

Cleanup Action Plan

Redondo Heights Apartments Project
Federal Way, Washington

for
Shelter Resources, Inc.

August 19, 2021



Cleanup Action Plan

Redondo Heights Apartments Project
Federal Way, Washington

for

Shelter Resources, Inc.

August 19, 2021



1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

Cleanup Action Plan
Redondo Heights Apartments Project
Federal Way, Washington

File No. 3625-004-01

August 19, 2021

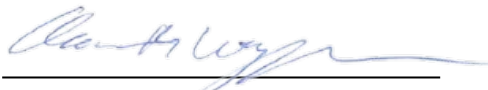
Prepared for:

Shelter Resources, Inc.
2223 112th Avenue NE, Suite 102
Bellevue, Washington 98004

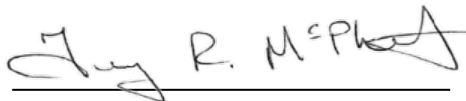
Attention: Len Brannen

Prepared by:

GeoEngineers, Inc.
1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940



Aaron M. Waggoner, LG, LHG
Project Geologist



Terry R. McPhetridge, LG, LHG
Principal

AMW:TRM:ch:mce

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Table of Contents

1.0 INTRODUCTION	1
2.0 GENERAL SITE INFORMATION	1
2.1. Site History and Current Use	1
3.0 TSP SOIL SAMPLING SUMMARY	1
4.0 CONCEPTUAL SITE MODEL	2
5.0 ESTABLISHMENT OF CLEANUP LEVELS AND TERRESTRIAL ECOLOGICAL EVALUATION	3
5.1. Cleanup Levels.....	3
5.2. Terrestrial Ecological Evaluation.....	4
6.0 CLEANUP ACTION PLAN	4
6.1. Redondo Heights Apartment Development.....	4
6.2. Regulatory Framework.....	4
6.3. Project Purpose and Objectives	4
6.4. Cleanup Action Objectives.....	4
6.4.1. Cleanup Standards.....	5
6.5. Cleanup Action Alternatives	5
6.5.1. DU1-08 (Mixing with Import Soil).....	5
6.6. Compliance Sampling.....	6
6.6.1. Chemical Analysis and Reporting.....	6
6.7. Export Material Sampling	6
6.8. Future Land Use Considerations.....	6
6.9. Applicable State and Federal Laws.....	6
6.10. Health and Safety and Soil Management	7
6.11. Schedule.....	7
7.0 REFERENCES	7
8.0 LIMITATIONS	8

LIST OF TABLES

Table 1. DU1-08 Arsenic Area Calculations

LIST OF FIGURES

Figure 1. Vicinity Map

Figure 2. Site Plan

Figure 3. Cleanup Action Plan – Showing Remedial Area

LIST OF APPENDICES

Appendix A. Soil Sampling and Analytical Results Summary

Appendix B. Report Limitations and Guidelines for Use

1.0 INTRODUCTION

This Cleanup Action Plan (CAP) report was prepared for the Redondo Heights Apartments project located in Federal Way, Washington. The property consists of approximately 5 acres of undeveloped land. The approximate project boundaries are shown on the Vicinity Map, Figure 1. The subject property is herein referred to as the 'site'.

The site will be developed into multi-family housing consisting of six buildings. Site development plans include approximately 2.1 acres of paved parking and roadways and approximately 1.7 acres of landscaping in addition to the proposed residential structures. The building layout and parking areas are shown on the Site Plan, Figure 2.

The site is located within Washington State Department of Ecology's (Ecology's) mapped footprint of the Tacoma Smelter Plume (TSP) where lead- and arsenic-contaminated soil from air fallout related to Asarco's historic operations are known to exist. The purpose of this CAP report is to outline cleanup actions to be implemented during development of the site. This CAP report has been completed in general accordance with Ecology's TSP Model Remedies guidance (TSPMRG) document dated July 2019 (Ecology 2019).

2.0 GENERAL SITE INFORMATION

The site is located south of South 276th Street about 600 feet east of Pacific Highway South (HWY 99) in Federal Way, Washington comprising approximately 5 acres of forested land on two King County parcels (parcel nos. 7204800172 and 7204800174). The site is considered one decision unit per the Ecology TSPMRG document.

The site is bounded by South 276th Street and the King County Transit Redondo Park and Ride to the north, a vacant tract of land to the east, the Silver Shadow Apartments complex to the west, and undeveloped private land to the south. Site topography is generally level with a low area crossing from west to east approximately in the middle of the northern half of the site. The City of Federal Way zoning for the site and the area to the south and east is designated as residential with single-family dwellings (Federal Way Zoning Designation RS7.2), the area to the west is designated as residential with multi-family dwellings (Federal Way Zoning Designation RM2400) area to the north is designated as Community Business (Federal Way Zoning Designation BC).

2.1. Site History and Current Use

The site has been undeveloped throughout its history. Current site activities on the site were observed to be limited to homeless persons encampments.

3.0 TSP SOIL SAMPLING SUMMARY

Known chemicals of concern at the site include arsenic and lead related to the air fallout from Asarco's smelter operations. Subsurface soil investigations were performed initially to evaluate soil conditions at the site in February 2021 and to further evaluate the lateral and vertical extent of arsenic- and lead-contaminated soil at the site in March 2021. The details of the soil sampling activities including the analytical results are provided in the Soil Sampling and Analytical Results Summary (Appendix A) prepared by GeoEngineers Inc. (GeoEngineers) dated June 16, 2021.

Forty-eight soil samples were collected for chemical analysis of arsenic and lead from 32 locations at the site in accordance with the TSPMRG for a 5-acre property on February 24, 2021. The soil samples were collected from 0- to 6-inches below ground surface (bgs) at each of the 32 locations, 6- to 12-inches bgs at eight of the 32 locations and forest duff samples were collected at eight other locations. An additional six follow-up samples (for a total of 54 soil samples) were collected for chemical analysis to further delineate arsenic and lead in soil around one original sample location that exceeded the maximum threshold of 40 milligrams per kilogram (mg/kg) for arsenic. Elevated concentrations of arsenic were found to be confined to the upper 6 inches of soil in an area approximately 20 feet from east to west and 30 feet from north to south around the original sample location where arsenic exceeded the maximum threshold.

Arsenic was detected at concentrations greater than the Model Toxics Control Act (MTCA) Method A unrestricted land use (ULU) cleanup level (20 mg/kg) in 11 of the 54 analyzed samples with a maximum concentration of 57 mg/kg in the sample identified as DU1-08-0-6 collected from 0- to 6-inches bgs. The average arsenic concentrations were calculated to be less than the TSPMRG average criteria of 20 mg/kg for the soil samples collected from each interval analyzed including: 0- to 6-inch (17 mg/kg) and 6- to 12-inch (10 mg/kg) depth intervals and the forest duff samples (12 mg/kg). Arsenic detected at concentrations greater than 40 mg/kg were identified at two locations in the southwest quarter of the site. These locations were identified at Remedial Area DU1-08 (see Figure 3).

Lead was either not detected or was detected at concentrations less than the MTCA Method A ULU cleanup level (250 mg/kg) in the 48 analyzed soil samples. The average lead concentrations calculated to be less than the TSPMRG average criteria of 250 mg/kg for the soil samples collected from each interval analyzed including: 0- to 6-inch (38 mg/kg) and 6- to 12-inch (19 mg/kg) depth intervals and the forest duff samples (41 mg/kg).

The results of the subsurface investigations indicate that soil is contaminated with arsenic on the site consistent with air fallout associated with historical Asarco Tacoma Smelter operations. However, the results indicate that the proposed 5-acre development area falls below the “elevated” criteria outlined in the TSPMRG document except for an approximate 600 square-foot area (less than 0.3 percent of the site) centered on the sample location DU1-08. The average concentrations of arsenic and lead were less than the TSPMRG criteria of 20 mg/kg and 250 mg/kg, respectively, in the samples collected on the site. Management of the soil around the DU1-08 sample location will likely further reduce the average arsenic concentration for the site.

Arsenic-contaminated soil present at the site is suitable for implementation of the TSPMRG model remedies based on the results of these investigations. The selected remedial cleanup alternative for the area of construction is discussed further in the CAP in Section 6.0.

4.0 CONCEPTUAL SITE MODEL

The former Asarco copper smelter in Tacoma caused widespread surficial soil contamination in parts of King, Pierce, Kitsap, and Thurston counties. This approximate 1,000-square-mile area is known as the Tacoma Smelter Plume. Airborne particulates with arsenic and lead were deposited in shallow soil on the site during smelter operation between the late 1800s and the 1980s. TSP impacts are generally encountered within 12 inches bgs due to this aerial deposition.

The site remained undeveloped throughout the historical operation of the Tacoma Smelter. Aerial deposition of arsenic and lead would likely have fallen on the present-day exposed surfaces, limiting the arsenic and lead contamination to the approximate upper 12 inches bgs of soil on the site. Arsenic-contaminated soil was identified within the upper 6 inches of soil based on the results of the TSP investigation.

Current site activities on the site were observed to be limited to homeless persons encampments.

Potential receptors of concern that may be exposed to the arsenic in shallow soil through dermal contact, dust inhalation, or incidental ingestion include site visitors (homeless persons) and workers, and terrestrial wildlife.

5.0 ESTABLISHMENT OF CLEANUP LEVELS AND TERRESTRIAL ECOLOGICAL EVALUATION

5.1. Cleanup Levels

Cleanup levels were developed for the site in accordance with MTCA for the protection of human health. The MTCA Cleanup Regulations under Washington Administrative Code (WAC) 173-340-700(5)(a) and 173-340-704 states that MTCA Method A cleanup levels are protective of human health and are designed for cleanup actions that are relatively straightforward or involve only a few hazardous substances. Method A ULU cleanup levels may be used at sites that have few hazardous substances and that are undergoing a routine cleanup action as defined in WAC 173-340-200 and as specified in WAC 173-340-704(1) and 173-340-704(1)(a).

The site is located within the footprint of the TSP based on information reviewed on Ecology’s website regarding the Tacoma Smelter Plume. This plume originated from an Asarco copper smelter that operated in Tacoma for nearly 100 years causing arsenic and lead contamination in near-surface soil throughout a large zone in the south Puget Sound region. Ecology provides remediation levels for arsenic and lead in soil related to the TSP in Ecology’s TSPMRG document as shown in the table below. A remediation level is the level above which a hazardous substance in a medium (such as soil) where certain cleanup actions may be necessary. TSPMRG remediation levels are applicable to soil at the site.

Remediation Level Category	Arsenic	Lead
No Further Action	Average <20 mg/kg Maximum <40 mg/kg	Average <250 mg/kg Maximum <500 mg/kg
Elevated	Average >20 mg/kg Maximum >40 mg/kg	Average >250 mg/kg Maximum >500 mg/kg

Notes:

Maximum = any single soil sample with arsenic or lead result greater than 40 mg/kg arsenic or greater than 500 mg/kg lead.

mg/kg = milligram per kilogram

> = greater than

< = less than

5.2. Terrestrial Ecological Evaluation

A Terrestrial Ecological Evaluation (TEE) was completed by Ecology during the Feasibility Study portion of the TSP (Ecology 2012). The TSPMRG and associated remediation levels identified above apply to the TEE results. Therefore, an additional TEE is not required as part of this CAP process.

6.0 CLEANUP ACTION PLAN

This CAP was completed to address arsenic-contaminated soil at the site related to the TSP, identify the remedial cleanup alternatives and to identify cleanup standards and other requirements for cleanup of the site. The CAP is being prepared under Ecology's Voluntary Cleanup Program (VCP). The CAP was developed using data from the previous investigations at the site as described in Section 3.0 of this report that form the basis for our understanding of the environmental conditions.

The CAP was prepared in general accordance with the requirements of the MTCA Cleanup Regulation, WAC, Chapter 173-340 and TSPMRG and the Asarco Smelter Site Final Interim Action (IA) Plan for the TSP (Ecology 2012). The IA Plan indicates Ecology completed a feasibility study to show that the model remedies are appropriate under certain conditions to meet State cleanup requirements. A feasibility study is not needed for properties under development if contamination is related to the TSP and one of the model remedies identified in the TSPMRG are selected as the cleanup alternative. Chemicals of concern (COC) include arsenic detected in shallow soil at a depth of 6 inches bgs at the site.

6.1. Redondo Heights Apartment Development

The proposed new Redondo Heights Apartments will include six apartment buildings totaling approximately 51,720 square feet of residential space. Additional site improvements will include new paved roadways, parking lots and landscaping.

Development activities will include regrading soil within the site to construct the roadways, parking areas, landscaping and building foundations. It is anticipated that approximately 10 to 20 cubic yards of soil on the site may be contaminated with arsenic within the areas to be regraded.

6.2. Regulatory Framework

Shelter Resources, Inc. or their authorized agents will submit the VCP application to Ecology upon completion of this CAP. The CAP is being conducted in accordance with the TSPMRG and the Asarco Smelter Site Final Interim Action Plan for the TSP.

6.3. Project Purpose and Objectives

The purpose of the CAP is to identify the cleanup action alternative for the site utilizing TSPMRG model remedies. The objective of the cleanup is to allow for the successful redevelopment of the site by remediating soil contaminated with arsenic (in accordance with the TSPMRG) and obtaining a No Further Action (NFA) determination for the site.

6.4. Cleanup Action Objectives

Cleanup action objectives (CAOs) consist of chemical- and media-specific (soil-specific in this case) goals for protecting human health and the environment. CAOs specify potential exposure routes and receptors for contact with arsenic-contaminated soil at the site and proposed cleanup goals.

This section presents the basis for the site cleanup action which includes two distinct elements: (1) the cleanup standards and (2) the location and media requiring cleanup action evaluation.

The objective of the proposed cleanup action is to eliminate, reduce, or otherwise control to the extent feasible and practicable, risks to human health and the environment posed by the arsenic in soil at the site in accordance with MTCA and other applicable regulatory requirements. Specifically, the CAOs include mitigating risks to human health posed through direct contact (dermal, incidental inhalation or ingestion) with arsenic in soil by visitors, workers (including excavation workers), and future site users.

6.4.1. Cleanup Standards

A cleanup standard is the numeric cleanup level with a point of compliance. The numeric cleanup levels and point of compliance are consistent with the TSPMRG because TSPMRG model remedies will be used as part of the cleanup action.

6.5. Cleanup Action Alternatives

Ecology has provided five model remedies for cleanup of properties with soil affected by Asarco's historic smelter operations in Tacoma. The five model remedies are listed below.

1. Excavate and Remove (Permanent)
2. Mix (Permanent)
3. Cap In-Place (Non-Permanent)
4. Consolidate and Cap (Non-Permanent)

The preferred cleanup action alternative has been identified for the area of the site as described below.

One small area (DU1-08 Remedial Area) requires remediation related to the arsenic-contaminated soil identified within DU1. The primary CAP action was selected for the DU1 remedial area shown on Figure 3 based on the calculations presented in Table 1 with further details provided below.

6.5.1. DU1-08 Remedial Area (Mixing with Import Soil)

1. Import approximately 11 cubic yards of clean soil to be placed in a 6-inch layer over the DU1-08 remedial area. The approximate dimensions of the mixing area will be 20 feet (east to west) by 30 feet (north to south) by 18 inches deep (including the 6-inch layer of clean soil). Mix the 6 inches of clean soil approximately 12 inches into the deeper arsenic-contaminated soil for a combined depth of 18 inches bgs and a total mixed soil volume of approximately 33 cubic yards.
2. Collect compliance samples within the remedial area for chemical analysis following completion of the soil mixing activities in accordance with the TSPMRG to evaluate the mixed soil conditions and confirm that average arsenic concentrations in each 6-inch sample interval are less than 20 mg/kg and no single arsenic concentration is greater than 40 mg/kg. Additional mixing and sampling with chemical analysis will be required if arsenic is detected at concentrations greater than the TSPMRG criteria.

The cleanup action alternative follows the recommended model remedies outlined in the TSPMRG and meets the MTCA threshold requirements to protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring (WAC 173-340-360[2][a]).

6.6. Compliance Sampling

Compliance soil samples will be collected for chemical analysis to evaluate if arsenic-contaminated soil remains at the site from the ground surface to approximately 18 inches bgs following remedial action within the DU1-08 Remedial Area in general accordance with the TSPMRG and WAC 173-340-410. Compliance sampling will be performed following completion of the selected model remedy to confirm that the cleanup action has met the cleanup standards.

6.6.1. Chemical Analysis and Reporting

Soil samples will be submitted to an Ecology-accredited laboratory for chemical analysis of arsenic by United States Environmental Protection Agency (EPA) method 6010 series. The chemical analytical results will be evaluated with respect to the cleanup standards. The sampling methodology and chemical analytical results will be summarized in a final cleanup action report.

Additional remedial activities will be completed if arsenic is detected at concentrations greater than the site cleanup levels in accordance with the TSPMRG in the compliance samples.

6.7. Export Material Sampling

Soil designated for off-site disposal not located within the one DU1-08 Remedial Area for this project will either be pre-characterized with in-situ sampling or will be stockpiled for sampling and chemical analysis prior to transport off site. One soil sample per 500 cubic yards will be collected if soil is stockpiled and analyzed for arsenic and lead by EPA method 6010 and follow-up of toxicity characteristic leaching potential (TCLP) by EPA method 1311, as necessary.

6.8. Future Land Use Considerations

The selected cleanup action alternative presented in the CAP is compatible with future expected land use for the site designated for multi-family housing .

6.9. Applicable State and Federal Laws

The applicable state and federal laws identified as of the writing of this CAP for the cleanup action include the following.

- MTCA Cleanup Regulation (WAC 173-340).
- Solid Waste Handling and Disposal Regulations (40 Code of Federal Regulations [CFR] 241, 257; Chapter 173-350 and -351 WAC).
- State Environmental Policy Act (SEPA) (Revised Code of Washington [RCW] 43.21C; WAC 197-11).
- Dangerous Waste Regulations (WAC 173-303).
- Clean Water Act (CWA).
- Washington State Clean Air Act (RCW 70.94).
- Washington Industrial Safety and Health Act (WISHA) (RCW 49.17) and the Federal Occupational Safety and Health Act (OSHA) (29 CFR 1910, 1926).
- Arsenic Rule (WAC 296-848) and Lead Rule (WAC 296-62-07521).

6.10. Health and Safety and Soil Management

The following plans and measures are recommended as a part of the excavation and soil removal in areas of known contamination.

- Development of a Health and Safety plan prepared by the contractor. The Health and Safety plan shall meet the requirements of OSHA 29 CFR 1910.120. The Plan shall include requirements and methods for complying with Arsenic Rule (WAC 296-848) and Lead Rule (WAC 296-62-07521) and use of 40-hour HAZWOPER-trained personnel when contact with contaminated material and associated personal air monitoring.
- Development of a Soil Management Plan that will describe how excavation and grading will be completed to make sure TSPMRG requirements are met.
- Development of a Dust Control Plan describing activities, sources to control, control methods and procedures, source of water and method for hauling and applying, monitoring, corrective measures if dust control actions are insufficient, monitoring, and documentation.
- Erosion control measures must be established that prevent the potential for contaminated soil to enter surface water. Work areas must be established with clear demarcation to minimize the potential for non-HAZWOPER-trained personnel to contact contaminated materials. This also includes reasonable measures to minimize dust emissions.

6.11. Schedule

Implementation of the cleanup action for the DU1-08 Remedial Area is currently scheduled to be performed in 2022 pending approval of applicable permits and regulatory requirements by Ecology, King County and the City of Federal Way.

7.0 REFERENCES

Washington State Department of Ecology, 2019. "Tacoma Smelter Plume Model Remedies Guidance, Sampling and Cleanup of Arsenic and Lead Contaminated Soils for: Formal Cleanup Sites, Voluntary Cleanup Program, Properties Under Development, Projects Involving Soil Movement." Ecology Toxics Cleanup Program. Publication number 19-09-101. June 2012, Updated July 2019.

Washington State Department of Ecology, 2013. "Model Toxics Control Act Statute and Regulation - Model Toxics Control Act Chapter 70.105D RCW, Uniform Environmental Covenants Act Chapter 64.70 RCW, MTCA Cleanup Regulation Chapter 173-340 WAC," January 1996, revised November 2013.

Washington State Department of Ecology, 2012. Asarco Tacoma Smelter Site – Final Interim Action Plan for the Tacoma Smelter Plume," Publication Number 12-09-086, June 2012.

8.0 LIMITATIONS

This CAP has been prepared for the exclusive use of Shelter Resources, Inc. and their authorized agents. Any use of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and written authorization by GeoEngineers, Inc., shall be at the user's sole risk. Any unauthorized use of (or reliance on) this report shall release GeoEngineers, from any liability resulting from such use (or reliance). Within the limitations of scope, schedule, and budget, GeoEngineers' respective services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. GeoEngineers assumes no responsibility for any consequence arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

Table 1
DU1-08 Arsenic Area Calculations
In-Place Mixing with Import Soil
Redondo Heights Apartments
Federal Way, Washington

Sample ID	Arsenic Concentrations by Depth (mg/kg)	Average Concentration (mg/kg)	In-Place Mixing Depth (feet)	Calculated Average ¹ Concentration Following Mixing (mg/kg) (< 20 mg/kg)	Surface Area of Mixing Zone (Square Feet)	Volume (Cubic Feet)	Volume (Cubic Yards)	Notes	
Clean Import Material	7	7	0.5	16.9	600	300	11	Import 6 inches of clean fill and till into lower 12 inches of in-place soil	
DU1-08-0-6	57	28.8	1			600	600		22
DU1-08-0-6-W1	6.1 U								
DU1-08-0-6-S1	50								
DU1-08-0-6-E1	19								
DU1-08-0-6-N1	13								
DU1-08-0-6-S2	31								
DU1-08-6-12	10	15.0	1			600	600		22
DU1-08-6-12-S1	20								
Totals			1.5			16.9	600		900

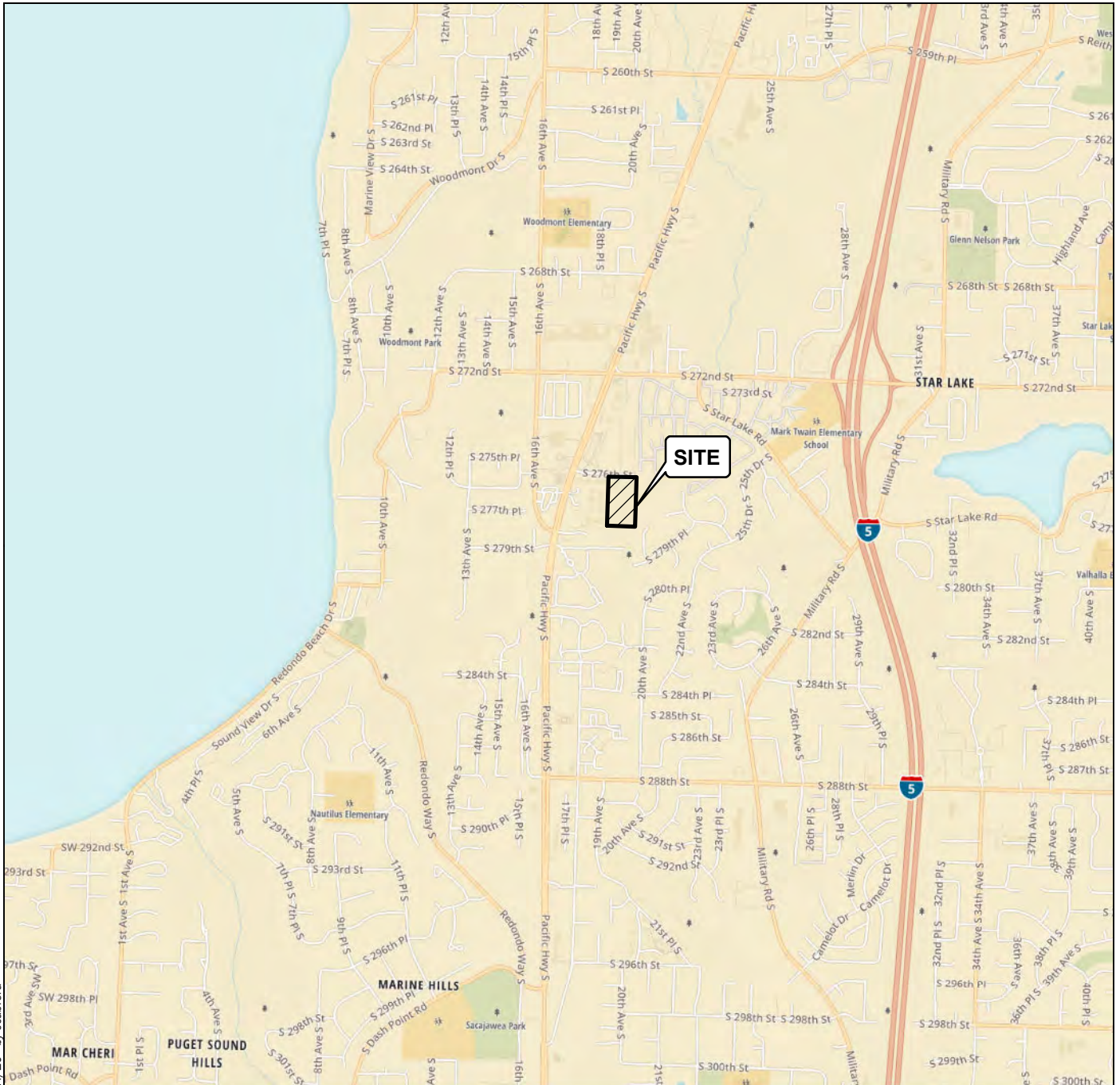
Notes:

¹ Mixing Concentration Calculation:

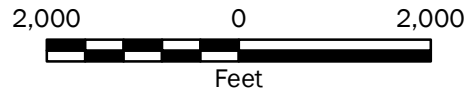
$$\frac{\text{Imported Soil Arsenic Concentration} \times 0.5 \text{ feet} + \text{Average Surface Soil Arsenic Concentration} \times 0.5 \text{ feet} + \text{Average Deeper Soil Arsenic Concentration} \times 0.5 \text{ feet}}{0.5 \text{ feet Import Soil Depth} + 0.5 \text{ feet Surface Soil Depth} + 0.5 \text{ feet Deeper Soil Depth}}$$

Maximum Import soil arsenic concentration of 7 mg/kg necessary for average concentration to be less than 20 mg/kg following mixing.
Background arsenic for Puget Sound is 7 mg/kg.

Process includes importing approximately 11 cubic yards of clean import soil to be mixed with 1 foot of soil within the soil management area for a total blended depth of 1.5 feet.
mg/kg = milligrams per kilogram



P:\3\3625004\GIS\MXD\362500400_F01_VicinityMap.mxd Date Exported: 08/14/20 by ccabrera



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 HARN StatePlane Washington South FIPS 4602 Feet

Vicinity Map	
Redondo Heights Apartments Federal Way, Washington	
	Figure 1

\\geoengineers.com\WAN\Projects\3_3625004\CAD\01_Redondo Heights CAP_362500401_F02-F03_CAP.dwg TAB:F02 Date Exported: 07/23/21 - 14:16 by mwoods




Redondo Heights Park and Ride

S 276th Street

276th Street

Pacific Highway S

Legend

- Site Boundary
- Proposed Layout of Tacoma Behavioral Health
 -  Proposed Building Footprint
 -  Proposed Pavement Area
 -  Proposed Landscaping Area

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Background data from kpf dated 07/22/20.

Projection: Washington State Plane, North Zone, NAD83, US Foot



Site Plan

Redondo Heights Apartments
Federal Way, Washington

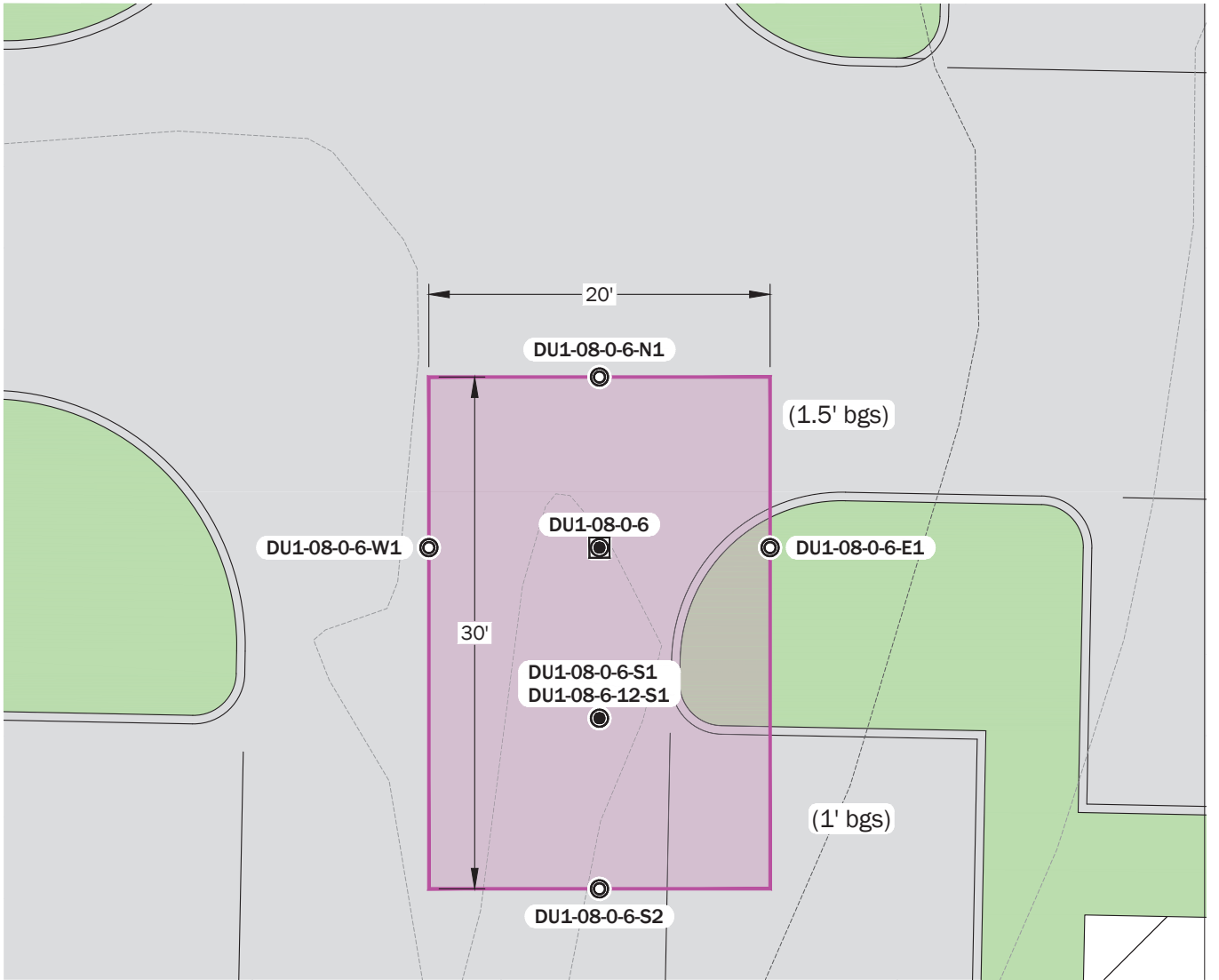


Figure 2



See Figure 3 for Further Details

\geoengineers.com\WAN\Projects\3\3625004\CAD\01\Redondo Heights CAP_362500401_F02-F03_CAP.dwg TAB:F03 Date Exported: 07/23/21 - 14:16 by mwoods



Legend

DU1-08-0-6 0" to 6" bgs Sample Location with Duff Sample

DU1-08-0-6-S1 0" to 6" bgs and 6" to 12" bgs Sample Location
 DU1-08-6-12-S1

DU1-08-0-6-W1 0" to 6" bgs Sample Location

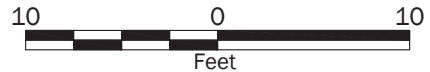
Remedial Area DU1-08 Arsenic Contaminated Soil to be mixed with import soil to the depth shown. Compliance Samples to be collected for chemical analysis following mixing.

(1.5' bgs) Remedial Area Mixing Depth in feet below ground surface

bgs = below ground surface

Proposed Layout of Redondo Heights Apartments

- Proposed Building Footprint
- Proposed Pavement Area
- Proposed Landscaping Area



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Background data from kpf dated 07/22/20.

Projection: Washington State Plane, North Zone, NAD83, US Foot

Cleanup Action Plan - Showing Remedial Areas	
Redondo Heights Apartments Federal Way, Washington	
	Figure 3

APPENDIX A
Soil Sampling and Analytical Results Summary

June 16, 2021

Shelter Resources, Inc.
2223 112th Avenue NE, Suite 102
Bellevue, Washington 98004

Attention: Len Brannen

Subject: Soil Sampling and Analytical Results Summary
Tacoma Smelter Plume Sampling
Redondo Heights Apartments
Federal Way, Washington
File No. 3625-004-01

INTRODUCTION AND PROJECT UNDERSTANDING

GeoEngineers is pleased to present this letter summarizing the Tacoma Smelter Plume (TSP) soil sampling activities performed at the Redondo Heights Apartments project located south of South 276th Street about 600 feet east of Pacific Highway South (HWY 99) in Federal Way, Washington. The approximate project boundaries are shown on the Vicinity Map, Figure 1. The property will be developed into multi-family housing consisting of six buildings. Ground disturbing activities are anticipated as part of construction.

The subject property is located within the footprint of the area-wide contamination from the TSP as mapped by the Washington State Department of Ecology (Ecology). Ecology's map shows where arsenic concentrations in surface/near surface soil have been predicted relative to the Ecology Model Toxics Control Act (MTCA) Method A cleanup level for unrestricted land use (ULU) of 20 milligrams per kilogram (mg/kg). This information is made available to the public through Ecology's Dirt Alert site at <https://fortress.wa.gov/ecy/dirtalert/>. Arsenic is reported to be between 20 mg/kg and 40 mg/kg on the subject property based on Ecology's map of estimated surface soil concentrations for arsenic. As a result, samples are required to be collected for chemical analysis to characterize the soil from 0- to 6-inches below ground surface (bgs) and 6- to 12-inches bgs and also include separate sampling of forest duff (where present) in accordance with Ecology's Tacoma Smelter Plume Model Remedy Guidance (TSPMRG) document dated July 2019.

METHODOLOGY

GeoEngineers prepared a field sampling plan for our staff including identifying sampling locations and requirements that follows Ecology's methodology identified in the TSPMRG document. One decision unit (DU1) was selected for the site based on the provided information that the entire proposed site will be



developed. The soil concentrations within a decision unit are considered elevated if the average arsenic concentration is greater than 20 mg/kg and the average lead concentration is greater than 250 mg/kg, or if any single sample has an arsenic concentration greater than 40 mg/kg and/or a lead concentration greater than 500 mg/kg based on information provided in the TSPMRG.

FIELD ACTIVITIES AND CHEMICAL ANALYTICAL RESULTS

Initial Sampling

Forty-eight soil samples were collected from 32 locations at the subject property on February 24, 2021 for chemical analysis. The soil samples were collected from 0- to 6-inches bgs at each of the 32 locations, 6- to 12-inches bgs at eight of the 32 locations and forest duff samples were collected at eight other locations. Each sample was collected using a 2-inch-diameter hand auger.

The sample locations are shown on Figure 2, Sample Location Map. The soil samples were submitted to the analytical laboratory for chemical analysis of total arsenic and lead by United States Environmental Protection Agency (EPA) Method 6010D. The analytical results are presented in Table 1 using the format identified in the TSPMRG. The analytical laboratory reports are provided in Appendix A.

Arsenic was detected at a concentration greater than the maximum concentration (40 mg/kg) allowed under the TSPMRG in one of the 48 analyzed soil samples (DU1-08-0-6 at 57 mg/kg) from the February sampling event. Additionally, arsenic was detected at concentrations greater than the MTCA Method A ULU cleanup level (20 mg/kg) in seven of the analyzed soil samples. Arsenic was detected at concentrations less than the MTCA Method A ULU cleanup level (20 mg/kg) in the remaining 40 analyzed soil samples.

Lead was either not detected or was detected at concentrations less than the maximum concentration (500 mg/kg) allowed under the TSPMRG in the analyzed soil samples. Additionally, lead was not detected at concentrations greater than the MTCA Method A ULU cleanup level (250 mg/kg) in the analyzed soil samples.

Follow-Up Sampling

A total of 17 follow-up soil samples were collected on March 12, 2021 from around the initial sample location identified as DU1-08-0-6 where arsenic was detected in soil at a concentration greater than 40 mg/kg. One follow-up soil sample (DU1-08-6-12) was collected from the 6- to 12-inch bgs interval beneath the original sample location. Sixteen additional follow-up samples were collected from 0- to 6-inch bgs and 6- to 12-inch bgs in two grids as listed below.

- **First Grid.** Eight soil samples were collected from four locations approximately 10 feet out laterally in four directions from the original sample location (DU1-08-0-6) at depths of 0- to 6-inches bgs and 6- to 12-inches bgs at each location.
- **Second Grid.** Eight soil samples were collected from four locations approximately 20 feet out laterally in four directions from the original sample location (DU1-08-0-6) at depths of 0- to 6-inches bgs and 6- to 12-inches bgs at each location.

The samples collected to the north of the original location were given unique sample identifications of DU1-08-0-6-N1 and DU1-08-6-12-N1 for the samples collected 10 feet north of the original location and



DU1-08-0-6-N2 and DU1-08-6-12-N2 for the samples collected 20 feet north of the original location. Four samples were collected in the remaining three directions following this same methodology and nomenclature.

The follow up soil samples were submitted to the analytical laboratory. The four soil samples collected from the 0- to 6-inches bgs interval within the first grid and the one sample from 6- to 12-inches bgs at the original location were selected for chemical analysis of arsenic by EPA Method 6010D to evaluate if the lateral extent of the arsenic detected in soil was limited to these locations initially before performing additional chemical analysis. The analytical results from these five initial samples indicate that arsenic was still detected at concentrations greater than 40 mg/kg in the sample DU1-08-0-6-S1 (50 mg/kg) located approximately 10 feet south of the original sample location. However, analytical results indicate arsenic was detected at concentrations less than 40 mg/kg in samples collected to the north, east and west (DU1-08-0-6-N1, DU1-08-0-6-W1, DU1-08-0-6-E1 and DU1-08-6-12) of the original sample location.

Two additional soil samples (DU1-08-6-12-S1 [first grid] and DU1-08-0-6-S2 [second grid]) located south of the original sample location were also analyzed for arsenic based on the analytical result from sample DU1-08-0-6-S1 to further evaluate the lateral extent of arsenic in the area. Analytical results indicate that arsenic was detected at concentrations less than 40 mg/kg in these two analyzed soil samples.

The locations of the samples that were analyzed relative to the original DU1-08-0-6 sample are presented on Figure 3. Figure 3 also shows the approximate area containing soil with concentrations of arsenic greater than 40 mg/kg. The approximate dimensions of the area shown on Figure 3 is 20 feet by 30 feet. The analytical results indicate that soil with arsenic at concentrations greater than 40 mg/kg are limited to the upper 0.5 feet of soil. The approximate volume of soil that will likely require management during construction of the Redondo Heights Apartments is between 10 and 15 cubic yards.

Table 1 presents the analytical results including the average concentrations of arsenic and lead for each sample collected from 0- to 6-inches bgs, 6- to 12-inches bgs and the duff for the property as a whole. The average arsenic concentration was 17 mg/kg within the 0- to 6-inch bgs sample interval, 10 mg/kg within the 6- to 12-inch bgs sample interval and 12 mg/kg in the duff samples. The average lead concentration was 38 mg/kg within the 0- to 6-inch bgs sample interval, 19 mg/kg within the 6- to 12-inch bgs sample interval and 41 mg/kg within the duff samples.

CONCLUSIONS

The results of this investigation indicate that the proposed development area falls below the “elevated” criteria outlined in the TSPMRG document except for approximately 600 square feet centered on the sample locations DU1-08-0-6 and DU1-08-0-6-S1. The average arsenic and lead concentrations for the property were less than the TSPMRG criteria of 20 mg/kg and 250 mg/kg, respectively. We recommend that the soil within the 600 square foot area in the southwest portion of the site around DU1-08-0-6 and DU1-08-0-6-S1 be managed following one of the model remedies provided in the TSPMRG.



REFERENCES

Washington State Department of Ecology, 2007. "Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC" Washington State Department of Ecology Toxics Cleanup Program. Publication No. 94-06. Issued April 1990, Revised October 12, 2007.

Washington State Department of Ecology. 2019. "Tacoma Smelter Plume Model Remedies Guidance" Toxics Cleanup Program Publication Number 19-09-101.

Washington State Department of Ecology. 2021. Website "Dirt Alert"
<https://apps.ecology.wa.gov/dirtalert/>

LIMITATIONS

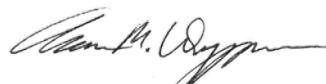
We have prepared this report for Shelter Resources, Inc. and the proposed Redondo Heights Apartments project in Federal Way, Washington. Shelter Resources, Inc. may distribute copies of this report to their authorized agents and regulatory agencies as may be required for the project.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

We appreciate the opportunity to assist Shelter Resources, Inc. with this project. Please call if you have questions or require additional information.

Sincerely,
GeoEngineers, Inc.



Aaron M. Waggoner, LG, LHG
Project Geologist



Terry R. McPhetridge, LG, LHG
Principal

AMW:TRM:ch

Attachments:

Table 1. Chemical Analytical Data - Arsenic and Lead Concentrations in Soil

Figure 1. Vicinity Map

Figure 2. Tacoma Smelter Plume Sample Location Map

Figure 3. Tacoma Smelter Plume Sample Location Map and Results

Appendix A – Laboratory Analytical Data

Appendix B – Report Limitations and Guidelines for Use

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Table 1
Chemical Analytical Data - Arsenic and Lead Concentrations¹ in Soil
 Redondo Heights Apartments
 Federal Way, Washington

DU	Sample Number	Soil Depth (inches) / Duff	Date	Time	Notes: Corresponding GeoEngineers Sample ID	Testing Parameters ² (mg/kg)						
						Arsenic	Average Arsenic ³	Lead	Average Lead ³			
1	1	0-6	2/24/2021	0850	DU1-01-0-6	11	17	27	38			
1	3		2/24/2021	0907	DU1-03-0-6	36		86				
1	5		2/24/2021	0918	DU1-05-0-6	37		100				
1	6		2/24/2021	0927	DU1-06-0-6	18		27				
1	8		2/24/2021	0935	DU1-08-0-6	57		180				
1	8		3/12/2021	1050	DU1-08-0-6-W1	6.1 U		--				
1	8		3/12/2021	1100	DU1-08-0-6-S1	50		--				
1	8		3/12/2021	1110	DU1-08-0-6-E1	19		--				
1	8		3/12/2021	1118	DU1-08-0-6-N1	13		--				
1	8		3/12/2021	1105	DU1-08-0-6-S2	31		--				
1	10		2/24/2021	0945	DU1-10-0-6	3.1 U		7.7				
1	11		2/24/2021	0955	DU1-11-0-6	9.1		27				
1	12		2/24/2021	1000	DU1-12-0-6	6.2		16				
1	13		2/24/2021	1020	DU1-13-0-6	22		33				
1	15		2/24/2021	1030	DU1-15-0-6	13		32				
1	16		2/24/2021	1035	DU1-16-0-6	13		29				
1	18		2/24/2021	1045	DU1-18-0-6	22		53				
1	19		2/24/2021	1050	DU1-19-0-6	34		59				
1	21		2/24/2021	1059	DU1-21-0-6	16		37				
1	22		2/24/2021	1106	DU1-22-0-6	9.4		19				
1	23		2/24/2021	1112	DU1-23-0-6	10		22				
1	25		2/24/2021	1130	DU1-25-0-6	6.7		15				
1	26		2/24/2021	1138	DU1-26-0-6	18		53				
1	28		2/24/2021	1145	DU1-28-0-6	26		75				
1	29		2/24/2021	1152	DU1-29-0-6	5.8		13				
1	31		2/24/2021	1200	DU1-31-0-6	13		24				
1	33		2/24/2021	1208	DU1-33-0-6	18		40				
1	34		2/24/2021	1214	DU1-34-0-6	16		40				
1	36		2/24/2021	1224	DU1-36-0-6	11		28				
1	37		2/24/2021	1229	DU1-37-0-6	18		42				
1	39		2/24/2021	1236	DU1-39-0-6	19		38				
1	40		2/24/2021	1241	DU1-40-0-6	13		24				
1	41		2/24/2021	1250	DU1-41-0-6	3.5 U		7.0 U				
1	42		2/24/2021	1256	DU1-42-0-6	3.0 U		6.0 U				
1	44		2/24/2021	1304	DU1-44-0-6	2.9		11				
1	46		2/24/2021	1311	DU1-46-0-6	9.7		28				
1	47		2/24/2021	1315	DU1-47-0-6	12		24				
1	2		6-12	2/24/2021	0900	DU1-02-6-12		7.6		10	17	19
1	7			2/24/2021	0930	DU1-07-6-12		8.4			19	
1	8			3/12/2021	1048	DU1-08-6-12		10			--	
1	8			3/12/2021	1102	DU1-08-6-12-S1		20			--	
1	17			2/24/2021	1040	DU1-17-6-12		11			24	
1	24			2/24/2021	1115	DU1-24-6-12		12			28	
1	30			2/24/2021	1155	DU1-30-6-12		3.2 U			9.0	
1	35			2/24/2021	1217	DU1-35-6-12		9.1			22	
1	43			2/24/2021	1300	DU1-43-6-12		3.0 U			6.4	
1	48	2/24/2021		1318	DU1-45-6-12	17	30					
1	4	DUFF	2/24/2021	0912	DU1-04-DUFF	4.8 U	12	25	41			
1	9		2/24/2021	0940	DU1-09-DUFF	5.2		23				
1	14		2/24/2021	1025	DU1-14-DUFF	20		55				
1	20		2/24/2021	1055	DU1-20-DUFF	13		78				
1	27		2/24/2021	1140	DU1-27-DUFF	7.5		24				
1	32		2/24/2021	1205	DU1-32-DUFF	36		74				
1	38		2/24/2021	1232	DU1-38-DUFF	9.2		27				
1	45		2/24/2021	1307	DU1-45-DUFF	6.1		23				
MTCA Method A ULU Cleanup Levels						20	N/A	250	N/A			
TSPMRG Maximum Criteria						40	20	500	250			

Notes:

¹ Chemical analysis was performed by OnSite Environmental, Inc., of Redmond, Washington.

² Metals analyzed by United States Environmental Protection Agency (EPA) Method 6010D.

³ Non-detects are assigned a value equal to half the laboratory detection limit for the purpose of calculating the average concentration within a decision unit.

DUFF = Decaying organic matter covering forest floor consisting of tree needles, leaves and branches.

mg/kg = milligram per kilogram

TSPMRG = Tacoma Smelter Plume Model Remedy Guidance

N/A = Not Applicable

U = not detected at or greater than the laboratory reporting limit

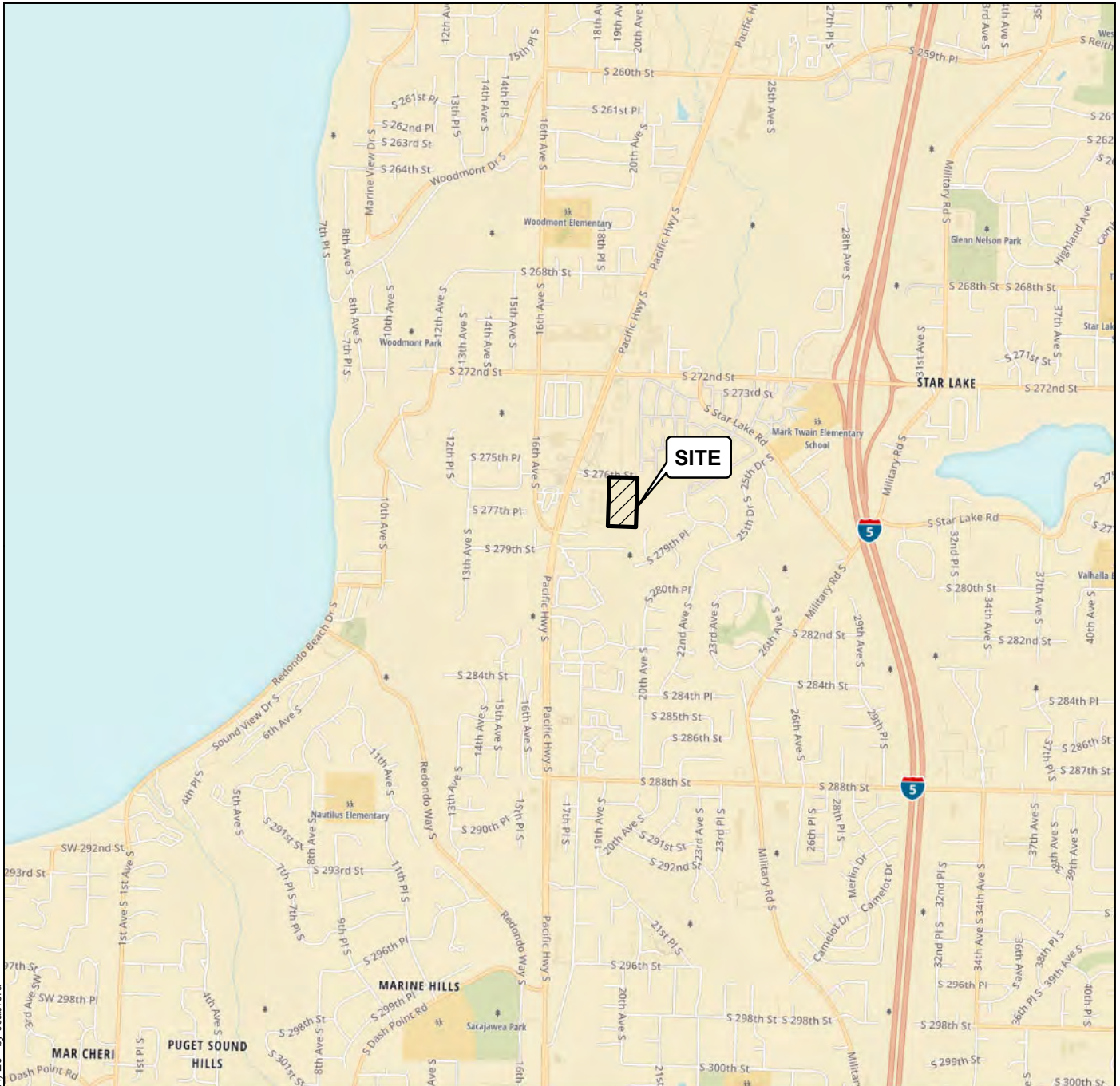
ULU = Unrestricted Land Use

MTCA = Model Toxics Control Act

DU = Decision Unit

Bold = Analyte detected greater than the corresponding MTCA Method A Cleanup Levels; Arsenic >20 mg/kg, Lead >250 mg/kg

Gray Shaded = Analyte detected greater than twice the corresponding MTCA Method A Cleanup Levels; Arsenic >40 mg/kg, Lead >500 mg/kg



P:\3\3625004\GIS\MXD\362500400_F01_VicinityMap.mxd Date Exported: 08/14/20 by ccabrera



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Mapbox Open Street Map, 2016

Projection: NAD 1983 HARN StatePlane Washington South FIPS 4602 Feet

Vicinity Map	
Redondo Heights Apartments Federal Way, Washington	
	Figure 1

\\geoengineers.com\WAN\Projects\3_3625004\CAD\01_Redondo Heights TSP Sampling Plan\362500401_F02-F03_Sampling Plans.dwg TAB:F02 Date Exported: 03/30/21 - 18:19 by mwwoods







Redondo Heights Park and Ride

S 276th Street

276th Street

Pacific Highway S

Legend

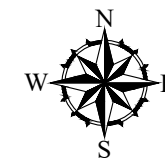
- Site Boundary
 - DU1-03-0-6  0" to 6" bgs Sample Location with Duff Sample
 - DU1-04-Duff  0" to 6" bgs and 6" to 12" bgs Sample Location
 - DU1-01-0-6  0" to 6" bgs and 6" to 12" bgs Sample Location
 - DU1-02-6-12  0" to 6" bgs Sample Location
 - DU1-05-0-6  0" to 6" bgs Sample Location
 -  Proposed building layout of Redondo Heights Apartments
- bgs = below ground surface

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Background data from kpfh dated 07/22/20.

Projection: Washington State Plane, North Zone, NAD83, US Foot

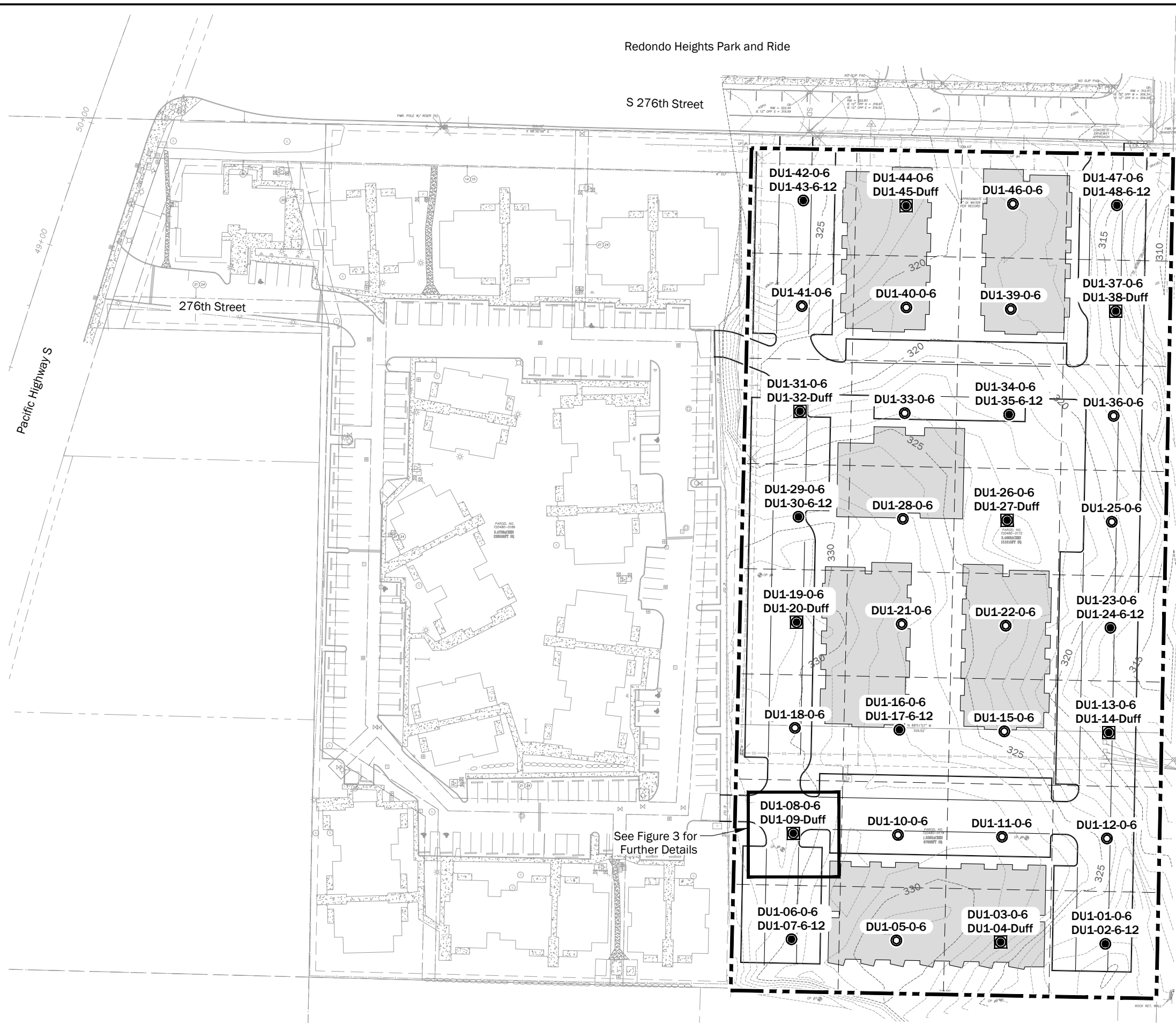


Tacoma Smelter Plume Sample Location Map

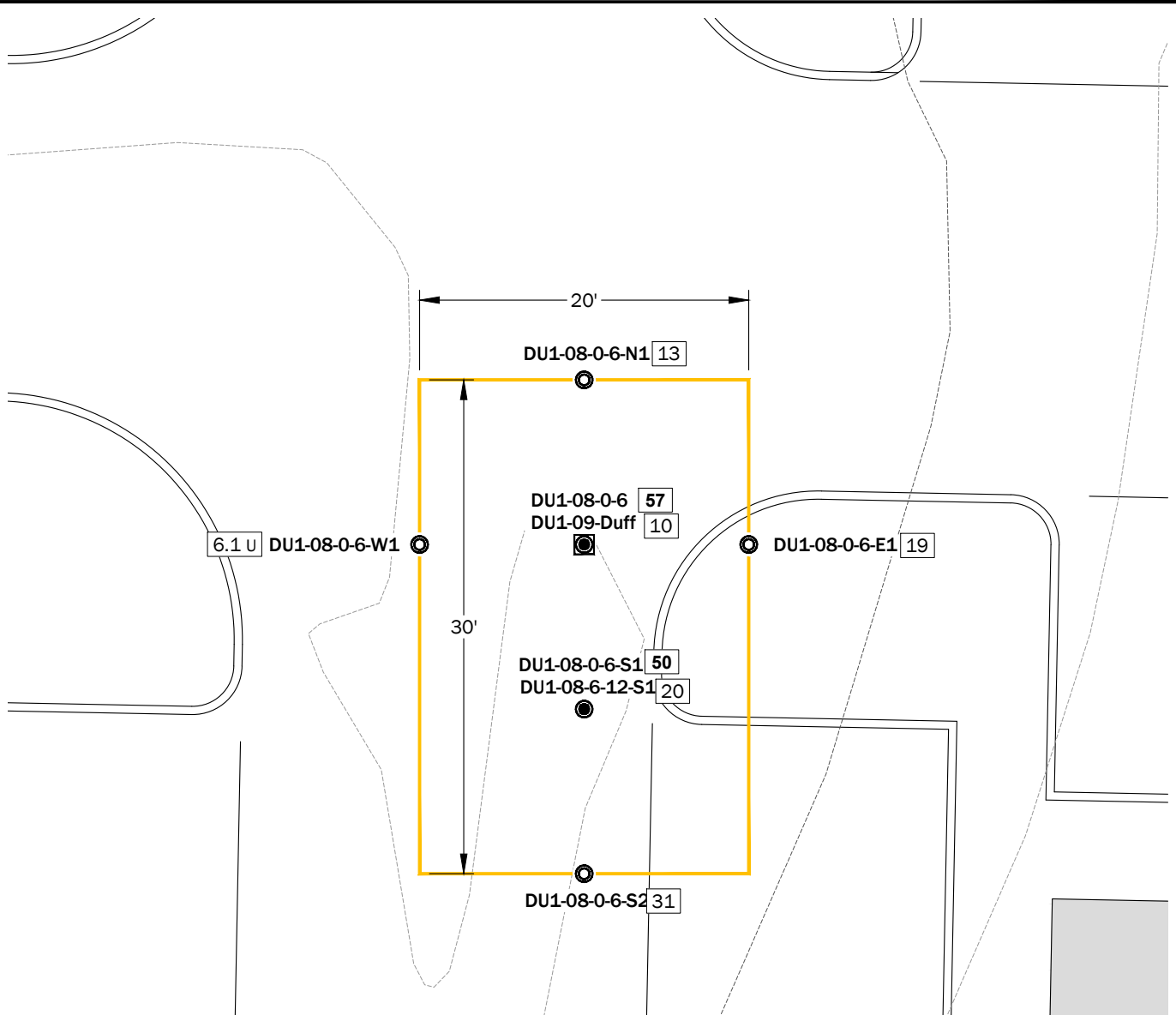
Redondo Heights Apartments
Federal Way, Washington



Figure 2



\geoengineers.com\WAN\Projects\3\3625004\CAD\01\Redondo Heights TSP Sampling Plan\362500401_F02-F03_Sampling Plans.dwg:TAB:F03 Date Exported: 03/30/21 - 18:18 by mwoods



Legend

- DU1-08-0-6 0" to 6" bgs Sample Location with Duff Sample
- DU1-09-Duff 0" to 6" bgs and 6" to 12" bgs Sample Location
- DU1-08-0-6 0" to 6" bgs Sample Location
- DU1-08-6-12 0" to 6" bgs Sample Location
- Area Containing Arsenic in Soil at Concentration >40 mg/kg from 0" to 6" below ground surface
- 13** Arsenic Concentration (mg/kg)
- 57** Bold = Analyte detected at greater than the maximum threshold limit for Arsenic; 40 mg/kg

U = not detected at or greater than the laboratory reporting limit
 bgs = below ground surface
 mg/kg = milligram per kilogram

Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Background data from kpf dated 07/22/20.

Projection: Washington State Plane, North Zone, NAD83, US Foot

Tacoma Smelter Plume Sample Location Map and Results	
Redondo Heights Apartments Federal Way, Washington	
	Figure 3

APPENDIX A
Laboratory Analytical Data



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

March 3, 2021

Aaron Waggoner
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 3625-004-01
Laboratory Reference No. 2102-229

Dear Aaron:

Enclosed are the analytical results and associated quality control data for samples submitted on February 24, 2021.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



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

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

Date of Report: March 3, 2021
Samples Submitted: February 24, 2021
Laboratory Reference: 2102-229
Project: 3625-004-01

Case Narrative

Samples were collected on February 24, 2021 and received by the laboratory on February 24, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
DU1-01-0-6	02-229-01	Soil	2-24-21	2-24-21	
DU1-02--6-12	02-229-02	Soil	2-24-21	2-24-21	
DU1-03-0-6	02-229-03	Soil	2-24-21	2-24-21	
DU1-04-Duff	02-229-04	Soil	2-24-21	2-24-21	
DU1-05-0-6	02-229-05	Soil	2-24-21	2-24-21	
DU1-06-0-6	02-229-06	Soil	2-24-21	2-24-21	
DU1-07-6-12	02-229-07	Soil	2-24-21	2-24-21	
DU1-08-0-6	02-229-08	Soil	2-24-21	2-24-21	
DU1-09-Duff	02-229-09	Soil	2-24-21	2-24-21	
DU1-10-0-6	02-229-10	Soil	2-24-21	2-24-21	
DU1-11-0-6	02-229-11	Soil	2-24-21	2-24-21	
DU1-12-0-6	02-229-12	Soil	2-24-21	2-24-21	
DU1-13-0-6	02-229-13	Soil	2-24-21	2-24-21	
DU1-14-Duff	02-229-14	Soil	2-24-21	2-24-21	
DU1-15-0-6	02-229-15	Soil	2-24-21	2-24-21	
DU1-16-0-6	02-229-16	Soil	2-24-21	2-24-21	
DU1-17-6-12	02-229-17	Soil	2-24-21	2-24-21	
DU1-18-0-6	02-229-18	Soil	2-24-21	2-24-21	
DU1-19-0-6	02-229-19	Soil	2-24-21	2-24-21	
DU1-20-Duff	02-229-20	Soil	2-24-21	2-24-21	
DU1-31-0-6	02-229-21	Soil	2-24-21	2-24-21	
DU1-32-Duff	02-229-22	Soil	2-24-21	2-24-21	
DU1-33-0-6	02-229-23	Soil	2-24-21	2-24-21	
DU1-34-0-6	02-229-24	Soil	2-24-21	2-24-21	
DU1-35-6-12	02-229-25	Soil	2-24-21	2-24-21	
DU1-36-0-6	02-229-26	Soil	2-24-21	2-24-21	
DU1-37-0-6	02-229-27	Soil	2-24-21	2-24-21	
DU1-38-Duff	02-229-28	Soil	2-24-21	2-24-21	
DU1-39-0-6	02-229-29	Soil	2-24-21	2-24-21	
DU1-40-0-6	02-229-30	Soil	2-24-21	2-24-21	



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

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

Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
DU1-21-0-6	02-229-31	Soil	2-24-21	2-24-21	
DU1-22-0-6	02-229-32	Soil	2-24-21	2-24-21	
DU1-23-0-6	02-229-33	Soil	2-24-21	2-24-21	
DU1-24-6-12	02-229-34	Soil	2-24-21	2-24-21	
DU1-25-0-6	02-229-35	Soil	2-24-21	2-24-21	
DU1-26-0-6	02-229-36	Soil	2-24-21	2-24-21	
DU1-27-Duff	02-229-37	Soil	2-24-21	2-24-21	
DU1-28-0-6	02-229-38	Soil	2-24-21	2-24-21	
DU1-29-0-6	02-229-39	Soil	2-24-21	2-24-21	
DU1-30-6-12	02-229-40	Soil	2-24-21	2-24-21	
DU1-41-0-6	02-229-41	Soil	2-24-21	2-24-21	
DU1-42-0-6	02-229-42	Soil	2-24-21	2-24-21	
DU1-43-6-12	02-229-43	Soil	2-24-21	2-24-21	
DU1-44-0-6	02-229-44	Soil	2-24-21	2-24-21	
DU1-45-Duff	02-229-45	Soil	2-24-21	2-24-21	
DU1-46-0-6	02-229-46	Soil	2-24-21	2-24-21	
DU1-47-0-6	02-229-47	Soil	2-24-21	2-24-21	
DU1-48-6-12	02-229-48	Soil	2-24-21	2-24-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-01-0-6					
Laboratory ID:	02-229-01					
Arsenic	11	3.8	EPA 6010D	2-25-21	2-25-21	
Lead	27	7.7	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-02--6-12					
Laboratory ID:	02-229-02					
Arsenic	7.6	3.7	EPA 6010D	2-25-21	2-25-21	
Lead	17	7.4	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-03-0-6					
Laboratory ID:	02-229-03					
Arsenic	36	3.6	EPA 6010D	2-25-21	2-25-21	
Lead	86	7.1	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-04-Duff					
Laboratory ID:	02-229-04					
Arsenic	ND	4.8	EPA 6020B	3-3-21	3-3-21	
Lead	25	19	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-05-0-6					
Laboratory ID:	02-229-05					
Arsenic	37	4.4	EPA 6010D	2-25-21	2-25-21	
Lead	100	8.7	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-06-0-6					
Laboratory ID:	02-229-06					
Arsenic	18	3.2	EPA 6010D	2-25-21	2-25-21	
Lead	27	6.4	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-07-6-12					
Laboratory ID:	02-229-07					
Arsenic	8.4	3.6	EPA 6010D	2-25-21	2-25-21	
Lead	19	7.1	EPA 6010D	2-25-21	2-25-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-08-0-6					
Laboratory ID:	02-229-08					
Arsenic	57	4.0	EPA 6010D	2-25-21	2-25-21	
Lead	180	8.0	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-09-Duff					
Laboratory ID:	02-229-09					
Arsenic	5.2	4.5	EPA 6010D	2-25-21	2-25-21	
Lead	23	8.9	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-10-0-6					
Laboratory ID:	02-229-10					
Arsenic	ND	3.1	EPA 6010D	2-25-21	2-25-21	
Lead	7.7	6.2	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-11-0-6					
Laboratory ID:	02-229-11					
Arsenic	9.1	3.7	EPA 6010D	2-25-21	2-25-21	
Lead	27	7.5	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-12-0-6					
Laboratory ID:	02-229-12					
Arsenic	6.2	3.7	EPA 6010D	2-25-21	2-25-21	
Lead	16	7.4	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-13-0-6					
Laboratory ID:	02-229-13					
Arsenic	22	3.4	EPA 6010D	2-25-21	2-25-21	
Lead	33	6.8	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-14-Duff					
Laboratory ID:	02-229-14					
Arsenic	20	7.2	EPA 6010D	2-25-21	2-25-21	
Lead	55	14	EPA 6010D	2-25-21	2-25-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-15-0-6					
Laboratory ID:	02-229-15					
Arsenic	13	3.5	EPA 6010D	2-25-21	2-25-21	
Lead	32	6.9	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-16-0-6					
Laboratory ID:	02-229-16					
Arsenic	13	2.9	EPA 6010D	2-25-21	2-25-21	
Lead	29	5.7	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-17-6-12					
Laboratory ID:	02-229-17					
Arsenic	11	3.2	EPA 6010D	2-25-21	2-25-21	
Lead	24	6.5	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-18-0-6					
Laboratory ID:	02-229-18					
Arsenic	22	3.9	EPA 6010D	2-25-21	2-25-21	
Lead	53	7.9	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-19-0-6					
Laboratory ID:	02-229-19					
Arsenic	34	3.5	EPA 6010D	2-25-21	2-25-21	
Lead	59	7.1	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-20-Duff					
Laboratory ID:	02-229-20					
Arsenic	13	6.1	EPA 6010D	2-25-21	2-25-21	
Lead	78	12	EPA 6010D	2-25-21	2-25-21	

Client ID:	DU1-31-0-6					
Laboratory ID:	02-229-21					
Arsenic	13	3.2	EPA 6010D	2-26-21	2-26-21	
Lead	24	6.4	EPA 6010D	2-26-21	2-26-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-32-Duff					
Laboratory ID:	02-229-22					
Arsenic	36	4.1	EPA 6010D	2-26-21	2-26-21	
Lead	74	8.3	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-33-0-6					
Laboratory ID:	02-229-23					
Arsenic	18	3.5	EPA 6010D	2-26-21	2-26-21	
Lead	40	6.9	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-34-0-6					
Laboratory ID:	02-229-24					
Arsenic	16	3.3	EPA 6010D	2-26-21	2-26-21	
Lead	40	6.6	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-35-6-12					
Laboratory ID:	02-229-25					
Arsenic	9.1	3.0	EPA 6010D	2-26-21	2-26-21	
Lead	22	6.1	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-36-0-6					
Laboratory ID:	02-229-26					
Arsenic	11	3.5	EPA 6010D	2-26-21	2-26-21	
Lead	28	6.9	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-37-0-6					
Laboratory ID:	02-229-27					
Arsenic	18	3.4	EPA 6010D	2-26-21	2-26-21	
Lead	42	6.9	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-38-Duff					
Laboratory ID:	02-229-28					
Arsenic	9.2	4.5	EPA 6010D	2-26-21	2-26-21	
Lead	27	9.0	EPA 6010D	2-26-21	2-26-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-39-0-6					
Laboratory ID:	02-229-29					
Arsenic	19	3.3	EPA 6010D	2-26-21	2-26-21	
Lead	38	6.6	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-40-0-6					
Laboratory ID:	02-229-30					
Arsenic	13	3.4	EPA 6010D	2-26-21	2-26-21	
Lead	24	6.8	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-21-0-6					
Laboratory ID:	02-229-31					
Arsenic	16	3.8	EPA 6010D	2-26-21	2-26-21	
Lead	37	7.6	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-22-0-6					
Laboratory ID:	02-229-32					
Arsenic	9.4	3.1	EPA 6010D	2-26-21	2-26-21	
Lead	19	6.2	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-23-0-6					
Laboratory ID:	02-229-33					
Arsenic	10	3.5	EPA 6010D	2-26-21	2-26-21	
Lead	22	7.1	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-24-6-12					
Laboratory ID:	02-229-34					
Arsenic	12	3.3	EPA 6010D	2-26-21	2-26-21	
Lead	28	6.5	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-25-0-6					
Laboratory ID:	02-229-35					
Arsenic	6.7	3.4	EPA 6010D	2-26-21	2-26-21	
Lead	15	6.7	EPA 6010D	2-26-21	2-26-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-26-0-6					
Laboratory ID:	02-229-36					
Arsenic	18	3.9	EPA 6010D	2-26-21	2-26-21	
Lead	53	7.7	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-27-Duff					
Laboratory ID:	02-229-37					
Arsenic	7.5	3.8	EPA 6020B	3-3-21	3-3-21	
Lead	24	15	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-28-0-6					
Laboratory ID:	02-229-38					
Arsenic	26	3.7	EPA 6010D	2-26-21	2-26-21	
Lead	75	7.4	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-29-0-6					
Laboratory ID:	02-229-39					
Arsenic	5.8	3.2	EPA 6010D	2-26-21	2-26-21	
Lead	13	6.3	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-30-6-12					
Laboratory ID:	02-229-40					
Arsenic	ND	3.2	EPA 6010D	2-26-21	2-26-21	
Lead	9.0	6.4	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-41-0-6					
Laboratory ID:	02-229-41					
Arsenic	ND	3.5	EPA 6010D	2-26-21	2-26-21	
Lead	ND	7.0	EPA 6010D	2-26-21	2-26-21	

Client ID:	DU1-42-0-6					
Laboratory ID:	02-229-42					
Arsenic	ND	3.0	EPA 6010D	2-26-21	2-26-21	
Lead	ND	6.0	EPA 6010D	2-26-21	2-26-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-43-6-12					
Laboratory ID:	02-229-43					
Arsenic	ND	3.0	EPA 6010D	2-26-21	2-26-21	
Lead	6.4	6.1	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-44-0-6					
Laboratory ID:	02-229-44					
Arsenic	2.9	2.8	EPA 6010D	2-26-21	2-26-21	
Lead	11	5.6	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-45-Duff					
Laboratory ID:	02-229-45					
Arsenic	6.1	5.0	EPA 6010D	2-26-21	2-26-21	
Lead	23	10	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-46-0-6					
Laboratory ID:	02-229-46					
Arsenic	9.7	2.9	EPA 6010D	2-26-21	2-26-21	
Lead	28	5.9	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-47-0-6					
Laboratory ID:	02-229-47					
Arsenic	12	3.1	EPA 6010D	2-26-21	2-26-21	
Lead	24	6.3	EPA 6010D	2-26-21	2-26-21	
Client ID:	DU1-48-6-12					
Laboratory ID:	02-229-48					
Arsenic	17	3.1	EPA 6010D	2-26-21	2-26-21	
Lead	30	6.2	EPA 6010D	2-26-21	2-26-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0225SM2					
Arsenic	ND	2.5	EPA 6010D	2-25-21	2-25-21	
Lead	ND	5.0	EPA 6010D	2-25-21	2-25-21	
Laboratory ID:	MB0226SM1					
Arsenic	ND	2.5	EPA 6010D	2-26-21	2-26-21	
Lead	ND	5.0	EPA 6010D	2-26-21	2-26-21	
Laboratory ID:	MB0226SM2					
Arsenic	ND	2.5	EPA 6010D	2-26-21	2-26-21	
Lead	ND	5.0	EPA 6010D	2-26-21	2-26-21	
Laboratory ID:	MB0303SM1					
Arsenic	ND	1.3	EPA 6020B	3-3-21	3-3-21	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	02-229-17									
	ORIG	DUP								
Arsenic	8.80	8.05	NA	NA		NA	NA	9	20	
Lead	18.3	19.6	NA	NA		NA	NA	7	20	
Laboratory ID:	02-229-21									
	ORIG	DUP								
Arsenic	9.95	8.20	NA	NA		NA	NA	19	20	
Lead	18.8	15.9	NA	NA		NA	NA	17	20	
Laboratory ID:	02-229-44									
	ORIG	DUP								
Arsenic	2.63	4.67	NA	NA		NA	NA	56	20	C
Lead	9.40	15.9	NA	NA		NA	NA	51	20	C
Laboratory ID:	02-229-17									
	ORIG	DUP								
Arsenic	10.0	9.30	NA	NA		NA	NA	8	20	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

**TOTAL METALS
 EPA 6010D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID: 02-229-17											
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	92.3	96.2	100	100	8.80	84	87	75-125	4	20	
Lead	253	256	250	250	18.3	94	95	75-125	1	20	
Laboratory ID: 02-229-21											
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	100	102	100	100	9.95	90	92	75-125	2	20	
Lead	258	257	250	250	18.8	96	95	75-125	0	20	
Laboratory ID: 02-229-44											
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	95.0	92.8	100	100	ND	95	93	75-125	2	20	
Lead	256	256	250	250	9.40	99	99	75-125	0	20	
Laboratory ID: 02-229-17											
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	86.3	88.3	100	100	10.0	76	78	75-125	2	20	



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
DU1-01-0-6	02-229-01	35	2-25-21
DU1-02--6-12	02-229-02	33	2-25-21
DU1-03-0-6	02-229-03	30	2-25-21
DU1-04-Duff	02-229-04	74	2-25-21
DU1-05-0-6	02-229-05	43	2-25-21
DU1-06-0-6	02-229-06	21	2-25-21
DU1-07-6-12	02-229-07	30	2-25-21
DU1-08-0-6	02-229-08	38	2-25-21
DU1-09-Duff	02-229-09	44	2-25-21
DU1-10-0-6	02-229-10	20	2-25-21
DU1-11-0-6	02-229-11	33	2-25-21
DU1-12-0-6	02-229-12	33	2-25-21
DU1-13-0-6	02-229-13	26	2-25-21
DU1-14-Duff	02-229-14	65	2-25-21
DU1-15-0-6	02-229-15	28	2-25-21
DU1-16-0-6	02-229-16	13	2-25-21
DU1-17-6-12	02-229-17	23	2-25-21
DU1-18-0-6	02-229-18	37	2-25-21
DU1-19-0-6	02-229-19	29	2-25-21
DU1-20-Duff	02-229-20	59	2-25-21
DU1-31-0-6	02-229-21	21	2-25-21
DU1-32-Duff	02-229-22	40	2-25-21
DU1-33-0-6	02-229-23	28	2-25-21
DU1-34-0-6	02-229-24	24	2-25-21
DU1-35-6-12	02-229-25	18	2-26-21
DU1-36-0-6	02-229-26	28	2-26-21
DU1-37-0-6	02-229-27	27	2-26-21



Date of Report: March 3, 2021
 Samples Submitted: February 24, 2021
 Laboratory Reference: 2102-229
 Project: 3625-004-01

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
DU1-38-Duff	02-229-28	44	2-26-21
DU1-39-0-6	02-229-29	24	2-26-21
DU1-40-0-6	02-229-30	27	2-26-21
DU1-21-0-6	02-229-31	34	2-26-21
DU1-22-0-6	02-229-32	19	2-26-21
DU1-23-0-6	02-229-33	29	2-26-21
DU1-24-6-12	02-229-34	24	2-26-21
DU1-25-0-6	02-229-35	25	2-26-21
DU1-26-0-6	02-229-36	35	2-26-21
DU1-27-Duff	02-229-37	67	2-26-21
DU1-28-0-6	02-229-38	33	2-26-21
DU1-29-0-6	02-229-39	21	2-26-21
DU1-30-6-12	02-229-40	22	2-26-21
DU1-41-0-6	02-229-41	28	2-26-21
DU1-42-0-6	02-229-42	17	2-26-21
DU1-43-6-12	02-229-43	17	2-26-21
DU1-44-0-6	02-229-44	11	2-26-21
DU1-45-Duff	02-229-45	50	2-26-21
DU1-46-0-6	02-229-46	15	2-26-21
DU1-47-0-6	02-229-47	20	2-26-21
DU1-48-6-12	02-229-48	20	2-26-21





Data Qualifiers and Abbreviations

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





OnSite Environmental Inc.

Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: MEI

Project Number: 3625-004-01

Project Name: Pudonko Heights Apartments

Project Manager: Aaron Waggoner

Sampled by: Woodrow S. / Dexter Charn

Turnaround Request (in working days)

(Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

_____ (other)

Laboratory Number: 02-229

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
11	DuZ-11-0-6	2/24/21	0955	soil	1
12	DuZ-12-0-6		1000		1
13	DuZ-13-0-6		1020		1
14	DuZ-14-0-6		1025		1
15	DuZ-15-0-6		1030		1
16	DuZ-16-0-6		1035		1
17	DuZ-17-6-12		1040		1
18	DuZ-18-0-6		1045		1
19	DuZ-19-0-6		1050		1
20	DuZ-20-Duff		1055		1

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (□ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total PCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ar and Pb	% Moisture
																	X	X

Signature	Company	Date	Time	Comments/Special Instructions
<u>[Signature]</u>	<u>MEI</u>	<u>2/24/21</u>	<u>1445</u>	<u>Epa method 6010 A for indicated metal</u>
<u>[Signature]</u>	<u>ORF</u>	<u>2/24/21</u>	<u>14:45</u>	
Relinquished				
Received				
Relinquished				
Received				
Relinquished				
Received				Data Package: Standard <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>
Reviewed/Date	Reviewed/Date	Chromatograms with final report <input type="checkbox"/> Electronic Data Deliverables (EDDs) <input type="checkbox"/>		

Chain of Custody

Company: UEF

Project Number: 3625-004-01

Project Name: Redondo Heights Apartments

Project Manager: Aaron Wagoner

Sampled by: Woodrow S / Dexter Chan

Turnaround Request (in working days)

(Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

_____ (other)

Laboratory Number: 02-229

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
31	Du1-21-0-6	2/24/21	1059	Soil	1
32	Du1-22-0-6		1106		
33	Du1-23-0-6		1112		
34	Du1-24-6-12		1115		
35	Du1-25-0-6		1130		
36	Du1-26-6-6		1138		
37	Du1-27-Duff		1140		
38	Du1-28-0-6		1145		
39	Du1-29-0-6		1152		
40	Du1-30-6-12		1155		

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ac+Pb	% Moisture
																	X	X

Signature	Company	Date	Time	Comments/Special Instructions	
<u>[Signature]</u>	<u>UEF</u>	<u>2/24/21</u>	<u>1445</u>	<u>use EPA method 3060 D for indicated metal</u>	
<u>[Signature]</u>	<u>OBE</u>	<u>2/24/21</u>	<u>14:45</u>		
Reviewed/Date				Reviewed/Date	Data Package: Standard <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>
					Chromatograms with final report <input type="checkbox"/> Electronic Data Deliverables (EDDs) <input type="checkbox"/>



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

March 16, 2021

Aaron Waggoner
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 3625-004-01
Laboratory Reference No. 2103-137

Dear Aaron:

Enclosed are the analytical results and associated quality control data for samples submitted on March 12, 2021.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



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

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

Date of Report: March 16, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137
Project: 3625-004-01

Case Narrative

Samples were collected on March 12, 2021 and received by the laboratory on March 12, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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



Date of Report: March 16, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137
Project: 3625-004-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
DU1-08-6-12	03-137-01	Soil	3-12-21	3-12-21	
DU1-08-0-6-W1	03-137-02	Soil	3-12-21	3-12-21	
DU1-08-0-6-S1	03-137-06	Soil	3-12-21	3-12-21	
DU1-08-0-6-E1	03-137-10	Soil	3-12-21	3-12-21	
DU1-08-0-6-N1	03-137-14	Soil	3-12-21	3-12-21	



Date of Report: March 16, 2021
 Samples Submitted: March 12, 2021
 Laboratory Reference: 2103-137
 Project: 3625-004-01

**TOTAL ARSENIC
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-08-6-12					
Laboratory ID:	03-137-01					
Arsenic	10	5.9	EPA 6010D	3-12-21	3-12-21	
Client ID:	DU1-08-0-6-W1					
Laboratory ID:	03-137-02					
Arsenic	ND	6.1	EPA 6010D	3-12-21	3-12-21	
Client ID:	DU1-08-0-6-S1					
Laboratory ID:	03-137-06					
Arsenic	50	6.0	EPA 6010D	3-12-21	3-12-21	
Client ID:	DU1-08-0-6-E1					
Laboratory ID:	03-137-10					
Arsenic	19	6.3	EPA 6010D	3-12-21	3-12-21	
Client ID:	DU1-08-0-6-N1					
Laboratory ID:	03-137-14					
Arsenic	13	6.6	EPA 6010D	3-12-21	3-12-21	



Date of Report: March 16, 2021
 Samples Submitted: March 12, 2021
 Laboratory Reference: 2103-137
 Project: 3625-004-01

**TOTAL ARSENIC
 EPA 6010D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0312SM3					
Arsenic	ND	5.0	EPA 6010D	3-12-21	3-12-21	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	03-103-09							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	03-103-09									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	91.2	92.4	100	100	ND	91	92	75-125	1	20



Date of Report: March 16, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137
Project: 3625-004-01

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
DU1-08-6-12	03-137-01	15	3-12-21
DU1-08-0-6-W1	03-137-02	18	3-12-21
DU1-08-0-6-S1	03-137-06	16	3-12-21
DU1-08-0-6-E1	03-137-10	21	3-12-21
DU1-08-0-6-N1	03-137-14	25	3-12-21





Data Qualifiers and Abbreviations

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



Chain of Custody

Company: Geo Engineers
 Project Number: 3625-004-01
 Project Name: Redondo Heights
 Project Manager: Aaron Waggoner
 Sampled by: AMC/WDS

Turnaround Request (in working days)
 (Check One)
 Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 _____ (other)

Laboratory Number: **03-137**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	DU1-08-6-12	3/12/21	1048	Soil	1
2	DU1-08-0-6-W1	↓	1050	↓	1
3	DU1-08-6-12-W1		1053		1
4	DU1-08-0-6-W2		1056		1
5	DU1-08-6-12-W2		1058		1
6	DU1-08-0-6-S1		1100		1
7	DU1-08-6-12-S1		1102		1
8	DU1-08-06-S2		1105		1
9	DU1-08-6-12-S2		1107		1
10	DU1-08-0-6-E1		1110		1

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total PCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total Metals As Pb NO ₃	% Moisture
																	X	X
																	X	X

Signature	Company	Date	Time	Comments/Special Instructions
<u>[Signature]</u>	<u>GEI</u>	<u>3/11/21</u>	<u>1330</u>	Detection Limits $A_s \leq 7 \text{ mg/kg}$ $Pb \leq 24 \text{ mg/kg}$
<u>[Signature]</u>	<u>GEI</u>	<u>3/12/21</u>	<u>1330</u>	
Reviewed/Date	Reviewed/Date	Data Package: Standard <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Chromatograms with final report <input type="checkbox"/> Electronic Data Deliverables (EDDs) <input type="checkbox"/>		



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

March 18, 2021

Aaron Waggoner
GeoEngineers, Inc.
1101 Fawcett Avenue South, Suite 200
Tacoma, WA 98402

Re: Analytical Data for Project 3625-004-01
Laboratory Reference No. 2103-137B

Dear Aaron:

Enclosed are the analytical results and associated quality control data for samples submitted on March 12, 2021.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



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

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

Date of Report: March 18, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137B
Project: 3625-004-01

Case Narrative

Samples were collected on March 12, 2021 and received by the laboratory on March 12, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

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



Date of Report: March 18, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137B
Project: 3625-004-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
DU1-08-6-12-S1	03-137-07	Soil	3-12-21	3-12-21	
DU1-08-0-6-S2	03-137-08	Soil	3-12-21	3-12-21	



Date of Report: March 18, 2021
 Samples Submitted: March 12, 2021
 Laboratory Reference: 2103-137B
 Project: 3625-004-01

**TOTAL ARSENIC
 EPA 6010D**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	DU1-08-6-12-S1					
Laboratory ID:	03-137-07					
Arsenic	20	6.1	EPA 6010D	3-17-21	3-17-21	

Client ID:	DU1-08-0-6-S2					
Laboratory ID:	03-137-08					
Arsenic	31	6.2	EPA 6010D	3-17-21	3-17-21	



Date of Report: March 18, 2021
 Samples Submitted: March 12, 2021
 Laboratory Reference: 2103-137B
 Project: 3625-004-01

**TOTAL ARSENIC
 EPA 6010D
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0317SM2					
Arsenic	ND	5.0	EPA 6010D	3-17-21	3-17-21	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	03-177-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	03-177-07									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	99.4	99.3	100	100	ND	99	99	75-125	0	20



Date of Report: March 18, 2021
Samples Submitted: March 12, 2021
Laboratory Reference: 2103-137B
Project: 3625-004-01

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
DU1-08-6-12-S1	03-137-07	17	3-18-21
DU1-08-0-6-S2	03-137-08	19	3-18-21





Data Qualifiers and Abbreviations

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



Chain of Custody

Company: Geo Engineers
 Project Number: 3625-004-01
 Project Name: Redondo Heights
 Project Manager: Arion Waggoner
 Sampled by: AMC/WDS

Turnaround Request (in working days)
 (Check One)
 Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 _____ (other)

Laboratory Number: **03-137**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	DU1-08-6-12	3/12/21	1048	Soil	1
2	DU1-08-0-6-W1	↓	1050	↓	1
3	DU1-08-6-12-W1		1053		1
4	DU1-08-0-6-W2		1056		1
5	DU1-08-6-12-W2		1058		1
6	DU1-08-0-6-S1		1100		1
7	DU1-08-6-12-S1		1102		1
8	DU1-08-06-S2		1105		1
9	DU1-08-6-12-S2		1107		1
10	DU1-08-0-6-E1		1110		1

NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (□ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total PCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
																	X
																	X
																	X
																	X
																	X
																	X
																	X
																	X

Handwritten notes in table:
 - Column 17: Total/Matrix As Pb NO DB
 - Column 18: Hold
 - Row 6: X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X
 - Row 7: X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X
 - Row 8: X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X
 - Row 9: X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X
 - Row 10: X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X, X

Signature	Company	Date	Time	Comments/Special Instructions
<u>[Signature]</u>	<u>GEI</u>	<u>3/11/21</u>	<u>1330</u>	Detection Limits $As \leq 7 \text{ mg/kg}$ $Pb \leq 24 \text{ mg/kg}$ (X) Added 3/16/21 .DB (2 day TAT)
<u>[Signature]</u>	<u>GEI</u>	<u>3/12/21</u>	<u>1330</u>	
Reviewed/Date	Reviewed/Date	Data Package: Standard <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Chromatograms with final report <input type="checkbox"/> Electronic Data Deliverables (EDDs) <input type="checkbox"/>		

APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report. Please confer with GeoEngineers if you need to know more about how these “Report Limitations and Guidelines for Use” apply to your project or property.

Read These Provisions Closely

It is important to recognize that environmental engineering and geoscience practices (geotechnical engineering, geology and environmental science) are less exact than other engineering and natural science disciplines. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce the risk of misunderstandings or unrealistic expectations that lead to disappointments, claims and disputes.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

GeoEngineers has prepared this Soil Sampling and Analytical Results Summary for the proposed Redondo Heights Apartments project in Federal Way, Washington in general accordance with the scope and limitations of our fully executed proposal, dated February 22, 2021. This report has been prepared for the exclusive use of Shelter Resources, Inc. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

GeoEngineers structures its services to meet the specific needs of its clients. For example, an ESA study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and property. Use of this report is not recommended for any purpose or project other than as expressly stated in this report.

This Environmental Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the proposed L Redondo Heights Apartments project in Federal Way, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this Project. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- not prepared for you,
- not prepared for your Project,
- not prepared for the specific site explored, or
- completed before Project changes were made.

¹ Developed based on material provided by GBA, GeoProfessional Business Association; www.geoprofessional.org.



If changes to the Project or property occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations in the context of such changes. Based on that review, we can provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the party(ies) to whom this report is addressed. No other party may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed Project scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in our scope of service, this report does not provide any geotechnical findings, conclusions, or recommendations, including but not limited to, the suitability of subsurface materials for construction purposes.

Do Not Separate Documentation from the Report

Environmental reports often include supplemental documentation, such as maps, figures and table. Do not separate such documentation from the report. Further, do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.

Environmental Regulations Change and Evolve

Some substances may be present in the vicinity of the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substances, change or if more stringent environmental standards are developed in the future.

Uncertainty May Remain Even After This Phase II ESA is Completed

Performance of a Phase II ESA is intended to reduce uncertainty regarding the potential for contamination in connection with a property, but no ESA can wholly eliminate that uncertainty. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the subject property, by new releases of hazardous substances, new information or technology that become available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Please contact GeoEngineers before



applying this report for its intended purpose so that GeoEngineers may evaluate whether changed conditions affect the continued applicability of the report.

Soil and Groundwater End Use

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other properties or for other on-site uses of the affected soil and/or groundwater. Note that hazardous substances may be present in some of the on-site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject property or reuse of the affected soil or groundwater on-site to evaluate the potential for associated environmental liabilities. GeoEngineers will not assume responsibility for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject property to another location, or the reuse of such soil and/or groundwater on-site in any instances that we did not recommend, know of, or control.

Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the subject property. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions throughout the property. Actual subsurface conditions may differ significantly from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this Project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

Information Provided by Others

GeoEngineers has relied upon certain data or information provided or compiled by others in the performance of our services. Although we use sources that we reasonably believe to be trustworthy, GeoEngineers cannot warrant or guarantee the accuracy or completeness of information provided or compiled by others.



APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report. Please confer with GeoEngineers if you need to know more about how these “Report Limitations and Guidelines for Use” apply to your project or property.

Read These Provisions Closely

It is important to recognize that environmental engineering and geoscience practices (geotechnical engineering, geology and environmental science) are less exact than other engineering and natural science disciplines. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce the risk of misunderstandings or unrealistic expectations that lead to disappointments, claims and disputes.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

GeoEngineers has performed these environmental services for the Redondo Heights Apartment project located south of South 276th Street about 600 feet east of Pacific Highway South (HWY 99) in Federal Way, Washington in general accordance with the scope and limitations of our proposal, executed February 22, 2021. This report has been prepared for the exclusive use of Shelter Resources, Inc. and their authorized agents. This report is not intended for use by others, and the information contained herein is not applicable to other properties.

GeoEngineers structures its services to meet the specific needs of its clients. For example, an ESA study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and property. Use of this report is not recommended for any purpose or project other than as expressly stated in this report.

This Environmental Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for Shelter Resources, Inc. and their authorized agents for the Redondo Heights Apartment project located south of South 276th Street about 600 feet east of Pacific Highway South (HWY 99) in Federal Way, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this Project. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- Not prepared for you,
- Not prepared for your Project,
- Not prepared for the specific site explored, or
- Completed before Project changes were made.

¹ Developed based on material provided by GBA, GeoProfessional Business Association; www.geoprofessional.org.

If changes to the Project or property occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations in the context of such changes. Based on that review, we can provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

This report was prepared for the exclusive use of the party(ies) to whom this report is addressed. No other party may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed Project scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in our scope of service, this report does not provide any geotechnical findings, conclusions, or recommendations, including but not limited to, the suitability of subsurface materials for construction purposes.

Do Not Separate Documentation from the Report

Environmental reports often include supplemental documentation, such as maps, figures and table. Do not separate such documentation from the report. Further, do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.

Environmental Regulations Change and Evolve

Some substances may be present in the vicinity of the subject property in quantities or under conditions that may have led, or may lead, to contamination of the subject property, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substances, change or if more stringent environmental standards are developed in the future.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the subject property, by new releases of hazardous substances, new information or technology that become available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Please contact GeoEngineers before applying this report for its intended purpose so that GeoEngineers may evaluate whether changed conditions affect the continued applicability of the report.

Soil and Groundwater End Use

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other properties or for other on-site uses of the affected soil and/or groundwater. Note that hazardous substances may be present in some of the on-site soil and/or groundwater at detectable

concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject property or reuse of the affected soil or groundwater on-site to evaluate the potential for associated environmental liabilities. GeoEngineers will not assume responsibility for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject property to another location, or the reuse of such soil and/or groundwater on-site in any instances that we did not recommend, know of, or control.

Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the subject property. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions throughout the property. Actual subsurface conditions may differ significantly from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Do Not Redraw the Exploration Logs

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design documents. Only photographic or electronic reproduction that preserves the entire original boring log is acceptable but separating logs from the report can create increase the risk of potential misinterpretation.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this Project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

Information Provided by Others

GeoEngineers has relied upon certain data or information provided or compiled by others in the performance of our services. Although we use sources that we reasonably believe to be trustworthy, GeoEngineers cannot warrant or guarantee the accuracy or completeness of information provided or compiled by others.

