# Remedial Action Work Plan for Tacoma Smelter Plume Impacts

Mary's Place Burien
12845 Ambaum Blvd SW
Burien, Washington 98146

Prepared for:
Nicholas Efthimiadis
Mercy Housing Northwest
6930 Martin Luther King Jr. Way South
Seattle, Washington 98118

April 21, 2025
PBS Project 25003448

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## APPENDICES

# 1 COVER LETTER

April 21, 2025

Ms. Diana Ison
Tacoma Smelter Plume
Technical Assistance Coordinator
SWRO - Toxics Cleanup Program
Washington State Department of Ecology

Site Name: Mercy Housing - Mary's Place Burien
Site Address: 12845 Ambaum Blvd SW, Burien, WA
VCP Project ID: Not Assigned

Dear Ms. Ison:

PBS Engineering and Environmental LLC (PBS) has prepared this Remedial Action Work Plan for Tacoma Smelter Plume Impacts (Work Plan) for Mercy Housing Northwest (Client) to address elevated arsenic concentrations in soil at Mary's Housing Burien (Site) resulting from the former Tacoma Smelter Plume. The Site is located at 12845 Ambaum Blvd SW in Burien, Washington.

On behalf of the Client, PBS requests an opinion from Washington State Department of Ecology (Ecology) relating to the following questions:

- Will Ecology provide a No Further Action (NFA) Likely opinion letter to the Client based on the remediation activities proposed in this Work Plan for the Site?

It is noted that the NFA Likely opinion letter from Ecology will be necessary to apply for and obtain permits necessary for construction or redevelopment at the Site from the City of Burien. Upon completion of remediation activities, PBS will submit a report to Ecology detailing the results of remediation and confirmation sampling and requesting an NFA opinion letter for the site.

Sincerely,

Nasrin Bastami
Digitally signed by Nasrin Bastami
Date: 2025.04.21 15:12:23 -07'00'

Nasrin Bastami Date
Environmental Practice Lead
PBS Engineering and Environmental LLC

Melanie L. Young
Digitally signed by Melanie Young
Date: 2025.04.22 09:37:07 -07'00'

Melanie Young, PE Date
Senior Environmental Engineer
PBS Engineering and Environmental LLC

# 2 INTRODUCTION

This Remedial Action Work Plan (Work Plan) has been prepared on behalf of Mercy Housing Northwest (Client) to guide the remediation of arsenic-impacted soils at the property known as Mary's Place Burien (Site), located at 12845 Ambaum Blvd SW in Burien, Washington (see Figure 1 – Site Vicinity Map). The Work Plan is intended to outline the approach and potential actions needed to address the soil contamination at the project site prior to a planned construction and redevelopment project.

## 2.1 Project Location

The Site is identified as King County Parcel Number 7835800100 and is designated as a single Decision Unit (DU), encompassing approximately 4.30 acres. It includes a 23,000-square-foot building with a basement, along with associated parking lots, driveways, and areas of vegetation and trees. The Site is bounded to the north and east by residential and retail properties, and to the south and west by residential properties (see Figure 2 – Site Plan).

# 3 BACKGROUND

## 3.1 Site History

The Site is located within the widespread soil contamination plume of the former Asarco smelter operation. The Asarco Company operated a copper smelter in Tacoma from 1890 to 1985. Smelter operations emitted an airborne plume of particulates with arsenic, lead, and other heavy metals that were distributed over a wide region of the Puget Sound. As a result, these metals have been found in near surface soils at concentrations which may pose a threat to human health and/or the environment.

Ecology's Tacoma Smelter Plume Model Remedies Guidance (Smelter Plume Guidance) recommends soil sampling at properties in areas with estimated arsenic levels above the state cleanup level of 20 parts per million (ppm)[1]. Ecology's Dirt Alert website (https://apps.ecology.wa.gov/dirtalert/) maps the Site within an area of predicted arsenic concentrations ranging from 20 milligrams per kilogram (mg/kg) to 40 mg/kg. Thus, the 20 mg/kg to 40 mg/kg range can be considered the "baseline" for arsenic concentrations in near surface soils expected on the Site. Based on the predicted arsenic concentration at the Site and the approximately 4.3-acre parcel size, excluding approximately one-third of the area occupied by a structure with a basement and associated paved sidewalks, leaving approximately 3 acres of remaining land, the Smelter Plume Guidance recommends collecting soil samples from a minimum of 30 locations.

## 3.2 Regulatory Criteria

Ecology's Model Toxics Control Act (MTCA) has established cleanup levels (CULs) for arsenic and lead for unrestricted land use that are protective of human health and the environment[2]. Ecology's MTCA Method A CULs for unrestricted land use for arsenic and lead are applicable for comparison to any single soil sample concentration. The CULs for arsenic and lead are presented below:

- The CUL for arsenic is 20 mg/kg.
- The CUL for lead is 250 mg/kg.

For reference, Ecology conducted a study to determine natural background concentrations of metals in soil for the Puget Sound area[3]. The study found that the natural background concentration for arsenic in soil is 7.0 parts per million (ppm) and 24 ppm for lead. Parts per million is equivalent to mg/kg.

[1] "Tacoma Smelter Plume Model Remedies Guidance: Sampling and cleanup of arsenic and lead contaminated soils", Washington State Department of Ecology, July 2019, Publication No. 19-09-101

[2] "Model Toxics Control Act Regulation and Statute", Washington State Department of Ecology, 2024 Revision, Publication No. 94-06[3] *"Natural Background Soil Metals Concentrations in Washington State"*, Washington State Department of Ecology, October 1994, Publication No. 94-115

Furthermore, the July 2019 Tacoma Smelter Plume Model Remedies Guidance standards were used to evaluate the remedial methods and cleanup approaches per Ecology's Standards. The July 2019 Tacoma Smelter Plume Model Remedies Guidance requires remedial action if any individual soil samples exceed 40 mg/kg total arsenic and/or 500 mg/kg total lead. The area encompassing the one soil sample (Figure 1) listed above with concentrations of lead above the 500 mg/kg cleanup level will need to be mitigated using one of the model remedies that Ecology has developed for Tacoma Smelter Plume contamination.

### 3.3 Initial Soil Characterization – January 20, 2025

On January 20, 2025, PBS performed soil characterization sampling at the site to determine the levels of arsenic and lead in shallow soil. Soil characterization was conducted in accordance with the Smelter Plume Guidance. Findings of the sampling activities were presented in PBS's *Limited Soil Assessment for Arsenic and Lead* Report dated February 26, 2025 (Appendix A). The report identified one location at the Site where arsenic concentration was defined as elevated (SS2 at 48 mg/kg) per the Smelter Plume Guidance (See Section 3.2). Therefore, this location requires remediation to comply with the Smelter Plume Guidance and MTCA.

### 3.4 Supplemental Soil Characterization – January 30, 2025

On January 30, 2025, PBS performed supplemental soil characterization sampling at the Site in the vicinity of the sample location (SS2) with elevated arsenic concentrations identified during the January 20, 2025 sampling event. The purpose of the supplemental sampling was to better define the area of elevated arsenic concentration surrounding the original sample location. Soil characterization was conducted in accordance with the Smelter Plume Guidance. Findings of the sampling activities were presented in PBS's *Limited Soil Assessment for Arsenic and Lead* Report dated February 26, 2025 (Appendix A). Concentrations of arsenic and lead in soil samples collected surrounding the previously identified area of elevated arsenic were below CULs. Therefore, the supplemental sampling event was successful at defining the lateral and vertical extents of elevated arsenic concentrations at the Site.

### 3.5 Remediation Goals

The Client intends to remediate the sample location with elevated concentrations of arsenic as directed by the Smelter Plume Guidance. Based on the land use as housing, the client has elected to remediate the area where the single sample location contained concentration of arsenic exceed the CUL, even if the average concentrations within the decision unit was below the cleanup level, and as such are defined as "elevated" per the Smelter Plume Guidance.

PBS notes that although only one soil sample collected from grid SS2 exhibited arsenic concentrations exceeding 40 mg/kg, elevated arsenic concentrations were also observed in adjacent grids (SS1, SS3, SS4, SS6, SS7, and SS8) in the northwest portion of the Site. These concentrations exceed the Washington State Department of Ecology's MTCA Method A CUL of 20 mg/kg. As a result, soil mixing will be conducted in these adjacent grids as well to ensure that the entire area achieves compliance with the applicable CUL.

## 4 SOIL REMEDIATION PLAN

### 4.1 Remediation Area

Based on the results of soil characterization sampling conducted at the site, and Client's goal of remediating any sample location where soil concentrations exceeded the CUL, one remediation area was identified at the site based on detected arsenic concentrations. The proposed remediation action area is presented in Figure 3.

### 4.2 Proposed Model Remedy – Mixing in Place

The Smelter Plume Guidance presents four model remedies for arsenic and lead contaminated soils based on concentrations detected at the Site. "Mixing in place" has been selected as the model remedy for the Site. The

Smelter Plume Guidance considers mixing a permanent remedy that is acceptable for sites that meet the following criteria:

- Average (arithmetic mean) arsenic concentrations are less than 40 ppm and average lead concentrations less than 500 ppm,
- Contamination is not deeper than 12 inches,
- Arsenic and lead levels in the soils (12-18 inches and 18-24 inches) have low enough arsenic and lead levels to dilute surface soils.

Based on soil characterization conducted in January 2025, the Site meets the above criteria, and mixing in place is considered an acceptable and permanent remediation technique for the Site.

### 4.3 Implementation of the model Remedy

Chapter Four of the Smelter Plume Guidance provides a worksheet to calculate the depth of mixing required to achieve CULs. Because the site surface consists of relatively undisturbed soils, Example B of the worksheet was used to calculate mixing depth for the remediation area. Below is the equation presented in Example B:

$$\frac{(\text{Surface Soil Arsenic Concentration} \times \text{depth}) + (\text{Deeper Soil Arsenic Concentration} \times \text{depth})}{\text{Surface depth} + \text{deeper depth}}$$

The equation is applied to the remediation area as follows:

Average arsenic concentration in top 6 inches of soil as represented by original sample location SS2, which exhibited concentrations above 40 mg/kg, and supplemental sample locations SS2-N1:0.5, SS2-E1:0.5, SS2-S1:0.5, and SS2-W1:0.5 is calculated below:

$Arsenic_{(Ave)}$ 0-6 inch = (48.0 ppm + 10.0 ppm + 12.0 ppm + 13.0 ppm + 19.0 ppm) / 5 samples
$Arsenic_{(Ave)}$ 0-6 inch = 20.4 ppm

Average arsenic concentration from 6 – 12 inches as represented by original sample location SS-2:1 and supplemental sample locations SS2N1:1.0, SS2E1:1.0, SS2S1:1.0, and SS2E1:1.0 collected from 6 to 12 inches below ground surface (bgs):

$Arsenic_{(Ave)}$ 6-12 inch = (20.0 ppm + 5.8 ppm + 9.2 ppm + 8.4 ppm + 13.0 ppm)/ 5 samples
$Arsenic_{(Ave)}$ 6-12 inch = 11.3 ppm

Thus, using the equation from Example B in the Chapter Four worksheet:

$$Arsenic_{(Ave)}\ \text{Mixed} = \frac{(20.4\ \text{ppm} \times 6'') + (11.3\ \text{ppm} \times 6'')}{(6'' + 6'')}$$

$Arsenic_{(Ave)}$ Mixed = 15.9 ppm

Because the arsenic concentration of 15.9 ppm meets the CUL, mixing to a depth of 12 inches in Remediation Area 1 and the surrounding area (including sampling locations SS1, SS3, SS4, SS6, SS7, and SS8) is expected to achieve compliance with the CUL

### 4.4 Means and Methods for Remediation

Means and methods for soil remediation by mixing in place will be determined by the contractor selected by the Client to perform the remediation, based on project specifications prepared by PBS and presented to the contractor by the Client in the bid package for the project. Means and methods include equipment to be used, as well as mixing techniques such as mixing in place, piling into rows or stockpiles for mixing and spreading back out, or other methods determined to be efficient and cost effective for the contractor and the Client. The contractor will be required to follow the health and safety procedures outlined in Section 4.5.

### 4.5 Protection of Human Health and the Environment During Remediation

The contractor selected by the Client to perform the remediation of soils at the Site will be responsible for the health and safety of its own personnel and employees, as well as that of any subcontractors hired to perform the work. The contractor will follow the requirements of the Washington State Department of Labor and Industries Safety Standards for Arsenic.

Work will be performed with the periodic wetting of soil to prevent the generation of fugitive dust. Wetting of soils will be conducted such that surface runoff of water and/or sediment from the remediation area is prevented in accordance with the contractor's Construction Storm Water Pollution Prevention Plan specific to the project.

## 5 POST-REMOVAL COMPLIANCE SOIL SAMPLING

Chapter Seven of the Smelter Plume Guidance specifies that compliance samples be collected after mixing is complete to determine if mixing worked, and that concentrations of arsenic and/or lead within the remediated area meet CULs. Table 4 in Chapter Seven of the Smelter Plume Guidance presents the number of compliance samples required for each remediation area based on acreage and mapped arsenic concentrations. The number of compliance sample locations required for the remediation area based on the table is presented below:

- Remediation Area 1, including grids SS1, SS3, SS4, SS6, SS7, and SS8 (approximately 0.75 acres, mapped arsenic concentration <100 ppm) = 13 samples

Following completion of the model remedy (mixing in place), the remediation area will be divided into an evenly spaced grid of 13 sample location points (as outlined above) in accordance with Chapter Seven of the Smelter Plume Guidance. Soil samples will be collected at each grid point at depth ranges of 0 to 6 inches and 6 to 12 inches in the remediation area. Soil samples will be collected and analyzed following the Smelter Plume Guidance Sampling Process as outlined in Chapter Seven of the guidance. Compliance soil samples will be analyzed for total arsenic and lead by EPA Method 6010/6020 at an Ecology-accredited laboratory.

## 6 INERPRETATION OF SAMPLING RESULTS

Concentrations of arsenic and lead in soil samples as determined by laboratory analysis will be compared to arsenic and lead CULs. If all concentrations meet CULs, remediation will be considered complete. If concentrations of either arsenic or lead in compliance samples exceed CULs, the area represented by the compliance samples in exceedance of CULs will be mixed in place to a depth 6 to 12 inches below the maximum mixing depth achieved in the prior remediation effort. Additional remediation by mixing in place will be conducted following the same procedures outlined in Section 3 and as specified in Chapter 4 of the Smelter Plume Guidance.

## 7 REPORTING

Upon completion of the soil removal and compliance sampling, a project completion report will be prepared that documents the specific depths and locations of the mixing of arsenic-impacted soil, locations and results

of compliance soil samples, and evaluation of the lab results with respect to cleanup levels. An accompanying narrative will describe the sampling operations, and any deviations to the procedures that occurred. Corrective actions will be identified as needed, and the resolution of any discrepancies will be reported.

## 8 LIMITATIONS AND CLOSURE

PBS has prepared this Work Plan for use by the Client. Mercy Housing Northwest plans to submit a Voluntary Cleanup Program (VCP) application for the Site along with this Work Plan and request for opinion. It is understood this report may become available to the public.

Sincerely,
PBS Engineering and Environmental LLC

Digitally signed by Nasrin Bastami
Date: 2025.04.21 15:13:16 -07'00'

Nasrin Bastami — Date
Environmental Practice Lead

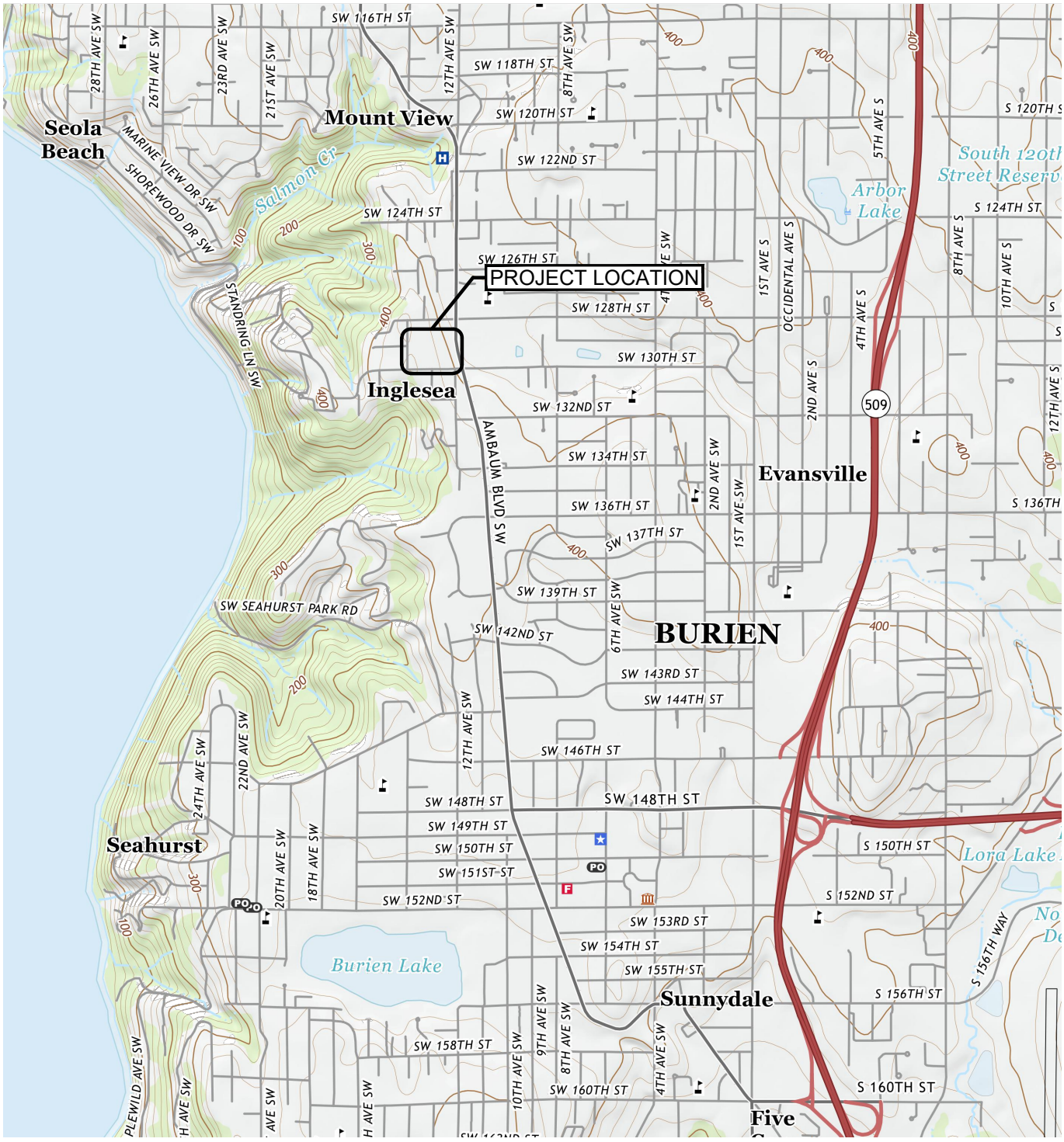
Digitally signed by Michael Andrews
Date: 2025.04.21 15:32:00 -07'00'

Michael Andrews, GIT — Date
Project Geologist

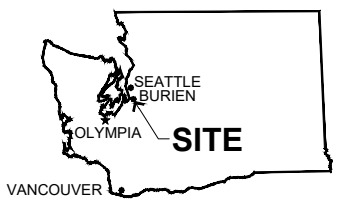
## 9 REFERENCES

(WA Dept of Ecology, 2019) Tacoma Smelter Plume Model Remedies Guidance, Sampling and cleanup of arsenic and lead contaminated soils, Publication No. 19-09-101 July 2019.

# Figures




SOURCE: USGS DES MOINES, WA QUADRANGLE 2020.




WASHINGTON

SCALE: 1" = 2,000'

0 1,000' 2,000' 4,000'

PREPARED FOR: MERCY HOUSING NORTHWEST

PBS
AN APEX COMPANY

# VICINITY MAP
# MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

DEC 2024
25003448

FIGURE
1


SOURCE: © 2021 MICROSOFT CORPORATION © 2021 MAXAR © CNES (2021) DISTRIBUTION AIRBUS DS

**LEGEND**

| | |
|---|---|
| ● # | SOIL SAMPLE NUMBER AND LOCATION |
| △ DUFF-# | DUFF SAMPLE NUMBER AND LOCATION |

N

SCALE: 1" = 140'

0 70' 140' 280'

PREPARED FOR: MERCY HOUSING NORTHWEST

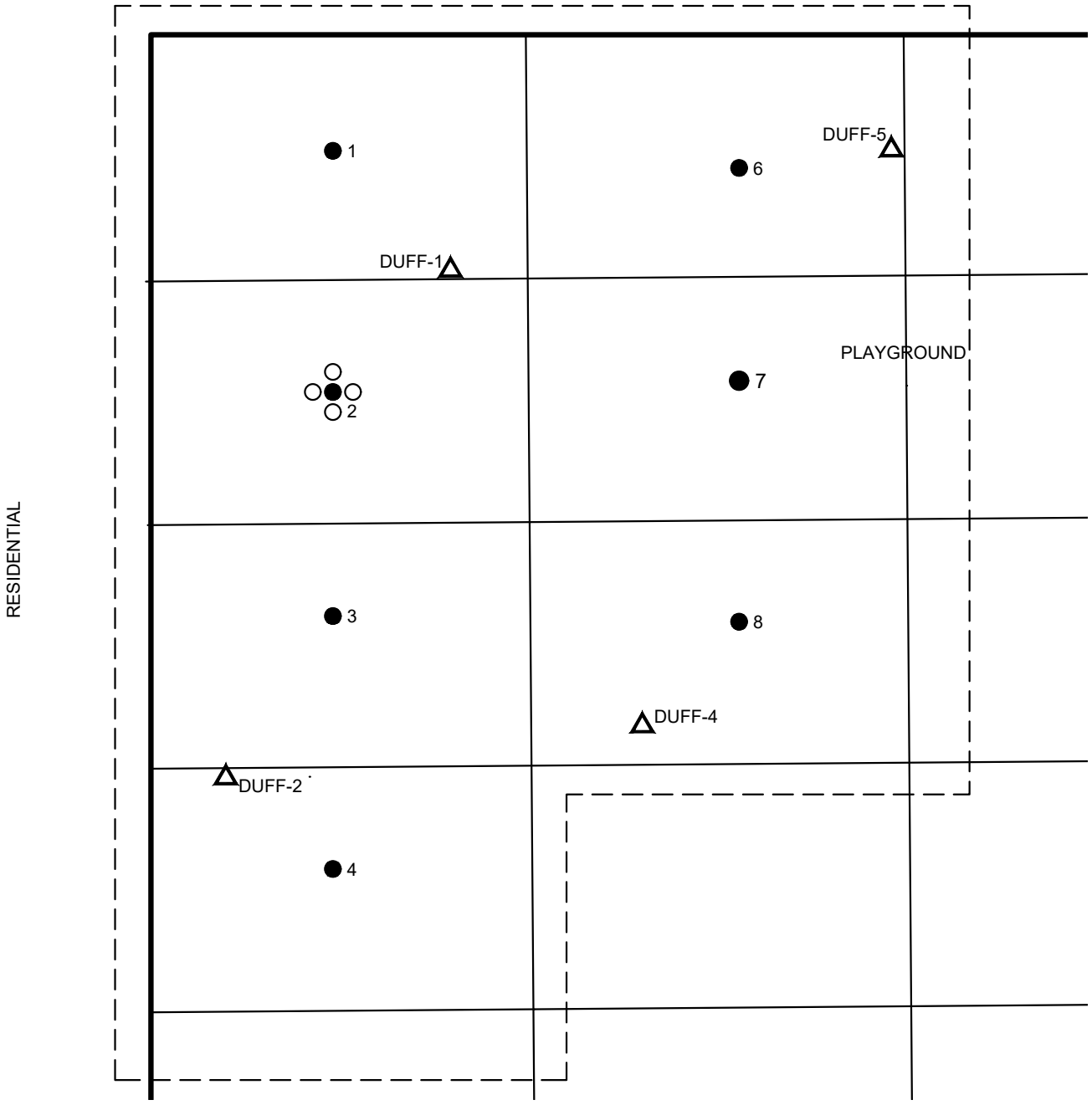
PBS AN APEX COMPANY

# SITE PLAN
# MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

APRIL 2025
25003448

FIGURE
**2**

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**LEGEND**

| | |
|---|---|
| ● # | SOIL SAMPLE NUMBER AND LOCATION |
| △ DUFF-# | DUFF SAMPLE NUMBER AND LOCATION |
| ○ | STEP-OUT (APPROXIMATELY 5-FEET HORIZONTALLY) SOIL SAMPLE NUMBER AND LOCATION |
| - - - - - - | PROPOSED REMEDIATION ACTION AREA |

N

SCALE: 1" = 40'

0 20' 40' 80'

PREPARED FOR: MERCY HOUSING NORTHWEST

PBS AN APEX COMPANY

# PROPOSED REMEDIAL ACTION AREA
# MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

APRIL 2025
25003448

FIGURE
3

Filename: L:\Projects_DVP\MMER047\25003448\CAD\25003448_0001_FIG_3.dwg Layout Tab: SITE PLAN User: James Blanco CAD Plot Date/Time: 4/21/2025 1:54:52 PM

# Appendix A

## PBS - Limited Soil Assessment for Arsenic and Lead for Mary's Place Burien

February 26, 2025

Nicholas Efthimiadis
Mercy Housing Northwest
6930 Martin Luther King Jr. Way South
Seattle, Washington 98118

Via email: Nicholas.efthimiadis@mercyhousing.org

Regarding: Limited Soil Assessment for Arsenic and Lead
Mary's Place Burien
12845 Ambaum Blvd SW
Burien, Washington 98146
PBS Project 25003448

Dear Mr. Efthimiadis:

PBS Engineering and Environmental LLC (PBS) has prepared this letter report for Mercy Housing Northwest (Client) to document soil sampling activities conducted on January 22 and 30, 2025, at the Mary's Place Burien property in Burien, Washington (the Site; see Figure 1). The Site is identified as King County Parcel Number 7835800100 and is designated as a single Decision Unit (DU), encompassing approximately 4.30 acres. The Site includes a 23,000-square-foot building, along with associated parking lots and driveways.

## PROJECT BACKGROUND

A review of a Phase I Environmental Site Assessment (ESA) conducted by PBS in December 2024 indicated that the Site is located within the Tacoma Smelter Plume mapped area associated with the former Asarco smelter in Tacoma. The Asarco Company operated a copper smelter in Tacoma from 1890 to 1985. Smelter operations emitted airborne particulates containing arsenic, lead, and other heavy metals, which were dispersed over a wide region of the Puget Sound. The Washington State Department of Ecology (Ecology) maintains an online map indicating that the Site is located in an area where predicted arsenic concentrations may range between 20 parts per million (ppm) and 40 ppm. Deposits from the smelter particulates typically affect the surface to a depth of approximately 6 inches. The majority of the Site was cleared of forest land in the 1940s. The current Site development includes a grass-covered surface and an asphalt-paved parking lot in the eastern portion, a facility building in the central portion, and a playground, followed by overgrown vegetation and trees, in the western portion. Based on the estimated concentrations of lead and arsenic in the soils at the Site, PBS considered the deposition from the Tacoma Smelter Plume to represent an environmental condition for the Site.

Ecology's Tacoma Smelter Plume Model Remedies Guidance (Smelter Plume Guidance) recommends soil sampling at properties in areas with estimated arsenic levels above the state cleanup level of 20 parts per million (ppm)[1]. Ecology's "Everett and Tacoma Smelter Search" web page https://fortress.wa.gov/ecy/smeltersearch/ maps the Site within a zone of potential arsenic concentrations ranging from 20 milligrams per kilogram (mg/kg) to 40 mg/kg. Thus, the 20 mg/kg to 40 mg/kg range can be considered the "baseline" for arsenic concentrations in near surface soils expected on Site.

[1] "Tacoma Smelter Plume Model Remedies Guidance: Sampling and cleanup of arsenic and lead contaminated soils", Washington State Department of Ecology, July 2019, Publication No. 19-09-101

## REGULATORY CRITERIA

Ecology's Model Toxics Control Act (MTCA) has established cleanup levels (CULs) for arsenic and lead for unrestricted land use that are protective of human health and the environment[2]. Ecology's MTCA Method A CULs for unrestricted land use for arsenic and lead are applicable for comparison to any single soil sample concentration. The CULs for arsenic and lead are presented below:

- The CUL for arsenic is 20 mg/kg.
- The CUL for lead is 250 mg/kg.

For reference, Ecology conducted a study to determine natural background concentrations of metals in soil for the Puget Sound area[3]. The study found that the natural background concentration for arsenic in soil is 7.0 parts per million (ppm) and 24 ppm for lead. Parts per million is equivalent to mg/kg.

Furthermore, the July 2019 Tacoma Smelter Plume Model Remedies Guidance standards were used to evaluate the remedial methods and cleanup approaches per Ecology's Standards. The July 2019 Tacoma Smelter Plume Model Remedies Guidance requires remedial action if any individual soil samples exceed 40 mg/kg total arsenic and/or 500 mg/kg total lead. The area encompassing the one soil sample (Figure 1) listed above with concentrations of lead above the 500 mg/kg cleanup level will need to be mitigated using one of the model remedies that Ecology has developed for Tacoma Smelter Plume contamination.

## OBJECTIVE AND SCOPE OF WORK

At the request of Mercy Housing, PBS conducted shallow soil sampling at the Site in accordance with the July 2019 Tacoma Smelter Plume Model Remedies Guidance. Based on the approximately 4-acre land area, the guidance recommended collecting soil samples from 35 locations. However, as approximately one-third of the Site is occupied by a structure with a basement, PBS collected soil samples from 30 locations.

Per the guidance, a soil sample was collected from the ground surface to 0.5 feet below ground surface (bgs) at each location, with an additional deeper soil sample collected from 0.5 to 1.0 foot bgs at every fourth location (i.e., 25 percent of sampling locations). Additionally, five composite samples were collected from the surface layer of duff within the decision unit. Figure 2 presents the soil sample locations.

## CHARACTERIZATION SOIL SAMPLING

On January 22, 2025, a total of 30 discrete soil samples (SS-1 through SS-30) were collected from 30 locations across the Site using hand tools. At each location, a discrete soil sample was collected from the ground surface to 0.5 feet below ground surface (bgs). Additionally, a deeper soil sample was collected from 0.5 to 1.0 foot bgs at every fourth location (i.e., 25 percent of sampling locations). Sample locations were selected to maximize spatial coverage of the Site, as shown in Figure 2. The number of samples collected for analysis was determined in accordance with guidance from the Washington State Department of Ecology.

Soil sample collection began just below any surface cover layer (e.g., grass or gravel). After each soil sampling interval, hand equipment was decontaminated using an Alconox detergent and potable water wash followed by a clean potable water rinse and a final rinse with distilled water. In addition, disposable latex sampling gloves were worn between samples to avoid cross contamination between sample depths and locations.

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[2] "Model Toxics Control Act Regulation and Statute", Washington State Department of Ecology, 2024 Revision, Publication No. 94-06

[3] *"Natural Background Soil Metals Concentrations in Washington State"*, Washington State Department of Ecology, October 1994, Publication No. 94-115

Soil retained for analysis was packed into laboratory-provided containers, labeled and transported on ice under chain of custody documentation to Friedman and Bruya, Inc. in Seattle, an Ecology-accredited analytical laboratory. Samples were analyzed for total arsenic and lead using Environmental Protection Agency (EPA) Method 6020B. Total arsenic and lead results were reported on a dry weight basis.

The soil samples were named as follows; Soil Sample (SS) followed by location designation number, followed by the depth of the collected soil sample in feet (ex; SS-1:0.5).

## CHARACTERIZATION DUFF SAMPLING

On January 22, 2025, five composite duff samples were collected from areas with leaf debris in the western areas of the Site, within wooded areas. Each composite duff sample was created by combining material from at least six distinct sample locations.

Disposable nitrile sampling gloves were worn between samples to avoid cross contamination between sample locations. Duff retained for analysis was packed into laboratory-provided containers, labeled and transported on ice under chain of custody documentation to Friedman and Bruya, Inc. in Seattle, an Ecology-accredited analytical laboratory. Samples were analyzed for total arsenic and lead using EPA Method 6020B. Total arsenic and lead results were reported on a dry weight basis.

## ANALYTIC RESULTS

*Total Arsenic*

A total of four (4) out of 30 shallow soil samples collected during the Tacoma Smelter assessment had arsenic concentrations exceeding the applicable MTCA Method A CULs. Total arsenic concentrations in soil ranged from 2.6 mg/kg (SS-21) to 48 mg/kg (SS-2), with an average concentration of 12.59 mg/kg from the surface to 0.5-foot depth horizon. Per MTCA Method A, the CUL for arsenic in the Tacoma Smelter Plume area is an average concentration of 20 mg/kg (Table 1). One shallow soil sample (SS-2:0.5) had a total arsenic concentration of 48 mg/kg, exceeding the 40 mg/kg threshold. Additionally, two deeper samples, 0.5 foot to 1.0 foot and 1.0 foot to 1.5 feet soil samples were collected at the initial SS-2 soil boring location. The analytical results did not indicate any concentrations of arsenic above the MTCA Method A CUL in the deeper samples.

Analytical results indicated that, with the exception of one soil sample (SS-8), which had an arsenic concentration of 21 mg/kg, none of the soil samples collected from the 0.5- to 1.0-foot depth horizon during the Tacoma Smelter Plume assessment exceeded the applicable MTCA Method A CULs. Total arsenic concentrations at this depth ranged from 2.1 mg/kg (SS-20) to 21 mg/kg (SS-8), with an average concentration of 11.9 mg/kg.

To laterally delineate areas of localized arsenic-impacted soil at SS-2, PBS advanced eight (8) additional soil borings, designated SS2N1 through SS2W2. These borings were placed approximately five (5) and ten (10) feet from the original SS-2 location in all four cardinal directions (north [N], east [E], south [S], and west [W]). Soil samples were collected from the surface to 0.5-foot depth horizon, 0.5- to 1-foot depth horizon, and 1.0- to 1.5-foot depth horizon from each boring, and selected samples were analyzed for total arsenic by EPA Method 6020. The January 30, 2025, delineation assessment did not indicate the presence of arsenic at concentrations exceeding the MTCA Method A cleanup level of 20 mg/kg in any of the soil samples collected five (5) feet north, east, south, and west of SS-2. Therefore, the soil samples collected at a 10-foot radius were not further analyzed.

*Total Lead*
One out of 30 soil samples (SS-20) collected during the Tacoma Smelter assessment had lead concentrations exceeding the applicable MTCA Method A CULs. Total lead concentrations ranged from 5.2 mg/kg (SS-9) to 280 mg/kg (SS-20), with an average lead concentration of 43.17 mg/kg in the 0- to 0.5-foot depth horizon. Analytical results indicated that none of the deeper soil samples had lead concentrations exceeding the applicable MTCA Method A CUL of 250 mg/kg. Total lead concentrations in the 0.5- to 1-foot depth horizon ranged from 3.7 mg/kg (SS-28) to 44 mg/kg (SS-4), with an average concentration of 27.21 mg/kg. Additionally, no individual sample exceeded the 500 mg/kg threshold.

*Duff Samples*
All analytical results from duff samples collected on-site were reported below MTCA Method A CUL's for arsenic and lead.

Analytical results from soil and duff samples collected on site are summarized in Table 1. Figure 2 depicts the sample locations, and the laboratory report is provided in Attachment 1.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the findings presented above, PBS offers the following conclusions and recommendations:

- The arithmetic average for arsenic soil concentrations from between ground surface and 0.5 feet bgs of the Site is 12.59 mg/kg, which is below the MTCA Method A Cleanup Level of 20 mg/kg for total arsenic in soil. The arithmetic average for arsenic soil concentrations from the depth horizon of 0.5 foot to one (1) foot is 11.86 mg/kg, which is below the MTCA Method A Cleanup Level. With the exception of one soil sample (SS-2), all soil sample concentrations were below the maximum allowable concentration of 40 mg/kg for arsenic. The arsenic concentration in one individual sample (SS-2:0.5) exceeded this threshold. Subsequently, total arsenic concentrations in the four soil samples collected from the step-out locations (5 feet from the sample with elevated arsenic concentrations) did not exceed the Ecology requirements for the average allowable concentration of 20 mg/kg and single sample concentration of 40 mg/kg.

- The arithmetic average for total lead from between ground surface and 0.5 feet bgs of the Site is 43.17 mg/kg and from the depth 0.5 foot to one (1) foot is 27.21 mg/kg, which are both below the MTCA Method A cleanup Level of 250 mg/kg for total lead in soil. None of the soil sample concentrations exceeded the maximum allowable concentrations of 500 mg/kg for lead.

- Due the presence of localized arsenic concentrations in soil above the Ecology's MTCA Method A soil Cleanup Level for individual soil sample concentration of 40 mg/kg for arsenic in the upper 6 inches of the Site, PBS recommends preparing a soil remedial action plan to address soil sample location above the 40 mg/kg. The remedial action plan will propose a soil mixing model remedy to address the arsenic exceedance under the supervision of Ecology's Voluntary Cleanup Program. Additionally, PBS will prepare a remedial action report summarizing the post-remedial activities and confirmation soil sampling results.

## LIMITATIONS

PBS has prepared this report for the exclusive use by Mercy Housing Northwest and its partners and is not to be relied upon by other parties. It is not to be photographed, photocopied, or similarly reproduced in total or in part without the express written consent of the client and PBS.

This study was limited to the tests, locations, and depths as indicated to determine the absence or presence of certain contaminants. The Site may have other contamination that was not characterized by this study. The findings and conclusions of this report are not scientific certainties, but probabilities based on professional judgment concerning the significance of the data gathered during this investigation.

Please feel free to contact me at 206.766.7636 or nasrin.bastami@ApaxCos.com with any questions or comments.

Sincerely,

Michael Andrews

Michael Andrews
Project Geologist
PBS Engineering and Environmental LLC

Nasrin Bastami
Environmental Practice Lead
PBS Engineering and Environmental LLC

Attachments: Table 1 – Summary of Soil Analytical Results – Total Arsenic and Lead
Figure 1 – Site Vicinity Map
Figure 2 – Site Plan – Soil Characterization
Figure 3 – Site Plan – Step-Out Soil Sample Locations
Appendix A –Analytical Reports

Reviewed by: Tom Mergy LHG

**Table 1**
**Summary of Soil Analytical Results**
**Mary's Place Burien**
**12845 Ambaum Blvd SW**
**Burien, Washington**
Project No. 25003448

| Result (mg/kg) | | | | | |
|---|---|---|---|---|---|
| **Location Name** | **Sample Name** | **Date** | **Depth (feet bgs)** | **Metals[a]** | |
| | | | | **Arsenic** | **Lead** |
| **MTCA Method A Cleanup Levels - Unrestricted Land Use[b]** | | | | **20** | **250** |
| SS-1 | SS-1:0.5 | 1/20/2025 | surface to 0.5 | 12 | 26 |
| | SS-1:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-2 | SS-2:0.5 | 1/20/2025 | surface to 0.5 | **48** | 82 |
| | SS-2:1 | 1/20/2025 | 0.5 to 1.0 | 20 | 39 |
| | SS-2:1.5 | 1/30/2025 | 1.0 to 1.5 | 4.6 | -- |
| | SS2N1:0.5 | 1/30/2025 | surface to 0.5 | 10 | -- |
| | SS2N1:1.0 | 1/30/2025 | 0.5 to 1.0 | 5.8 | -- |
| | SS2N1:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2N2:0.5 | 1/30/2025 | surface to 0.5 | -- | -- |
| | SS2N2:1.0 | 1/30/2025 | 0.5 to 1.0 | -- | -- |
| | SS2N2:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2E1:0.5 | 1/30/2025 | surface to 0.5 | 12 | -- |
| | SS2E1:1.0 | 1/30/2025 | 0.5 to 1.0 | 9.2 | -- |
| | SS2E1:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2E2:0.5 | 1/30/2025 | surface to 05 | -- | -- |
| | SS2E2:1.0 | 1/30/2025 | 0.5 to 1.0 | -- | -- |
| | SS2E2:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2S1:0.5 | 1/30/2025 | surface to 0.5 | 13 | -- |
| | SS2S1:1.0 | 1/30/2025 | 0.5 to 1.0 | 8.4 | -- |
| | SS2S1:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2S2:0.5 | 1/30/2025 | surface to 0.5 | -- | -- |
| | SS2S2:1.0 | 1/30/2025 | 0.5 to 1.0 | -- | -- |
| | SS2S2:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2W1:0.5 | 1/30/2025 | surface to 0.5 | 19 | -- |
| | SS2W1:1.0 | 1/30/2025 | 0.5 to 1.0 | 13 | -- |
| | SS2W1:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| | SS2W2:0.5 | 1/30/2025 | surface to 0.5 | -- | -- |
| | SS2W2:1.0 | 1/30/2025 | 0.5 to 1.0 | -- | -- |
| | SS2W2:1.5 | 1/30/2025 | 1.0 to 1.5 | -- | -- |
| SS-3 | SS-3:0.5 | 1/20/2025 | surface to 0.5 | **40** | 70 |
| | SS-3:0.5 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-4 | SS-4:0.5 | 1/20/2025 | surface to 0.5 | **31** | 97 |
| | SS-4:1 | 1/20/2025 | 0.5 to 1.0 | 19 | 44 |
| SS-5 | SS-5:0.5 | 1/20/2025 | surface to 0.5 | 15 | 30 |
| | SS-5:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-6 | SS-6:0.5 | 1/20/2025 | surface to 0.5 | **30** | 120 |
| | SS-6:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-7 | SS-7:0.5 | 1/20/2025 | surface to 0.5 | **37** | 100 |
| | SS-7:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-8 | SS-8:0.5 | 1/20/2025 | surface to 0.5 | 20 | 50 |
| | SS-8:1 | 1/20/2025 | 0.5 to 1.0 | **21** | 42 |

| Result (mg/kg) | | | | | |
|---|---|---|---|---|---|
| Location Name | Sample Name | Date | Depth (feet bgs) | Metals[a] | |
| | | | | Arsenic | Lead |
| MTCA Method A Cleanup Levels - Unrestricted Land Use[b] | | | | 20 | 250 |
| SS-9 | SS-9:0.5 | 1/20/2025 | surface to 0.5 | 2.7 | 5.2 |
| | SS-9:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-10 | SS-10:0.5 | 1/20/2025 | surface to 0.5 | 2.8 | 8.9 |
| | SS-10:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-11 | SS-11:0.5 | 1/20/2025 | surface to 0.5 | 11 | 25 |
| | SS-11:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-12 | SS-12:0.5 | 1/20/2025 | surface to 0.5 | 12 | 31 |
| | SS-12:1 | 1/20/2025 | 0.5 to 1.0 | 16 | 33 |
| SS-13 | SS-13:0.5 | 1/20/2025 | surface to 0.5 | 5.8 | 14 |
| | SS-13:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-14 | SS-14:0.5 | 1/20/2025 | surface to 0.5 | 3.8 | 6.6 |
| | SS-14:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-15 | SS-15:0.5 | 1/20/2025 | surface to 0.5 | 4.6 | 12 |
| | SS-15:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-16 | SS-16:0.5 | 1/20/2025 | surface to 0.5 | 12 | 28 |
| | SS-16:1 | 1/20/2025 | 0.5 to 1.0 | 9.4 | 19 |
| SS-17 | SS-17:0.5 | 1/20/2025 | surface to 0.5 | 10 | 27 |
| | SS-17:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-18 | SS-18:0.5 | 1/20/2025 | surface to 0.5 | 5.6 | 14 |
| | SS-18:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-19 | SS-19:0.5 | 1/20/2025 | surface to 0.5 | 9.5 | 26 |
| | SS-19:1 | 1/20/2025 | 0.5 to 1.0 | -- | **--** |
| SS-20 | SS-20:0.5 | 1/20/2025 | surface to 0.5 | 2.9 | **280** |
| | SS-20:1 | 1/20/2025 | 0.5 to 1.0 | 2.1 | 19 |
| SS-21 | SS-21:0.5 | 1/20/2025 | surface to 0.5 | 2.6 | 5.3 |
| | SS-21:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-22 | SS-22:0.5 | 1/20/2025 | surface to 0.5 | 3.3 | 10 |
| | SS-22:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-23 | SS-23:0.5 | 1/20/2025 | surface to 0.5 | 8.3 | 16 |
| | SS-23:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-24 | SS-24:0.5 | 1/20/2025 | surface to 0.5 | 6.1 | 35 |
| | SS-24:1 | 1/20/2025 | 0.5 to 1.0 | 5 | 18 |
| SS-25 | SS-25:0.5 | 1/20/2025 | surface to 0.5 | 9.2 | 37 |
| | SS-25:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-26 | SS-26:0.5 | 1/20/2025 | surface to 0.5 | 6.4 | 24 |
| | SS-26:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-27 | SS-27:0.5 | 1/20/2025 | surface to 0.5 | 8 | 32 |
| | SS-27:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-28 | SS-28:0.5 | 1/20/2025 | surface to 0.5 | 4.8 | 19 |
| | SS-28:1 | 1/20/2025 | 0.5 to 1.0 | 2.4 | 3.7 |
| SS-29 | SS-29:0.5 | 1/20/2025 | surface to 0.5 | 5.3 | 39 |
| | SS-29:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |
| SS-30 | SS-30:0.5 | 1/20/2025 | surface to 0.5 | 4.9 | 25 |
| | SS-30:1 | 1/20/2025 | 0.5 to 1.0 | -- | -- |

| Result (mg/kg) | | | | | |
|---|---|---|---|---|---|
| **Location Name** | **Sample Name** | **Date** | **Depth (feet bgs)** | **Metals[a]** | |
| | | | | **Arsenic** | **Lead** |
| **MTCA Method A Cleanup Levels - Unrestricted Land Use[b]** | | | | **20** | **250** |
| DUFF-1 | DUFF-1 | 1/20/2025 | surface | <2 | 3.9 |
| DUFF-2 | DUFF-2 | 1/20/2025 | surface | <1 | 1.3 |
| DUFF-3 | DUFF-3 | 1/20/2025 | surface | <2 | <2 |
| DUFF-4 | DUFF-4 | 1/20/2025 | surface | 2.1 | 5.7 |
| DUFF-5 | DUFF-5 | 1/20/2025 | surface | <2 | 6.9 |
| **Average Concentration for the Site (0- to 0.5 feet depth)** | | | | 12.59 | 43.17 |
| **Average Concentration for the Site (0.5- to 1.0 feet depth)** | | | | 11.86 | 27.21 |

**Notes:**

< indicates analyte not detected at or above given laboratory reporting limit

**bold** indicates detected concentration exceeds adopted criteria

mg/kg - milligrams per kilogram

ft bgs - feet below native ground surface

-- - Sample not analyzed

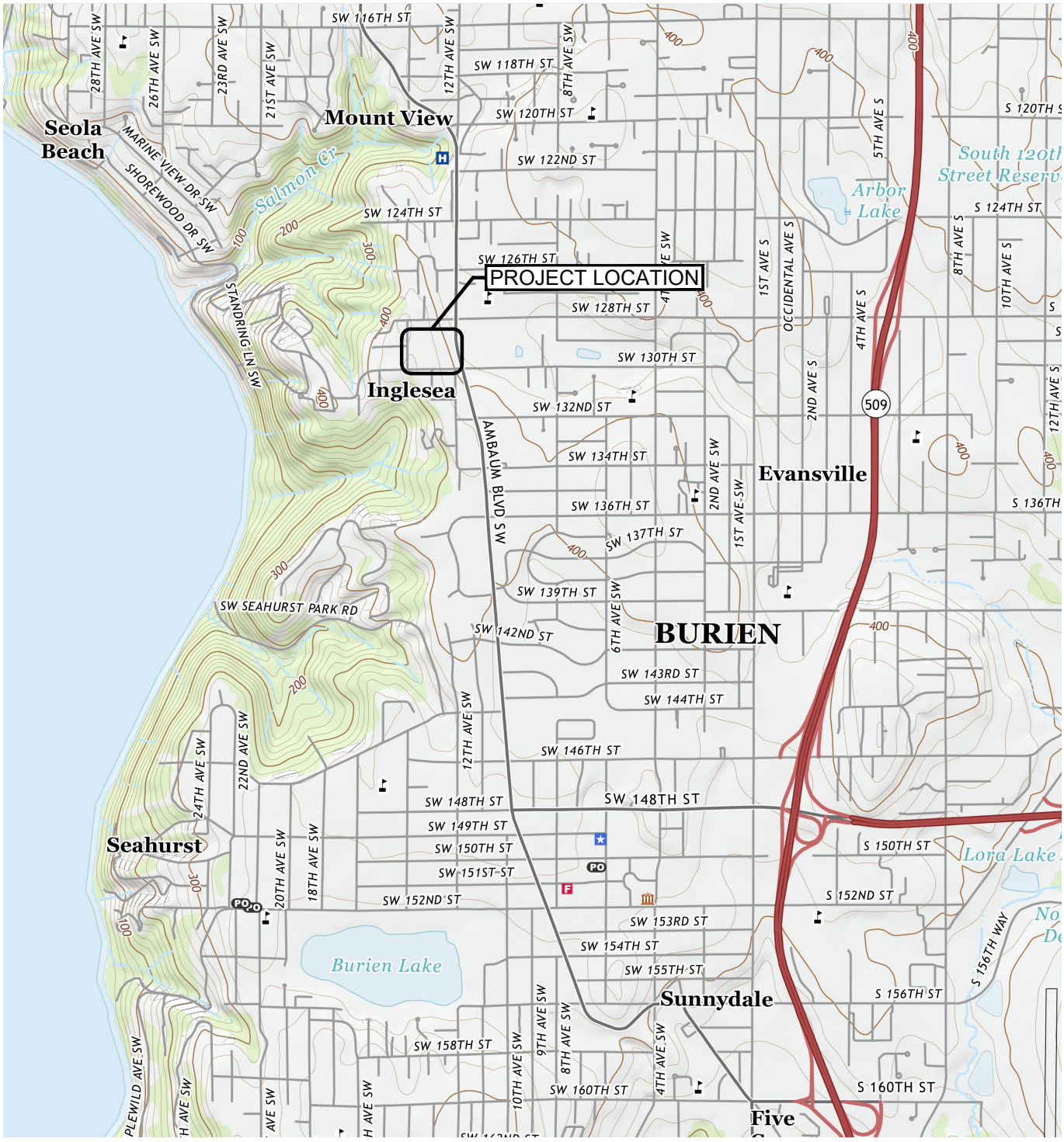
SS - Soil Sample

Footnotes:

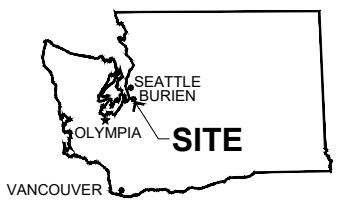
[a] Analysis For Total Metals By Environmental Protection Agency (EPA) Method 6020B

[b] Washington State Department of Ecology Model Toxics Control Act Method A Cleanup Level for Unrestricted Land Use as established in WAC 173-340-900

N, E, S, W Five-foot (5') step-out delineation samples were collected to the north, east, south, and west, respectively, from the SS-2 soil location.




SOURCE: USGS DES MOINES, WA QUADRANGLE 2020.




WASHINGTON

SCALE: 1" = 2,000'

0 1,000' 2,000' 4,000'

PREPARED FOR: MERCY HOUSING NORTHWEST

PBS
AN APEX COMPANY

# VICINITY MAP
# MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

DEC 2024
25003448

FIGURE
1


SOURCE: © 2021 MICROSOFT CORPORATION © 2021 MAXAR © CNES (2021) DISTRIBUTION AIRBUS DS

**LEGEND**

| | |
|---|---|
| ● # | SOIL SAMPLE NUMBER AND LOCATION |
| △ DUFF-# | DUFF SAMPLE NUMBER AND LOCATION |

SCALE: 1" = 140'

0 70' 140' 280'

PREPARED FOR: MERCY HOUSING NORTHWEST

PBS AN APEX COMPANY

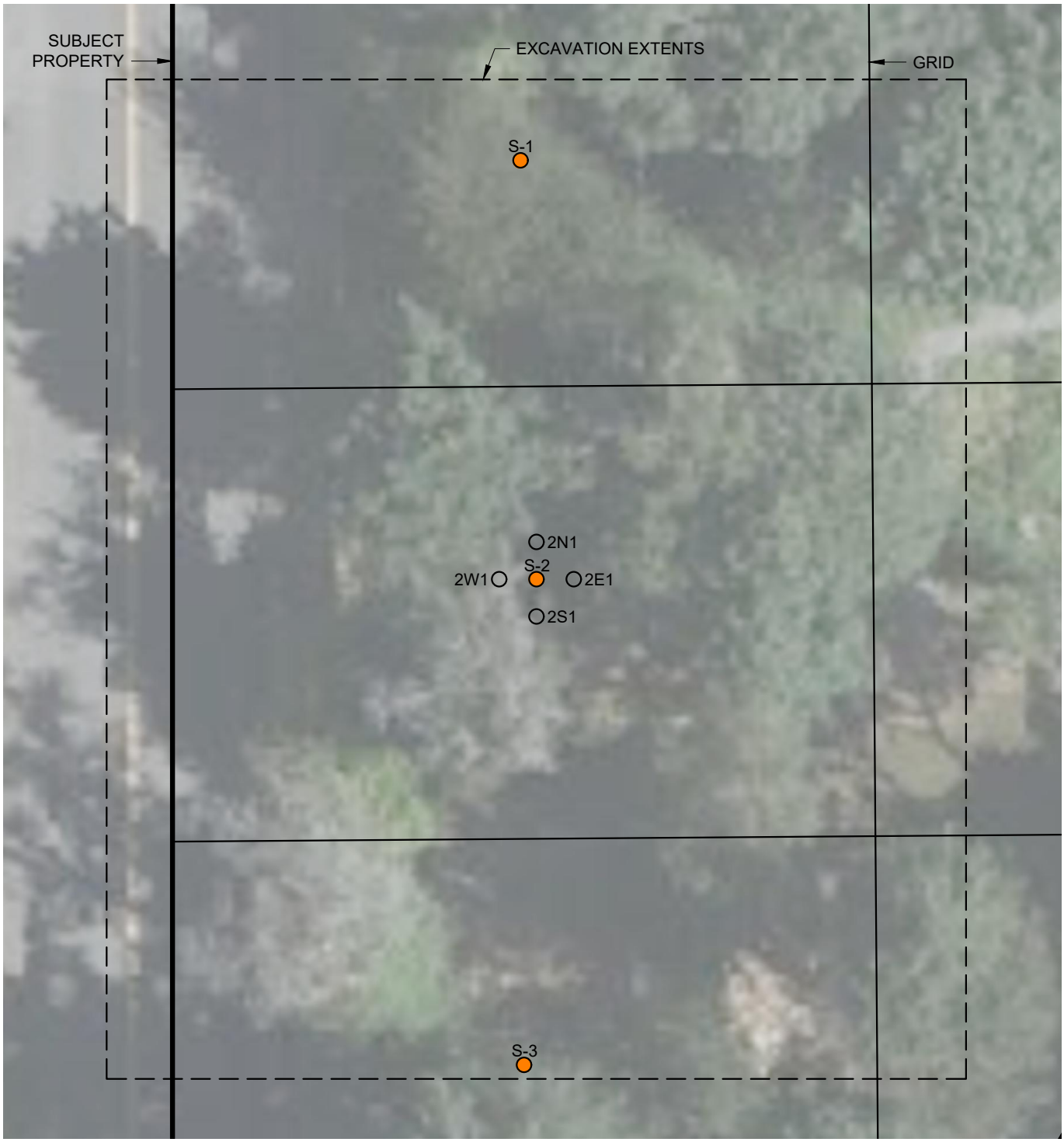
# SITE PLAN - SOIL CHARACTERIZATION
## MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

FEB 2025
25003448

FIGURE
**2**

Filename: L:\Projects_DVP\MMER047\25003448\CAD\25003448_0001_FIG_2_soil_characterization.dwg Layout Tab: SITE PLAN User: James Blanco CAD Plot Date/Time: 2/11/2025 10:57:18 AM

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## LEGEND

- ●# SOIL SAMPLE LOCATION NUMBER AND LOCATION
- ○# STEP-OUT (APPROXIMATELY 5-FEET HORIZONTALLY) SOIL SAMPLE NUMBER AND LOCATION

SCALE: 1" = 20'

0 10' 20' 40'

PREPARED FOR: MERCY HOUSING NORTHWEST

PBS AN APEX COMPANY

# SITE PLAN - STEP-OUT SOIL SAMPLING LOCATIONS
# MARY'S PLACE BURIEN

12845 AMBAUM BOULEVARD SW
BURIEN, WASHINGTON

FEB 2025
25003448

FIGURE
3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

January 28, 2025

Nasrin Bastami, Project Manager
PBS Engineering and Environmental, Inc.
214 E. Galer St, Suite 300
Seattle, WA 98102

Dear Ms Bastami:

Included are the results from the testing of material submitted on January 20, 2025 from the Mary's Place Burien 25003448, F&BI 501242 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Josh Trierweiler
PBS0128R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 20, 2025 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Mary's Place Burien 25003448, F&BI 501242 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501242 -01 | Duff-1 |
| 501242 -02 | Duff-2 |
| 501242 -03 | Duff-3 |
| 501242 -04 | Duff-4 |
| 501242 -05 | Duff-5 |

All quality control requirements were acceptable.

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Duff-1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501242-01 |
| Date Analyzed: | 01/21/25 | Data File: | 501242-01.122 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <2 |
| Lead | 3.9 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Duff-2 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501242-02 |
| Date Analyzed: | 01/21/25 | Data File: | 501242-02.125 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 |
| Lead | 1.3 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Duff-3 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501242-03 |
| Date Analyzed: | 01/21/25 | Data File: | 501242-03.126 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <2 |
| Lead | <2 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Duff-4 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501242-04 |
| Date Analyzed: | 01/21/25 | Data File: | 501242-04.131 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.1 |
| Lead | 5.7 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Duff-5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501242-05 |
| Date Analyzed: | 01/21/25 | Data File: | 501242-05.132 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <2 |
| Lead | 6.9 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Method Blank | Client: | PBS Engineering and Environmental |
| Date Received: | Not Applicable | Project: | Mary's Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | I5-54 mb |
| Date Analyzed: | 01/21/25 | Data File: | I5-54 mb.101 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 |
| Lead | <1 |

Date of Report: 01/28/25
Date Received: 01/20/25
Project: Mary's Place Burien 25003448, F&BI 501242

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

Laboratory Code: 501230-05 x5 (Matrix Spike)

| Analyte | Reporting Units | Spike Level | Sample Result (Wet wt) | Percent Recovery MS | Percent Recovery MSD | Acceptance Criteria | RPD (Limit 20) |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | <5 | 97 | 95 | 75-125 | 2 |
| Lead | mg/kg (ppm) | 50 | 5.77 | 98 | 97 | 75-125 | 1 |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 101 | 80-120 |
| Lead | mg/kg (ppm) | 50 | 107 | 80-120 |

# Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

501242

# SAMPLE CHAIN OF CUSTODY

01/20/25 MI

Page # 1 of 1

Report To Nasrin Bastami

Company PBS Engineering

Address 214 E Colum St Suite 300

City, State, ZIP Seattle WA 98102

Phone 206.766.7673 Email nasrin.bastami@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Mary's Place Burien

PO # 25003448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/AS | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DUFF-1 | 01 | 1/20/2025 | 12:58 | Duff | 1 | | | | | | | X | | | | | |
| DUFF-2 | 02 | ↓ | 13:15 | ↓ | ↓ | | | | | | | X | | | | | |
| DUFF-3 | 03 | | 13:23 | | | | | | | | | X | | | | | |
| DUFF-4 | 04 | | 13:40 | | | | | | | | | X | | | | | |
| DUFF-5 | 05 | | 12:50 | | | | | | | | | X | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | | PBS | 1/20/25 | 1426 |
| Received by: | Matt Truong | FXB | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

# SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 501242 CLIENT PBS INITIALS/ DATE: AP 01/20/25

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

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

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

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

**Is there a Chain-of-Custody* (COC)?** ☑ YES ☐ NO Initials/ Date: AP 01/20/25
*or other representative documents, letters, and/or shipping memos

**Number of days samples have been sitting prior to receipt at laboratory** 0 days

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

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

**Were appropriate sample containers used?** ☑ YES ☐ NO ☐ Unknown

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

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

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

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

**Other comments** (use a separate page if needed)

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

January 31, 2025

Nasrin Bastami, Project Manager
PBS Engineering and Environmental, Inc.
214 E. Galer St, Suite 300
Seattle, WA 98102

Dear Ms Bastami:

Included are the additional results from the testing of material submitted on January 20, 2025 from the Marys Place Burien 25003448, F&BI 501243 project. There are 6 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: michael.andrews@pbsusa.com
PBS0131R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 20, 2025 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Marys Place Burien 25003448, F&BI 501243 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501243 -01 | SS-1:0.5 |
| 501243 -02 | SS-1:1 |
| 501243 -03 | SS-2:0.5 |
| 501243 -04 | SS-2:1 |
| 501243 -05 | SS-3:0.5 |
| 501243 -06 | SS-3:1 |
| 501243 -07 | SS-4:0.5 |
| 501243 -08 | SS-4:1 |
| 501243 -09 | SS-5:0.5 |
| 501243 -10 | SS-5:1 |
| 501243 -11 | SS-6:0.5 |
| 501243 -12 | SS-6:1 |
| 501243 -13 | SS-7:0.5 |
| 501243 -14 | SS-7:1 |
| 501243 -15 | SS-8:0.5 |
| 501243 -16 | SS-8:1 |
| 501243 -17 | SS-9:0.5 |
| 501243 -18 | SS-9:1 |
| 501243 -19 | SS-10:0.5 |
| 501243 -20 | SS-10:1 |
| 501243 -21 | SS-11:0.5 |
| 501243 -22 | SS-11:1 |
| 501243 -23 | SS-12:0.5 |
| 501243 -24 | SS-12:1 |
| 501243 -25 | SS-13:0.5 |
| 501243 -26 | SS-13:1 |
| 501243 -27 | SS-14:0.5 |
| 501243 -28 | SS-14:1 |
| 501243 -29 | SS-15:0.5 |
| 501243 -30 | SS-15:1 |
| 501243 -31 | SS-16:0.5 |
| 501243 -32 | SS-16:1 |
| 501243 -33 | SS-17:0.5 |
| 501243 -34 | SS-17:1 |
| 501243 -35 | SS-18:0.5 |
| 501243 -36 | SS-18:1 |

CASE NARRATIVE (continued)

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501243 -37 | SS-19:0.5 |
| 501243 -38 | SS-19:1 |
| 501243 -39 | SS-20:0.5 |
| 501243 -40 | SS-20:1 |
| 501243 -41 | SS-21-0.5 |
| 501243 -42 | SS-21:1 |
| 501243 -43 | SS-22:0.5 |
| 501243 -44 | SS-22:1 |
| 501243 -45 | SS-23:0.5 |
| 501243 -46 | SS-23:1 |
| 501243 -47 | SS-24:0.5 |
| 501243 -48 | SS-24:1 |
| 501243 -49 | SS-25:0.5 |
| 501243 -50 | SS-25:1 |
| 501243 -51 | SS-26:0.5 |
| 501243 -52 | SS-26:1 |
| 501243 -53 | SS-27:0.5 |
| 501243 -54 | SS-27:1 |
| 501243 -55 | SS-28:0.5 |
| 501243 -56 | SS-28:1 |
| 501243 -57 | SS-29:0.5 |
| 501243 -58 | SS-29:1 |
| 501243 -59 | SS-30:0.5 |
| 501243 -60 | SS-30:1 |

All quality control requirements were acceptable.

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-2:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/29/25 | Lab ID: | 501243-04 x5 |
| Date Analyzed: | 01/29/25 | Data File: | 501243-04 x5.069 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 20 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Method Blank | Client: | PBS Engineering and Environmental |
| Date Received: | Not Applicable | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/29/25 | Lab ID: | I5-82 mb2 |
| Date Analyzed: | 01/29/25 | Data File: | I5-82 mb2.060 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 |

Date of Report: 01/31/25
Date Received: 01/20/25
Project: Marys Place Burien 25003448, F&BI 501243

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

Laboratory Code: 501376-01 x5 (Matrix Spike)

| Analyte | Reporting Units | Spike Level | Sample Result (Wet wt) | Percent Recovery MS | Percent Recovery MSD | Acceptance Criteria | RPD (Limit 20) |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | <5 | 91 | 96 | 75-125 | 5 |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 108 | 80-120 |

# Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MA

Page # 1 of 6

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Marys Place Burien

PO #: 2500 3448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

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

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

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | ANALYSES REQUESTED: NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | As only | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-1:0.5 | 01 | 1/20/25 | 1259 | S | 1 | | | | | | | X | | | | | |
| SS-1:1 | 02 | " | 1301 | " | " | | | | | | | X | | | | | HOLD |
| SS-2:0.5 | 03 | | 1304 | | | | | | | | | X | | | | | |
| SS-2:1 | 04 | | 1305 | | | | | | | | | X | A | | | | ~~HOLD~~ |
| SS-3:0.5 | 05 | | 1307 | | | | | | | | | X | | | | | |
| SS-3:1 | 06 | | 1308 | | | | | | | | | X | | | | | HOLD |
| SS-4:0.5 | 07 | | 1310 | | | | | | | | | X | | | | | |
| SS-4:1 | 08 | | 1311 | | | | | | | | | X | | | | | |
| SS-5:0.5 | 09 | | 1313 | | | | | | | | | X | | | | | |
| SS-5:1 | 10 | ↓ | 1314 | ↓ | ↓ | | | | | | | X | | | | | HOLD |

A-24 hr TAT per MA 01/28/25 ME

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/20/25 | 1426 |
| Received by: | Nhut Truong | F&B | 1/20/25 | 14:26 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 M4

Page # 2 of 6

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Marys Place Burien

PO # 2500734485

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-6:0.5 | 11 | 1/20/25 | 1253 | S | 1 | | | | | | | X | | | | | |
| SS-6:1 | 12 | " | 1254 | " | " | | | | | | | X | | | | | HOLD |
| SS-7:0.5 | 13 | " | 1334 | " | " | | | | | | | X | | | | | |
| SS-7:1 | 14 | " | 1336 | " | " | | | | | | | X | | | | | HOLD |
| SS-8:0.5 | 15 | " | 1326 | " | " | | | | | | | X | | | | | |
| SS-8:1 | 16 | " | 1327 | " | " | | | | | | | X | | | | | |
| SS-9:0.5 | 17 | " | 1324 | " | " | | | | | | | X | | | | | |
| SS-9:1 | 18 | " | 1325 | " | " | | | | | | | X | | | | | HOLD |
| SS-10:0.5 | 19 | " | 1319 | " | " | | | | | | | X | | | | | |
| SS-10:1 | 20 | " | 1320 | " | " | | | | | | | X | | | | | HOLD |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/20/25 | 1426 |
| Received by: | Nhut Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 oC | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY 01/20/25 MY

Page # 3 of 6

Report To Nasrin Bastami

Company PBS Engineering

Address 214 E Galer St, Suite 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7673 Email nasrin.bastami@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Mary's Place Burien

PO # 25003448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb / As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-11:0.5 | 21 | 1/20/2025 | 12:42 | Soil | 1 | | | | | | | X | | | | | |
| SS-11:1 | 22 | | 12:43 | | | | | | | | | | | | | | Hold |
| SS-12:0.5 | 23 | | 12:38 | | | | | | | | | X | | | | | |
| SS-12:1 | 24 | | 12:34 | | | | | | | | | X | | | | | |
| SS-13:0.5 | 25 | | 12:34 | | | | | | | | | X | | | | | |
| SS-13:1 | 26 | | 12:36 | | | | | | | | | | | | | | Hold |
| SS-14:0.5 | 27 | | 12:30 | | | | | | | | | X | | | | | |
| SS-14:1 | 28 | | 12:31 | | | | | | | | | | | | | | Hold |
| SS-15:0.5 | 29 | | 12:25 | | | | | | | | | X | | | | | |
| SS-15:1 | 30 | | 12:26 | | | | | | | | | | | | | | Hold |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/20/25 | 1426 |
| Received by: | Mint Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY 01/20/25 MH



Report To Nasrin Bastami

Company PBS Engineering

Address 214 E Galer St, Suite 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7673 Email nasrin.bastami@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Mary's Place Burien

PO # 25003448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb /As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-16:0.5 | 31 | 1/20/2025 | 12:06 | Soil | 1 | | | | | | | X | | | | | |
| SS-16:1 | 32 | | 12:08 | | | | | | | | | X | | | | | |
| ~~SS-17~~ SS-17:0.5 | 33 | | 12:01 | | | | | | | | | X | | | | | |
| SS-17:1 | 34 | | 12:02 | | | | | | | | | | | | | | Hold |
| SS-18:0.5 | 35 | | 11:58 | | | | | | | | | X | | | | | |
| SS-18:1 | 36 | | 11:59 | | | | | | | | | | | | | | Hold |
| SS-19:0.5 | 37 | | 11:53 | | | | | | | | | X | | | | | |
| SS-19:1 | 38 | | 11:55 | | | | | | | | | | | | | | Hold |
| SS-20:0.5 | 39 | | 11:48 | | | | | | | | | X | | | | | |
| SS-20:1 | 40 | | 11:49 | | | | | | | | | X | | | | | |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | | PBS | 1/20/25 | 1426 |
| Received by: | Matt Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Sample received at 2 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MH

Page # 5 of 6

Report To Nasrin Bastami
Company PBS
Address 214 E Galer St, Ste 300
City, State, ZIP Seattle, WA 98102
Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andreas@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Marys Place Burien
PO #: 2500 3448

REMARKS: Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | ANALYSES REQUESTED: NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-21:0.5 | 41 | 1/20/25 | 1145 | S | 1 | | | | | | | X | | | | | |
| SS-21:1 | 42 | | 1146 | | | | | | | | | X | | | | | HOLD |
| SS-22:0.5 | 43 | | 1142 | | | | | | | | | X | | | | | |
| SS-22:1 | 44 | | 1143 | | | | | | | | | X | | | | | HOLD |
| SS-23:0.5 | 45 | | 1137 | | | | | | | | | X | | | | | |
| SS-23:1 | 46 | | 1139 | | | | | | | | | X | | | | | HOLD |
| SS-24:0.5 | 47 | | 1106 | | | | | | | | | X | | | | | |
| SS-24:1 | 48 | | 1108 | | | | | | | | | X | | | | | |
| SS-25:0.5 | 49 | | 1132 | | | | | | | | | X | | | | | |
| SS-25:1 | 50 | | 1134 | | | | | | | | | X | | | | | HOLD |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | | PBS | 1/20/25 | 1426 |
| Received by: | Mhut Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

FORMS\COC\COC.DOC

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MH

Page # 6 of 6

Report To Nasrin Bastami
Company PBS
Address 214 E Galer St, Ste 300
City, State, ZIP Seattle, WA 98102
Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Marys Place Burien
PO #: 2500 3448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | 26/AK | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-26:0.5 | 51 | 1/20/25 | 1128 | S | 1 | | | | | | | X | | | | | |
| SS-26:1 | 52 | ↓ | 1129 | ↓ | ↓ | | | | | | | X | | | | | HOLD |
| SS-27:0.5 | 53 | | 1124 | | | | | | | | | X | | | | | |
| SS-27:1 | 54 | | 1125 | | | | | | | | | X | | | | | HOLD |
| SS-28:0.5 | 55 | | 1121 | | | | | | | | | X | | | | | |
| SS-28:1 | 56 | | 1122 | | | | | | | | | X | | | | | |
| SS-29:0.5 | 57 | | 1112 | | | | | | | | | X | | | | | |
| SS-29:1 | 58 | | 1115 | | | | | | | | | X | | | | | HOLD |
| SS-30:0.5 | 59 | | 1117 | | | | | | | | | X | | | | | |
| SS 30:1 | 60 | ↓ | 1119 | ↓ | ↓ | | | | | | | X | | | | | HOLD |

ANALYSES REQUESTED

| | SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|---|
| Relinquished by: | | | PBS | 1/20/25 | 1426 |
| Received by: | | Nhut Truong | F&B | 1/20/25 | 14:26 |
| Relinquished by: | | | Samples received at 2 °C | | |
| Received by: | | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

FORMS\COC\COC.DOC

# SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 501243 CLIENT PBS INITIALS/ DATE: AP 01/20/25

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

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

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

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

**Is there a Chain-of-Custody* (COC)?** ☒ YES ☐ NO Initials/ Date: AP 01/20/25
*or other representative documents, letters, and/or shipping memos

**Number of days samples have been sitting prior to receipt at laboratory** 0 days

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

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

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

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

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

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

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

**Other comments** (use a separate page if needed)
Time on label 13:13(-07), 13:14(-08), 12:43(21) and 12:42(22)

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

January 28, 2025

Nasrin Bastami, Project Manager
PBS Engineering and Environmental, Inc.
214 E. Galer St, Suite 300
Seattle, WA 98102

Dear Ms Bastami:

Included are the results from the testing of material submitted on January 20, 2025 from the Marys Place Burien 25003448, F&BI 501243 project. There are 45 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: michael.andrews@pbsusa.com
PBS0128R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 20, 2025 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Marys Place Burien 25003448, F&BI 501243 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501243 -01 | SS-1:0.5 |
| 501243 -02 | SS-1:1 |
| 501243 -03 | SS-2:0.5 |
| 501243 -04 | SS-2:1 |
| 501243 -05 | SS-3:0.5 |
| 501243 -06 | SS-3:1 |
| 501243 -07 | SS-4:0.5 |
| 501243 -08 | SS-4:1 |
| 501243 -09 | SS-5:0.5 |
| 501243 -10 | SS-5:1 |
| 501243 -11 | SS-6:0.5 |
| 501243 -12 | SS-6:1 |
| 501243 -13 | SS-7:0.5 |
| 501243 -14 | SS-7:1 |
| 501243 -15 | SS-8:0.5 |
| 501243 -16 | SS-8:1 |
| 501243 -17 | SS-9:0.5 |
| 501243 -18 | SS-9:1 |
| 501243 -19 | SS-10:0.5 |
| 501243 -20 | SS-10:1 |
| 501243 -21 | SS-11:0.5 |
| 501243 -22 | SS-11:1 |
| 501243 -23 | SS-12:0.5 |
| 501243 -24 | SS-12:1 |
| 501243 -25 | SS-13:0.5 |
| 501243 -26 | SS-13:1 |
| 501243 -27 | SS-14:0.5 |
| 501243 -28 | SS-14:1 |
| 501243 -29 | SS-15:0.5 |
| 501243 -30 | SS-15:1 |
| 501243 -31 | SS-16:0.5 |
| 501243 -32 | SS-16:1 |
| 501243 -33 | SS-17:0.5 |
| 501243 -34 | SS-17:1 |
| 501243 -35 | SS-18:0.5 |
| 501243 -36 | SS-18:1 |

CASE NARRATIVE (continued)

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501243 -37 | SS-19:0.5 |
| 501243 -38 | SS-19:1 |
| 501243 -39 | SS-20:0.5 |
| 501243 -40 | SS-20:1 |
| 501243 -41 | SS-21-0.5 |
| 501243 -42 | SS-21:1 |
| 501243 -43 | SS-22:0.5 |
| 501243 -44 | SS-22:1 |
| 501243 -45 | SS-23:0.5 |
| 501243 -46 | SS-23:1 |
| 501243 -47 | SS-24:0.5 |
| 501243 -48 | SS-24:1 |
| 501243 -49 | SS-25:0.5 |
| 501243 -50 | SS-25:1 |
| 501243 -51 | SS-26:0.5 |
| 501243 -52 | SS-26:1 |
| 501243 -53 | SS-27:0.5 |
| 501243 -54 | SS-27:1 |
| 501243 -55 | SS-28:0.5 |
| 501243 -56 | SS-28:1 |
| 501243 -57 | SS-29:0.5 |
| 501243 -58 | SS-29:1 |
| 501243 -59 | SS-30:0.5 |
| 501243 -60 | SS-30:1 |

All quality control requirements were acceptable.

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-1:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-01 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-01.173 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 12 |
| Lead | 26 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-2:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-03 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-03.176 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 48 |
| Lead | 82 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-3:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-05 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-05.177 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 40 |
| Lead | 73 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-4:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-07 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-07.178 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 31 |
| Lead | 97 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-4:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-08 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-08.179 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 19 |
| Lead | 44 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-5:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-09 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-09.202 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 15 |
| Lead | 30 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-6:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-11 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-11.206 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 30 |
| Lead | 120 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-7:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-13 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-13.207 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 37 |
| Lead | 100 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-8:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-15 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-15.208 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 20 |
| Lead | 50 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-8:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-16 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-16.209 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 21 |
| Lead | 42 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-9:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-17 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-17.210 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.7 |
| Lead | 5.2 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-10:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-19 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-19.211 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.8 |
| Lead | 8.9 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-11:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-21 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-21.212 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 11 |
| Lead | 25 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-12:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-23 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-23.213 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 12 |
| Lead | 31 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-12:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-24 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-24.214 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 16 |
| Lead | 33 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-13:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-25 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-25.215 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 5.8 |
| Lead | 14 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-14:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-27 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-27.218 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 3.8 |
| Lead | 6.6 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-15:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-29 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-29.219 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 4.6 |
| Lead | 12 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-16:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-31 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-31.220 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 12 |
| Lead | 28 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-16:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-32 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-32.221 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 9.4 |
| Lead | 19 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-17:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-33 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-33.225 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 10 |
| Lead | 27 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-18:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-35 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-35.231 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 5.6 |
| Lead | 14 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-19:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-37 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-37.232 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 9.5 |
| Lead | 26 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-20:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-39 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-39.233 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.9 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-20:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-39 x25 |
| Date Analyzed: | 01/22/25 | Data File: | 501243-39 x25.081 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Lead | 280 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-20:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-40 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-40.234 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.1 |
| Lead | 19 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-21-0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-41 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-41.235 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.6 |
| Lead | 5.3 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-22:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-43 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-43.236 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 3.3 |
| Lead | 10 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-23:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-45 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-45.237 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 8.3 |
| Lead | 16 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-24:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-47 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-47.238 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 6.1 |
| Lead | 35 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-24:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-48 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-48.239 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 5.0 |
| Lead | 18 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-25:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-49 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-49.240 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 9.2 |
| Lead | 37 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-26:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-51 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-51.247 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 6.4 |
| Lead | 24 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-27:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-53 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-53.248 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 8.0 |
| Lead | 32 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-28:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-55 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-55.249 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 4.8 |
| Lead | 19 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-28:1 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-56 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-56.250 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 2.4 |
| Lead | 3.7 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-29:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-57 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-57.251 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 5.3 |
| Lead | 39 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-30:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/20/25 | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | 501243-59 |
| Date Analyzed: | 01/21/25 | Data File: | 501243-59.252 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 4.9 |
| Lead | 25 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Method Blank | Client: | PBS Engineering and Environmental |
| Date Received: | Not Applicable | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | I5-56 mb |
| Date Analyzed: | 01/21/25 | Data File: | I5-56 mb.127 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 |
| Lead | <1 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Method Blank | Client: | PBS Engineering and Environmental |
| Date Received: | Not Applicable | Project: | Marys Place Burien 25003448 |
| Date Extracted: | 01/21/25 | Lab ID: | I5-57 mb |
| Date Analyzed: | 01/21/25 | Data File: | I5-57 mb.129 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 |
| Lead | <1 |

Date of Report: 01/28/25
Date Received: 01/20/25
Project: Marys Place Burien 25003448, F&BI 501243

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

Laboratory Code: 501243-01 (Matrix Spike)

| Analyte | Reporting Units | Spike Level | Sample Result (Wet wt) | Percent Recovery MS | Percent Recovery MSD | Acceptance Criteria | RPD (Limit 20) |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 9.73 | 77 b | 83 b | 75-125 | 7 b |
| Lead | mg/kg (ppm) | 50 | 20.8 | 97 b | 101 b | 75-125 | 4 b |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 101 | 80-120 |
| Lead | mg/kg (ppm) | 50 | 101 | 80-120 |

Date of Report: 01/28/25
Date Received: 01/20/25
Project: Marys Place Burien 25003448, F&BI 501243

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

Laboratory Code: 501243-33 (Matrix Spike)

| Analyte | Reporting Units | Spike Level | Sample Result (Wet wt) | Percent Recovery MS | Percent Recovery MSD | Acceptance Criteria | RPD (Limit 20) |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 8.45 | 81 b | 91 b | 75-125 | 12 b |
| Lead | mg/kg (ppm) | 50 | 22.1 | 145 b | 162 b | 75-125 | 11 b |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 100 | 80-120 |
| Lead | mg/kg (ppm) | 50 | 102 | 80-120 |

# Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MH

Page # 1 of 6

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Marys Place Burien

PO #: 2500 3448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME

X Standard Turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-1:0.5 | 01 | 1/20/25 | 1259 | S | 1 | | | | | | | X | | | | | |
| SS-1:1 | 02 | | 1301 | | | | | | | | | X | | | | | HOLD |
| SS-2:0.5 | 03 | | 1304 | | | | | | | | | X | | | | | |
| SS-2:1 | 04 | | 1305 | | | | | | | | | X | | | | | HOLD |
| SS-3:0.5 | 05 | | 1307 | | | | | | | | | X | | | | | |
| SS-3:1 | 06 | | 1308 | | | | | | | | | X | | | | | HOLD |
| SS-4:0.5 | 07 | | 1310 | | | | | | | | | X | | | | | |
| SS-4:1 | 08 | | 1311 | | | | | | | | | X | | | | | |
| SS-5:0.5 | 09 | | 1313 | | | | | | | | | X | | | | | |
| SS-5:1 | 10 | | 1314 | | | | | | | | | X | | | | | HOLD |

ANALYSES REQUESTED

| | SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|---|
| Relinquished by: | | JT | PBS | 1/20/25 | 1426 |
| Received by: | | Nhut Truong | F&B | 1/20/25 | 14:26 |
| Relinquished by: | | | Samples received at 2 °C | | |
| Received by: | | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 M4

Page # 2 of 6

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Marys Place Burien

PO # 2500734485

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-6:0.5 | 11 | 1/20/25 | 1253 | S | 1 | | | | | | | X | | | | | |
| SS-6:1 | 12 | " | 1254 | " | " | | | | | | | X | | | | | HOLD |
| SS-7:0.5 | 13 | " | 1334 | " | " | | | | | | | X | | | | | |
| SS-7:1 | 14 | " | 1336 | " | " | | | | | | | X | | | | | HOLD |
| SS-8:0.5 | 15 | " | 1326 | " | " | | | | | | | X | | | | | |
| SS-8:1 | 16 | " | 1327 | " | " | | | | | | | X | | | | | |
| SS-9:0.5 | 17 | " | 1324 | " | " | | | | | | | X | | | | | |
| SS-9:1 | 18 | " | 1325 | " | " | | | | | | | X | | | | | HOLD |
| SS-10:0.5 | 19 | " | 1319 | " | " | | | | | | | X | | | | | |
| SS-10:1 | 20 | " | 1320 | " | " | | | | | | | X | | | | | HOLD |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/20/25 | 1426 |
| Received by: | Nhut Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 oC | | |
| Received by: | | | | |

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*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY 01/20/25 MY

Page # 3 of 6

Report To Nasrin Bastami

Company PBS Engineering

Address 214 E Galer St, Suite 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7673 Email nasrin.bastami@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Mary's Place Burien

PO # 25003448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb / As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-11:0.5 | 21 | 1/20/2025 | 12:42 | Soil | 1 | | | | | | | X | | | | | |
| SS-11:1 | 22 | | 12:43 | | | | | | | | | | | | | | Hold |
| SS-12:0.5 | 23 | | 12:38 | | | | | | | | | X | | | | | |
| SS-12:1 | 24 | | 12:34 | | | | | | | | | X | | | | | |
| SS-13:0.5 | 25 | | 12:34 | | | | | | | | | X | | | | | |
| SS-13:1 | 26 | | 12:36 | | | | | | | | | | | | | | Hold |
| SS-14:0.5 | 27 | | 12:30 | | | | | | | | | X | | | | | |
| SS-14:1 | 28 | | 12:31 | | | | | | | | | | | | | | Hold |
| SS-15:0.5 | 29 | | 12:25 | | | | | | | | | X | | | | | |
| SS-15:1 | 30 | | 12:26 | | | | | | | | | | | | | | Hold |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/20/25 | 1426 |
| Received by: | Mint Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

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*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY 01/20/25 MH



Report To Nasrin Bastami

Company PBS Engineering

Address 214 E Galer St, Suite 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7673 Email nasrin.bastami@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Mary's Place Burien

PO # 25003448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb /As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-16:0.5 | 31 | 1/20/2025 | 12:06 | Soil | 1 | | | | | | | X | | | | | |
| SS-16:1 | 32 | | 12:08 | | | | | | | | | X | | | | | |
| ~~SS-17~~ SS-17:0.5 | 33 | | 12:01 | | | | | | | | | X | | | | | |
| SS-17:1 | 34 | | 12:02 | | | | | | | | | | | | | | Hold |
| SS-18:0.5 | 35 | | 11:58 | | | | | | | | | X | | | | | |
| SS-18:1 | 36 | | 11:59 | | | | | | | | | | | | | | Hold |
| SS-19:0.5 | 37 | | 11:53 | | | | | | | | | X | | | | | |
| SS-19:1 | 38 | | 11:55 | | | | | | | | | | | | | | Hold |
| SS-20:0.5 | 39 | | 11:48 | | | | | | | | | X | | | | | |
| SS-20:1 | 40 | | 11:49 | | | | | | | | | X | | | | | |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | | PBS | 1/20/25 | 1426 |
| Received by: | Matt Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Sample received at 2 °C | | |
| Received by: | | | | |

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*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MH

Page # 5 of 6

Report To Nasrin Bastami
Company PBS
Address 214 E Galer St, Ste 300
City, State, ZIP Seattle, WA 98102
Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andreas@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Marys Place Burien
PO #: 2500 3448

REMARKS: Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | ANALYSES REQUESTED: NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb/As | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-21:0.5 | 41 | 1/20/25 | 1145 | S | 1 | | | | | | | X | | | | | |
| SS-21:1 | 42 | | 1146 | | | | | | | | | X | | | | | HOLD |
| SS-22:0.5 | 43 | | 1142 | | | | | | | | | X | | | | | |
| SS-22:1 | 44 | | 1143 | | | | | | | | | X | | | | | HOLD |
| SS-23:0.5 | 45 | | 1137 | | | | | | | | | X | | | | | |
| SS-23:1 | 46 | | 1139 | | | | | | | | | X | | | | | HOLD |
| SS-24:0.5 | 47 | | 1106 | | | | | | | | | X | | | | | |
| SS-24:1 | 48 | | 1108 | | | | | | | | | X | | | | | |
| SS-25:0.5 | 49 | | 1132 | | | | | | | | | X | | | | | |
| SS-25:1 | 50 | | 1134 | | | | | | | | | X | | | | | HOLD |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | | PBS | 1/20/25 | 1426 |
| Received by: | Mhut Truong | F&B | 1/20/25 | 1426 |
| Relinquished by: | | Samples received at 2 °C | | |
| Received by: | | | | |

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*Seattle, WA 98108*
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501243

# SAMPLE CHAIN OF CUSTODY

01/20/25 MH

Page # 6 of 6

Report To Nasrin Bastami
Company PBS
Address 214 E Galer St, Ste 300
City, State, ZIP Seattle, WA 98102
Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; michael.andrews@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Marys Place Burien
PO #: 2500 3448

REMARKS

Project Specific RLs - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | 26/AK | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-26:0.5 | 51 | 1/20/25 | 1128 | S | 1 | | | | | | | X | | | | | |
| SS-26:1 | 52 | ↓ | 1129 | ↓ | ↓ | | | | | | | X | | | | | HOLD |
| SS-27:0.5 | 53 | | 1124 | | | | | | | | | X | | | | | |
| SS-27:1 | 54 | | 1125 | | | | | | | | | X | | | | | HOLD |
| SS-28:0.5 | 55 | | 1121 | | | | | | | | | X | | | | | |
| SS-28:1 | 56 | | 1122 | | | | | | | | | X | | | | | |
| SS-29:0.5 | 57 | | 1112 | | | | | | | | | X | | | | | |
| SS-29:1 | 58 | | 1115 | | | | | | | | | X | | | | | HOLD |
| SS-30:0.5 | 59 | | 1117 | | | | | | | | | X | | | | | |
| SS 30:1 | 60 | ↓ | 1119 | ↓ | ↓ | | | | | | | X | | | | | HOLD |

ANALYSES REQUESTED

| | SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|---|
| Relinquished by: | | | PBS | 1/20/25 | 1426 |
| Received by: | | Nhut Truong | F&B | 1/20/25 | 14:26 |
| Relinquished by: | | | Samples received at 2 °C | | |
| Received by: | | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

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# SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 501243 CLIENT PBS INITIALS/ DATE: AP 01/20/25

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

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

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

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

**Is there a Chain-of-Custody* (COC)?** ☒ YES ☐ NO Initials/ Date: AP 01/20/25
*or other representative documents, letters, and/or shipping memos

**Number of days samples have been sitting prior to receipt at laboratory** 0 days

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

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

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

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

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

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

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

**Other comments** (use a separate page if needed)
Time on label 13:13(-07), 13:14(-08), 12:43(21) and 12:42(22)

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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

February 7, 2025

Nasrin Bastami, Project Manager
PBS Engineering and Environmental, Inc.
214 E. Galer St, Suite 300
Seattle, WA 98102

Dear Ms Bastami:

Included are the results from the testing of material submitted on January 30, 2025 from the Mercy Housing (Mary's Place) 25003448 Task 3, F&BI 501435 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Josh Trierweiler
PBS0207R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 30, 2025 by Friedman & Bruya, Inc. from the PBS Engineering and Environmental Mercy Housing (Mary's Place) 25003448 Task 3, F&BI 501435 project. Samples were logged in under the laboratory ID's listed below.

| Laboratory ID | PBS Engineering and Environmental |
|---|---|
| 501435 -01 | SS-2:1.5 |
| 501435 -02 | SS2N1:0.5 |
| 501435 -03 | SS2N1:1.0 |
| 501435 -04 | SS2N1:1.5 |
| 501435 -05 | SS2N2:0.5 |
| 501435 -06 | SS2N2:1.0 |
| 501435 -07 | SS2N2:1.5 |
| 501435 -08 | SS2E1:0.5 |
| 501435 -09 | SS2E1:1.0 |
| 501435 -10 | SS2E1:1.5 |
| 501435 -11 | SS2E2:0.5 |
| 501435 -12 | SS2E2:1.0 |
| 501435 -13 | SS2E2:1.5 |
| 501435 -14 | SS2S1:0.5 |
| 501435 -15 | SS2S1:1.0 |
| 501435 -16 | SS2S1:1.5 |
| 501435 -17 | SS2S2:0.5 |
| 501435 -18 | SS2S2:1.0 |
| 501435 -19 | SS2S2:1.5 |
| 501435 -20 | SS2W1:0.5 |
| 501435 -21 | SS2W1:1.0 |
| 501435 -22 | SS2W1:1.5 |
| 501435 -23 | SS2W2:0.5 |
| 501435 -24 | SS2W2:1.0 |
| 501435 -25 | SS2W2:1.5 |

The 6020B arsenic calibration standard exceeded the acceptance criteria. The metal was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier.

All other quality control requirements were acceptable.

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS-2:1.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-01 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-01.130 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 4.6 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2N1:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-02 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-02.131 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 10 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2N1:1.0 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-03 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-03.132 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 5.8 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2E1:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-08 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-08.133 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 12 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2E1:1.0 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-09 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-09.134 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 9.2 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2S1:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-14 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-14.138 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 13 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2S1:1.0 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-15 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-15.139 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 8.4 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2W1:0.5 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-20 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-20.140 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 19 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | SS2W1:1.0 | Client: | PBS Engineering and Environmental |
| Date Received: | 01/30/25 | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | 501435-21 |
| Date Analyzed: | 02/03/25 | Data File: | 501435-21.141 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | 13 |

## Analysis For Total Metals By EPA Method 6020B

| | | | |
|---|---|---|---|
| Client ID: | Method Blank | Client: | PBS Engineering and Environmental |
| Date Received: | Not Applicable | Project: | Mercy Housing (Mary's Place) |
| Date Extracted: | 01/31/25 | Lab ID: | I5-93 mb |
| Date Analyzed: | 01/31/25 | Data File: | I5-93 mb.129 |
| Matrix: | Soil | Instrument: | ICPMS3 |
| Units: | mg/kg (ppm) Dry Weight | Operator: | SP |

| Analyte: | Concentration mg/kg (ppm) |
|---|---|
| Arsenic | <1 k |

Date of Report: 02/07/25
Date Received: 01/30/25
Project: Mercy Housing (Mary's Place) 25003448 Task 3, F&BI 501435

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

Laboratory Code: 501435-01 x5 (Matrix Spike)

| Analyte | Reporting Units | Spike Level | Sample Result (Wet wt) | Percent Recovery MS | Percent Recovery MSD | Acceptance Criteria | RPD (Limit 20) |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | <5 | 90 | 101 | 75-125 | 12 |

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Acceptance Criteria |
|---|---|---|---|---|
| Arsenic | mg/kg (ppm) | 10 | 100 | 80-120 |

# Data Qualifiers & Definitions

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

501435

# SAMPLE CHAIN OF CUSTODY

01/30/25 MJ

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; josh.trierweiler@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Mercy Housing (Mary's Place)

PO #: 2500344 8 task 3

REMARKS

Project Specific RLs - Yes / No

INVOICE TO



TURNAROUND TIME

X Standard Turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | ANALYSES REQUESTED: NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb | As | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-2:1.5 | 01 | 1/30/25 | 1423 | S | 1 | | | | | | | X | X | | | | |
| SS2N1-0.5 | 02 | | 1430 | | | | | | | | | | X | | | | |
| SS2N1-1.0 | 03 | | 1430 | | | | | | | | | | X | | | | |
| SS2N1-1.5 | 04 | | 1430 | | | | | | | | | | X | | | | HOLD |
| SS2N2-0.5 | 05 | | 1440 | | | | | | | | | | X | | | | HOLD |
| SS2N2-1.0 | 06 | | 1440 | | | | | | | | | | X | | | | HOLD |
| SS2N2-1.5 | 07 | | 1440 | | | | | | | | | | X | | | | HOLD |
| SS2E1-0.5 | 08 | | 1450 | | | | | | | | | | X | | | | |
| SS2E1-1.0 | 09 | | 1450 | | | | | | | | | | X | | | | |
| SS2E1-1.5 | 10 | ↓ | 1450 | ↓ | ↓ | | | | | | | | X | | | | HOLD |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: AK | JT | PBS | 1/30/25 | 1605 |
| Received by: | Anh Phan | FBI | 01/30/25 | 16:05 |
| Relinquished by: | | Samples received at 0 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501435

# SAMPLE CHAIN OF CUSTODY

01/30/25 M3

Report To Nasrin Bastami
Company PBS
Address 214 E Galer St, Ste 300
City, State, ZIP Seattle, WA 98102
Phone 206.766.7636 Email nasrin.bastami@pbsusa.com ; josh.trierweiler@pbsusa.com

SAMPLERS (signature)

PROJECT NAME: Mercy Housing (Mary's Place)
PO#: 250034448 task 3

REMARKS
Project Specific RLs - Yes / No

INVOICE TO



TURNAROUND TIME
X Standard Turnaround
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb | As | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS2E2-0.5 | 11 | 1/30/25 | 1455 | S | 1 | | | | | | | | X | | | | HOLD |
| SS2E2-1.0 | 12 | " | 1455 | " | " | | | | | | | | X | | | | HOLD |
| SS2E2-1.5 | 13 | " | 1455 | " | " | | | | | | | | X | | | | HOLD |
| SS2S1-0.5 | 14 | " | 1500 | " | " | | | | | | | | X | | | | |
| SS2S1-1.0 | 15 | " | 1500 | " | " | | | | | | | | X | | | | |
| SS2S1-1.5 | 16 | " | 1500 | " | " | | | | | | | | X | | | | HOLD |
| SS2S2-0.5 | 17 | " | 1505 | " | " | | | | | | | | X | | | | HOLD |
| SS2S2-1.0 | 18 | " | 1505 | " | " | | | | | | | | X | | | | HOLD |
| SS2S2-1.5 | 19 | " | 1505 | " | " | | | | | | | | X | | | | HOLD |
| SS2W1-0.5 | 20 | " | 1515 | " | " | | | | | | | | X | | | | |

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JT | PBS | 1/30/25 | 1605 |
| Received by: | Anh Phan | FBI | 01/30/25 | 16:05 |
| Relinquished by: | | Samples received at 0 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

501435

# SAMPLE CHAIN OF CUSTODY

01/30/25 M3

Page # 3 of 3

Report To Nasrin Bastami

Company PBS

Address 214 E Galer St, Ste 300

City, State, ZIP Seattle, WA 98102

Phone 206.766.7636 Email nasrin.bastami@pbsusa.com; josh.friedwriter@pbsusa.com

SAMPLERS (*signature*)

PROJECT NAME: Mercy Housing (Mary's Place)

PO # 2500B448 task 3

REMARKS

INVOICE TO

Project Specific RLs - Yes / No

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

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

| Sample ID | Lab ID | Date Sampled | Time Sampled | Sample Type | # of Jars | NWTPH-Dx | NWTPH-Gx | BTEX EPA 8021 | VOCs EPA 8260 | PAHs EPA 8270 | PCBs EPA 8082 | Pb | As | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS2W1-1.0 | 21 | 1/30/25 | 1515 | S | 1 | | | | | | | | X | | | | |
| SS2W1-1.5 | 22 | ↓ | 1515 | ↓ | ↓ | | | | | | | | X | | | | HOLD |
| SS2W2-0.5 | 23 | | 1525 | | | | | | | | | | X | | | | HOLD |
| SS2W2-1.0 | 24 | | 1525 | | | | | | | | | | X | | | | HOLD |
| SS2W2-1.5 | 25 | | 1525 | | | | | | | | | | X | | | | HOLD |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

ANALYSES REQUESTED

| SIGNATURE | PRINT NAME | COMPANY | DATE | TIME |
|---|---|---|---|---|
| Relinquished by: | JS | PBS | 1/30/25 | 1605 |
| Received by: | Minh Phan | FBI | 01/30/25 | 16:05 |
| Relinquished by: | | Samples received at 0 °C | | |
| Received by: | | | | |

*Friedman & Bruya, Inc.*
*5500 4th Avenue S*
*Seattle, WA 98108*
*Ph. (206) 285-8282*

FORMS\COC\COC.DOC

# SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 501435 CLIENT PBS INITIALS/ DATE: AP 01/30/25

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

**Cooler/Sample temperature** 0 °C
Thermometer ID: Fluke 96312917

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

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

---

**Is there a Chain-of-Custody* (COC)?** ☒ YES ☐ NO Initials/ Date: AP 01/31/25
*or other representative documents, letters, and/or shipping memos

**Number of days samples have been sitting prior to receipt at laboratory** 0 days

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

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

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

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

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

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

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

**Other comments** (use a separate page if needed)

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

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