### **CLEANUP ACTION REPORT (CAR)**

Woodlands at Redondo Creek King County Parcel: 042104-9012 Facility/Site ID: 51842 Cleanup Site ID: 15345 VCP Project ID: NW3302

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#### 1.0 INTRODUCTION

EcoCon, Inc (ECI), on behalf of Eastwood Terrace Estates, LLC, has prepared this Cleanup Action Report (CAR) for King County Parcel 042104-9012 known as Woodlands at Redondo Creek (the Property/Subject Property), to document remedial activities on the subject Property. This Property is part of a larger multiproperty site that has been affected by fallout associated with the Tacoma Asarco Smelter Plume (Asarco Tacoma Smelter Site). The "Asarco Site" as defined by Ecology is:

"...the nature and extent of contamination associated with the following releases:

- Arsenic into the Soil.
- Lead into the Soil..."

The purpose of this CAR is to provide relevant Property information, Property history, document the cleanup action in accordance with WAC 173-340-400, and obtain a *"Property-Specific No Further Action (NFA) determination* from the Washington State Department of Ecology (Ecology) through the Voluntary Cleanup Program (VCP) for the cleanup actions performed on Property. Ecology has previously concluded that further remedial action will still be necessary elsewhere within the ASARCO Site after remediation takes place on the Subject Property. These further remedial actions will not be the responsibility of owner of the Subject Property and will be performed by others.

#### 2.0 PHYSICAL SETTINGS

#### 2.1 Property Location / Description

The Property consists of one irregularly shaped undeveloped parcel, identified by King County Tax parcel numbers 042104-9012 zoned community Business by the City of Federal Way. According to the King County Assessor, the property is 920,129 square feet or 21.12 acres. The Property is located within the Southwest Quarter of the Southwest Quarter of Section 4, Township 21 North, and Range 04 East of the Willamette Meridian (Figures 1 & 2, Appendix A).

The following is the legal description of the Property as provided by King County Assessor's website:

POR OF SW 1/4 OF SW 1/4 ELY OF PAC HWY LESS POR OF S 1/2 W OF E 610 FT LESS N 183 FT OF E 330 FT LESS CO RD LESS ST PER REC# 20201001001149

The Property is located near the intersection of Pacific Highway/WA-99 & South 304<sup>th</sup> Street in Federal Way, Washington and is bounded to the:

- North: by SmartCare Daycare and Residential housing;
- West: by Pacific Highway/WA-99 in the northern portion of the Property and a vacant commercial parcel that reportedly contains wetlands covering 95 percent of the parcel
- South: by a vacant commercial parcel that reportedly contains wetlands covering 95 percent of the parcel in the northern portions of the Subject Property and by South 304<sup>th</sup> Street in the southern portion of the Subject Property; and
- East: by residential neighborhoods.

The greater vicinity is occupied by primarily residential developments.

According to the Ecology Toxics Cleanup Program's "Dirt Alert" map, the Subject Property is within the Asarco Tacoma Smelter Site in an aera that has predicted Arsenic concentrations between 20 and 40 parts per million (ppm) (milligrams per kilogram(mg/Kg)).

#### 2.2 Property Geology and Hydrogeology

#### 2.2.1 <u>Regional Geology</u>

The Subject Property is located between the Cascade Range and Olympic Mountains in the physiographic region of the Puget Lowlands, an elongated topographic and structural depression filled with complex sequences of glacial and nonglacial sediments that overlie bedrock. Continental ice sheets up to 3,000 feet thick covered portions of the Puget Lowland several times during the Quaternary period. Retreating ice carved new landscapes, rechanneled rivers, drained or formed lakes, and deposited glacial drift including till and outwash (WA DNR, 2002).

Multiple periods of continental glaciation occurred in the region during the Pleistocene Epoch (2.5 million years ago (mya) to 11,000 years ago) as Cordilleran glaciers advanced into the Puget Sound Lowland. The most recent of these, the Vashon Stade of the Frasier Glaciation, was about 5,000 feet thick near Seattle. The terminus of these glaciers was approximately 12 miles south of Olympia. After the last glacial retreat (approximately 10,000 years ago), incision of the valleys in the Puget Sound Lowlands and subsequent deposition of fluvial and alluvial deposits has occurred to the present.

#### 2.2.2 Property Geology

Washington State Department of Natural Resources Online Geologic Portal indicates that the Subject Property is located in an area that is under lain by glacial till consisting of an unsorted, unstratified, highly compacted mixture of clay, silt, sand, gravel, and boulders deposited by glacial ice. It may contain interbedded stratified sand, silt, and gravel. The portal also shows what appears to be a former glacial channel trending north-northwest to south-southeast through the Property to Steel Lake approximately 500

feet to the southeast. The channel consists of well-bedded sand and less common gravel deposited subaqueously or by streams and rivers in front of advancing ice sheet in the northern portion of the Property. The channel in the southern portion of the Property consists of bog, marsh, swamp, or lake deposits consisting of poorly drained and intermittently wet peat and alluvium.

According to the Natural Resource Conservation Service Online Web Soil Survey map, the dominant soil composition found on the Property is listed as "*Arents, Alderwood Material*" consisting of gravelly to very gravelly sandy loam in the northern portion of the Property and "*Alderwood Gravelly Sandy Loam*" in the southern portion of the Property.

#### 2.2.3 <u>Regional Groundwater Conditions</u>

The regional hydrogeologic setting is defined as the Puget-Willamette Trough Regional Aquifer system. This regional aquifer system underlies an elongated basin that extends from near the Canadian border in Washington State to central Oregon. The regional aquifer system is delineated into three areas: 1) the Puget Sound Lowlands in northern Washington, 2) a central area that extends southward from the Puget Sound Lowlands to northern Oregon, and 3) the Willamette River Valley, which extends southward from the Columbia River to central Oregon (USGS, 1994). The Property lies in the Puget Sound Lowlands.

The primary aquifers in the Puget Sound region are typically in glacial sands and gravels overlain by relatively impermeable glacial till deposits, which are present at or near the ground surface. Within these till deposits are localized areas or lenses of water-bearing sands and gravels that may result in a shallow, localized, perched water table.

#### 2.2.4 Local Groundwater Conditions

Lateral and vertical migration of shallow groundwater may be impeded by the relatively impermeable nature of the till and by the sometimes-discontinuous nature of the perched water-bearing sands and gravel. In some areas, the hydrogeology is controlled by large gravel deposits that are the result of advance and recessional glacial outwash or non-glacial alluvium deposited by rivers in the region or volcanic deposits from the Cascade Mountains.

According to the Washington State Department of Ecology Well Waterlog database, and a search of cleanup sites in the vicinity of the Subject Property the depth to ground water in the vicinity of the Property is estimated to between 8 and 20 feet below the ground surface (bgs). However, with wetlands reported on the property adjacent to the Subject Property, groundwater may seasonally be at or near the surface.

Perched and discontinuous zones of shallow groundwater may be seasonally or perennially present, depending on specific conditions. Shallow groundwater flow directions fluctuate and tend to follow topographic gradient but are also affected by seasonal high-water tables and variable soil characteristics. Groundwater migration pathways may also follow underground conduits. It is anticipated that the groundwater flow direction at the Property is to the south and southeast toward Steel Lake approximately 500 feet to the southeast.

#### 2.3 Summary of Current Conditions and Land Use History

The Property is currently vacant, and under construction with the placement of a new multi-family housing development.

#### 2.4 Previous Property Investigations, Characterization, and Methodology

#### 2.4.1 Arsenic & Lead Soil Screening – EcoCon, Inc – April 2019

In April 2019, ECI environmental professionals completed a limited environmental screening focused on potential arsenic and lead contaminated soils. This investigation was conducted as a screening only and was not performed in accordance with Ecology's 2019 *Tacoma Smelter Plume Model Remedies Guidance*, Publication 19-09-101 or the Ecology *"Asarco Tacoma Smelter Site: Final Interim Action Plan for the Tacoma Smelter Plume"* (Publication 12-09-086) that was in effect at the time of the screening.

Ten random sample locations were selected (locations S1 through S10) (Figure 3, appendix A), and a total of 14 samples were collected which included 10 surface soil samples collected between 0 to 6" below ground surface (bgs), and 4 samples of forest duff (the leaves and decomposing matter which rests on the

forest floor). Samples were analyzed by Friedman & Bruya Inc. of Seattle, Washington. The analytical results of the samples analyzed revealed that each of the samples contained concentrations below the respective MTCA Method A Cleanup levels for both arsenic (20 mg/kg) and lead (250 mg/kg) Table 8, Appendix B).

#### 2.4.2 Arsenic & Lead Soil Assessment – EcoCon, Inc – July 17, 2019

On June 11<sup>th</sup> and June 12<sup>th</sup>, 2019 ECI environmental professionals collected a total of 68 soil samples and one forest duff sample from the Subject Property. The purpose of this sampling event was to fulfill testing requirements set forth in the newly published Ecology *Tacoma Smelter Plume Model Remedies Guidance*, (Publication 19-09-101) which described sampling and remediation of properties within Asarco Tacoma Smelter Site.

Because the Property is located in an area where arsenic has been found in the soils at concentrations between 20 and 100 mg/kg, the Property is being developed for residential use and is a close to 20 acres in size, Ecology required that minimum of 64 samples be collected. Based on this, the Property was divided into 65 grids approximately 120 feet x 120 feet in size (Figure 3, Appendix A). Because 10 samples had previously been collected, 54 sample locations were chosen for sampling at a depth of 0 to 6-inches bgs. In addition, 14 sample locations were chosen to have soil samples collected from a depth of 6 to 12 inches bgs and one sample of the forest duff was collected grid location E1.

The duff sample in grid location E1 was collected by dividing the grid location into nine sub-grids and collecting samples randomly from six of the sub-grid locations and compositing them into one six-point composite sample as described in the Ecology *Tacoma Smelter Plume Model Remedies Guidance* (Figure 5, Appendix A).

The results of the soil analysis indicated that the concentrations for lead and arsenic at the Subject Property were below the average concentration limits shown in the Ecology guidance for properties having "elevated" levels of arsenic and lead (20 mg/kg for arsenic and 250 mg/kg for lead). However, one sample from grid location F8 in the eastern portion of to the Subject Property (Sample F8-0-6") was reported to contain an arsenic concentration exceeding the 40 mg/kg maximum allowed for any one discreet soil sample at a concentration of 43 mg/kg. Analytical results greater than the maximum allowed is considered "elevated" by Ecology and requires that further investigation be performed in the area where the sample was obtained.

The analytical results of the duff sample revealed that the composite sample contained arsenic at a concentration of 23.6 mg/kg which is above the 20 mg/kg threshold where the Ecology guidance indicates the duff needs to be removed for proper disposal. Table 8 in Appendix B presents the results of the soil sample analyses.

#### 2.4.3 <u>Arsenic & Lead Soil Assessment – EcoCon, Inc – December 2020</u>

On December 14, 2020, in order to characterize the extent of "elevated" arsenic previously identified (July 2019) in grid location F8, ECI environmental professionals divides grid location into nine sub-grids (F8-1 through F8-9) and collected a total of nineteen (19) soil samples from the nine (9) sub-grid-locations (Figure 4, Appendix A). The samples were collected at two depths, 0 to 6-inches bgs and 6 to 12-inches bgs. One sample location (sub-grid F8-1) also had a sample collected from 6 to 18-inches bgs.

Each of the nineteen (19) samples collection from grid F8 were reported below the maximum average concertation for both arsenic and lead and below the maximum individual concentration for both arsenic and lead (Table 8, Appendix B).

#### 2.4.4 January 2021 Duff Sampling Event

On January 7, 2021, ECI environmental professionals mobilized to the Property and collected five additional surface duff samples. These samples were collected so as to have the total number of duff samples required for a property at or near 20 acres in size as specified in the Ecology guidance. Six randomly grid locations within the grid that had previously been developed for the Property were selected for duff sampling. The grid location selected for duff sampling were grid locations F6, E6, I4, J6, and H8. Figure 3 in Appendix A shows the grid locations for the Subject Property. Each sample was comprised of 6 (six) sub-samples composited into one duff sample.

The analytical results of the duff samples revealed that the concentrations of arsenic and lead were significantly below the levels the Ecology considered "elevated" (20 mg/kg Arsenic and 250 mg/kg lead) (Table 8, Appendix B).

#### 2.4.5 ECI Investigation Recommendations

Based on the analytical results obtained during the investigations on the Property, ECI recommended that corrective actions be performed on the soil in grid location F8 and on the duff in location E1 using the Model Remedy Options provided in the Ecology *Tacoma Smelter Plume Model Remedies Guidance* as guidance. The model remedies provided by Ecology and considerations for the use of each Model Remedies are provided in the tables below.

	Model Remedy	Action	Considerations		
Permanent	Excavate & Remove (Ch. 3)	Excavate contaminated soils and properly dispose of them.	<ul> <li>⇒ The top 6" of soil must have &lt;20 ppm average arsenic and &lt;250 ppm average lead after excavation. Take samples at depth to make sure you remove all contamination.</li> <li>⇒ Performance monitoring required.</li> </ul>		
	Mix (Ch. 4)	Mix the top 6-12" of contaminated soils with imported soils or deeper, clean soil.	<ul> <li>⇒ Not for soils &gt;40 ppm average arsenic, average lead &gt;500 ppm.</li> <li>⇒ Performance monitoring required.</li> </ul>		

#### Table 1: Model Remedy Options

Tacoma Smelter Plume Model Remedies Guidance Publication Number 19-09-101: Table 2-Page 23

Table 2: Things to Consider for the Mo	del Remedies
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Arsenic and lead levels: Use excavation at any level of contamination				
<ul> <li>Pros:</li> <li>Permanent</li> <li>Only permanent remedy for average arsenic &gt; 40 ppm, lead &gt; 500 ppm</li> <li>Works for all levels of arsenic or lead soil contamination</li> <li>No need for institutional controls</li> </ul>	<ul> <li>Cons:</li> <li>May require a waste disposal authorization for landfill</li> <li>Can be expensive to and dispose of soils and new soils</li> <li>Requires sampling for and for importing new soils</li> </ul>			
<b>Costs:</b> There are certain costs with removal, proper landfill disposal, and bringing in clean fill. However, there are no long-term maintenance costs for maintenance and monitoring because the remedy is permanent. Estimate costs using the worksheet at the end of the chapter.				

Tacoma Smelter Plume Model Remedies Guidance Publication Number 19-09-101: Page 25

#### 3.0 **REGULATORY COMPLIANCE AND CLEANUP STANDARDS**

Regulatory compliance for this project is based on the Washington Administrative Code (WAC), Chapter 173-340 (the Model Toxic Control Act (MTCA) regulations and the Revised Code of Washington (RCW), Chapter 70.105D (recodified in 2020 as Chapter 70A.305 RCW, implemented by the Washington State Department of Ecology. Pursuant to Chapter 70.105D RCW), Ecology has established cleanup standards and requirements for cleanup actions. The rules establishing these standards and requirements were developed by Ecology in consultation with the Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in February 1991, with amendments in January 1996, February 2001, and October 2007.

Sampling procedures and sampling requirements are detailed in the Ecology 2019 publication 19-09-101 (*Tacoma Smelter Plume Model Remedies Guidance - Sampling and Cleanup of Arsenic and Lead Contaminated Soils*). Should arsenic or lead levels be reported as "elevated", remediation is necessary. "*Elevated*" for soil as defined in the Ecology guidance means:

- Average arsenic greater than 20 mg/kg (ppm) or maximum (any one sample) arsenic greater than 40 mg/kg, and
- Average lead greater than 250 mg/kg; or maximum lead is greater than 500 ppm.

"*Elevated*" for duff as defined in the Ecology guidance means:

- Duff composite sample arsenic > 20 mg/kg or
- Duff composite sample lead > 250 mg/kg

#### 3.1 Contaminants and Media of Concern

Based on the physical presence of the Property within the Tacoma Asarco Smelter Site, and the characterization sampling conducted in 2019, 2020, and 2021, the contaminants of concern (COCs) identified for the Property include:

• Arsenic & Lead in Soil

#### 3.2 Cleanup Levels & Points of Compliance

As described in the *Tacoma Smelter Plume Model Remedy Guidance* (Ecology 2019), Ecology has determined that compliance for remedies under taken for the soil and duff on the Tacoma Smelter Site will be achieving levels that are below the concentrations that are considered "*elevated*" in each "*Decision Unit*" on a property. Ecology indicates that "*Decision Units*" are determined by an:

"Area of a property expected to have a different pattern of soil contamination than other areas."

For this Property the decision units are the:

- Forest duff,
- Soil from 0 to 6 inches bgs, and
- Soil from 6 to 12 inches bgs

The COCs and the respective CULs are shown in the table below:

Contaminant of Laboratory Method <sup>1</sup>		Soil Cleanup Levels (mg/kg or ppm)		
Arconic (Ac)	6010 6020 6200 or 7060	Average Concentration (all samples combined)	20	
Alsellic (As)	8010, 8020, 8200, 81 7000	Maximum Concentration (per sample) 40		
Lood (Lood)	6010 6020 6200 or 7421	Average Concentration (all samples combined) 2!		
Lead (Lead)	6010, 6020, 6200, 01 7421	Maximum Concentration (per sample)	500	
Contaminant of Concern (COCs)	Laboratory Method <sup>1</sup>	Duff Cleanup Levels (mg/kg or ppm)		
Arsenic (As) 6010, 6020, 6200, or 7060		Maximum Concentration (per composite sample)	20	
Lead (Lead) 6010, 6020, 6200, or 7421				

Table 3: Contaminants of Concern, Methods, and Cleanup Levels

The Ecology guidance has specified the number of soil and duff samples for characterization sampling of a property and confirmation of the remediation based on the size of the property, the anticipated use of the property, and the anticipated arsenic concentrations in the area of the Asarco Tacoma Smelter Site in which the property is located. The Ecology sampling requirements are presented in the tables below. For the Subject Property the number of samples are based on the property being: residential, 20 acres in size, and in an area of anticipated arsenic concentration between 20 and 100 ppm

Sampling area (X)	Residential	Parks, Commercial	Forest and	Open Land
	Samples needed (Y)	Samples needed (Y)	Samples needed (Y)	Samples needed (Y)
Acres	Arsenic >100 ppm	Arsenic 20-100 ppm	Arsenic >100 ppm	Arsenic 20-100 ppm
0.25	10*	8	8	8
1	20	16	16	12
5	40	32	30	24
10	60	48	40	32
20	80	64	50	40
100	120	90	70	60
>100	120 + 1 per 5 acres	90 + 1 per 5 acres	70 + 1 per 10 acres	60 + 1 per 10 acres

Table 4: Ecology Sampling Guidelines & Soil Sampling Requirements

\* The number of samples is calculated by a linear interpolation method, rounding up to the next whole number. Calculate the number of samples you need using the following formula:

$$Y = Y_a + (Y_b - Y_a)^* ((X - X_a) / (X_b - X_a))$$

Sampling	Residential, parks,	Commercial	Forest and	open land
area	Samples needed (Y)	Samples needed (Y)	Samples needed (Y)	Samples needed (Y)
Acres	Arsenic >100 ppm	Arsenic 20- 100 ppm	Arsenic >100 ppm	Arsenic 20- 100 ppm
0.25	1	1	1	1
1	5	4	4	2
5	10	8	6	4
10	15	12	10	8
20	20	16	12	10
100	30	22	16	12
>100	30 + 1 per 5 acres	22 + 1 per 5 acres	16 + 1 per 10 acres	12 + 1 per 10 acres

#### Table 5: Minimum Number of Composite Duff Samples per Decision Unit

\* Each composite duff sample must include at least six subsamples

#### 3.3 Distribution of Contamination

Based on the results from previous investigations, it appears the distribution of arsenic and lead contamination is limited to the upper 6-inches of soil across the majority of the Property. This includes both soil and duff (Figure 3, Appendix A). However, only soil in in a portion of grid location F8 and the duff in grid location E1 are considered to have "*elevated*" concentrations of arsenic and need remediated.

#### 4.0 CLEANUP ALTERNATIVE SELECTION

The following section describes the remedial action selection process for the Property.

#### 4.1 Goals and Objectives

The specific cleanup goals and objectives for the Property include the following:

- To remediate the soil and duff that have "*elevated*" levels of arsenic as defined in Ecology *Tacoma Smelter Plume Model Remedy Guidance*.
- Protection of human health and the environment, including protection against direct contact with contaminated soil while allowing for the most beneficial use of the Property.

#### 4.2 Remedy Selection

ECI developed the cleanup action approach using the Ecology *Tacoma Smelter Plume Model Remedies Guidance* (Publication Number 19-09-101). As specified in the guidance documents, two permanent remediation options are provided. These remedy options are: 1) Excavation & Removal and 2) Soil Mixing. The most appropriate remedy for this Property was the excavation and off-Property disposal at a properly licensed Sub-Title D Disposal Facility.

Analytical results derived from previous Property characterization activities have shown concentrations of arsenic in Grid E1 sample E1-Duff reported containing arsenic at 23.6 mg/kg, exceeding Duff Arsenic CUL of 20 mg/kg. Sample F1-0-6", collected from Grid F8-2 was reported containing arsenic at 43 mg/kg exceeding the maximum "any one sample" CUL of 40 mg/kg.

#### 5.0 CLEANUP ACTION

Based on the distribution of the contamination, a cleanup action for the Property was chosen with the following goals and objectives:

- Remediation of arsenic contaminated surface and near surface soil that was the result of contaminant distribution by the Tacoma Asarco Smelter Plume.
- Protection of human health and the environment, including protection against direct contact or ingestion of contaminated soil while allowing for the most beneficial use of the Property by the property owners.

#### 5.1 Selected Cleanup Action

To meet the goals and objectives mentioned above the following cleanup action was selected:

• The excavation and off-Property disposal of the petroleum hydrocarbon contamination in shallow soil.

The specific cleanup action tasks are described in the following sections.

#### 5.2 Cleanup Action Activities

#### 5.2.1 <u>Health and Safety</u>

Prior to implementation of the cleanup action a Property-specific Health and Safety Plan (HASP) was prepared in accordance with Chapter 296-62 WAC and 29 CFR 1910.120 (Code of Federal Regulations). The HASP identified potential physical and chemical hazards and specified personal protection and safety monitoring requirements. Health and safety meetings were conducted during fieldwork at the beginning of each workday to review aspects of the HASP, and to provide an opportunity for ECI workers and contractor personnel to discuss health and safety issues or concerns.

#### 5.2.2 <u>Project Permitting</u>

Waste Disposal Authorization was obtained through Republic Services, Inc. (Republic), disposal contract identification TB-29215.

#### 5.3 Property Excavation Activities

ECI mobilized to the Subject Property on June 21, 2021. The objective was to oversee the excavation of arsenic contaminated soil in grid location F8 and the duff in grid location E1 (Figure 2, Appendix A).

#### 5.3.1 Grid Location E1 Remedial Excavation

Previous sample analysis from grid location E1 identified an arsenic concentration in the composite sample of duff at 23.6 mg/kg (sample E1-Duff), exceeding the 20 mg/kg maximum allowable concentration. On June 21, 2021, ECI remediated the duff in grid location E1. Using a track-mounted excavator, the area was cleared of duff extending down to underlying soil. The excavated duff was placed on plastic sheeting pending disposal. The final excavation area measured approximately 50 feet west to east by 100 feet north to south.

#### 5.3.2 Grid Location F8 Remedial Excavation

Sample analysis from grid location F8 identified arsenic in surface soil reported at 43.0 mg/kg (sample F8-0 to 6- inches), exceeding the 40.0 mg/kg maximum allowable concentration. Further grid sampling to delineate the contaminated areas was completed in December 2020 (Focused Arsenic & Lead Soil Assessment – January 2021) reducing the contaminated area to approximately 20 feet west to east by 10 feet north to south (Figure 4, Appendix A). This area was remediated ECI on June 21, 2021. Using a trackmounted excavator, the top six (6) inches of surface soil was excavated and placed on plastic sheeting pending disposal.

#### 5.4 Final Performance & Confirmation Sampling Protocol

#### 5.4.1 <u>Performance Monitoring</u>

Performance monitoring confirms:

"...that the interim action or cleanup action has attained cleanup standards and, if appropriate, remediation levels..."

Performance monitoring was conducted during and after remedial excavation activities in an effort to direct the advancement of the excavation. Performance monitoring included field screening of soils being removed and remaining in the excavation as well as sampling of the remaining soils in the excavations. The field screening included visual observation of the duff and field measurements for the depth of the soil excavation.

#### 5.4.2 Confirmational Soil Monitoring

Confirmational monitoring confirms:

"...the long-term effectiveness of the interim action or cleanup action once cleanup standards and, if appropriate, remediation levels or other performance standards have been attained."

To verify compliance with cleanup levels in the Ecology *Tacoma Smelter Plume Model Remedies Guidance*, confirmational monitoring was conducted at the limits of the excavations to assess the concentrations of arsenic in the soil at a depth from 0 to 6-inches below the base of the excavation and in soil from a depth of 0 to 6-inches below the buff layer removed.

#### 5.5 Post Remediation (Confirmation) Soil Sample Collection & Analytical Results

The soil samples were obtained from the excavation areas by a properly trained sampling technician wearing disposable nitrile gloves and properly decontaminated sampling equipment (stainless steel trowels).

Each sample area was divided into divided into eight sections with one sample collected from each of the eight sections. The samples were collected from the surface soils of grid location E1 and the soils from the base of the remedial excavation in grid location F8. The collected soil was placed into a 4-ounce laboratory provided sampling container and assigned a unique sample name and stored in a climate-controlled container maintained at 4° Celsius until delivered to the laboratory for chemical analysis.

#### 5.5.1 <u>Grid Location E1 Final Performance/Confirmation Sample Analytical Results</u>

Eight performance/confirmation soil samples were collected from the grid location E1 excavation area. Each sample was analyzed by Friedman & Bruya Inc. in Seattle Washington, an Ecology accredited laboratory for total arsenic by method 6020B. The analytical results from each sample reported arsenic concentrations between 3.26 and 15.1 mg/kg, which is below the maximum allowable concentration of 40 mg/kg identified in the Ecology guidance. The table below presents a summary of the performance/confirmation sample analytical results from grid location E1. The laboratory datasheets are presented in Appendix C.

	Sample Depth (in)	Date Sampled	Soil Sample Results (EPA 6020B)	
Sample ID			Arsenic	
			Sample Reported in Parts Per Million (mg/kg)	
	June 21, 2021, Post Rem	nediation Performance/Co	onfirmation Sampling	
E1-1-0-6"	6"	6/21/2021	10.2	
E1-2-0-6"	6"	6/21/2021	12.4	
E1-3-0-6"	6"	6/21/2021	14.2	
E1-4-0-6"	6"	6/21/2021	12.6	
E1-5-0-6"	6"	6/21/2021	3.26	
E1-6-0-6"	6"	6/21/2021	15.1	
E1-7-0-6"	6"	6/21/2021	7.01	
E1-8-0-6"	6"	6/21/2021	8.99	
Method Blank	NA	6/21/2021	<1	
	Laboratory Reporting Li	1		
Average	Concentration CUL as pe	20		
Maximur	n Concentration CUL as p	40		
Ecolo	gy MTCA Method A Clear	20		

#### Table 6: Grid E1 Final Performance/Confirmation Sample Results

#### 5.5.2 <u>Grid Location F8 Final Performance/Confirmation Sample Analytical Results</u>

Eight performance/confirmation soil samples were collected from the grid location F8 excavation area. Each sample was analyzed by Friedman & Bruya Inc. in Seattle Washington, an Ecology accredited laboratory for total arsenic by method 6020B. The analytical results from each sample reported arsenic concentrations between 3.26 and 15.1 mg/kg which is below the maximum allowable concentration of 40 mg/kg identified in the Ecology guidance. The table below presents a summary of the performance/confirmation sample analytical results from grid location F8. The laboratory datasheets are presented in Appendix C.

	Sample Depth (in)	Date Sampled	Soil Sample Results (EPA 6020B)	
Sample ID			Arsenic	
			Sample Reported in Parts Per Million (mg/kg)	
	June 21, 2021, Post Re	emediation Performance/Co	onfirmation Sampling	
F8-10-0-6"	6"	6/21/2021	9.60	
F8-11-0-6"	6"	6/21/2021	12.2	
F8-12-0-6"	6"	6/21/2021	7.90	
F8-13-0-6"	6″	6/21/2021	5.21	
F8-14-0-6"	6"	6/21/2021	5.64	
F8-15-0-6"	6″	6/21/2021	6.89	
F8-16-0-6"	6″	6/21/2021	6.77	
F8-17-0-6"	6"	6/21/2021	9.14	
Method Blank	NA	6/21/2021	<1	
	Laboratory Reporting	1		
Average	e Concentration CUL as	20		
Maximu	m Concentration CUL as	40		
Ecolo	ogy MTCA Method A Cle	20		

Table 7:	Grid F8	Final Perfo	mance/Cor	ofirmation	Sample Result	s
Tuble / .	011010		manee/ cor	mation	Sumple Result	-

#### 5.6 Soil Disposal

The excavated soil was sampled ana analyzed to create a waste profiled for disposal with Republic Services Inc. under profile number TB-8116. Approximately 6.26 tons of arsenic contaminated duff and soil was transported to Republic's Third and Landers transfer station in Seattle, Washington on July 15, 2021 prior to transport and disposal at Republic's Resource Conservation and Recovery Act (RCRA) Subtitle-D permitted Roosevelt Regional Landfill in Roosevelt, Washington. Copies of the waste disposal ticket are included as Appendix D.

#### 6.0 SUMMARY and CONCLUSIONS

#### 6.1 Summary

On June 21, 2021, at the request of Edgewood Terrace Estate, ECI competed oversight of remediation and conducted post-remediation soil sampling following the removal of approximately 6.26 tons of arsenic contaminated forest duff and surface soil on King County parcel 042104-9012 (Figures 3, 4, and 5 Appendix A).

Previous chemical analyses identified arsenic concentration exceeding the allowable concentrations as defined in the 2019 *Tacoma Smelter Plume Model Remedies Guidance* (Publication 19-09-101). The Property had been divided into 65 grids approximately 120 feet x 120 feet in size. Contaminated surface soil (0 to 6-inches bgs) was identified in a portion of grid location F8 and contaminated forest duff was identified in grid location E1 (Figures 4 and 5, Appendix 1).

Following excavation of the contaminated soil and duff activities on June 21, 2021, ECI environmental professionals collected eight (8) surface soil samples from the base of the excavations in each of the two remediation areas. Each of these samples was analyzed for arsenic and reported below both the Average Concentration (all samples combined) of 20 mg/kg and Maximum Concentration (per sample) of 40 mg/kg.

#### 6.2 Conclusions

Based on final performance sample concentrations the remediation of each area appears to have been successful and ECI recommends that Ecology issue a Property-specific No Further Action determination for the Subject Property.

#### 7.0 REPORT LIMITATIONS AND GUIDELINES FOR USE

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology, and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. EcoCon Inc. includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with EcoCon if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or Property.

#### 7.1 Use of this Report by Others

Our report was prepared for the exclusive use of Edgewood Terrace Estate, LLC (Client) and designated agent/ensigns. This report may be provided to regulatory agencies for review if requested or required. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with our Client and generally accepted environmental practices in this area at the time this report was prepared.

This report has been prepared for subsurface investigation activities at the Subject Property. EcoCon considered a number of unique, project-specific factors when establishing the scope of services for this project and report. No one except our Client and designated agent/ensigns should rely on this environmental report without first conferring with ECI. This report should not be applied for any purpose or project except the one originally contemplated.

Unless EcoCon specifically indicates otherwise, do not rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific Property explored, or
- Completed before important Property changes were made.

If changes are made after the date of this report, EcoCon Inc. should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

#### 7.2 Uncertainty May Remain after Completion of Property Investigation and Remedial Activities

The investigation and remediation activities completed in a portion of a Property cannot eliminate uncertainty regarding the potential for contamination in connection with the entire Subject Property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from the locations sampled. It is always possible that contamination exists in areas that were not explored, sampled, or analyzed.

#### 7.3 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 manmade events such as construction on or adjacent to the Property, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact EcoCon before applying this report to determine if it is still applicable.

#### 7.4 Soil and Groundwater End Use

The cleanup levels referenced in this report are Property- and situation-specific and could change with time due to regulatory or Property changes. The cleanup levels may not be applicable for other Properties or for other on-Property uses of the affected media (soil and/or groundwater).

Note that hazardous substances may be present in some of the Property soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. Because these cleanup levels can change, EcoCon should be contacted to evaluate the potential for associated environmental liabilities prior to the export of soil or groundwater from the Subject Property or reuse of the affected media on the Property. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Subject Property to another location or its reuse on the Property in instances that we were not aware of or could not control.

#### 7.5 Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the locations sampled at the Property. Property exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. EcoCon Inc. reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the Property. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

#### 7.6 Limits of Liability

To the fullest extent permitted by law, the total liability, in the aggregate, of Consultant, Consultant's officers, directors, partners, employees, agents, and subconsultants, to ECI's client for which this report was prepared, and anyone claiming by, through, the Client for any claims, losses, costs, or damages whatsoever arising out of, resulting from or in any way related to this Project or Agreement from any cause or causes, including but not limited to negligence, professional errors and omissions, strict liability, breach of contract, or breach of warranty, shall not exceed the total compensation received by Consultant or \$10,000 whichever is greater.

#### 8.0 REFERENCES

- King County Department of Assessments: <u>https://blue.kingcounty.com/Assessor/eRealProperty/default.aspx</u>
- Washington State Department of Ecology, Model Toxics Control Act Statute and Regulation (Publication No. 94-06, November 2007): <a href="https://archive.epa.gov/epawaste/hazard/web/pdf/9406.pdf">https://archive.epa.gov/epawaste/hazard/web/pdf/9406.pdf</a>
- Washington State Department of Natural Resources; Geologic Information Portal: <u>https://www.dnr.wa.gov/geologyportal</u>
- United State Geological Survey (USGS), 1994, Ground Water Atlas of the United States Idaho, Oregon, Washington, by R. L. Whitehead, publication HA 730-H. (<u>https://pubs.usgs.gov/ha/ha730/ch\_h/</u>)

All other references are listed within the body of this report.

## List of Appendices

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## **Appendix C: Project Analytical Data Sheets**

## **Appendix D: Project Waste Disposal Permitting & Disposal Documents**

actical Environmental Compliance Solutions

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Providing Practical Environmental Compliance Solutions Offices In: Anchorage | Tacoma | Portland









Property Topographic Map Arsenic Cleanup Action Report 1717-1999 S 304th St Federal Way, WA 98003

Not To Scale

Date: Sep	otember 9, 2021	Figure No.:
Completed By:	K. Spencer	
Reviewed By .:	C. McFadden	
Version:	R1-09092021	
Project No.:	0766-02	Sheet 02 of 05
	Providing Practical Envir Offices In: Anchorage   Tacoma	onmental Compliance Solution Porlland





- Soil Sample Report >40 mg/kg Arsenic
- As Arsenic Pb Lead

50

Not To Spaleoximate Scale in Feet

100

mg/kg milligram / Kilogram

Subject Property Soil Sample Location Map Arsenic Cleanup Action Report 1717-1999 S 304th St Federal Way, WA 98003



Date: September 9, 2021 Figure No. Completed By: K. Spencer Reviewed By .: C. McFadden R1-09092021 Version: Project No.: 0766-02







# Grid F8 Subsection Post Soil Excavation

	Date:	September 9, 2021	Figure No.:
	Completed By:	K. Spencer	$\land \land$
ocation Map	Reviewed By.:	C. McFadden	
	Version:	R1-09092021	
th St	Project No.:	0766-02	Sheet 04 of 05
98003	Environmento	Providing Practical Envir Offices In: Anchorage   Tacoma	ronmental Compliance Solutions   Portland



	Date: Se	otember 9, 2021	Figure No.:
	Completed By:	K. Spencer	
cation Map	Reviewed By .:	C. McFadden	
n Report	Version:	R1-09092021	
th St	Project No.:	0766-02	Sheet 05 of 05
98003	Environmental	Providing Practical Envir Offices In: Anchorage   Tacoma	onmental Compliance Solutions   Parlland

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Table 8: Subject Property Characterization (2019 and 2021 Arsenic & Lead Analytical Results) Table 9: Grid F8 Delineation-Arsenic & Lead Analytical Results-December 2020 Sampling Event Table 10: Grid F8 Arsenic Analytical Results-June 2021 Soil Remediation Table 11: Grid E1 Arsenic Analytical Results-June 2021 Soil Remediation Analytical Results

Appendix **B** 



			Soil Sample Results (EPA 200.8 / 6020B)	
Sample ID	Sample Denth (in)	Date Sampled	Arsenic	Lead
Sample D	Sample Depth (m)	Date Sampled	Sample Reported in Parts Per Million (ppm)	
S1-Duff	Surface	4/22/2019	12.3	32.1
S3-Duff	Surface	4/22/2019	9.36	25.8
S5-Duff	Surface	4/22/2019	7.42	74.9
S7-Duff	Surface	4/22/2019	8.72	56.4
F6-Duff	Surface	1/7/2021	1.75	10
E5-Duff	Surface	1/7/2021	<4	10.4
I4-Duff	Surface	1/7/2021	2.59	14.7
J6-Duff	Surface	1/7/2021	1.6	7.94
H8-Duff	Surface	1/7/2021	4.43	23.8
S2-0-6"	0-6	4/22/2019	3.61	6.39
S3-0-6"	0-6	4/22/2019	16.2	40.3
S4-0-6"	0-6	4/22/2019	3.32	4.48
S5-0-6"	0-6	4/22/2019	3.59	6.99
S6-0.6"	0-6	4/22/2019	12.7	29.3
S7-0-6"	0-6	4/22/2019	8.49	17
S8-0-6″	0-6	4/22/2019	6.79	16.2
S9-0-6"	0-6	4/22/2019	10	24.1
S10-0-6"	0-6	4/22/2019	3.1	11.5
A1-0-6"	0-6	6/13/2019	9.04	35.4
A2-0-6"	0-6	6/13/2019	14.9	20.4
A3-0-6″	0-6	6/13/2019	6.21	9.69
A4-0-6"	0-6	6/13/2019	14.2	31.9
B1-0-6"	0-6	6/13/2019	4.01	17.5
B1-6-12 "	0-6	6/13/2019	4.14	18.3
B2-0-6″	0-6	6/13/2019	4.45	8.93
B2-6-12"	0-6	6/13/2019	3.95	7.28
B4-0-6″	0-6	6/13/2019	22.9	71.1
B4-6-12"	0-6	6/13/2019	7.88	16.5
B5-0-6″	0-6	6/13/2019	16	36.6
B6-0-6″	0-6	6/13/2019	29.4	194
C2-0-6"	0-6	6/13/2019	39.6	89.2
C3-0-6"	0-6	6/13/2019	8.62	20.5
C4-0-6"	0-6	6/13/2019	12.1	33.4
C4-0-6-12"	0-6	6/13/2019	3.36	5.61
C5-0-6"	0-6	6/13/2019	6.85	13.4
C5-6-12 "	0-6	6/13/2019	5.06	10.3
C6-0-6"	0-6	6/13/2019	27	77.9
D1-0-6"	0-6	6/13/2019	5.16	11.7
D3-0-6"	0-6	6/13/2019	19.5	45.2
D4-0-6"	0-6	6/13/2019	6.38	7.3

#### Table 8: Property Characterization-2019 and 2021 Arsenic & Lead Analytical Results

			Soil Sample Results (EPA 200.8 / 6020B)	
Sample ID	Sample Denth (in)	Date Sampled	Arsenic	Lead
Sumple ib	Sumple Depth (m)	Duce sumpled	Sample Reported in Parts Per Million (ppm)	
D4-0-6"	0-6	6/13/2019	14	34.6
D4-6-12"	0-6	6/13/2019	8.76	28.1
D6-0-6"	0-6	6/13/2019	25.9	73.2
D7-0-6"	0-6	6/13/2019	32.6	95.7
D8-0-6"	0-6	6/13/2019	12.5	24.9
D8-6-12 "	0-6	6/13/2019	10.2	26.9
E1-Duff	0-6	6/13/2019	<u>23.6</u>	101
E1-0-6"	0-6	6/13/2019	15.2	61.5
E2-0-6"	0-6	6/13/2019	10.3	20.8
E2-6-12 "	0-6	6/13/2019	11.3	26.3
E3-0-6"	0-6	6/13/2019	9.37	37.3
E4-0-6"	0-6	6/13/2019	11.9	31.5
E5-0-6"	0-6	6/13/2019	27.1	76
E6-0-6"	0-6	6/13/2019	23	42.3
E7-0-6"	0-6	6/13/2019	34	64.5
E7-6-12 "	0-6	6/13/2019	9.76	16.8
E8-0-6"	0-6	6/13/2019	18.5	42.8
F4-0-6"	0-6	6/13/2019	13.2	17.1
F4-6-12 "	0-6	6/13/2019	16.2	25.5
F5-0-6"	0-6	6/13/2019	16.5	34.6
F6-0-6"	0-6	6/13/2019	8.84	8.94
F7-0-6"	0-6	6/13/2019	26.2	42.1
F8-0-6"	0-6	6/13/2019	<u>43</u>	93.7
G5-0-6"	0-6	6/13/2019	10.2	21.7
G7-0-6"	0-6	6/13/2019	17.1	43.3
G8-0-6″	0-6	6/13/2019	3.57	11.6
G8-0-6″	0-6	6/13/2019	11.2	17
G8-6-12 "	0-6	6/13/2019	4.79	21.3
H4-0-6"	0-6	6/13/2019	12.4	53.2
H5-0-6"	0-6	6/13/2019	5.32	14.2
H6-0-6"	0-6	6/13/2019	17.6	56.8
H8-0-6″	0-6	6/13/2019	13	33.4
14-0-6"	0-6	6/13/2019	12.9	53.6
15-0-6"	0-6	6/13/2019	10	28.8
156-12 "	0-6	6/13/2019	8.71	29.6
16-0-6"	0-6	6/13/2019	32.8	73.1
17-0-6"	0-6	6/13/2019	14.3	45.8
17-6-12 "	0-6	6/13/2019	7.72	22.7
18-0-6″	0-6	6/13/2019	9.07	43
J4-0-6"	0-6	6/13/2019	10.8	127

#### Table 8: Property Characterization-2019 and 2021 Arsenic & Lead Analytical Results

			Soil Sample Results (EPA 200.8 / 6020B)		
Sample ID	Sample Depth (in)	Date Sampled	Arsenic	Lead	
Sumple 19	Sample Depth (in)		Sample Reported in F	Parts Per Million (ppm)	
J5-0-6"	0-6	6/13/2019	9.32	41.7	
J7-0-6"	0-6	6/13/2019	25	77.3	
J7-6-12 "	0-6	6/13/2019	26.5	78.2	
J8-0-6″	0-6	6/13/2019	3.84	14.3	
K4-0-6"	0-6	6/13/2019	4.03	69	
K5-0-6"	0-6	6/13/2019	4.02	49.1	
K7-0-6"	0-6	6/13/2019	3.58	21.6	
	Average Concentratior	ı	12.48	37.56	
Laboratory Reporting Limit		1	1		
Average Co	ncentration CUL as pe	r 19-09-101	20	250	
Maximum Concentration CUL as per 19-09-101		40	500		
Ecology MTCA Method A Cleanup Levels		20	250		

#### Table 8: Property Characterization-2019 and 2021 Arsenic & Lead Analytical Results

Notes:

Bold indicates a detected concentration above MTCA Method A CUL, Below Average Concentration CUL

			Soil Sample Results (EPA 200.8 / 6020B)		
Sample ID	Sample Depth (in)	Date Sampled	Arsenic	Lead	
			Sample Reported in P	arts Per Million (ppm)	
		December 14, 20	20 Sampling Event		
F8-1-0-6"	0-6″	12/14/2020	2.58	3.88	
F8-1-6-12"	6-12"	12/14/2020	2.12	3.95	
F8-1-12-18"	6-12"	12/14/2020	2.37	3.08	
F8-2-0-6"	0-6″	12/14/2020	10.5	16.7	
F8-2-6-12"	6-12"	12/14/2020	2.73	3.75	
F8-3-0-6"	0-6″	12/14/2020	9.72	149	
F8-3-6-12"	6-12"	12/14/2020	11.2	73.3	
F8-4-0-6"	0-6″	12/14/2020	21.5	72.1	
F8-4-6-12"	6-12"	12/14/2020	14.2	37.7	
F8-5-0-6"	0-6"	12/14/2020	9.87	16.6	
F8-5-6-12"	6-12"	12/14/2020	6.35	15.6	
F8-6-0-6"	0-6"	12/14/2020	8.03	13.3	
F8-6-6-12"	6-12"	12/14/2020	4.92	10.2	
F8-7-0-6"	0-6″	12/14/2020	22.9	54.1	
F8-7-6-12"	6-12"	12/14/2020	3.9	5.86	
F8-8-0-6"	0-6"	12/14/2020	11.5	21.8	
F8-8-6-12"	6-12"	12/14/2020	7.24	12.3	
F8-9-0-6"	0-6"	12/14/2020	10.9	31.1	
F8-9-6-12"	6-12"	12/14/2020	5.09	13.1	
La	boratory Reporting Lin	nit	1	1	
Average Co	oncentration CUL as pe	r 19-09-101	20	250	
Maximum C	oncentration CUL as pe	er 19-09-101	40	500	
Ecology MTCA Method A Cleanup Levels		up Levels	20	250	

	<b>•</b> • • <b>•</b> •	- II						
Table 9:	Grid F8	Delineation-	Arsenic & L	ead Analy	tical Results	-December	2020 Samplin	σ ⊦vent
10010 01	0110110	Denneation		caarmary	croat recounts	Decennoer		

Notes:

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

			Soil Sample Results (EPA 200.8 / 6020B)
Sample ID	Sample Depth (in)	Date Sampled	Arsenic
			Sample Reported in Parts Per Million (ppm)
	June 21, 2021 Po	st Remediation Samplign Eve	ent
F8-10-0-6"	6"	6/21/2021	10.2
F8-11-0-6"	6″	6/21/2021	12.4
F8-12-0-6"	6″	6/21/2021	14.2
F8-13-0-6"	6″	6/21/2021	12.6
F8-14-0-6"	6″	6/21/2021	3.26
F8-15-0-6"	6″	6/21/2021	15.1
F8-16-0-6"	6″	6/21/2021	7.01
F8-17-0-6"	6″	6/21/2021	8.99
	1		
Average	20		
Maximur	40		
Ecolo	20		

#### Table 10: Grid F8 Arsenic Analytical Results-June 2021 Soil Remediation

Notes:

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

			Soil Sample Results (EPA 200.8 / 6020B)
Sample ID	Sample Depth (in)	Date Sampled	Arsenic
			Sample Reported in Parts Per Million (ppm)
	June 21, 2021 Po	st Remediation Samplign Eve	nt
E1-1-0-6"	6"	6/21/2021	10.2
E1-2-0-6"	6"	6/21/2021	12.4
E1-3-0-6"	6"	6/21/2021	14.2
E1-4-0-6"	6"	6/21/2021	12.6
E1-5-0-6"	6"	6/21/2021	3.26
E1-6-0-6"	6"	6/21/2021	15.1
E1-7-0-6"	6"	6/21/2021	7.01
E1-8-0-6"	6"	6/21/2021	8.99
	1		
Average	20		
Maximur	40		
Ecolo	20		

#### Table 11: Grid E1 Arsenic Analytical Results-June 2021 Soil Remediation

Notes:

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels



## **Appendix C: Project Analytical Data Sheets**
#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

June 23, 2021

Charles McFadden, Project Manager EcoCon, Inc. P.O. Box 153 Fox Island, WA 98333

Dear Mr McFadden:

Included are the results from the testing of material submitted on June 21, 2021 from the 0766-02, F&BI 106356 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Kaden Reed, Dave Polivka, Steve Spencer EMS0623R.DOC

#### ENVIRONMENTAL CHEMISTS

#### CASE NARRATIVE

This case narrative encompasses samples received on June 21, 2021 by Friedman & Bruya, Inc. from the EcoCon 0766-02, F&BI 106356 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>EcoCon</u>
106356 -01	F8-10:0-6
106356 -02	F8-10:6-12
106356 -03	F8-11:0-6
106356 -04	F8-11:6-12
106356 - 05	F8-12:0-6
106356 -06	F8-12:6-12
106356 -07	F8-13:0-6
106356 -08	F8-13:6-12
106356 -09	F8-14:0-6
106356 -10	F8-14:6-12
106356 -11	F8-15:0-6
106356 -12	F8-15:6-12
106356 -13	F8-16:0-6
106356 -14	F8-16:6-12
106356 -15	F8-17:0-6
106356 -16	F8-17:6-12

All quality control requirements were acceptable.

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-10:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID: Data File	106356-01 042
Date Analyzed:	06/22/21 Soil	Data File:	106336-01.043 ICDMC9
Unite:	Soll malka (ppm) Dry Woight	Operator:	ΛD
Units.	mg/kg (ppm) Dry weight	Operator.	AI
Analyte:	Concentration mg/kg (ppm)		
Arsenic	9.60		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-11:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-03
Date Analyzed:	06/22/21	Data File:	106356-03.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	12.2		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-12:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-05
Date Analyzed:	06/22/21	Data File:	106356-05.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	7.90		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-13:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-07
Date Analyzed:	06/22/21	Data File:	106356-07.046
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	5.21		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID: Date Received:	F8-14:0-6 06/21/21	Client: Project:	EcoCon 0766-02 F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-09
Date Analyzed:	06/22/21	Data File:	106356-09.049
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	5.64		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-15:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-11
Date Analyzed:	06/22/21	Data File:	106356 - 11.050
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	6.89		

7

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-16:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-13
Date Analyzed:	06/22/21	Data File:	106356-13.051
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	6.77		

8

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	F8-17:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	106356-15
Date Analyzed:	06/22/21	Data File:	$106356 {-} 15.052$
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	9.14		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	EcoCon
Date Received:	Not Applicable	Project:	0766-02, F&BI 106356
Date Extracted:	06/22/21	Lab ID:	I1-385 mb2
Date Analyzed:	06/22/21	Data File:	I1-385 mb2.042
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	AP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	<1		

#### ENVIRONMENTAL CHEMISTS

Date of Report: 06/23/21 Date Received: 06/21/21 Project: 0766-02, F&BI 106356

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

Laboratory Code: 106342-01,03,05 x5 (Matrix Spike)							
			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	$\operatorname{RPD}$
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Arsenic	mg/kg (ppm)	10	<5	96	91	75 - 125	5

Laboratory Code: Laboratory Control Sample

U	C C	1	Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Arsenic	mg/kg (ppm)	10	87	80-120

#### ENVIRONMENTAL CHEMISTS

#### **Data Qualifiers & Definitions**

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

 ${\rm J}$  - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

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

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

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

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

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

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

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

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

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

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Friedman & Bruya, Inc. 3012 16 <sup>th</sup> Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282		7-9:21-87	F8 - 6: 6-12	FP-16:0-6	F8-15:6-12	7-15:0-6	Sample ID		Phone	City, State, ZIP	Address 15 South	Company F(T	Report To Chules 1	106356
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#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

June 29, 2021

Charles McFadden, Project Manager EcoCon, Inc. P.O. Box 153 Fox Island, WA 98333

Dear Mr McFadden:

Included are the results from the testing of material submitted on June 21, 2021 from the 0766-02, F&BI 106357 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures c: Kaden Reed, Dave Polivka EMS0629R.DOC

#### ENVIRONMENTAL CHEMISTS

#### CASE NARRATIVE

This case narrative encompasses samples received on June 21, 2021 by Friedman & Bruya, Inc. from the EcoCon 0766-02, F&BI 106357 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	<u>EcoCon</u>
106357 -01	E1-1:0-6
106357 -02	E1-2:0-6
106357 -03	E1-3:0-6
106357 -04	E1-4:0-6
106357 -05	E1-5:0-6
106357 -06	E1-6:0-6
106357 -07	E1-7:0-6
106357 -08	E1-8:0-6

All quality control requirements were acceptable.

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-1:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-01
Date Analyzed:	06/25/21	Data File:	106357 - 01.035
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	10.2		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-2:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-02
Date Analyzed:	06/25/21	Data File:	106357-02.036
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	12.4		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-3:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-03
Date Analyzed:	06/25/21	Data File:	106357-03.037
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	14.2		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-4:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-04
Date Analyzed:	06/25/21	Data File:	106357-04.073
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	12.6		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-5:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-05
Date Analyzed:	06/25/21	Data File:	106357 - 05.077
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	3.26		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-6:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-06
Date Analyzed:	06/25/21	Data File:	106357-06.080
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	15.1		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-7:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-07
Date Analyzed:	06/25/21	Data File:	106357-07.081
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	7.01		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	E1-8:0-6	Client:	EcoCon
Date Received:	06/21/21	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	106357-08
Date Analyzed:	06/25/21	Data File:	106357 - 08.082
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	8.99		

## ENVIRONMENTAL CHEMISTS

## Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	EcoCon
Date Received:	Not Applicable	Project:	0766-02, F&BI 106357
Date Extracted:	06/24/21	Lab ID:	I1-396 mb
Date Analyzed:	06/24/21	Data File:	I1-396 mb.127
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP
Analyte:	Concentration mg/kg (ppm)		
Arsenic	<1		

#### ENVIRONMENTAL CHEMISTS

Date of Report: 06/29/21 Date Received: 06/21/21 Project: 0766-02, F&BI 106357

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

Laboratory Code: 106332-41 x5 (Matrix Spike)

			Sample	Percent	Percent		
	Reporting	Spike	Result	Recovery	Recovery	Acceptance	$\operatorname{RPD}$
Analyte	Units	Level	(Wet wt)	MS	MSD	Criteria	(Limit 20)
Arsenic	mg/kg (ppm)	10	8.41	77	87	75 - 125	12

Laboratory Code: Laboratory Control Sample

	oue. Laboratory Com	lioi Sample	Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Arsenic	mg/kg (ppm)	10	88	80-120

#### ENVIRONMENTAL CHEMISTS

#### **Data Qualifiers & Definitions**

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

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

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

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

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

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

 ${\rm J}$  - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

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

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

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

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

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

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

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

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

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

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Appendix D Project Waste Disposal Permitting & Disposal Documents

> Providing Practical Environmental Compliance Solutions Offices In: Anchorage | Tacoma | Portland



## **Appendix D: Project Waste Disposal Permitting & Disposal Documents**

All Ticket Types History and Waiting \* - Confirmed Qty Applied to Billing

Specific Contract(s) : 'TB-29215'

	Wei	ght	Vol	ume	Coι	int					Item T	ſicket
Contract	Inbound	Outbound	Inbound	Outbound	Inbound (	Dutbound	Billing Qty	Material Total	Tax Total	Total (	Count C	Count
TB-29215												
SW-CONT SOIL	6.26	0.00 TN	0.00	0.00 YD	0.00	0.00	6.26 TN	\$344.30	\$0.00	\$344.30	1	
Contract Totals:	6.26	0.00 TN	0.00	0.00 YD	0.00	0.00	6.26 TN	\$344.30	\$0.00	\$344.30	1	1
	6.26	0.00 TN	0.00	0.00 YD	0.00	0.00	6.26 TN	\$344.30	\$0.00	\$344.30	1	1

All Facilities

# Special Waste Profile



Disposal Facility:	4178 Roo	osevelt Regio	nal MSW l	andfill WA			Wa	aste Profile	2 #:	2			
							Sal	les Rep #:					
I. Generator Info	rmation												1
Generator Name:	Edge	wood Te	rrace E	states, L	LC								
Generator Site Ad	dress: 1	9xx sout	h 304th										
City: Federa	l Way		County:	King		Sta	ate:	Washingto	on		Zip:	98003	
State ID/Reg No:		St	ate Approv	al/Waste Code	2:					NAIC	S #:		
Generator Mailing	Address	✓ (if different of the second sec	ent) 108	west ste	ewart	Ave							
City: Puyallu	р		County: <b>F</b>	Pierce		Sta	ate:	Washingto	on		Zip:	98371	
Generator Contac	t Name:	Adam Fr	ederick	S		ł	Email:	afrede	ericks	s@rp	odeve	lopment.	com
Phone Number:	253-40	05-8516		Ext:			Fax N	lumber:					
II Billing Informa	tion												
	CON I	nc			Contad	t Name:	St	tephen	Spe	ence	er		
Billing Address:		x 153				Email:	inv	voices	0 ec	ncor	nonlir	ne.com	
	and	x 100	State Wa	ashington		Zin.	QR	2222	Phor	ne: 2	253-2	38-927	0
FUX ISIC	anu						50	0000		2	.00 2	00 021	5
III. Waste Stream	Informat	ion											
Name of Waste:	Arsenic co	ontaminated of	duff										
Process Generatin	ng Waste:	Development guidance 19- Time betwee	t of underde 09-101. Atta n data sets	eveloped land i ached are repr is due to penc	in Federa resentive ling perm	al Way, V analytic hitting for	Vashi al res land	ington. The sults for the clearing a	e parce e areas nd deve	l has b segre eloped	een ass ated for l of an u	sessed via e off-site disp indeveloped	cology osal. parcel
Type of Waste: In	ndustrial P	rocess Waste	P	hysical State:	Solid			Method	of Ship	ment:	Bulk		
Estimated Volume	: 0					Volume <sup>-</sup>	Type:	Tons					
Frequency: One-	-time Even	t (single projec	: Dispo	osal Considera	tion: La	andfill							
IV. Representativ	/e Sample	Certification											
🔲 No Sample Ta	aken												
🗹 Sample Taker	n Type	e of Sample	Grab Samp	ole						1			-0
Is the represe 261.20(c) guid	ntative sar lelines or e	nple collected equivalent?	to prepare ]Yes  D	this profile an <b>Io</b>	id labora	tory ana	lysis,	collected in	n accor	dance	e with U.	.S. EPA 40 CF	-R
Sample 6/13 Date:	3/19 and	d 6/21/21	Sample II Numbers or SDS:	E1-Duff, 0-6, F8-	, E1-0-( 13:0-6,	6, E2-0 F8-14	)-6, F :0-6	F8-0-6, F , F8-15:(	-8-10 0-6, F	:0-6, 8-16:	F8-11 :0-6, F	:0-6, F8-1 8-17:0-6	2:
	Rem	ember to att	ach Labora	atory Analytic	al Repo	rt (and/o	or Ma	aterial Saf	ety Da	ta She	eet)		
		including Cha	ain of Cust	ody and requ	ired par	ameters	s prov	vided for t	this pr	ofile.			

# Special Waste Profile



#### V. Physical Characteristics of Waste

Cha	aracteristic Com	ponents (must equal 1	00%:)		% By Weight (	(out of 100% - rar	nges acceptable):			
1.	Vegetation				10%					
2.	Organics				25%					
3.	Woody debris				25%					
4.	4. soil				40%	40%				
5.										
Col	or:	Odor (describe):	Does W	aste Contain Free Liquids?	% Solids:	pH:	Flash Point:			
light	t brown to dark brown	None observed	☐ Yes	🗹 No	100	N/A	N/A °F			

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) including Chain of Custody and required parameters provided for this profile.

#### **RCRA Regulatory Questions**

1.	Does this waste or generating process contain regulated concentrations of the following Pesticides and/ or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	🗆 Yes	🗹 No
2.	Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm) [reference 40 CFR 261.23(a)(5)]?	🗆 Yes	🗹 No
3.	Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	🗆 Yes	🗹 No
4.	Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	🗆 Yes	🗹 No
5.	Has this waste been delisted under 40 CFR 260.20 and 260.22? If yes, attach the final decision to delist the waste as published in the Federal Register.	🗆 Yes	🗹 No
6.	Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations? If Yes, identify the applicable waste code and specify if the waste is hazardous as defined by Federal, State or both?	🗆 Yes	🗹 No
7.	Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31?	🗆 Yes	🗹 No
8.	Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	🗆 Yes	🗹 No
9.	Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	🗆 Yes	🗹 No
10	). Is this a solid waste that is not a hazardous waste in accordance with 40 CFR 261.4(b)? If yes, please provide the corresponding regulatory citation.	🗌 Yes	⊡ No
Re	epublic Services Waste Handling Questions		
1.	Does this waste generate heat or react when contacted with water/moisture?	🗌 Yes	🗹 No
2.	Does the waste contain sulfur or sulfur by-products?	🗆 Yes	🗹 No
3.	Is this waste generated at a State or Federal Superfund cleanup site subject to regulation under CERCLA?	🗆 Yes	🗹 No
48	a. Is this waste from a TSD facility, TSD-like facility or consolidator (i.e. multiple wastes/multiple generators)?	🗌 Yes	🗹 No
4	p. If yes to the above question, please provide clarification.		

# Special Waste Profile



#### VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I understand that attaching an electronic signature, I am signing this document, consent to complete this transaction and receive all related communication electronically, and agree this document will be binding as though I had physically signed it. A printout of this document may be accepted with the same authority as the original.

If electronic signature is preferred, please submit completed (unsigned) form to your Special Waste Coordinator or Special Waste Sales Executive to initiate signature process.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services.

Ben Pentecost	Manager	Edgewood Terrace Estates, LLC
Authorized Representative Name (Printed)	Title (Printed)	Company Name
ZZA		6/23/2021
Representa	tive Signature	Date

. . . . . . . .

# Third Party Signature Authorization For Special Waste Disposal



Date: 6/2321

This Authorization is only valid for 3 years from the above date.

To Whom It May Concern:

Please be advised that the following company/individual has been appointed to work as our agent for purposes of managing waste materials that we may generate.

Arsenic Contaminated Duff

## Adam Fredricks

Name of Authorized Agent

## **RPD**

Name of Company

**Telephone Number** 

The above broker/individual is authorized to act as our authorized agent for the following purposes:

Complete and sign Special Waste Profile

Complete and sign Special Waste Profile-Recertification

Authorize amendments to Special Waste Profile

✓ Sign contracts to dispose and/or transport material

Sign certifications necessary to comply with landfill requirements

Sign manifests to initiate shipment to disposal facilities

I hereby certify that I have the requisite authority to grant agency authority on the behalf of Company to the Authorized Agent identified on this Third Party Signature Authorization form ("Authorization"). Our Authorized Agent will notify Company prior to taking any of the actions authorized above and will provide Company with copies of any documents bearing Company's name.

I understand that by attaching an electronic signature, I am signing this document and Company consents to complete this transaction and receive all related communications electronically, and agrees this document will be binding as though it had been physically signed. A printout of this Authorization may be accepted with the same authority as the original.

Edgewood Terrerace Estates	108 W Stewart, Puyallup WA 98371
Name of Company	Mailing Address
Ben Pentecost	Manager
Generator Contact (Print Name)	Title
22A-	253-604-7200
Signature	Telephone Number

Name of Waste

For office use only.

## Senior Project Manager

253-405-8516

Profile Number:

Title



#### AGENT SPECIAL WASTE SERVICE AGREEMENT NON-HAZARDOUS WASTES

Special Waste Profile Number: 4178 21 29215

	Ager	t Billing Informatio	<u>on</u>					
Name:	Eco Con							
Address:	PO Box 15	3			_			
City:	Fox Island				_			
State:	WA		Zip:	98333	_			
Phone:	253-238-92	270 Fax:			_			
Contact:	Steve Sper	ncer			_			
	<u>Republic V</u>	Vaste Location (Co	mpar	<u>(עו)</u>				
Re	gional Dispos	al Company						
417	78 Roosevelt l	Regional MSW LF W	/A					
500	) Roosevelt G	rade Road						
Ro	osevelt WA 99	9356						
						County and State		
Project:	Edgewood 7	errace Estates LLC				of Origin:	King, WA	N
Generato	r Address:	19XX South 304 <sup>th</sup>	Fede	eral Way				
1 Special V	Naste Service	Subject to the terms a	and co	nditions containe	d her	ein the Company and th	ne Agent ag	ree to be legally bound hereby and
the Comp	any agrees to	accept at its Facility, A	ccepta	ble Waste (hereir	nafter	referred to as "Special	Waste" or "V	Vaste") delivered by Agent, and
which is a	acceptable to th	e Company as herein	provid	ed. ribod in Borogram	nh 2 k	orein and in any Specie	Waata Dra	file(a) which number is identical to
2. Acceptat the contra	act number refe	renced above, and wh	ich Pro	ofile(s) are hereby	y inco	rporated by reference h	erein, and w	hich Waste is subsequently
approved	by the Compa	ny and is otherwise in a	accord	ance with all laws	s, reg	ulations and permits, sh	all be accep	table for disposal at the Facility
("Accepta 3. (A) Ra	ible Waste"). tes for Dispos	al:						
Was	ste	Disposal Method		Disposal Rate:	<u>.</u>	Fees / Taxes /	Misc.	<b>Transportation</b>
Contominat		3 <sup>rd</sup> and Lander via					NA	
Contaminat		Lanoilli	<u></u> Ф;	55.00 per ton		NA		NA
Additional Ir	nformation: *	** This profile will exp	oire or	n June 23, 2022**	**			
Agent sha	all also be liable	e for all taxes, fees, or o	other o	harges imposed	by fee	deral, state, local or prov	vincial laws a	and regulations.
Cannot	Exceed Daily V	olume of N/A		Without	t Prio	Approval of Company.		
(B) <u>Inc</u>	corporation by	Reference. In additio	n to Sj	pecial Waste Prof	file(s)	, the following documen	ts are incorp	porated by reference into this
, 'y	) Bill of Lading	TB-29215						

2)

4. <u>Term of Agreement</u>. This Agreement is effective for 12 months, commencing 7/15/2021 and shall automatically be renewed for a similar term thereafter unless either party shall give written notice (via certified mail) of termination to the other party at least thirty (30) days prior written notice.

THE COMPANY AND THE AGENT, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS CONTAINED HEREIN, AGREE THAT THIS IS A LEGALLY BINDING AGREEMENT WHICH IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON THIS PAGE AND ON THE REVERSE SIDE OF THIS DOCUMENT. IN ADDITION, THE AGENT IS CERTIFYING THE ATTACHED TERMS AND CONDITIONS HAVE BEEN REVIEWED AND INITIALLED AT THE BOTTOM OF THE PAGE.

AGENT

SIGNATURE (AUTHORIZED REPRESENTATIVE)

**REPUBLIC SERVICES, INC/COMPANY** 

SIGNATURE (AUTHORIZED REPRESENTATIVE)

NAME AND TITLE (PLEASE PRINT)

Charles McFadden, L.G

NAME AND TITLE (PLEASE PRINT)
DATE

## Terms and Conditions of Agent Special Waste Service Agreement

- <u>The Agreement</u>. This agreement of the parties ("Agreement") for the disposal of Special Waste shall consist of this Agreement, riders to the Agreement (if any) and any Application, permit and approval that may be applicable to such Waste.
- 6. <u>Waste Accepted at Facility</u>. Agent represents, warrants and covenants that the Waste delivered 15. to Company at its Facility hereunder will be Acceptable Waste and will not contain any unacceptable quantity of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances, as defined by applicable federal, state, local or provincial laws or regulations. Any Waste which does not meet these requirements shall hereinafter be referred to as "Unacceptable Waste". The Agent shall in all matters relating to the collection, transportation and disposal of the Waste hereunder, comply with all applicable federal, state and local laws, regulations, rules and orders regarding the same. The word "Facility" shall mean any landfill, transfer station or other location used to transfer, process or otherwise dispose of such Waste.
- <u>Special Waste</u>. Agent represents, warrants and covenants that the Waste delivered to Company hereunder (i) will not contain any Special Waste that is not specifically described on any Application which is attached hereto and which is subsequently approved by the Company, (ii) will meet the material description as set forth in any Application and otherwise in all significant respects and (iii) 16. will not contain Unacceptable Waste. The parties may incorporate additional Special Waste as part of this Agreement if prior to delivery of such Waste to Company, Agent has provided an Application for such Waste and Company has approved disposal of such Waste within the limitations and conditions contained in Company's written notice of approval of Special Waste. Title to any and all Waste handled or disposed of by Company shall at all times remain with Generator and Agent.
- 8. <u>Rights of Refusal/Rejection</u>. The Agent shall inspect all Waste at the place(s) of collection and shall remove any and all Unacceptable Waste. Company has the right to refuse, or to reject after acceptance, any load(s) of Waste(s) delivered to its Facility including if the Company believes the Agent has breached (or is breaching) its representations, warranties, covenants or agreements hereunder, or any applicable federal, state or local laws, regulations, rules or orders, even if only a portion of such Waste load is unacceptable. The Company shall have the right to inspect all vehicles of Waste haulers, including the Agent's vehicles, in order to determine whether the Waste is Acceptable Waste or Unacceptable Waste pursuant to this Agreement and all applicable federal, state and local laws, rules and regulations. The Company's exercise, or failure to exercise, its rights hereunder shall not operate to relieve the Agent of its reasonable expenses and damages incurred by the Company, as a result of the Unacceptable Waste and in the reloading and removal of Unacceptable Waste disposed in the Facility. The Company, may also, in its sole discretion, require the Agent to promptly remove the Unacceptable Waste.
- 9. <u>Limited License to Enter</u>. This Agreement provides Agent with a license to enter the Facility for the limited purpose of, and only to the extent necessary for, off-loading Acceptable Waste at the Facility in the manner directed by Company. Except in an emergency, Agent's personnel shall not leave the immediate vicinity of their vehicle. After off-loading the Waste, Agent's personnel shall promptly leave the Facility. Under no circumstances shall Agent or its personnel shall are enforce reasonable rules and regulations concerning the operation of the Facility, the conduct of the drivers and others on the Facility premises, quantities and sources of Waste, and any other matterials on the Facility premises of the Company, and the wearing of hard hats and other personal protection equipment by all individuals allowed on the Facility premises. Agent agrees to conform to such rules and regulations as they may be established and amended from time to time. Company may refuse to accept Waste for and shall deny an entrance license to, any of Agent's personnel whom Company believes is under the imployees and subcontractors performing their obligations in a safe manner when at the facility of Company.
- 10. <u>Charges and Payment</u>. Payment shall be made by Agent within thirty (30) days after receipt of invoice from Company. In the event that any amount is overdue, the Company may terminate this Agreement. Agent agrees to pay a finance charge equal to the maximum interest rate permitted by law. Agent shall be liable for all taxes, fees, or other charges imposed upon the disposal of the Waste by federal, state, local or provincial laws and regulations. Company, from time to time, may modify its rates upon thirty (30) days written notice to Agent. Agent hereby agrees that the Company's right to receive payments under this Agreement is unconditional and is not conditioned upon Agent first receiving payment from Generator or any other party.
- 11. <u>Termination</u>. Agent's obligations, representations, warranties and covenants regarding the Waste delivered and all indemnities shall survive termination of this Agreement. Should Agent materially default in any of its obligations hereunder, then Company may immediately terminate this Agreement and Agent shall be liable for all costs and damages incurred by the Company.
- 12. <u>Driver's Knowledge and Authority</u>. Agent represents, warrants and covenants that its drivers who deliver Waste to Company's Facility have been advised by Agent of the Company's prohibition on deliveries of hazardous materials or substances, radioactive materials or substances, or toxic waste or substances or any other Unacceptable Waste to the Facility, of Company's restrictions on deliveries of Special Waste to the Facility of the definitions of "Hazardous Waste and Hazardous Substances" as provided by applicable federal, state and local law, rules and regulations and "Special Waste" as provided herein, and of the terms of this license to enter Company's Facility.
- 13. <u>Indemnification</u>. Agent shall indemnify, defend and hold harmless the Company and its subsidiaries, affiliates and parent corporations, as applicable and their respective officers, directors, lenders, employees, subcontractors and agents from and against any and all claims, suits, losses, liabilities, assessments, damages, fines, costs and expenses, including reasonable attorneys fees arising under federal, state or local laws, regulations or ordinances, or relating to the content of the Waste, or arising out of or in connection with any breach of this Agreement or arising out of the negligent collection, transportation and disposal of Waste by Agent or Agent's employees, agents, subcontractors or representatives thereof. Agent shall also be responsible for 21. increased inspection, testing, study and analysis costs made necessary due to reasonable concerns of the Company as to the content of the Waste. This indemnification and other obligations stated in this paragraph shall survive the termination of this Agreement. 22.

14. <u>Insurance</u>. Agent shall maintain in full force and effect throughout the term of this Agreement the following types of insurance in at least the amounts specified below:

<u>Coverages</u> Worker's Compensation General Liability Automobile Liability

AGENT:

Minimum Amounts of Insurance

REPUBLIC SERVICE/COMPANY:

Statutory \$500,000 combined single limit \$500,000 combined single limit

All insurance will be by insurers authorized to do business in the state in which the Facility is located. Prior to Agent being allowed on Facility premises, Agent shall provide the Company with certificates of insurance or other satisfactory evidence that such insurance has been

procured and is in force. Said policies shall not thereafter be canceled, be permitted to expire, or be changed without thirty (30) days advance written notice to the Company. Agent warrants that it will secure the above minimum amounts of insurance from any transportation of the Waste to the Facility.

- 5. <u>Failure to Perform</u>. Neither party hereto shall be liable for its failure to perform hereunder due to circumstances not its fault and beyond its reasonable control, including, but not limited to, strikes or other labor disputes, riots, protests, civil disturbances or sabotage, changes in law, fires, floods, compliance with government requests, explosions, accidents, weather, lack of required natural resources, or acts of God affecting either party hereto. In the event of any of the circumstances provided for in the preceding sentence, including, but not limited, to whether any federal, state or local court or governmental authority takes any action which would (i) close or restrict operations at the Facility, (ii) limit the quantity or prohibit the disposal of Waste at the Facility, or (iii) limit the ability of or prohibit Agent from delivering Waste to the Facility immediately, without prior notice and without any additional liabilities between the parties, other than Agent's payment obligation hereunder. Neither Party is required hereunder to settle any labor dispute against its own best judgment.
- <u>Other Termination</u>. The occurrence of any of the following events shall also constitute an event of default by the Agent and shall give the Company the right to immediately terminate this Agreement:
- (A) A petition for reorganization or bankruptcy filed by or against the Agent.
- (B) Failure by Agent to pay any amounts due to Company.
- (C) Any breach by Agent of any of its obligations pursuant to the Agreement.

Agent shall be liable for and shall indemnify, defend and hold harmless Company from any losses, claims expenses or damages incurred by the Company as a result of termination hereunder.

- 17. <u>Assignment</u>. Agent may not assign, transfer or otherwise vest in any other Company, entity or person, in whole or in part, any of its rights or obligations under the Agreement without the prior written consent of the Company, provided, however, that the Company may without any such prior written consent, assign its rights and/or obligations under the Agreement to a subsidiary or affiliate corporation.
- 18. <u>Right of Disposal</u>. This Agreement does not grant any rights to dispose of Waste other than in accordance herewith. The Company reserves the right to immediately terminate access to the Facility by Agent and Agent's personnel in the event of breach or violation by Agent of any of the terms of this Agreement, the Company's operating rules or payment policies or any applicable laws or regulations.
- 19. <u>Continuing Compliance</u>. The Agent has a continuing obligation to inform the Company of any new information, or information not previously provided to the Company by Agent and/or Generator which may affect the acceptability of the Waste by the Company. Further, the Agent shall comply with all Company requests for evidence of Agent's continuing compliance with the terms of the Agreement including but not limited to the following: (i) providing new, updated Waste profiles on the Waste(s) offered for disposal or, (ii) provriding appropriate certification that the Waste being offered for disposal is acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Agent's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Agent's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Agent's expense if reasonable cause exists as to its acceptability under the terms of this Agreement or, (iv) allow the Company to re-sample the Waste at Agent's expense.

#### 20. Miscellaneous.

- (A) This Agreement shall be governed by the laws of the State in which the Facility is located
- (B) No waiver of a breach of any of the obligations contained in the Agreement shall be construed to be a waiver of any prior or succeeding breach of the same obligation or of any other obligation of this Agreement.
- (C) No modification, release, discharge or waiver of any provision or obligation hereof shall be of any force, or effect, unless in writing signed by all parties to this Agreement.
- (D) Agent shall treat as confidential and not disclose to others during or subsequent to the terms of this Agreement, except as is necessary to perform this Agreement, or to comply with any applicable law or regulation any information (including any technical information, experience or date) regarding the Company's plans, programs, plants, processes, products, costs, equipment or operations which may come within the knowledge of the Agent or its employees in the performance of this Agreement, without in each instance securing the prior written consent of the other Company.
- (E) If any term, phrase, obligation or provision of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, this Agreement shall remain in effect and be construed without regard to such term, phrase, obligation or provision.
- (F) This Agreement constitutes the entire understanding between the parties, replacing and amending any prior agreements between the parties, and shall be binding upon all parties hereto, their successors, heirs, representatives and assigns. Any provision, term or condition in any acknowledgement, purchase order or other response by Agent which is in addition to or different from the provisions of this Agreement shall be deemed objected to by the Company and shall be of no effect.
- (G) Agent represents, warrants and covenants that it is and during the term of this Agreement, will remain, in compliance with and will perform its obligations pursuant to all applicable laws and regulations and shall indemnify, defend and hold harmless the Company from any breach thereof.
- (H) It is the understanding and agreement of the parties that the Company is an independent contractor, and is not an agent, nor an authorized representative of the Agent. It is the further understanding and agreement of the parties that Agent is an authorized representative of Generator.
- <u>Notices</u>. All notices herein provided for shall be considered as having been given upon being placed in the mail, certified postage prepaid addressed to the Company or Agent at the address herein set forth in this Agreement or to such other address as may be given to the other party in writing.
- 22. <u>Liquidated Damages</u>. In the event that this Agreement is terminated by the Agent in a manner not in accordance with paragraph 4 hereof, or terminated due to a breach of this Agreement by the Agent, the Agent shall pay, as liquidated damages, and not as a penalty, the greater of an amount equal to six (6) months' service charges or the Agent's most recent monthly charge multiplied by six (6). The Agent shall be given credit for any advance payments made hereunder, however, in computing the amount owed as liquidated damages hereunder. The Agent acknowledges that this liquidated damages clause is reasonable and is applicable to recover damages related to its investment in equipment, development of landfills and hiring of employees undertaken by the Company to service its customers including the Agent. This liquidated damages clause in no way relieves the Agent from its obligations and liability for other cost or damages as set forth elsewhere in this Agreement.

Reminder No side dumps

# Certification No. TB-29215 Billing Acct. No 16472 Product Code VG

# **BILL OF LADING**

# Contaminated Soil

**REGIONAL DISPOSAL COMPANY** 

54 S. Dawson Street Seattle, WA 98134

Telephone: (206) 332-7700 / Fax: (206) 332-7600

This Bill of Lading augments the Master Service Agreement ("Agreement") entered into by \_\_\_\_\_ECO Con (Generator/Agent) and Regional Disposal Company ("RDC") on 7/15/2021(date). The terms herein are made a part of the Agreement. In the event of conflict between this Bill of Lading and the Agreement, the terms of the Agreement prevail.

RDC hereby authorizes the Wastes ("Waste") described in Certification No. <u>Tb-29215</u> signed by Generator/Agent on <u>7/15/2021</u> (date), for disposal at Roosevelt Regional Landfill. Contractor shall present a copy of this Bill of Lading with each shipment delivered.

Location of Waste: 19XX South 304th Federal Way

Method of Shipment:

Additional Fees (e.g., laboratory fees, transportation fees, special handling fees, etc. If none, so state):

## PERFORMANCE DATE

FOR RDC TRANSPORTATION: Generator shall make the Waste available for shipment no later than (date). RDC shall transport the Waste no later than (date), unless RDC notifies the Generator in writing that Waste transport shall be suspended or canceled due to RDC's exercise of its right to inspect or analyze the Waste (as provided in the Agreement).

## FOR GENERATOR TRANSPORTATION:

Agent shall begin delivery of the Waste at [check one]:

Roosevelt Regional Landfill.

X Seattle Transfer Station located at Third and Lander. 2733 3rd Ave S Seattle

Waste delivery shall begin no later than 7/15/202 (date), and shall complete delivery of the Waste no later than 6/23/2022 (date), unless RDC notifies Generator/Agent in writing to suspend or cancel the waste delivery due to RDC's exercise of its right to inspect or analyze the Waste (As provided in the Agreement).

GENERATOR / AGENT
10 march
CC 1 / (C Jalaan
Signature

Charles McFadden, L. G Printed Name and Title

**REGIONAL DISPOSAL COMPANY** 

Signature

Printed Name and Title

Date