2021. Executive Order 21-02, Archaeological and Cultural Resources. April 7, 2021.

Tacoma-Pierce County Health Department. 2010. *Closed Landfill Report*. December 2010.

Town of Eatonville and Weyerhaeuser. 2020. *Inadvertent Discovery Plan: Plan and Procedures for the Discovery of Cultural Resources and Human Skeletal Remains*. Former Eatonville Landfill, ECY 070-560. December 2020.

Trost, T. 2021. *Former Eatonville Landfill, Pierce County, Washington: Preliminary Cultural Resources Assessment*. Archaeological Investigations Northwest, Inc. Prepared for GSI Water Solutions, Inc. June 14, 2021.

U.S. Federal Government. 2023. U.S. Climate Resilience Toolkit Climate Explorer. Available at https://crt-climate-explorer.nemac.org.

USACE. 1987. *Corps of Engineers, Wetlands Delineation Manual*. Final Report. Wetlands Research Program Technical Report Y-87-1. U.S. Army Corps of Engineers, Waterways Experiment Station. January 1987.

USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. ERDC/EL TR-10-3. Wetlands Regulatory Assistance Program. U.S. Army Corps of Engineers, Engineer Research and Development Center, May 2010.

Washington State Department of Health. 2022. Washington Environmental Health Disparities Map. Available at https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map.

Weyerhaeuser. 2014. Letter from Sara Kendall, Vice-President, Corporate Affairs & Sustainability at Weyerhaeuser Company, to Mike Schaub, Mayor of the Town of Eatonville. RE: Town of Eatonville Dump; SE1/4 of NE1/4 of Section 20, Township 16 North, Range 4 East of W.M. in Pierce County, Washington. March 25, 2014.

Weyerhaeuser. 2020. Letter RE: Former Eatonville Landfill – Response to Ecology. Prepared by Carol Wiseman, Remediation Manager, Weyerhaeuser Company. October 13, 2020.

Wisconsin Department of Natural Resources. 2004. Naturally Occurring Biodegradation as a Remedial Action Option for Soil Contamination. Wisconsin Department of Natural Resources Bureau for Remediation and Redevelopment. Interim Guidance (Revised) PUBL-SW-515-95, September.

Yan, A., Y. Wang, S. Tan, M. Yusof, S. Ghosh, and Z. Chen. 2020. “Phytoremediation: A Promising Approach for Revegetation of Heavy Metal-Polluted Land.” *Frontiers in Plant Science*. April 2020.

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Tables

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Table 2-1. Contaminants of Concern for Soil, Groundwater, and Surface Water

Contaminant of Concern		Soil		Groundwater	Surface Water
		Landfill Area	Wetland Area		
Metals	Arsenic	X	—	—	—
	Cadmium	X	—	—	—
	Chromium	X	—	—	—
	Copper	X	—	—	—
	Hexavalent Chromium	—	—	X[1]	X[1]
	Lead	X	—	—	—
	Nickel	X	—	—	—
	Zinc	X	X[2]	X	X
SVOCs	PCP	X	—	—	—
	Total cPAHs	X	—	—	—
TPH	GRO	X	X	—	—
	DRO/ORO	X	X	—	—

Notes

[1] Hexavalent chromium is not thought to be the result of Site impacts and restoration may take longer.

[2] Zinc will only be evaluated in Wetland Area soil if surface water and groundwater zinc concentrations are not recovering.

— = not applicable

cPAH = carcinogenic polycyclic aromatic hydrocarbon

DRO/ORO = Diesel-Range and Residual-Range Organics

GRO = gasoline-range organics

PCP = pentachlorophenol

SVOC = semivolatile organic compound

TPH = total petroleum hydrocarbon

Table 2-2. Cleanup Levels for Soil, Groundwater, and Surface Water

Contaminant		Landfill Area Soil		Wetland Area Soil		Groundwater		Surface Water	
		CUL (mg/kg)	Basis	CUL (mg/kg)	Basis	CUL (µg/L)	Basis	CUL (µg/L)	Basis
Metals	Arsenic	7	MTCA Method B Direct Contact, Cancer; and Statewide 90th Percentile Natural Background	—	Not a COC	—	Not a COC	—	Not a COC
	Cadmium	4	Soil Ecological Indicator - Plants	—	Not a COC	—	Not a COC	—	Not a COC
	Chromium	42	Soil Ecological Indicator - Plants and Soil Biota, and Statewide 90th Percentile Natural Background	—	Not a COC	—	Not a COC	—	Not a COC
	Copper	50	Soil Ecological Indicator - Soil Biota	—	Not a COC	—	Not a COC	—	Not a COC
	Hexavalent Chromium^1	—	—	—	—	0.046	MTCA Method B Cancer	0.13	MTCA Method B Cancer
	Lead	50	Soil Ecological Indicator, Plants	—	Not a COC	—	Not a COC	—	Not a COC
	Nickel	38	Soil Ecological Indicator - Plants, and Statewide 90th Percentile Natural Background	—	Not a COC	—	Not a COC	—	Not a COC
	Zinc^2	86	MTCA Method B Protective of Groundwater to Surface Water, Saturated; Soil Ecological Indicator - Plants, and Statewide 90th Percentile Natural Background	5,480	TEE pCUL	100	WAC Criteria for Aquatic Life - Freshwater Chronic	100	WAC Criteria for Aquatic Life - Freshwater Chronic
SVOCs	Pentachlorophenol (PCP)	2.5	MTCA Method B Direct Contact, Cancer	—	Not a COC	—	Not a COC	—	Not a COC
	Total cPAHs	0.19	MTCA Method B Direct Contact, Cancer	—	Not a COC	—	Not a COC	—	Not a COC
TPH	Gasoline Range Organics (TPH-GRO)	30	MTCA Method A Unrestricted Land Use	30	MTCA Method A Unrestricted Land Use	—	Not a COC	—	Not a COC
	Diesel/Oil Range Organics (TPH-DRO/ORO)	200	Soil Ecological Indicator - Soil Biota	200	Soil Ecological Indicator - Soil Biota	—	Not a COC	—	Not a COC

Notes

[1] The Landfill Area surface water points of compliance are specific to hexavalent chromium and their associated institutional controls.

[2] Zinc will only be evaluated in Wetland Area soil if surface water and groundwater zinc concentrations are not recovering.

— = not available or not applicable
µg/L = micrograms per liter
COC = contaminant of concern
CUL = cleanup level
CWA = Clean Water Act
DRO/ORO = diesel and oil range organics
GRO = gasoline range organics
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act
NA = screening level is not applicable
PCB = Polychlorinated biphenyl
SVOC = semivolatile organic compound
TEE = Terrestrial Ecological Evaluation
TPH = total petroleum hydrocarbon
VOC = volatile organic compound
WAC = Washington Administrative Code

Table 3-1. Restoration Timeframes for Each Media

Matrix		Contaminant of Concern	Remedial Action	Restoration Timeframe
Soil	Landfill Area	Arsenic Cadmium Chromium Copper Lead Nickel Zinc PCP PAHs PCBs TPH	Landfill soil/waste removal	**Immediately after waste and impacted soil removal**
	Wetland Area	TPH-GRO and TPH-DRO/ORO	Wetland area waste removal, landfill soil/waste removal, and natural attenuation	**10 years**
		Zinc[1]	Wetland area waste removal, landfill soil/waste removal, and natural attenuation	**10 years**
Groundwater		Hexavalent Chromium[2] Zinc	Wetland area waste removal and landfill soil/waste removal	**10 years**
Surface Water		Hexavalent Chromium[2] Zinc	Wetland area waste removal and landfill soil/waste removal	**10 years**

Notes

[1] Zinc will only be evaluated in Wetland Area soil if surface water and groundwater zinc concentrations are not recovering.

[2] Hexavalent chromium is not thought to be the result of Site impacts and restoration may take longer.

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

PCP - pentachlorophenol

TPH-GRO = total petroleum hydrocarbons gasoline range organics

TPH-DRO/ORO = total petroleum hydrocarbons diesel range organics and oil range organics

Table 5-1. Applicable Federal, State, and Local Laws

Requirement		Citation	Comments
Federal	*Federal Water Pollution Control Act (Clean Water Act)*	33 USC 1251 et seq.	Regulates the discharge of contaminants into waters of the United States, including wetlands.
	NPDES Program	40 CFR 122	Limits the discharge of contaminants into surface waters of the United States.
	Water Quality Standards	40 CFR 131	Provides guidance for states to establish criteria for discharge of contaminants into state waters.
	Clean Water Act Section 404	33 USC 1344	Regulates the discharge of dredged and fill material into waters of the United States, including wetlands.
	Safe Drinking Water Act	42 USC 300f et seq.	Defines MCLs for drinking water.
	National Primary and Secondary Drinking Water Regulations	40 CFR 141, 143	Establishes contaminant levels in drinking water (primary MCLs are enforceable, secondary MCLs are recommended).
	National Historic Preservation Act Section 106	16 USC 470 et seq.	Federal legislation for the preservation of historic and archaeological sites.
	NEPA	42 USC 4321 et seq.	Requires all branches of government to give consideration to the environment prior to undertaking any federal action that affects the environment.
	Wetland Protection Policy/The NEPA Rule	EPA Executive Order 11990	Requires federal agencies to take action to avoid adversely impacted wetlands wherever possible.
	Clean Water Act Section 404	33 USC 1344	Regulates permitting requirements for construction projects in wetlands that result in changes in the area's bottom elevation.
	Resource Conservation and Recovery Act	42 USC 6901 et seq.	Framework for proper management of hazardous and non-hazardous solid waste.
	Identification and Listing of Hazardous Waste; Standards Applicable to Generators of Hazardous Waste; Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities; Land Disposal Restrictions	40 CFR 261, 262, 264, 268	Solid waste designations and disposal facilities standards.
	Standards Applicable to Transporters of Hazardous Waste	40 CFR 263	Solid waste transportation requirements.
	Transportation: Hazardous Materials Regulations	49 CFR Subchapter C	Solid waste transportation requirements.
	General Information, Regulations, and Definitions; Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans; Shippers - General Requirements for Shipments and Packaging	49 CFR 171, 172, 173, 177	General Information, Regulations, and Definitions; Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans; Shippers
	Federal Endangered Species Act	16 USC 1531 et seq.	List of threatened and endangered species and requirements for preparing and implementing plans for their recovery.
	Interagency Cooperation - Endangered Species Act of 1973, as Amended	50 CFR 402	Interagency cooperation to avoid take of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with states.
	Federal Water Pollution Control Act (Clean Water Act)	33 USC 1251 et seq.	Establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.
	NPDES	40 CFR 122	Permit program that addresses water pollution by regulating point source pollution discharging to waters of the United States.
	Water Quality Standards	40 CFR 131	Provisions of state, territorial, authorized tribal or federal law approved by EPA that describe the desired condition of a water body and the means by which that condition will be protected or achieved.
	Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	40 CFR 230	Restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material.
	Federal Clean Air Act	42 USC 7401 et seq.	Defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer.
	National Primary and Secondary Ambient Air Quality Standards; Standards of Performance for New Stationary Sources; National Emission Standards for Hazardous Air Pollutants; National Emission Standards for Hazardous Air Pollutants for Source Categories	40 CFR 50, 60, 61, 63	Air pollutant standards.

Table 5-1. Applicable Federal, State, and Local Laws

Requirement		Citation	Comments
State	*Washington Hazardous Waste Cleanup - MTCA*	RCW 70A.305, WAC 173-340	Outlines methodology for establishing and implementing cleanup levels for surface water, groundwater, soil, and sediments.
	Washington State Water Pollution Control Act	RCW 90.48	Aims to reduce discharge of pollutants to surface waters of the state.
	Water Quality Standards for Surface Waters of the State of Washington	WAC 173-201A	Establishes water quality standards for contaminants of concern in surface waters of the state.
	Water Quality Standards for Groundwaters of the State of Washington	WAC 173-200	Establishes water quality standards for contaminants of concern in groundwaters of the state.
	Washington State Department of Health - Group A Public Water Supplies	WAC 246-290	Defines basic regulatory requirements and protects the health of consumers using public drinking water supplies.
	Maximum contaminant levels (MCLs) and Secondary MCLs (SMCLs)	WAC 246-290-310	Defines contaminant levels in drinking water (primary MCLs are enforceable, secondary MCLs are recommended).
	Washington NPDES Permit Program	WAC 173-220	Limits the discharge of contaminants into surface waters of the United States.
	Washington Sediment Management Standards	WAC 173-204	Aims to reduce and ultimately eliminate adverse effects on biological resources and significant threats to human health from surface sediment contamination.
	Washington MTCA	RCW 70.105D, RCW 70A.305, WAC 173-340	MTCA funds and directs the investigation, cleanup, and prevention of sites that are contaminated by hazardous substances.
	Washington Department of Ecology 401 Water Quality Certification	RCW 90.48	For federally regulated wetlands, a Section 401 Water Quality certification under the federal Clean Water Act may be required for the Project for filling of or discharge to wetlands.
	Washington Solid Waste Handling Standards	WAC 173-350	County governments and local health departments develop solid waste regulations and management plans, while the State's Solid Waste Management program supports local governments with technical assistance and guidance.
	Washington Criteria for Municipal Solid Waste Landfills	WAC 173-351	Establishes minimum statewide standards for all municipal solid waste landfills.
	Washington Hazardous Waste Management	RCW 70.105, RCW 70A.300	Establishes statewide framework for the planning, regulation, control, and management of hazardous waste which will prevent land, air, and water pollution and conserve the natural, economic, and energy resources of the state.
	Land Disposal Restrictions	WAC 173-303-140	Encourages the best management practices for dangerous wastes.
	Treatment, Storage, or Disposal of Dangerous Waste	WAC 173-303-141	Encourages the best management practices for dangerous wastes.
	State Patrol - Transportation of Hazardous Materials	WAC 446-50	Regulates the safe transportation of hazardous materials, hazardous waste, and radioactive waste materials upon the public highways
	Washington State Environmental Policy Act (SEPA)	RCW 43.21C, Chapter 197-11 WAC	Requires evaluation of environmental impacts, alternatives, and mitigation measures (i.e. Environmental Impact Statement as outlined in RCW 43.21C.031).
	Watershed Restoration Project Regulations	RCW 89.08.450-510	Required permitting for projects involving watershed restoration.
	State Water Pollution Control Act, NPDES Regulations	RCW 90.48, Chapter 173-220 WAC	Criteria for discharge of pollutants and other wastes into state surface waters.
	Washington Department of Fish and Wildlife Hydraulic Project Approval	RCW 77.55	Applies to projects near state waters that will use, divert, obstruct, or change the natural flow or bed.
	State Water Code and Water Rights	RCW 90.03, 90.04	Promotes the use of the public waters in a fashion which provides for obtaining maximum net benefits arising from both diversionary uses of the state's public waters and the retention of waters within streams and lakes in sufficient quantity and quality to protect instream and natural values and rights.
	Protection of Withdrawal Facilities Associated with Groundwater Rights; Water Rights; Protection of Upper Aquifer Zones	WAC 173-150, 152, 154	Establishes and sets forth the policies, framework, and procedures of the Department of Ecology in regard to the protection of the availability of groundwater as it pertains to the water withdrawal facilities of holders of groundwater rights.
	Solid Waste Standards - Reduction and Recycling	RCW 70.95.215	Provides framework for separation, recycling, and reduction of waste delivered to a solid waste facility.
	Deputies of Department - State Solid Waste Management Plan - Assistance - Coordination - Tire Recycling	RCW 70.95.260	Requirements for tire recycling.
	Landfilling Standards	WAC 173-304-460	Landfill performance standards including prevention of groundwater contaminations and requirements for allowable landfill gas concentrations.
	Washington State Forest Practices Rules	Title 222 WAC	Requirements for timber harvesting, pre-commercial thinning, road construction, fertilization, forest chemical application and other forest practices applications under the Forest Practices Act (chapter 76.09 RCW) and Stewardship of Non-industrial Forests and Woodlands (chapter 76.13 RCW).
	Forest Practices Act	RCW 76.09	The Forest Practices Act rules are designed to protect public resources such as water quality and fish habitat while maintaining a viable timber industry.
	Washington State Parks and Recreation Commission Real Property Agreement	--	The Real Property Agreement serves to provide access rights to Washington State Parks and Recreation Commission owned lands.
	Minimum Standards for Construction and Maintenance of Wells	WAC 173-160	Any monitoring wells installed, modified, or removed during the remedial action will comply with these standards.
	Regulation and Licensing of Well Contractors and Operators	WAC 173-162	Drilling subcontractors will be licensed in accordance with these regulations.
	Washington State Executive Order 05-05	GEO 05-05	Requires archeological and cultural resource review by Department of Archaeology and Historic Preservation for capital construction projects not undergoing Federal Section 106 review.

Table 5-1. Applicable Federal, State, and Local Laws

Requirement		Citation	Comments
Local	*Pierce County Code: Wetlands*	Title 18E.30	County code designed to avoid impacts to wetlands due to development.
	Pierce County Code: Regulated Fish and Wildlife Species and Habitat Conservation Areas	Title 18E.40	Identifies regulated fish and wildlife species, habitat, and mitigation measures.
	Pierce County Code: Grading	Title 17A.30	Outlines slope grading, excavation, and fill requirements.
	Excavation Standards; Fill Standards; Soil Engineering -- Stability	Section 010, 020, 030	Grading and filling completed at the site will be regulated through the County standards.
	Pierce County Code: Forest Practices	Title 18H	Establishes the minimum standards and requirements associated with local government review and jurisdiction over Forest Practices in accordance with Chapter 76.09 RCW.
	Class IV - General Forest Practices Permit	Section 10, 040	This Title is directly related to specific subsections in Chapter 76.09 RCW and its rules.
	Pierce County Code: Development Regulations – Critical Areas	Title 18E	Protects critical areas of Pierce County from the impacts of development.
	Land Use Permit with Wetland and Fish and Wildlife Reviews	Section 10, 070	Required when there are critical areas on the property.
	Pierce County Code: Shoreline Management	Title 18S	Provides a comprehensive review of development on shorelines to ensure compliance with the Shoreline Management Act and Pierce County Code 18S.
	Shoreline Substantial Development Permit (SD)	Section 10, 065	Required for shoreline development.

Notes

CFR = Code of Federal Regulations
EPA = U.S. Environmental Protection Agency
MCL = maximum contaminant level
MTCA = Model Toxics Control Act
NEPA = National Environmental Policy Act
NPDES = National Pollutant Discharge Elimination System
NTC = Nisqually Tribal Code
RCW = Revised Code of Washington
USC = United States Code
WAC = Washington Administrative Code

Figures

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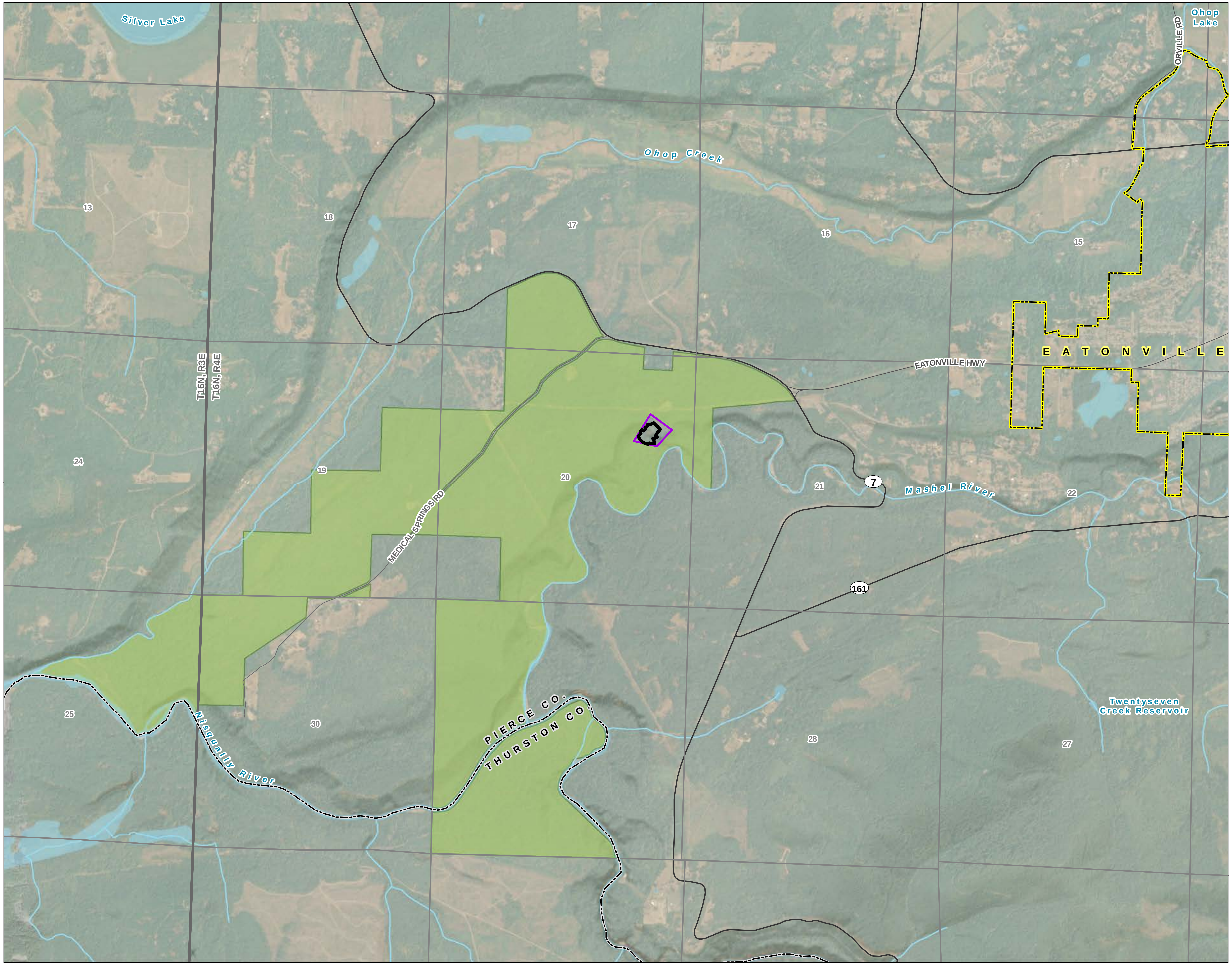
FIGURE 1-1

Vicinity Map

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA



LEGEND

▢	Site
▢	Property (Tax Parcel No. 0416201007)
🟩	Nisqually State Park
⬚	City Boundary
⬚	County Boundary
╱╲	Major Road
～	Watercourse
●	Waterbody

NOTE

Site features are approximate.

Date: July 3, 2024
Data Sources: USGS, ESRI, Maxar Imagery (2021), Pierce Co.

GSI Water Solutions, Inc.

Document Path: Y:\0171_Weyerhaeuser\Source_Figures\074_Former_Eatonville_Landfill\dCAP\Figure1-1_Vicinity_Map.mxd, npalmer

FIGURE 1-2

Site Map

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA

LEGEND

- ◆ Spring
- ┅ Estimated Ordinary High Water Line
- ▨ Wetland
- ▨ Inferred Wetland
- ☐ Property (Tax Parcel No. 0416201007)
- ☐ Site

All Other Features

- ╱╲ State Park Road Limited Access
- ‐·→ Flow Path
- ∼ Mashel River

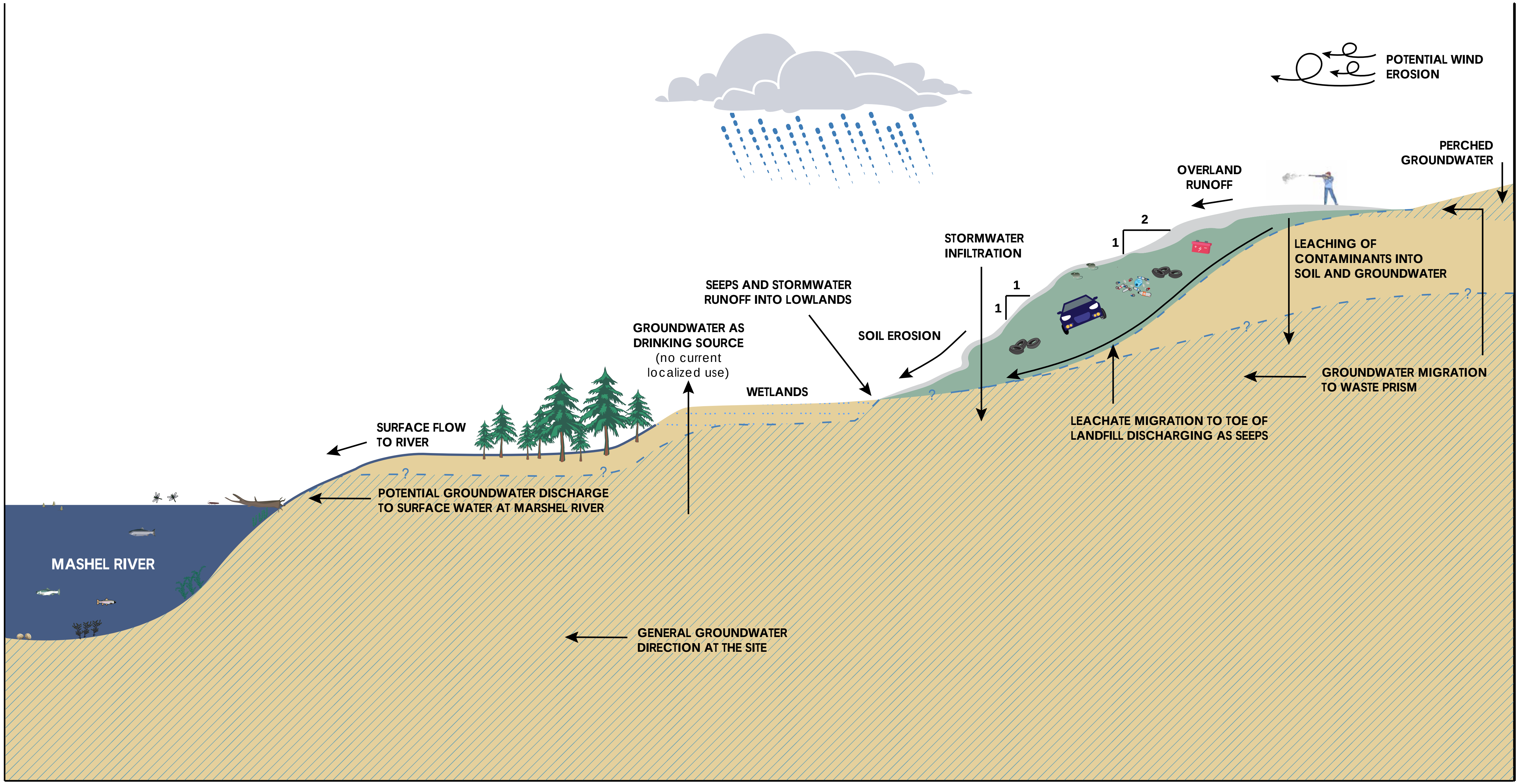
NOTE
Site features are approximate.

N

0 140 280 420
Feet

Date: July 3, 2024
Data Sources: USGS, ESRI, Maxar Imagery (2021), Pierce Co.

Document Path: Y:\0171_Weyerhaeuser\Source_Figures\074_Former_Eatonville_Landfill\dCAP\Figure1-2_Site_Map.mxd, npalmer



LEGEND

▨ Groundwater

⬜ Landfill Cover

🟩 Existing Landfill Waste

🟨 Vashon Drift (coarse gravels and sands) overlying Mashel Formation (unconsolidated layers of clays, sands, and lignite)[1,2]

[1] Schasse, 1987
[2] Walter and Kimmel, 1968

NOTE
Figure is not to scale.
Data sources: Vecteezy (2023)

FIGURE 2-1

Conceptual Site Model

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA

GSI Water Solutions, Inc.

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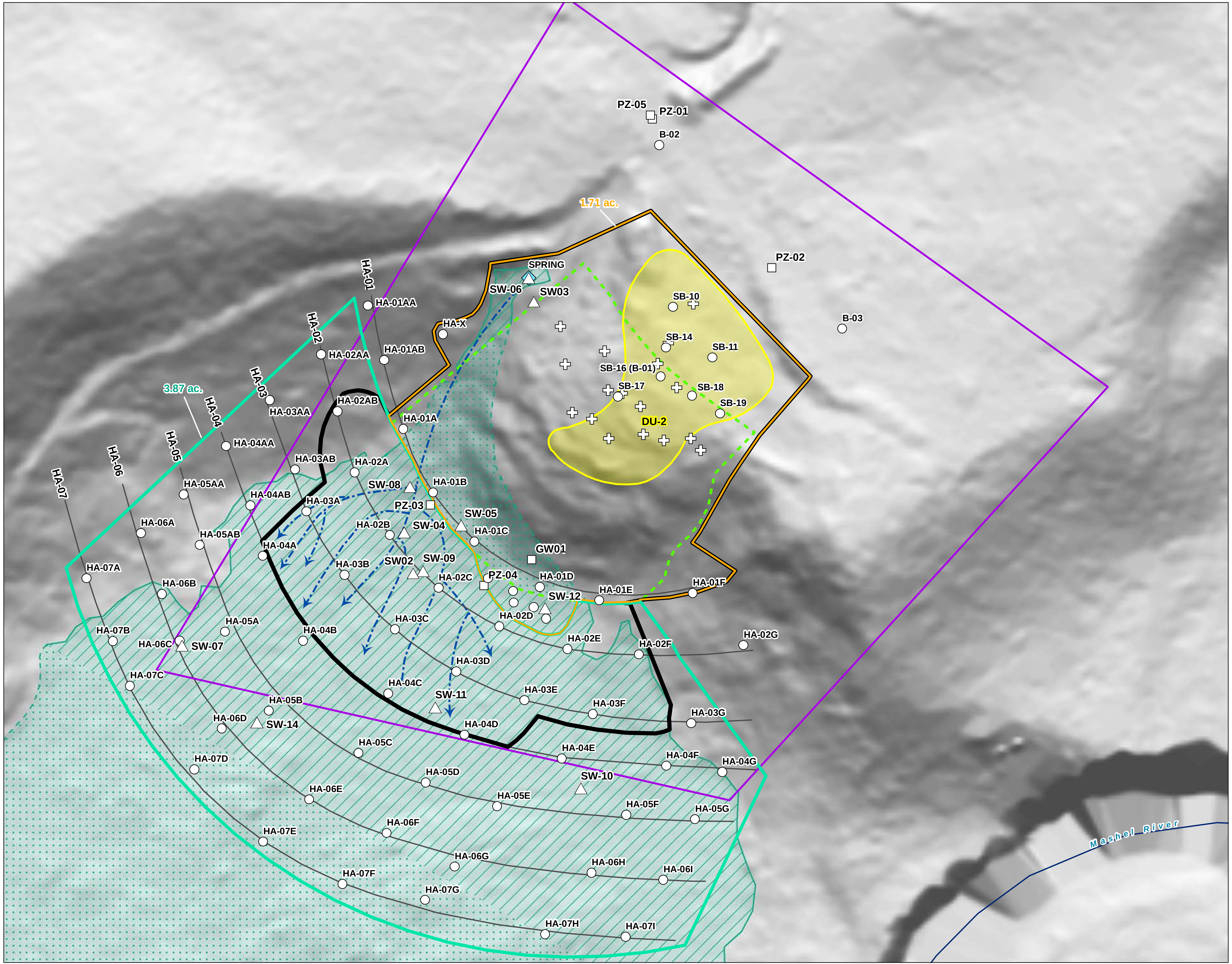


FIGURE 2-2

Remediation Areas and RI/FS Sample Locations

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA

LEGEND

○ Soil Sample Location
— Soil Sample Transect
△ Surface Water Sample Location
☐ Groundwater Sample Location
🟨 ISM Decision Unit (DU) Boundary

Remediation Areas

🟧 Landfill Area
🟩 Wetland Area

All Other Features

✚ Test Pit Location
◆ Spring
▭ Estimated Extent of the Waste Prism
▨ Wetland
▨ Inferred Wetland
■ Site
☐ Property (Tax Parcel No. 0416201007)
→ Flow Path
∼ Mashel River

NOTE

Site features are approximate.

N

0 40 80 120
Feet

Date: July 3, 2024
Data Sources: USGS, ESRI, DNR (2011), Pierce Co.

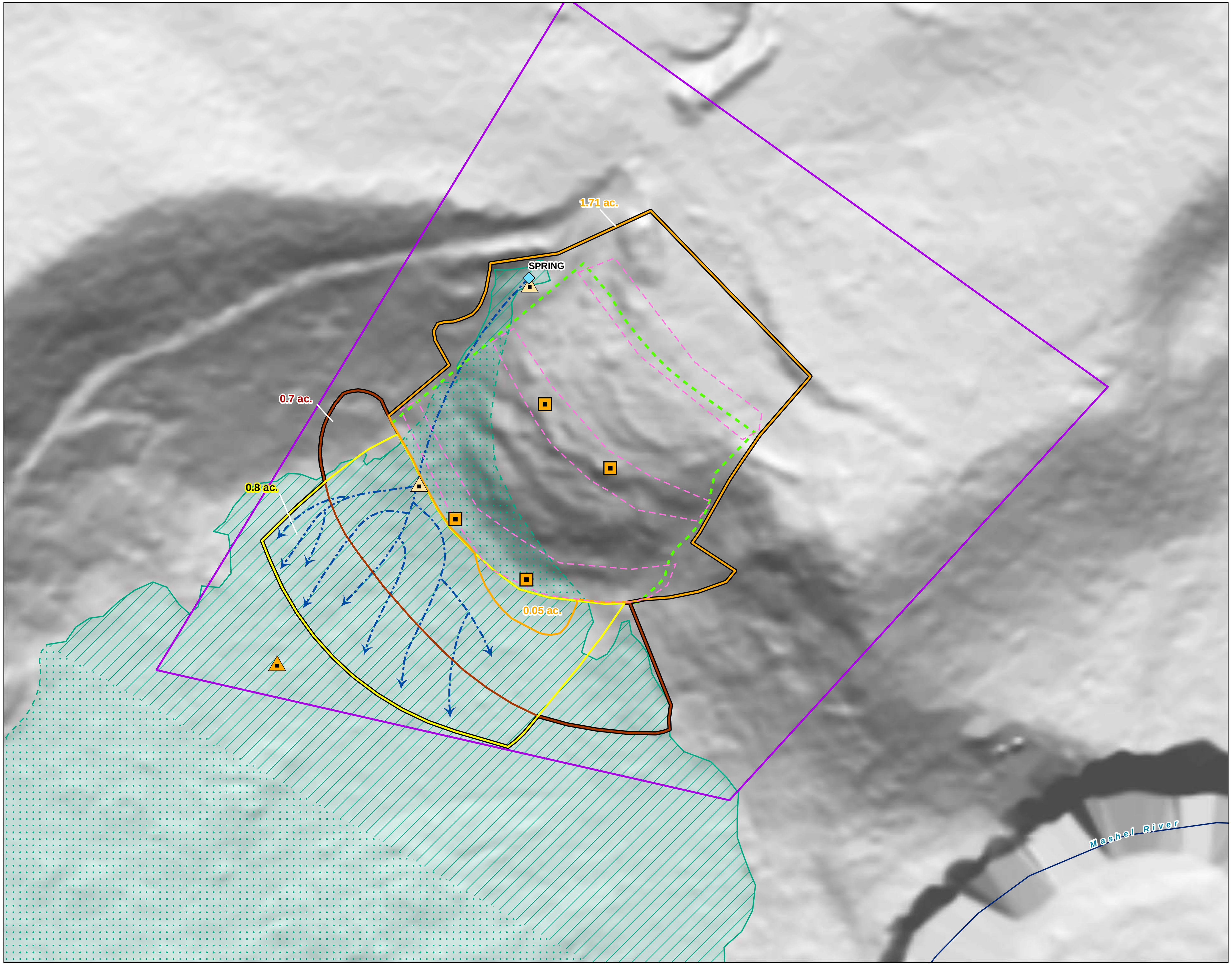
GSI Water Solutions, Inc.

Document Path: Y:\0171_Weyerhaeuser\Source_Figures\074_Former_Eatonville_Landfill\dCAP\Figure2-2_Site_Areas.mxd, npalmer

FIGURE 2-3

Remediation Areas

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA



LEGEND

- ■ Groundwater Point of Compliance Monitoring Well
- ▲ Site Surface Water Point of Compliance
- △ Landfill Area Surface Water Point of Compliance
- ☐ Wetland Soil Institutional Control Monitoring Area and Soil Point of Compliance
- ☐ Approximate Extent of Waste Removal in the Wetland Area
- - - Bench

All Other Features

- ◆ Spring
- ☐ Landfill Area
- ⬚ Estimated Extent of the Waste Prism
- ▨ Wetland
- ⬚ Inferred Wetland
- ☐ Site
- ☐ Property (Tax Parcel No. 0416201007)
- -·→ Flow Path
- ∼ Mashel River

NOTE

Site features are approximate.

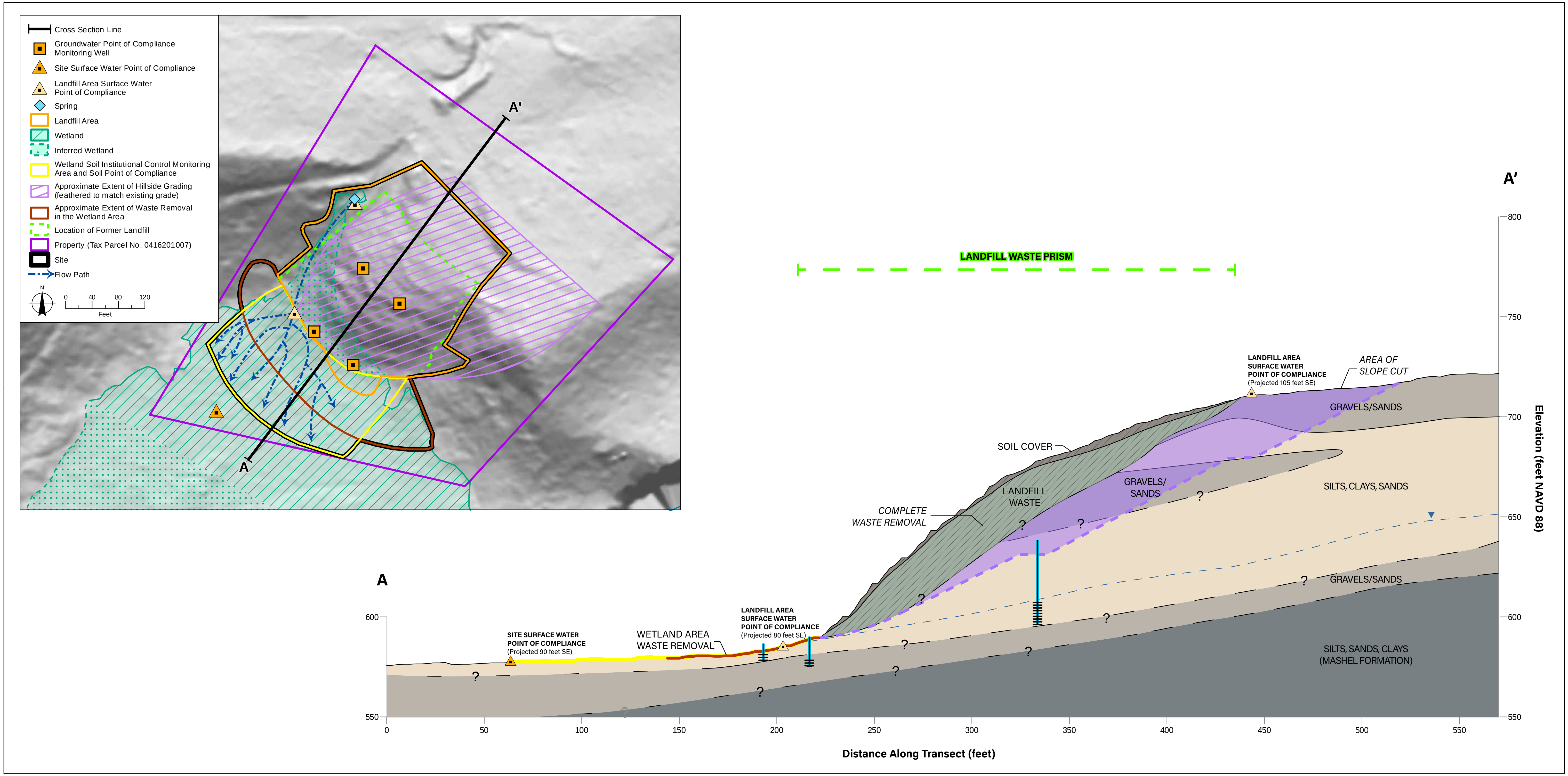
N

0 40 80 120
Feet

Date: July 3, 2024
Data Sources: USGS, ESRI, DNR (2011), Pierce Co.

GSI Water Solutions, Inc.

Document Path: Y:\0171_Weyerhaeuser\Source_Figures\074_Former_Eatonville_Landfill\dCAP\Figure2-3_Remediation_Areas.mxd, npalmer



LEGEND

▼ Water Table

Groundwater Point of Compliance Monitoring Well

Screen

▨ Soil Cover

▨ Landfill Waste Prism

Vashon Drift

▨ Coarse Gravels and Sands; Silty

▨ Silts, Clays, Silty Sands

Mashel Formation

▨ Silts, Sands, Clays

--- Lanfill Area Soil Point of Compliance

— Wetland Soil Institutional Control Monitoring Area and Point of Compliance

— Approximate Extent of Waste Removal in the Wetland Area

▨ Complete Waste Removal

▨ Area of Slope Cut

NOTES

NAVD 88: North American Vertical Datum of 1988

TD: total depth

If loose gravel or sand is observed at the new leave surface, this material will be either removed and filled with suitable base-course (potentially material excavated from Site) or slopes will be no greater than 2.5H:1V.

FIGURE 2-4

Selected Remedy Cross Section A-A'

Draft Cleanup Action Plan
Former Eatonville Landfill
Eatonville, WA

GSI Water Solutions, Inc.

APPENDICES

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APPENDIX A

Former Eatonville Landfill Wetland Delineation Addendum, Updated

CONFLUENCE
ENVIRONMENTAL COMPANY

To: Benjamin Johnson, GSI Water Solutions, Inc.

From: Kerrie McArthur, PWS, CERP

K McArthur Irene Sato

Date: January 9, 2024

Re: Former Eatonville Landfill Wetland Delineation Addendum, Updated

Attachments: Figures
Wetland Rating Form
Wetland Data Forms

In 2022, Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation at the Former Eatonville Landfill property. The findings of their delineation are detailed in their wetland delineation report (PHS 2022). The former landfill is on property owned by the Weyerhaeuser Company which is surrounded by Nisqually State Park property. The study area defined in the wetland delineation report included the Weyerhaeuser property and parts of Nisqually State Park. PHS delineated 1 wetland, identified as Wetland A. This technical memorandum has been prepared to document the rating of Wetland A and to determine the presence and extent of wetlands within the current study area, which has been expanded to include additional land on Nisqually State Park property around the former landfill on Weyerhaeuser property.

WETLAND RATING

On October 10, 2023, Confluence Environmental Company (Confluence) conducted a site visit to assess the resource value of Wetland A by determining the wetland rating using the Washington State Wetland Rating System for Western Washington (Hruby 2014). This rating system is based on the wetland functions and values, sensitivity to disturbance, rarity, and irreplaceability.

The completed wetland rating form is attached, and findings are summarized in Table 1.

Table 1. Summary of wetland characteristics

Wetland ID	Approx. Size (acres)	Hydrogeomorphic Classification	Cowardin Classification	Wetland Rating				
				Water Quality	Hydrology	Habitat	Total	Category
Wetland A	13	Depressional and Slope	Palustrine forested	8	5	9	22	I*

* Wetland A is a Category I wetland based on special characteristics. Wetland A has been identified as a Wetland of high conservation value (see wetland rating form)

PHS (2022) describes the portion of Wetland A within their defined study area as a 4.84-acre slope wetland. Wetland A, in its entirety, is much larger; it extends down the slope beyond the study area and into the valley associated with an unnamed tributary of the Mashel River and the Mashel River (GSI Water Solutions, Inc., 2023; Figure 1). As shown on Figure 1, PHS delineated the boundary of Wetland A within their study area with the exception of a segment that was covered by landfill debris. This segment of the wetland boundary was inferred based on survey topography, LiDAR topography, and comparison of the wetland boundary on each side of the debris pile. The inferred boundary of Wetland A outside of the PHS (2022) study area is documented in the remedial investigation/feasibility study for the Former Eatonville Landfill site (GSI Water Solutions, Inc., 2023). The total area of Wetland A, including the delineated and inferred portions, is approximately 13 acres. The non-delineated portion of the wetland is a combination of slope and depressional hydrogeomorphic classification.

WETLAND INVESTIGATION

On December 20, 2023, Confluence conducted a site investigation to determine the presence and extent of critical areas within the expanded study area on Nisqually State Park property (Figure 2).

Confluence identified wetlands and delineated their boundaries using the methods described by the U.S. Army Corps of Engineers (Corps) in the Corps of Engineers Wetlands Delineation Manual (Corps 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Corps 2010). Figure 2 shows the locations of test plots and soil probes. Wetland data forms are attached.

No wetlands were identified within the expanded study area on Nisqually State Park property. However, there is a potential seep wetland outside of the study area approximately 50 feet to the east. Figure 2 shows a point where this potential wetland is closest to the study area. This wetland was not delineated.

REFERENCES

Corps (U.S. Army Corps of Engineers). 1987. Corps of Engineers wetlands delineation manual. Corps Environmental Laboratory, Waterways Experiment Station, Vicksburg, Mississippi. Technical Report Y-87-1.

Corps. 2010. Regional supplement to the Corps of Engineers wetland delineation manual: western mountains, valleys, and coast region. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi. ERDC/EL TR-08-13.

Corps. 2020. National wetland plant list, version 3.5 [online document]. Corps Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire. Available at: https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html.

GSI Water Solutions, Inc. 2023. Final remedial investigation/feasibility study: Former Eatonville Landfill. Prepared for Weyerhaeuser Company and the Town of Eatonville by GSI Water Solutions, Inc., Portland, Oregon.

Hruby, T. 2014. Washington State wetland rating system for western Washington, 2014 update. Washington State Department of Ecology, Olympia. Publication # 14-06-029.

PHS (Pacific Habitat Services, Inc.). 2022. Wetland delineation for the Eatonville landfill property, Pierce County, Washington. Prepared for GSI Water Solutions, Inc., Portland, Oregon, by Pacific Habitat Services, Inc., Wilsonville, Oregon.

GSI Water Solutions_001444\001444.001_Former Eatonville Landfill for Weyerhaeuser\Reports\Wetland Addendum

Figures

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FIGURE 1

Site Map

Former Eatonville Landfill
Eatonville, WA

LEGEND

- ◆ Spring
- ▨ Wetland
- ⬚ Inferred Wetland
- ⬚ Estimated Extent of the Landfill
- ☐ Weyerhaeuser Property
- ⬚ Former Borrow Pit
- 🟩 Nisqually State Park
- Flow Path
- Mashel River
- Unnamed Creek

NOTE
Site features are approximate.

N

0 140 280 420
Feet

Date: October 30, 2023
Data Sources: USGS, ESRI, Maxar Imagery (2021), Pierce Co.

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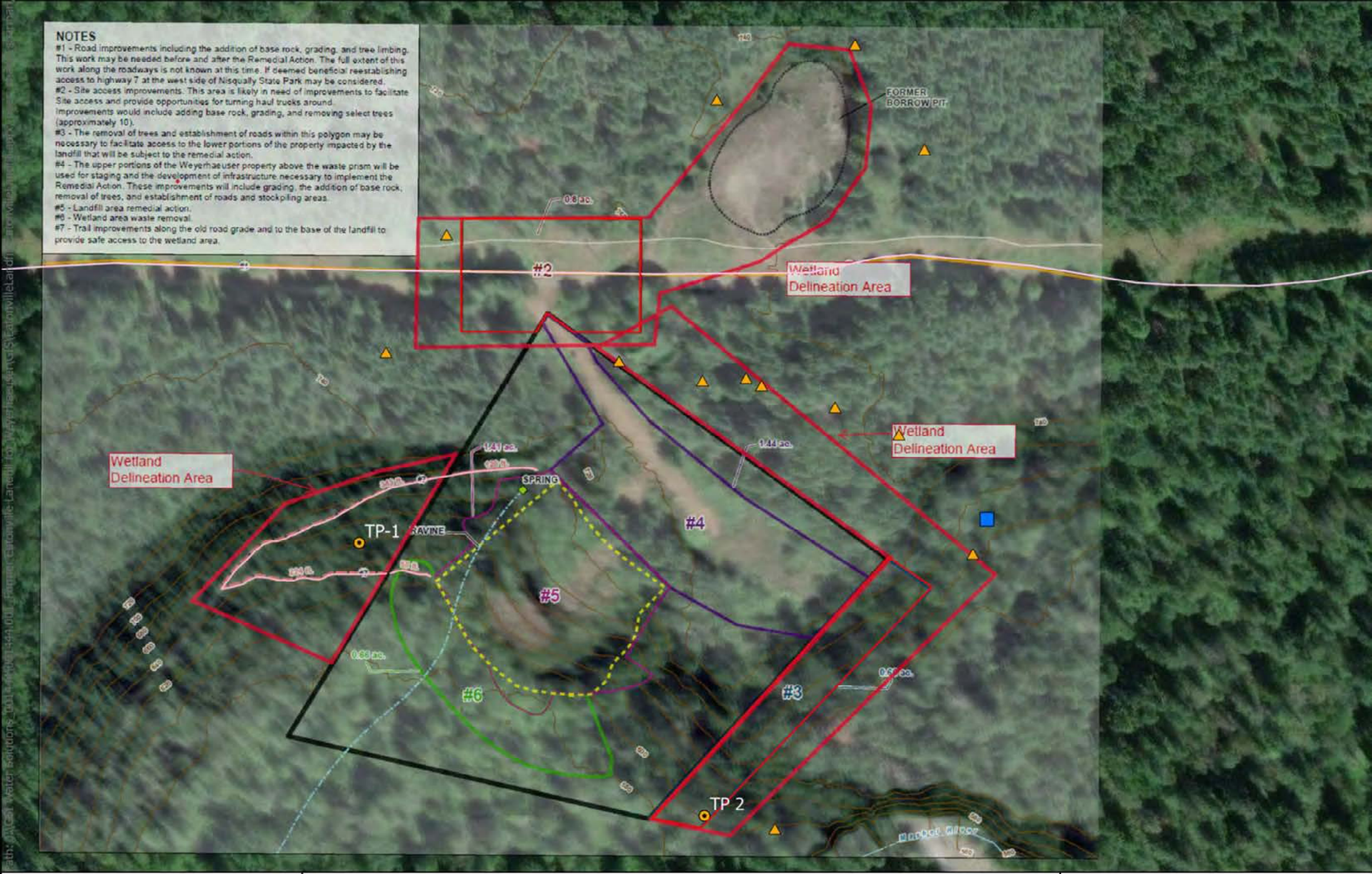


NOTES

#1 - Road improvements including the addition of base rock, grading, and tree limbing. This work may be needed before and after the Remedial Action. The full extent of this work along the roadways is not known at this time. If deemed beneficial reestablishing access to highway 7 at the west side of Nisqually State Park may be considered.

#2 - Site access improvements. This area is likely in need of improvements to facilitate Site access and provide opportunities for turning haul trucks around.

Improvements would include adding base rock, grading, and removing select trees (approximately 10).

#3 - The removal of trees and establishment of roads within this polygon may be necessary to facilitate access to the lower portions of the property impacted by the landfill that will be subject to the remedial action.

#4 - The upper portions of the Weyerhaeuser property above the waste prism will be used for staging and the development of infrastructure necessary to implement the Remedial Action. These improvements will include grading, the addition of base rock, removal of trees, and establishment of roads and stockpiling areas.

#5 - Landfill area remedial action.

#6 - Wetland area waste removal.

#7 - Trail improvements along the old road grade and to the base of the landfill to provide safe access to the wetland area.

CONFLUENCE
ENVIRONMENTAL COMPANY

Figure 2. Location of Test Plot and Soil Probes

Wetland Rating Form

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 10/10/23

Rated by Kerrie McArthur Trained by Ecology? X Yes ___No Date of training 6/2014

HGM Class used for rating Depressional Wetland has multiple HGM classes? X Y ____N

NOTE: **Form is not complete without the required figures** (figures can be combined).
Source of base aerial photo/map ESRI

OVERALL WETLAND CATEGORY I (based on functions___ or special characteristics X)

1. Category of wetland based on FUNCTIONS

_______**Category I** – Total score = 23 - 27
X **Category II** – Total score = 20 - 22
_______**Category III** – Total score = 16 - 19
_______**Category IV** – Total score = 9 - 15

FUNCTION	**Improving Water Quality**	**Hydrologic**	**Habitat**	
Circle the appropriate ratings				
Site Potential	[✓ H] M L	H [✓ M] L	[✓ H] M L	
Landscape Potential	H [✓ M] L	H M [✓ L]	[✓ H] M L	
Value	[✓ H] M L	H [✓ M] L	[✓ H] M L	**TOTAL**
Score Based on Ratings	8	5	9	22

Score for each function based on three ratings
(order of ratings is not important)

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	**CATEGORY**
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	3
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	6

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number __A___

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

[✓ NO – go to 2] **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – Saltwater Tidal Fringe (Estuarine) **YES – Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe, it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat, and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

[✓ NO – go to 3] **YES** – The wetland class is **Flats**

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet all** of the following criteria?

___The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size,

___At least 30% of the open water area is deeper than 6.6 ft (2 m).

[✓ NO – go to 4] **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

____The wetland is on a slope (slope can be very gradual),

____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheet flow, or in a swale without distinct banks,

____The water leaves the wetland **without being impounded**.

NO – go to 5 [✓ **YES –** The wetland class is **Slope**]

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

Wetland name or number A

5. Does the entire wetland unit **meet all** of the following criteria?
____The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
____The overbank flooding occurs at least once every 2 years.

NO – go to 6 [✓ **YES** – The wetland class is **Riverine**]
NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO – go to 7 [✓ **YES** – The wetland class is **Depressional**]

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched but has no obvious natural outlet.

[✓ NO – go to 8] **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	[✓ Depressional]
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. The soil 2 in. below the surface (or duff layer) is true clay or true organic *(use NRCS definitions).* Yes = 4 No = 0	4
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed plants > 95% of area points = 5 Wetland has persistent, ungrazed plants > ½ of area points = 3 Wetland has persistent, ungrazed plants ≥ $^1/_{10}$ of area points = 1 Wetland has persistent, ungrazed plants <$^1/_{10}$ of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: *This is the area that is ponded for at least 2 months. See description in manual.* Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is ≥ ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1 Add the points in the boxes above	13

Rating of Site Potential If score is: **X 12-16 = H ____6-11 = M ____0-5 = L** *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source landfill debris Yes = 1 No = 0	1
Total for D 2 Add the points in the boxes above	1

Rating of Landscape Potential If score is: **____3 or 4 = H X 1 or 2 = M ____0 = L** *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (Answer YES if there is a TMDL in development or in effect for the basin in which the unit is found.) Yes = 2 No = 0	0
Total for D 3 Add the points in the boxes above	2

Rating of Value If score is: **X 2-4 = H ____1 = M ____0 = L** *Record the rating on the first page*

Wetland name or number __A____

DEPRESSIONAL AND FLATS WETLANDS

Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	5
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself. Basin = 61 acres Wetland A = 4.84 acres The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3
Total for D 4 Add the points in the boxes above	10

Rating of Site Potential If score is: __**12-16 = H** _X_**6-11 = M** ___**0-5 = L** *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	0
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0
Total for D 5 Add the points in the boxes above	0

Rating of Landscape Potential If score is: __**3 = H** ___**1 or 2 = M** _X_**0 = L** *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. Is the unit in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther downgradient. points = 1 • Flooding from groundwater is an issue in the sub-basin. points = 1 • The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. *Explain why* _____________ points = 0 • There are no problems with flooding downstream of the wetland. points = 0	1
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6 Add the points in the boxes above	1

Rating of Value If score is: __**2-4 = H** _X_**1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number ___A___

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

____Aquatic bed	4 structures or more: points = 4
____Emergent	3 structures: points = 2
__X__Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
__X__Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

__X__The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods).

____Permanently flooded or inundated	4 or more types present: points = 3
__X__Seasonally flooded or inundated	3 types present: points = 2
____Occasionally flooded or inundated	2 types present: points = 1
__X__Saturated only	1 type present: points = 0
__X__Permanently flowing stream or river in, or adjacent to, the wetland	
___X Intermittently or seasonally flowing stream in, or adjacent to, the wetland	
____**Lake Fringe wetland**	**2 points**
____**Freshwater tidal wetland**	**2 points**

3

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canada thistle**

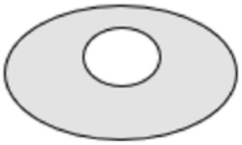
If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0

2

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.

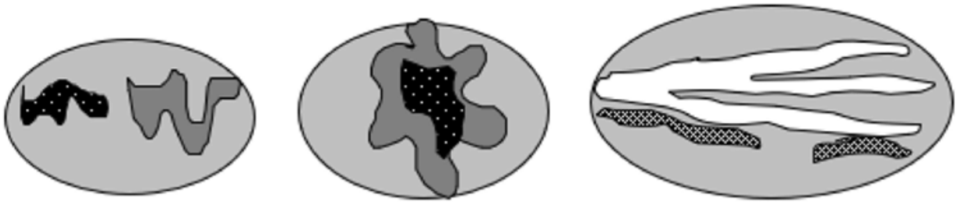
None = 0 points



Low = 1 point

Moderate = 2 points

All three diagrams in this row are **High** = 3 points



3

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. X Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long). X Standing snags (dbh > 4 in.) within the wetland ____Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) X Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) X At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)	5
Total for H 1 Add the points in the boxes above	15

Rating of Site Potential If score is: X **15-18 = H** ___**7-14 = M** ___**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?

H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland. *Calculate:* % relatively undisturbed habitat 88 + [(% moderate and low intensity land uses)/2] 5 = 93 % Total accessible habitat is: 1 km polygon = 832 acres Low/Moderate = 91 acres Undisturbed = 733 acres > $^1/_3$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	3
H 2.2. Total habitat in 1 km Polygon around the wetland. *Calculate:* % relatively undisturbed habitat 88 + [(% moderate and low intensity land uses)/2] 5 = 93 % Total habitat > 50% of Polygon points = 3 Total habitat 10-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: High = 8 > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	6

Rating of Landscape Potential If score is: X **4-6 = H** ___**1-3 = M** ___**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?

H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 X It has 3 or more Priority Habitats within 100 m (see next page) X It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW Priority Species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources data — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 Priority Habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	2

Rating of Value If score is: X **2 = H** ___**1 = M** ___**0 = L** *Record the rating on the first page*

Wetland name or number __A__

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). Priority Habitat and Species List.[133] This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

__ **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

_X_ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.

__ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

__ **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

__ **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).

__ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

_X_ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.

__ **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.

__ **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

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[133] http://wdfw.wa.gov/publications/00165/wdfw00165.pdf

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, WDFW's Management Recommendations for Oregon White Oak[134] provides more detail for determining if they are Priority Habitats

X **Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

X **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

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[134] https://wdfw.wa.gov/publications/00030/wdfw00030.pdf

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt Yes – Go to **SC 1.1** [✓ No= **Not an estuarine wetland**]	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = **Category I** No – Go to **SC 1.2**	**Cat. I**
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 10% cover of non-native plant species. If non-native species are *Spartina*, see chapter 4.8 in the manual. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = **Category I** No = **Category II**	**Cat. I** **Cat. II**
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?[135] [✓ Yes = **Category I**] No – Go to **SC 2.2** SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements. Yes – Submit data to WA Natural Heritage Program for determination,[136] Go to **SC 2.3** No = **Not a WHCV** SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? Yes = **Category I** No = **Not a WHCV**	**Cat. I**
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES, you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in. or more of the first 32 in. of the soil profile? Yes – Go to **SC 3.3** [✓ No – Go to **SC 3.2**] SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in. deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to **SC 3.3** [✓ No = **Not a bog**] SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = **Category I bog** No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in. deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = **Category I bog** No = **Not a bog**	**Cat. I**

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[135] https://www.dnr.wa.gov/NHPdata

[136] https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number A

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as Priority Habitats? ***If you answer YES, you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in. (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in. (53 cm).

Yes = **Category I** [✓ No = **Not a forested wetland for this section**] — **Cat. I**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*
- The lagoon retains some of its surface water at low tide during spring tides

Yes – Go to **SC 5.1** [✓ No = **Not a wetland in a coastal lagoon**]

SC 5.1. Does the wetland meet all of the following three conditions? — **Cat. I**

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species in H 1.5 in the manual).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — **Cat. II**
- The wetland is larger than $^1/_{10}$ ac (4350 ft^2)

Yes = **Category I** No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer YES, you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105 — **Cat I**
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW.

Yes – Go to **SC 6.1** [✓ No = **Not an interdunal wetland for rating**]

Cat. II

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = **Category I** No – Go to **SC 6.2**

Cat. III

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = **Category II** No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = **Category III** No = **Category IV** — **Cat. IV**

Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	I

Wetland Data Forms

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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eatonville Landfill City/County: Eatonville/Pierce County Sampling Date: 12/26/23

Applicant/Owner: GSI watersolutions/Town of Eatonville State: WA Sampling Point: TP-2

Investigator(s): IRS, AHM Section, Township, Range: S20 T16N R04E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 4

Subregion (LRR): A Lat: 46.85881 Long: 122.32174 Datum: WGS-84

Soil Map Unit Name: Barneston gravelly ashy coarse sandy loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Douglas fir	70	✓	FACU
2. Alder	15		FAC
3.			
4.			
	85 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Sword fern	90	✓	FACU
2. salmonberry	1		FAC
3. elderberry	10		FACU
4.			
5.			
	101 = Total Cover		
Herb Stratum (Plot size: 3')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 3')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

TP-2 dug on slope representive of area 3

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-3								Duff
3-12	10YR 4/1	100	–	–	–	–	gravelly	loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______
Depth (inches): ______

Hydric Soil Present? Yes ______ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ______
Water Table Present? Yes ____ No ✓ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ______

Wetland Hydrology Present? Yes ______ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eatonville landfill City/County: Eatonville /Pierce County Sampling Date: 12/7/012

Applicant/Owner: GSI water solutions / Town of Eatonville State: WA Sampling Point: TP-1

Investigator(s): LRS, AHM Section, Township, Range: S20T16R04E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 50

Subregion (LRR): A Lat: 46.85966 Long: 122.32314 Datum: WGS-84

Soil Map Unit Name: Kapowsin gravelly loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ✓, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✓

Hydric Soil Present? Yes ____ No ✓

Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:

TP-1 adjacent to landfill

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Cedar	30	✓	FAC
2. Big leaf Maple	~~30~~ 50	✓	FACU
3. Doug fir	25	✓	FACU
4.			
	105 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Sword fern	90	✓	FACU
2.			
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: 3')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- __ 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ 5 - Wetland Non-Vascular Plants[1]
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

TP dug on slope representative of area 7

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1							Duff/Mulch	1/2 ruk
1-12	10YR 2/2	100	—	—	—	—	Sandygravel	w/ gravel 1-2"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ___ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No _X_ Depth (inches): ______
Water Table Present? Yes ___ No _X_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _X_ Depth (inches): ______

Wetland Hydrology Present? Yes ___ No _X_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX B

Former Eatonville Landfill Waste Characterization Results

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TECHNICAL MEMORANDUM

Former Eatonville Landfill Waste Characterization Results

To:	Sam Meng, State of Washington Department of Ecology Keith Johnston, Tacoma-Pierce County Health Department
From:	Benjamin Johnson, GSI Water Solutions, Inc. Braedon Warner, GSI Water Solutions, Inc. Luke Thies, Weyerhaeuser Company Seth Boettcher, Town of Eatonville
Attachments:	Table 1 — Test Pit and Wetland Sample Locations Table 2 — Metals and pH Results Table 3 — TCLP Metal Results Table 4 — PCB Results Table 5 — SVOC Results Table 6 — TPH Results Table 7 — VOC Metal Results Figure 1 — Test Pit and Sampling Locations Attachment A — Test Pit Photo Logs Attachment B — Test Pit Soil Logs Attachment C — Laboratory Reports
Date:	January 11, 2024

1. Executive Summary

This Waste Characterization Results technical memorandum (TM) concerns the Former Eatonville Landfill (Site), owned by Weyerhaeuser Company (Weyerhaeuser) near State Route 7 in unincorporated Pierce County, Washington, and adjacent to Nisqually State Park. The Site is composed of a former municipal waste landfill and the area beyond the toe of the landfill (referred to as the “Wetland Area”) where wastes and select contaminants have migrated over time.

In October 2023, test pitting and wetland soil sampling were completed at the Site to evaluate the composition of the waste prism and the quality of soils and interbedded materials present for disposal. The wastes identified were primarily municipal household solid wastes and were largely comingled with cover soils from the surface to the native soils at the base of the waste prism. Large wastes (i.e., car bodies, tires, and appliances) were most predominant near the surface of the Site and were largely absent in the waste prism. At depth, large concrete blocks were found at several locations. Surface soils, interbedded materials, native soils, and wetland soils chemically and characteristically evaluated do not qualify as federal hazardous wastes per 40 Code of Federal Regulations (CFR) § 261.4(b)(3) based on the chemical and characteristic testing results or exceeded the Toxic Substances Control Act (TSCA) 15 United States Code (USC) § 2605 threshold for polychlorinated biphenyl (PCB) concentrations. Additionally, the soils and interbedded materials do not qualify as Washington State Dangerous Wastes per Washington Administrative Code (WAC) 173-303-100 due to their exemption in WAC 173-303-071(3)(c). Based on these findings, all wastes, soils, and interbedded materials at the Site may be accepted as “Special Waste” if submitted under a Waste Disposal Authorization (WDA) without any additional designations.

2. Objective

The objective of this technical memorandum (TM) is to present the results of waste characterization efforts completed in October 2023 at the Site. A series of 17 test pits (TPs) in the upper waste prism were excavated to further categorize and evaluate:

1. The types of waste and interbedded fill/cover soil and fine waste materials (interbedded materials).
2. The quality of soil at the contact between the waste prism and native surface (native soil).
3. The quality of wetland soil proposed for removal at the base of the former landfill.

This TM details the results of the test pitting, waste material classification, and waste characterization sampling and a preliminary effort to classify the wastes for possible disposal at landfills as part of future remedial action (RA) at the Site. The waste classification is based on chemical results and the types of waste streams present within the waste prism and the nature of native soil at the base of the former landfill waste prism and in the Wetland Area.

3. Regulated Landfill Outreach

Selection of a final disposal facility (or facilities) is a complex process that must weigh a variety of factors, including, but not limited to, county requirements, state and federal regulations, capacity of waste facilities, anticipated waste streams and waste characteristics, transport distances and carbon footprint, pricing, and flow controls (EPA, 1995). There are currently several Subtitle D landfills that may be viable options for the disposal of waste streams and soils anticipated to be generated during a future RA at the Site. However, the Pierce County Recycling, Composting and Disposal (LRI) landfill, operated by Waste Connections, Inc., is the closest landfill (19.25 miles) to the Site. The LRI landfill and Tacoma-Pierce County Health Department use the WDA process to determine whether wastes may be disposed of in county-permitted disposal facilities as “special waste.”[1]

Further consultation will be needed during development of the Cleanup Action Plan and the Engineering Design Report to select the final disposal facility. This TM outlines test pitting observations and analytical results to support these discussions. However, this characterization effort may need to be supplemented to meet the different needs of the facilities being considered for the disposal of waste streams generated through the removal of the waste prism and impacted soils during the RA.

4. Test Pitting and Wetland Soil Sampling

Seventeen test pits were excavated into the accessible portions of the upper waste prism (delineated on Figure 1 as the anticipated test pitting area) to the deepest extent possible or to native soil material. Two test pits (TP-16 and TP-17) were not sampled because no waste was present beneath the surface, indicating that the waste prism does not extend that far upslope. At the other 15 test pits, the 0 to 1 foot below ground

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[1] The Tacoma-Pierce County Health Department WDA process and WDA application for contractors and consultants are explained here: https://www.tpchd.org/healthy-places/waste-management/waste-disposal-authorization.

surface (bgs) surface soil interval, interbedded material intervals within the waste prism, and native soil beneath the waste prism were sampled, if encountered.

Surface soils were not collected in locations other than the test pits, as their composition was nearly indistinguishable from interbedded materials below 1 foot bgs. Additionally, interbedded materials were more homogenous and comingled than anticipated; therefore, interbedded material samples were routinely taken at approximately 5 feet intervals except where impacts or significant wastes were encountered. In addition to the samples collected at test pit locations, five wetland soil samples were collected at the base of the landfill in an area proposed for removal in the Feasibility Study (FS) remedial alternatives for the Site.

Native soil was only encountered at six test pit locations (TP-04, TP-05, TP-06, TP-09, TP-10, and TP-15) in the anticipated test pitting area (Figure 1). However, due to the steep slope and limited reach of the excavator, the completion of test pits was not possible at the most downslope extent of the anticipated test pitting area or in the lower portions of the waste prism itself. Soil erosion best management practices (BMPs), including straw wattles and matting, were used over disturbed surfaces upon test pitting completion. The following sections describe waste and soil classification.

4.1 Waste Composition

The types of anthropogenic waste observed in the test pits were generally composed of household wastes, including plastics, metals, glass, textiles, concrete, and tires. The approximate extents of these wastes are shown as a yellow dashed line in Figure 1. Soil, cobbles, and boulders were a significant component of the waste prisms composition, and generally made up between 30 to 70 percent of the waste prisms composition, with some test pits having up to 90 percent soil. Cover soil was anticipated to occur in discrete identifiable beds (interbedded material) during the planning process, but these distinct beds were not encountered during test pitting.

The wastes encountered during the test pitting are described below:

- **Metals.** Metal wastes included automobile bodies and parts, appliances, and small unidentified metal fragments. Orange and black oxidized metallic slag material was encountered in test pits below 10 to 15 feet. Large metal objects occurring primarily near the surface may be readily sorted and recycled during the RA.
- **Tires.** Tires were scattered throughout the landfill, including at the toe of the landfill and at the upslope end of the Wetland Area. During test pitting, tires were primarily encountered at the surface, but were also present to depths of approximately 10 to 15 feet bgs in some test pits. Tires were often present in stacked layers, but, in general, tires did not make up more than 10 percent of all wastes encountered in a test pit. Tires may be readily sorted and recycled during the RA.
- **Plastic.** Plastic wastes were abundant in the upper 10 to 15 feet bgs of the prism and were predominantly disintegrated household wastes. The household wastes include general house wares, such as kitchen supplies, toys, product containers, garbage bags, and unidentified wrappings. Up to approximately 70 percent of wastes encountered in the pits were household plastic materials, and they were mainly concentrated near the surface of each test pit between 0 to 10 feet bgs.
- **Glass.** Glass containers, likely also from household waste, were a minor component of the waste prism (less than 20 percent of encountered waste materials) but were present at all test pit locations and depths.
- **Textiles.** Household wastes such as clothes, carpet, woven fabrics, clothes, and rope were encountered in test pits throughout the prism. While textiles accounted for generally less than 15 percent of encountered waste materials, these textiles covered large surface areas and provided a structural fabric that stabilized other disintegrated materials present in the waste prism.

- **Concrete**. Large, 3 to 4 feet concrete slabs and rebar were encountered below 10 to 15 feet bgs in most test pits. Concrete was generally more prevalent in the central and north side of the waste prism, where concrete slabs were stacked atop one another and caused early refusal at TP-09. Rusted, oxidized, and melted slag material was comingled with concrete material.

No drums, wood waste, or hazardous/regulated wastes (i.e., batteries, containers with liquid contents, or freon-containing devices) were encountered in the sampled test pits. Waste was not encountered within wetland soil samples themselves, although they were near surficial debris such as tires.

4.2 Soil Classification

Test pits and wetland soil samples were systematically logged using the United Soil Classification System (USCS) (codes provided below), photographed, and sampled. Attachment A includes photograph logs for wetland samples and all test pits. Attachment B includes soil field forms for test pits and wetland samples.

4.2.1 Test Pit Soils

The following are generalized descriptions of surface soil, interbedded materials, and native soils encountered in the test pits:

- **Surface Soil.** Surface soil was typically rooty, brown, moist, loose, sandy gravels (GW) with 10 to 30 percent waste. Aside from the moisture content and presence of plant roots, there were no discernable soil development horizons or changes in waste concentrations between surface sediments and the interbedded materials described below.
- **Interbedded Materials.** Interbedded soils were brown, dry, loose sandy gravel and gravelly sands (GW, SW) with 10 to 70 percent comingled wastes, as previously described. Rounded boulders up to 3 feet in diameter were encountered, but the gravels encountered were typically less than 6 inches in diameter. No distinct soil beds were found within the test pits.
- **Native Soils.** Native soils were distinct from waste prism soils and did not contain wastes. Test pits and depths where native soil was encountered are shown on Figure 1. Three distinct forms of native soil were encountered:
  - Light gray, indurated, dry, coarse sandy gravel (GW) with silt; bedded with a friable and chippy matrix of fines. This soil type was encountered at TP-05 (4 feet bgs), 06 (7 feet bgs), 15 (8 feet bgs), 16 (surface), and 17 (surface).
  - Light gray-brown, moist, indurated but friable, well-sorted medium-coarse and angular granitic sand (SP) comprising native saprolite. This soil type was encountered in TP-04 (9 feet bgs) and TP-10 (12 feet bgs).
  - Purple, moist, indurated and clast-supported sandy and firmly cemented conglomerate (GW) with 0.5-inch rounded clasts. This soil type was encountered in TP-08 (8 feet bgs).

4.2.2 Wetland Soils

All wetland soils were organic-rich, wet, soft, dark purple, silty sand and silt. WS-04 was collected through the center of a tire. These characteristics are similar to samples previously collected in this area.

5. Chemical Data Evaluation

Aside from the adjustment in sampling intervals as described Section 4, surface soil, interbedded materials, native soils, and wetland soils were analyzed following the approach described in the Waste Characterization Approach Technical Memorandum (Approach Memo) (GSI, 2023a). Surface soil interbedded material, native soil, and wetland soil samples were prescreened for semivolatile organic compounds (SVOCs)/total petroleum hydrocarbons (TPH) and volatile organic compound (VOC) impacts. SVOCs and TPH impacts were prescreened using sheen tests and visual/olfactory indicators. Several samples (TP-08 from 4-5 and 12 to

13 feet bgs, TP-07 from 14 to 15 feet bgs, and TP-01 from 10 to 11 feet bgs) yielded a thin, grey sheen (see Attachment B). VOCs were prescreened using a photoionization detector (PID) (see Attachment B). No samples exceeded the 10.0 parts per million (ppm) threshold for VOC sampling. The highest PID detection was 3.0 ppm at TP-09 from the 11 to 12 feet bgs sample. However, some surface soil, interbedded material, and wetland soil samples were collected opportunistically for SVOC and VOC analysis to verify the screening assumptions.

All native soil samples were run for SVOCs (U.S. Environmental Protection Agency [EPA] Method 8270E), VOCs (EPA Method 8260D), and diesel/gas range TPH (NWTPH-Dx/Gx) regardless of their prescreening results. Wetland samples WS-1 and WS-5 were electively run for gas-range TPH despite negative prescreening results to confirm whether TPH-Gx exceedances identified during the Remedial Investigation (RI) were still present. Per the Approach Memo, VOCs were only run in waste prism samples if a positive PID screening occurred; however, the 4.0 to 15.0 feet bgs interval from Test Pit 7 was analyzed for VOCs electively to confirm their absence. All samples were run for PCBs (EPA Method 8082A), total metals (EPA Method 6020B), and the toxicity characteristic leaching protocol (TCLP) (EPA Method 1311/6020B) for the eight Resource Conservation and Recovery Act (RCRA)-regulated metals. All surface soil, interbedded materials, and native soil samples were tested for pH (EPA Method 9045D). Samples were not collected from the opportunistic TP-16 and TP-17 above the waste prism. No sampleable free liquids were encountered. Attachment C contains the laboratory reports associated with this work.

Of the 59 samples collected, the following 36 were analyzed (Table 1):

- **Landfill:**
  - 4 samples of surface soil
  - 21 samples of interbedded material
  - 6 samples of native soil
- **Wetland:** 5 samples of wetland soil

Soil analytical results were evaluated against the following regulatory levels and thresholds:

- **Metals.** 40 CFR § 261.24 and its associated regulatory levels for the TCLP method.
- **PCBs.** TSCA threshold value of (15 USC § 2605)

The TSCA PCB screening levels set by 15 USC § 2605, hazardous characteristic regulatory levels set by 40 CFR § 261, and the TCLP criteria set by 40 CFR § 261 used for the purposes of characterizing interbedded materials and soil are described in the Approach Memo (GSI, 2023a). The TCLP 20-times rule was used to screen metals, SVOC, and VOC results against toxicity characteristic criteria. This rule is commonly used when profiling landfill wastes for compounds that are unlikely to leach and are unaffected by changes in pH.

Additional archived sample material is available for both run and unrun samples. These may be analyzed to satisfy sampling requirements given the volume of comingled soil and wastes in the prism.

5.1 Waste Prism Sample Results

Metals, PCBs, SVOCs, and TPH were detected in the waste prism, which is composed of surface soil and interbedded material samples. The following are summaries of the results for waste prism samples by analytical group:

- **Hazardous Characteristics:**
  - No waste prism samples were analyzed for ignitability as they did not appear to be composed of combustible materials.

  - No waste prism samples were analyzed using the paint filter test as they did not appear to be wet or saturated.
  - The corrosivity characteristic was evaluated in all waste prism samples and none of the pH values measured were out of range (2 to 13 Standard Units).
- **Metals:**
  - All samples from the waste prism (surface soil and interbedded material samples) had detections of arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), nickel (Ni), silver (Ag), zinc (Zn), and mercury (Hg). Selenium (Se) was only detected in TP-01 from 10.0 to 11.0 feet bgs (Table 2).
  - Pb, Cd, and Hg results exceeded the 20-times TCLP screening value in some samples (Table 2).

No samples exceeded the 40 CFR § 261 TCLP criteria for any metals including those (Pb, Cd, and Hg) that exceeded the 20-times TCLP screening performed in Table 2 (Table 3). This indicates that despite the prescreening results the surface soil and interbedded material samples are not leaching significant concentrations of Pb, Cd, and Hg and are not demonstrating a hazardous characteristic.

- **PCBs:**
  - PCBs were detected in every sample, and Aroclors 1254 and 1260 were the primary contributors to the Total PCBs concentrations (Table 4).
  - No samples exceeded the Total PCB TSCA screening value of 50,000 micrograms per kilogram (µg/kg).
- **SVOCs:** Both samples (TP-01 10 to 11 feet bgs and TP-07 14 to 15 feet bgs) tested for SVOCs had detections for PAHs. However, no values exceeded screening criteria, including Total cPAH (Table 5).
- **TPH:** Heavy oil-range hydrocarbons were detected in all samples analyzed, with values ranging from 1,000 to 1,780 milligrams per kilogram (mg/kg) (Table 6).
- **VOCs:** No VOCs (EPA Method 8260D) were detected in the TP-07 sample (14.0 to 15.0 feet bgs) (Table 7).

5.2 Native Soil Sample Results

Metals, PCBs, SVOCs, and TPH were detected in native soils beneath the waste prism. The following are summaries of the results of for native soil samples by analytical group:

- **Hazardous Characteristics:**
  - No native soil samples were analyzed for ignitability as they did not appear to be composed of combustible materials.
  - No native soil samples were analyzed using the paint filter test as they did not appear to be wet or saturated.
  - The corrosivity characteristic was evaluated in all native soil samples and none of the pH values measured were out of range (2 to 13 Standard Units).
- **Metals:**
  - All native soil samples had detections of As, Ba, Cr, Cu, Pb, Ni, and Zn.
  - Cd was detected in all samples except TP-04 (9.0 to 10.0 feet bgs) and TP-05 (4.0 to 5.0 feet bgs) (Table 2).
  - Se was not detected in any sample.
  - Ag was only detected in TP-06 (9.0 to 10.0 feet bgs) and TP-15 (9.0 to 10.0 feet bgs).
  - Hg was only detected in TP-06 (9.0 to 10.0 feet bgs), TP-08 (12.0 to 13.0 feet bgs), and TP-15 (9.0 to 10.0 feet bgs).

  - Pb was the only metal to exceed the 20-times screening value (TP-06, 9.0 to 10.0 feet bgs) in native soil.
  - No native soil samples exceeded the 40 CFR § 261 TCLP criteria for any metals (Table 3).
- **PCBs:**
  - PCBs were detected in 3 out 6 samples: TP-06 (9.0 to 10.0 feet bgs), TP-08 (12.0 to 13.0 feet bgs), and TP-15 (9.0 to 10.0 feet bgs) (Table 4). Aroclors 1254 and 1260 were the primary contributors to the Total PCB concentrations.
  - No samples exceeded the Total PCB screening value of 50,000 µg/kg.
- **SVOCs:**
  - TP-04 (9.0 to 10.0 feet bgs) was the only sample that did not have SVOC detections. All other samples tested had detections of various SVOCs.
  - No samples exceeded screening criteria (Table 5).
- **TPH:** Heavy oil range hydrocarbons were detected in 3 out of 6 samples: TP-06 (9.0 to 10.0 feet bgs), TP-08 (12.0 to 13.0 feet bgs), and TP-15 (9.0 to 10.0 feet bgs) (Table 6), with values ranging from 120 to 2,550 mg/kg.
- **VOCs:** VOCs (EPA Method 8260D) were not detected in any samples (Table 7).

5.3 Wetland Soil Sample Results

Metals and PCBs were detected in wetland soil samples. The following are summaries of the results for wetland soil samples by analytical group:

- **Hazardous Characteristics:**
  - No wetland soil samples were analyzed for ignitability as they did not appear to be composed primarily of combustible materials.
  - No wetland soil samples were analyzed using the paint filter test as they did not appear to be fully saturated.
  - **The corrosivity characteristic was not evaluated in the wetland soil samples but the pH of these soils are not anticipated to significantly differ from the pH values seen in waste prism surface soil/interbedded material and native soils.**
- **Metals:**
  - All native soils samples had detections of As, Ba, Cd, Cr, Cu, Pb, Ni, and Zn (Table 2).
  - Se was only detected in WS-05 (0.0 to 2.0 feet bgs).
  - Ag and Hg were not detected in any wetland soil samples.
  - No samples exceeded the 40 CFR § 261 TCLP criteria or 20-times screening level for any metals (Tables 2 and 3).
- **PCBs:** Aroclor 1260 was detected in 1 out 5 samples (WS-04, from 0.0 to 2.0 feet bgs), but it did not exceed the Total PCB screening value of 50,000 µg/kg (Table 4).
- **SVOCs:** SVOCs were not analyzed in wetland soil samples.
- **TPH:** TPH was not detected in either sample (WS-01 and WS-05) (Table 6).
- **VOCs:** VOCs were not analyzed in wetland soil samples.

6. Disposal Classification and Approach

Using data collected from the test pits and the results of the material/soil characterization efforts, wastes were classified with respect to the different disposal processes and facilities being considered for this project.

6.1 Physical Considerations for Waste Handling and Disposal

Wastes must be evaluated to determine future handling with respect to size, composition, and the potential for comingling with other waste types. The considerations for waste handling include (but are not limited to) the following:

- **Size.** Known large wastes include car bodies, which currently appear limited to the base of the landfill, large concrete slabs and boulders at depth. Larger, heavier equipment may be required for the removal of large wastes such as concrete slabs during the RA process. These large wastes may be sorted and disposed, recycled, or repurposed separately to support the use of sustainable and environmentally friendly remediation practices.
- **Composition.** If wastes of similar composition have settled together, these wastes are more easily separated and compacted during removal and transportation to a disposal facility. The waste encountered was largely disintegrated and diluted with cover soils. It is unlikely that a significant degree of sorting will be possible during disposal.
- **Comingling.** Large, recyclable materials such as car bodies and tires are present, but these recyclable materials are largely comingled with other types of waste and soil. Smaller intact recyclable materials, such as glass and metal fragments, are likely too difficult to sort from disintegrated plastics and soil.

For these reasons, most of the waste and soils will likely be disposed of en masse and will not undergo complete sorting. Waste that can be reliably sorted (i.e., concrete slabs, car bodies, tires, and boulders) may be sorted and managed in a unique manner during the RA to support the use of green and environmentally friendly remediation practices. Specialized equipment may be required to remove large debris deeper within the waste prism. Grizzly bars and other means of separating large materials for finer unsortable materials may be used to aide in the separation of large wastes for interbedded materials. Approaches to waste handling, sorting, and disposal will be further evaluated after a waste designation is completed through the remedial design process.

6.2 Characterization for Disposal

The WDA process for disposal requires a minimum of 10 analytical samples for each 2,000 cubic yards (CY) of waste to be disposed of in Tacoma-Pierce County disposal facilities. For each additional 500 CY of waste above 2,000 CY, another sample will be required. Section 12.2.1 of the draft RI/FS states that up to 1,800 CY of impacted soil (interbedded material) may be removed from the landfill and sent offsite for disposal (GSI, 2023b). However, based on the observations made during the test pitting, the volume of interbedded materials and soil in the waste prism is higher than previously envisioned and may require confirmation sampling as more representative disposal volumes are established. It is estimated that, at most, 3,000 CY of surface soil and 3,250 CY of native material at the base of the landfill will need to be removed and disposed of to meet cleanup levels and ensure geotechnical stability of the RA.

By combining the surface and interbedded materials during disposal, this test pit sample suite supports 9,500 CY for disposal. Since the composition of the waste prism was homogenous during the test pitting, additional sampling may not be necessary to increase this disposal allotment. However, native soil was not encountered frequently enough to meet sampling requirements for the anticipated removal volume during the RA and may require confirmation sampling in the future. In addition, due to the sampling constraints posed by the steep slope, it is anticipated that confirmation sampling of downslope wastes and native materials will be required concurrent with removal action. The five samples collected from impacted wetland soil provide sufficient characterization for removal of an estimated 235 CY of soil to a depth of 2 feet bgs in that area.

6.2.1 Disposal Designations

The following sections provide the waste designations proposed for sortable solid wastes and soils and interbedded materials.

6.2.1.1 Sortable Solid Wastes

Sortable solid wastes include large metal objects (car bodies, appliances, etc.), tires, and large boulders. As previously stated in Section 4.1, any recyclable materials (scrap metals and tires) may be recycled at an acceptable facility, as feasible. Massive and natural solid materials such as boulders may be sorted and disposed of or repurposed at the Site or within Nisqually State Park. None of these materials would be considered hazardous or subject to chemical characterization to allow for their disposal or reuse. However, because of the massive size of some of these materials, special considerations to their handling and disposal may need to be made during the remedial design process and in consultation with the receiving disposal facility. These actions may help to avoid rejection of oversized materials, disposal cost markups associated with handling large debris at disposal facilities and provide beneficial reuse or recycling opportunities.

6.2.1.2 Soils and Interbedded Materials

The soils (surface, native, and wetland) and interbedded materials planned for removal are anticipated to be classified as “special waste” based on their submission through the WDA process. There is no indication that any soils or interbedded materials are characteristic hazardous wastes per 40 CFR § 261.4(b)(3) based on the hazardous characteristic and chemical testing results presented in Tables 2 to 6. No samples exceeded the TSCA 15 USC § 2605 total PCB threshold concentration of 50,000 μg/kg with most samples being an order of magnitude or more below this threshold concentration.

Additionally, the need for a dangerous waste determination, per WAC 173-303-100 was evaluated. However, the principal component of the landfill waste prism is municipal solid waste (household wastes). The soil and interbedded materials proposed for disposal as part of this project are excluded from this dangerous waste determination procedure along with the wastes per WAC 173-303-071(3)(c) which states:

> *Household wastes, including household waste that has been collected, transported, stored, or disposed. Wastes that are residues from or are generated by the management of household wastes (e.g., leachate, ash from burning of refuse-derived fuel) are not excluded by this provision. "Household wastes" means any waste material (including, but not limited to, garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). A resource recovery facility managing municipal solid waste will not be deemed to be treating, storing, disposing of, or otherwise managing dangerous wastes for the purposes of regulation under this chapter…*

If designation is required, a determination will be made using the chemical results presented in this TM through consultation with the Washington State Department of Ecology. Additional confirmation sampling may be needed during the removal of wastes and soil from the lower portions of the landfill where test pitting could not be performed due to access constraints and safety concern.

7. References

EPA. 1995. Flow Controls and Municipal Solid Waste. Prepared by the U.S. Environmental Protection Agency (EPA) Office of Solid Waste Municipal and Industrial Solid Waste Division. March 1995.

GSI. 2023a. Former Eatonville Landfill Waste Characterization Approach Technical Memorandum. Prepared by GSI Water Solutions, Inc. October 6, 2023.

GSI. 2023b. *DRAFT Remedial Investigation/Feasibility Study, Former Eatonville Landfill*. State of Washington Department of Ecology Facility Site ID No. 85933/Cleanup Site ID No. 15271. Prepared for Weyerhaeuser Company and the Town of Eatonville. Prepared by GSI Water Solutions, Inc. December 2023 (work in progress).

Tables

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Table 1. Test Pit and Wetland Sample Locations

Location/Sample ID [1]	Analyzed?	Coordinates			
		Easting	Northing	Latitude	Longitude
Surface Soil					
SS-01-0.0-1.0-20231010	N	1184525.45	561919.5636	46.859797	-122.322557
SS-02-0.0-1.0-20231010	N	1184608.482	561853.8551	46.859623	-122.322219
SS-03-0.0-1.0-20231010	N	1184591.674	561860.7058	46.85964	-122.322287
SS-04-0.0-1.0-20231010	N	1184630.335	561857.3111	46.859633	-122.322132
SS-05-0.0-1.0-20231011	Y	1184638.971	561847.2829	46.859606	-122.322096
SS-06-0.0-1.0-20231011	Y	1184522.358	561948.6699	46.859877	-122.322572
SS-07-0.0-1.0-20231011	N	1184532.275	561876.7304	46.85968	-122.322526
SS-08-0.0-1.0-20231011	N	1184562.231	561895.832	46.859735	-122.322408
SS-09-0.0-1.0-20231011	Y	1184559.093	561929.8946	46.859828	-122.322423
SS-10-0.0-1.0-20231011	N	1184618.99	561898.3678	46.859745	-122.322181
SS-11-0.0-1.0-20231012	N	1184562.357	561855.7252	46.859625	-122.322403
SS-12-0.0-1.0-20231012	N	1184548.577	561870.3386	46.859664	-122.32246
SS-13-0.0-1.0-20231012	N	1184572.255	561895.0145	46.859733	-122.322367
SS-14-0.0-1.0-20231012	Y	1184588.966	561882.3203	46.859699	-122.322299
SS-15-0.0-1.0-20231012	N	1184603.136	561920.0226	46.859804	-122.322246
Test Pit Interbedded Material					
TP-01-IM-5.0-6.0-20231010	Y	1184525.45	561919.5636	46.859797	-122.322557
TP-01-IM-8.0-9.0-20231010	N	1184525.45	561919.5636	46.859797	-122.322557
TP-01-IM-10.0-11.0-20231010	Y	1184525.45	561919.5636	46.859797	-122.322557
TP-02-IM-4.0-5.0-20231010	Y	1184608.482	561853.8551	46.859623	-122.322219
TP-02-IM-9.0-10.0-20231010	N	1184608.482	561853.8551	46.859623	-122.322219
TP-02-IM-14.0-15.0-20231010	Y	1184608.482	561853.8551	46.859623	-122.322219
TP-03-IM-4.0-5.0-20231010	N	1184591.674	561860.7058	46.85964	-122.322287
TP-03-IM-9.0-10.0-20231010	Y	1184591.674	561860.7058	46.85964	-122.322287
TP-03-IM-14.0-15.0-20231010	Y	1184591.674	561860.7058	46.85964	-122.322287
TP-04-IM-4.0-5.0-20231010	Y	1184630.335	561857.3111	46.859633	-122.322132
TP-06-IM-4.0-5.0-20231011	N	1184522.358	561948.6699	46.859877	-122.322572
TP-07-IM-4.0-5.0-20231011	N	1184532.275	561876.7304	46.85968	-122.322526
TP-07-IM-9.0-10.0-20231011	Y	1184532.275	561876.7304	46.85968	-122.322526
TP-07-IM-14.0-15.0-20231011	Y	1184532.275	561876.7304	46.85968	-122.322526
TP-08-IM-4.0-5.0-20231011	Y	1184562.231	561895.832	46.859735	-122.322408
TP-09-IM-4.0-5.0-20231011	N	1184559.093	561929.8946	46.859828	-122.322423
TP-09-IM-9.0-10.0-20231011	N	1184559.093	561929.8946	46.859828	-122.322423
TP-09-IM-11.0-12.0-20231011	Y	1184559.093	561929.8946	46.859828	-122.322423
TP-10-IM-4.0-5.0-20231011	N	1184618.99	561898.3678	46.859745	-122.322181
TP-10-IM-9.0-10.0-20231011	Y	1184618.99	561898.3678	46.859745	-122.322181
TP-11-IM-4.0-5.0-20231012	Y	1184562.357	561855.7252	46.859625	-122.322403
TP-11-IM-9.0-10.0-20231012	N	1184562.357	561855.7252	46.859625	-122.322403
TP-11-IM-14.0-15.0-20231012	Y	1184562.357	561855.7252	46.859625	-122.322403
TP-12-IM-4.0-5.0-20231012	N	1184548.577	561870.3386	46.859664	-122.32246
TP-12-IM-9.0-10.0-20231012	Y	1184548.577	561870.3386	46.859664	-122.32246
TP-12-IM-13.0-14.0-20231012	Y	1184548.577	561870.3386	46.859664	-122.32246
TP-13-IM-4.0-5.0-20231012	N	1184572.255	561895.0145	46.859733	-122.322367
TP-13-IM-9.0-10.0-20231012	Y	1184572.255	561895.0145	46.859733	-122.322367
TP-13-IM-14.0-15.0-20231012	Y	1184572.255	561895.0145	46.859733	-122.322367
TP-14-IM-4.0-5.0-20231012	N	1184588.966	561882.3203	46.859699	-122.322299
TP-14-IM-9.0-10.0-20231012	Y	1184588.966	561882.3203	46.859699	-122.322299
TP-14-IM-14.0-15.0-20231012	Y	1184588.966	561882.3203	46.859699	-122.322299
TP-15-IM-4.0-5.0-20231012	Y	1184603.136	561920.0226	46.859804	-122.322246
TP-16[3]	—	1184611.956	561935.4983	46.859847	-122.322213
TP-17[3]	—	1184632.736	561968.2243	46.859938	-122.322133
Native Soil					
TP-04-NS-9.0-10.0-20231010	Y	1184630.335	561857.3111	46.859633	-122.322132
TP-05-NS-4.0-5.0-20231011	Y	1184638.971	561847.2829	46.859606	-122.322096
TP-06-NS-9.0-10.0-20231011	Y	1184522.358	561948.6699	46.859877	-122.322572
TP-08-NS-12.0-13.0-20231011	Y	1184562.231	561895.832	46.859735	-122.322408
TP-10-NS-12.0-13.0-20231011	Y	1184618.99	561898.3678	46.859745	-122.322181
TP-15-NS-9.0-10.0-20231012	Y	1184603.136	561920.0226	46.859804	-122.322246
Wetland Soil					
WS-01-0.0-2.0-10102023	Y	1184461.796	561739.439	46.8593	-122.322795
WS-02-0.0-2.0-10102023	Y	1184482.904	561728.8714	46.859272	-122.322709
WS-03-0.0-2.0-10102023	Y	1184483.605	561719.2622	46.859246	-122.322705
WS-04-0.0-2.0-10102023	Y	1184500.087	561715.5079	46.859236	-122.322639
WS-05-0.0-2.0-10102023	Y	1184510.44	561705.8193	46.859211	-122.322597

Notes

Samples representative of the spread of physical properties observed were chosen for analysis. Samples that were not analyzed remain in frozen archive.

[1] "SS" Soil, "TP" Test Pit / "IM" Interbedded Material, and "NS" Native soil samples of the same numeral were taken from the same location.

[2] Coordinates are projected in NAD 83 (2011) State Plane Washington South FIPS 4602 (US feet). Latitude and longitude values are presented in decimal degrees. Easting and Northing values are presented using US feet.

[3] These exploratory test pits were not sampled at any interval.

— = not applicable

ft = feet

FIPS = Federal Information Processing Standards

N = no

NAD 83 = North American Datum of 1983

Y = yes

Table 2. Metals and pH Results

Screening Criteria						E6020B											E9045D
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Zinc	Mercury	pH
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	SU
Soil Screening Levels																	
40 CFR and 261 Regulatory Level						–	–	–	–	–	–	–	–	–	–	–	2.0 to 13.0
TCLP 20x Prescreening Value						100	2,000	20	100	–	100	–	20	100	–	4	–
Location	Area	Date	QC Sample Type	Grab/Composite	Depth (ft)												
Surface Soil / Interbedded Material Sample																	
SS-05	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	3.95	97.6	1.29	21.8	47.5	97.5	54.3	0.584 U	0.254	428	0.278	6.60
SS-06	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	5.38	135	1.12	23.5	116	188	26.7	0.560 U	0.349	323	0.741	7.60
SS-09	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	5.23	152	3.20	21.5	107	171	25.2	0.659 U	0.556	535	0.740	7.30
SS-14	Surface Soil	10/12/2023	Primary	Composite	0.0-1.0	3.29	101	4.77	25.4	69.5	187	30.9	0.604 U	0.350	628	0.454	6.80
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	5.0-6.0	6.56	158	2.16	33.8	102	229	34.1	0.661 U	0.747	565	0.765	7.70
	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	4.01	113	4.18	16.8	179	153	17.3	0.819 J	0.162 J	330	0.252	7.80
TP-02	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	20.4	194	3.16	65.6	286	862	85.8	0.639 U	26.0	815	16.3	7.30
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	8.10	166	5.51	39.1	341	646	60.6	0.634 U	1.41	1,610	0.856	7.20
TP-03	Interbedded Material Sample	10/10/2023	Primary	Composite	9.0-10.0	11.9	600	2.60	31.0	238	2,240	49.8	0.606 U	0.588	1,680	0.667	7.20
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	7.20	352	6.49	45.2	668	1,030	76.0	0.641 U	2.69	2,010	0.569	7.40
TP-04	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	5.24	122	0.911	31.9	85.7	88.1	43.9	0.558 U	0.585	436	0.588	7.30
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	5.76	135	1.83	27.8	98.5	172	37.3	0.562 U	0.290	656	0.817	7.50
	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	10.7	619	1.71	47.0	208	278	73.0	0.605 U	0.712	453	0.405	7.50
TP-08	Interbedded Material Sample	10/11/2023	Primary	Composite	4.0-5.0	10.1	200	20.9	79.8	208	310	74.6	0.588 U	0.657	1,100	1.57	7.50
TP-09	Interbedded Material Sample	10/11/2023	Primary	Composite	11.0-12.0	8.07	180	15.1	31.5	373	269	51.5	0.632 U	0.975	1,040	0.853	7.30
TP-10	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	6.01	146	6.59	54.8	208	573	98.0	0.670 U	0.404	1,740	2.57	–
TP-11	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	5.71	105	1.80	28.7	98.7	98.7	31.7	0.585 U	0.133 J	387	0.266	7.80
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	4.54	107	2.21	30.1	175	247	28.4	0.602 U	0.418	585	0.569	7.40
TP-12	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	8.59	142	2.74	38.5	295	272	37.0	0.622 U	0.411	805	1.22	7.50
	Interbedded Material Sample	10/12/2023	Primary	Composite	13.0-14.0	5.41	106	3.22	26.2	196	270	29.0	0.619 U	0.420	596	0.514	7.60
TP-13	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	3.26	96.9	1.08	14.2	41.4	65.9	14.9	0.614 U	0.301	177	0.263	7.80
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	19.3	149	6.04	37.6	724	339	52.6	0.620 U	1.19	4,950	0.554	7.50
TP-14	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	14.4	145	8.49	58.2	341	350	36.4	0.582 U	0.715	1,310	0.596	7.40
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	6.55	210	8.88	81.6	401	408	253	0.676 U	1.06	1,730	0.893	7.70
TP-15	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	3.80	124	2.74	31.1	113	181	26.2	0.573 U	0.339	584	1.39	7.40
Native Soil Sample																	
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	1.16 J	32.5	0.121 U	4.76	14.0	4.06	2.36 J	0.606 U	0.121 U	29.7	0.0485 U	7.70
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	2.17	52.3	0.116 U	12.6	22.1	5.57	17.4	0.579 U	0.116 U	30.6	0.0464 U	7.30
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	6.89	476	5.32	28.2	2,210	833	30.9	0.661 U	1.05	2,230	0.207	7.60
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	2.02	51.9	0.247	10.7	23.8	25.4	11.5	0.569 U	0.114 U	195	0.0501 J	7.80
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	2.95	44.6	0.156 J	3.47	17.3	6.45	3.69	0.579 U	0.116 U	34.9	0.0463 U	7.50
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	3.08	95.8	0.469	14.2	32.1	34.5	26.3	0.579 U	0.466	179	0.261	7.90
Wetland Soil Sample																	
WS-01	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	4.26	77.3	1.68	8.88	33.8	41.6	19.7	1.04 U	0.208 U	2,460	0.0834 U	–
WS-02	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	3.85	58.5	1.42	11.3	23.1	41.8	11.0	0.922 U	0.184 U	2,070	0.0737 U	–
WS-03	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	2.61	52.9	0.651	8.75	15.7	38.4	10.3	0.930 U	0.186 U	1,380	0.0744 U	–
WS-04	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	2.77 J	49.8	0.444 J	9.08	38.5	12.6	11.6	1.86 U	0.372 U	685	0.149 U	–
WS-05	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	5.23	105	0.602 J	10.7	84.7	24.0	12.7	1.66 J	0.312 U	1,300	0.125 U	–

Notes

CFR = Code of Federal Regulations

ft = foot or feet

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

mg/kg = milligrams per kilogram

QC = quality control

SU = standard units

TCLP = Toxic Characteristic Leaching Procedure

U = Result not detected above the referenced laboratory detection limit

Table 3. TCLP Metal Results

Screening Criteria						E6020B							
						Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
						mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
					Soil Screening Levels								
					40 CFR and 261 Regulatory Level	5	100	1	5	5	0.2	1	5
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)								
Surface Soil / Interbedded Material Sample													
SS-05	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.126**	0.00375 U	0.0500 U	0.0500 U
SS-06	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0329 J**	0.00375 U	0.0500 U	0.0500 U
SS-09	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
SS-14	Surface Soil	10/12/2023	Primary	Composite	0.0-1.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0798**	0.00375 U	0.0500 U	0.0500 U
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	5.0-6.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0742**	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
TP-02	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.205**	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.183**	0.00375 U	0.0500 U	0.0500 U
TP-03	Interbedded Material Sample	10/10/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.795**	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**3.25**	0.00375 U	0.0500 U	0.0500 U
TP-04	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0622**	0.00375 U	0.0500 U	0.0500 U
TP-08	Interbedded Material Sample	10/11/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	**0.0836 J**	0.0500 U	**0.0663**	0.00375 U	0.0500 U	0.0500 U
TP-09	Interbedded Material Sample	10/11/2023	Primary	Composite	11.0-12.0	0.0500 U	2.50 U	**0.0822 J**	0.0500 U	**0.254**	0.00375 U	0.0500 U	0.0500 U
TP-10	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.272**	0.00375 U	0.0500 U	0.0500 U
TP-11	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0394 J**	0.00375 U	0.0500 U	0.0500 U
TP-12	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.111**	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/12/2023	Primary	Composite	13.0-14.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0372 J**	0.00375 U	0.0500 U	0.0500 U
TP-13	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.348**	0.00375 U	0.0500 U	0.0500 U
TP-14	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.251**	0.00375 U	0.0500 U	0.0500 U
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0793**	0.00375 U	0.0500 U	0.0500 U
TP-15	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.511**	0.00375 U	0.0500 U	0.0500 U
Native Soil Sample													
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**3.49**	0.00375 U	0.0500 U	0.0500 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	**0.0515**	0.00375 U	0.0500 U	0.0500 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
Wetland Soil Sample													
WS-01	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
WS-02	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
WS-03	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
WS-04	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U
WS-05	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	0.0500 U	2.50 U	0.0500 U	0.0500 U	0.0250 U	0.00375 U	0.0500 U	0.0500 U

Notes

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mg/L = milligrams per liter

QC = quality control

TCLP = Toxic Characteristic Leaching Procedure

U = Result not detected above the referenced laboratory detection limit

Table 4. PCB Results

Screening Criteria						CALC	E8082A						
						GSI Total PCB Aroclors (U=1/2) 2020	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
					Soil Screening Levels								
					TSCA 15 USC § 2605	50,000	—	—	—	—	—	—	—
Location	Area	Date	QC Sample Type	Grab/Composite	Depth (ft)								
Surface Soil / Interbedded Material Sample													
SS-05	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	**138**	17.2 U	5.81 U	26.6 U	22.1 U	5.81 U	**74.3**	**25.2**
SS-06	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	**181**	5.35 U	5.35 U	5.35 U	5.35 U	5.35 U	**128**	**39.6**
SS-09	Surface Soil	10/11/2023	Primary	Composite	0.0-1.0	**108**	12.2 U	12.2 U	27.7 U	12.2 U	12.2 U	**36.1**	**33.8**
SS-14	Surface Soil	10/12/2023	Primary	Composite	0.0-1.0	**133**	6.07 U	6.07 U	12.1 U	6.07 U	21.5 U	**63.5**	**43.9**
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	5.0-6.0	**533**	6.45 U	6.45 U	6.45 U	6.45 U	6.45 U	**450**	**67.0**
	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	**133**	5.78 U	5.78 U	5.78 U	**85.0**	5.78 U	5.78 U	**33.9**
TP-02	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	**1,124**	30.4 U	30.4 U	30.4 U	**730**	30.4 U	**269**	**64.1**
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	**1,173 J**	29.0 U	29.0 U	29.0 U	**767**	29.0 U	**301**	**47.3 J**
TP-03	Interbedded Material Sample	10/10/2023	Primary	Composite	9.0-10.0	**1,658**	29.2 U	29.2 U	29.2 U	29.2 U	29.2 U	**1,570**	29.2 U
	Interbedded Material Sample	10/10/2023	Primary	Composite	14.0-15.0	**82.4 J**	5.63 U	5.63 U	5.63 U	**10.7 J**	5.63 U	**46.7**	**13.7**
TP-04	Interbedded Material Sample	10/10/2023	Primary	Composite	4.0-5.0	**95.4**	11.0 U	11.0 U	35.2 U	15.0 U	12.6 U	**40.1**	**12.9**
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	**219**	29.2 U	10.8 U	78.7 U	40.3 U	23.3 U	**74.2**	**53.6**
	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	**104**	5.73 U	5.73 U	11.5 U	5.73 U	18.5 U	**52.8**	**27.9**
TP-08	Interbedded Material Sample	10/11/2023	Primary	Composite	4.0-5.0	**368**	94.7 U	24.2 U	155 U	126 U	79.3 U	90.3 U	**82.9**
TP-09	Interbedded Material Sample	10/11/2023	Primary	Composite	11.0-12.0	**210**	20.8 U	5.86 U	52.4 U	27.4 U	46.3 U	70.0 U	**98.8**
TP-10	Interbedded Material Sample	10/11/2023	Primary	Composite	9.0-10.0	**237**	34.0 U	23.1 U	91.5 U	46.8 U	31.4 U	**82.3**	**40.9**
TP-11	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	**82.8**	11.1 U	11.1 U	28.5 U	14.6 U	11.1 U	**24.3**	**20.3**
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	**289**	5.89 U	5.89 U	5.89 U	**112**	5.89 U	**129**	**36.4**
TP-12	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	**653**	56.9 U	56.9 U	56.9 U	56.9 U	56.9 U	**298**	426 U
	Interbedded Material Sample	10/12/2023	Primary	Composite	13.0-14.0	**605**	5.64 U	5.64 U	5.64 U	5.64 U	5.64 U	**422**	**169**
TP-13	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	**117**	10.9 U	5.47 U	22.4 U	11.7 U	14.0 U	**62.7**	**22.4**
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	**135**	5.92 U	5.92 U	5.92 U	**67.3**	5.92 U	**38.1**	**17.8**
TP-14	Interbedded Material Sample	10/12/2023	Primary	Composite	9.0-10.0	**260**	25.4 U	5.68 U	45.7 U	30.5 U	26.7 U	**57.9**	**135**
	Interbedded Material Sample	10/12/2023	Primary	Composite	14.0-15.0	**172**	6.24 U	6.24 U	6.24 U	**54.8**	6.24 U	**78.4**	**26.6**
TP-15	Interbedded Material Sample	10/12/2023	Primary	Composite	4.0-5.0	**99.4**	10.8 U	5.39 U	20.2 U	14.0 U	32.1 U	**32.4**	**25.8**
Native Soil Sample													
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	18.9 U	5.40 U	5.40 U	5.40 U	5.40 U	5.40 U	5.40 U	5.40 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	20.1 U	5.75 U	5.75 U	5.75 U	5.75 U	5.75 U	5.75 U	5.75 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	**30.8**	5.94 U	5.94 U	5.94 U	5.94 U	5.94 U	5.94 U	**13.0**
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	**36.3**	5.28 U	5.28 U	5.28 U	5.28 U	5.28 U	**10.9**	**12.2**
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	18.6 U	5.30 U	5.30 U	5.30 U	5.30 U	5.30 U	5.30 U	5.30 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	**35.7 J**	5.53 U	5.53 U	5.53 U	**8.63 J**	5.53 U	**13.2**	5.53 U
Wetland Soil Sample													
WS-01	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	34.2 U	9.77 U	9.77 U	9.77 U	9.77 U	9.77 U	9.77 U	9.77 U
WS-02	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	31.2 U	8.91 U	8.91 U	8.91 U	8.91 U	8.91 U	8.91 U	8.91 U
WS-03	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	30.8 U	8.80 U	8.80 U	8.80 U	8.80 U	8.80 U	8.80 U	8.80 U
WS-04	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	**74.1 J**	16.3 U	16.3 U	16.3 U	16.3 U	16.3 U	16.3 U	**25.2 J**
WS-05	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	50.1 U	14.3 U	14.3 U	14.3 U	14.3 U	14.3 U	14.3 U	14.3 U

Notes

µg/kg = micrograms per kilogram

CFR = Code of Federal Regulations

ft = foot or feet

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

PCB = polychlorinated biphenyl

QC = quality control

TSCA 15 USC § 2605 = Toxic Substance Control Act 15 United States Code § 2605

U = Result not detected above the referenced laboratory detection limit

Table 5. SVOC Results

Screening Criteria						CALC	E8270E																										
						GSI Total cPAH (U=1/2) 2020	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Hexachlorobutadiene	Naphthalene	1-Methylnaphthalene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3&4-Methylphenol Coelution	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-O-Cresol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																																	
TCLP 20x Prescreening Value						–	–	–	–	150,000	10,000	–	–	8,000,000	40,000	–	–	–	2,600	–	–	–	–	4,000,000	–	–	4,000,000	–	–	–	–	–	–
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)																												
Surface Soil / Interbedded Material Sample																																	
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	**68.9 J**	154 U	154 U	154 U	154 U	154 U	124 U	124 U	309 U	309 U	309 U	309 U	1,540 U	617 U	617 U	61.7 U	309 U	124 U	154 U	1,240 U	617 U	154 U	1,240 U	1,240 U	1,540 U	154 U	617 U	154 U
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	**169 J**	185 U	185 U	185 U	185 U	185 U	148 U	148 U	371 U	371 U	371 U	371 U	1,850 U	739 U	739 U	73.9 U	371 U	148 U	185 U	1,480 U	739 U	185 U	1,480 U	1,480 U	1,850 U	185 U	739 U	185 U
Native Soil Sample																																	
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	1.57 U	3.71 U	3.71 U	3.71 U	3.71 U	3.71 U	2.97 U	2.97 U	7.43 U	7.43 U	7.43 U	7.43 U	37.1 U	14.8 U	14.8 U	1.48 U	7.43 U	2.97 U	3.71 U	29.7 U	14.8 U	3.71 U	29.7 U	29.7 U	37.1 U	3.71 U	14.8 U	3.71 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	**5.78 J**	3.67 U	3.67 U	3.67 U	3.67 U	3.67 U	2.95 U	2.95 U	7.36 U	7.36 U	7.36 U	7.36 U	36.7 U	14.7 U	14.7 U	1.47 U	7.36 U	2.95 U	3.67 U	29.5 U	14.7 U	3.67 U	29.5 U	29.5 U	36.7 U	3.67 U	14.7 U	3.67 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	**6.77 J**	15.9 U	15.9 U	15.9 U	15.9 U	15.9 U	**24.5 J**	12.7 U	31.9 U	31.9 U	31.9 U	31.9 U	159 U	63.5 U	63.5 U	6.35 U	31.9 U	12.7 U	15.9 U	127 U	63.5 U	15.9 U	127 U	127 U	159 U	15.9 U	63.5 U	15.9 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	**408 J**	366 U	366 U	366 U	366 U	366 U	293 U	293 U	733 U	733 U	733 U	733 U	3,660 U	1,460 U	1,460 U	146 U	733 U	293 U	366 U	2,930 U	1,460 U	366 U	2,930 U	2,930 U	3,660 U	366 U	1,460 U	366 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	1.55 U	3.67 U	3.67 U	3.67 U	3.67 U	3.67 U	2.94 U	2.94 U	7.35 U	7.35 U	7.35 U	7.35 U	36.7 U	14.7 U	14.7 U	1.47 U	7.35 U	2.94 U	3.67 U	29.4 U	14.7 U	**4.18 J**	29.4 U	29.4 U	36.7 U	3.67 U	14.7 U	3.67 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	**72.1 J**	14.3 U	14.3 U	14.3 U	14.3 U	14.3 U	11.5 U	11.5 U	28.7 U	28.7 U	28.7 U	28.7 U	143 U	57.2 U	57.2 U	5.72 U	28.7 U	11.5 U	14.3 U	115 U	57.2 U	14.3 U	115 U	115 U	143 U	14.3 U	57.2 U	14.3 U

Table 5. SVOC Results

Screening Criteria						E8270E																													
						4-Chlorophenyl phenyl ether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Aniline	Anthracene	Azobenzene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl) ether	Bis(2-Ethylhexyl) Phthalate	Butyl benzyl phthalate	Chrysene	Di(2-Ethylhexyl)Adipate	Dibenz(a,h)anthracene	Dibenzofuran	Dibutyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																																			
TCLP 20x Prescreening Value						–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)																														
Surface Soil / Interbedded Material Sample																																			
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	154 U	1,240 U	617 U	61.7 U	61.7 U	309 U	61.7 U	154 U	61.7 U	92.7 U	92.7 U	**100.0 J**	92.7 U	7,740 U	309 U	154 U	154 U	927 U	617 U	61.7 U	1,540 U	61.7 U	61.7 U	617 U	617 U	617 U	617 U	61.7 U	61.7 U	61.7 U
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	185 U	1,480 U	739 U	73.9 U	73.9 U	371 U	73.9 U	185 U	73.9 U	**133 J**	**118 J**	148 U	111 U	9,280 U	371 U	185 U	185 U	1,110 U	739 U	73.9 U	1,850 U	148 U	73.9 U	739 U	739 U	739 U	739 U	73.9 U	73.9 U	73.9 U
Native Soil Sample																																			
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	3.71 U	29.7 U	14.8 U	1.48 U	1.48 U	7.43 U	1.48 U	3.71 U	1.48 U	2.23 U	2.23 U	1.48 U	2.23 U	186 U	7.43 U	3.71 U	3.71 U	22.3 U	14.8 U	1.48 U	37.1 U	1.48 U	1.48 U	14.8 U	14.8 U	14.8 U	14.8 U	1.48 U	1.48 U	1.48 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	3.67 U	29.5 U	14.7 U	1.47 U	1.47 U	14.7 U	1.47 U	3.67 U	**3.11**	**4.55**	**4.56**	**2.49 J**	2.21 U	184 U	7.36 U	3.67 U	3.67 U	22.1 U	14.7 U	**3.54**	36.7 U	1.47 U	1.47 U	14.7 U	14.7 U	14.7 U	14.7 U	**4.20**	1.47 U	1.47 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	15.9 U	127 U	63.5 U	6.35 U	6.35 U	31.9 U	6.35 U	15.9 U	6.35 U	9.55 U	9.55 U	**6.91 J**	9.55 U	797 U	31.9 U	15.9 U	15.9 U	95.5 U	63.5 U	**8.65 J**	159 U	6.35 U	6.35 U	63.5 U	63.5 U	63.5 U	63.5 U	**6.68 J**	6.35 U	6.35 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	366 U	2,930 U	1,460 U	146 U	146 U	733 U	146 U	366 U	146 U	**348 J**	**262 J**	146 U	220 U	18,300 U	733 U	366 U	366 U	2,200 U	1,460 U	146 U	3,660 U	146 U	146 U	1,460 U	1,460 U	1,460 U	1,460 U	146 U	146 U	146 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	3.67 U	29.4 U	14.7 U	1.47 U	1.47 U	14.7 U	1.47 U	3.67 U	1.47 U	2.20 U	2.20 U	1.47 U	2.20 U	184 U	7.35 U	3.67 U	3.67 U	**63.6**	14.7 U	1.47 U	36.7 U	1.47 U	1.47 U	14.7 U	14.7 U	14.7 U	14.7 U	1.47 U	1.47 U	1.47 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	14.3 U	115 U	57.2 U	5.72 U	**10.6 J**	28.7 U	5.72 U	14.3 U	**27.2**	**56.5**	**58.3**	**40.5**	**26.8**	718 U	28.7 U	14.3 U	14.3 U	86.0 U	57.2 U	**37.3**	143 U	**7.12 J**	5.72 U	57.2 U	57.2 U	57.2 U	57.2 U	5.72 U	5.72 U	5.72 U

Table 5. SVOC Results

Screening Criteria						E8270E																				
						Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodi-n-propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Pyridine	1,2-Dinitrobenzene	1,3-Dinitrobenzene	1,4-Dinitrobenzene	2,3,4,6-Tetrachlorophenol	2,3,5,6-Tetrachlorophenol	Bis(2-chloro-1-methylethyl) ether	Carbazole
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																									
TCLP 20x Prescreening Value						–	60,000	–	–	40,000	–	–	–	2,000,000	–	–	–	100,000	–	–	–	–	–	–	–
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)																				
Surface Soil / Interbedded Material Sample																									
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	309 U	154 U	**68.1 J**	154 U	617 U	154 U	154 U	154 U	617 U	61.7 U	124 U	**71.3 J**	309 U	1,540 U	1,540 U	1,540 U	309 U	309 U	154 U	92.7 U
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	371 U	185 U	148 U	185 U	739 U	185 U	185 U	185 U	739 U	73.9 U	148 U	73.9 U	371 U	1,850 U	1,850 U	1,850 U	371 U	371 U	185 U	111 U
Native Soil Sample																									
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	7.43 U	3.71 U	1.48 U	3.71 U	14.8 U	3.71 U	3.71 U	3.71 U	14.8 U	1.48 U	2.97 U	1.48 U	7.43 U	37.1 U	37.1 U	37.1 U	7.43 U	7.43 U	3.71 U	2.23 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	7.36 U	3.67 U	**2.42 J**	3.67 U	14.7 U	3.67 U	3.67 U	3.67 U	14.7 U	**2.03 J**	2.95 U	**4.17**	7.36 U	36.7 U	36.7 U	36.7 U	7.36 U	7.36 U	3.67 U	2.21 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	31.9 U	15.9 U	6.35 U	15.9 U	63.5 U	15.9 U	15.9 U	15.9 U	63.5 U	**13.8**	12.7 U	**7.49 J**	31.9 U	159 U	159 U	159 U	31.9 U	31.9 U	15.9 U	9.55 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	733 U	366 U	146 U	366 U	1,460 U	366 U	366 U	366 U	1,460 U	146 U	293 U	146 U	733 U	3,660 U	3,660 U	3,660 U	733 U	733 U	366 U	220 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	7.35 U	3.67 U	1.47 U	3.67 U	14.7 U	3.67 U	3.67 U	3.67 U	14.7 U	1.47 U	2.94 U	1.47 U	7.35 U	36.7 U	36.7 U	36.7 U	7.35 U	7.35 U	3.67 U	2.20 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	28.7 U	14.3 U	**33.2**	14.3 U	57.2 U	14.3 U	14.3 U	14.3 U	57.2 U	**13.6**	11.5 U	5.72 U	28.7 U	143 U	143 U	143 U	28.7 U	28.7 U	14.3 U	8.60 U

Table 5. SVOC Results

Notes

μg/kg = micrograms per kilogram
CFR = Code of Federal Regulations
cPAH = carcinogenic polycyclic aromatic hydrocarbon
ft = foot or feet
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
QC = quality control
SVOC = semivolatile organic compound
TCLP = Toxic Characteristic Leaching Procedure
U = Result not detected above the referenced laboratory detection limit

Table 6. TPH Results

Screening Criteria						NWTPH_Dx		NWTPH_Gx
						Heavy Oil Range Hydrocarbons	Diesel	Gasoline
						mg/kg	mg/kg	mg/kg
Location	Area	Date	QC Sample Type	Grab/Composite	Depth (ft)			
Surface Soil / Interbedded Material Sample								
TP-01	Interbedded Material Sample	10/10/2023	Primary	Composite	10.0-11.0	**1,000**	107 U	3.40 U
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	**1,780**	111 U	2.54 U
Native Soil Sample								
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	22.4 U	11.2 U	2.90 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	21.6 U	10.8 U	2.53 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	**120**	11.1 U	2.57 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	**2,550**	541 U	2.30 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	22.4 U	11.2 U	2.94 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	**209**	10.6 U	3.29 U
Wetland Soil Sample								
WS-01	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	–	–	7.30 U
WS-05	Wetland Soil Sample	10/10/2023	Primary	Grab	0.0-2.0	–	–	12.3 U

Notes

ft = foot or feet

mg/kg = milligrams per kilogram

QC = quality control

TCLP = Toxic Characteristic Leaching Procedure

TPH = total petroleum hydrocarbons

U = Result not detected above the referenced laboratory detection limit

Table 7. VOC Metal Results

Screening Criteria						CALC	E8260D																										
						GSI Total Xylenes (U=1/2) 2020	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	Acetone	Acrylonitrile	Benzene	Bromobenzene	Bromodichloromethane	Bromoform
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																																	
TCLP 20x Prescreening Value						–	–	–	–	–	–	14,000	–	–	–	–	–	–	10,000	–	–	–	–	150,000	–	–	–	–	–	10,000	–	–	–
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)																												
Surface Soil / Interbedded Material Sample																																	
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	19.0 U	12.7 U	12.7 U	25.4 U	12.7 U	12.7 U	12.7 U	25.4 U	127 U	25.4 U	127 U	25.4 U	12.7 U	12.7 U	12.7 U	25.4 U	12.7 U	25.4 U	12.7 U	25.4 U	25.4 U	25.4 U	1,020 U	50.9 U	5.09 U	12.7 U	25.4 U	50.9 U
Native Soil Sample																																	
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	21.8 U	14.5 U	14.5 U	29.0 U	14.5 U	14.5 U	14.5 U	29.0 U	145 U	29.0 U	145 U	29.0 U	14.5 U	14.5 U	14.5 U	29.0 U	14.5 U	29.0 U	14.5 U	29.0 U	29.0 U	29.0 U	1,160 U	58.0 U	5.80 U	14.5 U	29.0 U	58.0 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	18.9 U	12.6 U	12.6 U	25.3 U	12.6 U	12.6 U	12.6 U	25.3 U	126 U	25.3 U	126 U	25.3 U	12.6 U	12.6 U	12.6 U	25.3 U	12.6 U	25.3 U	12.6 U	25.3 U	25.3 U	25.3 U	1,010 U	50.6 U	5.06 U	12.6 U	25.3 U	50.6 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	19.3 U	12.9 U	12.9 U	25.7 U	12.9 U	12.9 U	12.9 U	25.7 U	129 U	25.7 U	129 U	25.7 U	12.9 U	12.9 U	12.9 U	25.7 U	12.9 U	25.7 U	12.9 U	25.7 U	25.7 U	25.7 U	1,030 U	51.5 U	5.15 U	12.9 U	25.7 U	51.5 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	17.3 U	11.5 U	11.5 U	23.0 U	11.5 U	11.5 U	11.5 U	23.0 U	115 U	23.0 U	115 U	23.0 U	11.5 U	11.5 U	11.5 U	23.0 U	11.5 U	23.0 U	11.5 U	23.0 U	23.0 U	23.0 U	922 U	46.1 U	4.61 U	11.5 U	23.0 U	46.1 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	22.0 U	14.7 U	14.7 U	29.4 U	14.7 U	14.7 U	14.7 U	29.4 U	147 U	29.4 U	147 U	29.4 U	14.7 U	14.7 U	14.7 U	29.4 U	14.7 U	29.4 U	14.7 U	29.4 U	29.4 U	29.4 U	1,180 U	58.9 U	5.89 U	14.7 U	29.4 U	58.9 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	24.7 U	16.5 U	16.5 U	32.9 U	16.5 U	16.5 U	16.5 U	32.9 U	165 U	32.9 U	165 U	32.9 U	16.5 U	16.5 U	16.5 U	32.9 U	16.5 U	32.9 U	16.5 U	32.9 U	32.9 U	32.9 U	1,320 U	65.9 U	6.59 U	16.5 U	32.9 U	65.9 U

Table 7. VOC Metal Results

Screening Criteria						E8260D																									
						Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromochloropropane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene	Methyl ethyl ketone	Methyl Isobutyl Ketone	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																															
TCLP 20x Prescreening Value						–	–	10,000	2,000,000	–	120,000	–	–	–	–	–	–	–	–	–	10,000	–	4,000,000	–	–	–	–	–	–	–	–
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)																										
Surface Soil / Interbedded Material Sample																															
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	509 U	254 U	25.4 U	12.7 U	254 U	25.4 U	127 U	12.7 U	25.4 U	50.9 U	127 U	25.4 U	50.9 U	12.7 U	25.4 U	50.9 U	25.4 U	254 U	254 U	25.4 U	254 U	102 U	25.4 U	12.7 U	25.4 U	25.4 U
Native Soil Sample																															
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	580 U	290 U	29.0 U	14.5 U	290 U	29.0 U	145 U	14.5 U	29.0 U	58.0 U	145 U	29.0 U	58.0 U	14.5 U	29.0 U	58.0 U	29.0 U	290 U	290 U	29.0 U	290 U	116 U	29.0 U	14.5 U	29.0 U	29.0 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	506 U	253 U	25.3 U	12.6 U	253 U	25.3 U	126 U	12.6 U	25.3 U	50.6 U	126 U	25.3 U	50.6 U	12.6 U	25.3 U	50.6 U	25.3 U	253 U	253 U	25.3 U	253 U	101 U	25.3 U	12.6 U	25.3 U	25.3 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	515 U	257 U	25.7 U	12.9 U	257 U	25.7 U	129 U	12.9 U	25.7 U	51.5 U	129 U	25.7 U	51.5 U	12.9 U	25.7 U	51.5 U	25.7 U	257 U	257 U	25.7 U	257 U	103 U	25.7 U	12.9 U	25.7 U	25.7 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	461 U	230 U	23.0 U	11.5 U	230 U	23.0 U	115 U	11.5 U	23.0 U	46.1 U	115 U	23.0 U	46.1 U	11.5 U	23.0 U	46.1 U	23.0 U	230 U	230 U	23.0 U	230 U	92.2 U	23.0 U	11.5 U	23.0 U	23.0 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	589 U	294 U	29.4 U	14.7 U	294 U	29.4 U	147 U	14.7 U	29.4 U	58.9 U	147 U	29.4 U	58.9 U	14.7 U	29.4 U	58.9 U	29.4 U	294 U	294 U	29.4 U	294 U	118 U	29.4 U	14.7 U	29.4 U	29.4 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	659 U	329 U	32.9 U	16.5 U	329 U	32.9 U	165 U	16.5 U	32.9 U	65.9 U	165 U	32.9 U	65.9 U	16.5 U	32.9 U	65.9 U	32.9 U	329 U	329 U	32.9 U	329 U	132 U	32.9 U	16.5 U	32.9 U	32.9 U

Table 7. VOC Metal Results

Screening Criteria						E8260D												
						Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	2-Hexanone	M,P-Xylene	O-Xylene	Bromochloromethane
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Soil Screening Levels																		
TCLP 20x Prescreening Value						—	—	14,000	—	—	—	10,000	—	4,000	—	—	—	—
Location	Area	Date	QC Sample Type	Grab/ Composite	Depth (ft)													
Surface Soil / Interbedded Material Sample																		
TP-07	Interbedded Material Sample	10/11/2023	Primary	Composite	14.0-15.0	25.4 U	25.4 U	12.7 U	25.4 U	12.7 U	25.4 U	12.7 U	50.9 U	12.7 U	509 U	25.4 U	12.7 U	25.4 U
Native Soil Sample																		
TP-04	Native Soil Sample	10/10/2023	Primary	Composite	9.0-10.0	29.0 U	29.0 U	14.5 U	29.0 U	14.5 U	29.0 U	14.5 U	58.0 U	14.5 U	580 U	29.0 U	14.5 U	29.0 U
TP-05	Native Soil Sample	10/11/2023	Primary	Composite	4.0-5.0	25.3 U	25.3 U	12.6 U	25.3 U	12.6 U	25.3 U	12.6 U	50.6 U	12.6 U	506 U	25.3 U	12.6 U	25.3 U
TP-06	Native Soil Sample	10/11/2023	Primary	Composite	9.0-10.0	25.7 U	25.7 U	12.9 U	25.7 U	12.9 U	25.7 U	12.9 U	51.5 U	12.9 U	515 U	25.7 U	12.9 U	25.7 U
TP-08	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	23.0 U	23.0 U	11.5 U	23.0 U	11.5 U	23.0 U	11.5 U	46.1 U	11.5 U	461 U	23.0 U	11.5 U	23.0 U
TP-10	Native Soil Sample	10/11/2023	Primary	Composite	12.0-13.0	29.4 U	29.4 U	14.7 U	29.4 U	14.7 U	29.4 U	14.7 U	58.9 U	14.7 U	589 U	29.4 U	14.7 U	29.4 U
TP-15	Native Soil Sample	10/12/2023	Primary	Composite	9.0-10.0	32.9 U	32.9 U	16.5 U	32.9 U	16.5 U	32.9 U	16.5 U	65.9 U	16.5 U	659 U	32.9 U	16.5 U	32.9 U

Table 7. VOC Metal Results

Notes

µg/kg = micrograms per kilogram

ft = foot or feet

QC = quality control

TCLP = Toxic Characteristic Leaching Procedure

U = Result not detected above the referenced laboratory detection limit

VOC = volatile organic compound

Figure

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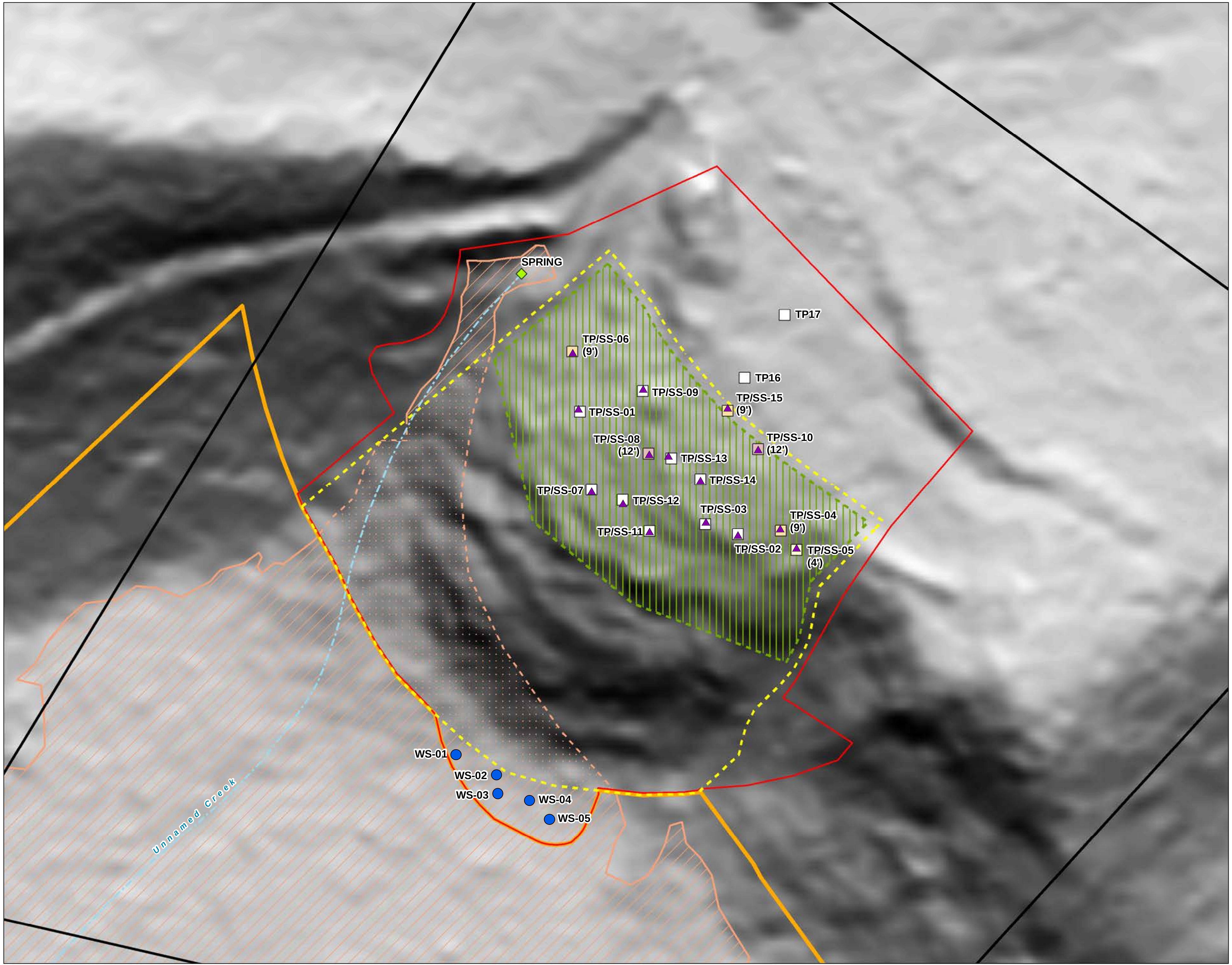


FIGURE 1

Test Pit and Sampling Locations

Former Eatonville Landfill
Waste Characterization Results
Technical Memorandum

Former Eatonville Landfill,
Eatonville, WA

LEGEND

Sampling Locations

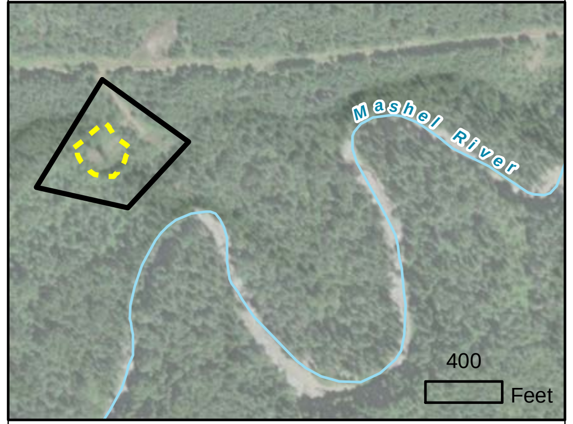
- ▲ Surface Sample
- ● Wetland Sample
- ☐ Test Pit

Native Soil Depth, feet

- ■ 4
- ■ 9
- ■ 12

All Other Features

- ◆ Spring
- ☐ Landfill Area
- ☐ Wetland Area
- ☐ Estimated Extent of the Landfill
- ▨ Anticipated Test Pit Area
- ☐ Weyerhaeuser Property
- Flow Path



NOTE

1. Site features are approximate.

N

0 25 50 75
Feet

Date: November 28, 2023
Data Sources: USGS, ESRI, DNR (2011),
Pierce Co.

GSI Water Solutions, Inc.

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Attachment A

Test Pit Photo Logs

ATTACHEMENT A

Test Pit 1

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

GSI Water Solutions, Inc.

ATTACHEMENT A

Test Pit 2

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Test Pit 3

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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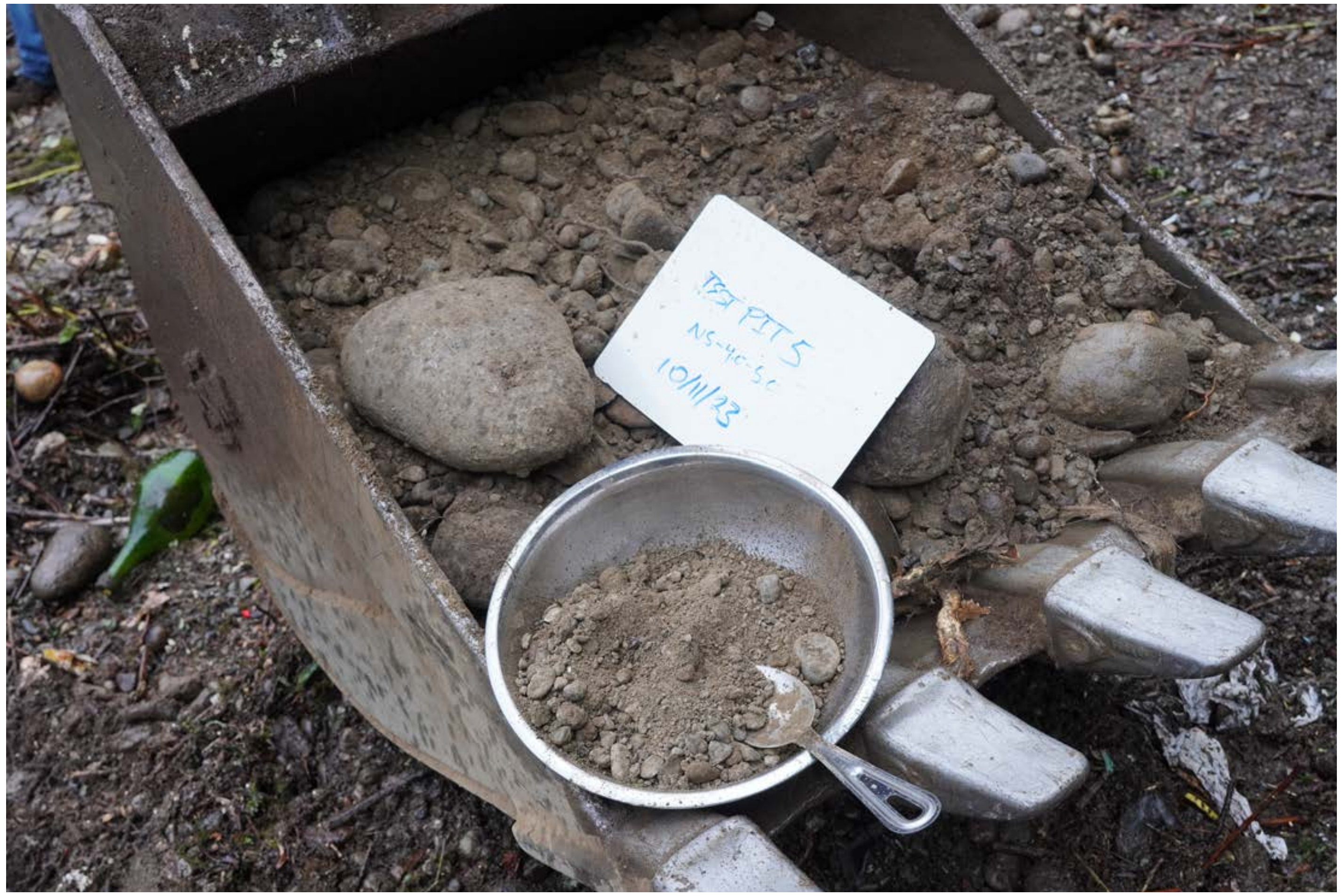
ATTACHEMENT A

Test Pit 4

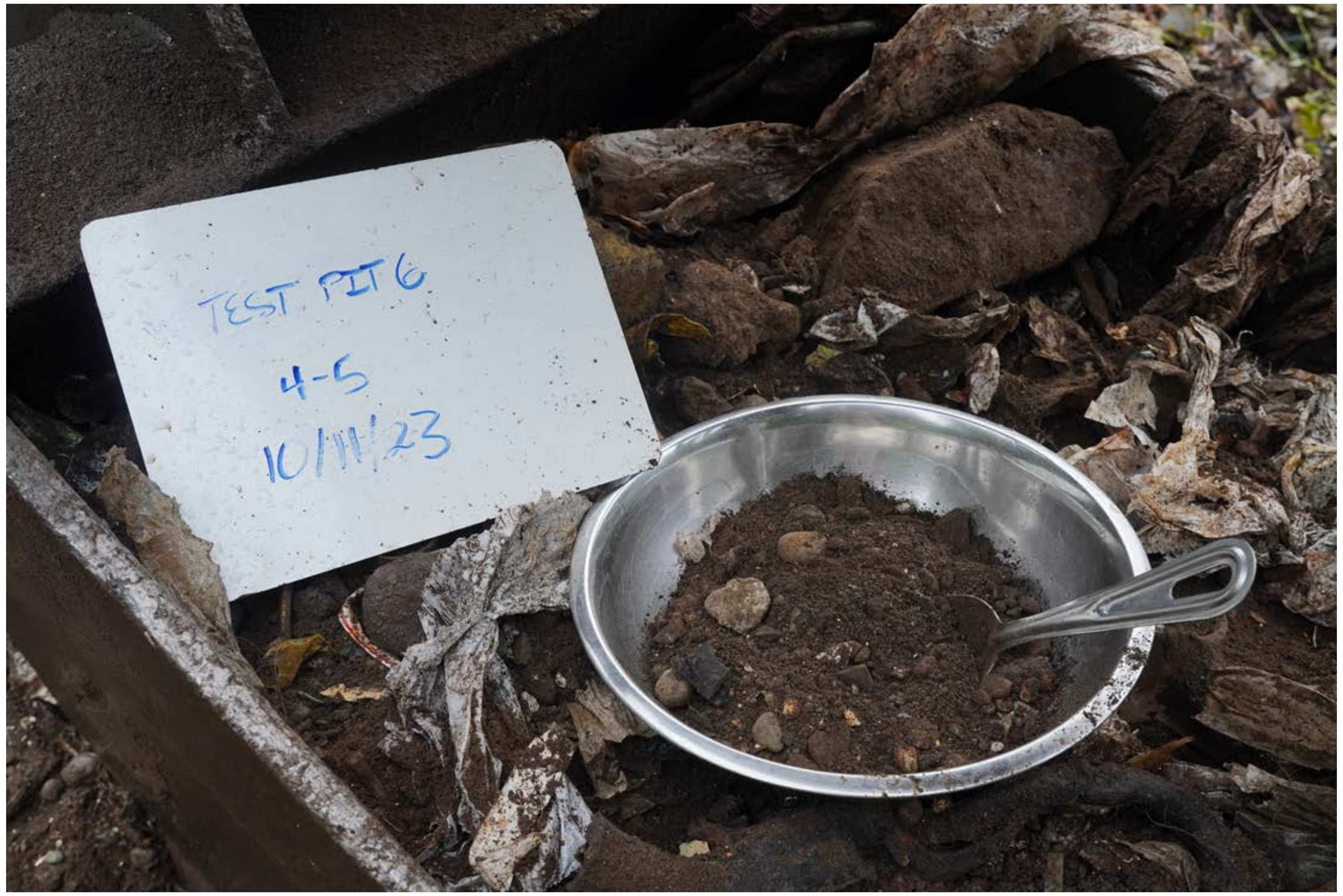
Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA



ATTACHEMENT A

Test Pit 5

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA



ATTACHEMENT A

Test Pit 6

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Test Pit 7

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Test Pit 8

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Test Pit 9

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

ATTACHEMENT A

Test Pit 10

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
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ATTACHEMENT A

Test Pit 11

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

ATTACHEMENT A

Test Pit 12

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Test Pit 13

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

GSI Water Solutions, Inc.

ATTACHEMENT A

Test Pit 14

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

ATTACHEMENT A

Test Pit 15

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

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ATTACHEMENT A

Wetland Sample 1
Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

GSI Water Solutions, Inc.

ATTACHEMENT A

Wetland Sample 2

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

ATTACHEMENT A

Wetland Sample 3

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

GSI Water Solutions, Inc.

ATTACHEMENT A

Wetland Sample 4

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

ATTACHEMENT A

Wetland Sample 5

Former Eatonville Landfill Waste Characterization Results
Technical Memorandum
Former Eatonville Landfill, Eatonville, WA

GSI
Water Solutions, Inc.

Attachment B

Test Pit Soil Logs

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SURFACE SOIL SAMPLING DATA SHEET

Project Name: Former Eatonville Landfill	**Project Number:** 171.074	**Location:** Eatonville Landfill	**Investigation Unit (IU):**	**Date:** 10/10/23

Weather Conditions:

Sampling Personnel: B. WARNER B. JOHNSON

Depth Sounding Method: NA

Sampling Equipment: ~~RBE~~ POST HOLER

Target Coordinates (NAD 83): Easting: Northing:

Gauge Source: NA

Gauge Height (ft)/Time: NA

SUMMARY

Station ID	Time	Coordinates Latitude	Coordinates Longitude	Water Depth (ft)	Recovered Thickness (in)	OLW? ✓	Accepted? ✓	Photo? ✓	Notes	Sample Interval (in)
WS-02	840	MOVED, SEE FIELD MAPS		1.8'	24		✓			0-24"
WS-01	850	SAME AS FIELD MAPS		NA	24		✓			0-24"

Definitions: in = inches, ft = feet, OLW = overlying water

WS #: 02 **Attempt #:**

Grain Size Distribution (%G/S/F): 0 / 10 / 90 **Odor/Sheen/Woodwaste/Visual Impacts:** NA 0.1 ppm

Description: DARK PURPLE, WET, SOFT, ORGANIC RICH SILT (0.0-1.25'), Then LIGHT GREY, IRON-STAINED ORANGE SILTY AND GRAVELLY SAND (1.25-2.0'). 10/80/10

Comments:

Sampled ([✓ Y]/N): **Sample Time:** 840 **Sample ID:** WS-02-0.0-2.0-10102023

WS #: 01 **Attempt #:**

Grain Size Distribution (%G/S/F): 0 / 20 / 80 **Odor/Sheen/Woodwaste/Visual Impacts:** NA 0.0 ppm

Description: DARK PURPLE, WET, SOFT, ORGANIC RICH SILT WITH LARGE ROOTS, THEN LIGHT GREY SILTY MEDIUM SAND (1.2-2.0') 5/80/15

Comments:

Sampled ([✓ Y]/N): **Sample Time:** 850 **Sample ID:** WS-01-0.0-2.0-10102023

WS #: **Attempt #:**

Grain Size Distribution (%G/S/F): / / **Odor/Sheen/Woodwaste/Visual Impacts:**

Description:

Comments:

Sampled (Y/N): **Sample Time:** **Sample ID:**

SAMPLE INFORMATION

Sample ID	Time	Type (Primary, Duplicate, MS/MSD)	# of Containers
WS-02-0.0-2.0-10102023	840	P	5
WS-01-0.0-2.0-10102023	850	P	~~5~~ 7

SURFACE SOIL SAMPLING DATA SHEET

Project Name: Former Eatonville Landfill	**Project Number:** 171.074	**Location:** Eatonville Landfill	**Investigation Unit (IU):**	**Date:** 10/10/23

Weather Conditions:		**Sampling Personnel:**	B. WARNER, J. ATKINSON
Depth Sounding Method:	NA	**Sampling Equipment:**	POST-HOLER
Target Coordinates (NAD 83):	Easting:	**Gauge Source:**	NA
	Northing:	**Gauge Height (ft)/Time:**	NA

SUMMARY

Station ID	Time	Coordinates Latitude	Coordinates Longitude	Water Depth (ft)	Recovered Thickness (in)	OLW? ✓	Accepted? ✓	Photo? ✓	Notes	Sample Interval (in)
WS05	750	SAME AS	TARGET	0.7'	24		✓			0-2'
WS04	805	SAA		1.25'	24		✓			0-2'
WS-03	820	SAA		1.8'	24		✓			0-2'

Definitions: in = inches, ft = feet, OLW = overlying water

WS #: WS-05 **Attempt #:**

Grain Size Distribution (%G/S/F): 0 / 10 / 90 **Odor/Sheen/Woodwaste/Visual Impacts:** ND 0.1 PPM PID

Description: DARK PURPLE ORGANIC-RICH SLIGHTLY CLAYEY SILT (ML), WET, SOFT, BECOMING DARK GREY-BROWN LESS CLAYEY AND ORGANIC SILT BELOW 1.0'

Comments:

Sampled ([✓ Y]/N): **Sample Time:** 750 **Sample ID:** WS-05-0.0-2.0-10102023

WS #: WS-04 **Attempt #:**

Grain Size Distribution (%G/S/F): / / **Odor/Sheen/Woodwaste/Visual Impacts:** N/D 0.0 ppm PID

Description: SAA! THROUGH MIDDLE OF A TIRE

Comments:

Sampled ([✓ Y]/N): **Sample Time:** 805 **Sample ID:** WS-04-0.0-2.0-10102023

WS #: WS-03 **Attempt #:**

Grain Size Distribution (%G/S/F): 0 / 20 / 80 0-1.5 **Odor/Sheen/Woodwaste/Visual Impacts:** ND 0.0 PPM PID

Description: DARK PURPLE, WET, SOFT, 5-2.0 CLAYEY SILT W/ORGANICS (0-1.5'), AND LIGHT GREY, WET, SAND, SLIGHTLY SILTY & GRAVELLY.

Comments:

Sampled ([✓ Y]/N): **Sample Time:** 820 **Sample ID:** WS-03

SAMPLE INFORMATION

Sample ID	Time	Type ([✓ Primary], Duplicate, MS/MSD)	# of Containers
WS-05-~~1010~~ 0.0-2.0-10102023	750	P	~~8~~ ~~6~~ 7
WS-04-0.0-2.0-10102023	805	P	~~4~~ 5
WS-03-0.0-2.0-~~[illegible]~~ -10102023	820	P	5

TEST PIT LOG

Test Pit ID: TP-15

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/12/23	**Logged By:** B. WARNER
LOCATION: Eatonville, WA	**START TIME:** 1410	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:** 1450	**Page Number:**
LATITUDE:	**LONGITUDE:**	**Total Depth:** 10'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F
	0-1	NO	1.3	GW	60 30	30 10	5 5
2.5							
5.0	4-5	NO	0.2				
7.5							
10.0	9-10	NO	0.2		55	40	5
12.5	10' END PIT						
15.0							
17.5							
20.0							
22.5							
25.0							

WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES

6.0 - 8.0') - GW - DARK BROWN, MOIST, CLAST-SUPPORTED SANDY GRAVEL, 1-5", AND WASTES

- BELOW 1', UP TO 40% PLASTIC WRAP, CARPET, LARGE METAL APPLIANCE, BOTTLES, HOSING, BOULDERS UP TO 1.5',

(8.0-10.0') - GW - LIGHT GREY, INDURATED BUT FRIABLE COARSE SANDY GRAVEL WITH SILT. BEDDED, NO WASTE MATERIAL; DRY AND CHIPPY. NATIVE SOIL

NOTES:

SS-15- 0.0-1.0 -20231012 @ 900
TP-15-IM-4.0-5.0-20231012 @ 1430
TP-15-NS- 9.0-10.0 -20231012 @ 1445 ← COLLECTED VOAS (2)

TEST PIT LOG

Test Pit ID: TP-14
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill
LOCATION: Eatonville, WA
CONTRACTOR: Envirocon
LATITUDE:

DATE: 10/12/23
START TIME: 1305
END TIME: 1350
LONGITUDE:

Logged By: B. WARNER
Sampling Scheme: EXCAVATOR
Page Number:
Total Depth: 15'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution			WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
					%G	%S	%F	
	0-1	NO	0.2	GW	40	20	10	(0-0 - Soil) - GW - DARK BROWN, MOIST, LOOSE, 1-4" ROUNDED GRAVEL WITH COARSE SAND, POORLY SORTED WITH WASTES: BOTTLES, METAL APPLIANCES, <5% TIRES, HOSES, PLASTIC WRAPS, -5' UP TO 30% PLASTIC WRAPS WITH ASH, IRON SLAG, BRICK MATERIALS (?) -12' CONCRETE SLABS - 14' - All WASTE IS SLAG, GLASS, ASH, BUILDING FRAGMENTS
2.5								
5.0	4-5	NO	0.1					
7.5								
10.0	9-10	NO	0.3					
12.5								
15.0	14-15	NO	0.2					
17.5	15' END OF PIT							
20.0								
22.5								
25.0								

NOTES:

SS-14-0.0-1.0-20231012 @ 8:50
TP-14-IM-4.0-5.0-20231012 @ 13:05
TP-14-IM-9.0-10.0-20231012 @ 13:15
TP-14-IM-14.0-15.0-20231012 @ 1325

TEST PIT LOG

Test Pit ID: TP-13
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/12/23	**Logged By:** B. WARNER	
LOCATION: Eatonville, WA	**START TIME:**	**Sampling Scheme:** EXCAVATOR	
CONTRACTOR: Envirocon	**END TIME:**	**Page Number:**	
LATITUDE:	**LONGITUDE:**	**Total Depth:** 15	

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution			WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
					%G	%S	%F	
	0-1	NO	0.0	GW	70	20	10	(0.0 - 15) - DARK BROWN, MOIST, LOOSE, CLAST-SUPPORTED 1-5" GRAVEL WITH COARSE SAND AND WASTES, UP TO 30%: TIRES(<50%), BOTTLES, PLASTIC, METAL FRAGMENTS, A COUPLE CONCRETE SLABS, BOULDERS
2.5					50	20	10	
	4-5	NO	0.2					
5.0								
7.5								- 15' BRICK, ASH, SLAG, BURNT WOOD, POTTERY SHARDS, GLASS, METAL FRAGMENTS
	9-10	NO	0.3					
10.0								
12.5								
	14-15	NO						
15.0		15' END OF PIT						
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-13-0.0-1.0-20231012 @ 845
TP-13-IM-4.0-5.0-20231012 @ 1205
TP-13-IM-9.0-10.0-20231012 @ 1220
TP-13-IM-14.0-15.0-20231012 @ 1255

TEST PIT LOG

Test Pit ID: TP-12

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/12/23	**Logged By:**	B. WARNER
LOCATION: Eatonville, WA	**START TIME:** 1055	**Sampling Scheme:**	EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:**	**Page Number:**	
LATITUDE:	**LONGITUDE:**	**Total Depth:**	14'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.0	GW	60	30	10	(0.0-)-GW- DARK TO MEDIUM BROWN, DRY, LOOSE, ORGANIC AND COARSE SANDY GRAVEL WITH UP TO 20% WASTES: GLASS FRAGMENTS, PLASTIC, ROPE;
2.5								
5.0	4-5	NO	0.2					1' - BELOW 1', ASHY, SLAG, MELTED GARBAGE WASTES, UP TO 20%
7.5								8' - SINGLE CONCRETE SLABS. VERY DILUTE WASTES, MOSTLY METAL AND WASTE SLAG, < 10%, IN GRAVEL.
10.0	9-10	NO	0.2					
12.5								14' - REFUSAL ON STACKED CONCRETE SLABS
	13-14	NO						
15.0								
	14' END OF PIT							
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-12-0.0-1.0-20231012 @ 1055

TP-12-IM-4.0-5.0-20231012 @ 1120

TP-12-IM-9.0-10.0-20231012 @ 1135

TP-12-IM-13.0-14.0-20231012 @ 1150

TEST PIT LOG

Test Pit ID: TP-11

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/12/23	**Logged By:** B. WAGNER
LOCATION: Eatonville, WA	**START TIME:** 910	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:** 1050	**Page Number:**
LATITUDE:	**LONGITUDE:**	**Total Depth:** 15

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F
	0-1	NO	0.1	SW	15	60	5
				GW	40	50	10
2.5							
	4-5	NO	0.2				
5.0							
7.5							
	9-10	NO	0.2				
10.0							
12.5					60	35	5
	14-15	NO	0.3				
15.0							
17.5							
20.0							
22.5							
25.0							

15' ENDOFPIT

WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES

(0.0 - 1.0) - SW - DARK PURPLE, MOIST, GRAVELLY COARSE SAND, POORLY SORTED, WITH UP TO 20% WASTE; GLASS SHARDS, PLASTIC WRAPPINGS, CERAMIC BURN DEBRIS; LOOSE. IMMEDIATE CHANGE TO: WASTE

(1.0 - 15.0) - GW - LIGHT TO DARK BROWN, MOIST TO DRY, POORLY SORTED 1-5" GRAVEL WITH COARSE SAND AND SOMEWHAT BEDDED WASTES; PLASTIC WRAP, CARPET, ~~OXIDIZED~~ OXIDIZED IRON SLAG-CEMENTED GRAVEL, BOTTLES, up to 20 PERCENT

- 9-10' SAMPLE, < 15% WASTES. CLAST SUPPORTED 1-3" GRAVEL.

- 14-15' SAMPLE IS 90% GRAVEL, VERY MINUTE METALLIC SLAG & GLASS WASTES

NOTES:

SS-11-0.0-1.0-20231012 @ 925

~~SS-11-IM~~ TP-11-IM-4.0-5.0-20231012 @ 945

TP-11-IM-9.0-10.0-20231012 @ 1020

TP-11-IM-14.0-15.0-20231012 @ 1045

TEST PIT LOG

Test Pit ID: TP-10
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/11/23	**Logged By:** B. WARNER
LOCATION: Eatonville, WA	**START TIME:** 1510	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:**	**Page Number:**
LATITUDE:	**LONGITUDE:**	**Total Depth:** 13'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution			WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
					%G	%S	%F	
	0-1	NO	0.2	GW	60	30	10	(0.0-12.0) - GW - GRAVEL, BROWN, MOIST, LOOSE, MODERATELY SORTED AND CLAST-SUPPORTED 1-3" ROUNDED GRAVEL WITH COARSE SAND AND TRACE WASTES - BOTTLES, GLASS FRAGMENTS
					30	20	10	
2.5								
	4-5	NO	0.0					- BELOW 2', WASTE INCREASES, PLASTIC WRAPPINGS, BOTTLES, UP TO 30%, SOME SLAG, PVC, SMALL CONCRETE FRAGMENTS.
5.0								
7.5								
	9-10	NO	0.2					- 9' - BURN LAYER W/ CHARCOAL, PLASTIC, ASH, SLAG, JARS
10.0								
12.5								(12.0 - 13.0) - SP - LIGHT GREY-BROWN, MOIST, INDURATED BUT FRIABLE MEDIUM - COARSE GRANITIC SAND; SAPROLITE, NATIVE MATERIAL, NO WASTE.
	12-13	NO	0.0	SP	-	90	10	13.0' END OF PIT, NATIVE
15.0								
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-10-0.0-1.0-20231011 @ 1510

TP10-IM-4.0-5.0-20231011 @ 1520

TP-10-IM-9.0-10.0-20231011 @ 1530

TP-10-NS-12.0-13.0-20231011 @ 1545

TEST PIT LOG

Test Pit ID: TP-09

PROJ. NO. 171.074

PROJECT:	Former Eatonville Landfill	**DATE:**	10/11/23	**Logged By:**	B. WARNER
LOCATION:	Eatonville, WA	**START TIME:**	1335 1415	**Sampling Scheme:**	EXCAVATOR
CONTRACTOR:	Envirocon	**END TIME:**		**Page Number:**	
LATITUDE:		**LONGITUDE:**		**Total Depth:**	12.0'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.0		40	30	–	(0.0-4.0) - GW - GRAVED - BROWN, MOIST, SANDY GRAVEL WITH WASTES, MOSTLY GLASS FRAGMENTS, PLASTIC WRAPPINGS, SOME METALLIC OBJECTS ~1'.
				GW				
2.5								
	4-5	NO	0.1	WASTE	20	10	–	3' - 5' CONCRETE SLABS, CABLES, 40% WASTE
5.0								
7.5								(4.0-) - WASTE - 760% CONCRETE, PLASTIC, BRICK FRAGMENTS, GLASS IN GW MATRIX. MULTIPLE STACKED 3' CONCRETE SLABS
	9-10	NO	0.0					
10.0								
	11-12	NO	3.0					9' - STEEL-LINED FIRE-BRICKS AND CHARCOAL; SOIL IS DARKER, CONCRETE SLABS ON ALMOST EVERY BUCKET
12.5	12' END OF PIT							
15.0								10-12' - STACKED CONCRETE AND METAL SLAG, CHARRED WOOD.
17.5								12' REFUSAL ON SLABS
20.0								
22.5								
25.0								

NOTES:

SS-09-0.0-1.0-20231011 @ 1335

TP-09-IM-11.0-12.0-20231011 @ 1450

TP-09-IM-4.0-5.0-20231011 @ 1415

TP-09-IM-9.0-10.0-20231011 @ 1430

TEST PIT LOG

Test Pit ID: TP-08

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill

LOCATION: Eatonville, WA

CONTRACTOR: Envirocon

LATITUDE:

DATE: 10/11/23

START TIME: 12:10

END TIME:

LONGITUDE:

Logged By: TJ. WARNER

Sampling Scheme: EXCAVATOR

Page Number:

Total Depth: 13'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.0	GW	70	20	10	(0.0-) - GW - GRAVEL - BROWN, MOIST, LOOSE, COARSE SANDY GRAVEL; CLAST-SUPPORTED WITH WASTES BOTTLES, TIRES, METAL FRAGMENTS, PLASTIC WRAPPINGS, UPTO 20%, SCATTERED LARGE DEBRIS 71'
2.5								3' - BELOW 3', CABLES, MORE BOTTLES AND METAL DEBRIS UPTO 40% WASTE.
5.0	4-5	YES*	0.0					5' - 4' CONCRETESLAB, BAG OF FERTILIZER, SHOTGUN SHELL, TIRE.
7.5								7' - CONCRETE SLAB, 4', BOULDERS
10.0	~~9-10~~	~~NO~~ NOT SAMPLED	~~0.0~~	BW				
12.5	12-13	YES¹	0.0					(8-13') - SAA, BUT WITH UNDULATING BED OF FIRMLY INDURATED PURPLE CONGLOMERATE WITH ½" CLASTS. (Native)
15.0	13' END OF PIT							
17.5								
20.0								
22.5								
25.0								

NOTES: * MONOCHROME PLATY & WISPY FILM/SHEEN
1 MONOCHROME PLATY FILM

SS-08-0.0-1.0-20231011 @ 12:10
08-IM-4.0-5.0-20231011 @ 12:50
08-NS-12.0-13.0-20231011 @ 1310 ← MAY BE QUESTIONABLE AS 'NATIVE'

TEST PIT LOG

Test Pit ID: TP-07
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill
LOCATION: Eatonville, WA
CONTRACTOR: Envirocon
LATITUDE:

DATE: 10/11/25
START TIME:
END TIME:
LONGITUDE:

Logged By: TS. WARNER
Sampling Scheme: EXCAVATOR
Page Number:
Total Depth: 15.0'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution		
					%G	%S	%F
	0-1	NO	0.1	SW	15	40	5
				GW	60	20	5
2.5							
	4-5	NO	0.0				
5.0							
7.5							
	9-10	NO	0.1		55	40	–
10.0							
12.5							
	14-15	YES *	0.3				
15.0							
	15' END PIT						
17.5							
20.0							
22.5							
25.0							

WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES

(0.0 – 1.0) – SW – DARK BROWN MOIST, SILTY AND GRAVELLY SOFT SAND WITH WASTES, UP TO 30%; GRAVEL < 3", WASTES INCLUDE RUSTED COBBLES, GLASS BOTTLES, PLASTIC WRAPPINGS

(1.0 – 15') – GW – DARK BROWN, MOIST–DRY, LOOSE, CLAST-SUPPORTED, SANDY 1–3" GRAVEL WITH WASTES; BOTTLES, WRAPPINGS, AND SIGNIFICANT PROPORTION OF ANGULAR, ORANGE-RUST OXIDIZED CLASTS, < 1", UP TO 30% OF "GRAVEL" MATRIX

10.0' – LESS THAN 10% WASTE

13' – Concrete SLAB, 3'; VERY DILUTE WASTE, MOSTLY GRAVEL

15' – VERY DILUTE WASTE. CARPET.

NOTES: * MONOCHROME, PLATY FILM & SHEEN.

SS-07-0.0-1.0-20251011 @ 11:10

TP-07-IM-4.0-5.0-20251011 @ 11:20

TP-07-IM-9.0-10.0-20251011 @ 11:30

TP-07-IM-14.0-15.0-20251011 @ 11:5

TEST PIT LOG

Test Pit ID: TP-06

PROJ. NO: 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/11/23	**Logged By:** B. WARNER	
LOCATION: Eatonville, WA	**START TIME:**	**Sampling Scheme:** EXCAVATOR	
CONTRACTOR: Envirocon	**END TIME:**	**Page Number:**	
LATITUDE:	**LONGITUDE:**	**Total Depth:** 10'	

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
0	0-1	NO	0.0	GW	50	20	10	(0.0 - 10.0') - GW - GRAVEL - BROWN, LOOSE, DRY, 1-6" CLAST SUPPORTED GRAVEL WITH COARSE SAND, SILT, AND LESS THAN 15% WASTE: BOTTLES, PLASTIC WRAPPINGS, METAL FRAGMENTS <1', ~~Single~~ TWO 4' concrete slab, BOULDERS UP TO 4', DRIVE-SHAFT, OR AXLE
2.5								
5.0	4-5	NO	0.0					
7.5					70	20	10	- BELOW 7.0', NATIVE BEDDED, COBBLY GRAVEL, CLAST SUPPORTED, MOSTLY < 5".
10.0	9-10	NO	0.2					
12.5	END OF PIT							
15.0								
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-06-0.0-1.0-20231011 @ 955
TP-06-IN-4.0-5.0-20231011 @ 10:00
TP-06-NS-9.0-10.0-20231011 @ 10:15 → MIXED DISCOLORING GLASS

TEST PIT LOG

Test Pit ID: TP-05

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill

LOCATION: Eatonville, WA

CONTRACTOR: Envirocon

LATITUDE:

DATE: 10/11/23

START TIME: 835

END TIME: 850

LONGITUDE:

Logged By: B. WARNER

Sampling Scheme: EXCAVATOR

Page Number:

Total Depth:

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.2	GW	50	20	-	(0.0-)- GW (GRAVEL) - BROWN, DRY-MOIST SILTY AND COARSE SANDY GRAVEL, UP TO 4.5', WITH WASTES (< 30%), BOTTLES, FEW TIRES, TWISTED METAL, PLASTIC WRAPPINGS; CLAST-SUPPORTED, LOOSE, ROUNDED GRAVEL, MOSTLY 2-8''
2.5								
	4-5	NO	0.0	GW	20	70	10	
5.0		5' END PIT						
7.5								4' - NO WASTE, NATIVE MATERIAL, COBBLE, CLAST-SUPPORTED TILL, BROWN, DRY, DISTINCTLY BEDDED BELOW WASTE. 5' END OF PIT
10.0								
12.5								
15.0								
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-05-0.0-1.0-20231011 @ 835

TP-05-NS-4.0-5.0-20231011 @ 845

TEST PIT LOG

Test Pit ID: TP-04
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/10/23	**Logged By:** B. WARNER
LOCATION: Eatonville, WA	**START TIME:** 1515	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:** 1600	**Page Number:**
LATITUDE: SEE FIELD MAPS	**LONGITUDE:**	**Total Depth:** 10'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.1	SW	20	50	5	(0.0 - 10') DARK BROWN, MOIST, GRAVELLY LOOSE SAND WITH WASTES. GRAVEL IS 1" - 12", ROUNDED.
2.5								WASTE IS 30%, PLASTIC SHEETING, ELECTRIC CABLE, LARGE TWISTED METAL, BOTTLES, SOME TIRES
5.0	4-5	NO	0.0					
7.5								8' - BUNDLE OF 5-6 TIRES, LARGE METALLIC APPLIANCE, 4' Slab of concrete, FERTILIZER,
10.0	9-10	NO	0.1	SP ~~SP~~	0	80	20	(9.0' - 10.0) - LIGHT BROWN, WELL SORTED SLIGHTLY CEMENTED SILTY SAND ~~AND~~ FRIABLE. NO WASTE OR GRAVEL. ~~APPARENT~~ NATIVE SAPROLITE, ROTTEN GRANITIC TILL MATERIAL, NATIVE
12.5								
15.0		END PIT						
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-04-0.0-1.0-20231010 @ 1515

TP-0~~5~~4-NS-9.0-10.0-20231010 @ 1545

TP-04-IM-4.0-5.0-20231010 @ 1525

~~TP-04-IM-9.0-10.0-20231010 @ 1545~~

TEST PIT LOG

Test Pit ID: TP-03
PROJ. NO. 171:074

PROJECT: Former Eatonville Landfill	**DATE:** 10/10/23	**Logged By:** B. WARNER	
LOCATION: Eatonville, WA	**START TIME:** 1355	**Sampling Scheme:** EXCAVATOR	
CONTRACTOR: Envirocon	**END TIME:** 1450	**Page Number:**	
LATITUDE:	**LONGITUDE:**	**Total Depth:**	

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0.0	GW	60	30	-	(0.0-5.0) GW - GRAVEL - LIGHT BROWN, SOFT/LOOSE, DRY, SILTY GRAVEL WITH WASTE AND BOULDERS UP TO 3'. COBBLES CLAST SUPPORTED 2-8". WASTE IS TWISTED METAL, <15%, PLASTIC, BOTTLES. TIRES <5%. VERY LOOSE, LOTS OF SLOUGHING
2.5								
	4-5	NO	0.2					
5.0								
					30	60	-	
				SW				
7.5								(5.0-15.0) SW - DARK BROWN, MOIST, LOOSE, GRAVELLY COARSE SAND, POORLY SORTED WITH <20% WASTE MATERIAL, PLASTIC, METAL, ASH. PLASTIC WRAPPINGS UP TO 3' LONG, BOTTLES, <5% TIRES
	9-10	NO	0.0					
10.0								
12.5								
					20	60	-	
	14-15	NO						
15.0								- BELOW 13', VERY CLEAN GRAVELLY SAND, WITH ONLY <3" GLASS FRAGMENTS. AND BRICK FRAGMENTS, WELDED, IRON OXIDIZED FRAGMENTS, 20% WASTE
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-03-0.0-1.0-20231010 @ 1355
TP-03-IM-14.0-15.0-20231010 @ 1430
TP-03-IM-4.0-5.0-20231010 @ 1410
TP-03-IM-9.0-10.0-20231010 @ 1420

TEST PIT LOG

Test Pit ID: TP-02
PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill
LOCATION: Eatonville, WA
CONTRACTOR: Envirocon
LATITUDE:
DATE: 10/10/23
START TIME: 1245
END TIME: 1340
LONGITUDE:
Logged By: B. WARNER
Sampling Scheme: EXCAVATOR
Page Number:
Total Depth:

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution %G	%S	%F
	0-1	NO	0.2	SP	35	~~40~~ 55	5
				WASTE	30	15	-
2.5							
5.0	4-5	NO	0.0				
7.5				GW	55	10	-
10.0	9-10	NO	0.0				
12.5							
15.0	14-15	NO	0.0		80	15	-
17.5							
20.0							
22.5		END OF PIT					
25.0							

WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES

(0.0 - 1.0') DARK BROWN, MOIST, SOFT, ORGANIC-RICH POORLY SORTED MEDIUM-COARSE SAND WITH 1-5" ROUNDED GRAVEL, ROOTS, METAL FRAGMENTS, GLASS (SW)

TP-02-IM-4.0-5.0-20231010

(1.0'-7.0') WASTE → REDDISH DARK BROWN, DRY-MOIST, SANDY AND GRAVELLY WASTE, INCLUDING PLASTIC, METAL, RUSTY DEBRIS, BRICK FRAGMENTS, GLASS, ALMOST ENTIRELY DEBRIS < 1' DIAMETER. <~~10~~ 5% tires. Kitchen Sink

(7.0 - 15.0') GRAVEL (~~GR~~ GW) - DARK BROWN, DRY-DAMP, POORLY ~~&~~ SORTED GRAVEL, 1-6", ROUNDED, WITH BOTTLES, PLASTIC, METAL FRAGMENTS, AND DISCOLORED OXIDIZED SILTY SOIL. SPARSE TIRES. WASTE IS UP TO 50% BOTTLES.

-- BED OF HIGHER FREQU DENSITY (40%) PLASTIC SHEETING FROM 11-13'.

- BELOW 14', VERY GRAVELLY, CLAST-SUPPORTED 2-8" WITH ~~CAF~~ SINGLE PIECE OF GARBAGE IN SIDEWALL

NOTES:

(0-1) SS-02-0.0-1.0-20231010 @ 1245
4-5 TP-02-4.0-5.0-20231010 @ 1255 'IM'
TP-02-9.0-10.0-20231010 @ 1315 'IM'
TP-02-IM-14.0-15.0-20231010 @ 1335

TEST PIT LOG

Test Pit ID: TP-1

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/10/23	**Logged By:** B. WARNER
LOCATION: Eatonville, WA	**START TIME:** 10:30	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:** 11:30	**Page Number:**
LATITUDE: SEE FIELD MAPS	**LONGITUDE:**	**Total Depth:**

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	%G	%S	%F	WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
	0-1	NO	0	[illegible]	25	50	25	(0.0-5.0) Soil with waste and boulders, brown, dry fines to sand, large boulders to gravels. plastic, tires, glass, foam concrete, carpet, concrete pilings, brick pieces @ ≈ 4.0' Concrete slabs TP-01-IM-5.0-6.0-20231010 @1055
2.5								
5.0	5-6	NO	0					
7.5					25	50	25	5.0-10.0. Similar to above @≈7.0 sheet material slightly darker soil @≈8.0 large concrete slab less waste materials in matrix TP-01-IM-9.0-10.0-20231010 @1110 @≈10.0 ~~concrete slab~~. large boulders
	8-9	NO	0					
	~~9-10~~	~~NO~~	~~0~~					
10.0	10-11	yes						10.0-12.0 same materials less waste Refusing @ ≈12.0' on large boulder and concrete. TP-01-IM-10.0-11.0-20231010 @1125 ◦ slight monocolor sheen Native soil not encountered
12.5								
15.0	X	X	X	X	X	X	X	
17.5								
20.0								
22.5								
25.0								

NOTES:

SS-01-0.0-1.0-20231010 @ 1035

TP-01-IM-10.0-11.0-20231010 @1125

TP-01-IM-5.0-6.0-20231010 @ 1055

TP-01-IM 8.0-9.0-20231010 @1110

TEST PIT LOG

Test Pit ID: TP-16

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill

LOCATION: Eatonville, WA

CONTRACTOR: Envirocon

LATITUDE:

DATE: 10/12/23

START TIME: 1450

END TIME: 1455

LONGITUDE:

Logged By: B WARNER

Sampling Scheme: EXCAVATOR

Page Number:

Total Depth: 4'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution			WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
					%G	%S	%F	
	NA	NA	NA	GW	10	20	10	(0.0-4.0') - GW - GRAVEL - LIGHT BROWN, LOOSE, DRY, CLAST-SUPPORTED SANDY GRAVEL (GLACIAL TILL).
2.5								
5.0								BACKFILLED, NO WASTE. ☆
7.5								4' END OF HOLE
10.0								
12.5								
15.0								
17.5								
20.0								
22.5								
25.0								

NOTES:

TEST PIT LOG

Test Pit ID: TP-17

PROJ. NO. 171.074

PROJECT: Former Eatonville Landfill	**DATE:** 10/12/23	**Logged By:** B. WAGNER
LOCATION: Eatonville, WA	**START TIME:** 1445	**Sampling Scheme:** EXCAVATOR
CONTRACTOR: Envirocon	**END TIME:** 1450	**Page Number:**
LATITUDE:	**LONGITUDE:**	**Total Depth:** 4'

Test Pit Depth (ft)	Sample Interval	Sheen Test Result	PID Reading (ppm)	Lithology	Visual GS Distribution			WASTE AND SOIL (Based on Unified Soil Classification System) DESCRIPTION AND NOTES
					%G	%S	%F	
	NA	NA	NA	GW	70	20	10	(0.0-4.0') - GW - GRAVEL - LIGHT BROWN, LOOSE, DRY, CLAST-SUPPORTED SANDY GRAVEL (GLACIAL TILL).
2.5								
5.0								BACKFILLED, NO WASTE 4' END OF HOLE
7.5								
10.0								
12.5								
15.0								
17.5								
20.0								
22.5								
25.0								

NOTES:

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Attachment C

Laboratory Reports

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Friday, November 10, 2023

Ben Johnson
GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

RE: A3J1366 - Eatonville Landfill Characterization - 00171.074.008

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

Enclosed are the results of analyses for work order A3J1366, which was received by the laboratory on 10/13/2023 at 1:00:00PM.

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

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.

(See Cooler Receipt Form for details)

Cooler #1 2.9 degC
Cooler #2 3.3 degC
Cooler #3 4.1 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WS-01-0.0-2.0-10102023	A3J1366-01	Soil	10/10/23 08:50	10/13/23 13:00
WS-02-0.0-2.0-1010-2023	A3J1366-02	Soil	10/10/23 08:40	10/13/23 13:00
WS-03-0.0-2.0-10102023	A3J1366-03	Soil	10/10/23 08:20	10/13/23 13:00
WS-04-0.0-2.0-10102023	A3J1366-04	Soil	10/10/23 08:05	10/13/23 13:00
WS-05-0.0-2.0-10102023	A3J1366-05	Soil	10/10/23 07:50	10/13/23 13:00
TP-01-IM-10.0-11.0-20231010	A3J1366-06	Soil	10/10/23 11:25	10/13/23 13:00
TP-04-NS-9.0-10.0-20231010	A3J1366-07	Soil	10/10/23 15:45	10/13/23 13:00
TP-05-NS-4.0-5.0-20231011	A3J1366-08	Soil	10/11/23 08:45	10/13/23 13:00
TP-06-NS-9.0-10.0-20231011	A3J1366-09	Soil	10/11/23 10:15	10/13/23 13:00
TP-08-NS-12.0-13.0-20231011	A3J1366-10	Soil	10/11/23 13:10	10/13/23 13:00
TP-10-NS-12.0-13.0-20231011	A3J1366-11	Soil	10/11/23 15:45	10/13/23 13:00
TP-15-NS-9.0-10.0-20231012	A3J1366-12	Soil	10/12/23 14:45	10/13/23 13:00
TP-15-IM-4.0-5.0-20231012	A3J1366-13	Soil	10/12/23 14:30	10/13/23 13:00
TP-07-IM-14.0-15.0-20231011	A3J1366-14	Soil	10/11/23 11:55	10/13/23 13:00
TP-08-IM-4.0-5.0-20231011	A3J1366-15	Soil	10/11/23 12:50	10/13/23 13:00
TP-07-IM-9.0-10.0-20231011	A3J1366-16	Soil	10/11/23 11:30	10/13/23 13:00
TP-14-IM-14.0-15.0-20231012	A3J1366-17	Soil	10/12/23 13:25	10/13/23 13:00
TP-13-IM-14.0-15.0-20231012	A3J1366-18	Soil	10/12/23 12:35	10/13/23 13:00
TP-12-IM-9.0-10.0-20231012	A3J1366-19	Soil	10/12/23 11:30	10/13/23 13:00
TP-11-IM-4.0-5.0-20231012	A3J1366-20	Soil	10/12/23 09:45	10/13/23 13:00
TP-10-IM-9.0-10.0-20231011	A3J1366-21	Soil	10/11/23 15:30	10/13/23 13:00
TP-09-IM-11.0-12.0-20231011	A3J1366-22	Soil	10/11/23 14:50	10/13/23 13:00
SS-06-0.0-1.0-20231011	A3J1366-23	Soil	10/11/23 09:35	10/13/23 13:00
SS-05-0.0-1.0-20231011	A3J1366-24	Soil	10/11/23 08:35	10/13/23 13:00
TP-04-IM-4.0-5.0-20231010	A3J1366-25	Soil	10/10/23 15:25	10/13/23 13:00
TP-03-IM-14.0-15.0-20231010	A3J1366-26	Soil	10/10/23 14:30	10/13/23 13:00
TP-02-IM-4.0-5.0-20231010	A3J1366-27	Soil	10/10/23 12:55	10/13/23 13:00
TP-01-IM-5.0-6.0-20231010	A3J1366-28	Soil	10/10/23 10:55	10/13/23 13:00

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Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)				**Matrix: Soil**		**Batch: 23J0850**		
Diesel	ND	107	215	mg/kg dry	10	10/24/23 14:49	NWTPH-Dx	
Oil	**1000**	215	429	mg/kg dry	10	10/24/23 14:49	NWTPH-Dx	**Q-42**
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*80 %*	*Limits: 50-150 %*	*10*	*10/24/23 14:49*	*NWTPH-Dx*	*S-05*
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0850**		
Diesel	ND	11.2	22.4	mg/kg dry	1	10/23/23 23:28	NWTPH-Dx	
Oil	ND	22.4	44.8	mg/kg dry	1	10/23/23 23:28	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*72 %*	*Limits: 50-150 %*	*1*	*10/23/23 23:28*	*NWTPH-Dx*	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	10.8	21.6	mg/kg dry	1	10/25/23 20:59	NWTPH-Dx	
Oil	ND	21.6	43.2	mg/kg dry	1	10/25/23 20:59	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*80 %*	*Limits: 50-150 %*	*1*	*10/25/23 20:59*	*NWTPH-Dx*	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	11.1	22.2	mg/kg dry	1	10/26/23 08:49	NWTPH-Dx	
Oil	**120**	22.2	44.5	mg/kg dry	1	10/26/23 08:49	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*90 %*	*Limits: 50-150 %*	*1*	*10/26/23 08:49*	*NWTPH-Dx*	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	541	1080	mg/kg dry	50	10/25/23 22:10	NWTPH-Dx	
Oil	**2550**	1080	2160	mg/kg dry	50	10/25/23 22:10	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*%*	*Limits: 50-150 %*	*50*	*10/25/23 22:10*	*NWTPH-Dx*	*S-01*
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	11.2	22.4	mg/kg dry	1	10/25/23 22:57	NWTPH-Dx	
Oil	ND	22.4	44.9	mg/kg dry	1	10/25/23 22:57	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*75 %*	*Limits: 50-150 %*	*1*	*10/25/23 22:57*	*NWTPH-Dx*	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12RE1)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	10.6	21.3	mg/kg dry	1	10/26/23 09:30	NWTPH-Dx	
Oil	**209**	21.3	42.5	mg/kg dry	1	10/26/23 09:30	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery:*	*86 %*	*Limits: 50-150 %*	*1*	*10/26/23 09:30*	*NWTPH-Dx*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14RE1)				**Matrix: Soil**		**Batch: 23J0954**		
Diesel	ND	111	222	mg/kg dry	10	10/26/23 10:12	NWTPH-Dx	
Oil	**1780**	222	445	mg/kg dry	10	10/26/23 10:12	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 75 %*	*Limits: 50-150 %*		*10*	*10/26/23 10:12*	*NWTPH-Dx*	*S-05*

ANALYTICAL SAMPLE RESULTS

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

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-01-0.0-2.0-10102023 (A3J1366-01)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	7.30	14.6	mg/kg dry	50	10/20/23 16:02	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 110 %*	*Limits: 50-150 %*	*1*	*10/20/23 16:02*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*98 %*	*50-150 %*	*1*	*10/20/23 16:02*	*NWTPH-Gx (MS)*	
WS-05-0.0-2.0-10102023 (A3J1366-05)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	12.3	24.7	mg/kg dry	50	10/20/23 16:28	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 108 %*	*Limits: 50-150 %*	*1*	*10/20/23 16:28*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*10/20/23 16:28*	*NWTPH-Gx (MS)*	
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	3.40	6.80	mg/kg dry	50	10/20/23 16:54	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 106 %*	*Limits: 50-150 %*	*1*	*10/20/23 16:54*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*10/20/23 16:54*	*NWTPH-Gx (MS)*	
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.90	5.80	mg/kg dry	50	10/20/23 17:19	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	*1*	*10/20/23 17:19*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*10/20/23 17:19*	*NWTPH-Gx (MS)*	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.53	5.06	mg/kg dry	50	10/20/23 17:45	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	*1*	*10/20/23 17:45*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*98 %*	*50-150 %*	*1*	*10/20/23 17:45*	*NWTPH-Gx (MS)*	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.57	5.15	mg/kg dry	50	10/20/23 18:11	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 105 %*	*Limits: 50-150 %*	*1*	*10/20/23 18:11*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*10/20/23 18:11*	*NWTPH-Gx (MS)*	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.30	4.61	mg/kg dry	50	10/20/23 18:36	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	*1*	*10/20/23 18:36*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*100 %*	*50-150 %*	*1*	*10/20/23 18:36*	*NWTPH-Gx (MS)*	

ANALYTICAL SAMPLE RESULTS

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

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.94	5.89	mg/kg dry	50	10/20/23 19:02	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*100 %*	*Limits: 50-150 %*	*1*	*10/20/23 19:02*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*10/20/23 19:02*	*NWTPH-Gx (MS)*	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	3.29	6.59	mg/kg dry	50	10/20/23 19:28	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*101 %*	*Limits: 50-150 %*	*1*	*10/20/23 19:28*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*98 %*	*50-150 %*	*1*	*10/20/23 19:28*	*NWTPH-Gx (MS)*	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J0806**		
Gasoline Range Organics	ND	2.54	5.09	mg/kg dry	50	10/20/23 19:54	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*101 %*	*Limits: 50-150 %*	*1*	*10/20/23 19:54*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*100 %*	*50-150 %*	*1*	*10/20/23 19:54*	*NWTPH-Gx (MS)*	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0806**		
Acetone	ND	1160	1160	ug/kg dry	50	10/20/23 17:19	5035A/8260D	ICV-02
Acrylonitrile	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Benzene	ND	5.80	11.6	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Bromobenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Bromochloromethane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Bromodichloromethane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Bromoform	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Bromomethane	ND	580	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
2-Butanone (MEK)	ND	290	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
n-Butylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
sec-Butylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
tert-Butylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Carbon disulfide	ND	290	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Carbon tetrachloride	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Chlorobenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Chloroethane	ND	290	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Chloroform	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Chloromethane	ND	145	290	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
2-Chlorotoluene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
4-Chlorotoluene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Dibromochloromethane	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	145	290	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Dibromomethane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2-Dichlorobenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,3-Dichlorobenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,4-Dichlorobenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Dichlorodifluoromethane	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1-Dichloroethane	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1-Dichloroethene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
cis-1,2-Dichloroethene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
trans-1,2-Dichloroethene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0806**		
1,2-Dichloropropane	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,3-Dichloropropane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
2,2-Dichloropropane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1-Dichloropropene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
cis-1,3-Dichloropropene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
trans-1,3-Dichloropropene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Ethylbenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Hexachlorobutadiene	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
2-Hexanone	ND	580	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Isopropylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
4-Isopropyltoluene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Methylene chloride	ND	290	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	290	580	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Naphthalene	ND	116	232	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
n-Propylbenzene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Styrene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Tetrachloroethene (PCE)	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Toluene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2,3-Trichlorobenzene	ND	145	290	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2,4-Trichlorobenzene	ND	145	290	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1,1-Trichloroethane	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,1,2-Trichloroethane	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Trichloroethene (TCE)	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Trichlorofluoromethane	ND	58.0	116	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2,3-Trichloropropane	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,2,4-Trimethylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
1,3,5-Trimethylbenzene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
Vinyl chloride	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
m,p-Xylene	ND	29.0	58.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	
o-Xylene	ND	14.5	29.0	ug/kg dry	50	10/20/23 17:19	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0806**		
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*10/20/23 17:19*	*5035A/8260D*	
Toluene-d8 (Surr)			*96 %*	*80-120 %*	*1*	*10/20/23 17:19*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*105 %*	*79-120 %*	*1*	*10/20/23 17:19*	*5035A/8260D*	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0806**		
Acetone	ND	1010	1010	ug/kg dry	50	10/20/23 17:45	5035A/8260D	ICV-02
Acrylonitrile	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Benzene	ND	5.06	10.1	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Bromobenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Bromochloromethane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Bromodichloromethane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Bromoform	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Bromomethane	ND	506	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
2-Butanone (MEK)	ND	253	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
n-Butylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
sec-Butylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
tert-Butylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Carbon disulfide	ND	253	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Carbon tetrachloride	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Chlorobenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Chloroethane	ND	253	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Chloroform	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Chloromethane	ND	126	253	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
2-Chlorotoluene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
4-Chlorotoluene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Dibromochloromethane	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	126	253	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Dibromomethane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2-Dichlorobenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,3-Dichlorobenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,4-Dichlorobenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Dichlorodifluoromethane	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1-Dichloroethane	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0806**		
1,2-Dichloroethane (EDC)	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1-Dichloroethene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
cis-1,2-Dichloroethene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
trans-1,2-Dichloroethene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2-Dichloropropane	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,3-Dichloropropane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
2,2-Dichloropropane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1-Dichloropropene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
cis-1,3-Dichloropropene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
trans-1,3-Dichloropropene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Ethylbenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Hexachlorobutadiene	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
2-Hexanone	ND	506	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Isopropylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
4-Isopropyltoluene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Methylene chloride	ND	253	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	253	506	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Naphthalene	ND	101	202	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
n-Propylbenzene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Styrene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Tetrachloroethene (PCE)	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Toluene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2,3-Trichlorobenzene	ND	126	253	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2,4-Trichlorobenzene	ND	126	253	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1,1-Trichloroethane	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,1,2-Trichloroethane	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Trichloroethene (TCE)	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Trichlorofluoromethane	ND	50.6	101	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2,3-Trichloropropane	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
1,2,4-Trimethylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0806**		
1,3,5-Trimethylbenzene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Vinyl chloride	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
m,p-Xylene	ND	25.3	50.6	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
o-Xylene	ND	12.6	25.3	ug/kg dry	50	10/20/23 17:45	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*10/20/23 17:45*	*5035A/8260D*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*10/20/23 17:45*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*104 %*	*79-120 %*	*1*	*10/20/23 17:45*	*5035A/8260D*	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**		**Batch: 23J0806**		
Acetone	ND	1030	1030	ug/kg dry	50	10/20/23 18:11	5035A/8260D	ICV-02
Acrylonitrile	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Benzene	ND	5.15	10.3	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Bromobenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Bromochloromethane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Bromodichloromethane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Bromoform	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Bromomethane	ND	515	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
2-Butanone (MEK)	ND	257	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
n-Butylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
sec-Butylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
tert-Butylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Carbon disulfide	ND	257	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Carbon tetrachloride	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Chlorobenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Chloroethane	ND	257	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Chloroform	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Chloromethane	ND	129	257	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
2-Chlorotoluene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
4-Chlorotoluene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Dibromochloromethane	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	129	257	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Dibromomethane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

TP-06-NS-9.0-10.0-20231011 (A3J1366-09) **Matrix: Soil** **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
1,2-Dichlorobenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,3-Dichlorobenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,4-Dichlorobenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Dichlorodifluoromethane	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1-Dichloroethane	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1-Dichloroethene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
cis-1,2-Dichloroethene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
trans-1,2-Dichloroethene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2-Dichloropropane	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,3-Dichloropropane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
2,2-Dichloropropane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1-Dichloropropene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
cis-1,3-Dichloropropene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
trans-1,3-Dichloropropene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Ethylbenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Hexachlorobutadiene	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
2-Hexanone	ND	515	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Isopropylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
4-Isopropyltoluene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Methylene chloride	ND	257	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	257	515	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Naphthalene	ND	103	206	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
n-Propylbenzene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Styrene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Tetrachloroethene (PCE)	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Toluene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2,3-Trichlorobenzene	ND	129	257	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2,4-Trichlorobenzene	ND	129	257	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,1,1-Trichloroethane	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

TP-06-NS-9.0-10.0-20231011 (A3J1366-09) — **Matrix: Soil** — **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
1,1,2-Trichloroethane	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Trichloroethene (TCE)	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Trichlorofluoromethane	ND	51.5	103	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2,3-Trichloropropane	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,2,4-Trimethylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
1,3,5-Trimethylbenzene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Vinyl chloride	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
m,p-Xylene	ND	25.7	51.5	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
o-Xylene	ND	12.9	25.7	ug/kg dry	50	10/20/23 18:11	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery: 103 %*	*Limits: 80-120 %*		*1*	*10/20/23 18:11*	*5035A/8260D*	
Toluene-d8 (Surr)		*96 %*	*80-120 %*		*1*	*10/20/23 18:11*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)		*105 %*	*79-120 %*		*1*	*10/20/23 18:11*	*5035A/8260D*	

TP-08-NS-12.0-13.0-20231011 (A3J1366-10) — **Matrix: Soil** — **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Acetone	ND	922	922	ug/kg dry	50	10/20/23 18:36	5035A/8260D	ICV-02
Acrylonitrile	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Benzene	ND	4.61	9.22	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Bromobenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Bromochloromethane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Bromodichloromethane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Bromoform	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Bromomethane	ND	461	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
2-Butanone (MEK)	ND	230	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
n-Butylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
sec-Butylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
tert-Butylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Carbon disulfide	ND	230	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Carbon tetrachloride	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Chlorobenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Chloroethane	ND	230	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Chloroform	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Chloromethane	ND	115	230	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
2-Chlorotoluene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0806**		
4-Chlorotoluene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Dibromochloromethane	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	115	230	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Dibromomethane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2-Dichlorobenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,3-Dichlorobenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,4-Dichlorobenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Dichlorodifluoromethane	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1-Dichloroethane	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1-Dichloroethene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
cis-1,2-Dichloroethene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
trans-1,2-Dichloroethene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2-Dichloropropane	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,3-Dichloropropane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
2,2-Dichloropropane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1-Dichloropropene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
cis-1,3-Dichloropropene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
trans-1,3-Dichloropropene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Ethylbenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Hexachlorobutadiene	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
2-Hexanone	ND	461	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Isopropylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
4-Isopropyltoluene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Methylene chloride	ND	230	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	230	461	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Naphthalene	ND	92.2	184	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
n-Propylbenzene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Styrene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0806**		
Tetrachloroethene (PCE)	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Toluene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2,3-Trichlorobenzene	ND	115	230	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2,4-Trichlorobenzene	ND	115	230	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1,1-Trichloroethane	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,1,2-Trichloroethane	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Trichloroethene (TCE)	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Trichlorofluoromethane	ND	46.1	92.2	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2,3-Trichloropropane	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,2,4-Trimethylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
1,3,5-Trimethylbenzene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Vinyl chloride	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
m,p-Xylene	ND	23.0	46.1	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
o-Xylene	ND	11.5	23.0	ug/kg dry	50	10/20/23 18:36	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*10/20/23 18:36*	*5035A/8260D*	
Toluene-d8 (Surr)			*96 %*	*80-120 %*	*1*	*10/20/23 18:36*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*104 %*	*79-120 %*	*1*	*10/20/23 18:36*	*5035A/8260D*	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0806**		
Acetone	ND	1180	1180	ug/kg dry	50	10/20/23 19:02	5035A/8260D	ICV-02
Acrylonitrile	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Benzene	ND	5.89	11.8	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Bromobenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Bromochloromethane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Bromodichloromethane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Bromoform	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Bromomethane	ND	589	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
2-Butanone (MEK)	ND	294	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
n-Butylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
sec-Butylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
tert-Butylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Carbon disulfide	ND	294	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Carbon tetrachloride	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	

GSI Water Solutions	Project: **Eatonville Landfill Characterization**	
55 SW Yamhill St, Ste 300	Project Number: **00171.074.008**	**Report ID:**
Portland, OR 97209	Project Manager: **Ben Johnson**	**A3J1366 - 11 10 23 1227**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0806**		
Chlorobenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Chloroethane	ND	294	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Chloroform	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Chloromethane	ND	147	294	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
2-Chlorotoluene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
4-Chlorotoluene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Dibromochloromethane	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	147	294	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Dibromomethane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2-Dichlorobenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,3-Dichlorobenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,4-Dichlorobenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Dichlorodifluoromethane	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1-Dichloroethane	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1-Dichloroethene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
cis-1,2-Dichloroethene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
trans-1,2-Dichloroethene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2-Dichloropropane	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,3-Dichloropropane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
2,2-Dichloropropane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1-Dichloropropene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
cis-1,3-Dichloropropene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
trans-1,3-Dichloropropene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Ethylbenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Hexachlorobutadiene	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
2-Hexanone	ND	589	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Isopropylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
4-Isopropyltoluene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Methylene chloride	ND	294	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	294	589	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	

Philip Nerenberg

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0806**		
Naphthalene	ND	118	235	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
n-Propylbenzene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Styrene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Tetrachloroethene (PCE)	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Toluene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2,3-Trichlorobenzene	ND	147	294	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2,4-Trichlorobenzene	ND	147	294	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1,1-Trichloroethane	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,1,2-Trichloroethane	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Trichloroethene (TCE)	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Trichlorofluoromethane	ND	58.9	118	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2,3-Trichloropropane	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,2,4-Trimethylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
1,3,5-Trimethylbenzene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Vinyl chloride	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
m,p-Xylene	ND	29.4	58.9	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
o-Xylene	ND	14.7	29.4	ug/kg dry	50	10/20/23 19:02	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*10/20/23 19:02*	*5035A/8260D*	
Toluene-d8 (Surr)			*96 %*	*80-120 %*	*1*	*10/20/23 19:02*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*103 %*	*79-120 %*	*1*	*10/20/23 19:02*	*5035A/8260D*	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J0806**		
Acetone	ND	1320	1320	ug/kg dry	50	10/20/23 19:28	5035A/8260D	ICV-02
Acrylonitrile	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Benzene	ND	6.59	13.2	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Bromobenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Bromochloromethane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Bromodichloromethane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Bromoform	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Bromomethane	ND	659	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
2-Butanone (MEK)	ND	329	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	

ANALYTICAL REPORT

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J0806**		
n-Butylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
sec-Butylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
tert-Butylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Carbon disulfide	ND	329	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Carbon tetrachloride	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Chlorobenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Chloroethane	ND	329	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Chloroform	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Chloromethane	ND	165	329	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
2-Chlorotoluene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
4-Chlorotoluene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Dibromochloromethane	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	165	329	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Dibromomethane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2-Dichlorobenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,3-Dichlorobenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,4-Dichlorobenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Dichlorodifluoromethane	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1-Dichloroethane	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1-Dichloroethene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
cis-1,2-Dichloroethene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
trans-1,2-Dichloroethene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2-Dichloropropane	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,3-Dichloropropane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
2,2-Dichloropropane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1-Dichloropropene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
cis-1,3-Dichloropropene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
trans-1,3-Dichloropropene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Ethylbenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Hexachlorobutadiene	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
2-Hexanone	ND	659	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

TP-15-NS-9.0-10.0-20231012 (A3J1366-12) **Matrix: Soil** **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Isopropylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
4-Isopropyltoluene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Methylene chloride	ND	329	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	329	659	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Naphthalene	ND	132	264	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
n-Propylbenzene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Styrene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Tetrachloroethene (PCE)	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Toluene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2,3-Trichlorobenzene	ND	165	329	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2,4-Trichlorobenzene	ND	165	329	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1,1-Trichloroethane	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,1,2-Trichloroethane	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Trichloroethene (TCE)	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Trichlorofluoromethane	ND	65.9	132	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2,3-Trichloropropane	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,2,4-Trimethylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
1,3,5-Trimethylbenzene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Vinyl chloride	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
m,p-Xylene	ND	32.9	65.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
o-Xylene	ND	16.5	32.9	ug/kg dry	50	10/20/23 19:28	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*10/20/23 19:28*	*5035A/8260D*	
Toluene-d8 (Surr)			*96 %*	*80-120 %*	*1*	*10/20/23 19:28*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*104 %*	*79-120 %*	*1*	*10/20/23 19:28*	*5035A/8260D*	

TP-07-IM-14.0-15.0-20231011 (A3J1366-14) **Matrix: Soil** **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Acetone	ND	1020	1020	ug/kg dry	50	10/20/23 19:54	5035A/8260D	ICV-02
Acrylonitrile	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Benzene	ND	5.09	10.2	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Bromobenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J0806**		
Bromochloromethane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Bromodichloromethane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Bromoform	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Bromomethane	ND	509	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
2-Butanone (MEK)	ND	254	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
n-Butylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
sec-Butylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
tert-Butylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Carbon disulfide	ND	254	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Carbon tetrachloride	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Chlorobenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Chloroethane	ND	254	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Chloroform	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Chloromethane	ND	127	254	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
2-Chlorotoluene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
4-Chlorotoluene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Dibromochloromethane	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	127	254	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Dibromomethane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2-Dichlorobenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,3-Dichlorobenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,4-Dichlorobenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Dichlorodifluoromethane	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1-Dichloroethane	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1-Dichloroethene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
cis-1,2-Dichloroethene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
trans-1,2-Dichloroethene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2-Dichloropropane	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,3-Dichloropropane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
2,2-Dichloropropane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1-Dichloropropene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

TP-07-IM-14.0-15.0-20231011 (A3J1366-14) **Matrix: Soil** **Batch: 23J0806**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
cis-1,3-Dichloropropene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
trans-1,3-Dichloropropene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Ethylbenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Hexachlorobutadiene	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
2-Hexanone	ND	509	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Isopropylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
4-Isopropyltoluene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Methylene chloride	ND	254	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
4-Methyl-2-pentanone (MiBK)	ND	254	509	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Naphthalene	ND	102	204	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
n-Propylbenzene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Styrene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Tetrachloroethene (PCE)	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Toluene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2,3-Trichlorobenzene	ND	127	254	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2,4-Trichlorobenzene	ND	127	254	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1,1-Trichloroethane	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,1,2-Trichloroethane	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Trichloroethene (TCE)	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Trichlorofluoromethane	ND	50.9	102	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2,3-Trichloropropane	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,2,4-Trimethylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
1,3,5-Trimethylbenzene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Vinyl chloride	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
m,p-Xylene	ND	25.4	50.9	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
o-Xylene	ND	12.7	25.4	ug/kg dry	50	10/20/23 19:54	5035A/8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*10/20/23 19:54*	*5035A/8260D*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*10/20/23 19:54*	*5035A/8260D*	
4-Bromofluorobenzene (Surr)			*103 %*	*79-120 %*	*1*	*10/20/23 19:54*	*5035A/8260D*	

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-01-0.0-2.0-10102023 (A3J1366-01)				**Matrix: Soil**		**Batch: 23J0900**		**C-07**
Aroclor 1016	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1221	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1232	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1242	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1248	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1254	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Aroclor 1260	ND	9.77	19.5	ug/kg dry	1	10/24/23 18:14	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 65 %*		*Limits: 60-125 %*	*1*	*10/24/23 18:14*	*EPA 8082A*	
WS-02-0.0-2.0-1010-2023 (A3J1366-02)				**Matrix: Soil**		**Batch: 23J0900**		**C-07**
Aroclor 1016	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1221	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1232	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1242	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1248	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1254	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Aroclor 1260	ND	8.91	17.8	ug/kg dry	1	10/24/23 19:25	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 75 %*		*Limits: 60-125 %*	*1*	*10/24/23 19:25*	*EPA 8082A*	
WS-03-0.0-2.0-10102023 (A3J1366-03)				**Matrix: Soil**		**Batch: 23J0900**		**C-07**
Aroclor 1016	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1221	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1232	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1242	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1248	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1254	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Aroclor 1260	ND	8.80	17.6	ug/kg dry	1	10/24/23 20:00	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 70 %*		*Limits: 60-125 %*	*1*	*10/24/23 20:00*	*EPA 8082A*	
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**		**Batch: 23J0900**		**C-07**
Aroclor 1016	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	
Aroclor 1221	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	
Aroclor 1232	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**		**Batch: 23J0900**		**C-07**
Aroclor 1242	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	
Aroclor 1248	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	
Aroclor 1254	ND	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	
Aroclor 1260	**25.2**	16.3	32.7	ug/kg dry	1	10/24/23 21:11	EPA 8082A	**J**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 40 %*	*Limits: 60-125 %*		*1*	*10/24/23 21:11*	*EPA 8082A*	*S-03*
WS-05-0.0-2.0-10102023 (A3J1366-05RE1)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1221	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1232	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1242	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1248	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1254	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Aroclor 1260	ND	14.3	28.7	ug/kg dry	1	10/26/23 18:41	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 73 %*	*Limits: 60-125 %*		*1*	*10/26/23 18:41*	*EPA 8082A*	
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Aroclor 1221	ND	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Aroclor 1232	ND	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Aroclor 1242	**85.0**	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	**P-09**
Aroclor 1248	ND	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Aroclor 1254	ND	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Aroclor 1260	**33.9**	5.78	11.6	ug/kg dry	1	10/26/23 19:16	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 90 %*	*Limits: 60-125 %*		*1*	*10/26/23 19:16*	*EPA 8082A*	
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Aroclor 1221	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Aroclor 1232	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Aroclor 1242	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Aroclor 1248	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Aroclor 1254	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1260	ND	5.40	10.8	ug/kg dry	1	10/26/23 19:52	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 89 %*		*Limits: 60-125 %*	*1*	*10/26/23 19:52*	*EPA 8082A*	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1221	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1232	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1242	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1248	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1254	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Aroclor 1260	ND	5.75	11.5	ug/kg dry	1	10/26/23 20:27	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 84 %*		*Limits: 60-125 %*	*1*	*10/26/23 20:27*	*EPA 8082A*	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1221	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1232	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1242	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1248	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1254	ND	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Aroclor 1260	**13.0**	5.94	11.9	ug/kg dry	1	10/26/23 21:03	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 88 %*		*Limits: 60-125 %*	*1*	*10/26/23 21:03*	*EPA 8082A*	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	
Aroclor 1221	ND	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	
Aroclor 1232	ND	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	
Aroclor 1242	ND	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	
Aroclor 1248	ND	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	
Aroclor 1254	**10.9**	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	**P-12**
Aroclor 1260	**12.2**	5.28	10.6	ug/kg dry	1	10/26/23 21:38	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 91 %*		*Limits: 60-125 %*	*1*	*10/26/23 21:38*	*EPA 8082A*	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1221	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1232	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1242	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1248	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1254	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Aroclor 1260	ND	5.30	10.6	ug/kg dry	1	10/26/23 22:49	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 81 %*		*Limits: 60-125 %*	*1*	*10/26/23 22:49*	*EPA 8082A*	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	
Aroclor 1221	ND	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	
Aroclor 1232	ND	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	
Aroclor 1242	**8.63**	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	**J**
Aroclor 1248	ND	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	
Aroclor 1254	**13.2**	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	**P-12**
Aroclor 1260	ND	5.53	11.1	ug/kg dry	1	10/26/23 23:24	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 75 %*		*Limits: 60-125 %*	*1*	*10/26/23 23:24*	*EPA 8082A*	
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	10.8	10.8	ug/kg dry	1	10/27/23 00:00	EPA 8082A	
Aroclor 1221	ND	5.39	10.8	ug/kg dry	1	10/27/23 00:00	EPA 8082A	
Aroclor 1232	ND	20.2	20.2	ug/kg dry	1	10/27/23 00:00	EPA 8082A	R-02
Aroclor 1242	ND	14.0	14.0	ug/kg dry	1	10/27/23 00:00	EPA 8082A	R-02
Aroclor 1248	ND	32.1	32.1	ug/kg dry	1	10/27/23 00:00	EPA 8082A	R-02
Aroclor 1254	**32.4**	5.39	10.8	ug/kg dry	1	10/27/23 00:00	EPA 8082A	**P-12**
Aroclor 1260	**25.8**	5.39	10.8	ug/kg dry	1	10/27/23 00:00	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 106 %*		*Limits: 60-125 %*	*1*	*10/27/23 00:00*	*EPA 8082A*	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	5.73	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	
Aroclor 1221	ND	5.73	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	
Aroclor 1232	ND	11.5	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

GSI Water Solutions	Project: **Eatonville Landfill Characterization**	
55 SW Yamhill St, Ste 300	Project Number: **00171.074.008**	**Report ID:**
Portland, OR 97209	Project Manager: **Ben Johnson**	**A3J1366 - 11 10 23 1227**

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1242	ND	5.73	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	
Aroclor 1248	ND	18.5	18.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	R-02
Aroclor 1254	**52.8**	5.73	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	**P-12**
Aroclor 1260	**27.9**	5.73	11.5	ug/kg dry	1	10/27/23 00:35	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 96 %*		*Limits: 60-125 %*	*1*	*10/27/23 00:35*	*EPA 8082A*	
TP-08-IM-4.0-5.0-20231011 (A3J1366-15RE1)				**Matrix: Soil**		**Batch: 23J1014**		**C-07**
Aroclor 1016	ND	94.7	94.7	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02
Aroclor 1221	ND	24.2	24.2	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02
Aroclor 1232	ND	155	155	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02
Aroclor 1242	ND	126	126	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02
Aroclor 1248	ND	79.3	79.3	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02
Aroclor 1254	ND	90.3	90.3	ug/kg dry	1	10/27/23 11:05	EPA 8082A	R-02, Q-42
Aroclor 1260	**82.9**	5.51	11.0	ug/kg dry	1	10/27/23 11:05	EPA 8082A	**Q-42**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 103 %*		*Limits: 60-125 %*	*1*	*10/27/23 11:05*	*EPA 8082A*	
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	29.2	29.2	ug/kg dry	1	10/26/23 19:35	EPA 8082A	R-02
Aroclor 1221	ND	10.8	10.8	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1232	ND	78.7	78.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	R-02
Aroclor 1242	ND	40.3	40.3	ug/kg dry	1	10/26/23 19:35	EPA 8082A	R-02
Aroclor 1248	ND	23.3	23.3	ug/kg dry	1	10/26/23 19:35	EPA 8082A	R-02
Aroclor 1254	**74.2**	5.38	10.8	ug/kg dry	1	10/26/23 19:35	EPA 8082A	**P-12**
Aroclor 1260	**53.6**	5.38	10.8	ug/kg dry	1	10/26/23 19:35	EPA 8082A	**P-12, Q-42**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 114 %*		*Limits: 60-125 %*	*1*	*10/26/23 19:35*	*EPA 8082A*	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	
Aroclor 1221	ND	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	
Aroclor 1232	ND	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	
Aroclor 1242	**54.8**	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	**P-12**
Aroclor 1248	ND	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	
Aroclor 1254	**78.4**	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	**P-12**

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1260	**26.6**	6.24	12.5	ug/kg dry	1	10/26/23 20:45	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 95 %*	*Limits: 60-125 %*		*1*	*10/26/23 20:45*	*EPA 8082A*	
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1221	ND	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1232	ND	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1242	**67.3**	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**P-12**
Aroclor 1248	ND	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1254	**38.1**	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**P-12**
Aroclor 1260	**17.8**	5.92	11.8	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 97 %*	*Limits: 60-125 %*		*1*	*10/26/23 21:20*	*EPA 8082A*	
TP-12-IM-9.0-10.0-20231012 (A3J1366-19RE1)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	
Aroclor 1221	ND	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	
Aroclor 1232	ND	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	
Aroclor 1242	ND	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	
Aroclor 1248	ND	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	
Aroclor 1254	**298**	56.9	114	ug/kg dry	10	10/27/23 11:05	EPA 8082A	**P-12**
Aroclor 1260	ND	426	426	ug/kg dry	10	10/27/23 11:05	EPA 8082A	R-02
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 106 %*	*Limits: 60-125 %*		*10*	*10/27/23 11:05*	*EPA 8082A*	*S-05*
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	11.1	11.1	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1221	ND	11.1	11.1	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1232	ND	28.5	28.5	ug/kg dry	1	10/26/23 22:31	EPA 8082A	R-02
Aroclor 1242	ND	14.6	14.6	ug/kg dry	1	10/26/23 22:31	EPA 8082A	R-02
Aroclor 1248	ND	11.1	11.1	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1254	**24.3**	5.57	11.1	ug/kg dry	1	10/26/23 22:31	EPA 8082A	**P-12**
Aroclor 1260	**20.3**	5.57	11.1	ug/kg dry	1	10/26/23 22:31	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 99 %*	*Limits: 60-125 %*		*1*	*10/26/23 22:31*	*EPA 8082A*	
TP-10-IM-9.0-10.0-20231011 (A3J1366-21)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-IM-9.0-10.0-20231011 (A3J1366-21)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	34.0	34.0	ug/kg dry	1	10/26/23 23:06	EPA 8082A	R-02
Aroclor 1221	ND	23.1	23.1	ug/kg dry	1	10/26/23 23:06	EPA 8082A	R-02
Aroclor 1232	ND	91.5	91.5	ug/kg dry	1	10/26/23 23:06	EPA 8082A	R-02
Aroclor 1242	ND	46.8	46.8	ug/kg dry	1	10/26/23 23:06	EPA 8082A	R-02
Aroclor 1248	ND	31.4	31.4	ug/kg dry	1	10/26/23 23:06	EPA 8082A	R-02
Aroclor 1254	**82.3**	6.34	12.7	ug/kg dry	1	10/26/23 23:06	EPA 8082A	**P-12**
Aroclor 1260	**40.9**	6.34	12.7	ug/kg dry	1	10/26/23 23:06	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery:*	*111 %*	*Limits: 60-125 %*	*1*	*10/26/23 23:06*	*EPA 8082A*	
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	20.8	20.8	ug/kg dry	1	10/26/23 19:00	EPA 8082A	R-02
Aroclor 1221	ND	5.86	11.7	ug/kg dry	1	10/26/23 19:00	EPA 8082A	
Aroclor 1232	ND	52.4	52.4	ug/kg dry	1	10/26/23 19:00	EPA 8082A	R-02
Aroclor 1242	ND	27.4	27.4	ug/kg dry	1	10/26/23 19:00	EPA 8082A	R-02
Aroclor 1248	ND	46.3	46.3	ug/kg dry	1	10/26/23 19:00	EPA 8082A	R-02
Aroclor 1254	ND	70.0	70.0	ug/kg dry	1	10/26/23 19:00	EPA 8082A	R-02
Aroclor 1260	**98.8**	5.86	11.7	ug/kg dry	1	10/26/23 19:00	EPA 8082A	**P-09**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery:*	*101 %*	*Limits: 60-125 %*	*1*	*10/26/23 19:00*	*EPA 8082A*	
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1221	ND	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1232	ND	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1242	ND	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1248	ND	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	
Aroclor 1254	**128**	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	**P-10**
Aroclor 1260	**39.6**	5.35	10.7	ug/kg dry	1	10/26/23 19:35	EPA 8082A	**P-10**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery:*	*99 %*	*Limits: 60-125 %*	*1*	*10/26/23 19:35*	*EPA 8082A*	
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	17.2	17.2	ug/kg dry	1	10/26/23 20:10	EPA 8082A	R-02
Aroclor 1221	ND	5.81	11.6	ug/kg dry	1	10/26/23 20:10	EPA 8082A	
Aroclor 1232	ND	26.6	26.6	ug/kg dry	1	10/26/23 20:10	EPA 8082A	R-02

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1242	ND	22.1	22.1	ug/kg dry	1	10/26/23 20:10	EPA 8082A	R-02
Aroclor 1248	ND	5.81	11.6	ug/kg dry	1	10/26/23 20:10	EPA 8082A	
Aroclor 1254	**74.3**	5.81	11.6	ug/kg dry	1	10/26/23 20:10	EPA 8082A	**P-12**
Aroclor 1260	**25.2**	5.81	11.6	ug/kg dry	1	10/26/23 20:10	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 92 %*		*Limits: 60-125 %*	*1*	*10/26/23 20:10*	*EPA 8082A*	
TP-04-IM-4.0-5.0-20231010 (A3J1366-25RE1)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	11.0	11.0	ug/kg dry	1	10/27/23 09:54	EPA 8082A	
Aroclor 1221	ND	11.0	11.0	ug/kg dry	1	10/27/23 09:54	EPA 8082A	
Aroclor 1232	ND	35.2	35.2	ug/kg dry	1	10/27/23 09:54	EPA 8082A	R-02
Aroclor 1242	ND	15.0	15.0	ug/kg dry	1	10/27/23 09:54	EPA 8082A	R-02
Aroclor 1248	ND	12.6	12.6	ug/kg dry	1	10/27/23 09:54	EPA 8082A	R-02
Aroclor 1254	**40.1**	5.52	11.0	ug/kg dry	1	10/27/23 09:54	EPA 8082A	**P-12**
Aroclor 1260	**12.9**	5.52	11.0	ug/kg dry	1	10/27/23 09:54	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 99 %*		*Limits: 60-125 %*	*1*	*10/27/23 09:54*	*EPA 8082A*	
TP-03-IM-14.0-15.0-20231010 (A3J1366-26)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1221	ND	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1232	ND	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1242	**10.7**	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**J**
Aroclor 1248	ND	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	
Aroclor 1254	**46.7**	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**P-12**
Aroclor 1260	**13.7**	5.63	11.3	ug/kg dry	1	10/26/23 21:20	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 89 %*		*Limits: 60-125 %*	*1*	*10/26/23 21:20*	*EPA 8082A*	
TP-02-IM-4.0-5.0-20231010 (A3J1366-27RE1)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1221	ND	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1232	ND	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1242	**730**	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	**P-12**
Aroclor 1248	ND	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1254	**269**	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	**P-12**

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-4.0-5.0-20231010 (A3J1366-27RE1)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1260	**64.1**	30.4	60.8	ug/kg dry	5	10/27/23 10:30	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 103 %*		*Limits: 60-125 %*	*5*	*10/27/23 10:30*	*EPA 8082A*	
TP-01-IM-5.0-6.0-20231010 (A3J1366-28)				**Matrix: Soil**		**Batch: 23J1015**		**C-07**
Aroclor 1016	ND	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1221	ND	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1232	ND	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1242	ND	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1248	ND	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	
Aroclor 1254	**450**	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	**P-12**
Aroclor 1260	**67.0**	6.45	12.9	ug/kg dry	1	10/26/23 22:31	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 91 %*		*Limits: 60-125 %*	*1*	*10/26/23 22:31*	*EPA 8082A*	

GSI Water Solutions	Project: **Eatonville Landfill Characterization**	
55 SW Yamhill St, Ste 300	Project Number: **00171.074.008**	**Report ID:**
Portland, OR 97209	Project Manager: **Ben Johnson**	**A3J1366 - 11 10 23 1227**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)				**Matrix: Soil**		**Batch: 23J0793**		**R-04**
Acenaphthene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Acenaphthylene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Anthracene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benz(a)anthracene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzo(a)pyrene	ND	92.7	185	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzo(b)fluoranthene	ND	92.7	185	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzo(k)fluoranthene	ND	92.7	185	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzo(g,h,i)perylene	**100**	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	**J, Q-42**
Chrysene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Dibenz(a,h)anthracene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Fluoranthene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Fluorene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Indeno(1,2,3-cd)pyrene	**68.1**	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	**J, Q-42**
1-Methylnaphthalene	ND	124	247	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Methylnaphthalene	ND	124	247	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Naphthalene	ND	124	247	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Phenanthrene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Pyrene	**71.3**	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	**J, Q-42**
Carbazole	ND	92.7	185	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Dibenzofuran	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Chlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Chloro-3-methylphenol	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4-Dichlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4-Dimethylphenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4-Dinitrophenol	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Methylphenol	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
3+4-Methylphenol(s)	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Nitrophenol	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Nitrophenol	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Pentachlorophenol (PCP)	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Phenol	ND	124	247	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)				**Matrix: Soil**		**Batch: 23J0793**		**R-04**
2,3,5,6-Tetrachlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4,5-Trichlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4,6-Trichlorophenol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	927	1850	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Butyl benzyl phthalate	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Diethylphthalate	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Dimethylphthalate	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Di-n-butylphthalate	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Di-n-octyl phthalate	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
N-Nitrosodimethylamine	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
N-Nitrosodiphenylamine	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Hexachlorobenzene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Hexachlorobutadiene	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Hexachlorocyclopentadiene	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Hexachloroethane	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Chloronaphthalene	ND	61.7	124	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,2,4-Trichlorobenzene	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Bromophenyl phenyl ether	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Aniline	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Chloroaniline	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2-Nitroaniline	ND	1240	2470	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
3-Nitroaniline	ND	1240	2470	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
4-Nitroaniline	ND	1240	2470	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Nitrobenzene	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,4-Dinitrotoluene	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
2,6-Dinitrotoluene	ND	617	1240	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzoic acid	ND	7740	15400	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Benzyl alcohol	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	

Philip Nerenberg

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)				**Matrix: Soil**		**Batch: 23J0793**		**R-04**
Isophorone	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Azobenzene (1,2-DPH)	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
3,3'-Dichlorobenzidine	ND	1240	2470	ug/kg dry	40	10/23/23 13:41	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,3-Dinitrobenzene	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,4-Dinitrobenzene	ND	1540	3090	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Pyridine	ND	309	617	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,2-Dichlorobenzene	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,3-Dichlorobenzene	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
1,4-Dichlorobenzene	ND	154	309	ug/kg dry	40	10/23/23 13:41	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery: 90 %*	*Limits: 37-122 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
2-Fluorobiphenyl (Surr)		*102 %*	*44-120 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
Phenol-d6 (Surr)		*85 %*	*33-122 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
p-Terphenyl-d14 (Surr)		*103 %*	*54-127 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
2-Fluorophenol (Surr)		*74 %*	*35-120 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
2,4,6-Tribromophenol (Surr)		*106 %*	*39-132 %*		*40*	*10/23/23 13:41*	*EPA 8270E*	*S-05*
TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)				**Matrix: Soil**		**Batch: 23J0793**		
Acenaphthene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Acenaphthylene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Anthracene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benz(a)anthracene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzo(a)pyrene	ND	2.23	4.45	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzo(b)fluoranthene	ND	2.23	4.45	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzo(k)fluoranthene	ND	2.23	4.45	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzo(g,h,i)perylene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Chrysene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Dibenz(a,h)anthracene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Fluoranthene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Fluorene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1-Methylnaphthalene	ND	2.97	5.93	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Methylnaphthalene	ND	2.97	5.93	ug/kg dry	1	10/24/23 18:23	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)				**Matrix: Soil**		**Batch: 23J0793**		
Naphthalene	ND	2.97	5.93	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Phenanthrene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Pyrene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Carbazole	ND	2.23	4.45	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Dibenzofuran	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Chlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Chloro-3-methylphenol	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4-Dichlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4-Dimethylphenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4-Dinitrophenol	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Methylphenol	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
3+4-Methylphenol(s)	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Nitrophenol	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Nitrophenol	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Pentachlorophenol (PCP)	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Phenol	ND	2.97	5.93	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4,5-Trichlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4,6-Trichlorophenol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	22.3	44.5	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Butyl benzyl phthalate	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Diethylphthalate	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Dimethylphthalate	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Di-n-butylphthalate	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Di-n-octyl phthalate	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
N-Nitrosodimethylamine	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
N-Nitrosodiphenylamine	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2) **Matrix: Soil** **Batch: 23J0793**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Hexachlorobenzene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Hexachlorobutadiene	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Hexachlorocyclopentadiene	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Hexachloroethane	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Chloronaphthalene	ND	1.48	2.97	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,2,4-Trichlorobenzene	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Bromophenyl phenyl ether	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Aniline	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Chloroaniline	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2-Nitroaniline	ND	29.7	59.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
3-Nitroaniline	ND	29.7	59.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
4-Nitroaniline	ND	29.7	59.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Nitrobenzene	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,4-Dinitrotoluene	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
2,6-Dinitrotoluene	ND	14.8	29.7	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzoic acid	ND	186	371	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Benzyl alcohol	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Isophorone	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Azobenzene (1,2-DPH)	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
3,3'-Dichlorobenzidine	ND	29.7	59.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,3-Dinitrobenzene	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,4-Dinitrobenzene	ND	37.1	74.3	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Pyridine	ND	7.43	14.8	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,2-Dichlorobenzene	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,3-Dichlorobenzene	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
1,4-Dichlorobenzene	ND	3.71	7.43	ug/kg dry	1	10/24/23 18:23	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*112 %*	*Limits: 37-122 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*101 %*	*44-120 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	
Phenol-d6 (Surr)			*115 %*	*33-122 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*95 %*	*54-127 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)				**Matrix: Soil**		**Batch: 23J0793**		
Surrogate: 2-Fluorophenol (Surr)			*Recovery: 93 %*	*Limits: 35-120 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*118 %*	*39-132 %*	*1*	*10/24/23 18:23*	*EPA 8270E*	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08RE2)				**Matrix: Soil**		**Batch: 23J0901**		
Acenaphthene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Acenaphthylene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Anthracene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benz(a)anthracene	**3.11**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzo(a)pyrene	**4.55**	2.21	4.41	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzo(b)fluoranthene	**4.56**	2.21	4.41	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzo(k)fluoranthene	ND	2.21	4.41	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzo(g,h,i)perylene	**2.49**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	**J**
Chrysene	**3.54**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Dibenz(a,h)anthracene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Fluoranthene	**4.20**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Fluorene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Indeno(1,2,3-cd)pyrene	**2.42**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	**J**
1-Methylnaphthalene	ND	2.95	5.88	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Methylnaphthalene	ND	2.95	5.88	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Naphthalene	ND	2.95	5.88	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Phenanthrene	**2.03**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	**J**
Pyrene	**4.17**	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Carbazole	ND	2.21	4.41	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Dibenzofuran	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Chlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4-Chloro-3-methylphenol	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,4-Dichlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,4-Dimethylphenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,4-Dinitrophenol	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Methylphenol	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
3+4-Methylphenol(s)	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Nitrophenol	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

TP-05-NS-4.0-5.0-20231011 (A3J1366-08RE2) **Matrix: Soil** **Batch: 23J0901**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
4-Nitrophenol	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Pentachlorophenol (PCP)	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Phenol	ND	2.95	5.88	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,4,5-Trichlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,4,6-Trichlorophenol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	22.1	44.1	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Butyl benzyl phthalate	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Diethylphthalate	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Dimethylphthalate	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Di-n-butylphthalate	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Di-n-octyl phthalate	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
N-Nitrosodimethylamine	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
N-Nitrosodiphenylamine	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Hexachlorobenzene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Hexachlorobutadiene	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Hexachlorocyclopentadiene	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Hexachloroethane	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Chloronaphthalene	ND	1.47	2.95	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,2,4-Trichlorobenzene	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4-Bromophenyl phenyl ether	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Aniline	ND	14.7	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4-Chloroaniline	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2-Nitroaniline	ND	29.5	58.8	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
3-Nitroaniline	ND	29.5	58.8	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
4-Nitroaniline	ND	29.5	58.8	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Nitrobenzene	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-05-NS-4.0-5.0-20231011 (A3J1366-08RE2)				**Matrix: Soil**		**Batch: 23J0901**		
2,4-Dinitrotoluene	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
2,6-Dinitrotoluene	ND	14.7	29.5	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzoic acid	ND	184	367	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Benzyl alcohol	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Isophorone	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Azobenzene (1,2-DPH)	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
3,3'-Dichlorobenzidine	ND	29.5	58.8	ug/kg dry	1	10/26/23 15:25	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,3-Dinitrobenzene	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,4-Dinitrobenzene	ND	36.7	73.6	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Pyridine	ND	7.36	14.7	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,2-Dichlorobenzene	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,3-Dichlorobenzene	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
1,4-Dichlorobenzene	ND	3.67	7.36	ug/kg dry	1	10/26/23 15:25	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*94 %*	*Limits: 37-122 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*91 %*	*44-120 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
Phenol-d6 (Surr)			*95 %*	*33-122 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*88 %*	*54-127 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
2-Fluorophenol (Surr)			*77 %*	*35-120 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*109 %*	*39-132 %*	*1*	*10/26/23 15:25*	*EPA 8270E*	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1)				**Matrix: Soil**		**Batch: 23J0901**		
Acenaphthene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Acenaphthylene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Anthracene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benz(a)anthracene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzo(a)pyrene	ND	9.55	19.1	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzo(b)fluoranthene	ND	9.55	19.1	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzo(k)fluoranthene	ND	9.55	19.1	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzo(g,h,i)perylene	**6.91**	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	**J**
Chrysene	**8.65**	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	**J**
Dibenz(a,h)anthracene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Fluoranthene	**6.68**	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	**J**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1) **Matrix: Soil** **Batch: 23J0901**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Fluorene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1-Methylnaphthalene	ND	12.7	25.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Methylnaphthalene	ND	12.7	25.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Naphthalene	**24.5**	12.7	25.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	**J**
Phenanthrene	**13.8**	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Pyrene	**7.49**	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	**J**
Carbazole	ND	9.55	19.1	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Dibenzofuran	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Chlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Chloro-3-methylphenol	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4-Dichlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4-Dimethylphenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4-Dinitrophenol	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Methylphenol	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
3+4-Methylphenol(s)	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Nitrophenol	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Nitrophenol	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Pentachlorophenol (PCP)	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Phenol	ND	12.7	25.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4,5-Trichlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4,6-Trichlorophenol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	95.5	191	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Butyl benzyl phthalate	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Diethylphthalate	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Dimethylphthalate	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Di-n-butylphthalate	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Di-n-octyl phthalate	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
N-Nitrosodimethylamine	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1)				**Matrix: Soil**		**Batch: 23J0901**		
N-Nitrosodiphenylamine	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Hexachlorobenzene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Hexachlorobutadiene	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Hexachlorocyclopentadiene	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Hexachloroethane	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Chloronaphthalene	ND	6.35	12.7	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,2,4-Trichlorobenzene	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Bromophenyl phenyl ether	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Aniline	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Chloroaniline	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2-Nitroaniline	ND	127	255	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
3-Nitroaniline	ND	127	255	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
4-Nitroaniline	ND	127	255	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Nitrobenzene	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,4-Dinitrotoluene	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
2,6-Dinitrotoluene	ND	63.5	127	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzoic acid	ND	797	1590	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Benzyl alcohol	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Isophorone	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Azobenzene (1,2-DPH)	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
3,3'-Dichlorobenzidine	ND	127	255	ug/kg dry	4	10/25/23 18:23	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,3-Dinitrobenzene	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,4-Dinitrobenzene	ND	159	319	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
Pyridine	ND	31.9	63.5	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,2-Dichlorobenzene	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,3-Dichlorobenzene	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	
1,4-Dichlorobenzene	ND	15.9	31.9	ug/kg dry	4	10/25/23 18:23	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1)				**Matrix: Soil**		**Batch: 23J0901**		
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*101 %*	*Limits: 37-122 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*90 %*	*44-120 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
Phenol-d6 (Surr)			*97 %*	*33-122 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*98 %*	*54-127 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
2-Fluorophenol (Surr)			*81 %*	*35-120 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*110 %*	*39-132 %*	*4*	*10/25/23 18:23*	*EPA 8270E*	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
Acenaphthene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Acenaphthylene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Anthracene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Benz(a)anthracene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Benzo(a)pyrene	**348**	220	439	ug/kg dry	40	10/26/23 03:21	EPA 8270E	**J**
Benzo(b)fluoranthene	**262**	220	439	ug/kg dry	40	10/26/23 03:21	EPA 8270E	**J**
Benzo(k)fluoranthene	ND	220	439	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Benzo(g,h,i)perylene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Chrysene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Dibenz(a,h)anthracene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Fluoranthene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Fluorene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1-Methylnaphthalene	ND	293	586	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2-Methylnaphthalene	ND	293	586	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Naphthalene	ND	293	586	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Phenanthrene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Pyrene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Carbazole	ND	220	439	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Dibenzofuran	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2-Chlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Chloro-3-methylphenol	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4-Dichlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4-Dimethylphenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4-Dinitrophenol	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
2-Methylphenol	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
3+4-Methylphenol(s)	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2-Nitrophenol	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Nitrophenol	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Pentachlorophenol (PCP)	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Phenol	ND	293	586	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4,5-Trichlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4,6-Trichlorophenol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	2200	4390	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Butyl benzyl phthalate	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Diethylphthalate	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Dimethylphthalate	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Di-n-butylphthalate	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Di-n-octyl phthalate	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
N-Nitrosodimethylamine	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
N-Nitrosodiphenylamine	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Hexachlorobenzene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Hexachlorobutadiene	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Hexachlorocyclopentadiene	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Hexachloroethane	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2-Chloronaphthalene	ND	146	293	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,2,4-Trichlorobenzene	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Bromophenyl phenyl ether	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Aniline	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Chloroaniline	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2-Nitroaniline	ND	2930	5860	ug/kg dry	40	10/26/23 03:21	EPA 8270E	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
3-Nitroaniline	ND	2930	5860	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
4-Nitroaniline	ND	2930	5860	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Nitrobenzene	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,4-Dinitrotoluene	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
2,6-Dinitrotoluene	ND	1460	2930	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Benzoic acid	ND	18300	36600	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Benzyl alcohol	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Isophorone	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Azobenzene (1,2-DPH)	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
3,3'-Dichlorobenzidine	ND	2930	5860	ug/kg dry	40	10/26/23 03:21	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,3-Dinitrobenzene	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,4-Dinitrobenzene	ND	3660	7330	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Pyridine	ND	733	1460	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,2-Dichlorobenzene	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,3-Dichlorobenzene	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
1,4-Dichlorobenzene	ND	366	733	ug/kg dry	40	10/26/23 03:21	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*80 %*	*Limits: 37-122 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
2-Fluorobiphenyl (Surr)			*101 %*	*44-120 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
Phenol-d6 (Surr)			*84 %*	*33-122 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
p-Terphenyl-d14 (Surr)			*101 %*	*54-127 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
2-Fluorophenol (Surr)			*84 %*	*35-120 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
2,4,6-Tribromophenol (Surr)			*219 %*	*39-132 %*	*40*	*10/26/23 03:21*	*EPA 8270E*	*S-05*
TP-10-NS-12.0-13.0-20231011 (A3J1366-11RE2)				**Matrix: Soil**		**Batch: 23J0901**		
Acenaphthene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Acenaphthylene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Anthracene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benz(a)anthracene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzo(a)pyrene	ND	2.20	4.41	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzo(b)fluoranthene	ND	2.20	4.41	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzo(k)fluoranthene	ND	2.20	4.41	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzo(g,h,i)perylene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11RE2)				**Matrix: Soil**		**Batch: 23J0901**		
Chrysene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Dibenz(a,h)anthracene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Fluoranthene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Fluorene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1-Methylnaphthalene	ND	2.94	5.87	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2-Methylnaphthalene	ND	2.94	5.87	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Naphthalene	ND	2.94	5.87	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Phenanthrene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Pyrene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Carbazole	ND	2.20	4.41	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Dibenzofuran	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2-Chlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Chloro-3-methylphenol	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4-Dichlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4-Dimethylphenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4-Dinitrophenol	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2-Methylphenol	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
3+4-Methylphenol(s)	**4.18**	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	**J**
2-Nitrophenol	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Nitrophenol	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Pentachlorophenol (PCP)	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Phenol	ND	2.94	5.87	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4,5-Trichlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4,6-Trichlorophenol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Bis(2-ethylhexyl)phthalate	**63.6**	22.0	44.1	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Butyl benzyl phthalate	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Diethylphthalate	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Dimethylphthalate	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Di-n-butylphthalate	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11RE2)				**Matrix: Soil**		**Batch: 23J0901**		
Di-n-octyl phthalate	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
N-Nitrosodimethylamine	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
N-Nitrosodiphenylamine	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Hexachlorobenzene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Hexachlorobutadiene	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Hexachlorocyclopentadiene	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Hexachloroethane	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2-Chloronaphthalene	ND	1.47	2.94	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1,2,4-Trichlorobenzene	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Bromophenyl phenyl ether	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Aniline	ND	14.7	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Chloroaniline	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2-Nitroaniline	ND	29.4	58.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
3-Nitroaniline	ND	29.4	58.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
4-Nitroaniline	ND	29.4	58.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Nitrobenzene	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,4-Dinitrotoluene	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
2,6-Dinitrotoluene	ND	14.7	29.4	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzoic acid	ND	184	367	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Benzyl alcohol	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Isophorone	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Azobenzene (1,2-DPH)	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
3,3'-Dichlorobenzidine	ND	29.4	58.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1,3-Dinitrobenzene	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1,4-Dinitrobenzene	ND	36.7	73.5	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Pyridine	ND	7.35	14.7	ug/kg dry	1	10/26/23 15:59	EPA 8270E	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-NS-12.0-13.0-20231011 (A3J1366-11RE2)				**Matrix: Soil**		**Batch: 23J0901**		
1,2-Dichlorobenzene	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1,3-Dichlorobenzene	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
1,4-Dichlorobenzene	ND	3.67	7.35	ug/kg dry	1	10/26/23 15:59	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*96 %*	*Limits: 37-122 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*88 %*	*44-120 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
Phenol-d6 (Surr)			*99 %*	*33-122 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*90 %*	*54-127 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
2-Fluorophenol (Surr)			*79 %*	*35-120 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*111 %*	*39-132 %*	*1*	*10/26/23 15:59*	*EPA 8270E*	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12RE1)				**Matrix: Soil**		**Batch: 23J0901**		
Acenaphthene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Acenaphthylene	**10.6**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	**J**
Anthracene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benz(a)anthracene	**27.2**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benzo(a)pyrene	**56.5**	8.60	17.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benzo(b)fluoranthene	**58.3**	8.60	17.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benzo(k)fluoranthene	**26.8**	8.60	17.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	**M-05**
Benzo(g,h,i)perylene	**40.5**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Chrysene	**37.3**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Dibenz(a,h)anthracene	**7.12**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	**J**
Fluoranthene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Fluorene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Indeno(1,2,3-cd)pyrene	**33.2**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1-Methylnaphthalene	ND	11.5	22.9	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Methylnaphthalene	ND	11.5	22.9	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Naphthalene	ND	11.5	22.9	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Phenanthrene	**13.6**	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Pyrene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Carbazole	ND	8.60	17.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Dibenzofuran	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Chlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4-Chloro-3-methylphenol	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-NS-9.0-10.0-20231012 (A3J1366-12RE1)				**Matrix: Soil**		**Batch: 23J0901**		
2,4-Dichlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,4-Dimethylphenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,4-Dinitrophenol	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Methylphenol	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
3+4-Methylphenol(s)	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Nitrophenol	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4-Nitrophenol	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Pentachlorophenol (PCP)	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Phenol	ND	11.5	22.9	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,4,5-Trichlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,4,6-Trichlorophenol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	86.0	172	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Butyl benzyl phthalate	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Diethylphthalate	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Dimethylphthalate	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Di-n-butylphthalate	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Di-n-octyl phthalate	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
N-Nitrosodimethylamine	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
N-Nitrosodiphenylamine	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Hexachlorobenzene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Hexachlorobutadiene	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Hexachlorocyclopentadiene	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Hexachloroethane	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Chloronaphthalene	ND	5.72	11.5	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,2,4-Trichlorobenzene	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4-Bromophenyl phenyl ether	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-NS-9.0-10.0-20231012 (A3J1366-12RE1)				**Matrix: Soil**		**Batch: 23J0901**		
4-Chlorophenyl phenyl ether	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Aniline	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4-Chloroaniline	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2-Nitroaniline	ND	115	229	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
3-Nitroaniline	ND	115	229	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
4-Nitroaniline	ND	115	229	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Nitrobenzene	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,4-Dinitrotoluene	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
2,6-Dinitrotoluene	ND	57.2	115	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benzoic acid	ND	718	1430	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Benzyl alcohol	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Isophorone	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Azobenzene (1,2-DPH)	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
3,3'-Dichlorobenzidine	ND	115	229	ug/kg dry	4	10/25/23 21:22	EPA 8270E	Q-52
1,2-Dinitrobenzene	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,3-Dinitrobenzene	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,4-Dinitrobenzene	ND	143	287	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Pyridine	ND	28.7	57.2	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,2-Dichlorobenzene	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,3-Dichlorobenzene	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
1,4-Dichlorobenzene	ND	14.3	28.7	ug/kg dry	4	10/25/23 21:22	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*74 %*	*Limits: 37-122 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*79 %*	*44-120 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
Phenol-d6 (Surr)			*80 %*	*33-122 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*98 %*	*54-127 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
2-Fluorophenol (Surr)			*75 %*	*35-120 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*86 %*	*39-132 %*	*4*	*10/25/23 21:22*	*EPA 8270E*	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
Benzo(g,h,i)perylene	ND	148	297	ug/kg dry	40	10/24/23 21:43	EPA 8270E	
Dibenz(a,h)anthracene	ND	148	297	ug/kg dry	40	10/24/23 21:43	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	148	297	ug/kg dry	40	10/24/23 21:43	EPA 8270E	

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
Acenaphthene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Acenaphthylene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Anthracene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Benz(a)anthracene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Benzo(a)pyrene	**133**	111	222	ug/kg dry	20	10/26/23 03:54	EPA 8270E	**J**
Benzo(b)fluoranthene	**118**	111	222	ug/kg dry	20	10/26/23 03:54	EPA 8270E	**J**
Benzo(k)fluoranthene	ND	111	222	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Chrysene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Fluoranthene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Fluorene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1-Methylnaphthalene	ND	148	296	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Methylnaphthalene	ND	148	296	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Naphthalene	ND	148	296	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Phenanthrene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Pyrene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Carbazole	ND	111	222	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Dibenzofuran	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Chlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Chloro-3-methylphenol	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4-Dichlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4-Dimethylphenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4-Dinitrophenol	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Methylphenol	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
3+4-Methylphenol(s)	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Nitrophenol	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Nitrophenol	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Pentachlorophenol (PCP)	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Phenol	ND	148	296	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,3,5,6-Tetrachlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4,5-Trichlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4,6-Trichlorophenol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	

Philip Nerenberg

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
Bis(2-ethylhexyl)phthalate	ND	1110	2220	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Butyl benzyl phthalate	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Diethylphthalate	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Dimethylphthalate	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Di-n-butylphthalate	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Di-n-octyl phthalate	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
N-Nitrosodimethylamine	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
N-Nitrosodiphenylamine	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Hexachlorobenzene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Hexachlorobutadiene	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Hexachlorocyclopentadiene	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Hexachloroethane	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Chloronaphthalene	ND	73.9	148	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,2,4-Trichlorobenzene	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Bromophenyl phenyl ether	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Aniline	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Chloroaniline	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2-Nitroaniline	ND	1480	2960	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
3-Nitroaniline	ND	1480	2960	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
4-Nitroaniline	ND	1480	2960	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Nitrobenzene	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,4-Dinitrotoluene	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
2,6-Dinitrotoluene	ND	739	1480	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Benzoic acid	ND	9280	18500	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Benzyl alcohol	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Isophorone	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Azobenzene (1,2-DPH)	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Bis(2-Ethylhexyl) adipate	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-14.0-15.0-20231011 (A3J1366-14RE1)				**Matrix: Soil**		**Batch: 23J0901**		**R-04**
3,3'-Dichlorobenzidine	ND	1480	2960	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,2-Dinitrobenzene	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,3-Dinitrobenzene	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,4-Dinitrobenzene	ND	1850	3710	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Pyridine	ND	371	739	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,2-Dichlorobenzene	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,3-Dichlorobenzene	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
1,4-Dichlorobenzene	ND	185	371	ug/kg dry	20	10/26/23 03:54	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*80 %*	*Limits: 37-122 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*94 %*	*44-120 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	
Phenol-d6 (Surr)			*79 %*	*33-122 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*89 %*	*54-127 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	
2-Fluorophenol (Surr)			*81 %*	*35-120 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*152 %*	*39-132 %*	*20*	*10/26/23 03:54*	*EPA 8270E*	*S-06*

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A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

WS-01-0.0-2.0-10102023 (A3J1366-01) — **Matrix: Soil**

Batch: 23J1022

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**4.26**	1.04	2.08	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Barium	**77.3**	1.04	2.08	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Cadmium	**1.68**	0.208	0.417	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Chromium	**8.88**	1.04	2.08	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Copper	**33.8**	2.08	4.17	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Lead	**41.6**	0.208	0.417	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Mercury	ND	0.0834	0.167	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Nickel	**19.7**	2.08	4.17	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Selenium	ND	1.04	2.08	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Silver	ND	0.208	0.417	mg/kg dry	10	10/27/23 10:52	EPA 6020B	
Zinc	**2460**	4.17	8.34	mg/kg dry	10	10/27/23 10:52	EPA 6020B	**Q-42**

WS-02-0.0-2.0-1010-2023 (A3J1366-02) — **Matrix: Soil**

Batch: 23J1022

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**3.85**	0.922	1.84	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Barium	**58.5**	0.922	1.84	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Cadmium	**1.42**	0.184	0.369	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Chromium	**11.3**	0.922	1.84	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Copper	**23.1**	1.84	3.69	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Lead	**41.8**	0.184	0.369	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Mercury	ND	0.0737	0.147	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Nickel	**11.0**	1.84	3.69	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Selenium	ND	0.922	1.84	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Silver	ND	0.184	0.369	mg/kg dry	10	10/27/23 11:18	EPA 6020B	
Zinc	**2070**	3.69	7.37	mg/kg dry	10	10/27/23 11:18	EPA 6020B	

WS-03-0.0-2.0-10102023 (A3J1366-03) — **Matrix: Soil**

Batch: 23J1022

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**2.61**	0.930	1.86	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Barium	**52.9**	0.930	1.86	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Cadmium	**0.651**	0.186	0.372	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Chromium	**8.75**	0.930	1.86	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Copper	**15.7**	1.86	3.72	mg/kg dry	10	10/27/23 11:23	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-03-0.0-2.0-10102023 (A3J1366-03)				**Matrix: Soil**				
Lead	**38.4**	0.186	0.372	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Mercury	ND	0.0744	0.149	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Nickel	**10.3**	1.86	3.72	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Selenium	ND	0.930	1.86	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Silver	ND	0.186	0.372	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
Zinc	**1380**	3.72	7.44	mg/kg dry	10	10/27/23 11:23	EPA 6020B	
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**2.77**	1.86	3.72	mg/kg dry	10	10/27/23 11:28	EPA 6020B	J
Barium	**49.8**	1.86	3.72	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Cadmium	**0.444**	0.372	0.743	mg/kg dry	10	10/27/23 11:28	EPA 6020B	J
Chromium	**9.08**	1.86	3.72	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Copper	**38.5**	3.72	7.43	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Lead	**12.6**	0.372	0.743	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Mercury	ND	0.149	0.297	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Nickel	**11.6**	3.72	7.43	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Selenium	ND	1.86	3.72	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Silver	ND	0.372	0.743	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
Zinc	**685**	7.43	14.9	mg/kg dry	10	10/27/23 11:28	EPA 6020B	
WS-05-0.0-2.0-10102023 (A3J1366-05)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**5.23**	1.56	3.12	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Barium	**105**	1.56	3.12	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Cadmium	**0.602**	0.312	0.625	mg/kg dry	10	10/27/23 11:34	EPA 6020B	J
Chromium	**10.7**	1.56	3.12	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Copper	**84.7**	3.12	6.25	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Lead	**24.0**	0.312	0.625	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Mercury	ND	0.125	0.250	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Nickel	**12.7**	3.12	6.25	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Selenium	**1.66**	1.56	3.12	mg/kg dry	10	10/27/23 11:34	EPA 6020B	J
Silver	ND	0.312	0.625	mg/kg dry	10	10/27/23 11:34	EPA 6020B	
Zinc	**1300**	6.25	12.5	mg/kg dry	10	10/27/23 11:34	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**4.01**	0.631	1.26	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Barium	**113**	0.631	1.26	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Cadmium	**4.18**	0.126	0.252	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Chromium	**16.8**	0.631	1.26	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Copper	**179**	1.26	2.52	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Lead	**153**	0.126	0.252	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Mercury	**0.252**	0.0505	0.101	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Nickel	**17.3**	1.26	2.52	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
Selenium	**0.819**	0.631	1.26	mg/kg dry	10	10/27/23 11:39	EPA 6020B	**J**
Silver	**0.162**	0.126	0.252	mg/kg dry	10	10/27/23 11:39	EPA 6020B	**J**
Zinc	**330**	2.52	5.05	mg/kg dry	10	10/27/23 11:39	EPA 6020B	
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**1.16**	0.606	1.21	mg/kg dry	10	10/27/23 11:44	EPA 6020B	**J**
Barium	**32.5**	0.606	1.21	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Cadmium	ND	0.121	0.243	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Chromium	**4.76**	0.606	1.21	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Copper	**14.0**	1.21	2.43	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Lead	**4.06**	0.121	0.243	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Mercury	ND	0.0485	0.0970	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Nickel	**2.36**	1.21	2.43	mg/kg dry	10	10/27/23 11:44	EPA 6020B	**J**
Selenium	ND	0.606	1.21	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Silver	ND	0.121	0.243	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
Zinc	**29.7**	2.43	4.85	mg/kg dry	10	10/27/23 11:44	EPA 6020B	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**2.17**	0.579	1.16	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Barium	**52.3**	0.579	1.16	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Cadmium	ND	0.116	0.232	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Chromium	**12.6**	0.579	1.16	mg/kg dry	10	10/27/23 11:49	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**				
Copper	**22.1**	1.16	2.32	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Lead	**5.57**	0.116	0.232	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Mercury	ND	0.0464	0.0927	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Nickel	**17.4**	1.16	2.32	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Selenium	ND	0.579	1.16	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Silver	ND	0.116	0.232	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
Zinc	**30.6**	2.32	4.64	mg/kg dry	10	10/27/23 11:49	EPA 6020B	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**6.89**	0.661	1.32	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Barium	**476**	0.661	1.32	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Cadmium	**5.32**	0.132	0.264	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Chromium	**28.2**	0.661	1.32	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Copper	**2210**	1.32	2.64	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Mercury	**0.207**	0.0528	0.106	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Nickel	**30.9**	1.32	2.64	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Selenium	ND	0.661	1.32	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Silver	**1.05**	0.132	0.264	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
Zinc	**2230**	2.64	5.28	mg/kg dry	10	10/27/23 11:54	EPA 6020B	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09RE1)				**Matrix: Soil**				
Batch: 23J1022								
Lead	**833**	1.32	2.64	mg/kg dry	100	10/31/23 23:37	EPA 6020B	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**2.02**	0.569	1.14	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Barium	**51.9**	0.569	1.14	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Cadmium	**0.247**	0.114	0.228	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Chromium	**10.7**	0.569	1.14	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Copper	**23.8**	1.14	2.28	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Lead	**25.4**	0.114	0.228	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Mercury	**0.0501**	0.0455	0.0911	mg/kg dry	10	10/27/23 11:59	EPA 6020B	J

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**				
Nickel	**11.5**	1.14	2.28	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Selenium	ND	0.569	1.14	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Silver	ND	0.114	0.228	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
Zinc	**195**	2.28	4.55	mg/kg dry	10	10/27/23 11:59	EPA 6020B	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**2.95**	0.579	1.16	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Barium	**44.6**	0.579	1.16	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Cadmium	**0.156**	0.116	0.232	mg/kg dry	10	10/27/23 12:15	EPA 6020B	**J**
Chromium	**3.47**	0.579	1.16	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Copper	**17.3**	1.16	2.32	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Lead	**6.45**	0.116	0.232	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Mercury	ND	0.0463	0.0927	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Nickel	**3.69**	1.16	2.32	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Selenium	ND	0.579	1.16	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Silver	ND	0.116	0.232	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
Zinc	**34.9**	2.32	4.63	mg/kg dry	10	10/27/23 12:15	EPA 6020B	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**3.08**	0.579	1.16	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Barium	**95.8**	0.579	1.16	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Cadmium	**0.469**	0.116	0.232	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Chromium	**14.2**	0.579	1.16	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Copper	**32.1**	1.16	2.32	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Lead	**34.5**	0.116	0.232	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Mercury	**0.261**	0.0463	0.0927	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Nickel	**26.3**	1.16	2.32	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Selenium	ND	0.579	1.16	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Silver	**0.466**	0.116	0.232	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
Zinc	**179**	2.32	4.63	mg/kg dry	10	10/27/23 12:20	EPA 6020B	
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				
Batch: 23J1022								
Arsenic	**3.80**	0.573	1.15	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Barium	**124**	0.573	1.15	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Cadmium	**2.74**	0.115	0.229	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Chromium	**31.1**	0.573	1.15	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Copper	**113**	1.15	2.29	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Lead	**181**	0.115	0.229	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Mercury	**1.39**	0.0458	0.0916	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Nickel	**26.2**	1.15	2.29	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Selenium	ND	0.573	1.15	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Silver	**0.339**	0.115	0.229	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
Zinc	**584**	2.29	4.58	mg/kg dry	10	10/27/23 12:25	EPA 6020B	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**10.7**	0.605	1.21	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
Barium	**619**	0.605	1.21	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
Cadmium	**1.71**	0.121	0.242	mg/kg dry	10	10/26/23 08:41	EPA 6020B	
Chromium	**47.0**	0.605	1.21	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
Copper	**208**	1.21	2.42	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
Lead	**278**	0.121	0.242	mg/kg dry	10	10/26/23 08:41	EPA 6020B	
Mercury	**0.405**	0.0484	0.0969	mg/kg dry	10	10/26/23 08:41	EPA 6020B	
Nickel	**73.0**	1.21	2.42	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
Selenium	ND	0.605	1.21	mg/kg dry	10	10/26/23 08:41	EPA 6020B	
Silver	**0.712**	0.121	0.242	mg/kg dry	10	10/26/23 08:41	EPA 6020B	
Zinc	**453**	2.42	4.84	mg/kg dry	10	10/26/23 08:41	EPA 6020B	**Q-42**
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**10.1**	0.588	1.18	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Barium	**200**	0.588	1.18	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Cadmium	**20.9**	0.118	0.235	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Chromium	**79.8**	0.588	1.18	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Copper	**208**	1.18	2.35	mg/kg dry	10	10/26/23 08:57	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**				
Lead	**310**	0.118	0.235	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Mercury	**1.57**	0.0470	0.0940	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Nickel	**74.6**	1.18	2.35	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Selenium	ND	0.588	1.18	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Silver	**0.657**	0.118	0.235	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
Zinc	**1100**	2.35	4.70	mg/kg dry	10	10/26/23 08:57	EPA 6020B	
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**5.76**	0.562	1.12	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Barium	**135**	0.562	1.12	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Cadmium	**1.83**	0.112	0.225	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Chromium	**27.8**	0.562	1.12	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Copper	**98.5**	1.12	2.25	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Lead	**172**	0.112	0.225	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Mercury	**0.817**	0.0450	0.0900	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Nickel	**37.3**	1.12	2.25	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Selenium	ND	0.562	1.12	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Silver	**0.290**	0.112	0.225	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
Zinc	**656**	2.25	4.50	mg/kg dry	10	10/26/23 09:02	EPA 6020B	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**6.55**	0.676	1.35	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Barium	**210**	0.676	1.35	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Cadmium	**8.88**	0.135	0.270	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Chromium	**81.6**	0.676	1.35	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Copper	**401**	1.35	2.70	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Lead	**408**	0.135	0.270	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Mercury	**0.893**	0.0541	0.108	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Nickel	**253**	1.35	2.70	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Selenium	ND	0.676	1.35	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Silver	**1.06**	0.135	0.270	mg/kg dry	10	10/26/23 09:17	EPA 6020B	
Zinc	**1730**	2.70	5.41	mg/kg dry	10	10/26/23 09:17	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**19.3**	0.620	1.24	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Barium	**149**	0.620	1.24	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Cadmium	**6.04**	0.124	0.248	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Chromium	**37.6**	0.620	1.24	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Copper	**724**	1.24	2.48	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Lead	**339**	0.124	0.248	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Mercury	**0.554**	0.0496	0.0992	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Nickel	**52.6**	1.24	2.48	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Selenium	ND	0.620	1.24	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
Silver	**1.19**	0.124	0.248	mg/kg dry	10	10/26/23 09:22	EPA 6020B	
TP-13-IM-14.0-15.0-20231012 (A3J1366-18RE1)				**Matrix: Soil**				
Batch: 23J0999								
Zinc	**4950**	24.8	49.6	mg/kg dry	100	11/09/23 14:29	EPA 6020B	
TP-12-IM-9.0-10.0-20231012 (A3J1366-19)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**8.59**	0.622	1.24	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Barium	**142**	0.622	1.24	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Cadmium	**2.74**	0.124	0.249	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Chromium	**38.5**	0.622	1.24	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Copper	**295**	1.24	2.49	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Lead	**272**	0.124	0.249	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Mercury	**1.22**	0.0497	0.0995	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Nickel	**37.0**	1.24	2.49	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Selenium	ND	0.622	1.24	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Silver	**0.411**	0.124	0.249	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
Zinc	**805**	2.49	4.97	mg/kg dry	10	10/26/23 09:27	EPA 6020B	
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**5.71**	0.585	1.17	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Barium	**105**	0.585	1.17	mg/kg dry	10	10/26/23 09:33	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

TP-11-IM-4.0-5.0-20231012 (A3J1366-20) — **Matrix: Soil**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Cadmium	**1.80**	0.117	0.234	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Chromium	**28.7**	0.585	1.17	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Copper	**98.7**	1.17	2.34	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Lead	**98.7**	0.117	0.234	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Mercury	**0.266**	0.0468	0.0936	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Nickel	**31.7**	1.17	2.34	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Selenium	ND	0.585	1.17	mg/kg dry	10	10/26/23 09:33	EPA 6020B	
Silver	**0.133**	0.117	0.234	mg/kg dry	10	10/26/23 09:33	EPA 6020B	J
Zinc	**387**	2.34	4.68	mg/kg dry	10	10/26/23 09:33	EPA 6020B	

TP-10-IM-9.0-10.0-20231011 (A3J1366-21) — **Matrix: Soil**

Batch: 23J0999

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**6.01**	0.670	1.34	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Barium	**146**	0.670	1.34	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Cadmium	**6.59**	0.134	0.268	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Chromium	**54.8**	0.670	1.34	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Copper	**208**	1.34	2.68	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Lead	**573**	0.134	0.268	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Mercury	**2.57**	0.0536	0.107	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Nickel	**98.0**	1.34	2.68	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Selenium	ND	0.670	1.34	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Silver	**0.404**	0.134	0.268	mg/kg dry	10	10/26/23 09:38	EPA 6020B	
Zinc	**1740**	2.68	5.36	mg/kg dry	10	10/26/23 09:38	EPA 6020B	

TP-09-IM-11.0-12.0-20231011 (A3J1366-22) — **Matrix: Soil**

Batch: 23J0999

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**8.07**	0.632	1.26	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Barium	**180**	0.632	1.26	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Cadmium	**15.1**	0.126	0.253	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Chromium	**31.5**	0.632	1.26	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Copper	**373**	1.26	2.53	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Lead	**269**	0.126	0.253	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Mercury	**0.853**	0.0505	0.101	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Nickel	**51.5**	1.26	2.53	mg/kg dry	10	10/26/23 09:44	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**				
Selenium	ND	0.632	1.26	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Silver	**0.975**	0.126	0.253	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
Zinc	**1040**	2.53	5.05	mg/kg dry	10	10/26/23 09:44	EPA 6020B	
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**5.38**	0.560	1.12	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Barium	**135**	0.560	1.12	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Cadmium	**1.12**	0.112	0.224	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Chromium	**23.5**	0.560	1.12	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Copper	**116**	1.12	2.24	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Lead	**188**	0.112	0.224	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Mercury	**0.741**	0.0448	0.0897	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Nickel	**26.7**	1.12	2.24	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Selenium	ND	0.560	1.12	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Silver	**0.349**	0.112	0.224	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
Zinc	**323**	2.24	4.48	mg/kg dry	10	10/26/23 10:20	EPA 6020B	
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**3.95**	0.584	1.17	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Barium	**97.6**	0.584	1.17	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Cadmium	**1.29**	0.117	0.234	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Chromium	**21.8**	0.584	1.17	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Copper	**47.5**	1.17	2.34	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Lead	**97.5**	0.117	0.234	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Mercury	**0.278**	0.0467	0.0935	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Nickel	**54.3**	1.17	2.34	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Selenium	ND	0.584	1.17	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Silver	**0.254**	0.117	0.234	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
Zinc	**428**	2.34	4.67	mg/kg dry	10	10/26/23 10:26	EPA 6020B	
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**				
Batch: 23J0999								

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**				
Arsenic	**5.24**	0.558	1.12	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Barium	**122**	0.558	1.12	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Cadmium	**0.911**	0.112	0.223	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Chromium	**31.9**	0.558	1.12	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Copper	**85.7**	1.12	2.23	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Lead	**88.1**	0.112	0.223	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Mercury	**0.588**	0.0446	0.0893	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Nickel	**43.9**	1.12	2.23	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Selenium	ND	0.558	1.12	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Silver	**0.585**	0.112	0.223	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
Zinc	**436**	2.23	4.46	mg/kg dry	10	10/26/23 10:31	EPA 6020B	
TP-03-IM-14.0-15.0-20231010 (A3J1366-26)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**7.20**	0.641	1.28	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Barium	**352**	0.641	1.28	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Cadmium	**6.49**	0.128	0.256	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Chromium	**45.2**	0.641	1.28	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Copper	**668**	1.28	2.56	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Mercury	**0.569**	0.0513	0.103	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Nickel	**76.0**	1.28	2.56	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Selenium	ND	0.641	1.28	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Silver	**2.69**	0.128	0.256	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
Zinc	**2010**	2.56	5.13	mg/kg dry	10	10/26/23 10:36	EPA 6020B	
TP-03-IM-14.0-15.0-20231010 (A3J1366-26RE1)				**Matrix: Soil**				
Batch: 23J0999								
Lead	**1030**	1.28	2.56	mg/kg dry	100	10/26/23 11:33	EPA 6020B	
TP-02-IM-4.0-5.0-20231010 (A3J1366-27)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**20.4**	0.639	1.28	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Barium	**194**	0.639	1.28	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Cadmium	**3.16**	0.128	0.255	mg/kg dry	10	10/26/23 10:41	EPA 6020B	

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Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-4.0-5.0-20231010 (A3J1366-27)				**Matrix: Soil**				
Chromium	**65.6**	0.639	1.28	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Copper	**286**	1.28	2.55	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Nickel	**85.8**	1.28	2.55	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Selenium	ND	0.639	1.28	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Silver	**26.0**	0.128	0.255	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
Zinc	**815**	2.55	5.11	mg/kg dry	10	10/26/23 10:41	EPA 6020B	
TP-02-IM-4.0-5.0-20231010 (A3J1366-27RE1)				**Matrix: Soil**				
Batch: 23J0999								
Lead	**862**	1.28	2.55	mg/kg dry	100	10/26/23 11:38	EPA 6020B	
Mercury	**16.3**	0.511	1.02	mg/kg dry	100	10/26/23 11:38	EPA 6020B	
TP-01-IM-5.0-6.0-20231010 (A3J1366-28)				**Matrix: Soil**				
Batch: 23J0999								
Arsenic	**6.56**	0.661	1.32	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Barium	**158**	0.661	1.32	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Cadmium	**2.16**	0.132	0.264	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Chromium	**33.8**	0.661	1.32	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Copper	**102**	1.32	2.64	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Nickel	**34.1**	1.32	2.64	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Selenium	ND	0.661	1.32	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Silver	**0.747**	0.132	0.264	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
Zinc	**565**	2.64	5.29	mg/kg dry	10	10/26/23 10:46	EPA 6020B	
TP-01-IM-5.0-6.0-20231010 (A3J1366-28RE1)				**Matrix: Soil**				
Batch: 23J0999								
Lead	**229**	0.132	0.264	mg/kg dry	10	10/26/23 10:57	EPA 6020B	
Mercury	**0.765**	0.0529	0.106	mg/kg dry	10	10/26/23 10:57	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-01-0.0-2.0-10102023 (A3J1366-01)				**Matrix: Soil**				
Batch: 23J0933								
Arsenic	ND	0.0500	0.100	mg/L	10	10/24/23 16:44	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/24/23 16:44	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/24/23 16:44	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/24/23 16:44	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/24/23 16:44	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/24/23 16:44	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/24/23 16:44	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/24/23 16:44	1311/6020B	
WS-02-0.0-2.0-1010-2023 (A3J1366-02)				**Matrix: Soil**				
Batch: 23J0933								
Arsenic	ND	0.0500	0.100	mg/L	10	10/24/23 16:49	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/24/23 16:49	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/24/23 16:49	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/24/23 16:49	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/24/23 16:49	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/24/23 16:49	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/24/23 16:49	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/24/23 16:49	1311/6020B	
WS-03-0.0-2.0-10102023 (A3J1366-03)				**Matrix: Soil**				
Batch: 23J0933								
Arsenic	ND	0.0500	0.100	mg/L	10	10/24/23 16:54	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/24/23 16:54	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/24/23 16:54	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/24/23 16:54	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/24/23 16:54	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/24/23 16:54	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/24/23 16:54	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/24/23 16:54	1311/6020B	
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**				
Batch: 23J0933								

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

WS-04-0.0-2.0-10102023 (A3J1366-04) — **Matrix: Soil**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/24/23 16:59	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/24/23 16:59	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/24/23 16:59	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/24/23 16:59	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/24/23 16:59	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/24/23 16:59	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/24/23 16:59	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/24/23 16:59	1311/6020B	

WS-05-0.0-2.0-10102023 (A3J1366-05) — **Matrix: Soil**

Batch: 23J0987

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 16:16	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 16:16	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 16:16	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 16:16	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 16:16	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 16:16	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 16:16	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 16:16	1311/6020B	

TP-01-IM-10.0-11.0-20231010 (A3J1366-06) — **Matrix: Soil**

Batch: 23J0987

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 16:42	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 16:42	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 16:42	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 16:42	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 16:42	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 16:42	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 16:42	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 16:42	1311/6020B	

TP-04-NS-9.0-10.0-20231010 (A3J1366-07) — **Matrix: Soil**

Batch: 23J0987

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 16:47	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**				
Barium	ND	2.50	5.00	mg/L	10	10/25/23 16:47	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 16:47	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 16:47	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 16:47	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 16:47	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 16:47	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 16:47	1311/6020B	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 16:52	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 16:52	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 16:52	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 16:52	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 16:52	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 16:52	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 16:52	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 16:52	1311/6020B	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 16:57	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 16:57	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 16:57	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 16:57	1311/6020B	
Lead	**3.49**	0.0250	0.0500	mg/L	10	10/25/23 16:57	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 16:57	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 16:57	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 16:57	1311/6020B	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 17:02	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 17:02	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**				
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 17:02	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 17:02	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 17:02	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 17:02	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 17:02	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 17:02	1311/6020B	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 17:07	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 17:07	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 17:07	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 17:07	1311/6020B	
Lead	**0.0515**	0.0250	0.0500	mg/L	10	10/25/23 17:07	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 17:07	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 17:07	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 17:07	1311/6020B	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 17:13	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 17:13	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 17:13	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 17:13	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/25/23 17:13	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 17:13	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 17:13	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 17:13	1311/6020B	
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				
Batch: 23J0987								
Arsenic	ND	0.0500	0.100	mg/L	10	10/25/23 17:18	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/25/23 17:18	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/25/23 17:18	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				
Chromium	ND	0.0500	0.100	mg/L	10	10/25/23 17:18	1311/6020B	
Lead	**0.511**	0.0250	0.0500	mg/L	10	10/25/23 17:18	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/25/23 17:18	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/25/23 17:18	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/25/23 17:18	1311/6020B	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/26/23 16:51	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/26/23 16:51	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/26/23 16:51	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/26/23 16:51	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/26/23 16:51	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/26/23 16:51	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/26/23 16:51	1311/6020B	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14RE1)				**Matrix: Soil**				
Batch: 23J1044								
Lead	**0.0622**	0.0250	0.0500	mg/L	10	10/27/23 08:11	1311/6020B	**Q-41**
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/26/23 16:56	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/26/23 16:56	1311/6020B	
Cadmium	**0.0836**	0.0500	0.100	mg/L	10	10/26/23 16:56	1311/6020B	**J**
Chromium	ND	0.0500	0.100	mg/L	10	10/26/23 16:56	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/26/23 16:56	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/26/23 16:56	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/26/23 16:56	1311/6020B	
TP-08-IM-4.0-5.0-20231011 (A3J1366-15RE1)				**Matrix: Soil**				
Batch: 23J1044								
Lead	**0.0663**	0.0250	0.0500	mg/L	10	10/27/23 08:16	1311/6020B	**Q-41**
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**				

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/26/23 17:01	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/26/23 17:01	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/26/23 17:01	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/26/23 17:01	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/26/23 17:01	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/26/23 17:01	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/26/23 17:01	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/26/23 17:01	1311/6020B	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/26/23 17:11	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/26/23 17:11	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/26/23 17:11	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/26/23 17:11	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/26/23 17:11	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/26/23 17:11	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/26/23 17:11	1311/6020B	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17RE1)				**Matrix: Soil**				
Batch: 23J1044								
Lead	**0.0793**	0.0250	0.0500	mg/L	10	10/27/23 08:21	1311/6020B	**Q-41**
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/26/23 17:16	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/26/23 17:16	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/26/23 17:16	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/26/23 17:16	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/26/23 17:16	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/26/23 17:16	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/26/23 17:16	1311/6020B	
TP-13-IM-14.0-15.0-20231012 (A3J1366-18RE1)				**Matrix: Soil**				

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-13-IM-14.0-15.0-20231012 (A3J1366-18RE1)				Matrix: Soil				
Batch: 23J1044								
Lead	**0.348**	0.0250	0.0500	mg/L	10	10/27/23 08:27	1311/6020B	**Q-41**
TP-12-IM-9.0-10.0-20231012 (A3J1366-19RE1)				Matrix: Soil				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 08:32	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 08:32	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 08:32	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 08:32	1311/6020B	
Lead	**0.111**	0.0250	0.0500	mg/L	10	10/27/23 08:32	1311/6020B	**Q-41**
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 08:32	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 08:32	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 08:32	1311/6020B	
TP-11-IM-4.0-5.0-20231012 (A3J1366-20RE1)				Matrix: Soil				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 08:37	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 08:37	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 08:37	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 08:37	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/27/23 08:37	1311/6020B	Q-41
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 08:37	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 08:37	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 08:37	1311/6020B	
TP-10-IM-9.0-10.0-20231011 (A3J1366-21RE1)				Matrix: Soil				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 08:42	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 08:42	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 08:42	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 08:42	1311/6020B	
Lead	**0.272**	0.0250	0.0500	mg/L	10	10/27/23 08:42	1311/6020B	**Q-41**
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 08:42	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 08:42	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-10-IM-9.0-10.0-20231011 (A3J1366-21RE1)				**Matrix: Soil**				
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 08:42	1311/6020B	
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 08:47	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 08:47	1311/6020B	
Cadmium	**0.0822**	0.0500	0.100	mg/L	10	10/27/23 08:47	1311/6020B	**J**
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 08:47	1311/6020B	
Lead	**0.254**	0.0250	0.0500	mg/L	10	10/27/23 08:47	1311/6020B	**Q-41**
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 08:47	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 08:47	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 08:47	1311/6020B	
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 08:53	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 08:53	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 08:53	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 08:53	1311/6020B	
Lead	**0.0329**	0.0250	0.0500	mg/L	10	10/27/23 08:53	1311/6020B	**J, Q-41**
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 08:53	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 08:53	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 08:53	1311/6020B	
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**				
Batch: 23J1044								
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 09:08	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 09:08	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 09:08	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 09:08	1311/6020B	
Lead	**0.126**	0.0250	0.0500	mg/L	10	10/27/23 09:08	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 09:08	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 09:08	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 09:08	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

TP-04-IM-4.0-5.0-20231010 (A3J1366-25) Matrix: Soil

Batch: 23J1044

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 09:13	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 09:13	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 09:13	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 09:13	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/27/23 09:13	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 09:13	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 09:13	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 09:13	1311/6020B	

TP-03-IM-14.0-15.0-20231010 (A3J1366-26) Matrix: Soil

Batch: 23J1044

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 09:19	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 09:19	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 09:19	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 09:19	1311/6020B	
Lead	**3.25**	0.0250	0.0500	mg/L	10	10/27/23 09:19	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 09:19	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 09:19	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 09:19	1311/6020B	

TP-02-IM-4.0-5.0-20231010 (A3J1366-27) Matrix: Soil

Batch: 23J1044

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 09:24	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 09:24	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 09:24	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 09:24	1311/6020B	
Lead	**0.205**	0.0250	0.0500	mg/L	10	10/27/23 09:24	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 09:24	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 09:24	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 09:24	1311/6020B	

TP-01-IM-5.0-6.0-20231010 (A3J1366-28) Matrix: Soil

Batch: 23J1044

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

TP-01-IM-5.0-6.0-20231010 (A3J1366-28) — **Matrix: Soil**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/27/23 09:29	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/27/23 09:29	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/27/23 09:29	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/27/23 09:29	1311/6020B	
Lead	**0.0742**	0.0250	0.0500	mg/L	10	10/27/23 09:29	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/27/23 09:29	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/27/23 09:29	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/27/23 09:29	1311/6020B	

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Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.8**			pH Units	1	10/19/23 17:19	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.2**			pH Units	1	10/19/23 17:19	EPA 9045D	**pH_S**
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.7**			pH Units	1	10/19/23 17:21	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.0**			pH Units	1	10/19/23 17:21	EPA 9045D	**pH_S**
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.3**			pH Units	1	10/19/23 17:24	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.9**			pH Units	1	10/19/23 17:24	EPA 9045D	**pH_S**
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.6**			pH Units	1	10/19/23 17:26	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.8**			pH Units	1	10/19/23 17:26	EPA 9045D	**pH_S**
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.8**			pH Units	1	10/19/23 17:27	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.4**			pH Units	1	10/19/23 17:27	EPA 9045D	**pH_S**
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:29	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.4**			pH Units	1	10/19/23 17:29	EPA 9045D	**pH_S**
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.9**			pH Units	1	10/19/23 17:30	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/19/23 17:30	EPA 9045D	**pH_S**
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				
Batch: 23J0780								

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Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**				
Soil/Solid pH (measured in H2O)	**7.4**			pH Units	1	10/19/23 17:31	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.0**			pH Units	1	10/19/23 17:31	EPA 9045D	**pH_S**
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:36	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.1**			pH Units	1	10/19/23 17:36	EPA 9045D	**pH_S**
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:37	EPA 9045D	**pH_S**
pH Temperature (deg C)	**20.9**			pH Units	1	10/19/23 17:37	EPA 9045D	**pH_S**
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:39	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.0**			pH Units	1	10/19/23 17:39	EPA 9045D	**pH_S**
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.7**			pH Units	1	10/19/23 17:41	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/19/23 17:41	EPA 9045D	**pH_S**
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:43	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.0**			pH Units	1	10/19/23 17:43	EPA 9045D	**pH_S**
TP-12-IM-9.0-10.0-20231012 (A3J1366-19)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	10/19/23 17:44	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.9**			pH Units	1	10/19/23 17:44	EPA 9045D	**pH_S**
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**				
Batch: 23J0780								
Soil/Solid pH (measured in H2O)	**7.8**			pH Units	1	10/19/23 17:46	EPA 9045D	**pH_S**

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**				
pH Temperature (deg C)	**22.0**			pH Units	1	10/19/23 17:46	EPA 9045D	**pH_S**
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.3**			pH Units	1	10/20/23 13:21	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.2**			pH Units	1	10/20/23 13:21	EPA 9045D	**pH_S**
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.6**			pH Units	1	10/20/23 13:24	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/20/23 13:24	EPA 9045D	**pH_S**
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**6.6**			pH Units	1	10/20/23 13:26	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.0**			pH Units	1	10/20/23 13:26	EPA 9045D	**pH_S**
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.3**			pH Units	1	10/20/23 13:29	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/20/23 13:29	EPA 9045D	**pH_S**
TP-03-IM-14.0-15.0-20231010 (A3J1366-26)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.4**			pH Units	1	10/20/23 13:31	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/20/23 13:31	EPA 9045D	**pH_S**
TP-02-IM-4.0-5.0-20231010 (A3J1366-27)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.3**			pH Units	1	10/20/23 13:33	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.9**			pH Units	1	10/20/23 13:33	EPA 9045D	**pH_S**
TP-01-IM-5.0-6.0-20231010 (A3J1366-28)				**Matrix: Soil**				
Batch: 23J0820								
Soil/Solid pH (measured in H2O)	**7.7**			pH Units	1	10/20/23 13:34	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.2**			pH Units	1	10/20/23 13:34	EPA 9045D	**pH_S**

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes

Philip Nerenberg

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-01-0.0-2.0-10102023 (A3J1366-01)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**48.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
WS-02-0.0-2.0-1010-2023 (A3J1366-02)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**55.6**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
WS-03-0.0-2.0-10102023 (A3J1366-03)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**54.1**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**29.7**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
WS-05-0.0-2.0-10102023 (A3J1366-05)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**34.4**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**86.1**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**88.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**86.6**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**83.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**89.6**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**88.6**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**89.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**		**Batch: 23J0745**		

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**90.9**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**86.4**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**88.3**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**89.3**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**79.7**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**82.3**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-12-IM-9.0-10.0-20231012 (A3J1366-19)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**85.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**87.5**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-10-IM-9.0-10.0-20231011 (A3J1366-21)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**78.6**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**84.9**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**92.0**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**83.4**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**		**Batch: 23J0745**		

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**88.4**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-03-IM-14.0-15.0-20231010 (A3J1366-26)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**83.2**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-02-IM-4.0-5.0-20231010 (A3J1366-27)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**81.7**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	
TP-01-IM-5.0-6.0-20231010 (A3J1366-28)				**Matrix: Soil**		**Batch: 23J0745**		
% Solids	**74.1**	1.00	1.00	%	1	10/20/23 04:36	EPA 8000D	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
WS-01-0.0-2.0-10102023 (A3J1366-01)				**Matrix: Soil**		**Batch: 23J0867**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
WS-02-0.0-2.0-1010-2023 (A3J1366-02)				**Matrix: Soil**		**Batch: 23J0867**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
WS-03-0.0-2.0-10102023 (A3J1366-03)				**Matrix: Soil**		**Batch: 23J0867**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
WS-04-0.0-2.0-10102023 (A3J1366-04)				**Matrix: Soil**		**Batch: 23J0867**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
WS-05-0.0-2.0-10102023 (A3J1366-05)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-01-IM-10.0-11.0-20231010 (A3J1366-06)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-04-NS-9.0-10.0-20231010 (A3J1366-07)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-05-NS-4.0-5.0-20231011 (A3J1366-08)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-06-NS-9.0-10.0-20231011 (A3J1366-09)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-08-NS-12.0-13.0-20231011 (A3J1366-10)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-10-NS-12.0-13.0-20231011 (A3J1366-11)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-15-NS-9.0-10.0-20231012 (A3J1366-12)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**		**Batch: 23J0868**		

ANALYTICAL REPORT

ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-15-IM-4.0-5.0-20231012 (A3J1366-13)				**Matrix: Soil**		**Batch: 23J0868**		
TCLP Extraction	PREP			N/A	1	10/23/23 16:40	EPA 1311	
TP-07-IM-14.0-15.0-20231011 (A3J1366-14)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-08-IM-4.0-5.0-20231011 (A3J1366-15)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-07-IM-9.0-10.0-20231011 (A3J1366-16)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-14-IM-14.0-15.0-20231012 (A3J1366-17)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-13-IM-14.0-15.0-20231012 (A3J1366-18)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-12-IM-9.0-10.0-20231012 (A3J1366-19)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-11-IM-4.0-5.0-20231012 (A3J1366-20)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-10-IM-9.0-10.0-20231011 (A3J1366-21)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-09-IM-11.0-12.0-20231011 (A3J1366-22)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
SS-06-0.0-1.0-20231011 (A3J1366-23)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
SS-05-0.0-1.0-20231011 (A3J1366-24)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**		**Batch: 23J0904**		

Philip Nerenberg

ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-04-IM-4.0-5.0-20231010 (A3J1366-25)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-03-IM-14.0-15.0-20231010 (A3J1366-26)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-02-IM-4.0-5.0-20231010 (A3J1366-27)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	
TP-01-IM-5.0-6.0-20231010 (A3J1366-28)				**Matrix: Soil**		**Batch: 23J0904**		
TCLP Extraction	PREP			N/A	1	10/24/23 16:30	EPA 1311	

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Batch 23J0850 - EPA 3546 (Fuels) — **Soil**

Blank (23J0850-BLK1) Prepared: 10/23/23 05:36 Analyzed: 10/23/23 21:47

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
NWTPH-Dx												
Diesel	ND	10.0	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	20.0	40.0	mg/kg wet	1	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr) Recovery: 83 % Limits: 50-150 % Dilution: 1x

LCS (23J0850-BS1) Prepared: 10/23/23 05:36 Analyzed: 10/23/23 22:08

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
NWTPH-Dx												
Diesel	107	10.0	20.0	mg/kg wet	1	125	---	86	38-132%	---	---	

Surr: o-Terphenyl (Surr) Recovery: 83 % Limits: 50-150 % Dilution: 1x

Duplicate (23J0850-DUP2) Prepared: 10/23/23 05:36 Analyzed: 10/24/23 07:54

QC Source Sample: Non-SDG (A3J1504-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Diesel	ND	11.7	23.3	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	23.3	46.6	mg/kg dry	1	---	ND	---	---	---	30%	

Surr: o-Terphenyl (Surr) Recovery: 67 % Limits: 50-150 % Dilution: 1x

Duplicate (23J0850-DUP3) Prepared: 10/23/23 05:36 Analyzed: 10/24/23 15:30

QC Source Sample: TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
NWTPH-Dx												
Diesel	ND	107	214	mg/kg dry	10	---	ND	---	---	---	30%	
Oil	**2540**	214	429	mg/kg dry	10	---	1000	---	---	**87**	**30%**	Q-17

Surr: o-Terphenyl (Surr) Recovery: 75 % Limits: 50-150 % Dilution: 10x *S-05*

Batch 23J0954 - EPA 3546 (Fuels) — **Soil**

Blank (23J0954-BLK1) Prepared: 10/25/23 04:11 Analyzed: 10/25/23 07:41

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
NWTPH-Dx												
Diesel	ND	10.0	20.0	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	20.0	40.0	mg/kg wet	1	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr) Recovery: 92 % Limits: 50-150 % Dilution: 1x

LCS (23J0954-BS1) Prepared: 10/25/23 04:11 Analyzed: 10/25/23 08:02

NWTPH-Dx

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0954 - EPA 3546 (Fuels)							Soil					
LCS (23J0954-BS1)			Prepared: 10/25/23 04:11	Analyzed: 10/25/23 08:02								
Diesel	128	10.0	20.0	mg/kg wet	1	125	---	102	38-132%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 104 %*		*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (23J0954-DUP1)			Prepared: 10/25/23 04:11	Analyzed: 10/25/23 08:42								
QC Source Sample: Non-SDG (A3J1644-01)												
Diesel	ND	10.7	21.4	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	21.4	42.8	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 99 %*		*Limits: 50-150 %*			*Dilution: 1x*					
Duplicate (23J0954-DUP2)			Prepared: 10/25/23 04:11	Analyzed: 10/25/23 10:24								
QC Source Sample: Non-SDG (A3J1648-02)												
Diesel	**13800**	218	436	mg/kg dry	20	---	13500	---	---	2	30%	
Oil	ND	436	873	mg/kg dry	20	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		*Recovery: %*		*Limits: 50-150 %*			*Dilution: 20x*					*S-01*

QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0806 - EPA 5035A							**Soil**					
Blank (23J0806-BLK1)			Prepared: 10/20/23 08:57			Analyzed: 10/20/23 13:01						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	2.50	5.00	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*99 %*	*Limits:*	*50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*101 %*		*50-150 %*		*"*					
LCS (23J0806-BS2)			Prepared: 10/20/23 08:57			Analyzed: 10/20/23 11:36						
NWTPH-Gx (MS)												
Gasoline Range Organics	24.0	2.50	5.00	mg/kg wet	50	25.0	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*101 %*	*Limits:*	*50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*99 %*		*50-150 %*		*"*					
Duplicate (23J0806-DUP1)			Prepared: 10/12/23 15:00			Analyzed: 10/20/23 13:52						
QC Source Sample: Non-SDG (A3J1466-01)												
Gasoline Range Organics	ND	8.76	17.5	mg/kg dry	50	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*105 %*	*Limits:*	*50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*102 %*		*50-150 %*		*"*					
Duplicate (23J0806-DUP2)			Prepared: 10/17/23 14:00			Analyzed: 10/20/23 21:36						
QC Source Sample: Non-SDG (A3J1457-01)												
Gasoline Range Organics	**6.56**	4.44	8.89	mg/kg dry	50	---	6.42	---	---	2	30%	J
Surr: 4-Bromofluorobenzene (Sur)		*Recovery:*	*105 %*	*Limits:*	*50-150 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*99 %*		*50-150 %*		*"*					

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A **Soil**

Blank (23J0806-BLK1) Prepared: 10/20/23 08:57 Analyzed: 10/20/23 13:01

5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acetone	ND	1000	1000	ug/kg wet	50	---	---	---	---	---	---	ICV-02
Acrylonitrile	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	5.00	10.0	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	500	500	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A **Soil**

Blank (23J0806-BLK1) Prepared: 10/20/23 08:57 Analyzed: 10/20/23 13:01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
1,2-Dichloropropane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	500	500	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	100	100	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 102 % Limits: 80-120 % Dilution: 1x

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0806 - EPA 5035A							**Soil**					
Blank (23J0806-BLK1)			Prepared: 10/20/23 08:57			Analyzed: 10/20/23 13:01						
Surr: Toluene-d8 (Surr)		*Recovery: 99 %*		*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)		*101 %*		*79-120 %*			*"*					
LCS (23J0806-BS1)			Prepared: 10/20/23 08:57			Analyzed: 10/20/23 12:02						
5035A/8260D												
Acetone	1720	1000	1000	ug/kg wet	50	2000	---	86	80-120%	---	---	ICV-02
Acrylonitrile	979	50.0	100	ug/kg wet	50	1000	---	98	80-120%	---	---	
Benzene	1020	5.00	10.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Bromobenzene	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Bromochloromethane	975	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Bromodichloromethane	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Bromoform	1070	50.0	100	ug/kg wet	50	1000	---	107	80-120%	---	---	
Bromomethane	1030	500	500	ug/kg wet	50	1000	---	103	80-120%	---	---	
2-Butanone (MEK)	1850	250	500	ug/kg wet	50	2000	---	92	80-120%	---	---	
n-Butylbenzene	1170	25.0	50.0	ug/kg wet	50	1000	---	117	80-120%	---	---	
sec-Butylbenzene	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
tert-Butylbenzene	979	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Carbon disulfide	981	250	500	ug/kg wet	50	1000	---	98	80-120%	---	---	
Carbon tetrachloride	1130	25.0	50.0	ug/kg wet	50	1000	---	113	80-120%	---	---	
Chlorobenzene	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Chloroethane	1050	250	500	ug/kg wet	50	1000	---	105	80-120%	---	---	
Chloroform	985	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Chloromethane	920	125	250	ug/kg wet	50	1000	---	92	80-120%	---	---	
2-Chlorotoluene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
4-Chlorotoluene	1090	25.0	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
Dibromochloromethane	1070	50.0	100	ug/kg wet	50	1000	---	107	80-120%	---	---	
1,2-Dibromo-3-chloropropane	942	125	250	ug/kg wet	50	1000	---	94	80-120%	---	---	
1,2-Dibromoethane (EDB)	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Dibromomethane	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,2-Dichlorobenzene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,3-Dichlorobenzene	1150	12.5	25.0	ug/kg wet	50	1000	---	115	80-120%	---	---	
1,4-Dichlorobenzene	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Dichlorodifluoromethane	930	50.0	100	ug/kg wet	50	1000	---	93	80-120%	---	---	
1,1-Dichloroethane	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A **Soil**

LCS (23J0806-BS1) Prepared: 10/20/23 08:57 Analyzed: 10/20/23 12:02

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
1,2-Dichloroethane (EDC)	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,1-Dichloroethene	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
cis-1,2-Dichloroethene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
trans-1,2-Dichloroethene	994	12.5	25.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
1,2-Dichloropropane	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,3-Dichloropropane	1010	25.0	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
2,2-Dichloropropane	1160	25.0	50.0	ug/kg wet	50	1000	---	116	80-120%	---	---	
1,1-Dichloropropene	1110	25.0	50.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
cis-1,3-Dichloropropene	1220	25.0	50.0	ug/kg wet	50	1000	---	**122**	**80-120%**	---	---	Q-56
trans-1,3-Dichloropropene	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Ethylbenzene	1110	12.5	25.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
Hexachlorobutadiene	1050	50.0	100	ug/kg wet	50	1000	---	105	80-120%	---	---	
2-Hexanone	1570	500	500	ug/kg wet	50	2000	---	**78**	**80-120%**	---	---	Q-55
Isopropylbenzene	990	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
4-Isopropyltoluene	990	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
Methylene chloride	1010	250	500	ug/kg wet	50	1000	---	101	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	1880	250	500	ug/kg wet	50	2000	---	94	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Naphthalene	840	100	200	ug/kg wet	50	1000	---	84	80-120%	---	---	
n-Propylbenzene	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Styrene	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,1,2,2-Tetrachloroethane	977	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Tetrachloroethene (PCE)	1110	12.5	25.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
Toluene	996	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,2,3-Trichlorobenzene	1050	125	250	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,2,4-Trichlorobenzene	1040	125	250	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,1,1-Trichloroethane	1070	12.5	25.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
1,1,2-Trichloroethane	1020	12.5	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Trichloroethene (TCE)	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Trichlorofluoromethane	1150	50.0	100	ug/kg wet	50	1000	---	115	80-120%	---	---	
1,2,3-Trichloropropane	1010	25.0	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,2,4-Trimethylbenzene	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,3,5-Trimethylbenzene	1010	25.0	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A **Soil**

LCS (23J0806-BS1) Prepared: 10/20/23 08:57 Analyzed: 10/20/23 12:02

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Vinyl chloride	884	12.5	25.0	ug/kg wet	50	1000	---	88	80-120%	---	---	
m,p-Xylene	2020	25.0	50.0	ug/kg wet	50	2000	---	101	80-120%	---	---	
o-Xylene	950	12.5	25.0	ug/kg wet	50	1000	---	95	80-120%	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 99 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr) 98 % 80-120 % "
4-Bromofluorobenzene (Surr) 99 % 79-120 % "

Duplicate (23J0806-DUP1) Prepared: 10/12/23 15:00 Analyzed: 10/20/23 13:52

QC Source Sample: Non-SDG (A3J1466-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acetone	ND	3500	3500	ug/kg dry	50	---	ND	---	---	---	30%	ICV-02
Acrylonitrile	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	17.5	35.0	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	1750	1750	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	876	1750	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	876	1750	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	876	1750	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	438	876	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	438	876	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0806 - EPA 5035A							**Soil**					
Duplicate (23J0806-DUP1)			Prepared: 10/12/23 15:00		Analyzed: 10/20/23 13:52							
QC Source Sample: Non-SDG (A3J1466-01)												
1,3-Dichlorobenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	1750	1750	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	876	1750	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	876	1750	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	350	701	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	438	876	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	438	876	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A — **Soil**

Duplicate (23J0806-DUP1) Prepared: 10/12/23 15:00 Analyzed: 10/20/23 13:52

QC Source Sample: Non-SDG (A3J1466-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Trichloroethene (TCE)	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	175	350	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	87.6	175	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	43.8	87.6	ug/kg dry	50	---	ND	---	---	---	30%	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 102 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr) 97 % 80-120 % "
4-Bromofluorobenzene (Surr) 104 % 79-120 % "

Duplicate (23J0806-DUP2) Prepared: 10/17/23 14:00 Analyzed: 10/20/23 21:36

QC Source Sample: Non-SDG (A3J1457-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acetone	ND	1780	1780	ug/kg dry	50	---	ND	---	---	---	30%	ICV-02
Acrylonitrile	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	8.89	17.8	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	889	889	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	444	889	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	444	889	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	444	889	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	222	444	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A Soil

Duplicate (23J0806-DUP2) Prepared: 10/17/23 14:00 Analyzed: 10/20/23 21:36

QC Source Sample: Non-SDG (A3J1457-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
4-Chlorotoluene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	222	444	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	889	889	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	444	889	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	444	889	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	178	355	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A — **Soil**

Duplicate (23J0806-DUP2) Prepared: 10/17/23 14:00 Analyzed: 10/20/23 21:36

QC Source Sample: Non-SDG (A3J1457-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Tetrachloroethene (PCE)	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	222	444	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	222	444	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	88.9	178	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	22.2	44.4	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	44.4	88.9	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	**32.9**	22.2	44.4	ug/kg dry	50	---	30.2	---	---	8	30%	J

Surr: 1,4-Difluorobenzene (Surr) Recovery: 101 % Limits: 80-120 % Dilution: 1x

Toluene-d8 (Surr) 95 % 80-120 % "

4-Bromofluorobenzene (Surr) 103 % 79-120 % "

Matrix Spike (23J0806-MS1) Prepared: 10/11/23 11:55 Analyzed: 10/20/23 20:19

QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)

5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acetone	1750	1020	1020	ug/kg dry	50	2040	ND	86	36-164%	---	---	ICV-02
Acrylonitrile	1000	50.9	102	ug/kg dry	50	1020	ND	98	65-134%	---	---	
Benzene	1070	5.09	10.2	ug/kg dry	50	1020	ND	105	77-121%	---	---	
Bromobenzene	1040	12.7	25.4	ug/kg dry	50	1020	ND	102	78-121%	---	---	
Bromochloromethane	1040	25.4	50.9	ug/kg dry	50	1020	ND	102	78-125%	---	---	
Bromodichloromethane	1030	25.4	50.9	ug/kg dry	50	1020	ND	101	75-127%	---	---	
Bromoform	1060	50.9	102	ug/kg dry	50	1020	ND	104	67-132%	---	---	
Bromomethane	1140	509	509	ug/kg dry	50	1020	ND	112	53-143%	---	---	
2-Butanone (MEK)	1790	254	509	ug/kg dry	50	2040	ND	88	51-148%	---	---	
n-Butylbenzene	1220	25.4	50.9	ug/kg dry	50	1020	ND	120	70-128%	---	---	
sec-Butylbenzene	1050	25.4	50.9	ug/kg dry	50	1020	ND	103	73-126%	---	---	
tert-Butylbenzene	1010	25.4	50.9	ug/kg dry	50	1020	ND	99	73-125%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A **Soil**

Matrix Spike (23J0806-MS1) Prepared: 10/11/23 11:55 Analyzed: 10/20/23 20:19

QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Carbon disulfide	1020	254	509	ug/kg dry	50	1020	ND	100	63-132%	---	---	
Carbon tetrachloride	1170	25.4	50.9	ug/kg dry	50	1020	ND	115	70-135%	---	---	
Chlorobenzene	1040	12.7	25.4	ug/kg dry	50	1020	ND	102	79-120%	---	---	
Chloroethane	1220	254	509	ug/kg dry	50	1020	ND	119	59-139%	---	---	
Chloroform	1020	25.4	50.9	ug/kg dry	50	1020	ND	101	78-123%	---	---	
Chloromethane	993	127	254	ug/kg dry	50	1020	ND	97	50-136%	---	---	
2-Chlorotoluene	1130	25.4	50.9	ug/kg dry	50	1020	ND	111	75-122%	---	---	
4-Chlorotoluene	1120	25.4	50.9	ug/kg dry	50	1020	ND	110	72-124%	---	---	
Dibromochloromethane	1070	50.9	102	ug/kg dry	50	1020	ND	105	74-126%	---	---	
1,2-Dibromo-3-chloropropane	932	127	254	ug/kg dry	50	1020	ND	91	61-132%	---	---	
1,2-Dibromoethane (EDB)	1080	25.4	50.9	ug/kg dry	50	1020	ND	106	78-122%	---	---	
Dibromomethane	1040	25.4	50.9	ug/kg dry	50	1020	ND	103	78-125%	---	---	
1,2-Dichlorobenzene	1070	12.7	25.4	ug/kg dry	50	1020	ND	105	78-121%	---	---	
1,3-Dichlorobenzene	1170	12.7	25.4	ug/kg dry	50	1020	ND	115	77-121%	---	---	
1,4-Dichlorobenzene	1020	12.7	25.4	ug/kg dry	50	1020	ND	100	75-120%	---	---	
Dichlorodifluoromethane	1040	50.9	102	ug/kg dry	50	1020	ND	102	29-149%	---	---	
1,1-Dichloroethane	1040	12.7	25.4	ug/kg dry	50	1020	ND	102	76-125%	---	---	
1,2-Dichloroethane (EDC)	1030	12.7	25.4	ug/kg dry	50	1020	ND	101	73-128%	---	---	
1,1-Dichloroethene	1080	12.7	25.4	ug/kg dry	50	1020	ND	106	70-131%	---	---	
cis-1,2-Dichloroethene	1100	12.7	25.4	ug/kg dry	50	1020	ND	108	77-123%	---	---	
trans-1,2-Dichloroethene	1040	12.7	25.4	ug/kg dry	50	1020	ND	102	74-125%	---	---	
1,2-Dichloropropane	1050	12.7	25.4	ug/kg dry	50	1020	ND	103	76-123%	---	---	
1,3-Dichloropropane	1020	25.4	50.9	ug/kg dry	50	1020	ND	100	77-121%	---	---	
2,2-Dichloropropane	1100	25.4	50.9	ug/kg dry	50	1020	ND	108	67-133%	---	---	
1,1-Dichloropropene	1200	25.4	50.9	ug/kg dry	50	1020	ND	117	76-125%	---	---	
cis-1,3-Dichloropropene	1210	25.4	50.9	ug/kg dry	50	1020	ND	119	74-126%	---	---	Q-54
trans-1,3-Dichloropropene	1010	25.4	50.9	ug/kg dry	50	1020	ND	99	71-130%	---	---	
Ethylbenzene	1140	12.7	25.4	ug/kg dry	50	1020	ND	112	76-122%	---	---	
Hexachlorobutadiene	1230	50.9	102	ug/kg dry	50	1020	ND	121	61-135%	---	---	
2-Hexanone	1550	509	509	ug/kg dry	50	2040	ND	76	53-145%	---	---	Q-54a
Isopropylbenzene	1040	25.4	50.9	ug/kg dry	50	1020	ND	102	68-134%	---	---	
4-Isopropyltoluene	1040	25.4	50.9	ug/kg dry	50	1020	ND	102	73-127%	---	---	
Methylene chloride	1050	254	509	ug/kg dry	50	1020	ND	103	70-128%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Batch 23J0806 - EPA 5035A — **Soil**

Matrix Spike (23J0806-MS1) Prepared: 10/11/23 11:55 Analyzed: 10/20/23 20:19

QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
4-Methyl-2-pentanone (MiBK)	1900	254	509	ug/kg dry	50	2040	ND	93	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1080	25.4	50.9	ug/kg dry	50	1020	ND	106	73-125%	---	---	
Naphthalene	854	102	204	ug/kg dry	50	1020	ND	84	62-129%	---	---	
n-Propylbenzene	1100	12.7	25.4	ug/kg dry	50	1020	ND	108	73-125%	---	---	
Styrene	1030	25.4	50.9	ug/kg dry	50	1020	ND	101	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1080	12.7	25.4	ug/kg dry	50	1020	ND	107	78-125%	---	---	
1,1,2,2-Tetrachloroethane	968	25.4	50.9	ug/kg dry	50	1020	ND	95	70-124%	---	---	
Tetrachloroethene (PCE)	1140	12.7	25.4	ug/kg dry	50	1020	ND	112	73-128%	---	---	
Toluene	1020	25.4	50.9	ug/kg dry	50	1020	ND	100	77-121%	---	---	
1,2,3-Trichlorobenzene	1080	127	254	ug/kg dry	50	1020	ND	106	66-130%	---	---	
1,2,4-Trichlorobenzene	1080	127	254	ug/kg dry	50	1020	ND	106	67-129%	---	---	
1,1,1-Trichloroethane	1110	12.7	25.4	ug/kg dry	50	1020	ND	109	73-130%	---	---	
1,1,2-Trichloroethane	1030	12.7	25.4	ug/kg dry	50	1020	ND	101	78-121%	---	---	
Trichloroethene (TCE)	1090	12.7	25.4	ug/kg dry	50	1020	ND	107	77-123%	---	---	
Trichlorofluoromethane	1400	50.9	102	ug/kg dry	50	1020	ND	137	62-140%	---	---	
1,2,3-Trichloropropane	1020	25.4	50.9	ug/kg dry	50	1020	ND	100	73-125%	---	---	
1,2,4-Trimethylbenzene	1040	25.4	50.9	ug/kg dry	50	1020	ND	102	75-123%	---	---	
1,3,5-Trimethylbenzene	1040	25.4	50.9	ug/kg dry	50	1020	ND	102	73-124%	---	---	
Vinyl chloride	979	12.7	25.4	ug/kg dry	50	1020	ND	96	56-135%	---	---	
m,p-Xylene	2090	25.4	50.9	ug/kg dry	50	2040	ND	103	77-124%	---	---	
o-Xylene	995	12.7	25.4	ug/kg dry	50	1020	ND	98	77-123%	---	---	

Surr		Recovery	Limits	Dilution
Surr:	*1,4-Difluorobenzene (Surr)*	*100 %*	*80-120 %*	*1x*
	Toluene-d8 (Surr)	*95 %*	*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)	*101 %*	*79-120 %*	*"*

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Batch 23J0900 - EPA 3546 **Soil**

Blank (23J0900-BLK1) Prepared: 10/24/23 06:45 Analyzed: 10/24/23 17:38 **C-07**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
EPA 8082A												
Aroclor 1016	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 99 % Limits: 60-125 % Dilution: 1x

LCS (23J0900-BS1) Prepared: 10/24/23 06:45 Analyzed: 10/24/23 17:56 **C-07**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
EPA 8082A												
Aroclor 1016	200	5.00	10.0	ug/kg wet	1	250	---	80	47-134%	---	---	
Aroclor 1260	217	5.00	10.0	ug/kg wet	1	250	---	87	53-140%	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 94 % Limits: 60-125 % Dilution: 1x

Duplicate (23J0900-DUP1) Prepared: 10/24/23 06:45 Analyzed: 10/24/23 18:49 **C-07**

QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
EPA 8082A												
Aroclor 1016	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1260	ND	10.1	20.1	ug/kg dry	1	---	ND	---	---	---	30%	

Surr: Decachlorobiphenyl (Surr) Recovery: 68 % Limits: 60-125 % Dilution: 1x

Matrix Spike (23J0900-MS1) Prepared: 10/24/23 06:45 Analyzed: 10/25/23 00:43 **C-07**

QC Source Sample: Non-SDG (A3J1576-07)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
EPA 8082A												
Aroclor 1016	225	5.40	10.8	ug/kg dry	1	270	ND	83	47-134%	---	---	
Aroclor 1260	229	5.40	10.8	ug/kg dry	1	270	ND	85	53-140%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0900 - EPA 3546							**Soil**					
Matrix Spike (23J0900-MS1)		Prepared: 10/24/23 06:45				Analyzed: 10/25/23 00:43						**C-07**
QC Source Sample: Non-SDG (A3J1576-07)												
Surr: Decachlorobiphenyl (Surr)		*Recovery: 100 %*		*Limits: 60-125 %*			*Dilution: 1x*					

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Batch 23J1014 - EPA 3546 — **Soil**

Blank (23J1014-BLK1) Prepared: 10/26/23 04:52 Analyzed: 10/26/23 18:41 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 90 % Limits: 60-125 % Dilution: 1x

LCS (23J1014-BS1) Prepared: 10/26/23 04:52 Analyzed: 10/26/23 18:59 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	186	5.00	10.0	ug/kg wet	1	250	---	74	47-134%	---	---	
Aroclor 1260	213	5.00	10.0	ug/kg wet	1	250	---	85	53-140%	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 94 % Limits: 60-125 % Dilution: 1x

Duplicate (23J1014-DUP1) Prepared: 10/26/23 04:52 Analyzed: 10/26/23 19:52 **C-07, PRO**

QC Source Sample: Non-SDG (A3J1253-02)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1248	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1260	ND	4.83	9.66	ug/kg dry	1	---	ND	---	---	---	30%	

Surr: Decachlorobiphenyl (Surr) Recovery: 82 % Limits: 60-125 % Dilution: 1x

Matrix Spike (23J1014-MS2) Prepared: 10/26/23 04:52 Analyzed: 10/27/23 11:58 **C-07**

QC Source Sample: TP-08-IM-4.0-5.0-20231011 (A3J1366-15RE1)

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	245	5.42	10.8	ug/kg dry	1	271	ND	90	47-134%	---	---	
Aroclor 1260	191	5.42	10.8	ug/kg dry	1	271	82.9	**40**	**53-140%**	---	---	Q-01

Surr: Decachlorobiphenyl (Surr) Recovery: 68 % Limits: 60-125 % Dilution: 1x

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J1014 - EPA 3546							**Soil**					

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Batch 23J1015 - EPA 3546 — **Soil**

Blank (23J1015-BLK1) Prepared: 10/26/23 04:55 Analyzed: 10/26/23 19:00 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 112 % Limits: 60-125 % Dilution: 1x

LCS (23J1015-BS1) Prepared: 10/26/23 04:55 Analyzed: 10/26/23 19:17 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	213	5.00	10.0	ug/kg wet	1	250	---	85	47-134%	---	---	
Aroclor 1260	241	5.00	10.0	ug/kg wet	1	250	---	96	53-140%	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 116 % Limits: 60-125 % Dilution: 1x

Duplicate (23J1015-DUP1) Prepared: 10/26/23 04:55 Analyzed: 10/26/23 20:10 **C-07**

QC Source Sample: TP-07-IM-9.0-10.0-20231011 (A3J1366-16)

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	33.8	33.8	ug/kg dry	1	---	ND	---	---	---	30%	R-02
Aroclor 1221	ND	10.7	10.7	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	108	108	ug/kg dry	1	---	ND	---	---	---	30%	R-02
Aroclor 1242	ND	46.9	46.9	ug/kg dry	1	---	ND	---	---	---	30%	R-02
Aroclor 1248	ND	33.2	33.2	ug/kg dry	1	---	ND	---	---	---	30%	R-02
Aroclor 1254	**95.7**	5.35	10.7	ug/kg dry	1	---	74.2	---	---	25	30%	P-12
Aroclor 1260	**74.3**	5.35	10.7	ug/kg dry	1	---	53.6	---	---	**32**	**30%**	P-12, Q-17

Surr: Decachlorobiphenyl (Surr) Recovery: 108 % Limits: 60-125 % Dilution: 1x

Matrix Spike (23J1015-MS2) Prepared: 10/26/23 04:55 Analyzed: 10/27/23 11:41 **C-07**

QC Source Sample: TP-01-IM-5.0-6.0-20231010 (A3J1366-28)

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	1420	6.70	13.4	ug/kg dry	1	335	ND	**422**	**47-134%**	---	---	E, Q-43
Aroclor 1260	399	6.70	13.4	ug/kg dry	1	335	67.0	99	53-140%	---	---	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1366 - 11 10 23 1227

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes

Batch 23J1015 - EPA 3546 **Soil**

Matrix Spike (23J1015-MS2) Prepared: 10/26/23 04:55 Analyzed: 10/27/23 11:41 **C-07**

QC Source Sample: TP-01-IM-5.0-6.0-20231010 (A3J1366-28)

Surr: Decachlorobiphenyl (Surr) Recovery: 101 % Limits: 60-125 % Dilution: 1x

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0793 - EPA 3546 **Soil**

Blank (23J0793-BLK2) Prepared: 10/20/23 04:48 Analyzed: 10/23/23 10:18

EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acenaphthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							Soil					
Blank (23J0793-BLK2)			Prepared: 10/20/23 04:48			Analyzed: 10/23/23 10:18						
2,3,5,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	20.0	40.0	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Benzoic acid	ND	167	333	ug/kg wet	1	---	---	---	---	---	---	
Benzyl alcohol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
Blank (23J0793-BLK2)			Prepared: 10/20/23 04:48		Analyzed: 10/23/23 10:18							
Azobenzene (1,2-DPH)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		*Recovery:*	*94 %*	*Limits:*	*37-122 %*	*Dilution:*	*1x*					
2-Fluorobiphenyl (Surr)			*88 %*		*44-120 %*		*"*					
Phenol-d6 (Surr)			*91 %*		*33-122 %*		*"*					
p-Terphenyl-d14 (Surr)			*85 %*		*54-127 %*		*"*					
2-Fluorophenol (Surr)			*76 %*		*35-120 %*		*"*					
2,4,6-Tribromophenol (Surr)			*94 %*		*39-132 %*		*"*					
LCS (23J0793-BS2)			Prepared: 10/20/23 04:48		Analyzed: 10/23/23 10:52							
EPA 8270E												
Acenaphthene	469	5.32	10.7	ug/kg wet	4	533	---	88	40-123%	---	---	
Acenaphthylene	504	5.32	10.7	ug/kg wet	4	533	---	95	32-132%	---	---	
Anthracene	492	5.32	10.7	ug/kg wet	4	533	---	92	47-123%	---	---	
Benz(a)anthracene	473	5.32	10.7	ug/kg wet	4	533	---	89	49-126%	---	---	
Benzo(a)pyrene	533	8.00	16.0	ug/kg wet	4	533	---	100	45-129%	---	---	
Benzo(b)fluoranthene	517	8.00	16.0	ug/kg wet	4	533	---	97	45-132%	---	---	
Benzo(k)fluoranthene	541	8.00	16.0	ug/kg wet	4	533	---	101	47-132%	---	---	
Benzo(g,h,i)perylene	484	5.32	10.7	ug/kg wet	4	533	---	91	43-134%	---	---	
Chrysene	467	5.32	10.7	ug/kg wet	4	533	---	88	50-124%	---	---	
Dibenz(a,h)anthracene	481	5.32	10.7	ug/kg wet	4	533	---	90	45-134%	---	---	
Fluoranthene	523	5.32	10.7	ug/kg wet	4	533	---	98	50-127%	---	---	
Fluorene	463	5.32	10.7	ug/kg wet	4	533	---	87	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	437	5.32	10.7	ug/kg wet	4	533	---	82	45-133%	---	---	
1-Methylnaphthalene	514	10.7	21.3	ug/kg wet	4	533	---	96	40-120%	---	---	
2-Methylnaphthalene	538	10.7	21.3	ug/kg wet	4	533	---	101	38-122%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
LCS (23J0793-BS2)						Prepared: 10/20/23 04:48	Analyzed: 10/23/23 10:52					
Naphthalene	475	10.7	21.3	ug/kg wet	4	533	---	89	35-123%	---	---	
Phenanthrene	478	5.32	10.7	ug/kg wet	4	533	---	90	50-121%	---	---	
Pyrene	525	5.32	10.7	ug/kg wet	4	533	---	98	47-127%	---	---	
Carbazole	511	8.00	16.0	ug/kg wet	4	533	---	96	50-123%	---	---	
Dibenzofuran	521	5.32	10.7	ug/kg wet	4	533	---	98	44-120%	---	---	
2-Chlorophenol	529	26.7	53.2	ug/kg wet	4	533	---	99	34-121%	---	---	
4-Chloro-3-methylphenol	510	53.2	107	ug/kg wet	4	533	---	96	45-122%	---	---	
2,4-Dichlorophenol	612	26.7	53.2	ug/kg wet	4	533	---	115	40-122%	---	---	Q-41
2,4-Dimethylphenol	546	26.7	53.2	ug/kg wet	4	533	---	102	30-127%	---	---	Q-41
2,4-Dinitrophenol	574	133	267	ug/kg wet	4	533	---	108	10-137%	---	---	Q-41
4,6-Dinitro-2-methylphenol	538	133	267	ug/kg wet	4	533	---	101	29-132%	---	---	
2-Methylphenol	603	13.3	26.7	ug/kg wet	4	533	---	113	32-122%	---	---	Q-41
3+4-Methylphenol(s)	634	13.3	26.7	ug/kg wet	4	533	---	119	34-120%	---	---	Q-41
2-Nitrophenol	577	53.2	107	ug/kg wet	4	533	---	108	36-123%	---	---	Q-41
4-Nitrophenol	565	53.2	107	ug/kg wet	4	533	---	106	30-132%	---	---	
Pentachlorophenol (PCP)	494	53.2	107	ug/kg wet	4	533	---	93	25-133%	---	---	
Phenol	634	10.7	21.3	ug/kg wet	4	533	---	119	34-121%	---	---	Q-41
2,3,4,6-Tetrachlorophenol	508	26.7	53.2	ug/kg wet	4	533	---	95	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	530	26.7	53.2	ug/kg wet	4	533	---	99	40-120%	---	---	
2,4,5-Trichlorophenol	579	26.7	53.2	ug/kg wet	4	533	---	109	41-124%	---	---	Q-41
2,4,6-Trichlorophenol	572	26.7	53.2	ug/kg wet	4	533	---	107	39-126%	---	---	Q-41
Bis(2-ethylhexyl)phthalate	477	80.0	160	ug/kg wet	4	533	---	89	51-133%	---	---	
Butyl benzyl phthalate	488	53.2	107	ug/kg wet	4	533	---	92	48-132%	---	---	
Diethylphthalate	410	53.2	107	ug/kg wet	4	533	---	77	50-124%	---	---	
Dimethylphthalate	479	53.2	107	ug/kg wet	4	533	---	90	48-124%	---	---	
Di-n-butylphthalate	482	53.2	107	ug/kg wet	4	533	---	90	51-128%	---	---	
Di-n-octyl phthalate	498	53.2	107	ug/kg wet	4	533	---	93	45-140%	---	---	
N-Nitrosodimethylamine	392	13.3	26.7	ug/kg wet	4	533	---	74	23-120%	---	---	
N-Nitroso-di-n-propylamine	484	13.3	26.7	ug/kg wet	4	533	---	91	36-120%	---	---	
N-Nitrosodiphenylamine	519	13.3	26.7	ug/kg wet	4	533	---	97	38-127%	---	---	
Bis(2-Chloroethoxy) methane	512	13.3	26.7	ug/kg wet	4	533	---	96	36-121%	---	---	
Bis(2-Chloroethyl) ether	451	13.3	26.7	ug/kg wet	4	533	---	85	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	447	13.3	26.7	ug/kg wet	4	533	---	84	39-120%	---	---	
Hexachlorobenzene	500	5.32	10.7	ug/kg wet	4	533	---	94	45-122%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
LCS (23J0793-BS2)			Prepared: 10/20/23 04:48			Analyzed: 10/23/23 10:52						
Hexachlorobutadiene	473	13.3	26.7	ug/kg wet	4	533	---	89	32-123%	---	---	
Hexachlorocyclopentadiene	531	26.7	53.2	ug/kg wet	4	533	---	100	10-140%	---	---	Q-41
Hexachloroethane	459	13.3	26.7	ug/kg wet	4	533	---	86	28-120%	---	---	
2-Chloronaphthalene	524	5.32	10.7	ug/kg wet	4	533	---	98	41-120%	---	---	
1,2,4-Trichlorobenzene	481	13.3	26.7	ug/kg wet	4	533	---	90	34-120%	---	---	
4-Bromophenyl phenyl ether	519	13.3	26.7	ug/kg wet	4	533	---	97	46-124%	---	---	
4-Chlorophenyl phenyl ether	505	13.3	26.7	ug/kg wet	4	533	---	95	45-121%	---	---	
Aniline	363	26.7	53.2	ug/kg wet	4	533	---	68	10-120%	---	---	Q-31
4-Chloroaniline	404	13.3	26.7	ug/kg wet	4	533	---	76	17-120%	---	---	
2-Nitroaniline	508	107	213	ug/kg wet	4	533	---	95	44-127%	---	---	
3-Nitroaniline	449	107	213	ug/kg wet	4	533	---	84	33-120%	---	---	
4-Nitroaniline	525	107	213	ug/kg wet	4	533	---	98	51-125%	---	---	
Nitrobenzene	529	53.2	107	ug/kg wet	4	533	---	99	34-122%	---	---	
2,4-Dinitrotoluene	476	53.2	107	ug/kg wet	4	533	---	89	48-126%	---	---	
2,6-Dinitrotoluene	479	53.2	107	ug/kg wet	4	533	---	90	46-124%	---	---	
Benzoic acid	883	668	668	ug/kg wet	4	1070	---	83	10-140%	---	---	
Benzyl alcohol	618	26.7	53.2	ug/kg wet	4	533	---	116	29-122%	---	---	Q-41
Isophorone	450	13.3	26.7	ug/kg wet	4	533	---	84	30-122%	---	---	
Azobenzene (1,2-DPH)	481	13.3	26.7	ug/kg wet	4	533	---	90	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	452	133	267	ug/kg wet	4	533	---	85	61-121%	---	---	
3,3'-Dichlorobenzidine	1190	107	213	ug/kg wet	4	1070	---	111	22-121%	---	---	Q-31, Q-52
1,2-Dinitrobenzene	514	133	267	ug/kg wet	4	533	---	96	44-120%	---	---	
1,3-Dinitrobenzene	499	133	267	ug/kg wet	4	533	---	93	43-127%	---	---	
1,4-Dinitrobenzene	533	133	267	ug/kg wet	4	533	---	100	37-132%	---	---	
Pyridine	337	26.7	53.2	ug/kg wet	4	533	---	63	10-120%	---	---	
1,2-Dichlorobenzene	467	13.3	26.7	ug/kg wet	4	533	---	88	33-120%	---	---	
1,3-Dichlorobenzene	451	13.3	26.7	ug/kg wet	4	533	---	85	30-120%	---	---	
1,4-Dichlorobenzene	454	13.3	26.7	ug/kg wet	4	533	---	85	31-120%	---	---	

Surr:	*Nitrobenzene-d5 (Surr)*	*Recovery:* *103 %*	*Limits:*	*37-122 %*	*Dilution:*	*4x*
	2-Fluorobiphenyl (Surr)	*98 %*		*44-120 %*		*"*
	Phenol-d6 (Surr)	*111 %*		*33-122 %*		*"*
	p-Terphenyl-d14 (Surr)	*99 %*		*54-127 %*		*"*
	2-Fluorophenol (Surr)	*87 %*		*35-120 %*		*"*
	2,4,6-Tribromophenol (Surr)	*112 %*		*39-132 %*		*"*

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0793 - EPA 3546 — **Soil**

Duplicate (23J0793-DUP2) Prepared: 10/20/23 04:48 Analyzed: 10/23/23 14:14 **R-04**

QC Source Sample: TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)

EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acenaphthene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Acenaphthylene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Anthracene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	87.9	176	ug/kg dry	40	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	87.9	176	ug/kg dry	40	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	87.9	176	ug/kg dry	40	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	58.5	117	ug/kg dry	40	---	100	---	---	***	**30%**	Q-17
Chrysene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Fluoranthene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Fluorene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	58.5	117	ug/kg dry	40	---	68.1	---	---	***	**30%**	Q-17
1-Methylnaphthalene	ND	117	234	ug/kg dry	40	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	117	234	ug/kg dry	40	---	ND	---	---	---	30%	
Naphthalene	ND	117	234	ug/kg dry	40	---	ND	---	---	---	30%	
Phenanthrene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Pyrene	ND	58.5	117	ug/kg dry	40	---	71.3	---	---	***	**30%**	Q-17
Carbazole	ND	87.9	176	ug/kg dry	40	---	ND	---	---	---	30%	
Dibenzofuran	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
2-Chlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
2-Methylphenol	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
2-Nitrophenol	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
4-Nitrophenol	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0793 - EPA 3546 Soil

Duplicate (23J0793-DUP2) Prepared: 10/20/23 04:48 Analyzed: 10/23/23 14:14 **R-04**

QC Source Sample: TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Phenol	ND	117	234	ug/kg dry	40	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	879	1760	ug/kg dry	40	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
Diethylphthalate	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
Dimethylphthalate	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachloroethane	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	58.5	117	ug/kg dry	40	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Aniline	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chloroaniline	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
2-Nitroaniline	ND	1170	2340	ug/kg dry	40	---	ND	---	---	---	30%	
3-Nitroaniline	ND	1170	2340	ug/kg dry	40	---	ND	---	---	---	30%	
4-Nitroaniline	ND	1170	2340	ug/kg dry	40	---	ND	---	---	---	30%	
Nitrobenzene	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	585	1170	ug/kg dry	40	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
Duplicate (23J0793-DUP2)			Prepared: 10/20/23 04:48		Analyzed: 10/23/23 14:14							**R-04**
QC Source Sample: TP-01-IM-10.0-11.0-20231010 (A3J1366-06RE1)												
Benzoic acid	ND	7340	14600	ug/kg dry	40	---	ND	---	---	---	30%	
Benzyl alcohol	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
Isophorone	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	1170	2340	ug/kg dry	40	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	1460	2930	ug/kg dry	40	---	ND	---	---	---	30%	
Pyridine	ND	293	585	ug/kg dry	40	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	146	293	ug/kg dry	40	---	ND	---	---	---	30%	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 111 %*	*Limits: 37-122 %*	*Dilution: 40x*	*S-05*
2-Fluorobiphenyl (Surr)	*120 %*	*44-120 %*	*"*	*S-05*
Phenol-d6 (Surr)	*109 %*	*33-122 %*	*"*	*S-05*
p-Terphenyl-d14 (Surr)	*124 %*	*54-127 %*	*"*	*S-05*
2-Fluorophenol (Surr)	*90 %*	*35-120 %*	*"*	*S-05*
2,4,6-Tribromophenol (Surr)	*122 %*	*39-132 %*	*"*	*S-05*

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Matrix Spike (23J0793-MS2)			Prepared: 10/20/23 04:48		Analyzed: 10/23/23 13:07							
QC Source Sample: TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)												
EPA 8270E												
Acenaphthene	798	5.97	12.0	ug/kg dry	4	599	ND	**133**	**40-123%**	---	---	Q-01
Acenaphthylene	858	5.97	12.0	ug/kg dry	4	599	ND	**143**	**32-132%**	---	---	Q-01
Anthracene	816	5.97	12.0	ug/kg dry	4	599	ND	**136**	**47-123%**	---	---	Q-01
Benz(a)anthracene	825	5.97	12.0	ug/kg dry	4	599	ND	**138**	**49-126%**	---	---	Q-01
Benzo(a)pyrene	927	8.98	18.0	ug/kg dry	4	599	ND	**155**	**45-129%**	---	---	Q-01
Benzo(b)fluoranthene	919	8.98	18.0	ug/kg dry	4	599	ND	**153**	**45-132%**	---	---	Q-01
Benzo(k)fluoranthene	913	8.98	18.0	ug/kg dry	4	599	ND	**152**	**47-132%**	---	---	Q-01
Benzo(g,h,i)perylene	849	5.97	12.0	ug/kg dry	4	599	ND	**142**	**43-134%**	---	---	Q-01
Chrysene	812	5.97	12.0	ug/kg dry	4	599	ND	**136**	**50-124%**	---	---	Q-01
Dibenz(a,h)anthracene	846	5.97	12.0	ug/kg dry	4	599	ND	**141**	**45-134%**	---	---	Q-01

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
Matrix Spike (23J0793-MS2)			Prepared: 10/20/23 04:48			Analyzed: 10/23/23 13:07						
QC Source Sample: TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)												
Fluoranthene	866	5.97	12.0	ug/kg dry	4	599	ND	**145**	**50-127%**	---	---	Q-01
Fluorene	773	5.97	12.0	ug/kg dry	4	599	ND	**129**	**43-125%**	---	---	Q-01
Indeno(1,2,3-cd)pyrene	788	5.97	12.0	ug/kg dry	4	599	ND	132	45-133%	---	---	
1-Methylnaphthalene	878	12.0	23.9	ug/kg dry	4	599	ND	**147**	**40-120%**	---	---	Q-01
2-Methylnaphthalene	930	12.0	23.9	ug/kg dry	4	599	ND	**155**	**38-122%**	---	---	Q-01
Naphthalene	819	12.0	23.9	ug/kg dry	4	599	ND	**137**	**35-123%**	---	---	Q-01
Phenanthrene	790	5.97	12.0	ug/kg dry	4	599	ND	**132**	**50-121%**	---	---	Q-01
Pyrene	864	5.97	12.0	ug/kg dry	4	599	ND	**144**	**47-127%**	---	---	Q-01
Carbazole	808	8.98	18.0	ug/kg dry	4	599	ND	**135**	**50-123%**	---	---	Q-01
Dibenzofuran	884	5.97	12.0	ug/kg dry	4	599	ND	**148**	**44-120%**	---	---	Q-01
2-Chlorophenol	903	30.0	59.7	ug/kg dry	4	599	ND	**151**	**34-121%**	---	---	Q-01
4-Chloro-3-methylphenol	884	59.7	120	ug/kg dry	4	599	ND	**148**	**45-122%**	---	---	Q-01
2,4-Dichlorophenol	961	30.0	59.7	ug/kg dry	4	599	ND	**160**	**40-122%**	---	---	Q-41, Q-01
2,4-Dimethylphenol	1090	30.0	59.7	ug/kg dry	4	599	ND	**182**	**30-127%**	---	---	Q-41, Q-01
2,4-Dinitrophenol	887	150	300	ug/kg dry	4	599	ND	**148**	**10-137%**	---	---	Q-41, Q-01
4,6-Dinitro-2-methylphenol	877	150	300	ug/kg dry	4	599	ND	**146**	**29-132%**	---	---	Q-01
2-Methylphenol	1070	15.0	30.0	ug/kg dry	4	599	ND	**179**	**32-122%**	---	---	Q-41, Q-01
3+4-Methylphenol(s)	1060	15.0	30.0	ug/kg dry	4	599	ND	**177**	**34-120%**	---	---	Q-41, Q-01
2-Nitrophenol	965	59.7	120	ug/kg dry	4	599	ND	**161**	**36-123%**	---	---	Q-41, Q-01
4-Nitrophenol	912	59.7	120	ug/kg dry	4	599	ND	**152**	**30-132%**	---	---	Q-01
Pentachlorophenol (PCP)	856	59.7	120	ug/kg dry	4	599	ND	**143**	**25-133%**	---	---	Q-01
Phenol	1100	12.0	23.9	ug/kg dry	4	599	ND	**184**	**34-121%**	---	---	Q-41, Q-01
2,3,4,6-Tetrachlorophenol	878	30.0	59.7	ug/kg dry	4	599	ND	**147**	**44-125%**	---	---	Q-01
2,3,5,6-Tetrachlorophenol	926	30.0	59.7	ug/kg dry	4	599	ND	**155**	**40-120%**	---	---	Q-01
2,4,5-Trichlorophenol	984	30.0	59.7	ug/kg dry	4	599	ND	**164**	**41-124%**	---	---	Q-01, Q-41
2,4,6-Trichlorophenol	917	30.0	59.7	ug/kg dry	4	599	ND	**153**	**39-126%**	---	---	Q-41, Q-01
Bis(2-ethylhexyl)phthalate	887	89.8	180	ug/kg dry	4	599	ND	**148**	**51-133%**	---	---	Q-01
Butyl benzyl phthalate	888	59.7	120	ug/kg dry	4	599	ND	**148**	**48-132%**	---	---	Q-01
Diethylphthalate	690	59.7	120	ug/kg dry	4	599	ND	115	50-124%	---	---	
Dimethylphthalate	835	59.7	120	ug/kg dry	4	599	ND	**139**	**48-124%**	---	---	Q-01
Di-n-butylphthalate	804	59.7	120	ug/kg dry	4	599	ND	**134**	**51-128%**	---	---	Q-01
Di-n-octyl phthalate	935	59.7	120	ug/kg dry	4	599	ND	**156**	**45-140%**	---	---	Q-01
N-Nitrosodimethylamine	695	15.0	30.0	ug/kg dry	4	599	ND	116	23-120%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0793 - EPA 3546 — **Soil**

Matrix Spike (23J0793-MS2) Prepared: 10/20/23 04:48 Analyzed: 10/23/23 13:07

QC Source Sample: TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
N-Nitroso-di-n-propylamine	820	15.0	30.0	ug/kg dry	4	599	ND	**137**	**36-120%**	---	---	Q-01
N-Nitrosodiphenylamine	846	15.0	30.0	ug/kg dry	4	599	ND	**141**	**38-127%**	---	---	Q-01
Bis(2-Chloroethoxy) methane	869	15.0	30.0	ug/kg dry	4	599	ND	**145**	**36-121%**	---	---	Q-01
Bis(2-Chloroethyl) ether	788	15.0	30.0	ug/kg dry	4	599	ND	**132**	**31-120%**	---	---	Q-01
2,2'-Oxybis(1-Chloropropane)	724	15.0	30.0	ug/kg dry	4	599	ND	**121**	**39-120%**	---	---	Q-01
Hexachlorobenzene	854	5.97	12.0	ug/kg dry	4	599	ND	**143**	**45-122%**	---	---	Q-01
Hexachlorobutadiene	777	15.0	30.0	ug/kg dry	4	599	ND	**130**	**32-123%**	---	---	Q-01
Hexachlorocyclopentadiene	865	30.0	59.7	ug/kg dry	4	599	ND	**144**	**10-140%**	---	---	Q-41, Q-01
Hexachloroethane	802	15.0	30.0	ug/kg dry	4	599	ND	**134**	**28-120%**	---	---	Q-01
2-Chloronaphthalene	878	5.97	12.0	ug/kg dry	4	599	ND	**147**	**41-120%**	---	---	Q-01
1,2,4-Trichlorobenzene	827	15.0	30.0	ug/kg dry	4	599	ND	**138**	**34-120%**	---	---	Q-01
4-Bromophenyl phenyl ether	871	15.0	30.0	ug/kg dry	4	599	ND	**145**	**46-124%**	---	---	Q-01
4-Chlorophenyl phenyl ether	841	15.0	30.0	ug/kg dry	4	599	ND	**140**	**45-121%**	---	---	Q-01
Aniline	586	30.0	59.7	ug/kg dry	4	599	ND	98	10-120%	---	---	Q-31
4-Chloroaniline	681	15.0	30.0	ug/kg dry	4	599	ND	114	17-120%	---	---	
2-Nitroaniline	865	120	239	ug/kg dry	4	599	ND	**144**	**44-127%**	---	---	Q-01
3-Nitroaniline	674	120	239	ug/kg dry	4	599	ND	113	33-120%	---	---	
4-Nitroaniline	840	120	239	ug/kg dry	4	599	ND	**140**	**51-125%**	---	---	Q-01
Nitrobenzene	890	59.7	120	ug/kg dry	4	599	ND	**149**	**34-122%**	---	---	Q-01
2,4-Dinitrotoluene	807	59.7	120	ug/kg dry	4	599	ND	**135**	**48-126%**	---	---	Q-01
2,6-Dinitrotoluene	828	59.7	120	ug/kg dry	4	599	ND	**138**	**46-124%**	---	---	Q-01
Benzoic acid	1150	750	1500	ug/kg dry	4	1200	ND	96	10-140%	---	---	Q-01, J
Benzyl alcohol	1000	30.0	59.7	ug/kg dry	4	599	ND	**167**	**29-122%**	---	---	Q-41, Q-01
Isophorone	781	15.0	30.0	ug/kg dry	4	599	ND	**130**	**30-122%**	---	---	Q-01
Azobenzene (1,2-DPH)	793	15.0	30.0	ug/kg dry	4	599	ND	**132**	**39-125%**	---	---	Q-01
Bis(2-Ethylhexyl) adipate	853	150	300	ug/kg dry	4	599	ND	**142**	**61-121%**	---	---	Q-01
3,3'-Dichlorobenzidine	1760	120	239	ug/kg dry	4	1200	ND	**147**	**22-121%**	---	---	Q-31, Q-52, Q-01
1,2-Dinitrobenzene	878	150	300	ug/kg dry	4	599	ND	**147**	**44-120%**	---	---	Q-01
1,3-Dinitrobenzene	841	150	300	ug/kg dry	4	599	ND	**140**	**43-127%**	---	---	Q-01
1,4-Dinitrobenzene	859	150	300	ug/kg dry	4	599	ND	**143**	**37-132%**	---	---	Q-01
Pyridine	582	30.0	59.7	ug/kg dry	4	599	ND	97	10-120%	---	---	
1,2-Dichlorobenzene	787	15.0	30.0	ug/kg dry	4	599	ND	**131**	**33-120%**	---	---	Q-01
1,3-Dichlorobenzene	771	15.0	30.0	ug/kg dry	4	599	ND	**129**	**30-120%**	---	---	Q-01

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0793 - EPA 3546							**Soil**					
Matrix Spike (23J0793-MS2)			Prepared: 10/20/23 04:48		Analyzed: 10/23/23 13:07							
QC Source Sample: TP-04-NS-9.0-10.0-20231010 (A3J1366-07RE2)												
1,4-Dichlorobenzene	768	15.0	30.0	ug/kg dry	4	599	ND	**128**	**31-120%**	---	---	Q-01
Surr: Nitrobenzene-d5 (Surr)		*Recovery: 154 %*		*Limits: 37-122 %*		*Dilution: 4x*						*S-05*
2-Fluorobiphenyl (Surr)		*147 %*		*44-120 %*		*"*						*S-05*
Phenol-d6 (Surr)		*176 %*		*33-122 %*		*"*						*S-05*
p-Terphenyl-d14 (Surr)		*158 %*		*54-127 %*		*"*						*S-05*
2-Fluorophenol (Surr)		*137 %*		*35-120 %*		*"*						*S-05*
2,4,6-Tribromophenol (Surr)		*169 %*		*39-132 %*		*"*						*S-05*

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0901 - EPA 3546 **Soil**

Blank (23J0901-BLK2) Prepared: 10/24/23 06:49 Analyzed: 10/24/23 15:35

EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Acenaphthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
Blank (23J0901-BLK2)			Prepared: 10/24/23 06:49			Analyzed: 10/24/23 15:35						
2,3,5,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	20.0	40.0	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Benzoic acid	ND	167	333	ug/kg wet	1	---	---	---	---	---	---	
Benzyl alcohol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
Blank (23J0901-BLK2)			Prepared: 10/24/23 06:49			Analyzed: 10/24/23 15:35						
Azobenzene (1,2-DPH)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	

Surr:	*Nitrobenzene-d5 (Surr)*	*Recovery:*	*95 %*	*Limits:*	*37-122 %*	*Dilution:*	*1x*
	2-Fluorobiphenyl (Surr)		*82 %*		*44-120 %*		*"*
	Phenol-d6 (Surr)		*97 %*		*33-122 %*		*"*
	p-Terphenyl-d14 (Surr)		*82 %*		*54-127 %*		*"*
	2-Fluorophenol (Surr)		*76 %*		*35-120 %*		*"*
	2,4,6-Tribromophenol (Surr)		*97 %*		*39-132 %*		*"*

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
LCS (23J0901-BS2)			Prepared: 10/24/23 06:49			Analyzed: 10/24/23 16:09						
EPA 8270E												
Acenaphthene	541	5.32	10.7	ug/kg wet	4	533	---	101	40-123%	---	---	
Acenaphthylene	571	5.32	10.7	ug/kg wet	4	533	---	107	32-132%	---	---	
Anthracene	551	5.32	10.7	ug/kg wet	4	533	---	103	47-123%	---	---	
Benz(a)anthracene	552	5.32	10.7	ug/kg wet	4	533	---	103	49-126%	---	---	
Benzo(a)pyrene	628	8.00	16.0	ug/kg wet	4	533	---	118	45-129%	---	---	
Benzo(b)fluoranthene	610	8.00	16.0	ug/kg wet	4	533	---	114	45-132%	---	---	
Benzo(k)fluoranthene	636	8.00	16.0	ug/kg wet	4	533	---	119	47-132%	---	---	
Benzo(g,h,i)perylene	549	5.32	10.7	ug/kg wet	4	533	---	103	43-134%	---	---	
Chrysene	554	5.32	10.7	ug/kg wet	4	533	---	104	50-124%	---	---	
Dibenz(a,h)anthracene	575	5.32	10.7	ug/kg wet	4	533	---	108	45-134%	---	---	
Fluoranthene	581	5.32	10.7	ug/kg wet	4	533	---	109	50-127%	---	---	
Fluorene	526	5.32	10.7	ug/kg wet	4	533	---	99	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	526	5.32	10.7	ug/kg wet	4	533	---	99	45-133%	---	---	
1-Methylnaphthalene	576	10.7	21.3	ug/kg wet	4	533	---	108	40-120%	---	---	
2-Methylnaphthalene	598	10.7	21.3	ug/kg wet	4	533	---	112	38-122%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0901 - EPA 3546 **Soil**

LCS (23J0901-BS2) Prepared: 10/24/23 06:49 Analyzed: 10/24/23 16:09

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Naphthalene	535	10.7	21.3	ug/kg wet	4	533	---	100	35-123%	---	---	
Phenanthrene	531	5.32	10.7	ug/kg wet	4	533	---	99	50-121%	---	---	
Pyrene	577	5.32	10.7	ug/kg wet	4	533	---	108	47-127%	---	---	
Carbazole	554	8.00	16.0	ug/kg wet	4	533	---	104	50-123%	---	---	
Dibenzofuran	598	5.32	10.7	ug/kg wet	4	533	---	112	44-120%	---	---	
2-Chlorophenol	577	26.7	53.2	ug/kg wet	4	533	---	108	34-121%	---	---	
4-Chloro-3-methylphenol	597	53.2	107	ug/kg wet	4	533	---	112	45-122%	---	---	
2,4-Dichlorophenol	667	26.7	53.2	ug/kg wet	4	533	---	**125**	**40-122%**	---	---	Q-29, Q-41
2,4-Dimethylphenol	739	26.7	53.2	ug/kg wet	4	533	---	**138**	**30-127%**	---	---	Q-29, Q-41
2,4-Dinitrophenol	656	133	267	ug/kg wet	4	533	---	123	10-137%	---	---	Q-41
4,6-Dinitro-2-methylphenol	613	133	267	ug/kg wet	4	533	---	115	29-132%	---	---	Q-41
2-Methylphenol	657	13.3	26.7	ug/kg wet	4	533	---	**123**	**32-122%**	---	---	Q-29, Q-41
2-Nitrophenol	775	53.2	107	ug/kg wet	4	533	---	**145**	**36-123%**	---	---	Q-29, Q-41
4-Nitrophenol	607	53.2	107	ug/kg wet	4	533	---	114	30-132%	---	---	Q-41
Pentachlorophenol (PCP)	565	53.2	107	ug/kg wet	4	533	---	106	25-133%	---	---	
Phenol	671	10.7	21.3	ug/kg wet	4	533	---	**126**	**34-121%**	---	---	Q-29, Q-41
2,3,4,6-Tetrachlorophenol	591	26.7	53.2	ug/kg wet	4	533	---	111	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	621	26.7	53.2	ug/kg wet	4	533	---	116	40-120%	---	---	
2,4,5-Trichlorophenol	666	26.7	53.2	ug/kg wet	4	533	---	**125**	**41-124%**	---	---	Q-29, Q-41
2,4,6-Trichlorophenol	643	26.7	53.2	ug/kg wet	4	533	---	121	39-126%	---	---	Q-41
Bis(2-ethylhexyl)phthalate	561	80.0	160	ug/kg wet	4	533	---	105	51-133%	---	---	
Butyl benzyl phthalate	568	53.2	107	ug/kg wet	4	533	---	107	48-132%	---	---	
Diethylphthalate	478	53.2	107	ug/kg wet	4	533	---	90	50-124%	---	---	
Dimethylphthalate	581	53.2	107	ug/kg wet	4	533	---	109	48-124%	---	---	
Di-n-butylphthalate	546	53.2	107	ug/kg wet	4	533	---	102	51-128%	---	---	
Di-n-octyl phthalate	590	53.2	107	ug/kg wet	4	533	---	111	45-140%	---	---	
N-Nitrosodimethylamine	440	13.3	26.7	ug/kg wet	4	533	---	83	23-120%	---	---	
N-Nitroso-di-n-propylamine	531	13.3	26.7	ug/kg wet	4	533	---	100	36-120%	---	---	
N-Nitrosodiphenylamine	578	13.3	26.7	ug/kg wet	4	533	---	108	38-127%	---	---	
Bis(2-Chloroethoxy) methane	561	13.3	26.7	ug/kg wet	4	533	---	105	36-121%	---	---	
Bis(2-Chloroethyl) ether	487	13.3	26.7	ug/kg wet	4	533	---	91	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	461	13.3	26.7	ug/kg wet	4	533	---	87	39-120%	---	---	
Hexachlorobenzene	574	5.32	10.7	ug/kg wet	4	533	---	108	45-122%	---	---	
Hexachlorobutadiene	526	13.3	26.7	ug/kg wet	4	533	---	99	32-123%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
LCS (23J0901-BS2)			Prepared: 10/24/23 06:49			Analyzed: 10/24/23 16:09						
Hexachlorocyclopentadiene	636	26.7	53.2	ug/kg wet	4	533	---	119	10-140%	---	---	Q-41
Hexachloroethane	503	13.3	26.7	ug/kg wet	4	533	---	94	28-120%	---	---	
2-Chloronaphthalene	582	5.32	10.7	ug/kg wet	4	533	---	109	41-120%	---	---	
1,2,4-Trichlorobenzene	547	13.3	26.7	ug/kg wet	4	533	---	103	34-120%	---	---	
4-Bromophenyl phenyl ether	588	13.3	26.7	ug/kg wet	4	533	---	110	46-124%	---	---	
4-Chlorophenyl phenyl ether	559	13.3	26.7	ug/kg wet	4	533	---	105	45-121%	---	---	
Aniline	308	26.7	53.2	ug/kg wet	4	533	---	58	10-120%	---	---	Q-31
4-Chloroaniline	399	13.3	26.7	ug/kg wet	4	533	---	75	17-120%	---	---	
2-Nitroaniline	595	107	213	ug/kg wet	4	533	---	112	44-127%	---	---	
3-Nitroaniline	464	107	213	ug/kg wet	4	533	---	87	33-120%	---	---	
4-Nitroaniline	608	107	213	ug/kg wet	4	533	---	114	51-125%	---	---	
Nitrobenzene	554	53.2	107	ug/kg wet	4	533	---	104	34-122%	---	---	
2,4-Dinitrotoluene	546	53.2	107	ug/kg wet	4	533	---	102	48-126%	---	---	
2,6-Dinitrotoluene	563	53.2	107	ug/kg wet	4	533	---	106	46-124%	---	---	
Benzoic acid	998	668	668	ug/kg wet	4	1070	---	94	10-140%	---	---	Q-41
Benzyl alcohol	645	26.7	53.2	ug/kg wet	4	533	---	121	29-122%	---	---	Q-41
Isophorone	516	13.3	26.7	ug/kg wet	4	533	---	97	30-122%	---	---	
Azobenzene (1,2-DPH)	530	13.3	26.7	ug/kg wet	4	533	---	99	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	544	133	267	ug/kg wet	4	533	---	102	61-121%	---	---	
3,3'-Dichlorobenzidine	1690	107	213	ug/kg wet	4	1070	---	**158**	**22-121%**	---	---	Q-29, Q-31, Q-52
1,2-Dinitrobenzene	609	133	267	ug/kg wet	4	533	---	114	44-120%	---	---	
1,3-Dinitrobenzene	581	133	267	ug/kg wet	4	533	---	109	43-127%	---	---	
1,4-Dinitrobenzene	600	133	267	ug/kg wet	4	533	---	112	37-132%	---	---	
Pyridine	354	26.7	53.2	ug/kg wet	4	533	---	66	10-120%	---	---	
1,2-Dichlorobenzene	513	13.3	26.7	ug/kg wet	4	533	---	96	33-120%	---	---	
1,3-Dichlorobenzene	495	13.3	26.7	ug/kg wet	4	533	---	93	30-120%	---	---	
1,4-Dichlorobenzene	506	13.3	26.7	ug/kg wet	4	533	---	95	31-120%	---	---	
Surr: *Nitrobenzene-d5 (Surr)*			*Recovery: 105 %*		*Limits: 37-122 %*		*Dilution: 4x*					
2-Fluorobiphenyl (Surr)			*106 %*		*44-120 %*		*"*					
Phenol-d6 (Surr)			*116 %*		*33-122 %*		*"*					
p-Terphenyl-d14 (Surr)			*110 %*		*54-127 %*		*"*					
2-Fluorophenol (Surr)			*94 %*		*35-120 %*		*"*					
2,4,6-Tribromophenol (Surr)			*119 %*		*39-132 %*		*"*					

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
LCS (23J0901-BS3)			Prepared: 10/24/23 06:49	Analyzed: 10/27/23 10:56								**Q-16**
EPA 8270E												
3+4-Methylphenol(s)	462	13.3	26.7	ug/kg wet	4	533	---	87	34-120%	---	---	
Duplicate (23J0901-DUP2)			Prepared: 10/24/23 06:49	Analyzed: 10/24/23 17:16								**PRO**
QC Source Sample: Non-SDG (A3J1259-23)												
Acenaphthene	**16.1**	13.4	26.8	ug/kg dry	10	---	16.6	---	---	3	30%	J
Acenaphthylene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
Anthracene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
Benz(a)anthracene	**41.7**	13.4	26.8	ug/kg dry	10	---	35.7	---	---	15	30%	
Benzo(a)pyrene	**75.4**	20.1	40.2	ug/kg dry	10	---	70.3	---	---	7	30%	
Benzo(b)fluoranthene	**72.3**	20.1	40.2	ug/kg dry	10	---	63.6	---	---	13	30%	
Benzo(k)fluoranthene	**27.7**	20.1	40.2	ug/kg dry	10	---	22.8	---	---	19	30%	J
Benzo(g,h,i)perylene	**87.8**	13.4	26.8	ug/kg dry	10	---	75.2	---	---	15	30%	
Chrysene	**59.2**	13.4	26.8	ug/kg dry	10	---	49.3	---	---	18	30%	
Dibenz(a,h)anthracene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
Fluoranthene	**72.2**	13.4	26.8	ug/kg dry	10	---	61.2	---	---	17	30%	
Fluorene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	**72.2**	13.4	26.8	ug/kg dry	10	---	60.9	---	---	17	30%	
1-Methylnaphthalene	ND	26.8	53.5	ug/kg dry	10	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	26.8	53.5	ug/kg dry	10	---	ND	---	---	---	30%	
Naphthalene	ND	26.8	53.5	ug/kg dry	10	---	ND	---	---	---	30%	
Phenanthrene	**21.9**	13.4	26.8	ug/kg dry	10	---	20.5	---	---	7	30%	J
Pyrene	**102**	13.4	26.8	ug/kg dry	10	---	84.3	---	---	19	30%	
Carbazole	ND	20.1	40.2	ug/kg dry	10	---	ND	---	---	---	30%	
Dibenzofuran	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
2-Chlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
2-Methylphenol	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
2-Nitrophenol	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0901 - EPA 3546 Soil

Duplicate (23J0901-DUP2) Prepared: 10/24/23 06:49 Analyzed: 10/24/23 17:16 **PRO**

QC Source Sample: Non-SDG (A3J1259-23)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
4-Nitrophenol	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Phenol	ND	26.8	53.5	ug/kg dry	10	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	201	402	ug/kg dry	10	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Diethylphthalate	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Dimethylphthalate	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachloroethane	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	13.4	26.8	ug/kg dry	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Aniline	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
4-Chloroaniline	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
2-Nitroaniline	ND	268	535	ug/kg dry	10	---	ND	---	---	---	30%	
3-Nitroaniline	ND	268	535	ug/kg dry	10	---	ND	---	---	---	30%	
4-Nitroaniline	ND	268	535	ug/kg dry	10	---	ND	---	---	---	30%	
Nitrobenzene	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
Duplicate (23J0901-DUP2)			Prepared: 10/24/23 06:49		Analyzed: 10/24/23 17:16							**PRO**
QC Source Sample: Non-SDG (A3J1259-23)												
2,4-Dinitrotoluene	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	134	268	ug/kg dry	10	---	ND	---	---	---	30%	
Benzoic acid	ND	1680	3340	ug/kg dry	10	---	ND	---	---	---	30%	
Benzyl alcohol	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
Isophorone	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	268	535	ug/kg dry	10	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	334	670	ug/kg dry	10	---	ND	---	---	---	30%	
Pyridine	ND	67.0	134	ug/kg dry	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	33.4	67.0	ug/kg dry	10	---	ND	---	---	---	30%	

Surr: Nitrobenzene-d5 (Surr)	*Recovery:*	*84 %*	*Limits:*	*37-122 %*	*Dilution:*	*10x*
2-Fluorobiphenyl (Surr)		*82 %*		*44-120 %*		*"*
Phenol-d6 (Surr)		*75 %*		*33-122 %*		*"*
p-Terphenyl-d14 (Surr)		*84 %*		*54-127 %*		*"*
2-Fluorophenol (Surr)		*64 %*		*35-120 %*		*"*
2,4,6-Tribromophenol (Surr)		*64 %*		*39-132 %*		*"*

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Matrix Spike (23J0901-MS2)			Prepared: 10/24/23 06:49		Analyzed: 10/25/23 17:50							
QC Source Sample: Non-SDG (A3J1425-01)												
EPA 8270E												
Acenaphthene	574	6.51	13.1	ug/kg dry	4	653	ND	88	40-123%	---	---	
Acenaphthylene	620	6.51	13.1	ug/kg dry	4	653	ND	95	32-132%	---	---	
Anthracene	580	6.51	13.1	ug/kg dry	4	653	ND	89	47-123%	---	---	
Benz(a)anthracene	550	6.51	13.1	ug/kg dry	4	653	ND	79	49-126%	---	---	
Benzo(a)pyrene	617	9.80	19.6	ug/kg dry	4	653	ND	94	45-129%	---	---	
Benzo(b)fluoranthene	624	9.80	19.6	ug/kg dry	4	653	ND	92	45-132%	---	---	
Benzo(k)fluoranthene	635	9.80	19.6	ug/kg dry	4	653	ND	97	47-132%	---	---	
Benzo(g,h,i)perylene	576	6.51	13.1	ug/kg dry	4	653	ND	88	43-134%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0901 - EPA 3546 Soil

Matrix Spike (23J0901-MS2) Prepared: 10/24/23 06:49 Analyzed: 10/25/23 17:50

QC Source Sample: Non-SDG (A3J1425-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Chrysene	572	6.51	13.1	ug/kg dry	4	653	ND	88	50-124%	---	---	
Dibenz(a,h)anthracene	585	6.51	13.1	ug/kg dry	4	653	ND	90	45-134%	---	---	
Fluoranthene	601	6.51	13.1	ug/kg dry	4	653	ND	88	50-127%	---	---	
Fluorene	565	6.51	13.1	ug/kg dry	4	653	ND	87	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	521	6.51	13.1	ug/kg dry	4	653	ND	80	45-133%	---	---	
1-Methylnaphthalene	636	13.1	26.1	ug/kg dry	4	653	ND	97	40-120%	---	---	
2-Methylnaphthalene	686	13.1	26.1	ug/kg dry	4	653	ND	105	38-122%	---	---	
Naphthalene	652	13.1	26.1	ug/kg dry	4	653	ND	92	35-123%	---	---	
Phenanthrene	596	6.51	13.1	ug/kg dry	4	653	ND	86	50-121%	---	---	
Pyrene	596	6.51	13.1	ug/kg dry	4	653	ND	87	47-127%	---	---	
Carbazole	573	9.80	19.6	ug/kg dry	4	653	ND	88	50-123%	---	---	
Dibenzofuran	636	6.51	13.1	ug/kg dry	4	653	ND	97	44-120%	---	---	
2-Chlorophenol	701	32.7	65.1	ug/kg dry	4	653	ND	107	34-121%	---	---	
4-Chloro-3-methylphenol	626	65.1	131	ug/kg dry	4	653	ND	96	45-122%	---	---	
2,4-Dichlorophenol	780	32.7	65.1	ug/kg dry	4	653	ND	119	40-122%	---	---	Q-41
2,4-Dimethylphenol	854	32.7	65.1	ug/kg dry	4	653	ND	**131**	**30-127%**	---	---	Q-01, Q-41
2,4-Dinitrophenol	ND	163	327	ug/kg dry	4	653	ND		**10-137%**	---	---	Q-01, Q-41
4,6-Dinitro-2-methylphenol	215	163	327	ug/kg dry	4	653	ND	33	29-132%	---	---	Q-41, J
2-Methylphenol	827	16.3	32.7	ug/kg dry	4	653	ND	**127**	**32-122%**	---	---	Q-01
3+4-Methylphenol(s)	894	16.3	32.7	ug/kg dry	4	653	ND	120	34-120%	---	---	Q-41
2-Nitrophenol	517	65.1	131	ug/kg dry	4	653	ND	79	36-123%	---	---	Q-41
4-Nitrophenol	499	65.1	131	ug/kg dry	4	653	ND	76	30-132%	---	---	
Pentachlorophenol (PCP)	657	65.1	131	ug/kg dry	4	653	ND	**23**	**25-133%**	---	---	Q-01
Phenol	822	13.1	26.1	ug/kg dry	4	653	ND	**126**	**34-121%**	---	---	Q-01, Q-41
2,3,4,6-Tetrachlorophenol	606	32.7	65.1	ug/kg dry	4	653	ND	93	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	639	32.7	65.1	ug/kg dry	4	653	ND	98	40-120%	---	---	
2,4,5-Trichlorophenol	683	32.7	65.1	ug/kg dry	4	653	ND	105	41-124%	---	---	
2,4,6-Trichlorophenol	713	32.7	65.1	ug/kg dry	4	653	ND	109	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	597	98.0	196	ug/kg dry	4	653	ND	91	51-133%	---	---	
Butyl benzyl phthalate	602	65.1	131	ug/kg dry	4	653	ND	92	48-132%	---	---	
Diethylphthalate	479	65.1	131	ug/kg dry	4	653	ND	73	50-124%	---	---	
Dimethylphthalate	576	65.1	131	ug/kg dry	4	653	ND	88	48-124%	---	---	
Di-n-butylphthalate	549	65.1	131	ug/kg dry	4	653	ND	84	51-128%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Batch 23J0901 - EPA 3546 — **Soil**

Matrix Spike (23J0901-MS2) Prepared: 10/24/23 06:49 Analyzed: 10/25/23 17:50

QC Source Sample: Non-SDG (A3J1425-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Di-n-octyl phthalate	651	65.1	131	ug/kg dry	4	653	ND	100	45-140%	---	---	
N-Nitrosodimethylamine	417	16.3	32.7	ug/kg dry	4	653	ND	64	23-120%	---	---	
N-Nitroso-di-n-propylamine	616	16.3	32.7	ug/kg dry	4	653	ND	94	36-120%	---	---	
N-Nitrosodiphenylamine	598	16.3	32.7	ug/kg dry	4	653	ND	92	38-127%	---	---	
Bis(2-Chloroethoxy) methane	604	16.3	32.7	ug/kg dry	4	653	ND	92	36-121%	---	---	
Bis(2-Chloroethyl) ether	522	16.3	32.7	ug/kg dry	4	653	ND	80	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	526	16.3	32.7	ug/kg dry	4	653	ND	81	39-120%	---	---	
Hexachlorobenzene	608	6.51	13.1	ug/kg dry	4	653	ND	93	45-122%	---	---	
Hexachlorobutadiene	577	16.3	32.7	ug/kg dry	4	653	ND	88	32-123%	---	---	
Hexachlorocyclopentadiene	123	32.7	65.1	ug/kg dry	4	653	ND	19	10-140%	---	---	Q-41
Hexachloroethane	461	16.3	32.7	ug/kg dry	4	653	ND	71	28-120%	---	---	
2-Chloronaphthalene	631	6.51	13.1	ug/kg dry	4	653	ND	86	41-120%	---	---	
1,2,4-Trichlorobenzene	605	16.3	32.7	ug/kg dry	4	653	ND	93	34-120%	---	---	
4-Bromophenyl phenyl ether	615	16.3	32.7	ug/kg dry	4	653	ND	94	46-124%	---	---	
4-Chlorophenyl phenyl ether	592	16.3	32.7	ug/kg dry	4	653	ND	91	45-121%	---	---	
Aniline	297	32.7	65.1	ug/kg dry	4	653	ND	45	10-120%	---	---	Q-31
4-Chloroaniline	212	16.3	32.7	ug/kg dry	4	653	ND	18	17-120%	---	---	Q-31
2-Nitroaniline	628	131	261	ug/kg dry	4	653	ND	96	44-127%	---	---	
3-Nitroaniline	183	131	261	ug/kg dry	4	653	ND	**28**	**33-120%**	---	---	Q-01, Q-31, J
4-Nitroaniline	330	131	261	ug/kg dry	4	653	ND	**50**	**51-125%**	---	---	Q-01
Nitrobenzene	605	65.1	131	ug/kg dry	4	653	ND	93	34-122%	---	---	
2,4-Dinitrotoluene	435	65.1	131	ug/kg dry	4	653	ND	67	48-126%	---	---	
2,6-Dinitrotoluene	470	65.1	131	ug/kg dry	4	653	ND	72	46-124%	---	---	
Benzoic acid	1250	818	1630	ug/kg dry	4	1310	ND	96	10-140%	---	---	Q-41, J
Benzyl alcohol	811	32.7	65.1	ug/kg dry	4	653	ND	**124**	**29-122%**	---	---	Q-01
Isophorone	540	16.3	32.7	ug/kg dry	4	653	ND	83	30-122%	---	---	
Azobenzene (1,2-DPH)	540	16.3	32.7	ug/kg dry	4	653	ND	83	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	561	163	327	ug/kg dry	4	653	ND	86	61-121%	---	---	
3,3'-Dichlorobenzidine	ND	131	261	ug/kg dry	4	1310	ND		**22-121%**	---	---	Q-01, Q-31, Q-52
1,2-Dinitrobenzene	383	163	327	ug/kg dry	4	653	ND	59	44-120%	---	---	
1,3-Dinitrobenzene	412	163	327	ug/kg dry	4	653	ND	63	43-127%	---	---	
1,4-Dinitrobenzene	305	163	327	ug/kg dry	4	653	ND	47	37-132%	---	---	J
Pyridine	435	32.7	65.1	ug/kg dry	4	653	ND	67	10-120%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0901 - EPA 3546							**Soil**					
Matrix Spike (23J0901-MS2)			Prepared: 10/24/23 06:49			Analyzed: 10/25/23 17:50						
QC Source Sample: Non-SDG (A3J1425-01)												
1,2-Dichlorobenzene	585	16.3	32.7	ug/kg dry	4	653	ND	90	33-120%	---	---	
1,3-Dichlorobenzene	566	16.3	32.7	ug/kg dry	4	653	ND	87	30-120%	---	---	
1,4-Dichlorobenzene	568	16.3	32.7	ug/kg dry	4	653	ND	87	31-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		*Recovery:*	*99 %*	*Limits:*	*37-122 %*		*Dilution: 4x*					
2-Fluorobiphenyl (Surr)			*96 %*		*44-120 %*		*"*					
Phenol-d6 (Surr)			*117 %*		*33-122 %*		*"*					
p-Terphenyl-d14 (Surr)			*93 %*		*54-127 %*		*"*					
2-Fluorophenol (Surr)			*95 %*		*35-120 %*		*"*					
2,4,6-Tribromophenol (Surr)			*112 %*		*39-132 %*		*"*					

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0999 - EPA 3051A							**Soil**					
Blank (23J0999-BLK1)			Prepared: 10/25/23 13:41			Analyzed: 10/26/23 08:31						
EPA 6020B												
Arsenic	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Copper	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	mg/kg wet	10	---	---	---	---	---	---	
Nickel	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (23J0999-BS1)			Prepared: 10/25/23 13:41			Analyzed: 10/26/23 08:36						
EPA 6020B												
Arsenic	49.5	0.500	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Barium	51.5	0.500	1.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Cadmium	49.1	0.100	0.200	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Chromium	50.2	0.500	1.00	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Copper	51.9	1.00	2.00	mg/kg wet	10	50.0	---	104	80-120%	---	---	
Lead	50.2	0.100	0.200	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Mercury	0.952	0.0400	0.0800	mg/kg wet	10	1.00	---	95	80-120%	---	---	
Nickel	51.4	1.00	2.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Selenium	23.9	0.500	1.00	mg/kg wet	10	25.0	---	96	80-120%	---	---	
Silver	26.8	0.100	0.200	mg/kg wet	10	25.0	---	107	80-120%	---	---	
Zinc	49.0	2.00	4.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Duplicate (23J0999-DUP1)			Prepared: 10/25/23 13:41			Analyzed: 10/26/23 08:46						
QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)												
EPA 6020B												
Arsenic	**6.67**	0.626	1.25	mg/kg dry	10	---	10.7	---	---	**46**	**20%**	Q-04
Barium	**322**	0.626	1.25	mg/kg dry	10	---	619	---	---	**63**	**20%**	Q-04
Cadmium	**1.72**	0.125	0.251	mg/kg dry	10	---	1.71	---	---	0.4	20%	
Chromium	**33.5**	0.626	1.25	mg/kg dry	10	---	47.0	---	---	**34**	**20%**	Q-04

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0999 - EPA 3051A							**Soil**					
Duplicate (23J0999-DUP1)			Prepared: 10/25/23 13:41			Analyzed: 10/26/23 08:46						
QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)												
Copper	**153**	1.25	2.51	mg/kg dry	10	---	208	---	---	**30**	**20%**	Q-04
Lead	**311**	0.125	0.251	mg/kg dry	10	---	278	---	---	11	20%	
Mercury	**0.479**	0.0501	0.100	mg/kg dry	10	---	0.405	---	---	17	20%	
Nickel	**63.7**	1.25	2.51	mg/kg dry	10	---	73.0	---	---	14	20%	
Selenium	ND	0.626	1.25	mg/kg dry	10	---	ND	---	---	---	20%	
Silver	**0.610**	0.125	0.251	mg/kg dry	10	---	0.712	---	---	15	20%	
Zinc	**1970**	2.51	5.01	mg/kg dry	10	---	453	---	---	**125**	**20%**	Q-04
Matrix Spike (23J0999-MS1)			Prepared: 10/25/23 13:41			Analyzed: 10/26/23 08:51						
QC Source Sample: TP-07-IM-14.0-15.0-20231011 (A3J1366-14)												
EPA 6020B												
Arsenic	64.0	0.607	1.21	mg/kg dry	10	60.7	10.7	88	75-125%	---	---	
Barium	342	0.607	1.21	mg/kg dry	10	60.7	619	**-457**	**75-125%**	---	---	Q-65
Cadmium	59.8	0.121	0.243	mg/kg dry	10	60.7	1.71	96	75-125%	---	---	
Chromium	97.8	0.607	1.21	mg/kg dry	10	60.7	47.0	84	75-125%	---	---	
Copper	246	1.21	2.43	mg/kg dry	10	60.7	208	**62**	**75-125%**	---	---	Q-65
Lead	368	0.121	0.243	mg/kg dry	10	60.7	278	**148**	**75-125%**	---	---	Q-65
Mercury	1.59	0.0485	0.0971	mg/kg dry	10	1.21	0.405	97	75-125%	---	---	
Nickel	101	1.21	2.43	mg/kg dry	10	60.7	73.0	**47**	**75-125%**	---	---	Q-04
Selenium	28.9	0.607	1.21	mg/kg dry	10	30.3	ND	95	75-125%	---	---	
Silver	32.2	0.121	0.243	mg/kg dry	10	30.3	0.712	104	75-125%	---	---	
Zinc	907	2.43	4.85	mg/kg dry	10	60.7	453	**748**	**75-125%**	---	---	Q-65

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J1022 - EPA 3051A							**Soil**					
Blank (23J1022-BLK1)			Prepared: 10/26/23 09:08		Analyzed: 10/27/23 10:42							
EPA 6020B												
Arsenic	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Copper	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	mg/kg wet	10	---	---	---	---	---	---	
Nickel	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (23J1022-BS1)			Prepared: 10/26/23 09:08		Analyzed: 10/27/23 10:47							
EPA 6020B												
Arsenic	48.0	0.500	1.00	mg/kg wet	10	50.0	---	96	80-120%	---	---	
Barium	50.4	0.500	1.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Cadmium	48.2	0.100	0.200	mg/kg wet	10	50.0	---	96	80-120%	---	---	
Chromium	48.8	0.500	1.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Copper	50.5	1.00	2.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Lead	50.6	0.100	0.200	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Mercury	0.956	0.0400	0.0800	mg/kg wet	10	1.00	---	96	80-120%	---	---	
Nickel	49.0	1.00	2.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Selenium	23.5	0.500	1.00	mg/kg wet	10	25.0	---	94	80-120%	---	---	
Silver	26.8	0.100	0.200	mg/kg wet	10	25.0	---	107	80-120%	---	---	
Zinc	49.3	2.00	4.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Duplicate (23J1022-DUP1)			Prepared: 10/26/23 09:08		Analyzed: 10/27/23 10:57							
QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)												
EPA 6020B												
Arsenic	**3.93**	1.01	2.01	mg/kg dry	10	---	4.26	---	---	8	20%	
Barium	**78.4**	1.01	2.01	mg/kg dry	10	---	77.3	---	---	1	20%	
Cadmium	**1.52**	0.201	0.403	mg/kg dry	10	---	1.68	---	---	10	20%	
Chromium	**7.63**	1.01	2.01	mg/kg dry	10	---	8.88	---	---	15	20%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Batch 23J1022 - EPA 3051A **Soil**

Duplicate (23J1022-DUP1) Prepared: 10/26/23 09:08 Analyzed: 10/27/23 10:57

QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Copper	**30.5**	2.01	4.03	mg/kg dry	10	---	33.8	---	---	10	20%	
Lead	**42.7**	0.201	0.403	mg/kg dry	10	---	41.6	---	---	3	20%	
Mercury	ND	0.0806	0.161	mg/kg dry	10	---	ND	---	---	---	20%	
Nickel	**17.5**	2.01	4.03	mg/kg dry	10	---	19.7	---	---	12	20%	
Selenium	ND	1.01	2.01	mg/kg dry	10	---	ND	---	---	---	20%	
Silver	ND	0.201	0.403	mg/kg dry	10	---	ND	---	---	---	20%	
Zinc	**3440**	4.03	8.06	mg/kg dry	10	---	2460	---	---	**33**	**20%**	Q-04

Matrix Spike (23J1022-MS1) Prepared: 10/26/23 09:08 Analyzed: 10/27/23 11:13

QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	109	1.07	2.15	mg/kg dry	10	107	4.26	97	75-125%	---	---	
Barium	183	1.07	2.15	mg/kg dry	10	107	77.3	99	75-125%	---	---	
Cadmium	105	0.215	0.430	mg/kg dry	10	107	1.68	96	75-125%	---	---	
Chromium	115	1.07	2.15	mg/kg dry	10	107	8.88	98	75-125%	---	---	
Copper	146	2.15	4.30	mg/kg dry	10	107	33.8	104	75-125%	---	---	
Lead	156	0.215	0.430	mg/kg dry	10	107	41.6	106	75-125%	---	---	
Mercury	2.18	0.0860	0.172	mg/kg dry	10	2.15	ND	102	75-125%	---	---	
Nickel	125	2.15	4.30	mg/kg dry	10	107	19.7	98	75-125%	---	---	
Selenium	51.8	1.07	2.15	mg/kg dry	10	53.7	ND	96	75-125%	---	---	
Silver	59.4	0.215	0.430	mg/kg dry	10	53.7	ND	111	75-125%	---	---	
Zinc	2530	4.30	8.60	mg/kg dry	10	107	2460	**58**	**75-125%**	---	---	Q-65

Matrix Spike Dup (23J1022-MSD1) Prepared: 10/26/23 09:08 Analyzed: 10/27/23 12:30

QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	106	5.37	10.7	mg/kg dry	50	107	ND	98	75-125%	3	20%	
Barium	186	5.37	10.7	mg/kg dry	50	107	77.3	101	75-125%	1	20%	
Cadmium	105	1.07	2.15	mg/kg dry	50	107	1.68	97	75-125%	0.3	20%	
Chromium	114	5.37	10.7	mg/kg dry	50	107	8.88	98	75-125%	0.6	20%	
Copper	147	10.7	21.5	mg/kg dry	50	107	33.8	105	75-125%	0.8	20%	
Lead	154	1.07	2.15	mg/kg dry	50	107	41.6	104	75-125%	2	20%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Batch 23J1022 - EPA 3051A — **Soil**

Matrix Spike Dup (23J1022-MSD1) Prepared: 10/26/23 09:08 Analyzed: 10/27/23 12:30

QC Source Sample: WS-01-0.0-2.0-10102023 (A3J1366-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Mercury	2.16	0.430	0.860	mg/kg dry	50	2.15	ND	101	75-125%	0.9	20%	
Nickel	126	10.7	21.5	mg/kg dry	50	107	19.7	99	75-125%	0.2	20%	
Selenium	51.5	5.37	10.7	mg/kg dry	50	53.7	ND	96	75-125%	0.5	20%	
Silver	57.1	1.07	2.15	mg/kg dry	50	53.7	ND	106	75-125%	4	20%	

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0933 - EPA 1311/3015A							Soil					
Blank (23J0933-BLK2)			Prepared: 10/24/23 13:20 Analyzed: 10/24/23 15:42									
1311/6020B												
Arsenic	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Barium	ND	2.50	5.00	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Cadmium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Chromium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Lead	ND	0.0250	0.0500	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Mercury	ND	0.00375	0.00700	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Selenium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
Silver	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	Q-16, TCLP
LCS (23J0933-BS3)			Prepared: 10/24/23 13:20 Analyzed: 10/24/23 15:47									
1311/6020B												
Arsenic	4.97	0.0500	0.100	mg/L	10	5.00	---	99	80-120%	---	---	Q-16, TCLP
Barium	10.3	2.50	5.00	mg/L	10	10.0	---	103	80-120%	---	---	Q-16, TCLP
Cadmium	1.04	0.0500	0.100	mg/L	10	1.00	---	104	80-120%	---	---	Q-16, TCLP
Chromium	5.15	0.0500	0.100	mg/L	10	5.00	---	103	80-120%	---	---	Q-16, TCLP
Lead	5.25	0.0250	0.0500	mg/L	10	5.00	---	105	80-120%	---	---	Q-16, TCLP
Mercury	0.0973	0.00375	0.00700	mg/L	10	0.100	---	97	80-120%	---	---	Q-16, TCLP
Selenium	1.02	0.0500	0.100	mg/L	10	1.00	---	102	80-120%	---	---	Q-16, TCLP
Silver	1.07	0.0500	0.100	mg/L	10	1.00	---	107	80-120%	---	---	Q-16, TCLP
Duplicate (23J0933-DUP1)			Prepared: 10/24/23 13:20 Analyzed: 10/24/23 16:07									
QC Source Sample: Non-SDG (A3J1257-01RE2)												
Arsenic	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Barium	ND	2.50	5.00	mg/L	10	---	ND	---	---	---	20%	
Cadmium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Chromium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Lead	ND	0.0250	0.0500	mg/L	10	---	ND	---	---	---	20%	
Mercury	ND	0.00375	0.00700	mg/L	10	---	ND	---	---	---	20%	
Selenium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Silver	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Matrix Spike (23J0933-MS1)			Prepared: 10/24/23 13:20 Analyzed: 10/24/23 16:13									

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Batch 23J0933 - EPA 1311/3015A **Soil**

Matrix Spike (23J0933-MS1) Prepared: 10/24/23 13:20 Analyzed: 10/24/23 16:13

QC Source Sample: Non-SDG (A3J1257-01RE2)

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	4.93	0.0500	0.100	mg/L	10	5.00	ND	99	50-150%	---	---	
Barium	10.2	2.50	5.00	mg/L	10	10.0	ND	102	50-150%	---	---	
Cadmium	1.01	0.0500	0.100	mg/L	10	1.00	ND	101	50-150%	---	---	
Chromium	5.08	0.0500	0.100	mg/L	10	5.00	ND	102	50-150%	---	---	
Lead	5.10	0.0250	0.0500	mg/L	10	5.00	ND	102	50-150%	---	---	
Mercury	0.0957	0.00375	0.00700	mg/L	10	0.100	ND	96	50-150%	---	---	
Selenium	0.993	0.0500	0.100	mg/L	10	1.00	ND	99	50-150%	---	---	
Silver	1.10	0.0500	0.100	mg/L	10	1.00	ND	110	50-150%	---	---	

Matrix Spike (23J0933-MS2) Prepared: 10/24/23 13:20 Analyzed: 10/24/23 16:28

QC Source Sample: Non-SDG (A3J1432-02)

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	4.94	0.0500	0.100	mg/L	10	5.00	ND	99	50-150%	---	---	CONT
Barium	10.2	2.50	5.00	mg/L	10	10.0	ND	102	50-150%	---	---	CONT
Cadmium	1.04	0.0500	0.100	mg/L	10	1.00	ND	104	50-150%	---	---	CONT
Chromium	6.93	0.0500	0.100	mg/L	10	5.00	1.79	103	50-150%	---	---	CONT
Lead	5.13	0.0250	0.0500	mg/L	10	5.00	ND	103	50-150%	---	---	CONT
Mercury	0.0951	0.00375	0.00700	mg/L	10	0.100	ND	95	50-150%	---	---	CONT
Selenium	0.983	0.0500	0.100	mg/L	10	1.00	ND	98	50-150%	---	---	CONT
Silver	1.08	0.0500	0.100	mg/L	10	1.00	ND	108	50-150%	---	---	CONT

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Batch 23J0987 - EPA 1311/3015A **Soil**

Blank (23J0987-BLK1) Prepared: 10/25/23 10:53 Analyzed: 10/25/23 16:05

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPa
Barium	ND	2.50	5.00	mg/L	10	---	---	---	---	---	---	TCLPa
Cadmium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPa
Chromium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPa
Lead	ND	0.0250	0.0500	mg/L	10	---	---	---	---	---	---	TCLPa
Mercury	ND	0.00375	0.00700	mg/L	10	---	---	---	---	---	---	TCLPa
Selenium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPa
Silver	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPa

LCS (23J0987-BS1) Prepared: 10/25/23 10:53 Analyzed: 10/25/23 16:10

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	5.01	0.0500	0.100	mg/L	10	5.00	---	100	80-120%	---	---	TCLPa
Barium	10.1	2.50	5.00	mg/L	10	10.0	---	101	80-120%	---	---	TCLPa
Cadmium	1.00	0.0500	0.100	mg/L	10	1.00	---	100	80-120%	---	---	TCLPa
Chromium	5.22	0.0500	0.100	mg/L	10	5.00	---	104	80-120%	---	---	TCLPa
Lead	5.18	0.0250	0.0500	mg/L	10	5.00	---	104	80-120%	---	---	TCLPa
Mercury	0.0950	0.00375	0.00700	mg/L	10	0.100	---	95	80-120%	---	---	TCLPa
Selenium	1.03	0.0500	0.100	mg/L	10	1.00	---	103	80-120%	---	---	TCLPa

LCS (23J0987-BS2) Prepared: 10/25/23 10:53 Analyzed: 10/26/23 10:05

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Silver	1.07	0.0500	0.100	mg/L	10	1.00	---	107	80-120%	---	---	Q-16, TCLPa

Duplicate (23J0987-DUP1) Prepared: 10/25/23 10:53 Analyzed: 10/25/23 16:31

QC Source Sample: WS-05-0.0-2.0-10102023 (A3J1366-05)

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Barium	ND	2.50	5.00	mg/L	10	---	ND	---	---	---	20%	
Cadmium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Chromium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Lead	ND	0.0250	0.0500	mg/L	10	---	ND	---	---	---	20%	
Mercury	ND	0.00375	0.00700	mg/L	10	---	ND	---	---	---	20%	
Selenium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	

Philip Nerenberg

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0987 - EPA 1311/3015A							**Soil**					
Duplicate (23J0987-DUP1)			Prepared: 10/25/23 10:53			Analyzed: 10/25/23 16:31						
QC Source Sample: WS-05-0.0-2.0-10102023 (A3J1366-05)												
Silver	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Matrix Spike (23J0987-MS1)			Prepared: 10/25/23 10:53			Analyzed: 10/25/23 16:36						
QC Source Sample: WS-05-0.0-2.0-10102023 (A3J1366-05)												
1311/6020B												
Arsenic	5.10	0.0500	0.100	mg/L	10	5.00	ND	102	50-150%	---	---	
Barium	10.3	2.50	5.00	mg/L	10	10.0	ND	103	50-150%	---	---	
Cadmium	1.03	0.0500	0.100	mg/L	10	1.00	ND	103	50-150%	---	---	
Chromium	5.27	0.0500	0.100	mg/L	10	5.00	ND	105	50-150%	---	---	
Lead	5.31	0.0250	0.0500	mg/L	10	5.00	ND	106	50-150%	---	---	
Mercury	0.0971	0.00375	0.00700	mg/L	10	0.100	ND	97	50-150%	---	---	
Selenium	1.02	0.0500	0.100	mg/L	10	1.00	ND	102	50-150%	---	---	
Silver	1.48	0.0500	0.100	mg/L	10	1.00	ND	148	50-150%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J1044 - EPA 1311/3015A							**Soil**					
Blank (23J1044-BLK1)			Prepared: 10/26/23 10:46 Analyzed: 10/26/23 16:40									
1311/6020B												
Arsenic	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPb
Barium	ND	2.50	5.00	mg/L	10	---	---	---	---	---	---	TCLPb
Cadmium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPb
Chromium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPb
Lead	ND	0.0250	0.0500	mg/L	10	---	---	---	---	---	---	TCLPb
Mercury	ND	0.00375	0.00700	mg/L	10	---	---	---	---	---	---	TCLPb
Selenium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPb
Silver	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLPb
LCS (23J1044-BS1)			Prepared: 10/26/23 10:46 Analyzed: 10/26/23 16:45									
1311/6020B												
Arsenic	5.34	0.0500	0.100	mg/L	10	5.00	---	107	80-120%	---	---	TCLPb
Barium	10.4	2.50	5.00	mg/L	10	10.0	---	104	80-120%	---	---	TCLPb
Cadmium	1.09	0.0500	0.100	mg/L	10	1.00	---	109	80-120%	---	---	TCLPb
Chromium	5.29	0.0500	0.100	mg/L	10	5.00	---	106	80-120%	---	---	TCLPb
Mercury	0.102	0.00375	0.00700	mg/L	10	0.100	---	102	80-120%	---	---	TCLPb
Selenium	1.04	0.0500	0.100	mg/L	10	1.00	---	104	80-120%	---	---	TCLPb
Silver	1.07	0.0500	0.100	mg/L	10	1.00	---	107	80-120%	---	---	TCLPb
LCS (23J1044-BS2)			Prepared: 10/26/23 10:46 Analyzed: 10/27/23 08:06									
1311/6020B												
Lead	5.39	0.0250	0.0500	mg/L	10	5.00	---	108	80-120%	---	---	Q-16, Q-41, TCLPb
Duplicate (23J1044-DUP1)			Prepared: 10/26/23 10:46 Analyzed: 10/27/23 09:44									
QC Source Sample: Non-SDG (A3J1576-06)												
Arsenic	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	COMP
Barium	ND	2.50	5.00	mg/L	10	---	ND	---	---	---	20%	COMP
Cadmium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	COMP
Chromium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	COMP
Lead	ND	0.0250	0.0500	mg/L	10	---	ND	---	---	---	20%	COMP
Mercury	ND	0.00375	0.00700	mg/L	10	---	ND	---	---	---	20%	COMP
Selenium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	COMP

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J1044 - EPA 1311/3015A							**Soil**					
Duplicate (23J1044-DUP1)			Prepared: 10/26/23 10:46			Analyzed: 10/27/23 09:44						
QC Source Sample: Non-SDG (A3J1576-06)												
Silver	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	COMP
Matrix Spike (23J1044-MS1)			Prepared: 10/26/23 10:46			Analyzed: 10/27/23 09:50						
QC Source Sample: Non-SDG (A3J1576-06)												
1311/6020B												
Arsenic	5.13	0.0500	0.100	mg/L	10	5.00	ND	103	50-150%	---	---	COMP
Barium	10.9	2.50	5.00	mg/L	10	10.0	ND	109	50-150%	---	---	COMP
Cadmium	1.08	0.0500	0.100	mg/L	10	1.00	ND	108	50-150%	---	---	COMP
Chromium	5.16	0.0500	0.100	mg/L	10	5.00	ND	103	50-150%	---	---	COMP
Lead	5.49	0.0250	0.0500	mg/L	10	5.00	ND	110	50-150%	---	---	COMP
Mercury	0.0998	0.00375	0.00700	mg/L	10	0.100	ND	100	50-150%	---	---	COMP
Selenium	1.03	0.0500	0.100	mg/L	10	1.00	ND	103	50-150%	---	---	COMP
Silver	1.06	0.0500	0.100	mg/L	10	1.00	ND	106	50-150%	---	---	COMP

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0780 - DI Leach							**Soil**					
Duplicate (23J0780-DUP1)			Prepared: 10/19/23 15:59	Analyzed: 10/19/23 17:14								
QC Source Sample: Non-SDG (A3J1176-02)												
Soil/Solid pH (measured in H2O)	**5.9**			pH Units	1	---	6.1	---	---	3	5%	PRO,pH_S
pH Temperature (deg C)	**22.5**			pH Units	1	---	22.6	---	---	0.4	30%	PRO,pH_S
Duplicate (23J0780-DUP2)			Prepared: 10/19/23 15:59	Analyzed: 10/19/23 17:41								
QC Source Sample: TP-07-IM-9.0-10.0-20231011 (A3J1366-16)												
EPA 9045D												
Soil/Solid pH (measured in H2O)	**7.5**			pH Units	1	---	7.5	---	---	0.1	5%	pH_S
pH Temperature (deg C)	**22.1**			pH Units	1	---	22.0	---	---	0.5	30%	pH_S
Reference (23J0780-SRM1)			Prepared: 10/19/23 15:59	Analyzed: 10/19/23 17:12								
EPA 9045D												
Soil/Solid pH (measured in H2O)	6.0			pH Units	1	6.00		101	98.33-101.33%	---	---	
pH Temperature (deg C)	22.2			pH Units	1	20.0		111	50-200%	---	---	
Reference (23J0780-SRM2)			Prepared: 10/19/23 15:59	Analyzed: 10/19/23 17:33								
EPA 9045D												
Soil/Solid pH (measured in H2O)	8.0			pH Units	1	8.00		99	99-101%	---	---	
pH Temperature (deg C)	22.2			pH Units	1	20.0		111	50-200%	---	---	
Reference (23J0780-SRM3)			Prepared: 10/19/23 15:59	Analyzed: 10/19/23 17:46								
EPA 9045D												
Soil/Solid pH (measured in H2O)	6.0			pH Units	1	6.00		100	98.33-101.33%	---	---	
pH Temperature (deg C)	22.2			pH Units	1	20.0		111	50-200%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0820 - DI Leach							**Soil**					
Duplicate (23J0820-DUP1)			Prepared: 10/20/23 12:15		Analyzed: 10/20/23 13:30							
QC Source Sample: TP-04-IM-4.0-5.0-20231010 (A3J1366-25)												
EPA 9045D												
Soil/Solid pH (measured in H2O)	**7.4**			pH Units	1	---	7.3	---	---	1	5%	pH_S
pH Temperature (deg C)	**22.0**			pH Units	1	---	22.1	---	---	0.5	30%	pH_S
Reference (23J0820-SRM1)			Prepared: 10/20/23 12:15		Analyzed: 10/20/23 13:17							
EPA 9045D												
Soil/Solid pH (measured in H2O)	6.0			pH Units	1	6.00		100	98.33-101.33%	---	---	
pH Temperature (deg C)	22.0			pH Units	1	20.0		110	50-200%	---	---	
Reference (23J0820-SRM2)			Prepared: 10/20/23 12:15		Analyzed: 10/20/23 13:35							
EPA 9045D												
Soil/Solid pH (measured in H2O)	8.0			pH Units	1	8.00		100	99-101%	---	---	
pH Temperature (deg C)	22.1			pH Units	1	20.0		110	50-200%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0745 - Total Solids (Dry Weight) - 2022							**Soil**					
Duplicate (23J0745-DUP1)			Prepared: 10/19/23 09:37		Analyzed: 10/20/23 04:36							
QC Source Sample: Non-SDG (A3J1419-01)												
% Solids	**78.4**	1.00	1.00	%	1	---	79.6	---	---	2	10%	
Duplicate (23J0745-DUP2)			Prepared: 10/19/23 09:37		Analyzed: 10/20/23 04:36							
QC Source Sample: Non-SDG (A3J1419-02)												
% Solids	**77.5**	1.00	1.00	%	1	---	77.6	---	---	0.09	10%	
Duplicate (23J0745-DUP3)			Prepared: 10/19/23 09:37		Analyzed: 10/20/23 04:36							
QC Source Sample: Non-SDG (A3J1419-03)												
% Solids	**76.4**	1.00	1.00	%	1	---	76.5	---	---	0.1	10%	
Duplicate (23J0745-DUP4)			Prepared: 10/19/23 18:06		Analyzed: 10/20/23 04:36							
QC Source Sample: TP-04-NS-9.0-10.0-20231010 (A3J1366-07)												
EPA 8000D												
% Solids	**88.4**	1.00	1.00	%	1	---	88.5	---	---	0.02	10%	
Duplicate (23J0745-DUP5)			Prepared: 10/19/23 18:06		Analyzed: 10/20/23 04:36							
QC Source Sample: TP-05-NS-4.0-5.0-20231011 (A3J1366-08)												
EPA 8000D												
% Solids	**84.9**	1.00	1.00	%	1	---	86.6	---	---	2	10%	
Duplicate (23J0745-DUP6)			Prepared: 10/19/23 18:06		Analyzed: 10/20/23 04:36							
QC Source Sample: TP-06-NS-9.0-10.0-20231011 (A3J1366-09)												
EPA 8000D												
% Solids	**82.8**	1.00	1.00	%	1	---	83.5	---	---	1	10%	
Duplicate (23J0745-DUP7)			Prepared: 10/19/23 19:06		Analyzed: 10/20/23 04:36							
QC Source Sample: Non-SDG (A3J1482-01)												
% Solids	**74.9**	1.00	1.00	%	1	---	74.5	---	---	0.5	10%	
Duplicate (23J0745-DUP8)			Prepared: 10/19/23 19:06		Analyzed: 10/20/23 04:36							

GSI Water Solutions	Project:	**Eatonville Landfill Characterization**	
55 SW Yamhill St, Ste 300	Project Number:	**00171.074.008**	**Report ID:**
Portland, OR 97209	Project Manager:	**Ben Johnson**	**A3J1366 - 11 10 23 1227**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0745 - Total Solids (Dry Weight) - 2022							**Soil**					
Duplicate (23J0745-DUP8)			Prepared: 10/19/23 19:06		Analyzed: 10/20/23 04:36							
QC Source Sample: Non-SDG (A3J1482-02)												
% Solids	**69.1**	1.00	1.00	%	1	---	84.0	---	---	**20**	**10%**	Q-17

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0850							
A3J1366-06RE1	Soil	NWTPH-Dx	10/10/23 11:25	10/23/23 05:36	10.82g/5mL	10g/5mL	0.92
A3J1366-07	Soil	NWTPH-Dx	10/10/23 15:45	10/23/23 05:36	10.09g/5mL	10g/5mL	0.99
Batch: 23J0954							
A3J1366-08	Soil	NWTPH-Dx	10/11/23 08:45	10/25/23 13:05	10.68g/5mL	10g/5mL	0.94
A3J1366-09RE1	Soil	NWTPH-Dx	10/11/23 10:15	10/25/23 13:05	10.77g/5mL	10g/5mL	0.93
A3J1366-10	Soil	NWTPH-Dx	10/11/23 13:10	10/25/23 13:05	10.31g/5mL	10g/5mL	0.97
A3J1366-11	Soil	NWTPH-Dx	10/11/23 15:45	10/25/23 13:05	10.06g/5mL	10g/5mL	0.99
A3J1366-12RE1	Soil	NWTPH-Dx	10/12/23 14:45	10/25/23 13:05	10.5g/5mL	10g/5mL	0.95
A3J1366-14RE1	Soil	NWTPH-Dx	10/11/23 11:55	10/25/23 16:38	10.41g/5mL	10g/5mL	0.96

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

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0806							
A3J1366-01	Soil	NWTPH-Gx (MS)	10/10/23 08:50	10/10/23 08:50	5.55g/5mL	5g/5mL	0.90
A3J1366-05	Soil	NWTPH-Gx (MS)	10/10/23 07:50	10/10/23 07:50	4.8g/5mL	5g/5mL	1.04
A3J1366-06	Soil	NWTPH-Gx (MS)	10/10/23 11:25	10/10/23 11:25	4.84g/5mL	5g/5mL	1.03
A3J1366-07	Soil	NWTPH-Gx (MS)	10/10/23 15:45	10/10/23 15:45	5.49g/5mL	5g/5mL	0.91
A3J1366-08	Soil	NWTPH-Gx (MS)	10/11/23 08:45	10/11/23 08:45	6.73g/5mL	5g/5mL	0.74
A3J1366-09	Soil	NWTPH-Gx (MS)	10/11/23 10:15	10/11/23 10:15	7.19g/5mL	5g/5mL	0.70
A3J1366-10	Soil	NWTPH-Gx (MS)	10/11/23 13:10	10/11/23 13:10	6.92g/5mL	5g/5mL	0.72
A3J1366-11	Soil	NWTPH-Gx (MS)	10/11/23 15:45	10/11/23 15:45	5.38g/5mL	5g/5mL	0.93
A3J1366-12	Soil	NWTPH-Gx (MS)	10/12/23 14:45	10/12/23 14:45	4.65g/5mL	5g/5mL	1.08
A3J1366-14	Soil	NWTPH-Gx (MS)	10/11/23 11:55	10/11/23 11:55	6.73g/5mL	5g/5mL	0.74

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0806							
A3J1366-07	Soil	5035A/8260D	10/10/23 15:45	10/10/23 15:45	5.49g/5mL	5g/5mL	0.91
A3J1366-08	Soil	5035A/8260D	10/11/23 08:45	10/11/23 08:45	6.73g/5mL	5g/5mL	0.74
A3J1366-09	Soil	5035A/8260D	10/11/23 10:15	10/11/23 10:15	7.19g/5mL	5g/5mL	0.70
A3J1366-10	Soil	5035A/8260D	10/11/23 13:10	10/11/23 13:10	6.92g/5mL	5g/5mL	0.72
A3J1366-11	Soil	5035A/8260D	10/11/23 15:45	10/11/23 15:45	5.38g/5mL	5g/5mL	0.93

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-12	Soil	5035A/8260D	10/12/23 14:45	10/12/23 14:45	4.65g/5mL	5g/5mL	1.08
A3J1366-14	Soil	5035A/8260D	10/11/23 11:55	10/11/23 11:55	6.73g/5mL	5g/5mL	0.74

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0900							
A3J1366-01	Soil	EPA 8082A	10/10/23 08:50	10/24/23 06:45	10.56g/5mL	10g/5mL	0.95
A3J1366-02	Soil	EPA 8082A	10/10/23 08:40	10/24/23 06:45	10.1g/5mL	10g/5mL	0.99
A3J1366-03	Soil	EPA 8082A	10/10/23 08:20	10/24/23 06:45	10.51g/5mL	10g/5mL	0.95
A3J1366-04	Soil	EPA 8082A	10/10/23 08:05	10/24/23 06:45	10.31g/5mL	10g/5mL	0.97
Batch: 23J1014							
A3J1366-05RE1	Soil	EPA 8082A	10/10/23 07:50	10/26/23 04:52	10.13g/5mL	10g/5mL	0.99
A3J1366-06	Soil	EPA 8082A	10/10/23 11:25	10/26/23 04:52	10.05g/5mL	10g/5mL	1.00
A3J1366-07	Soil	EPA 8082A	10/10/23 15:45	10/26/23 04:52	10.47g/5mL	10g/5mL	0.96
A3J1366-08	Soil	EPA 8082A	10/11/23 08:45	10/26/23 04:52	10.04g/5mL	10g/5mL	1.00
A3J1366-09	Soil	EPA 8082A	10/11/23 10:15	10/26/23 04:52	10.07g/5mL	10g/5mL	0.99
A3J1366-10	Soil	EPA 8082A	10/11/23 13:10	10/26/23 04:52	10.56g/5mL	10g/5mL	0.95
A3J1366-11	Soil	EPA 8082A	10/11/23 15:45	10/26/23 04:52	10.64g/5mL	10g/5mL	0.94
A3J1366-12	Soil	EPA 8082A	10/12/23 14:45	10/26/23 04:52	10.09g/5mL	10g/5mL	0.99
A3J1366-13	Soil	EPA 8082A	10/12/23 14:30	10/26/23 04:52	10.2g/5mL	10g/5mL	0.98
A3J1366-14	Soil	EPA 8082A	10/11/23 11:55	10/26/23 04:52	10.11g/5mL	10g/5mL	0.99
A3J1366-15RE1	Soil	EPA 8082A	10/11/23 12:50	10/26/23 04:52	10.29g/5mL	10g/5mL	0.97
Batch: 23J1015							
A3J1366-16	Soil	EPA 8082A	10/11/23 11:30	10/26/23 04:55	10.4g/5mL	10g/5mL	0.96
A3J1366-17	Soil	EPA 8082A	10/12/23 13:25	10/26/23 04:55	10.06g/5mL	10g/5mL	0.99
A3J1366-18	Soil	EPA 8082A	10/12/23 12:35	10/26/23 04:55	10.26g/5mL	10g/5mL	0.98
A3J1366-19RE1	Soil	EPA 8082A	10/12/23 11:30	10/26/23 04:55	10.28g/5mL	10g/5mL	0.97
A3J1366-20	Soil	EPA 8082A	10/12/23 09:45	10/26/23 04:55	10.25g/5mL	10g/5mL	0.98
A3J1366-21	Soil	EPA 8082A	10/11/23 15:30	10/26/23 04:55	10.04g/5mL	10g/5mL	1.00
A3J1366-22	Soil	EPA 8082A	10/11/23 14:50	10/26/23 04:55	10.04g/5mL	10g/5mL	1.00
A3J1366-23	Soil	EPA 8082A	10/11/23 09:35	10/26/23 04:55	10.16g/5mL	10g/5mL	0.98
A3J1366-24	Soil	EPA 8082A	10/11/23 08:35	10/26/23 04:55	10.31g/5mL	10g/5mL	0.97
A3J1366-25RE1	Soil	EPA 8082A	10/10/23 15:25	10/26/23 04:55	10.25g/5mL	10g/5mL	0.98
A3J1366-26	Soil	EPA 8082A	10/10/23 14:30	10/26/23 04:55	10.67g/5mL	10g/5mL	0.94

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-27RE1	Soil	EPA 8082A	10/10/23 12:55	10/26/23 04:55	10.07g/5mL	10g/5mL	0.99
A3J1366-28	Soil	EPA 8082A	10/10/23 10:55	10/26/23 04:55	10.45g/5mL	10g/5mL	0.96

Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0793							
A3J1366-06RE1	Soil	EPA 8270E	10/10/23 11:25	10/20/23 04:49	15.02g/2mL	15g/2mL	1.00
A3J1366-07RE2	Soil	EPA 8270E	10/10/23 15:45	10/20/23 04:49	15.23g/2mL	15g/2mL	0.99
Batch: 23J0901							
A3J1366-08RE2	Soil	EPA 8270E	10/11/23 08:45	10/24/23 06:49	15.69g/2mL	15g/2mL	0.96
A3J1366-09RE1	Soil	EPA 8270E	10/11/23 10:15	10/24/23 06:49	15.04g/2mL	15g/2mL	1.00
A3J1366-10RE1	Soil	EPA 8270E	10/11/23 13:10	10/24/23 06:49	15.23g/5mL	15g/2mL	2.46
A3J1366-11RE2	Soil	EPA 8270E	10/11/23 15:45	10/24/23 06:49	15.36g/2mL	15g/2mL	0.98
A3J1366-12RE1	Soil	EPA 8270E	10/12/23 14:45	10/24/23 06:49	15.58g/2mL	15g/2mL	0.96
A3J1366-14	Soil	EPA 8270E	10/11/23 11:55	10/24/23 06:49	15.62g/5mL	15g/2mL	2.40
A3J1366-14RE1	Soil	EPA 8270E	10/11/23 11:55	10/24/23 06:49	15.62g/5mL	15g/2mL	2.40

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0999							
A3J1366-14	Soil	EPA 6020B	10/11/23 11:55	10/25/23 13:41	0.478g/50mL	0.5g/50mL	1.05
A3J1366-15	Soil	EPA 6020B	10/11/23 12:50	10/25/23 13:41	0.482g/50mL	0.5g/50mL	1.04
A3J1366-16	Soil	EPA 6020B	10/11/23 11:30	10/25/23 13:41	0.498g/50mL	0.5g/50mL	1.00
A3J1366-17	Soil	EPA 6020B	10/12/23 13:25	10/25/23 13:41	0.464g/50mL	0.5g/50mL	1.08
A3J1366-18	Soil	EPA 6020B	10/12/23 12:35	10/25/23 13:41	0.49g/50mL	0.5g/50mL	1.02
A3J1366-18RE1	Soil	EPA 6020B	10/12/23 12:35	10/25/23 13:41	0.49g/50mL	0.5g/50mL	1.02
A3J1366-19	Soil	EPA 6020B	10/12/23 11:30	10/25/23 13:41	0.47g/50mL	0.5g/50mL	1.06
A3J1366-20	Soil	EPA 6020B	10/12/23 09:45	10/25/23 13:41	0.488g/50mL	0.5g/50mL	1.02
A3J1366-21	Soil	EPA 6020B	10/11/23 15:30	10/25/23 13:41	0.475g/50mL	0.5g/50mL	1.05
A3J1366-22	Soil	EPA 6020B	10/11/23 14:50	10/25/23 13:41	0.466g/50mL	0.5g/50mL	1.07
A3J1366-23	Soil	EPA 6020B	10/11/23 09:35	10/25/23 13:41	0.485g/50mL	0.5g/50mL	1.03
A3J1366-24	Soil	EPA 6020B	10/11/23 08:35	10/25/23 13:41	0.513g/50mL	0.5g/50mL	0.98
A3J1366-25	Soil	EPA 6020B	10/10/23 15:25	10/25/23 13:41	0.507g/50mL	0.5g/50mL	0.99

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-26	Soil	EPA 6020B	10/10/23 14:30	10/25/23 13:41	0.469g/50mL	0.5g/50mL	1.07
A3J1366-26RE1	Soil	EPA 6020B	10/10/23 14:30	10/25/23 13:41	0.469g/50mL	0.5g/50mL	1.07
A3J1366-27	Soil	EPA 6020B	10/10/23 12:55	10/25/23 13:41	0.479g/50mL	0.5g/50mL	1.04
A3J1366-27RE1	Soil	EPA 6020B	10/10/23 12:55	10/25/23 13:41	0.479g/50mL	0.5g/50mL	1.04
A3J1366-28	Soil	EPA 6020B	10/10/23 10:55	10/25/23 13:41	0.51g/50mL	0.5g/50mL	0.98
A3J1366-28RE1	Soil	EPA 6020B	10/10/23 10:55	10/25/23 13:41	0.51g/50mL	0.5g/50mL	0.98
Batch: 23J1022							
A3J1366-01	Soil	EPA 6020B	10/10/23 08:50	10/26/23 09:08	0.495g/50mL	0.5g/50mL	1.01
A3J1366-02	Soil	EPA 6020B	10/10/23 08:40	10/26/23 09:08	0.488g/50mL	0.5g/50mL	1.02
A3J1366-03	Soil	EPA 6020B	10/10/23 08:20	10/26/23 09:08	0.497g/50mL	0.5g/50mL	1.01
A3J1366-04	Soil	EPA 6020B	10/10/23 08:05	10/26/23 09:08	0.453g/50mL	0.5g/50mL	1.10
A3J1366-05	Soil	EPA 6020B	10/10/23 07:50	10/26/23 09:08	0.465g/50mL	0.5g/50mL	1.08
A3J1366-06	Soil	EPA 6020B	10/10/23 11:25	10/26/23 09:08	0.46g/50mL	0.5g/50mL	1.09
A3J1366-07	Soil	EPA 6020B	10/10/23 15:45	10/26/23 09:08	0.466g/50mL	0.5g/50mL	1.07
A3J1366-08	Soil	EPA 6020B	10/11/23 08:45	10/26/23 09:08	0.498g/50mL	0.5g/50mL	1.00
A3J1366-09	Soil	EPA 6020B	10/11/23 10:15	10/26/23 09:08	0.453g/50mL	0.5g/50mL	1.10
A3J1366-09RE1	Soil	EPA 6020B	10/11/23 10:15	10/26/23 09:08	0.453g/50mL	0.5g/50mL	1.10
A3J1366-10	Soil	EPA 6020B	10/11/23 13:10	10/26/23 09:08	0.49g/50mL	0.5g/50mL	1.02
A3J1366-11	Soil	EPA 6020B	10/11/23 15:45	10/26/23 09:08	0.487g/50mL	0.5g/50mL	1.03
A3J1366-12	Soil	EPA 6020B	10/12/23 14:45	10/26/23 09:08	0.482g/50mL	0.5g/50mL	1.04
A3J1366-13	Soil	EPA 6020B	10/12/23 14:30	10/26/23 09:08	0.48g/50mL	0.5g/50mL	1.04

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0933							
A3J1366-01	Soil	1311/6020B	10/10/23 08:50	10/24/23 13:20	10mL/50mL	10mL/50mL	1.00
A3J1366-02	Soil	1311/6020B	10/10/23 08:40	10/24/23 13:20	10mL/50mL	10mL/50mL	1.00
A3J1366-03	Soil	1311/6020B	10/10/23 08:20	10/24/23 13:20	10mL/50mL	10mL/50mL	1.00
A3J1366-04	Soil	1311/6020B	10/10/23 08:05	10/24/23 13:20	10mL/50mL	10mL/50mL	1.00
Batch: 23J0987							
A3J1366-05	Soil	1311/6020B	10/10/23 07:50	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-06	Soil	1311/6020B	10/10/23 11:25	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-07	Soil	1311/6020B	10/10/23 15:45	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-08	Soil	1311/6020B	10/11/23 08:45	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00

SAMPLE PREPARATION INFORMATION

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-09	Soil	1311/6020B	10/11/23 10:15	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-10	Soil	1311/6020B	10/11/23 13:10	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-11	Soil	1311/6020B	10/11/23 15:45	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-12	Soil	1311/6020B	10/12/23 14:45	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
A3J1366-13	Soil	1311/6020B	10/12/23 14:30	10/25/23 10:53	10mL/50mL	10mL/50mL	1.00
Batch: 23J1044							
A3J1366-14	Soil	1311/6020B	10/11/23 11:55	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-14RE1	Soil	1311/6020B	10/11/23 11:55	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-15	Soil	1311/6020B	10/11/23 12:50	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-15RE1	Soil	1311/6020B	10/11/23 12:50	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-16	Soil	1311/6020B	10/11/23 11:30	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-17	Soil	1311/6020B	10/12/23 13:25	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-17RE1	Soil	1311/6020B	10/12/23 13:25	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-18	Soil	1311/6020B	10/12/23 12:35	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-18RE1	Soil	1311/6020B	10/12/23 12:35	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-19RE1	Soil	1311/6020B	10/12/23 11:30	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-20RE1	Soil	1311/6020B	10/12/23 09:45	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-21RE1	Soil	1311/6020B	10/11/23 15:30	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-22	Soil	1311/6020B	10/11/23 14:50	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-23	Soil	1311/6020B	10/11/23 09:35	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-24	Soil	1311/6020B	10/11/23 08:35	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-25	Soil	1311/6020B	10/10/23 15:25	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-26	Soil	1311/6020B	10/10/23 14:30	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-27	Soil	1311/6020B	10/10/23 12:55	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00
A3J1366-28	Soil	1311/6020B	10/10/23 10:55	10/26/23 10:46	10mL/50mL	10mL/50mL	1.00

Conventional Chemistry Parameters

Prep: DI Leach

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0780							
A3J1366-06	Soil	EPA 9045D	10/10/23 11:25	10/19/23 15:59	20.9763g/20mL	20g/20mL	NA
A3J1366-07	Soil	EPA 9045D	10/10/23 15:45	10/19/23 15:59	20.9161g/20mL	20g/20mL	NA
A3J1366-08	Soil	EPA 9045D	10/11/23 08:45	10/19/23 15:59	20.6736g/20mL	20g/20mL	NA
A3J1366-09	Soil	EPA 9045D	10/11/23 10:15	10/19/23 15:59	20.4459g/20mL	20g/20mL	NA
A3J1366-10	Soil	EPA 9045D	10/11/23 13:10	10/19/23 15:59	20.156g/20mL	20g/20mL	NA
A3J1366-11	Soil	EPA 9045D	10/11/23 15:45	10/19/23 15:59	20.701g/20mL	20g/20mL	NA

SAMPLE PREPARATION INFORMATION

Conventional Chemistry Parameters

Prep: DI Leach

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-12	Soil	EPA 9045D	10/12/23 14:45	10/19/23 15:59	20.0679g/20mL	20g/20mL	NA
A3J1366-13	Soil	EPA 9045D	10/12/23 14:30	10/19/23 15:59	20.967g/20mL	20g/20mL	NA
A3J1366-14	Soil	EPA 9045D	10/11/23 11:55	10/19/23 15:59	20.2564g/20mL	20g/20mL	NA
A3J1366-15	Soil	EPA 9045D	10/11/23 12:50	10/19/23 15:59	20.6724g/20mL	20g/20mL	NA
A3J1366-16	Soil	EPA 9045D	10/11/23 11:30	10/19/23 15:59	20.8175g/20mL	20g/20mL	NA
A3J1366-17	Soil	EPA 9045D	10/12/23 13:25	10/19/23 15:59	20.5433g/20mL	20g/20mL	NA
A3J1366-18	Soil	EPA 9045D	10/12/23 12:35	10/19/23 15:59	20.8919g/20mL	20g/20mL	NA
A3J1366-19	Soil	EPA 9045D	10/12/23 11:30	10/19/23 15:59	20.7889g/20mL	20g/20mL	NA
A3J1366-20	Soil	EPA 9045D	10/12/23 09:45	10/19/23 15:59	20.7956g/20mL	20g/20mL	NA
Batch: 23J0820							
A3J1366-22	Soil	EPA 9045D	10/11/23 14:50	10/20/23 12:15	20.0364g/20mL	20g/20mL	NA
A3J1366-23	Soil	EPA 9045D	10/11/23 09:35	10/20/23 12:15	20.0486g/20mL	20g/20mL	NA
A3J1366-24	Soil	EPA 9045D	10/11/23 08:35	10/20/23 12:15	20.0768g/20mL	20g/20mL	NA
A3J1366-25	Soil	EPA 9045D	10/10/23 15:25	10/20/23 12:15	20.0842g/20mL	20g/20mL	NA
A3J1366-26	Soil	EPA 9045D	10/10/23 14:30	10/20/23 12:15	20.0156g/20mL	20g/20mL	NA
A3J1366-27	Soil	EPA 9045D	10/10/23 12:55	10/20/23 12:15	20.0014g/20mL	20g/20mL	NA
A3J1366-28	Soil	EPA 9045D	10/10/23 10:55	10/20/23 12:15	20.0192g/20mL	20g/20mL	NA

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0745							
A3J1366-01	Soil	EPA 8000D	10/10/23 08:50	10/19/23 18:06			NA
A3J1366-02	Soil	EPA 8000D	10/10/23 08:40	10/19/23 18:06			NA
A3J1366-03	Soil	EPA 8000D	10/10/23 08:20	10/19/23 18:06			NA
A3J1366-04	Soil	EPA 8000D	10/10/23 08:05	10/19/23 18:06			NA
A3J1366-05	Soil	EPA 8000D	10/10/23 07:50	10/19/23 18:06			NA
A3J1366-06	Soil	EPA 8000D	10/10/23 11:25	10/19/23 18:06			NA
A3J1366-07	Soil	EPA 8000D	10/10/23 15:45	10/19/23 18:06			NA
A3J1366-08	Soil	EPA 8000D	10/11/23 08:45	10/19/23 18:06			NA
A3J1366-09	Soil	EPA 8000D	10/11/23 10:15	10/19/23 18:06			NA
A3J1366-10	Soil	EPA 8000D	10/11/23 13:10	10/19/23 18:06			NA
A3J1366-11	Soil	EPA 8000D	10/11/23 15:45	10/19/23 18:06			NA
A3J1366-12	Soil	EPA 8000D	10/12/23 14:45	10/19/23 18:06			NA
A3J1366-13	Soil	EPA 8000D	10/12/23 14:30	10/19/23 18:06			NA
A3J1366-14	Soil	EPA 8000D	10/11/23 11:55	10/19/23 18:06			NA

SAMPLE PREPARATION INFORMATION

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-15	Soil	EPA 8000D	10/11/23 12:50	10/19/23 18:06			NA
A3J1366-16	Soil	EPA 8000D	10/11/23 11:30	10/19/23 18:06			NA
A3J1366-17	Soil	EPA 8000D	10/12/23 13:25	10/19/23 18:06			NA
A3J1366-18	Soil	EPA 8000D	10/12/23 12:35	10/19/23 18:06			NA
A3J1366-19	Soil	EPA 8000D	10/12/23 11:30	10/19/23 18:06			NA
A3J1366-20	Soil	EPA 8000D	10/12/23 09:45	10/19/23 18:06			NA
A3J1366-21	Soil	EPA 8000D	10/11/23 15:30	10/19/23 18:06			NA
A3J1366-22	Soil	EPA 8000D	10/11/23 14:50	10/19/23 18:06			NA
A3J1366-23	Soil	EPA 8000D	10/11/23 09:35	10/19/23 18:06			NA
A3J1366-24	Soil	EPA 8000D	10/11/23 08:35	10/19/23 18:06			NA
A3J1366-25	Soil	EPA 8000D	10/10/23 15:25	10/19/23 18:06			NA
A3J1366-26	Soil	EPA 8000D	10/10/23 14:30	10/19/23 18:06			NA
A3J1366-27	Soil	EPA 8000D	10/10/23 12:55	10/19/23 18:06			NA
A3J1366-28	Soil	EPA 8000D	10/10/23 10:55	10/19/23 18:06			NA

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0867							
A3J1366-01	Soil	EPA 1311	10/10/23 08:50	10/23/23 16:40	100g/2000.3g	100g/2000g	NA
A3J1366-02	Soil	EPA 1311	10/10/23 08:40	10/23/23 16:40	100g/2000g	100g/2000g	NA
A3J1366-03	Soil	EPA 1311	10/10/23 08:20	10/23/23 16:40	100g/2000.2g	100g/2000g	NA
A3J1366-04	Soil	EPA 1311	10/10/23 08:05	10/23/23 16:40	100g/2000.3g	100g/2000g	NA
Batch: 23J0868							
A3J1366-05	Soil	EPA 1311	10/10/23 07:50	10/23/23 16:40	100g/2000.3g	100g/2000g	NA
A3J1366-06	Soil	EPA 1311	10/10/23 11:25	10/23/23 16:40	100g/2000.5g	100g/2000g	NA
A3J1366-07	Soil	EPA 1311	10/10/23 15:45	10/23/23 16:40	100g/2000.2g	100g/2000g	NA
A3J1366-08	Soil	EPA 1311	10/11/23 08:45	10/23/23 16:40	100g/2000g	100g/2000g	NA
A3J1366-09	Soil	EPA 1311	10/11/23 10:15	10/23/23 16:40	100g/2000.2g	100g/2000g	NA
A3J1366-10	Soil	EPA 1311	10/11/23 13:10	10/23/23 16:40	100g/2000.6g	100g/2000g	NA
A3J1366-11	Soil	EPA 1311	10/11/23 15:45	10/23/23 16:40	100g/2000.2g	100g/2000g	NA
A3J1366-12	Soil	EPA 1311	10/12/23 14:45	10/23/23 16:40	100g/2000.2g	100g/2000g	NA
A3J1366-13	Soil	EPA 1311	10/12/23 14:30	10/23/23 16:40	100g/2000.9g	100g/2000g	NA
Batch: 23J0904							
A3J1366-14	Soil	EPA 1311	10/11/23 11:55	10/24/23 16:30	100g/2000.1g	100g/2000g	NA

SAMPLE PREPARATION INFORMATION

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1366-15	Soil	EPA 1311	10/11/23 12:50	10/24/23 16:30	100g/2000.2g	100g/2000g	NA
A3J1366-16	Soil	EPA 1311	10/11/23 11:30	10/24/23 16:30	100g/2000g	100g/2000g	NA
A3J1366-17	Soil	EPA 1311	10/12/23 13:25	10/24/23 16:30	100g/2000g	100g/2000g	NA
A3J1366-18	Soil	EPA 1311	10/12/23 12:35	10/24/23 16:30	100g/2000.8g	100g/2000g	NA
A3J1366-19	Soil	EPA 1311	10/12/23 11:30	10/24/23 16:30	100g/2000.9g	100g/2000g	NA
A3J1366-20	Soil	EPA 1311	10/12/23 09:45	10/24/23 16:30	100g/2000.2g	100g/2000g	NA
A3J1366-21	Soil	EPA 1311	10/11/23 15:30	10/24/23 16:30	100g/2000.4g	100g/2000g	NA
A3J1366-22	Soil	EPA 1311	10/11/23 14:50	10/24/23 16:30	100g/2000.6g	100g/2000g	NA
A3J1366-23	Soil	EPA 1311	10/11/23 09:35	10/24/23 16:30	100g/2000.2g	100g/2000g	NA
A3J1366-24	Soil	EPA 1311	10/11/23 08:35	10/24/23 16:30	100g/2000.1g	100g/2000g	NA
A3J1366-25	Soil	EPA 1311	10/10/23 15:25	10/24/23 16:30	100g/2000.2g	100g/2000g	NA
A3J1366-26	Soil	EPA 1311	10/10/23 14:30	10/24/23 16:30	100g/2000.3g	100g/2000g	NA
A3J1366-27	Soil	EPA 1311	10/10/23 12:55	10/24/23 16:30	100g/2000.2g	100g/2000g	NA
A3J1366-28	Soil	EPA 1311	10/10/23 10:55	10/24/23 16:30	100g/2000.4g	100g/2000g	NA

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
COMP	Analyzed sample is a composite of discrete samples that was performed in the laboratory.
CONT	The Sample Container provided for this analysis was not provided by Apex Laboratories, and has not been verified as part of the Apex Quality System.
E	Estimated Value. The result is above the calibration range of the instrument.
ICV-02	Estimated Result. Initial Calibration Verification (ICV) failed low.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
M-05	Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
P-09	Due to weathering and/or the presence of an unknown mixture of PCB Congeners, the pattern does not match the standard used for calibration. Results are Estimated and based on the closest matching Aroclor.
P-10	Result estimated due to the presence of multiple PCB Aroclors and/or matrix interference.
P-12	Result estimated due to the presence of multiple PCB Aroclors and/or PCB congeners not defined as Aroclors.
pH_S	Method recommends preparation 'as soon as possible'. See Sample Preparation Information section of report for details. Consult regulator or permit manager to determine the usability of data for intended purpose.
PRO	Sample has undergone sample processing prior to extraction and analysis.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-16	Reanalysis of an original Batch QC sample.
Q-17	RPD between original and duplicate sample, or spike duplicates, is outside of established control limits.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-31	Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
Q-43	Matrix Spike recovery is not applicable due to interfering Aroclor(s) in source sample.
Q-52	Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.

Q-54	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +2%. The results are reported as Estimated Values.
Q-54a	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by -2%. The results are reported as Estimated Values.
Q-55	Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260, however there is adequate sensitivity to ensure detection at the reporting level.
Q-56	Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260
Q-65	Spike recovery is estimated due to the high analyte concentration of the source sample.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
S-01	Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
S-03	Sample re-extract, or the analysis of an associated Batch QC sample, confirms surrogate failure due to sample matrix effect.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
S-06	Surrogate recovery is outside of established control limits.
TCLP	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0867.
TCLPa	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0868.
TCLPb	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0904.

Philip Nerenberg

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET	Analyte DETECTED at or above the detection or reporting limit.
ND	Analyte NOT DETECTED at or above the detection or reporting limit.
NR	Result Not Reported
RPD	Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry"	Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry") See Percent Solids section for details of dry weight analysis.
" wet"	Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
" "	Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a “dry weight” basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an “As Received” basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).

-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.

-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

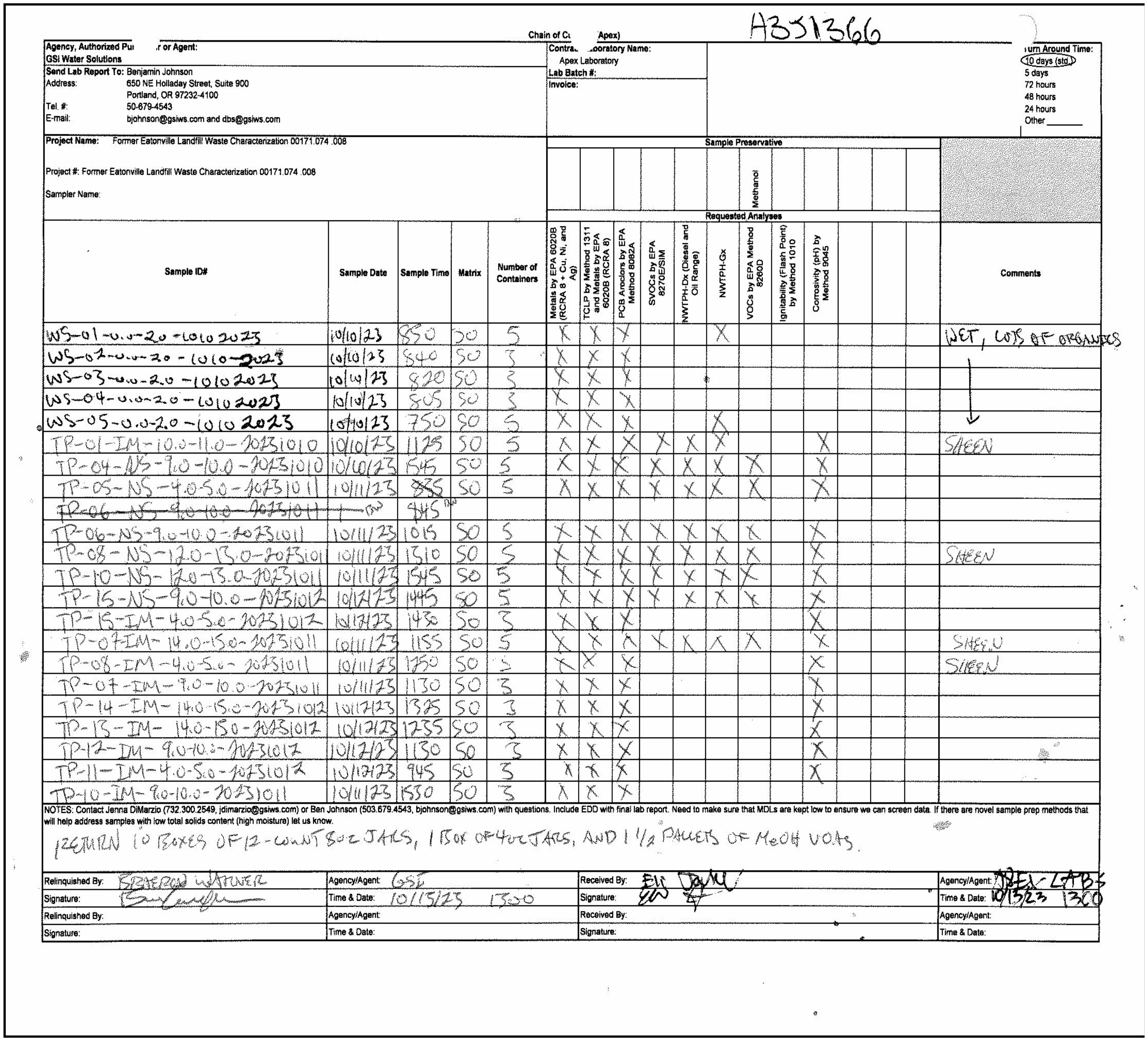
Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



A3J1366

Chain of Cu… Apex)

Agency, Authorized Pu… …r or Agent:
GSI Water Solutions
Send Lab Report To: Benjamin Johnson
Address: 650 NE Holladay Street, Suite 900
Portland, OR 97232-4100
Tel. #: 50-679-4543
E-mail: bjohnson@gsiws.com and dbs@gsiws.com

Contra… …boratory Name:
Apex Laboratory
Lab Batch #:
Invoice:

Turn Around Time:
[✓ 10 days (std.)]
5 days
72 hours
48 hours
24 hours
Other ______

Project Name: Former Eatonville Landfill Waste Characterization 00171.074 .008

Project #: Former Eatonville Landfill Waste Characterization 00171.074 .008

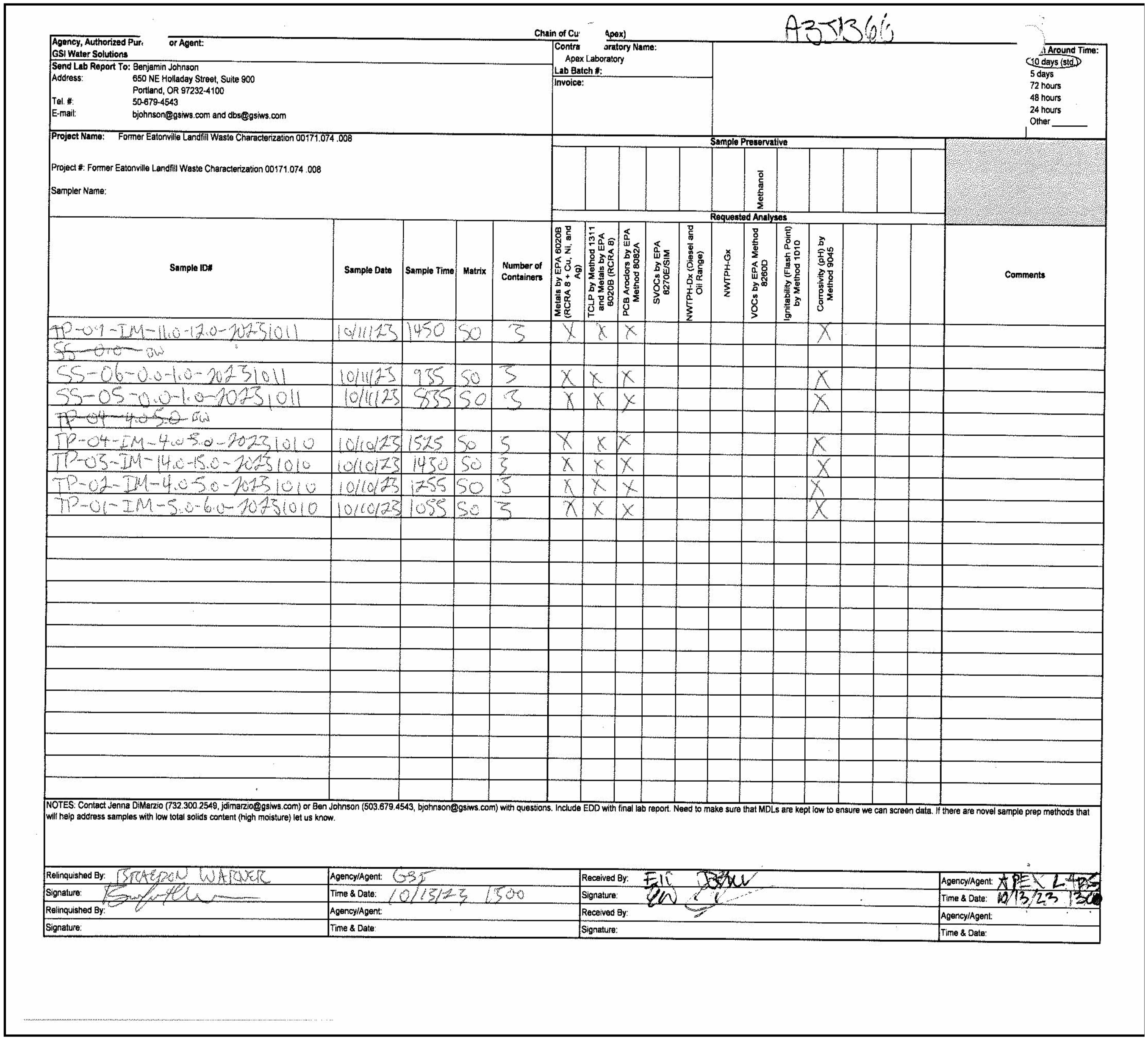
Sampler Name:

					Sample Preservative											
											Methanol					
					Requested Analyses											
Sample ID#	**Sample Date**	**Sample Time**	**Matrix**	**Number of Containers**	Metals by EPA 6020B (RCRA 8 + Cu, Ni, and Ag)	TCLP by Method 1311 and Metals by EPA 6020B (RCRA 8)	PCB Aroclors by EPA Method 8082A	SVOCs by EPA 8270E/SIM	NWTPH-Dx (Diesel and Oil Range)	NWTPH-Gx	VOCs by EPA Method 8260D	Ignitability (Flash Point) by Method 1010	Corrosivity (pH) by Method 9045			**Comments**
WS-01-0.0-20-1010 2023	10/10/23	850	SO	5	X	X	X			X						WET, LOTS OF ORGANICS
WS-02-0.0-20-1010-2023	10/10/23	840	SO	3	X	X	X									
WS-03-0.0-2.0-1010 2023	10/10/23	820	SO	3	X	X	X									
WS-04-0.0-2.0-1010 2023	10/10/23	805	SO	3	X	X	X									
WS-05-0.0-2.0-1010 2023	10/10/23	750	SO	5	X	X	X			X						↓
TP-01-IM-10.0-11.0-20231010	10/10/23	1125	SO	5	X	X	X	X	X	X			X			SHEEN
TP-04-NS-9.0-10.0-20231010	10/10/23	1545	SO	5	X	X	X	X	X	X	X		X			
TP-05-NS-4.0-5.0-20231011	10/11/23	835	SO	5	X	X	X	X	X	X	X		X			
~~TP-06-NS-9.0-10.0-20231011~~	DW	945 DW														
TP-06-NS-9.0-10.0-20231011	10/11/23	1015	SO	5	X	X	X	X	X	X	X		X			
TP-08-NS-12.0-13.0-20231011	10/11/23	1310	SO	5	X	X	X	X	X	X	X		X			SHEEN
TP-10-NS-12.0-13.0-20231011	10/11/23	1545	SO	5	X	X	X	X	X	X	X		X			
TP-15-NS-9.0-10.0-20231012	10/12/23	1445	SO	5	X	X	X	X	X	X	X		X			
TP-15-IM-4.0-5.0-20231012	10/12/23	1430	SO	3	X	X	X						X			
TP-07-IM-14.0-15.0-20231011	10/11/23	1155	SO	5	X	X	X	X	X	X	X		X			SHEEN
TP-08-IM-4.0-5.0-20231011	10/11/23	1250	SO	3	X	X	X						X			SHEEN
TP-07-IM-9.0-10.0-20231011	10/11/23	1130	SO	3	X	X	X						X			
TP-14-IM-14.0-15.0-20231012	10/12/23	1325	SO	3	X	X	X						X			
TP-13-IM-14.0-15.0-20231012	10/12/23	1235	SO	3	X	X	X						X			
TP-12-IM-9.0-10.0-20231012	10/12/23	1130	SO	3	X	X	X						X			
TP-11-IM-4.0-5.0-20231012	10/12/23	945	SO	3	X	X	X						X			
TP-10-IM-9.0-10.0-20231011	10/11/23	1550	SO	3	X	X	X									

NOTES: Contact Jenna DiMarzio (732.300.2549, jdimarzio@gsiws.com) or Ben Johnson (503.679.4543, bjohnson@gsiws.com) with questions. Include EDD with final lab report. Need to make sure that MDLs are kept low to ensure we can screen data. If there are novel sample prep methods that will help address samples with low total solids content (high moisture) let us know.

RETURN 10 BOXES OF 12-COUNT 8oz JARS, 1 BOX OF 4oz JARS, AND 1 1/2 PALLETS OF MeOH VOAs.

Relinquished By: BRAEDON WAGNER	Agency/Agent: GSI	Received By: Eli [illegible]	Agency/Agent: APEX LABS
Signature:	Time & Date: 10/15/23 1300	Signature:	Time & Date: 10/13/23 1300
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature:	Time & Date:



A3J1366

Chain of Cu Apex)

Agency, Authorized Pur or Agent:
GSI Water Solutions
Send Lab Report To: Benjamin Johnson
Address: 650 NE Holladay Street, Suite 900
Portland, OR 97232-4100
Tel. #: 50-679-4543
E-mail: bjohnson@gsiws.com and dbs@gsiws.com

Contra oratory Name:
Apex Laboratory
Lab Batch #:
Invoice:

Around Time:
[✓ 10 days (std.)]
5 days
72 hours
48 hours
24 hours
Other ________

Project Name: Former Eatonville Landfill Waste Characterization 00171.074 .008

Project #: Former Eatonville Landfill Waste Characterization 00171.074 .008

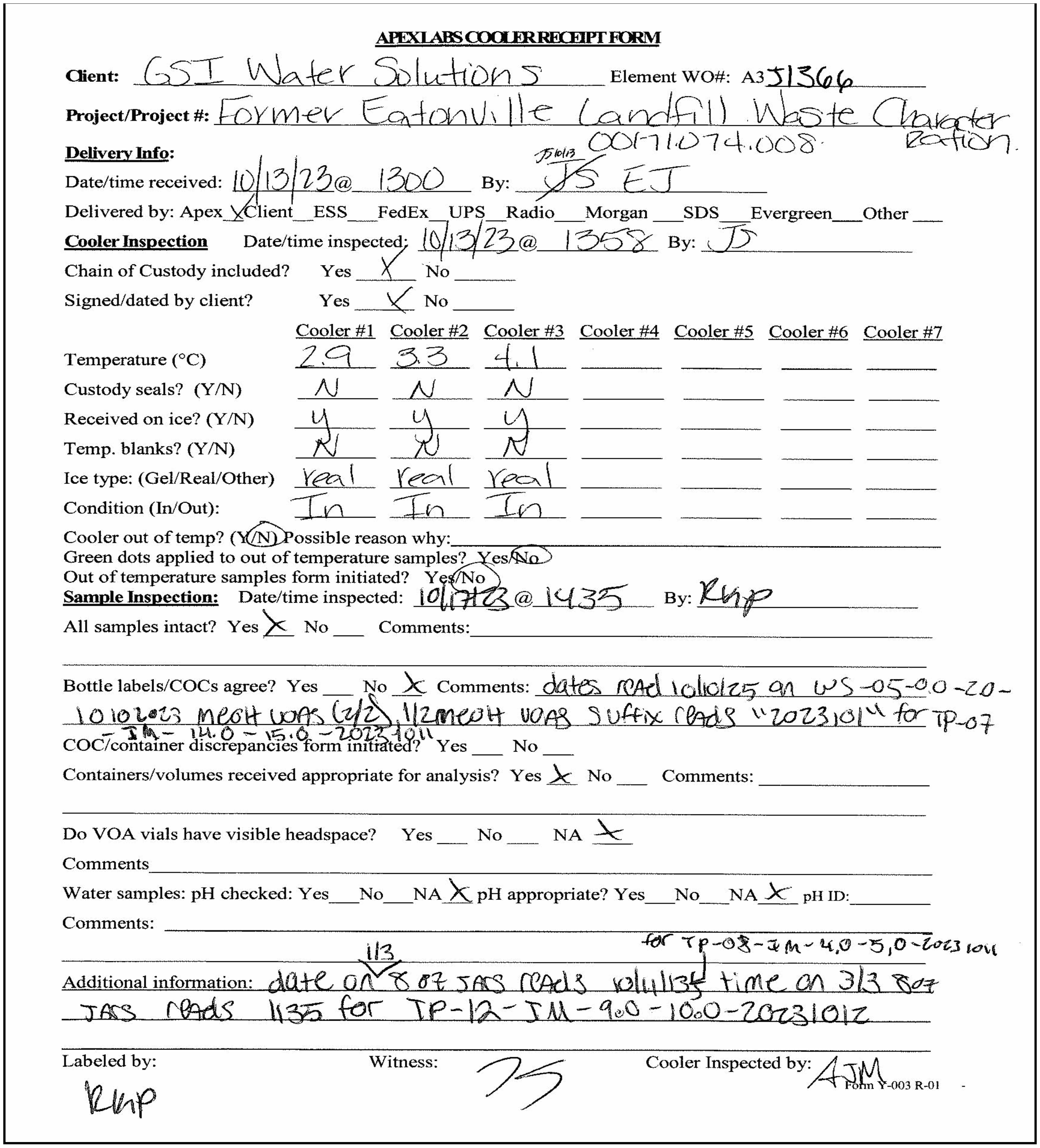
Sampler Name:

Requested Analyses	Sample Preservative
Metals by EPA 6020B (RCRA 8 + Cu, Ni, and Ag)	
TCLP by Method 1311 and Metals by EPA 6020B (RCRA 8)	
PCB Aroclors by EPA Method 8082A	
SVOCs by EPA 8270E/SIM	
NWTPH-Dx (Diesel and Oil Range)	
NWTPH-Gx	
VOCs by EPA Method 8260D	Methanol
Ignitability (Flash Point) by Method 1010	
Corrosivity (pH) by Method 9045	

Sample ID#	Sample Date	Sample Time	Matrix	Number of Containers	Metals by EPA 6020B (RCRA 8 + Cu, Ni, and Ag)	TCLP by Method 1311 and Metals by EPA 6020B (RCRA 8)	PCB Aroclors by EPA Method 8082A	SVOCs by EPA 8270E/SIM	NWTPH-Dx (Diesel and Oil Range)	NWTPH-Gx	VOCs by EPA Method 8260D	Ignitability (Flash Point) by Method 1010	Corrosivity (pH) by Method 9045				Comments
TP-01-IM-11.0-12.0-20231011	10/11/23	1450	SO	3	X	X	X						X				
~~SS-0.0~~ ow																	
SS-06-0.0-1.0-20231011	10/11/23	935	SO	3	X	X	X						X				
SS-05-0.0-1.0-20231011	10/11/23	835	SO	3	X	X	X						X				
~~TP-04-4.0-5.0~~ ow																	
TP-04-IM-4.0-5.0-20231010	10/10/23	1525	SO	3	X	X	X						X				
TP-03-IM-14.0-15.0-20231010	10/10/23	1430	SO	3	X	X	X						X				
TP-02-IM-4.0-5.0-20231010	10/10/23	1255	SO	3	X	X	X						X				
TP-01-IM-5.0-6.0-20231010	10/10/23	1055	SO	3	X	X	X						X				

NOTES: Contact Jenna DiMarzio (732.300.2549, jdimarzio@gsiws.com) or Ben Johnson (503.679.4543, bjohnson@gsiws.com) with questions. Include EDD with final lab report. Need to make sure that MDLs are kept low to ensure we can screen data. If there are novel sample prep methods that will help address samples with low total solids content (high moisture) let us know.

Relinquished By: BRAEDON WARNER	Agency/Agent: GSI	Received By: Eric [illegible]	Agency/Agent: APEX LABS
Signature:	Time & Date: 10/13/23 1500	Signature:	Time & Date: 10/13/23 13[illegible]
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature:	Time & Date:



APEX LABS COOLER RECEIPT FORM

Client: GSI Water Solutions Element WO#: A3J1366

Project/Project #: Former Eatonville Landfill Waste Characterization 00171.074.008

Delivery Info:

Date/time received: 10/13/23@ 1300 By: ~~JS~~ JS 10/13 EJ

Delivered by: Apex X Client__ESS___FedEx__UPS__Radio___Morgan ___SDS___Evergreen___Other ___

Cooler Inspection Date/time inspected: 10/13/23@ 1358 By: JS

Chain of Custody included? Yes X No ______

Signed/dated by client? Yes X No ______

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.9	3.3	4.1				
Custody seals? (Y/N)	N	N	N				
Received on ice? (Y/N)	y	y	y				
Temp. blanks? (Y/N)	N	N	N				
Ice type: (Gel/Real/Other)	real	real	real				
Condition (In/Out):	In	In	In				

Cooler out of temp? (Y/[✓ N]) Possible reason why:____________
Green dots applied to out of temperature samples? Yes/[✓ No]
Out of temperature samples form initiated? Yes/[✓ No]

Sample Inspection: Date/time inspected: 10/17/23@ 1435 By: Rmp

All samples intact? Yes X No ___ Comments:____________

Bottle labels/COCs agree? Yes ___ No X Comments: dates read 10/10/25 on WS-05-0.0-2.0-10102023 MeOH VOAs (2/2), 1/2 MeOH VOAs suffix reads "2023101" for TP-07-JM-14.0-15.0-20231011

COC/container discrepancies form initiated? Yes ___ No ___

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ____________

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments____________

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X pH ID:________

Comments: ____________

Additional information: date on 1/3 8 oz JARS reads 10/11/1135 for TP-08-JM-4.0-5.0-20231011 time on 3/3 8oz JARS reads 1135 for TP-12-JM-9.0-10.0-20231012

Labeled by: Rmp

Witness: JS

Cooler Inspected by: AJM

Form Y-003 R-01

ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Wednesday, November 8, 2023

Ben Johnson
GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

RE: A3J1375 - Eatonville Landfill Characterization - 00171.074.008

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

Enclosed are the results of analyses for work order A3J1375, which was received by the laboratory on 10/16/2023 at 4:55:00PM.

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

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.

(See Cooler Receipt Form for details)

Default Cooler 3.6 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP-02-IM-14.0-15.0-20231010	**A3J1375-01**	**Soil**	**10/10/23 13:35**	**10/16/23 16:55**
TP-03-IM-9.0-10.0-20231010	**A3J1375-02**	**Soil**	**10/10/23 14:20**	**10/16/23 16:55**
SS-09-0.0-1.0-20231011	**A3J1375-03**	**Soil**	**10/11/23 13:55**	**10/16/23 16:55**
TP-11-IM-14.0-15.0-20231012	**A3J1375-04**	**Soil**	**10/12/23 10:45**	**10/16/23 16:55**
TP-12-IM-13.0-14.0-20231012	**A3J1375-05**	**Soil**	**10/12/23 11:50**	**10/16/23 16:55**
TP-13-IM-9.0-10.0-20231012	**A3J1375-06**	**Soil**	**10/12/23 12:20**	**10/16/23 16:55**
SS-14-0.0-1.0--20231012	**A3J1375-07**	**Soil**	**10/12/23 08:50**	**10/16/23 16:55**
TP-14-IM-9.0-10.0--20231012	**A3J1375-08**	**Soil**	**10/12/23 13:15**	**10/16/23 16:55**

Philip Nerenberg

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01RE1)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	
Aroclor 1221	ND	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	
Aroclor 1232	ND	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	
Aroclor 1242	**767**	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	**P-09, Q-42**
Aroclor 1248	ND	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	
Aroclor 1254	**301**	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	**P-12, Q-42**
Aroclor 1260	**47.3**	29.0	58.1	ug/kg dry	5	10/27/23 09:54	EPA 8082A	**J**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 95 %*		*Limits: 60-125 %*	*5*	*10/27/23 09:54*	*EPA 8082A*	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02RE1)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1221	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1232	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1242	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1248	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1254	**1570**	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Aroclor 1260	ND	29.2	58.3	ug/kg dry	5	10/27/23 10:30	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 96 %*		*Limits: 60-125 %*	*5*	*10/27/23 10:30*	*EPA 8082A*	
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	12.2	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	
Aroclor 1221	ND	12.2	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	
Aroclor 1232	ND	27.7	27.7	ug/kg dry	1	10/26/23 21:07	EPA 8082A	R-02
Aroclor 1242	ND	12.2	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	
Aroclor 1248	ND	12.2	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	
Aroclor 1254	**36.1**	6.11	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	**P-10**
Aroclor 1260	**33.8**	6.11	12.2	ug/kg dry	1	10/26/23 21:07	EPA 8082A	**P-10**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 75 %*		*Limits: 60-125 %*	*1*	*10/26/23 21:07*	*EPA 8082A*	
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	
Aroclor 1221	ND	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	
Aroclor 1232	ND	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1242	**112**	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	**P-12**
Aroclor 1248	ND	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	
Aroclor 1254	**129**	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	**P-12**
Aroclor 1260	**36.4**	5.89	11.8	ug/kg dry	1	10/26/23 21:43	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 83 %*	*Limits: 60-125 %*		*1*	*10/26/23 21:43*	*EPA 8082A*	
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	
Aroclor 1221	ND	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	
Aroclor 1232	ND	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	
Aroclor 1242	ND	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	
Aroclor 1248	ND	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	
Aroclor 1254	**422**	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	**P-10**
Aroclor 1260	**169**	5.64	11.3	ug/kg dry	1	10/26/23 18:42	EPA 8082A	**P-10**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 121 %*	*Limits: 60-125 %*		*1*	*10/26/23 18:42*	*EPA 8082A*	
TP-13-IM-9.0-10.0-20231012 (A3J1375-06)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	10.9	10.9	ug/kg dry	1	10/26/23 19:18	EPA 8082A	
Aroclor 1221	ND	5.47	10.9	ug/kg dry	1	10/26/23 19:18	EPA 8082A	
Aroclor 1232	ND	22.4	22.4	ug/kg dry	1	10/26/23 19:18	EPA 8082A	R-02
Aroclor 1242	ND	11.7	11.7	ug/kg dry	1	10/26/23 19:18	EPA 8082A	R-02
Aroclor 1248	ND	14.0	14.0	ug/kg dry	1	10/26/23 19:18	EPA 8082A	R-02
Aroclor 1254	**62.7**	5.47	10.9	ug/kg dry	1	10/26/23 19:18	EPA 8082A	**P-10**
Aroclor 1260	**22.4**	5.47	10.9	ug/kg dry	1	10/26/23 19:18	EPA 8082A	**P-10**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 113 %*	*Limits: 60-125 %*		*1*	*10/26/23 19:18*	*EPA 8082A*	
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	6.07	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	
Aroclor 1221	ND	6.07	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	
Aroclor 1232	ND	12.1	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	
Aroclor 1242	ND	6.07	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	
Aroclor 1248	ND	21.5	21.5	ug/kg dry	1	10/26/23 19:55	EPA 8082A	R-02
Aroclor 1254	**63.5**	6.07	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	**P-10**

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1375 - 11 08 23 1632

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1260	**43.9**	6.07	12.1	ug/kg dry	1	10/26/23 19:55	EPA 8082A	**P-10**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 105 %*		*Limits: 60-125 %*	*1*	*10/26/23 19:55*	*EPA 8082A*	
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**		**Batch: 23J1016**		**C-07**
Aroclor 1016	ND	25.4	25.4	ug/kg dry	1	10/26/23 20:31	EPA 8082A	R-02
Aroclor 1221	ND	5.68	11.4	ug/kg dry	1	10/26/23 20:31	EPA 8082A	
Aroclor 1232	ND	45.7	45.7	ug/kg dry	1	10/26/23 20:31	EPA 8082A	R-02
Aroclor 1242	ND	30.5	30.5	ug/kg dry	1	10/26/23 20:31	EPA 8082A	R-02
Aroclor 1248	ND	26.7	26.7	ug/kg dry	1	10/26/23 20:31	EPA 8082A	R-02
Aroclor 1254	**57.9**	5.68	11.4	ug/kg dry	1	10/26/23 20:31	EPA 8082A	**P-12**
Aroclor 1260	**135**	5.68	11.4	ug/kg dry	1	10/26/23 20:31	EPA 8082A	**P-12**
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 556 %*		*Limits: 60-125 %*	*1*	*10/26/23 20:31*	*EPA 8082A*	*S-03*

Philip Nerenberg

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**8.10**	0.634	1.27	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Barium	**166**	0.634	1.27	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Cadmium	**5.51**	0.127	0.254	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Chromium	**39.1**	0.634	1.27	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Copper	**341**	1.27	2.54	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Mercury	**0.856**	0.0507	0.101	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Nickel	**60.6**	1.27	2.54	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Selenium	ND	0.634	1.27	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Silver	**1.41**	0.127	0.254	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
Zinc	**1610**	2.54	5.07	mg/kg dry	10	10/27/23 12:46	EPA 6020B	
TP-02-IM-14.0-15.0-20231010 (A3J1375-01RE2)				**Matrix: Soil**				
Batch: 23J1033								
Lead	**646**	1.27	2.54	mg/kg dry	100	10/29/23 18:44	EPA 6020B	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**11.9**	0.606	1.21	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Barium	**600**	0.606	1.21	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Cadmium	**2.60**	0.121	0.242	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Chromium	**31.0**	0.606	1.21	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Copper	**238**	1.21	2.42	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Mercury	**0.667**	0.0484	0.0969	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Nickel	**49.8**	1.21	2.42	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Selenium	ND	0.606	1.21	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Silver	**0.588**	0.121	0.242	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
Zinc	**1680**	2.42	4.84	mg/kg dry	10	10/27/23 13:01	EPA 6020B	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02RE2)				**Matrix: Soil**				
Batch: 23J1033								
Lead	**2240**	1.21	2.42	mg/kg dry	100	10/29/23 18:50	EPA 6020B	
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**				
Batch: 23J1033								

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**				
Arsenic	**5.23**	0.659	1.32	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Barium	**152**	0.659	1.32	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Cadmium	**3.20**	0.132	0.264	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Chromium	**21.5**	0.659	1.32	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Copper	**107**	1.32	2.64	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Lead	**171**	0.132	0.264	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Mercury	**0.740**	0.0527	0.105	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Nickel	**25.2**	1.32	2.64	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Selenium	ND	0.659	1.32	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Silver	**0.556**	0.132	0.264	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
Zinc	**535**	2.64	5.27	mg/kg dry	10	10/27/23 13:17	EPA 6020B	
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**4.54**	0.602	1.20	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Barium	**107**	0.602	1.20	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Cadmium	**2.21**	0.120	0.241	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Chromium	**30.1**	0.602	1.20	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Copper	**175**	1.20	2.41	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Lead	**247**	0.120	0.241	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Mercury	**0.569**	0.0481	0.0962	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Nickel	**28.4**	1.20	2.41	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Selenium	ND	0.602	1.20	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Silver	**0.418**	0.120	0.241	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
Zinc	**585**	2.41	4.81	mg/kg dry	10	10/27/23 13:22	EPA 6020B	
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**5.41**	0.619	1.24	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Barium	**106**	0.619	1.24	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Cadmium	**3.22**	0.124	0.248	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Chromium	**26.2**	0.619	1.24	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Copper	**196**	1.24	2.48	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Lead	**270**	0.124	0.248	mg/kg dry	10	10/27/23 13:27	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**				
Mercury	**0.514**	0.0495	0.0990	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Nickel	**29.0**	1.24	2.48	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Selenium	ND	0.619	1.24	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Silver	**0.420**	0.124	0.248	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
Zinc	**596**	2.48	4.95	mg/kg dry	10	10/27/23 13:27	EPA 6020B	
TP-13-IM-9.0-10.0-20231012 (A3J1375-06)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**3.26**	0.614	1.23	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Barium	**96.9**	0.614	1.23	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Cadmium	**1.08**	0.123	0.246	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Chromium	**14.2**	0.614	1.23	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Copper	**41.4**	1.23	2.46	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Lead	**65.9**	0.123	0.246	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Mercury	**0.263**	0.0492	0.0983	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Nickel	**14.9**	1.23	2.46	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Selenium	ND	0.614	1.23	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Silver	**0.301**	0.123	0.246	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
Zinc	**177**	2.46	4.92	mg/kg dry	10	10/27/23 13:32	EPA 6020B	
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**				
Batch: 23J1033								
Arsenic	**3.29**	0.604	1.21	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Barium	**101**	0.604	1.21	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Cadmium	**4.77**	0.121	0.242	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Chromium	**25.4**	0.604	1.21	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Copper	**69.5**	1.21	2.42	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Lead	**187**	0.121	0.242	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Mercury	**0.454**	0.0484	0.0967	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Nickel	**30.9**	1.21	2.42	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Selenium	ND	0.604	1.21	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Silver	**0.350**	0.121	0.242	mg/kg dry	10	10/27/23 13:37	EPA 6020B	
Zinc	**628**	2.42	4.84	mg/kg dry	10	10/27/23 13:37	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

TP-14-IM-9.0-10.0--20231012 (A3J1375-08) — **Matrix: Soil**

Batch: 23J1033

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	**14.4**	0.582	1.16	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Barium	**145**	0.582	1.16	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Cadmium	**8.49**	0.116	0.233	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Chromium	**58.2**	0.582	1.16	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Copper	**341**	1.16	2.33	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Lead	**350**	0.116	0.233	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Mercury	**0.596**	0.0466	0.0931	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Nickel	**36.4**	1.16	2.33	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Selenium	ND	0.582	1.16	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Silver	**0.715**	0.116	0.233	mg/kg dry	10	10/27/23 13:43	EPA 6020B	
Zinc	**1310**	2.33	4.66	mg/kg dry	10	10/27/23 13:43	EPA 6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01)				**Matrix: Soil**				
Batch: 23J0814								
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 14:01	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 14:01	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 14:01	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 14:01	1311/6020B	
Lead	**0.183**	0.0250	0.0500	mg/L	10	10/20/23 14:01	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 14:01	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 14:01	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 14:01	1311/6020B	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02)				**Matrix: Soil**				
Batch: 23J0814								
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 14:42	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 14:42	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 14:42	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 14:42	1311/6020B	
Lead	**0.795**	0.0250	0.0500	mg/L	10	10/20/23 14:42	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 14:42	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 14:42	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 14:42	1311/6020B	
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**				
Batch: 23J0814								
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 14:47	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 14:47	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 14:47	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 14:47	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/20/23 14:47	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 14:47	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 14:47	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 14:47	1311/6020B	
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**				
Batch: 23J0814								

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

TP-11-IM-14.0-15.0-20231012 (A3J1375-04) — **Matrix: Soil**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 14:53	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 14:53	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 14:53	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 14:53	1311/6020B	
Lead	**0.0394**	0.0250	0.0500	mg/L	10	10/20/23 14:53	1311/6020B	J
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 14:53	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 14:53	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 14:53	1311/6020B	

TP-12-IM-13.0-14.0-20231012 (A3J1375-05) — **Matrix: Soil**

Batch: 23J0814

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 14:58	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 14:58	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 14:58	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 14:58	1311/6020B	
Lead	**0.0372**	0.0250	0.0500	mg/L	10	10/20/23 14:58	1311/6020B	J
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 14:58	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 14:58	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 14:58	1311/6020B	

TP-13-IM-9.0-10.0-20231012 (A3J1375-06) — **Matrix: Soil**

Batch: 23J0814

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 15:03	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 15:03	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 15:03	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 15:03	1311/6020B	
Lead	ND	0.0250	0.0500	mg/L	10	10/20/23 15:03	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 15:03	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 15:03	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 15:03	1311/6020B	

SS-14-0.0-1.0--20231012 (A3J1375-07) — **Matrix: Soil**

Batch: 23J0814

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 15:08	1311/6020B	

ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**				
Barium	ND	2.50	5.00	mg/L	10	10/20/23 15:08	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 15:08	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 15:08	1311/6020B	
Lead	**0.0798**	0.0250	0.0500	mg/L	10	10/20/23 15:08	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 15:08	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 15:08	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 15:08	1311/6020B	
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**				
Batch: 23J0814								
Arsenic	ND	0.0500	0.100	mg/L	10	10/20/23 15:13	1311/6020B	
Barium	ND	2.50	5.00	mg/L	10	10/20/23 15:13	1311/6020B	
Cadmium	ND	0.0500	0.100	mg/L	10	10/20/23 15:13	1311/6020B	
Chromium	ND	0.0500	0.100	mg/L	10	10/20/23 15:13	1311/6020B	
Lead	**0.251**	0.0250	0.0500	mg/L	10	10/20/23 15:13	1311/6020B	
Mercury	ND	0.00375	0.00700	mg/L	10	10/20/23 15:13	1311/6020B	
Selenium	ND	0.0500	0.100	mg/L	10	10/20/23 15:13	1311/6020B	
Silver	ND	0.0500	0.100	mg/L	10	10/20/23 15:13	1311/6020B	

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.2**			pH Units	1	10/18/23 14:43	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.3**			pH Units	1	10/18/23 14:43	EPA 9045D	**pH_S**
TP-03-IM-9.0-10.0-20231010 (A3J1375-02)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.2**			pH Units	1	10/18/23 14:44	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.2**			pH Units	1	10/18/23 14:44	EPA 9045D	**pH_S**
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.3**			pH Units	1	10/18/23 14:46	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.8**			pH Units	1	10/18/23 14:46	EPA 9045D	**pH_S**
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.4**			pH Units	1	10/18/23 14:48	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.7**			pH Units	1	10/18/23 14:48	EPA 9045D	**pH_S**
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.6**			pH Units	1	10/18/23 14:51	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/18/23 14:51	EPA 9045D	**pH_S**
TP-13-IM-9.0-10.0-20231012 (A3J1375-06)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**7.8**			pH Units	1	10/18/23 14:55	EPA 9045D	**pH_S**
pH Temperature (deg C)	**22.1**			pH Units	1	10/18/23 14:55	EPA 9045D	**pH_S**
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**				
Batch: 23J0703								
Soil/Solid pH (measured in H2O)	**6.8**			pH Units	1	10/18/23 14:59	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.9**			pH Units	1	10/18/23 14:59	EPA 9045D	**pH_S**
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**				
Batch: 23J0703								

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**				
Soil/Solid pH (measured in H2O)	**7.4**			pH Units	1	10/18/23 15:03	EPA 9045D	**pH_S**
pH Temperature (deg C)	**21.6**			pH Units	1	10/18/23 15:03	EPA 9045D	**pH_S**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**83.5**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**83.9**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**80.7**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**82.6**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**84.1**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
TP-13-IM-9.0-10.0-20231012 (A3J1375-06)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**89.0**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**81.3**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**		**Batch: 23J0679**		
% Solids	**87.1**	1.00	1.00	%	1	10/19/23 06:40	EPA 8000D	

ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
TP-02-IM-14.0-15.0-20231010 (A3J1375-01)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
TP-03-IM-9.0-10.0-20231010 (A3J1375-02)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
SS-09-0.0-1.0-20231011 (A3J1375-03)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
TP-11-IM-14.0-15.0-20231012 (A3J1375-04)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
TP-12-IM-13.0-14.0-20231012 (A3J1375-05)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
TP-13-IM-9.0-10.0-20231012 (A3J1375-06)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
SS-14-0.0-1.0--20231012 (A3J1375-07)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	
TP-14-IM-9.0-10.0--20231012 (A3J1375-08)				**Matrix: Soil**		**Batch: 23J0739**		
TCLP Extraction	PREP			N/A	1	10/19/23 15:15	EPA 1311	

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Batch 23J1016 - EPA 3546 — **Soil**

Blank (23J1016-BLK1) Prepared: 10/26/23 04:56 Analyzed: 10/26/23 18:42 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1221	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1232	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1242	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1248	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1254	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	
Aroclor 1260	ND	5.00	10.0	ug/kg wet	1	---	---	---	---	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 101 % Limits: 60-125 % Dilution: 1x

LCS (23J1016-BS1) Prepared: 10/26/23 04:56 Analyzed: 10/26/23 19:00 **C-07**

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	213	5.00	10.0	ug/kg wet	1	250	---	85	47-134%	---	---	
Aroclor 1260	240	5.00	10.0	ug/kg wet	1	250	---	96	53-140%	---	---	

Surr: Decachlorobiphenyl (Surr) Recovery: 103 % Limits: 60-125 % Dilution: 1x

Duplicate (23J1016-DUP1) Prepared: 10/26/23 04:56 Analyzed: 10/26/23 19:55 **C-07**

QC Source Sample: TP-02-IM-14.0-15.0-20231010 (A3J1375-01RE1)

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	ND	5.86	11.7	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1221	ND	5.86	11.7	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1232	ND	5.86	11.7	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1242	**175**	5.86	11.7	ug/kg dry	1	---	767	---	---	**126**	**30%**	P-09, Q-17
Aroclor 1248	ND	5.86	11.7	ug/kg dry	1	---	ND	---	---	---	30%	
Aroclor 1254	**118**	5.86	11.7	ug/kg dry	1	---	301	---	---	**87**	**30%**	P-12, Q-17
Aroclor 1260	**22.7**	5.86	11.7	ug/kg dry	1	---	47.3	---	---	**70**	**30%**	P-12, Q-17

Surr: Decachlorobiphenyl (Surr) Recovery: 78 % Limits: 60-125 % Dilution: 1x

Matrix Spike (23J1016-MS1) Prepared: 10/26/23 04:56 Analyzed: 10/26/23 21:07 **C-07**

QC Source Sample: TP-14-IM-9.0-10.0--20231012 (A3J1375-08)

EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Aroclor 1016	266	5.48	11.0	ug/kg dry	1	274	ND	97	47-134%	---	---	
Aroclor 1260	304	5.48	11.0	ug/kg dry	1	274	135	61	53-140%	---	---	

GSI Water Solutions
55 SW Yamhill St, Ste 300
Portland, OR 97209

Project: **Eatonville Landfill Characterization**
Project Number: **00171.074.008**
Project Manager: **Ben Johnson**

Report ID:
A3J1375 - 11 08 23 1632

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes

Batch 23J1016 - EPA 3546 **Soil**

Matrix Spike (23J1016-MS1) Prepared: 10/26/23 04:56 Analyzed: 10/26/23 21:07 **C-07**

QC Source Sample: TP-14-IM-9.0-10.0--20231012 (A3J1375-08)

Surr: Decachlorobiphenyl (Surr) Recovery: 141 % Limits: 60-125 % Dilution: 1x *S-03*

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Batch 23J1033 - EPA 3051A — **Soil**

Blank (23J1033-BLK1) — Prepared: 10/26/23 09:28 Analyzed: 10/27/23 12:36

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Copper	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	mg/kg wet	10	---	---	---	---	---	---	
Nickel	ND	1.00	2.00	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	0.100	0.200	mg/kg wet	10	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	mg/kg wet	10	---	---	---	---	---	---	

LCS (23J1033-BS1) — Prepared: 10/26/23 09:28 Analyzed: 10/27/23 12:41

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	48.9	0.500	1.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Barium	51.5	0.500	1.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Cadmium	48.9	0.100	0.200	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Chromium	49.7	0.500	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Copper	51.7	1.00	2.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Lead	53.2	0.100	0.200	mg/kg wet	10	50.0	---	106	80-120%	---	---	
Mercury	1.01	0.0400	0.0800	mg/kg wet	10	1.00	---	101	80-120%	---	---	
Nickel	51.4	1.00	2.00	mg/kg wet	10	50.0	---	103	80-120%	---	---	
Selenium	24.8	0.500	1.00	mg/kg wet	10	25.0	---	99	80-120%	---	---	
Silver	28.3	0.100	0.200	mg/kg wet	10	25.0	---	113	80-120%	---	---	
Zinc	49.6	2.00	4.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	

Duplicate (23J1033-DUP1) — Prepared: 10/26/23 09:28 Analyzed: 10/27/23 12:51

QC Source Sample: TP-02-IM-14.0-15.0-20231010 (A3J1375-01)

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	**7.71**	0.648	1.30	mg/kg dry	10	---	8.10	---	---	5	20%	
Barium	**175**	0.648	1.30	mg/kg dry	10	---	166	---	---	5	20%	
Cadmium	**5.66**	0.130	0.259	mg/kg dry	10	---	5.51	---	---	3	20%	
Chromium	**28.6**	0.648	1.30	mg/kg dry	10	---	39.1	---	---	**31**	**20%**	Q-04

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Batch 23J1033 - EPA 3051A **Soil**

Duplicate (23J1033-DUP1) Prepared: 10/26/23 09:28 Analyzed: 10/27/23 12:51

QC Source Sample: TP-02-IM-14.0-15.0-20231010 (A3J1375-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Copper	**319**	1.30	2.59	mg/kg dry	10	---	341	---	---	7	20%	
Lead	**539**	0.130	0.259	mg/kg dry	10	---	652	---	---	19	20%	
Mercury	**0.624**	0.0518	0.104	mg/kg dry	10	---	0.856	---	---	**31**	**20%**	Q-04
Nickel	**41.8**	1.30	2.59	mg/kg dry	10	---	60.6	---	---	**37**	**20%**	Q-04
Selenium	ND	0.648	1.30	mg/kg dry	10	---	ND	---	---	---	20%	
Silver	**1.24**	0.130	0.259	mg/kg dry	10	---	1.41	---	---	13	20%	
Zinc	**1420**	2.59	5.18	mg/kg dry	10	---	1610	---	---	13	20%	

Matrix Spike (23J1033-MS1) Prepared: 10/26/23 09:28 Analyzed: 10/27/23 12:56

QC Source Sample: TP-02-IM-14.0-15.0-20231010 (A3J1375-01)

EPA 6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	62.5	0.616	1.23	mg/kg dry	10	61.6	8.10	88	75-125%	---	---	
Barium	182	0.616	1.23	mg/kg dry	10	61.6	166	**25**	**75-125%**	---	---	Q-65
Cadmium	63.0	0.123	0.246	mg/kg dry	10	61.6	5.51	93	75-125%	---	---	
Chromium	76.2	0.616	1.23	mg/kg dry	10	61.6	39.1	**60**	**75-125%**	---	---	Q-65
Copper	325	1.23	2.46	mg/kg dry	10	61.6	341	**-25**	**75-125%**	---	---	Q-65
Lead	342	0.123	0.246	mg/kg dry	10	61.6	652	**-503**	**75-125%**	---	---	Q-65
Mercury	1.49	0.0493	0.0985	mg/kg dry	10	1.23	0.856	**51**	**75-125%**	---	---	Q-65
Nickel	83.8	1.23	2.46	mg/kg dry	10	61.6	60.6	**38**	**75-125%**	---	---	Q-65
Selenium	28.2	0.616	1.23	mg/kg dry	10	30.8	ND	92	75-125%	---	---	
Silver	35.5	0.123	0.246	mg/kg dry	10	30.8	1.41	111	75-125%	---	---	
Zinc	4290	2.46	4.93	mg/kg dry	10	61.6	1610	**4350**	**75-125%**	---	---	E, Q-65

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Batch 23J0814 - EPA 1311/3015A **Soil**

Blank (23J0814-BLK1) Prepared: 10/20/23 10:31 Analyzed: 10/20/23 13:14

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Barium	ND	2.50	5.00	mg/L	10	---	---	---	---	---	---	TCLP
Cadmium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Chromium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Lead	ND	0.0250	0.0500	mg/L	10	---	---	---	---	---	---	TCLP
Mercury	ND	0.00375	0.00700	mg/L	10	---	---	---	---	---	---	TCLP
Selenium	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLP
Silver	ND	0.0500	0.100	mg/L	10	---	---	---	---	---	---	TCLP

LCS (23J0814-BS1) Prepared: 10/20/23 10:31 Analyzed: 10/20/23 13:19

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	4.89	0.0500	0.100	mg/L	10	5.00	---	98	80-120%	---	---	TCLP
Barium	10.8	2.50	5.00	mg/L	10	10.0	---	108	80-120%	---	---	TCLP
Cadmium	1.01	0.0500	0.100	mg/L	10	1.00	---	101	80-120%	---	---	TCLP
Chromium	5.09	0.0500	0.100	mg/L	10	5.00	---	102	80-120%	---	---	TCLP
Lead	5.17	0.0250	0.0500	mg/L	10	5.00	---	103	80-120%	---	---	TCLP
Mercury	0.0973	0.00375	0.00700	mg/L	10	0.100	---	97	80-120%	---	---	TCLP
Selenium	0.985	0.0500	0.100	mg/L	10	1.00	---	99	80-120%	---	---	TCLP
Silver	0.958	0.0500	0.100	mg/L	10	1.00	---	96	80-120%	---	---	TCLP

Duplicate (23J0814-DUP1) Prepared: 10/20/23 10:31 Analyzed: 10/20/23 15:44

QC Source Sample: Non-SDG (A3J1425-01)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Barium	ND	2.50	5.00	mg/L	10	---	ND	---	---	---	20%	
Cadmium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Chromium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Lead	ND	0.0250	0.0500	mg/L	10	---	ND	---	---	---	20%	
Mercury	ND	0.00375	0.00700	mg/L	10	---	ND	---	---	---	20%	
Selenium	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	
Silver	ND	0.0500	0.100	mg/L	10	---	ND	---	---	---	20%	

Matrix Spike (23J0814-MS1) Prepared: 10/20/23 10:31 Analyzed: 10/20/23 15:50

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Batch 23J0814 - EPA 1311/3015A **Soil**

Matrix Spike (23J0814-MS1) Prepared: 10/20/23 10:31 Analyzed: 10/20/23 15:50

QC Source Sample: Non-SDG (A3J1425-01)

1311/6020B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Arsenic	4.98	0.0500	0.100	mg/L	10	5.00	ND	100	50-150%	---	---	
Barium	11.4	2.50	5.00	mg/L	10	10.0	ND	114	50-150%	---	---	
Cadmium	1.05	0.0500	0.100	mg/L	10	1.00	ND	105	50-150%	---	---	
Chromium	5.14	0.0500	0.100	mg/L	10	5.00	ND	103	50-150%	---	---	
Lead	5.26	0.0250	0.0500	mg/L	10	5.00	ND	105	50-150%	---	---	
Mercury	0.100	0.00375	0.00700	mg/L	10	0.100	ND	100	50-150%	---	---	
Selenium	1.01	0.0500	0.100	mg/L	10	1.00	ND	101	50-150%	---	---	
Silver	1.04	0.0500	0.100	mg/L	10	1.00	ND	104	50-150%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0703 - DI Leach							**Soil**					
Duplicate (23J0703-DUP1)			Prepared: 10/18/23 13:10	Analyzed: 10/18/23 15:04								
QC Source Sample: TP-14-IM-9.0-10.0--20231012 (A3J1375-08)												
EPA 9045D												
Soil/Solid pH (measured in H2O)	**7.6**			pH Units	1	---	7.4	---	---	2	5%	pH_S
pH Temperature (deg C)	**21.8**			pH Units	1	---	21.6	---	---	0.9	30%	pH_S
Reference (23J0703-SRM1)			Prepared: 10/18/23 13:10	Analyzed: 10/18/23 14:40								
EPA 9045D												
Soil/Solid pH (measured in H2O)	6.0			pH Units	1	6.00		100	98.33-101.33%	---	---	
pH Temperature (deg C)	22.1			pH Units	1	20.0		110	50-200%	---	---	
Reference (23J0703-SRM2)			Prepared: 10/18/23 13:10	Analyzed: 10/18/23 15:08								
EPA 9045D												
Soil/Solid pH (measured in H2O)	8.0			pH Units	1	8.00		100	99-101%	---	---	
pH Temperature (deg C)	22.0			pH Units	1	20.0		110	50-200%	---	---	

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0679 - Total Solids (Dry Weight) - 2022							**Soil**					
Duplicate (23J0679-DUP1)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-01)												
% Solids	**93.6**	1.00	1.00	%	1	---	91.8	---	---	2	10%	
Duplicate (23J0679-DUP2)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-02)												
% Solids	**94.4**	1.00	1.00	%	1	---	95.4	---	---	1	10%	
Duplicate (23J0679-DUP3)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-03)												
% Solids	**95.0**	1.00	1.00	%	1	---	94.1	---	---	0.9	10%	
Duplicate (23J0679-DUP4)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-04)												
% Solids	**93.9**	1.00	1.00	%	1	---	94.1	---	---	0.2	10%	
Duplicate (23J0679-DUP5)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-05)												
% Solids	**94.1**	1.00	1.00	%	1	---	93.8	---	---	0.4	10%	
Duplicate (23J0679-DUP6)			Prepared: 10/18/23 09:27		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1367-06)												
% Solids	**93.5**	1.00	1.00	%	1	---	93.5	---	---	0.07	10%	
Duplicate (23J0679-DUP7)			Prepared: 10/18/23 16:59		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1415-01)												
% Solids	**91.9**	1.00	1.00	%	1	---	91.9	---	---	0.02	10%	
Duplicate (23J0679-DUP8)			Prepared: 10/18/23 19:04		Analyzed: 10/19/23 06:40							
QC Source Sample: Non-SDG (A3J1437-02)												
% Solids	**78.3**	1.00	1.00	%	1	---	79.1	---	---	1	10%	

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

SAMPLE PREPARATION INFORMATION

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J1016							
A3J1375-01RE1	Soil	EPA 8082A	10/10/23 13:35	10/26/23 04:56	10.31g/5mL	10g/5mL	0.97
A3J1375-02RE1	Soil	EPA 8082A	10/10/23 14:20	10/26/23 04:56	10.22g/5mL	10g/5mL	0.98
A3J1375-03	Soil	EPA 8082A	10/11/23 13:55	10/26/23 04:56	10.14g/5mL	10g/5mL	0.99
A3J1375-04	Soil	EPA 8082A	10/12/23 10:45	10/26/23 04:56	10.28g/5mL	10g/5mL	0.97
A3J1375-05	Soil	EPA 8082A	10/12/23 11:50	10/26/23 04:56	10.53g/5mL	10g/5mL	0.95
A3J1375-06	Soil	EPA 8082A	10/12/23 12:20	10/26/23 04:56	10.27g/5mL	10g/5mL	0.97
A3J1375-07	Soil	EPA 8082A	10/12/23 08:50	10/26/23 04:56	10.14g/5mL	10g/5mL	0.99
A3J1375-08	Soil	EPA 8082A	10/12/23 13:15	10/26/23 04:56	10.11g/5mL	10g/5mL	0.99

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J1033							
A3J1375-01	Soil	EPA 6020B	10/10/23 13:35	10/26/23 09:28	0.472g/50mL	0.5g/50mL	1.06
A3J1375-01RE2	Soil	EPA 6020B	10/10/23 13:35	10/26/23 09:28	0.472g/50mL	0.5g/50mL	1.06
A3J1375-02	Soil	EPA 6020B	10/10/23 14:20	10/26/23 09:28	0.492g/50mL	0.5g/50mL	1.02
A3J1375-02RE2	Soil	EPA 6020B	10/10/23 14:20	10/26/23 09:28	0.492g/50mL	0.5g/50mL	1.02
A3J1375-03	Soil	EPA 6020B	10/11/23 13:55	10/26/23 09:28	0.47g/50mL	0.5g/50mL	1.06
A3J1375-04	Soil	EPA 6020B	10/12/23 10:45	10/26/23 09:28	0.503g/50mL	0.5g/50mL	0.99
A3J1375-05	Soil	EPA 6020B	10/12/23 11:50	10/26/23 09:28	0.48g/50mL	0.5g/50mL	1.04
A3J1375-06	Soil	EPA 6020B	10/12/23 12:20	10/26/23 09:28	0.457g/50mL	0.5g/50mL	1.09
A3J1375-07	Soil	EPA 6020B	10/12/23 08:50	10/26/23 09:28	0.509g/50mL	0.5g/50mL	0.98
A3J1375-08	Soil	EPA 6020B	10/12/23 13:15	10/26/23 09:28	0.493g/50mL	0.5g/50mL	1.01

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0814							
A3J1375-01	Soil	1311/6020B	10/10/23 13:35	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-02	Soil	1311/6020B	10/10/23 14:20	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-03	Soil	1311/6020B	10/11/23 13:55	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-04	Soil	1311/6020B	10/12/23 10:45	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-05	Soil	1311/6020B	10/12/23 11:50	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-06	Soil	1311/6020B	10/12/23 12:20	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00

SAMPLE PREPARATION INFORMATION

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1375-07	Soil	1311/6020B	10/12/23 08:50	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00
A3J1375-08	Soil	1311/6020B	10/12/23 13:15	10/20/23 10:31	10mL/50mL	10mL/50mL	1.00

Conventional Chemistry Parameters

Prep: DI Leach

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0703							
A3J1375-01	Soil	EPA 9045D	10/10/23 13:35	10/18/23 13:10	20.1005g/20mL	20g/20mL	NA
A3J1375-02	Soil	EPA 9045D	10/10/23 14:20	10/18/23 13:10	20.0094g/20mL	20g/20mL	NA
A3J1375-03	Soil	EPA 9045D	10/11/23 13:55	10/18/23 13:10	20.0698g/20mL	20g/20mL	NA
A3J1375-04	Soil	EPA 9045D	10/12/23 10:45	10/18/23 13:10	20.0131g/20mL	20g/20mL	NA
A3J1375-05	Soil	EPA 9045D	10/12/23 11:50	10/18/23 13:10	20.0084g/20mL	20g/20mL	NA
A3J1375-06	Soil	EPA 9045D	10/12/23 12:20	10/18/23 13:10	20.0126g/20mL	20g/20mL	NA
A3J1375-07	Soil	EPA 9045D	10/12/23 08:50	10/18/23 13:10	20.0317g/20mL	20g/20mL	NA
A3J1375-08	Soil	EPA 9045D	10/12/23 13:15	10/18/23 13:10	20.0303g/20mL	20g/20mL	NA

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0679							
A3J1375-01	Soil	EPA 8000D	10/10/23 13:35	10/18/23 09:27			NA
A3J1375-02	Soil	EPA 8000D	10/10/23 14:20	10/18/23 09:27			NA
A3J1375-03	Soil	EPA 8000D	10/11/23 13:55	10/18/23 09:27			NA
A3J1375-04	Soil	EPA 8000D	10/12/23 10:45	10/18/23 09:27			NA
A3J1375-05	Soil	EPA 8000D	10/12/23 11:50	10/18/23 09:27			NA
A3J1375-06	Soil	EPA 8000D	10/12/23 12:20	10/18/23 09:27			NA
A3J1375-07	Soil	EPA 8000D	10/12/23 08:50	10/18/23 09:27			NA
A3J1375-08	Soil	EPA 8000D	10/12/23 13:15	10/18/23 09:27			NA

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23J0739							
A3J1375-01	Soil	EPA 1311	10/10/23 13:35	10/19/23 15:15	100g/2000.2g	100g/2000g	NA

SAMPLE PREPARATION INFORMATION

TCLP Extraction by EPA 1311

Prep: EPA 1311 (TCLP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3J1375-02	Soil	EPA 1311	10/10/23 14:20	10/19/23 15:15	100g/2000g	100g/2000g	NA
A3J1375-03	Soil	EPA 1311	10/11/23 13:55	10/19/23 15:15	100g/2000g	100g/2000g	NA
A3J1375-04	Soil	EPA 1311	10/12/23 10:45	10/19/23 15:15	100g/2000.2g	100g/2000g	NA
A3J1375-05	Soil	EPA 1311	10/12/23 11:50	10/19/23 15:15	100g/2000.1g	100g/2000g	NA
A3J1375-06	Soil	EPA 1311	10/12/23 12:20	10/19/23 15:15	100g/2000.8g	100g/2000g	NA
A3J1375-07	Soil	EPA 1311	10/12/23 08:50	10/19/23 15:15	100g/2000.9g	100g/2000g	NA
A3J1375-08	Soil	EPA 1311	10/12/23 13:15	10/19/23 15:15	100g/2000.6g	100g/2000g	NA

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
E	Estimated Value. The result is above the calibration range of the instrument.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
P-09	Due to weathering and/or the presence of an unknown mixture of PCB Congeners, the pattern does not match the standard used for calibration. Results are Estimated and based on the closest matching Aroclor.
P-10	Result estimated due to the presence of multiple PCB Aroclors and/or matrix interference.
P-12	Result estimated due to the presence of multiple PCB Aroclors and/or PCB congeners not defined as Aroclors.
pH_S	Method recommends preparation 'as soon as possible'. See Sample Preparation Information section of report for details. Consult regulator or permit manager to determine the usability of data for intended purpose.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-17	RPD between original and duplicate sample, or spike duplicates, is outside of established control limits.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
Q-65	Spike recovery is estimated due to the high analyte concentration of the source sample.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-03	Sample re-extract, or the analysis of an associated Batch QC sample, confirms surrogate failure due to sample matrix effect.
TCLP	This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0739.

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET	Analyte DETECTED at or above the detection or reporting limit.
ND	Analyte NOT DETECTED at or above the detection or reporting limit.
NR	Result Not Reported
RPD	Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry"	Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry") See Percent Solids section for details of dry weight analysis.
" wet"	Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
" "	Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).

-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.

-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy. For further details, please request a copy of this document.

-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

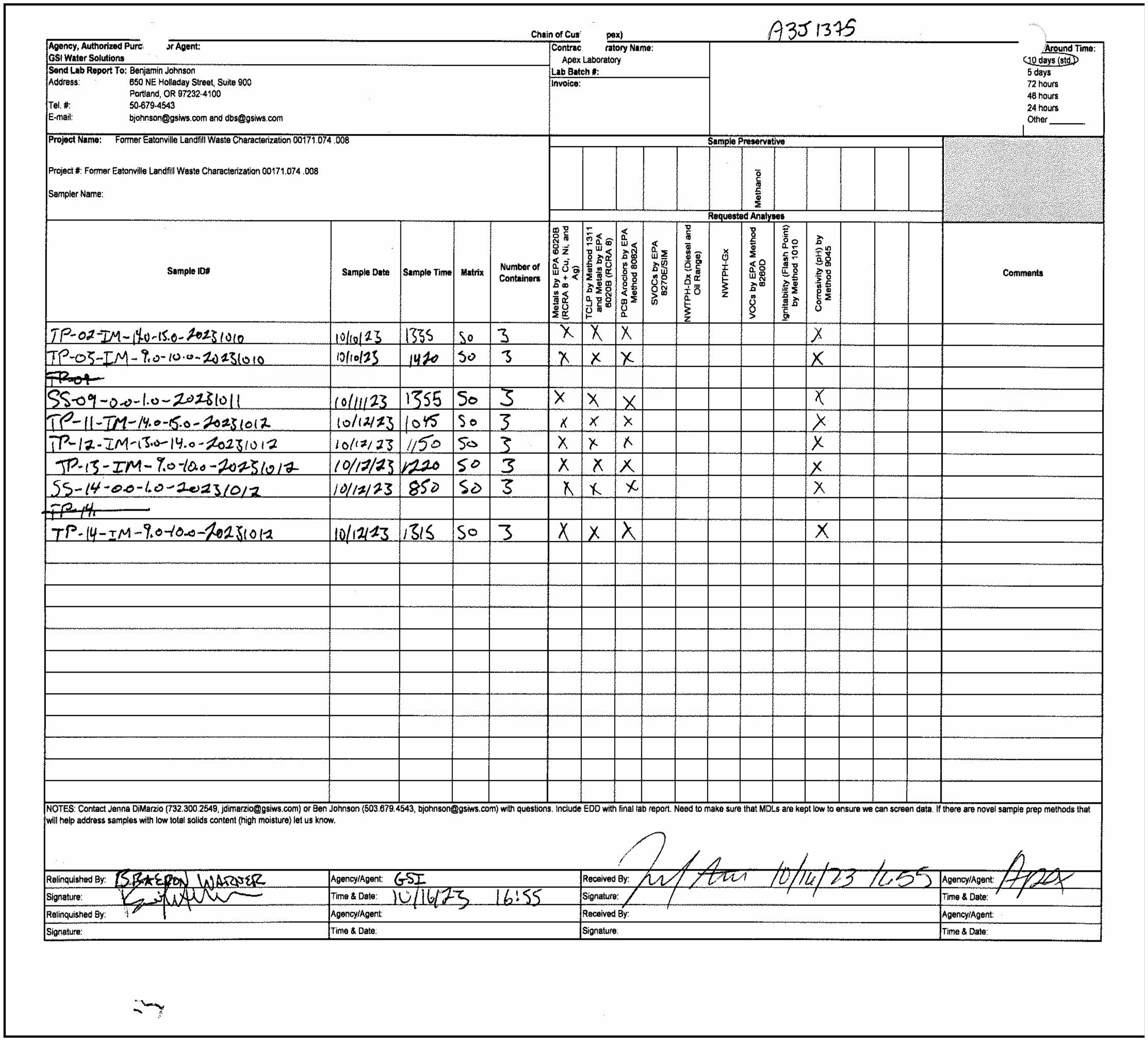
Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.



Chain of Cus pex)

A3J1375

Agency, Authorized Purc r Agent:
GSI Water Solutions
Send Lab Report To: Benjamin Johnson
Address: 650 NE Holladay Street, Suite 900
Portland, OR 97232-4100
Tel. #: 50-679-4543
E-mail: bjohnson@gsiws.com and dbs@gsiws.com

Contrac ratory Name:
Apex Laboratory
Lab Batch #:
Invoice:

Around Time:
[✓ 10 days (std.)]
5 days
72 hours
48 hours
24 hours
Other ________

Project Name: Former Eatonville Landfill Waste Characterization 00171.074 .008

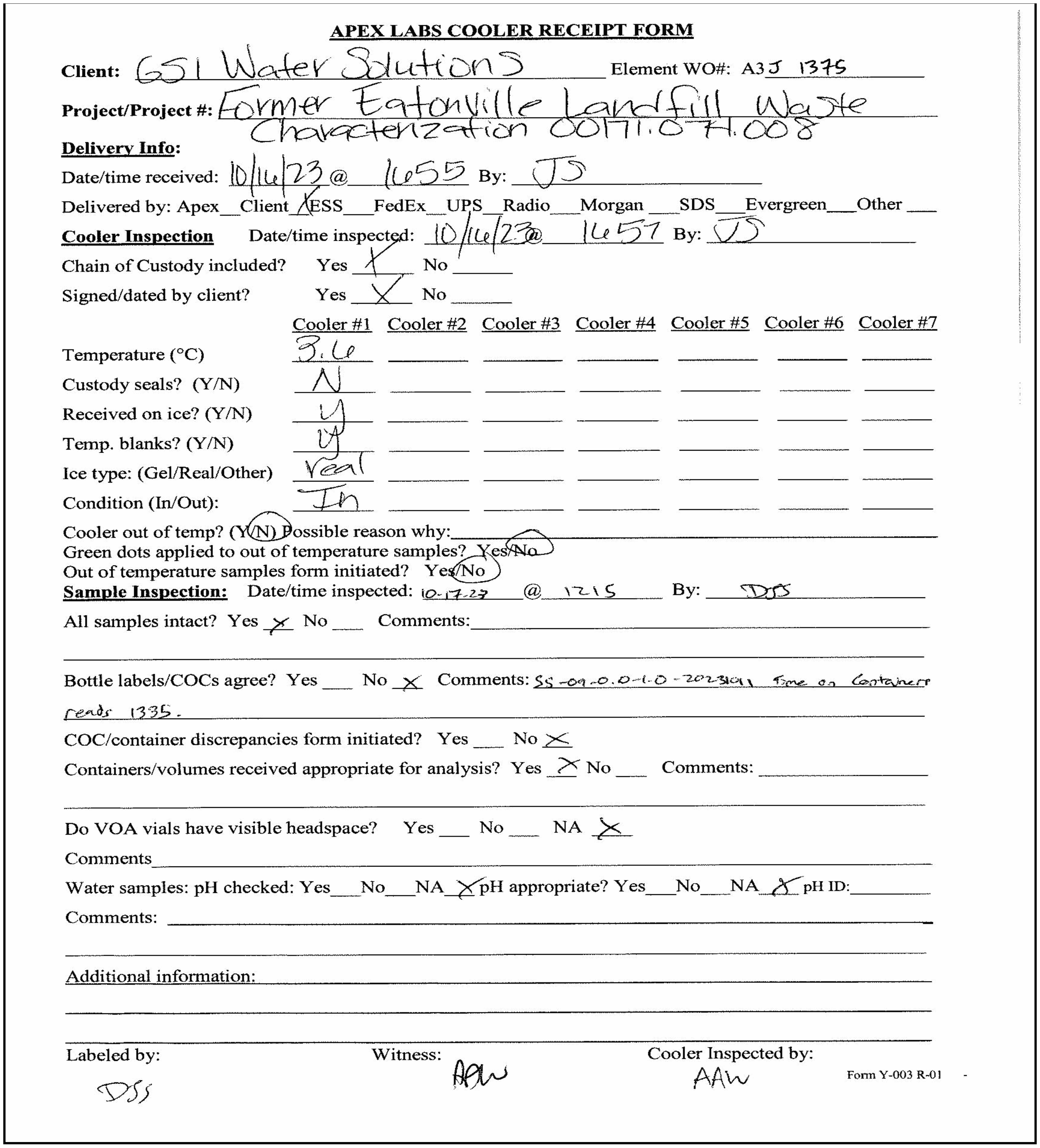
Project #: Former Eatonville Landfill Waste Characterization 00171.074 .008

Sampler Name:

Sample ID#	Sample Date	Sample Time	Matrix	Number of Containers	Metals by EPA 6020B (RCRA 8 + Cu, Ni, and Ag)	TCLP by Method 1311 and Metals by EPA 6020B (RCRA 8)	PCB Aroclors by EPA Method 8082A	SVOCs by EPA 8270E/SIM	NWTPH-Dx (Diesel and Oil Range)	NWTPH-Gx	VOCs by EPA Method 8260D	Ignitability (Flash Point) by Method 1010	Corrosivity (pH) by Method 9045				Comments
Sample Preservative											Methanol						
TP-02-IM-14.0-15.0-20231010	10/10/23	1335	SO	3	X	X	X						X				
TP-05-IM-9.0-10.0-20231010	10/10/23	1420	SO	3	X	X	X						X				
~~TP-09~~																	
SS-09-0.0-1.0-20231011	10/11/23	1355	SO	3	X	X	X						X				
TP-11-IM-14.0-15.0-20231012	10/12/23	1045	SO	3	X	X	X						X				
TP-12-IM-13.0-14.0-20231012	10/12/23	1150	SO	3	X	X	X						X				
TP-13-IM-9.0-10.0-20231012	10/12/23	1220	SO	3	X	X	X						X				
SS-14-0.0-1.0-20231012	10/12/23	850	SO	3	X	X	X						X				
~~TP-14~~																	
TP-14-IM-9.0-10.0-20231012	10/12/23	1315	SO	3	X	X	X						X				

NOTES: Contact Jenna DiMarzio (732.300.2549, jdimarzio@gsiws.com) or Ben Johnson (503.679.4543, bjohnson@gsiws.com) with questions. Include EDD with final lab report. Need to make sure that MDLs are kept low to ensure we can screen data. If there are novel sample prep methods that will help address samples with low total solids content (high moisture) let us know.

Relinquished By: BRAEDON WARNER	Agency/Agent: GSI	Received By: 10/16/23 16:55	Agency/Agent: Apex
Signature:	Time & Date: 10/16/23 16:55	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature:	Time & Date:



APEX LABS COOLER RECEIPT FORM

Client: GSI Water Solutions Element WO#: A3J 1375

Project/Project #: Former Eatonville Landfill Waste Characterization 00171.074.008

Delivery Info:

Date/time received: 10/16/23 @ 1655 By: JS

Delivered by: Apex__ Client X ESS___ FedEx__ UPS__ Radio___ Morgan ___ SDS___ Evergreen___ Other ___

Cooler Inspection Date/time inspected: 10/16/23 @ 1657 By: JS

Chain of Custody included? Yes X No ______

Signed/dated by client? Yes X No ______

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	3.6						
Custody seals? (Y/N)	N						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	real						
Condition (In/Out):	In						

Cooler out of temp? (Y/[✓ N]) Possible reason why:

Green dots applied to out of temperature samples? Yes/[✓ No]

Out of temperature samples form initiated? Yes/[✓ No]

Sample Inspection: Date/time inspected: 10-17-23 @ 1215 By: DJS

All samples intact? Yes X No ___ Comments:

Bottle labels/COCs agree? Yes ___ No X Comments: SS-09-0.0-1.0-20231011 time on Container reads 1335.

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments:

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X pH ID:________

Comments:

Additional information:

Labeled by: DJS

Witness: AAW

Cooler Inspected by: AAW

Form Y-003 R-01

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.