Port of Pasco Big Industrial Park Lagoons

SAMPLING AND ANALYSIS PLAN

A GUIDE FOR BIOSOLIDS SAMPLING

12/11/2020

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1.0 Introduction

An important part of the biosolids program is based upon valid analytical data derived from relatively small samples. The collection of a sample and its proper preservation during shipment is critical for obtaining reliable analytical results.

The concentration of nutrients, pathogens, and pollutants in biosolids are variable. In addition, pathogenic organisms are both time and temperature sensitive. Establishing a written protocol is important in order to collect samples that are both representative and consistent.

Analysis of priority pollutants (also referred to as 503 metals) and pathogens provide the basis for establishing Class B biosolids. Nutrient concentrations are used to determine agronomic rates when biosolids are land applied. The analysis of biosolids will follow the methods outlined in WAC 173-308-140. Samples shall be tested for the pollutants in section WAC 173-308-160.

This plan will describe what's involved in sampling biosolids in the lagoons. The intent is to be complete and concise so that sample collection, preservation, and shipment to a lab may be performed with little or no assistance outside this document.

2.0 Selecting a Lab

There are a variety of laboratories across the state of Washington you can choose to conduct analysis of biosolids. Analysis data for biosolids in the Washington program must meet some basic requirements:

- Labs conducting the analysis must be accredited by Ecology. This Ecology website provides accreditation details of labs and the methods for which they are accredited: https://fortress.wa.gov/ecy/laboratorysearch/ .

The laboratories chosen for sample analysis are as follows:

Fecal coliform and Ammonia by SM 4500-NH3 B+C: Samples will be analyzed by the Benton-Franklin Health District Lab. This lab was chosen for its proximity to the site to satisfy the short hold time. The lab will be contacted prior to sampling to insure they have the proper testing supplies and media. Sludge samples will be transported by car directly to the lab after sampling.

Total Kjeldahl Nitrogen (TKN) by SM 4500 Norg B: Samples will be preserved in the field and stored in a cooler packed with ice. Sludge samples will be transported by car directly to Archer Analytical lab in Richland, Washington for analysis.

Organochlorine Pesticides, low-level Poly-Aromatic Hydrocarbons (PAHs), Target Analyte Metals (23 metals), Total Solids, Nitrates, and PCBs as Aroclors: Samples will be containerized and preserved as specified, packed in a cooler with ice, and shipped to OnSite Environmental, Inc., in Redmond, Washington for analysis.

Dioxins/Furans, PDBE: Samples will be containerized and preserved as specified, packed in a cooler with ice, and shipped to ALS Laboratories in Burlington, Ontario for analysis.

3.0 Biosolids Sampling Protocols

The following tools and methods will be utilized when collecting samples for laboratory analysis:

3.1 Tools Required for Sample Collection

- Nitrile gloves
- Hi-density polyethylene (HDPE) sample containers—contact your lab
- Ice chest
- Ice, "blue ice", or dry ice.
- Shipping containers (small ice chests often serve as the shipping container)
- Sharpie® pens, ink pens, labels for sample containers
- Chain-of-Custody forms
- Large spoon or other utensil for grab samples
- Stainless steel bowl or food-grade bucket
- "Mucksucker" sludge sampler

3.2 Sampling for Percent Solids, Pollutants, VAR* & Nutrients

1) Label and date the lab sample containers before you collect the samples;
2) Put on gloves;
3) Samples will be collected with a Mucksucker sampling device
4) Each lagoon to be divided into seven equal sections. A Mucksucker sludge judge device will be used to survey the quantity of biosolids material still in the lagoons and collect samples of the sludge blanket only. Seven samples will be collected for fecal testing. Large samples will be collected from each sampling location to use a portion from each of the seven samples to make the composite for testing the pollutants and the rest of the samples needed for testing. Samples will be placed on ice in the cooler after proper labeling, the chain of custody form completed immediately.

3.3 Sampling for Fecal Coliform - 7 Samples Method - WAC 173-308-170

1) This method requires the collection of 7 separate samples.
2) Samples will be analyzed by the Benton-Franklin Health District Lab. This lab was chosen for its proximity to the site to satisfy the short hold time. The lab will be contacted prior to sampling to insure they have the proper testing supplies and media. Sludge samples will be transported by car directly to the lab after sampling. Sample container will be labeled and dated prior to collecting the sample.
3) Put on gloves.
4) Each lagoon to be divided into seven equal sections. A Mucksucker sludge judge device will be used to survey the quantity of biosolids material still in the lagoons and collect samples of the

sludge blanket only. Seven samples will be collected for fecal testing. Collect a single sample and place it in the lab-supplied container.

5) Place the sample on ice in the cooler making sure it's properly labeled and immediately fill out the chain of custody form.
6) Deliver to the lab ASAP.

4.0 Biosolids Analysis

Table 4.1-Biosolids Analytical Methods, Preservation, & Holding Time

Constituent	Analysis Method	Temperatures	Hold-Time
Arsenic	SW-846 Method 6010, 6020, 7010, 7061	Cool to 39° F or 4° C	6 months
Cadmium	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Copper	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Lead	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Molybdenum	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Nickel	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Selenium	SW-846 Method 6010, 6020, 7010, 7741	Cool to 39° F or 4° C	6 months
Zinc	SW-846 Method 6010, 6020, 7000B, 7010	Cool to 39° F or 4° C	6 months
Mercury	SW-846 Method 7470, 7471	Cool to 39° F or 4° C	6 months
Total Kjeldahl Nitrogen	SM 4500- N_{org} B or C	Cool to 39° F or 4° C	28 days
Nitrate – N	EPA 300.0 or 353.2	Cool to 39° F or 4° C	28 days
Ammonia – N	SM4500-NH_3 B+C, D,E, or G	Cool to 39° F or 4° C	28 days
Fecal Coliform	SM 9221 C or E	Cool to 39° F or 4° C	Analysis in 8 hours from time of collection.*
Fecal Coliform	EPA 1680 or 1681	Cool to 39° F or 4° C	Analysis within 24 hours.**
Salmonella	SM 9260 D	Cool to 39° F or 4° C	Analysis within 24 hours.
Total Solids	SM 2540 G	Cool to 39° F or 4° C	7 days

* Maximum of 6 hours for transport, 2 hours for lab processing.

** 24 hour hold times for Class A composted, Class B aerobically or anaerobically digested only. All others: Analysis within 8 hours. 6 hours maximum for transport, 2 hours for lab processing.

5.0 Shipping Samples

Be sure that the chain of custody form is accurate! Place the completed Chain of custody form into a Ziploc® bag, seal, and place it into the shipping container. This keeps the paperwork legible when it arrives at the lab.

1) Ensure lids are sealed tightly and you have adequate ice. Hot and sunny afternoons can easily heat samples and damage them—samples must be kept cool at all times until reaching the lab.
2) Check necessary pickup and delivery times when shipping samples so as to minimize hold times.

6.0 Data Analysis Review

When biosolids lab analysis is returned it needs to be reviewed for accuracy and to confirm that biosolids are meeting standards. The following details should be checked:

- All priority pollutants are below WAC 173 308 160 table 3 threshold levels.
- Fecal coliform values are below required thresholds.
- Are there any error flags that indicate samples were analyzed outside of their hold times or other problems?
- Are any of the values outside their usual range indicating a possible laboratory error?

Any values outside of acceptable levels must be brought to the attention of your biosolids coordinator as soon as possible.

BIOSOLIDS SAMPLE ANALYSIS REPORT
at
Big Pasco Industrial Center
Pasco, Washington

2/25/2021

Prepared for:

Port of Pasco
1110 Osprey Pointe Blvd, Suite 201
P.O. Box 769
Pasco, WA 99301

Prepared by:
Yancy Meyer
Environmental Professional
and
Peter Trabusiner
Environmental Engineer

Blue Mountain Environmental and Consulting Co., Inc.
PO Box 545/125 Main St.
Waitsburg, WA 99361
509-520-6519

PROJECT SUMMARY

Client:	Port of Pasco 1110 Osprey Pointe Blvd, Suite 201 P.O. Box 769 Pasco, WA 99301
Point of Contact:	Mr. Tracy Friesz
Property:	Big Pasco Industrial Center Pasco, Washington
Environmental Professional:	Yancy Meyer, E. P.
License Number/Expiration:	UST Decommissioning Supervisor #24070 Exp. 1/23/2022 WA Site Assessor #5226971
Project Number:	E2020/1204
Report Date:	February 25, 2021

Legal Description: Parcel 112420028, in the south half of Section 33, in Township 9 N., Range 30 E.W.M., and the northwest quarter of Section 3, in Township 8 N., and Range 30 E.W.M.

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APPENDIX:

1.0 EXECUTIVE SUMMARY

On January 12, 2021, Blue Mountain Environmental and Consulting Co., Inc. (BMEC) conducted sampling of biosolids in the two lagoons (see Figure 2: Sample Location Map), in the Big Pasco Industrial Center in southeast Pasco, Washington (hereafter referred to as the "Site"). A Site Vicinity Map is included as Figure 1. Biosolids sampling and the site assessment were performed by Yancy Meyer, Environmental Professional and employee of BMEC, of Waitsburg, Washington.

7 Fecal Coliform samples were obtained from each lagoon (total of 14 samples), and one composite sample was taken from each lagoon (total of 2 composite samples). Fecal Coliform samples were submitted the same day to the Benton-Franklin Health District laboratory in Kennewick, Washington to be analyzed for fecal coliform by SM-9221-C, E1. Composite samples were sent to OnSite Environmental in Redmond, Washington, to be analyzed for Poly-Aromatic Hydrocarbons (PAHs) by Method 8270D/SIM, PCBs by Method 8082A, Organochlorine Pesticides by method 8081B, Target Analyte Metals by EPA Method 6061D/6020B/7471B, and nitrates by EPA Method 353.2. Composite samples were sent to Cascade Analytical Lab in Wenatchee, Washington to be analyzed for Total Kjeldahl Nitrogen (TKN) by SM 4500 NorgC and Ammonia by SM 4500-NH3G. Composite samples were sent to ALS Laboratory in Burlington Ontario, Canada to be analyzed for Dioxins/Furans by EPA 1613 and PDBE by EPA 1614. See Section 4.0 for sample analysis results.

Both lagoons were sampled at the site. The south lagoon had an average sludge depth of 2 feet, and an estimated sludge volume of 62,400 cubic feet. The north lagoon had an average sludge depth of one foot, and an estimated sludge volume of 32,130 cubic feet.

BMEC submitted the sample plan on 12/11/2020, which included the analyses contained in Table 4.1: Biosolids Analytical Methods (see Page 4 of the Sampling and Analysis Plan) and Fecal Coliform, 7 samples method, WAC 173-308-170.

Sample results from both lagoons for the analyses listed above indicate no contaminants above CLARC cleanup screening levels, as well as low fecal coliform and nitrogen results.

DOE requested the biosolids also be analyzed for Dioxins, Furans, and PBDE.

Sample analysis for these contaminants of concern (COCs) in the north lagoon indicate dioxins and furans are below Level A cleanup screening levels. PBDE levels in the north lagoon were either non-detect or extremely low (0.00000026 to 0.000152 mg/kg) It is the opinion of BMEC that the north lagoon biosolids do not contain any COCs above cleanup screening levels, and the plan to backfill this lagoon with clean backfill material does not pose a threat to human health or the environment.

Sample analysis of the of the south lagoon for dioxins and furans indicate these biosolids exceed CLARC cleanup screening levels for both dioxins and furans (PBDE cleanup screening levels were not readily available). Although these biosolid contaminants exceed cleanup screening levels, it is the opinion of BMEC that the proposed plan to backfill the lagoon with clean backfill material

will effectively create a cap over the biosolids and prevent exposure to the environment and allow for biological attenuation over time. The lagoon is isolated from the surrounding area and the Columbia River, so a release to navigable waters is very unlikely. The lagoon is in an industrial area and the planned use of the backfilled site is vehicle parking. No other development is planned for this site.

A site location map, sample location map, site pictures, and a copy of the laboratory reports and chain-of-custodies are included in the Appendix.

1.1 Action Summary:

BMEC supervised the biosolids sampling on January 12, 2021, as the Environmental Consultant for the client. Biosolid sampling was conducted at seven locations in each of the two lagoons at the site, designated SL for South Lagoon and NL for North Lagoon (see Sample Location Map).

1.2 Site Background:

The Port of Pasco contracted with BMEC to conduct an investigation of the biosolids at the site as part of the Biosolids Permit Application.

1.3 Purpose:

To evaluate biosolids at the site to determine best management practices.

1.4 Protocol:

The procedure for this site investigation was to perform in practical and reasonable steps, employing currently available technology, existing regulations, and generally acceptable engineering practices, an investigation to ascertain the possibility, presence, or absence of the chemicals of concern as it was required by the Scope of Work.

2.0 GENERAL SITE OVERVIEW

Blue Mountain Environmental Consulting, Inc. (BMEC), was retained by Port of Pasco to conduct an investigation of the lagoons including biosolids sampling at the site. The site investigation was conducted on January 12, 2021, and the weather was partly cloudy with temperatures in the 40s.

3.0 Sampling Methodology

Biosolids sampling was conducted by Mr. Meyer. Samples were collected using a muck-sucker sampling device. Samples were placed in the designated containers for that analysis, and stored in a cool environment (4 degrees C) until released, with a chain-of-custody, to the laboratory. The sampling tools were decontaminated between samples or disposed of.

4.0 Laboratory Results

SAMPLES SL-C AND NL-C WERE ANALYZED FOR PAHS BY EPA METHOD 8270E/SIM

	CLARC (b)	CLARC (b)	CLARC (b)	SL-C	NL-C
	Method A Unrestricted Land Use	Method B Non-Cancer	Method B Cancer		
PAHs (EPA 8270E/SIM)					
Naphthalene	5.0	NL	NL	<0.029	<0.011
2-Methylnaphthalene	NL	320	34	<0.029	<0.011
1-Methylnaphthalene	NL	5600	NL	<0.029	<0.011
Acenaphthylene	NL	NL	NL	<0.029	<0.011
Acenaphthene	NL	4800	NL	<0.029	<0.011
Fluorene	NL	3200	NL	<0.029	<0.011
Phenanthrene	NL	NL	NL	<0.029	<0.011
Anthracene	NL	24000	NL	<0.029	<0.011
Fluoranthene	NL	3200	NL	<0.029	<0.011
Pyrene	NL	2400	NL	<0.029	<0.011
Benzo[a]anthracene	2.0 TEF	NL	NL	<0.029	<0.011
Chrysene	2.0 TEF	NL	NL	<0.029	<0.011
Benzo[b]fluoranthene	2.0 TEF	NL	NL	<0.029	<0.011
Benzo(j,k)fluoranthene	2.0 TEF	NL	NL	<0.029	<0.011
Benzo[a]pyrene	2.0 TEF	24.0	0.19	<0.029	<0.011
Indeno[1,2,3-cd]pyrene	2.0 TEF	NL	NL	<0.029	<0.011
Dibenz[a,h]anthracene	2.0 TEF	NL	NL	<0.029	<0.011
Benzo[g,h,i]perylene	2.0 TEF	NL	NL	<0.029	<0.011

For PCBs by EPA 8082A

	CLARC (b)	CLARC (b)	SL-C	NL-C
	Method B Non-cancer	Method B cancer		
PCBs (EPA 8082A)				
Aroclor 1016	5.6	14.0	<0.22	<0.081
Aroclor 1221	NL	NL	<0.22	<0.081
Aroclor 1232	NL	NL	<0.22	<0.081
Aroclor 1242	NL	NL	<0.22	<0.081
Aroclor 1248	NL	NL	<0.22	<0.081
Aroclor 1254	1.6	0.5	<0.22	<0.081
Aroclor 1260	NL	0.5	<0.22	<0.081

For Organochlorine Pesticides by EPA Method 8081B:

	CLARC (B) SOIL	CLARC (B) SOIL	CLARC (B) SOIL	SL-C	NL-C
	METHOD A – STANDARD UNRESTRICTED LAND USE	METHOD B – CARCINOGEN	METHOD B – NON-CARCINOGEN		
ORGANOCHLORINE PESTICIDES (EPA 8081A)					
ALPHA-BHC	ND	160	NR	<22	<8.1
GAMMA-BHC	NS	NS	NS	<22	<8.1
BETA-BHC	ND	560	NR	<22	<8.1
DELTA-BHC	ND	NR	NR	<22	<8.1
HEPTACHLOR	ND	220	40000	<22	<8.1
ALDRIN	ND	59	2400	<22	<8.1
HEPTACHLOR EPOXIDE	ND	110	1000	<22	<8.1
GAMMA-CHLORDANE	ND	2900	40000	<43	<16
ALPHA-CHLORDANE	ND	2900	40000	<43	<16
4,4'-DDE	ND	2900	NR	77	<16
ENDOSULFAN I	ND	NR	480000	<22	<8.1
DIELDRIN	ND	63	4000	<43	<16
ENDRIN	ND	NR	24	<43	<16
4,4'-DDD	ND	4200	NR	<43	<16
ENDOSULFAN II	ND	NR	480000	<43	<16
4,4'-DDT	3000	2900	40000	<43	<16
ENDRIN ALDEHYDE	NS	NS	NS	<43	<16
METHOXYCHLOR	ND	NR	400000	<43	<16
ENDOSULFAN SULFATE	NS	NS	NS	<43	<16
ENDRIN KETONE	NS	NS	NS	<43	<16
TOXAPHINE	ND	910	NR	<220	<81

For Total Solids:

SL-C	NL-C
22.9%	49.5%

For Total Kjeldahl Nitrogen by SM 4500 NorgC, Nitrate by EPA 353.2, and Ammonia by SM 4500-NH3G:

Nitrogen	CLARC cleanup screening levels	SL-C	NL-C
Total Kjeldahl Nitrogen	NL	6200	836
Nitrate	130000	<2.2	<0.81
Ammonia	NL	43.2	8.69

For Fecal Coliform by SM-9221-C,E1:

Sample	Fecal Coliform gram dry weight
SL-1	1.17
SL-2	0.66
SL-3	1.52
SL-4	4.1
SL-5	19.9
SL-6	14.1
SL-7	2.78
NL-8	5.67
NL-9	2.76
NL-10	2.23
NL-11	0.33
NL-12	0.31
NL-13	1.29
NL-14	7.68

SL-C and NL-C were analyzed Dioxins/Furans by EPA 1613:

TEF methodology must be applied when determining compliance with cleanup and remediation levels established for furans. Although there may be toxicity values available in IRIS for selected dioxins and furans, CLARC no longer con cleanup levels for these individual chemicals but requires the application of the TEF methodology. When using the minimum, the compounds listed below must be analyzed for and included in the calculations.

Matrix: Soil Units: mg/Kg

	Dioxins	2,3,7,8-Tetrachloro dibenzo-p-dioxin	1,2,3,7,8-Pentachloro dibenzo-p-dioxin	1,2,3,4,7,8-Hexaachloro dibenzo-p-dioxin	1,2,3,6,7,8-Hexaachloro dibenzo-p-dioxin	1,2,3,7,8,9-Hexaachloro dibenzo-p-dioxin	1,2,3,4,6,7,8-Hexaachloro dibenzo-p-dioxin	1,2,3,4,6,7,8,9-Octaachloro dibenzo-p-dioxin	**TOTAL TEF**
SAMPLE	**TEF**	1	1	0.1	0.1	0.1	0.01	0.0003	
SL-C	Mg x TEF	0.0000087	0.0000426	0.0000144	0.0000331	0.0000425	0.000126	0.0000309	0.0011082
NL-C	Mg x TEF	0.0000001	0.000000126	0.000000025	0.000000083	0.000000089	0.000000342	0.000000081	0.000000846

	WAC-173-340-900	SAMPLE	SL-C	NL-C
	TABLE 749-2, INDUSTRIAL OR COMMERCIAL SITE	MG/KG		
DIOXINS	0.000005 MG/KG	TEF	0.0011082	0.000000846

Matrix: Soil Units: mg/Kg

	Furans	2,3,7,8-Tetrachloro dibenzofuran	1,2,3,7,8-Pentachloro dibenzofuran	2,3,4,7,8-Pentachloro dibenzofuran	1,2,3,4,7,8-Hexaachloro dibenzofuran	1,2,3,6,7,8-Hexaachloro dibenzofuran	2,3,4,6,7,8-Hexaachloro dibenzofuran	1,2,3,7,8,9-Hexaachloro dibenzofuran	1,2,3,4,6,7,8-Heptachloro dibenzofuran	1,2,3,4,7,8,9-Heptachloro dibenzofuran	1,2,3,4,6,7,8,9-Octaachloro dibenzofuran	**TOTAL TEF**
SAMPLE	**TEF**	0.1	0.03	0.3	0.1	0.1	0.1	0.1	0.01	0.01	0.0003	
SL-C	Mg x TEF	0.00000056	0.000000384	0.00000396	0.0000064	0.0000064	0.000028	0.00000218	0.0000224	0.00000202	0.000001818	0.0011082
NL-C	Mg x TEF	0.0000000423	0.0000000003	0.000000048	0.000000016	0.000000028	0.00000004	0.000000016	0.0000000587	0.0000000032	0.00000000582	0.000000258

	WAC-173-340-900	SAMPLE	SL-C	NL-C
	TABLE 749-2, INDUSTRIAL OR COMMERCIAL SITE	MG/KG		
FURANS	0.000003 MG/KG	TEF	0.000066778	0.000000258

and PDBE by EPA 1614. Please refer to the laboratory results in the Appendix for a complete listing of these results.

And Target Analyte Metals by EPA Method 6061D/6020B/7471B:

	WAC 173-308-160	CLARC (b)	SL-C	NL-C
	TABLE 3: POLLUTANT CONCENTRATION LIMITS	SOIL METHOD B NON-CANCER		
Aluminum	NL	80000	8900	9500
Antimony	NL	32	<22	<8.1
Arsenic	41	24	14	<4.1
Barium	NL	16000	180	81
Beryllium	NL	160	<2.2	<0.81
Cadmium	39	80	4.4	<0.81
Calcium	NL	NL	120000	9400
Chromium	NL	240	41	14
Cobalt	NL	24	7.1	5.1
Copper	1500	3200	99	12
Iron	NL	56000	20000	20000
Lead	300	250 (Method A)	53	<8.1
Magnesium	NL	NL	5700	5300
Manganese	NL	3700	210	190
Mercury	17	2.0 (Method A)	<1.1	<0.41
Nickel	420	NL	14	12
Potassium	NL	NL	1900	1900
Selenium	100	400	<11	<4.1
Silver	NL	400	130	<1.6
Sodium	NL	NL	640	310
Thallium	NL	NL	<4.3	<1.8
Vanadium	2800	400	81	49
Zinc	2800	24000	420	46

NL – Not Listed
Notes:
(a) Samples taken on January 12, 2021
(b) CLARC is a compendium of technical information related to calculating cleanup levels under Washington's Cleanup Rule, the Model Toxics Control Act (MTCA) Regulation, Chapter 173-340 WAC.
A copy of the laboratory analytical report and accompanying chain-of-custody documentation is included in the Appendix.

5.0 Conclusions

Both lagoons were sampled at the site. The south lagoon had an average sludge depth of 2 feet, and an estimated sludge volume of 62,400 cubic feet. The north lagoon had an average sludge depth of one foot, and an estimated sludge volume of 32,130 cubic feet.

BMEC submitted the sample plan on 12/11/2020, which included the analyses contained in Table 4.1: Biosolids Analytical Methods (Page 4 of the Sampling and Analysis Plan) and Fecal Coliform, 7 samples method, WAC 173-308-170.

Sample results from both lagoons for the analyses listed above indicate no contaminants above CLARC cleanup screening levels, as well as low fecal coliform and nitrogen results.

DOE requested the biosolids also be analyzed for Dioxins, Furans, and PBDE.

Sample analysis for these contaminants of concern (COCs) in the north lagoon indicate dioxins and furans are below Level A cleanup screening levels. PBDE levels in the north lagoon were either non-detect or extremely low (0.00000026 to 0.000152 mg/kg) It is the opinion of BMEC that the north lagoon biosolids do not contain any COCs above cleanup screening levels, and the plan to backfill this lagoon with clean backfill material does not pose a threat to human health or the environment.

Sample analysis of the of the south lagoon for dioxins and furans indicate these biosolids exceed CLARC cleanup screening levels for both dioxins and furans (PBDE cleanup screening levels were not readily available). Although these levels exceed cleanup screening levels, it is the opinion of BMEC that the proposed plan to backfill the lagoon with clean backfill material will effectively create a cap over the biosolids and prevent exposure to the environment and allow for biological attenuation over time. The lagoon is in an industrial area and the planned use of the backfilled site is vehicle parking. No other development is planned for this site.

A site location map, sample location map, site pictures, and a copy of the laboratory reports and chain-of-custodies are included in the Appendix.

6.0 Statement of the Environmental Professionals

Statement of Quality Assurance

The objective of this Environmental Site Assessment was to ascertain the potential presence or absence of environmental problems that could impact the subject property, as delineated by the Scope of Work. The procedure was to perform reasonable steps in accordance with the existing regulations, currently available technology, and generally accepted engineering practices in order to accomplish the stated objective.
To the best of my knowledge, this site investigation has been performed in compliance with BMEC's Standard Operating Procedures protocol for Environmental Site Assessments.

Blue Mountain Environmental Consulting, Inc.

P Trabusiner

Peter Trabusiner, Engineer

Statement of Quality Control

I have performed this Assessment in accordance with generally accepted environmental practices and procedures, as of the date of this report. I have employed the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental professionals practicing in this area. The conclusions contained within this Assessment are based upon site conditions I readily observed or which were reasonably ascertainable and present at the time of the site inspection.

The conclusions and recommendations stated in this report are based upon personal observations made by employees of BMEC and upon information provided by others. I have no reason to suspect or believe that the information provided by others is inaccurate.

Blue Mountain Environmental Consulting, Inc.

Yancy Meyer, Environmental Professional

7.0 Report Limitations

The enclosed site assessment has been performed for the exclusive use by the Port of Pasco, or agents specified by him, for the transaction at issue concerning the subject property in Pasco, Washington.

The purpose of an environmental investigation is to evaluate potential or actual effects of past or current practices on a given site. In performing an environmental investigation, a balance must be struck between reasonable inquiry into environmental issues and an exhaustive analysis of every conceivable issue of possible concern. This environmental assessment contains BMEC opinion regarding environmental issues of concern and/or additional issues that may need to be addressed. In rendering our professional opinion, BMEC warrants that the services provided within the scope of this assessment were performed, within the limits described, in accordance with generally accepted environmental consulting principles and practices. No other warranty, expressed or implied, is made. The following paragraphs describe the assumptions and standard parameters under which such opinion is rendered.

Any opinions and/or recommendations presented in this report apply to site conditions existing at the time of performance of services. BMEC is unable to report on or accurately predict events that may affect the site after performance of services, whether occurring naturally or caused by human forces. BMEC assumes no responsibility for conditions BMEC did not investigate, or conditions not generally recognized as environmentally unacceptable at the time services were performed.

Where subsurface work was performed, BMEC professional opinions are based in part on the interpretation of data from discrete sample locations that may not represent actual conditions at the non-sampled locations.

Except where there is expressed concern of our client, or where specific environmental contaminants have previously been reported by others, naturally occurring toxic substances, or contaminant concentrations not of current environmental concern, may not be addressed in this document.

No assessment is thorough enough to exclude the presence of hazardous materials at a given site. Therefore, if specific hazardous materials have not been identified during this assessment, the lack of such identifications should not be construed as a guarantee of the absence of hazardous materials, but merely as the result of services performed within the scope, limitations, and cost of work done.

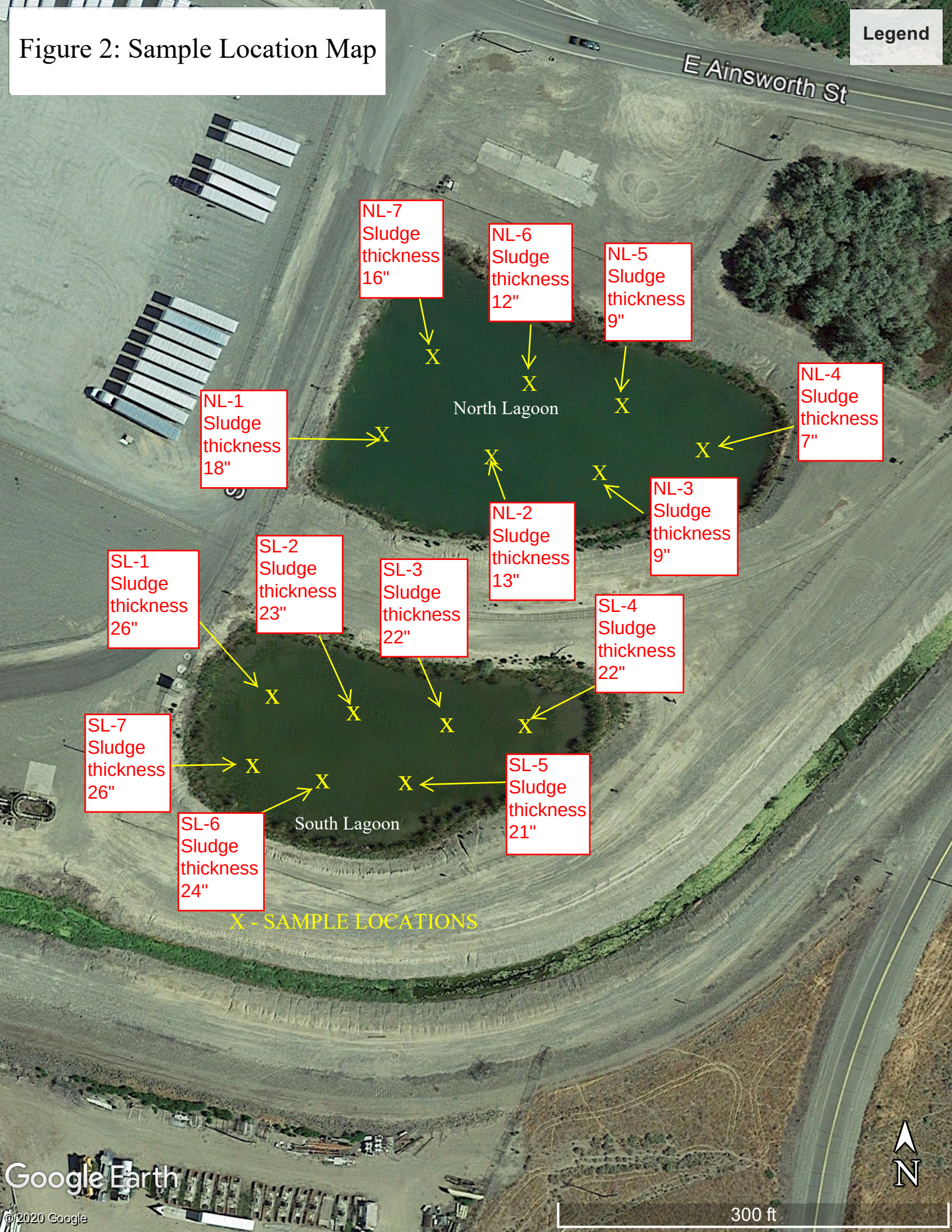
BMEC is not responsible for the effects of changes in applicable environmental standards, practices, or regulations after the performance of services.

Services provided for this assessment were performed in accordance with BMEC's agreement and understanding with our client, which may not be fully disclosed in this report. Opinions and/or recommendations are intended for the client, purpose, site, location, time frame, and project parameters indicated.

This report was prepared solely for the use of our client and should be reviewed in its entirety; BMEC is not responsible for subsequent separation, detachment, or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.

FIGURE 1:
SITE LOCATION MAP

Figure 2: Sample Location Map



SAMPLING SOUTH LAGOON

SAMPLING SOUTH LAGOON

SAMPLING NORTH LAGOON

SAMPLING NORTH LAGOON

PUBLIC HEALTH
Prevent • Promote • Protect
BENTON-FRANKLIN HEALTH DISTRICT

January 23, 2021

BMEC
P.O. Box 545
Waitsburg, WA 99361

To whom it may concern:

The following results are from samples submitted to our laboratory for analysis on January 12, 2021. All analyses were performed using methods outlined in Standard Methods for the Examination of Water and Wastewater, 22nd edition. If you need additional information regarding these methods or results, please contact Jillian Legard at (509) 460-4206.

SAMPLE	DATE	Lab #	% dry Wt. Solids	FECAL COLIFORM / ml	FECAL COLIFORM / gm dry wt.	METHOD
Biosolids **SL-1** 09:15	01-12-21	06200227	34.2	0.40	1.17	SM-9221-C,E1
Biosolids **SL-2** 09:28	01-12-21	06200228	30.1	0.20	0.66	SM-9221-C,E1
Biosolids **SL-3** 09:40	01-12-21	06200229	25.6	0.45	1.52	SM-9221-C,E1
Biosolids **SL-4** 09:51	01-12-21	06200230	31.5	1.3	4.1	SM-9221-C,E1
Biosolids **SL-5** 10:05	01-12-21	06200231	24.8	4.93	19.9	SM-9221-C,E1
Biosolids **SL-6** 10:10	01-12-21	06200232	23.3	3.29	14.1	SM-9221-C,E1
Biosolids **SL-7** 10:20	01-12-21	06200233	28.4	0.79	2.78	SM-9221-C,E1
Biosolids **NL-8** 09:20	01-12-21	06200234	58.0	3.28	5.67	SM-9221-C,E1
Biosolids **NL-9** 09:28	01-12-21	06200235	50.0	1.38	2.76	SM-9221-C,E1
Biosolids **NL-10** 09:35	01-12-21	06200236	58.2	1.30	2.23	SM-9221-C,E1
Biosolids **NL-11** 09:41	01-12-21	06200237	60.0	0.20	0.33	SM-9221-C,E1
Biosolids **NL-12** 09:53	01-12-21	06200238	65.0	0.20	0.31	SM-9221-C,E1
Biosolids **NL-13** 10:05	01-12-21	06200239	61.4	0.79	1.29	SM-9221-C,E1

Biosolids **NL-14** 10:10	01-12-21	06200240	59.3	4.56	7.68	SM-9221-C,E1

Sincerely,

Jillian Legard
Laboratory Supervisor

7102 W. Okanogan Place
Kennewick, WA 99336
Office: (509) 460-4200

412 W. Clark
Pasco, WA 99301
Office: (509) 547-9737

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 118302
Client: Blue Mountain Environmental
Account: 21869
Sampler: Yansy Meyer
PO Number:

--- Analytical Services Report ---

Report Date: 1/27/21

Blue Mountain Environmental
PO Box 545
Waitsburg, WA 99361

Laboratory Number: 21-E000806
Sample Identification: SL-C

Date Received: 1/13/21
Date Sampled: 1/12/21

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Percent Solids	22.9	%	0.01 %	SM 2540 G	1/13/21	
Kjeldahl Nitrogen/Solid	6200	mg/kg		SM 4500Norg C	1/26/21	
Ammonia Solid	43.2	mg/kg		SM 4500-NH3 G	1/14/21	

Approved By Name: Kristopher Moore Signature:
Function: Business Unit Manager

CASCADE ANALYTICAL
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1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 118302
Client: Blue Mountain Environmental
Account: 21869
Sampler: Yansy Meyer
PO Number:

--- Analytical Services Report ---

Report Date: 1/27/21

Blue Mountain Environmental
PO Box 545
Waitsburg, WA 99361

Laboratory Number: 21-E000807
Sample Identification: NL-C

Date Received: 1/13/21
Date Sampled: 1/12/21

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Total Percent Solids	49.5	%	0.01 %	SM 2540 G	1/13/21	
Kjeldahl Nitrogen/Solid	836.	mg/kg		SM 4500Norg C	1/26/21	
Ammonia Solid	8.69	mg/kg		SM 4500-NH3 G	1/14/21	

Approved By Name: Kristopher Moore Signature:
Function: Business Unit Manager

CASCADE ANALYTICAL, INC.

AGRICULTURAL &
ENVIRONMENTAL ANALYSIS

3019 G.S. Center Rd.
Wenatchee, WA 98801

(509) 662-1888
Fax: (509) 662-8183
1-800-545-4206

SPECIAL SERVICE ORDER FORM

SAMPLE #	1	2	3	4
SEND RESULTS TO 1)Client 2)Billing 3)Both	1	1		
SAMPLE REPRESENTS 1)Food 2)Water 3)Soil 4)Plant Tissue 5)Other	5	5		
SAMPLE BY 1)Client 2)Field Rep. 3)Quality Control 4)Cascade 5)Other	1	1		
SAMPLER'S NAME	Yancy Meyer			

CLIENT NAME/ADDRESS	BILLING NAME/ADDRESS
Blue Mountain Environmental and Consulting (BMEC)	SAME
Po Box 545/125 Main St.	
Waitsburg, WA 99361	
PHONE NO. 509-520-4416	PHONE NO.
EMAIL ymeyer@bmecww.com	EMAIL

FORM MUST BE COMPLETED BEFORE ANALYSIS WILL BE PERFORMED.

RELINQUISHED BY: (Signature) 1	DATE	RELINQUISHED BY: (Signature) 2	DATE	RELINQUISHED BY: (Signature) 3	DATE
(Printed) Yancy Meyer	TIME	(Printed) Batch # 118302	TIME	(Printed)	TIME
RECEIVED BY: (Signature) R Kennedy	DATE 1/13/21	RECEIVED BY: (Signature)	DATE	RECEIVED BY: (Signature)	DATE
(Printed) R. Kennedy	TIME 12:32	(Printed)	TIME	(Printed)	TIME

			Sample Date	Sample Time
21-008060	1	SAMPLE I.D. SL-C	1-12-21	0900
		ANALYSIS REQUESTED TKN AND AMMONIA		
		COMMENT		
00807	2	SAMPLE I.D. NL-C	1-12-21	0950
		ANALYSIS REQUESTED TKN AND AMMONIA		
		COMMENT		
	3	SAMPLE I.D.	Sample Date	Sample Time
		ANALYSIS REQUESTED		
		COMMENT		
	4	SAMPLE I.D.	Sample Date	Sample Time
		ANALYSIS REQUESTED		
		COMMENT		

Sample container received by client was sealed Yes X No ____
Sample container received by laboratory was sealed Yes ____ No ____

Disclaimer:
Cascade Analytical, Inc., makes no warranty of any kind, expressed or implied, and customer assumes all risk and liability from use of Cascade Analytical test results. Cascade neither assumes not authorizes any person to assume for Cascade any other liability in connection with the testing done by Cascade Analytical, Inc., and there are not other oral agreements or warranties collateral to or affecting this agreement.

Cascade Analytical, Inc.'s liability to customer as a result of customers use of Cascade's tests results shall be limited to a sum equal to the fees paid by customer to Cascade Analytical, Inc. for the testing work.

Customer Signature _____ Date 1-12-21

EUROFINS CASCADE ANALYTICAL

Sample Receipt Form

Date Received: 1/13/21 Time Received: 11:51am Initials: TWD

Client Name: Blue Mtn. Engineering & Consulting Project Name: Special Service

Temperature of cooler upon receipt: 6 °C Thermometer ID: #5

Custody seals: (Intact) Broken None N/A

Chain of Custody Completed:

Client name, address, and phone number;	(Yes)	No
Date and time of sampling;	(Yes)	No
Test requests clear;	(Yes)	No
Completed in ink;	(Yes)	No
Signed by client;	(Yes)	No

All samples received:		(Yes)	No
All samples intact:		(Yes)	No
Sample ID's match COC form:		(Yes)	No
Appropriate containers used:		(Yes)	No
Sufficient amount of sample for analysis:		(Yes)	No
Correct preservative verified:	(N/A)	Yes	No
Air bubbles in VOC, TTHM, or HAA5 samples:	(N/A)	Yes	No
Sample(s) exceed hold time:		Yes	(No)

Type of coolant: Ice (Blue Ice) None Other Comment: _____

Shipping Method: FedEx (UPS) USPS Brett & Sons Hand Delivered CAI Sampled

Shipping Container: E-CA Cooler (E-CA Cooler Box) Client's Cooler None Other _____

Samples accepted for analysis: (Yes) No

Reason for Rejection: _____

Name of Person Contacted: _____ Date Contacted: _____

Comments: _____

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

January 25, 2021

Yancy Meyer
Blue Mountain Environmental, Inc.
90 Baldwin Road
Walla Walla, WA 99362

Re: Analytical Data for Project E2020/1204; Port of Pasco Lagoons
Laboratory Reference No. 2101-095

Dear Yancy:

Enclosed are the analytical results and associated quality control data for samples submitted on January 13, 2021.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

Case Narrative

Samples were collected on January 12, 2021 and received by the laboratory on January 13, 2021. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

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

Organochlorine PesticidesTotal Metals EPA 8081 Analysis:

Negative effects of the matrix from the samples on the instrument caused values for 4,4'-DDT, Endrin Aldehyde, Methoxychlor, and Endrin Ketone in the continuing calibration verification standards (CCVs) to be low. Because of this, quantitation limits and sample concentrations can be higher than reported.

Total Metals EPA 6010D/6020B/7471B Analysis:

Due to the high concentration of Calcium in the QC sample, the amount spiked was insufficient for meaningful MS/MSD recovery data. The Spike Blank recovery was 89%.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PAHs EPA 8270E/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SL-C**					
Laboratory ID:	01-095-01					
Naphthalene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
2-Methylnaphthalene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
1-Methylnaphthalene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Acenaphthylene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Acenaphthene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Fluorene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Phenanthrene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Anthracene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Fluoranthene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Pyrene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[a]anthracene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Chrysene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[b]fluoranthene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo(j,k)fluoranthene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[a]pyrene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Indeno(1,2,3-c,d)pyrene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Dibenz[a,h]anthracene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[g,h,i]perylene	**ND**	0.029	EPA 8270E/SIM	1-15-21	1-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*46 - 113*				
Pyrene-d10	*83*	*45 - 114*				
Terphenyl-d14	*85*	*49 - 121*				

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PAHs EPA 8270E/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**NL-C**					
Laboratory ID:	01-095-02					
Naphthalene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
2-Methylnaphthalene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
1-Methylnaphthalene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Acenaphthylene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Acenaphthene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Fluorene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Phenanthrene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Anthracene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Fluoranthene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Pyrene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[a]anthracene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Chrysene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[a]pyrene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Benzo[g,h,i]perylene	**ND**	0.011	EPA 8270E/SIM	1-15-21	1-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*89*	*46 - 113*				
Pyrene-d10	*101*	*45 - 114*				
Terphenyl-d14	*107*	*49 - 121*				

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0115S1					
Naphthalene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Acenaphthylene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Acenaphthene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Fluorene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Phenanthrene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Anthracene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Fluoranthene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Pyrene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Chrysene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270E/SIM	1-15-21	1-18-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*93*	*46 - 113*				
Pyrene-d10	*108*	*45 - 114*				
Terphenyl-d14	*115*	*49 - 121*				

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PAHs EPA 8270E/SIM
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-108-01										
	MS	MSD	MS	MSD		MS	MSD				
Naphthalene	**0.0718**	**0.0719**	0.0833	0.0833	ND	86	86	51 - 115	0	26	
Acenaphthylene	**0.0726**	**0.0780**	0.0833	0.0833	ND	87	94	53 - 121	7	24	
Acenaphthene	**0.0730**	**0.0752**	0.0833	0.0833	ND	88	90	52 - 121	3	25	
Fluorene	**0.0832**	**0.0851**	0.0833	0.0833	ND	100	102	58 - 127	2	23	
Phenanthrene	**0.0844**	**0.0829**	0.0833	0.0833	ND	101	100	46 - 129	2	28	
Anthracene	**0.0912**	**0.0908**	0.0833	0.0833	ND	109	109	57 - 124	0	21	
Fluoranthene	**0.0927**	**0.0988**	0.0833	0.0833	ND	111	119	46 - 136	6	29	
Pyrene	**0.0912**	**0.0951**	0.0833	0.0833	ND	109	114	41 - 136	4	32	
Benzo[a]anthracene	**0.0885**	**0.0877**	0.0833	0.0833	ND	106	105	56 - 136	1	25	
Chrysene	**0.0939**	**0.0927**	0.0833	0.0833	ND	113	111	49 - 130	1	22	
Benzo[b]fluoranthene	**0.101**	**0.0925**	0.0833	0.0833	ND	121	111	51 - 135	9	26	
Benzo(j,k)fluoranthene	**0.0909**	**0.0981**	0.0833	0.0833	ND	109	118	56 - 124	8	23	
Benzo[a]pyrene	**0.0982**	**0.0966**	0.0833	0.0833	ND	118	116	54 - 133	2	26	
Indeno(1,2,3-c,d)pyrene	**0.0954**	**0.0937**	0.0833	0.0833	ND	115	112	52 - 134	2	20	
Dibenz[a,h]anthracene	**0.0949**	**0.0926**	0.0833	0.0833	ND	114	111	58 - 127	2	17	
Benzo[g,h,i]perylene	**0.0948**	**0.0937**	0.0833	0.0833	ND	114	112	54 - 129	1	21	
Surrogate:											
2-Fluorobiphenyl						*73*	*82*	*46 - 113*			
Pyrene-d10						*101*	*93*	*45 - 114*			
Terphenyl-d14						*101*	*101*	*49 - 121*			

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SL-C**					
Laboratory ID:	01-095-01					
Aroclor 1016	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1221	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1232	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1242	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1248	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1254	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Aroclor 1260	**ND**	0.22	EPA 8082A	1-14-21	1-14-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*85*	*46-125*				
Client ID:	**NL-C**					
Laboratory ID:	01-095-02					
Aroclor 1016	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1221	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1232	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1242	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1248	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1254	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Aroclor 1260	**ND**	0.081	EPA 8082A	1-14-21	1-14-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*96*	*46-125*				

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0114S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1221	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1232	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1242	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1248	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1254	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Aroclor 1260	**ND**	0.050	EPA 8082A	1-14-21	1-14-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*106*	*46-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-095-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.401**	**0.444**	0.500	0.500	ND	**80**	**89**	43-125	10	15	
Surrogate:											
DCB						*94*	*98*	*46-125*			

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SL-C**					
Laboratory ID:	01-095-01					
alpha-BHC	**ND**	22	EPA 8081B	1-14-21	1-22-21	
gamma-BHC	**ND**	22	EPA 8081B	1-14-21	1-22-21	
beta-BHC	**ND**	22	EPA 8081B	1-14-21	1-22-21	
delta-BHC	**ND**	22	EPA 8081B	1-14-21	1-22-21	
Heptachlor	**ND**	22	EPA 8081B	1-14-21	1-22-21	
Aldrin	**ND**	22	EPA 8081B	1-14-21	1-22-21	
Heptachlor Epoxide	**ND**	22	EPA 8081B	1-14-21	1-22-21	
gamma-Chlordane	**ND**	43	EPA 8081B	1-14-21	1-22-21	
alpha-Chlordane	**ND**	43	EPA 8081B	1-14-21	1-22-21	
4,4'-DDE	**77**	43	EPA 8081B	1-14-21	1-22-21	
Endosulfan I	**ND**	22	EPA 8081B	1-14-21	1-22-21	
Dieldrin	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Endrin	**ND**	43	EPA 8081B	1-14-21	1-22-21	
4,4'-DDD	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Endosulfan II	**ND**	43	EPA 8081B	1-14-21	1-22-21	
4,4'-DDT	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Endrin Aldehyde	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Methoxychlor	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Endosulfan Sulfate	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Endrin Ketone	**ND**	43	EPA 8081B	1-14-21	1-22-21	
Toxaphene	**ND**	220	EPA 8081B	1-14-21	1-22-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*56*	*33-97*				
DCB	*67*	*36-115*				

Date of Report: January 25, 2021
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Project: E2020/1204; Port of Pasco Lagoons

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**NL-C**					
Laboratory ID:	01-095-02					
alpha-BHC	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
gamma-BHC	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
beta-BHC	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
delta-BHC	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
Heptachlor	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
Aldrin	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
Heptachlor Epoxide	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
gamma-Chlordane	**ND**	16	EPA 8081B	1-14-21	1-19-21	
alpha-Chlordane	**ND**	16	EPA 8081B	1-14-21	1-19-21	
4,4'-DDE	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endosulfan I	**ND**	8.1	EPA 8081B	1-14-21	1-19-21	
Dieldrin	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endrin	**ND**	16	EPA 8081B	1-14-21	1-19-21	
4,4'-DDD	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endosulfan II	**ND**	16	EPA 8081B	1-14-21	1-19-21	
4,4'-DDT	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endrin Aldehyde	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Methoxychlor	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endosulfan Sulfate	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Endrin Ketone	**ND**	16	EPA 8081B	1-14-21	1-19-21	
Toxaphene	**ND**	81	EPA 8081B	1-14-21	1-19-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*69*	*33-97*				
DCB	*79*	*36-115*				

Date of Report: January 25, 2021
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Project: E2020/1204; Port of Pasco Lagoons

ORGANOCHLORINE PESTICIDES EPA 8081B QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0114S1					
alpha-BHC	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
gamma-BHC	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
beta-BHC	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
delta-BHC	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
Heptachlor	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
Aldrin	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
gamma-Chlordane	**ND**	10	EPA 8081B	1-14-21	1-21-21	
alpha-Chlordane	**ND**	10	EPA 8081B	1-14-21	1-21-21	
4,4'-DDE	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endosulfan I	**ND**	5.0	EPA 8081B	1-14-21	1-21-21	
Dieldrin	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endrin	**ND**	10	EPA 8081B	1-14-21	1-21-21	
4,4'-DDD	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endosulfan II	**ND**	10	EPA 8081B	1-14-21	1-21-21	
4,4'-DDT	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endrin Aldehyde	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Methoxychlor	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endosulfan Sulfate	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Endrin Ketone	**ND**	10	EPA 8081B	1-14-21	1-21-21	
Toxaphene	**ND**	50	EPA 8081B	1-14-21	1-21-21	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*82*	*33-97*				
DCB	*99*	*36-115*				

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

ORGANOCHLORINE PESTICIDES EPA 8081B QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0114S2										
	SB	SBD	SB	SBD		SB	SBD				
alpha-BHC	**94.2**	**106**	100	100	N/A	**94**	**106**	48-117	12	15	
gamma-BHC	**95.1**	**107**	100	100	N/A	**95**	**107**	48-118	12	15	
beta-BHC	**89.4**	**99.8**	100	100	N/A	**89**	**100**	48-116	11	15	
delta-BHC	**90.8**	**101**	100	100	N/A	**91**	**101**	40-118	11	15	
Heptachlor	**98.6**	**109**	100	100	N/A	**99**	**109**	40-114	10	15	
Aldrin	**96.0**	**105**	100	100	N/A	**96**	**105**	55-110	9	15	
Heptachlor Epoxide	**95.3**	**99.8**	100	100	N/A	**95**	**100**	49-110	5	15	
gamma-Chlordane	**94.1**	**106**	100	100	N/A	**94**	**106**	54-110	12	15	
alpha-Chlordane	**93.7**	**106**	100	100	N/A	**94**	**106**	53-110	12	15	
4,4'-DDE	**83.6**	**89.3**	100	100	N/A	**84**	**89**	57-119	7	15	
Endosulfan I	**74.6**	**82.8**	100	100	N/A	**75**	**83**	49-114	10	15	
Dieldrin	**88.8**	**98.7**	100	100	N/A	**89**	**99**	53-110	11	15	
Endrin	**84.9**	**94.3**	100	100	N/A	**85**	**94**	51-114	10	15	
4,4'-DDD	**83.9**	**94.6**	100	100	N/A	**84**	**95**	50-120	12	15	
Endosulfan II	**81.8**	**93.2**	100	100	N/A	**82**	**93**	50-110	13	15	
4,4'-DDT	**84.8**	**94.5**	100	100	N/A	**85**	**94**	47-128	11	15	
Endrin Aldehyde	**72.5**	**80.0**	100	100	N/A	**72**	**80**	42-110	10	15	
Methoxychlor	**65.3**	**69.0**	100	100	N/A	**65**	**69**	46-126	6	15	
Endosulfan Sulfate	**77.0**	**87.2**	100	100	N/A	**77**	**87**	50-110	12	15	
Endrin Ketone	**75.0**	**84.6**	100	100	N/A	**75**	**85**	47-114	12	15	
Surrogate:											
TCMX						*77*	*87*	*33-97*			
DCB						*97*	*102*	*36-115*			

Date of Report: January 25, 2021
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Project: E2020/1204; Port of Pasco Lagoons

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SL-C**					
Laboratory ID:	01-095-01					
Aluminum	**8900**	2200	EPA 6010D	1-15-21	1-15-21	
Antimony	**ND**	22	EPA 6010D	1-15-21	1-15-21	
Arsenic	**14**	11	EPA 6010D	1-15-21	1-15-21	
Barium	**180**	11	EPA 6010D	1-15-21	1-15-21	
Beryllium	**ND**	2.2	EPA 6010D	1-15-21	1-15-21	
Cadmium	**4.4**	2.2	EPA 6010D	1-15-21	1-15-21	
Calcium	**120000**	11000	EPA 6010D	1-15-21	1-15-21	
Chromium	**41**	2.2	EPA 6010D	1-15-21	1-15-21	
Cobalt	**7.1**	2.2	EPA 6010D	1-15-21	1-15-21	
Copper	**99**	4.3	EPA 6010D	1-15-21	1-15-21	
Iron	**20000**	2200	EPA 6010D	1-15-21	1-15-21	
Lead	**53**	22	EPA 6010D	1-15-21	1-15-21	
Magnesium	**5700**	220	EPA 6010D	1-15-21	1-15-21	
Manganese	**210**	2.2	EPA 6010D	1-15-21	1-15-21	
Mercury	**ND**	1.1	EPA 7471B	1-18-21	1-18-21	
Nickel	**14**	11	EPA 6010D	1-15-21	1-15-21	
Potassium	**1900**	320	EPA 6010D	1-15-21	1-15-21	
Selenium	**ND**	11	EPA 6010D	1-15-21	1-15-21	
Silver	**130**	4.3	EPA 6010D	1-15-21	1-15-21	
Sodium	**640**	320	EPA 6010D	1-15-21	1-15-21	
Thallium	**ND**	4.3	EPA 6020B	1-21-21	1-21-21	
Vanadium	**81**	2.2	EPA 6010D	1-15-21	1-15-21	
Zinc	**420**	11	EPA 6010D	1-15-21	1-15-21	

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Project: E2020/1204; Port of Pasco Lagoons

TOTAL METALS
EPA 6010D/6020B/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**NL-C**					
Laboratory ID:	01-095-02					
Aluminum	**9500**	810	EPA 6010D	1-15-21	1-15-21	
Antimony	**ND**	8.1	EPA 6010D	1-15-21	1-15-21	
Arsenic	**ND**	4.1	EPA 6010D	1-15-21	1-15-21	
Barium	**81**	4.1	EPA 6010D	1-15-21	1-15-21	
Beryllium	**ND**	0.81	EPA 6010D	1-15-21	1-15-21	
Cadmium	**ND**	0.81	EPA 6010D	1-15-21	1-15-21	
Calcium	**9400**	810	EPA 6010D	1-15-21	1-15-21	
Chromium	**14**	0.81	EPA 6010D	1-15-21	1-15-21	
Cobalt	**5.1**	0.81	EPA 6010D	1-15-21	1-15-21	
Copper	**12**	1.6	EPA 6010D	1-15-21	1-15-21	
Iron	**20000**	810	EPA 6010D	1-15-21	1-15-21	
Lead	**ND**	8.1	EPA 6010D	1-15-21	1-15-21	
Magnesium	**5300**	810	EPA 6010D	1-15-21	1-15-21	
Manganese	**190**	0.81	EPA 6010D	1-15-21	1-15-21	
Mercury	**ND**	0.41	EPA 7471B	1-18-21	1-18-21	
Nickel	**12**	4.1	EPA 6010D	1-15-21	1-15-21	
Potassium	**1900**	120	EPA 6010D	1-15-21	1-15-21	
Selenium	**ND**	4.1	EPA 6010D	1-15-21	1-15-21	
Silver	**ND**	1.6	EPA 6010D	1-15-21	1-15-21	
Sodium	**310**	120	EPA 6010D	1-15-21	1-15-21	
Thallium	**ND**	1.6	EPA 6020B	1-21-21	1-21-21	
Vanadium	**49**	0.81	EPA 6010D	1-15-21	1-15-21	
Zinc	**46**	4.1	EPA 6010D	1-15-21	1-15-21	

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Project: E2020/1204; Port of Pasco Lagoons

TOTAL METALS
EPA 6010D/6020B/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0115SH1					
Aluminum	**ND**	50	EPA 6010D	1-15-21	1-15-21	
Arsenic	**ND**	2.5	EPA 6010D	1-15-21	1-15-21	
Barium	**ND**	2.5	EPA 6010D	1-15-21	1-15-21	
Beryllium	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Cadmium	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Calcium	**ND**	50	EPA 6010D	1-15-21	1-15-21	
Chromium	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Cobalt	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Copper	**ND**	1.0	EPA 6010D	1-15-21	1-15-21	
Iron	**ND**	50	EPA 6010D	1-15-21	1-15-21	
Lead	**ND**	5.0	EPA 6010D	1-15-21	1-15-21	
Magnesium	**ND**	50	EPA 6010D	1-15-21	1-15-21	
Manganese	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Nickel	**ND**	2.5	EPA 6010D	1-15-21	1-15-21	
Potassium	**ND**	75	EPA 6010D	1-15-21	1-15-21	
Selenium	**ND**	2.5	EPA 6010D	1-15-21	1-15-21	
Silver	**ND**	1.0	EPA 6010D	1-15-21	1-15-21	
Sodium	**ND**	75	EPA 6010D	1-15-21	1-15-21	
Vanadium	**ND**	0.50	EPA 6010D	1-15-21	1-15-21	
Zinc	**ND**	2.5	EPA 6010D	1-15-21	1-15-21	
Laboratory ID:	MB0121SM1					
Thallium	**ND**	1.0	EPA 6020B	1-21-21	1-21-21	
Laboratory ID:	MB0118S1					
Mercury	**ND**	0.25	EPA 7471B	1-15-21	1-15-21	
Laboratory ID:	MB0115SH2					
Antimony	**ND**	5.0	EPA 6010D	1-15-21	1-15-21	

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Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

TOTAL METALS
EPA 6010D/6020B/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	01-095-01									
	ORIG	DUP								
Aluminum	**2060**	**2000**	NA	NA		NA	NA	3	20	
Arsenic	**3.29**	**3.08**	NA	NA		NA	NA	7	20	
Barium	**42.9**	**41.1**	NA	NA		NA	NA	4	20	
Beryllium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**1.02**	**0.915**	NA	NA		NA	NA	11	20	
Calcium	**26700**	**25800**	NA	NA		NA	NA	4	20	
Chromium	**9.50**	**9.00**	NA	NA		NA	NA	5	20	
Cobalt	**1.64**	**1.60**	NA	NA		NA	NA	2	20	
Copper	**23.1**	**21.6**	NA	NA		NA	NA	6	20	
Iron	**4630**	**4460**	NA	NA		NA	NA	4	20	
Lead	**12.3**	**11.7**	NA	NA		NA	NA	5	20	
Magnesium	**1330**	**1270**	NA	NA		NA	NA	5	20	
Manganese	**47.6**	**45.4**	NA	NA		NA	NA	5	20	
Nickel	**3.20**	**3.19**	NA	NA		NA	NA	0	20	
Potassium	**448**	**427**	NA	NA		NA	NA	5	20	
Selenium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Silver	**29.5**	**27.6**	NA	NA		NA	NA	7	20	
Sodium	**148**	**158**	NA	NA		NA	NA	6	20	
Vanadium	**18.8**	**17.8**	NA	NA		NA	NA	5	20	
Zinc	**97.1**	**91.5**	NA	NA		NA	NA	6	20	
Laboratory ID:	01-095-01									
Thallium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	01-093-04									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	01-095-01									
	ORIG	DUP								
Antimony	**ND**	**ND**	NA	NA		NA	NA	NA	20	

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Project: E2020/1204; Port of Pasco Lagoons

TOTAL METALS
EPA 6010D/6020B/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-095-01										
	MS	MSD	MS	MSD		MS	MSD				
Aluminum	**3280**	**3160**	1000	1000	2060	**123**	**111**	75-125	4	20	
Arsenic	**91.6**	**91.7**	100	100	3.29	**88**	**88**	75-125	0	20	
Barium	**131**	**131**	100	100	42.9	**88**	**89**	75-125	0	20	
Beryllium	**46.8**	**46.7**	50.0	50.0	ND	**94**	**93**	75-125	0	20	
Cadmium	**47.3**	**47.6**	50.0	50.0	1.02	**93**	**93**	75-125	1	20	
Calcium	**24600**	**24700**	1000	1000	26700	**-217**	**-204**	75-125	1	20	A
Chromium	**96.3**	**95.3**	100	100	9.50	**87**	**86**	75-125	1	20	
Cobalt	**46.8**	**46.7**	50.0	50.0	1.64	**90**	**90**	75-125	0	20	
Copper	**66.5**	**66.7**	50.0	50.0	23.1	**87**	**87**	75-125	0	20	
Iron	**5450**	**5380**	1000	1000	4630	**82**	**75**	75-125	1	20	
Lead	**236**	**233**	250	250	12.3	**90**	**88**	75-125	1	20	
Magnesium	**2160**	**2160**	1000	1000	1330	**83**	**83**	75-125	0	20	
Manganese	**67.8**	**67.7**	25.0	25.0	47.6	**81**	**80**	75-125	0	20	
Nickel	**88.9**	**89.2**	100	100	3.20	**86**	**86**	75-125	0	20	
Potassium	**1420**	**1420**	1000	1000	448	**97**	**98**	75-125	1	20	
Selenium	**90.1**	**91.0**	100	100	ND	**90**	**91**	75-125	1	20	
Silver	**50.2**	**50.0**	25.0	25.0	29.5	**83**	**82**	75-125	0	20	
Sodium	**1050**	**1060**	1000	1000	148	**90**	**91**	75-125	0	20	
Vanadium	**63.1**	**63.0**	50.0	50.0	18.8	**89**	**88**	75-125	0	20	
Zinc	**179**	**177**	100	100	97.1	**82**	**80**	75-125	1	20	
Laboratory ID:	01-095-01										
Thallium	**42.3**	**43.0**	50.0	50.0	ND	**85**	**86**	75-125	2	20	
Laboratory ID:	01-093-04										
Mercury	**0.494**	**0.509**	0.500	0.500	0.0366	**92**	**95**	80-120	3	20	
Laboratory ID:	01-095-01										
	MS	MSD	MS	MSD		MS	MSD				
Antimony	**82.8**	**85.1**	100	100	ND	**83**	**85**	75-125	3	20	

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SL-C**					
Laboratory ID:	01-095-01					
Nitrate	**ND**	2.2	EPA 353.2	1-15-21	1-15-21	
Client ID:	**NL-C**					
Laboratory ID:	01-095-02					
Nitrate	**ND**	0.81	EPA 353.2	1-15-21	1-15-21	

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0115S1					
Nitrate	**ND**	5.0	EPA 353.2	1-15-21	1-15-21	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	01-095-01							
	ORIG DUP							
Nitrate	**ND** **ND**	NA	NA	NA	NA	NA	20	
MATRIX SPIKE								
Laboratory ID:	01-095-01							
	MS	MS		MS				
Nitrate	**17.4**	20.0	ND	87	75-125	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0115S1							
	SB	SB		SB				
Nitrate	**15.5**	20.0	NA	78	75-125	NA	NA	

Date of Report: January 25, 2021
Samples Submitted: January 13, 2021
Laboratory Reference: 2101-095
Project: E2020/1204; Port of Pasco Lagoons

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
SL-C	01-095-01	**77**	1-13-21
NL-C	01-095-02	**38**	1-13-21

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

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

Company: E2020/1204
Project Number: BMEC
Project Name: PORT OF PASCO LAGOONS
Project Manager: Y. MEYER
Sampled by: Y. MEYER

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 01-095

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TAL METALS	NITRATES 353.2			% Moisture
1	SL-C	1-12-21	0900	SOIL	4									X	X	X							X	X			X
2	NL-C	1-12-21	0950	↓	↓									X	X	X							X	X			X

	Signature	Company	Date	Time
Relinquished		BMEC	1-12-21	1400
Received		OSE	1/13/21	1035
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Cash Clients (USD) - Burlington
ATTN: Yancy Meyer
PO Box 545/125 Main Street
Blue Mountain Environmental & Consulting
Waltsburg WA 99361

Date Received: 13-JAN-21
Report Date: 12-FEB-21 12:07 (MT)
Version: FINAL

Client Phone: --

Certificate of Analysis

Lab Work Order #: L2547886

Project P.O. #: NOT SUBMITTED
Job Reference: E2020/1204 PORT OF PASCO LAGOONS
C of C Numbers:
Legal Site Desc:

Breanne Dusureault
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2547886-1 SL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:00							
Matrix: Solid							
Miscellaneous Parameters							
% Moisture	78.6		0.10	%	01-FEB-21	02-FEB-21	R5361180
PBDEs by EPA 1614							
BDE 10	13.7	[J]	0.10	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 7	743		0.097	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 8/11	249		0.069	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 12/13	110	M	0.059	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 15	49.9		0.051	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 30	<6.4	[U]	6.4	pg/g	01-FEB-21	09-FEB-21	R5371220
BDE 32	70.4		0.35	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 17/25	954		0.44	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 28/33	196		0.43	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 35	44.0	R	0.29	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 37	7.80	[J]	0.30	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 75	<0.69	[U]	0.69	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 51	311	M	0.59	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 49	1860	M	0.89	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 71	<0.92	[U]	0.92	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 47	2210	M	0.57	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 79	2.80	M,J,R	0.58	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 83	<2.6	[U]	2.6	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 66	79.8		0.99	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 77	2.30	J,R	0.69	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 100	604		0.94	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 119/120	14.8	[J]	2.0	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 99	502	M	1.5	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 116	<3.3	[U]	3.3	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 118	8.5	M,J,R	2.3	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 85	23.6	[J]	2.0	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 126	2.9	J,R	1.3	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 105	<2.4	[U]	2.4	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 155	91.3		0.30	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 154	264	M	0.36	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 153	145	M	3.8	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 140	12.4	[J]	3.0	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 138/166	57.0	M,J,R	5.5	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 156	<7.1	[U]	7.1	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 128	12.0	J,R	6.2	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 184	102		1.1	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 183	1080		1.7	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 191	85.2		2.6	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 181	38.0	J,R	2.6	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 190	66.0	M,R	3.7	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 197	988		9.2	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 203	854		12	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 196	640		11	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 208	6340		38	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 207	5770		37	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 206	10100		45	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 209	405000		280	pg/g	01-FEB-21	09-FEB-21	R5371220
PBEB	<0.23	[U]	0.23	pg/g	01-FEB-21	08-FEB-21	R5371220
HBB	38.2		0.36	pg/g	01-FEB-21	08-FEB-21	R5371220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2547886-1 SL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:00							
Matrix: Solid							
PBDEs by EPA 1614							
Surrogate: 13C12 BDE 15	36.0		20-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 28	31.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 47	26.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 77	26.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 100	28.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 99	26.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 126	27.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 154	23.0	G	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 153	22.0	G	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 183	21.0	G	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 197	18.0	G	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 207	20.0		20-200	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 209	33.0		20-200	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C6 HBB	23.0	G	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 138 Cleanup	47.0		30-135	%	01-FEB-21	08-FEB-21	R5371220
Note: L2547886-1 has some surrogate recoveries slightly below method criteria. Data is calculated by isotope dilution. No impact to data quality.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	8.7		1.2	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,7,8-PeCDD	42.6	M	0.80	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,4,7,8-HxCDD	144		1.5	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,6,7,8-HxCDD	331		1.3	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,7,8,9-HxCDD	425		1.5	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,4,6,7,8-HpCDD	12600		99	pg/g	01-FEB-21	11-FEB-21	R5371220
OCDD	103000		140	pg/g	01-FEB-21	11-FEB-21	R5371220
2,3,7,8-TCDF	5.6		1.3	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,7,8-PeCDF	12.8		1.9	pg/g	01-FEB-21	09-FEB-21	R5371220
2,3,4,7,8-PeCDF	13.2		1.5	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,4,7,8-HxCDF	64.0		2.1	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,6,7,8-HxCDF	64.0		2.0	pg/g	01-FEB-21	09-FEB-21	R5371220
2,3,4,6,7,8-HxCDF	280	EMPC	2.1	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,7,8,9-HxCDF	21.8		3.4	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,4,6,7,8-HpCDF	2240		3.3	pg/g	01-FEB-21	09-FEB-21	R5371220
1,2,3,4,7,8,9-HpCDF	202		4.9	pg/g	01-FEB-21	09-FEB-21	R5371220
OCDF	6060		4.8	pg/g	01-FEB-21	09-FEB-21	R5371220
Total-TCDD	44.7		1.2	pg/g	01-FEB-21	09-FEB-21	R5371220
Total TCDD # Homologues	4				01-FEB-21	09-FEB-21	R5371220
Total-PeCDD	380		0.80	pg/g	01-FEB-21	09-FEB-21	R5371220
Total PeCDD # Homologues	6				01-FEB-21	09-FEB-21	R5371220
Total-HxCDD	3440		1.5	pg/g	01-FEB-21	09-FEB-21	R5371220
Total HxCDD # Homologues	6				01-FEB-21	09-FEB-21	R5371220
Total-HpCDD	22400		99	pg/g	01-FEB-21	11-FEB-21	R5371220
Total HpCDD # Homologues	2				01-FEB-21	11-FEB-21	R5371220
Total-TCDF	260		1.3	pg/g	01-FEB-21	09-FEB-21	R5371220
Total TCDF # Homologues	10				01-FEB-21	09-FEB-21	R5371220
Total-PeCDF	885		1.9	pg/g	01-FEB-21	09-FEB-21	R5371220
Total PeCDF # Homologues	9				01-FEB-21	09-FEB-21	R5371220
Total-HxCDF	2280		3.4	pg/g	01-FEB-21	09-FEB-21	R5371220
Total HxCDF # Homologues	7				01-FEB-21	09-FEB-21	R5371220
Total-HpCDF	6170		4.9	pg/g	01-FEB-21	09-FEB-21	R5371220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2547886-1 SL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:00							
Matrix: Solid							
Dioxins and Furans HR 1613B							
Total HpCDF # Homologues	3				01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-2,3,7,8-TCDD	45.0		25-164	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8-PeCDD	40.0		25-181	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	40.0		32-141	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	48.0		28-130	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0	R	23-140	%	01-FEB-21	11-FEB-21	R5371220
Surrogate: 13C12-OCDD	97.0		17-157	%	01-FEB-21	11-FEB-21	R5371220
Surrogate: 13C12-2,3,7,8-TCDF	47.0		24-169	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8-PeCDF	42.0		24-185	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-2,3,4,7,8-PeCDF	43.0		21-178	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	40.0		26-152	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	58.0		26-123	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	52.0		29-147	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	34.0		28-136	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	47.0		28-143	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	45.0		26-138	%	01-FEB-21	09-FEB-21	R5371220
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	70.0		31-197	%	01-FEB-21	09-FEB-21	R5371220
Lower Bound PCDD/F TEQ (WHO 2005)	344			pg/g	01-FEB-21	09-FEB-21	R5371220
Mid Point PCDD/F TEQ (WHO 2005)	372			pg/g	01-FEB-21	09-FEB-21	R5371220
Upper Bound PCDD/F TEQ (WHO 2005)	372			pg/g	01-FEB-21	09-FEB-21	R5371220
L2547886-2 NL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:50							
Matrix: Solid							
Miscellaneous Parameters							
% Moisture	35.5		0.10	%	01-FEB-21	02-FEB-21	R5361180
PBDEs by EPA 1614							
BDE 10	<0.031	[U]	0.031	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 7	1.70	[J]	0.029	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 8/11	0.370	J,R	0.021	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 12/13	0.130	M,J,R	0.018	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 15	0.140	M,J,R	0.015	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 30	<0.13	[U]	0.13	pg/g	01-FEB-21	10-FEB-21	R5371220
BDE 32	<0.093	[U]	0.093	pg/g	01-FEB-21	10-FEB-21	R5371220
BDE 17/25	2.00	M,J	0.030	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 28/33	0.858	[J]	0.030	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 35	0.510	J,R	0.020	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 37	<0.021	[U]	0.021	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 75	<0.039	[U]	0.039	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 51	0.534	M,J	0.034	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 49	4.48	M,J	0.050	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 71	<0.052	[U]	0.052	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 47	13.2	M	0.033	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 79	<0.033	[U]	0.033	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 83	<0.096	[U]	0.096	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 66	0.577	[J]	0.056	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 77	<0.038	[U]	0.038	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 100	3.00	J,R	0.039	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 119/120	<0.074	[U]	0.074	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 99	6.78	[J]	0.052	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 116	<0.12	[U]	0.12	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 118	<0.083	[U]	0.083	pg/g	01-FEB-21	08-FEB-21	R5371220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2547886-2 NL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:50							
Matrix: Solid							
PBDEs by EPA 1614							
BDE 85	0.322	M,J	0.072	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 126	<0.043	[U]	0.043	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 105	<0.088	[U]	0.088	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 155	0.260	M,J,R	0.082	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 154	1.40	M,J	0.10	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 153	1.30	[J]	0.32	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 140	<0.26	[U]	0.26	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 138/166	<0.48	[U]	0.48	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 156	<0.63	[U]	0.63	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 128	<0.55	[U]	0.55	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 184	<0.15	[U]	0.15	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 183	1.20	M,J,R	0.23	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 191	<0.36	[U]	0.36	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 181	<0.35	[U]	0.35	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 190	<0.51	[U]	0.51	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 197	0.91	M,J,R	0.44	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 203	<0.58	[U]	0.58	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 196	0.81	M,J,R	0.52	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 208	<3.3	[U]	3.3	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 207	9.4	M,J,R	3.3	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 206	11.0	M,J,R	4.0	pg/g	01-FEB-21	08-FEB-21	R5371220
BDE 209	152	M	53	pg/g	01-FEB-21	08-FEB-21	R5371220
PBEB	<0.068	[U]	0.068	pg/g	01-FEB-21	08-FEB-21	R5371220
HBB	<0.40	[U]	0.40	pg/g	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 15	31.0		20-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 28	55.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 47	53.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 77	57.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 100	65.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 99	66.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 126	71.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 154	55.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 153	53.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 183	63.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 197	35.0		25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 207	44.0		20-200	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 209	4.0	M,R	20-200	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C6 HBB	36.0	R	25-150	%	01-FEB-21	08-FEB-21	R5371220
Surrogate: 13C12 BDE 138 Cleanup	43.0		30-135	%	01-FEB-21	08-FEB-21	R5371220
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.10	[U]	0.10	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,7,8-PeCDD	0.126	[J]	0.092	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,4,7,8-HxCDD	0.25	M,J,R	0.18	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,6,7,8-HxCDD	0.83	M,J	0.16	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,7,8,9-HxCDD	0.89	M,J	0.17	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,4,6,7,8-HpCDD	34.2		0.47	pg/g	01-FEB-21	10-FEB-21	R5371220
OCDD	270		1.6	pg/g	01-FEB-21	10-FEB-21	R5371220
2,3,7,8-TCDF	0.423	[J]	0.073	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,7,8-PeCDF	<0.10	M,U	0.10	pg/g	01-FEB-21	10-FEB-21	R5371220
2,3,4,7,8-PeCDF	0.106	[J]	0.085	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,4,7,8-HxCDF	0.16	J,R	0.11	pg/g	01-FEB-21	10-FEB-21	R5371220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2547886-2 NL-C							
Sampled By: Y. Meyer on 12-JAN-21 @ 09:50							
Matrix: Solid							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDF	0.28	[J]	0.10	pg/g	01-FEB-21	10-FEB-21	R5371220
2,3,4,6,7,8-HxCDF	0.40	EMPC	0.11	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,7,8,9-HxCDF	<0.16	[U]	0.16	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,4,6,7,8-HpCDF	5.87		0.20	pg/g	01-FEB-21	10-FEB-21	R5371220
1,2,3,4,7,8,9-HpCDF	<0.32	[U]	0.32	pg/g	01-FEB-21	10-FEB-21	R5371220
OCDF	19.4		0.30	pg/g	01-FEB-21	10-FEB-21	R5371220
Total-TCDD	<0.10	[U]	0.10	pg/g	01-FEB-21	10-FEB-21	R5371220
Total TCDD # Homologues	0				01-FEB-21	10-FEB-21	R5371220
Total-PeCDD	0.458		0.092	pg/g	01-FEB-21	10-FEB-21	R5371220
Total PeCDD # Homologues	3				01-FEB-21	10-FEB-21	R5371220
Total-HxCDD	11.3		0.18	pg/g	01-FEB-21	10-FEB-21	R5371220
Total HxCDD # Homologues	4				01-FEB-21	10-FEB-21	R5371220
Total-HpCDD	72.3		0.47	pg/g	01-FEB-21	10-FEB-21	R5371220
Total HpCDD # Homologues	2				01-FEB-21	10-FEB-21	R5371220
Total-TCDF	1.19		0.073	pg/g	01-FEB-21	10-FEB-21	R5371220
Total TCDF # Homologues	4				01-FEB-21	10-FEB-21	R5371220
Total-PeCDF	2.28		0.10	pg/g	01-FEB-21	10-FEB-21	R5371220
Total PeCDF # Homologues	4				01-FEB-21	10-FEB-21	R5371220
Total-HxCDF	5.10		0.16	pg/g	01-FEB-21	10-FEB-21	R5371220
Total HxCDF # Homologues	6				01-FEB-21	10-FEB-21	R5371220
Total-HpCDF	5.87		0.32	pg/g	01-FEB-21	10-FEB-21	R5371220
Total HpCDF # Homologues	1				01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-2,3,7,8-TCDD	82.0		25-164	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	64.0		32-141	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	81.0		28-130	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-OCDD	73.0		17-157	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-2,3,7,8-TCDF	82.0		24-169	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8-PeCDF	77.0		24-185	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-2,3,4,7,8-PeCDF	76.0		21-178	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	93.0		26-123	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	87.0		29-147	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	74.0		28-136	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	74.0		28-143	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	01-FEB-21	10-FEB-21	R5371220
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	01-FEB-21	10-FEB-21	R5371220
Lower Bound PCDD/F TEQ (WHO 2005)	0.888			pg/g	01-FEB-21	10-FEB-21	R5371220
Mid Point PCDD/F TEQ (WHO 2005)	1.03			pg/g	01-FEB-21	10-FEB-21	R5371220
Upper Bound PCDD/F TEQ (WHO 2005)	1.09			pg/g	01-FEB-21	10-FEB-21	R5371220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
EMPC	Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,G	QC result did not meet ALS DQO. Refer to narrative comments for further information. Duplicate expressed in terms of absolute difference.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,R	A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Solid	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
MOISTURE-BU	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
PBDE-1614-HRMS-BU	Solid	PBDEs by EPA 1614	USEPA 1614
Samples are Dean-Stark Soxhlet extracted with toluene. Extracts are prepared by column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: Cash Clients (USD) - Burlington
PO Box 545/125 Main Street Blue Mountain Environmental & Consulting
Waltsburg WA 99361
Contact: Yancy Meyer

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU	**Soil**							
Batch R5361180								
WG3473416-3 DUP		**L2547886-1**						
% Moisture		78.6	78.6		%	0.1	20	02-FEB-21
WG3473416-2 LCS								
% Moisture			99.4		%		90-110	02-FEB-21
WG3473416-1 MB								
% Moisture			<0.10		%		0.3	02-FEB-21
DX-1613B-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-4 DUP		**L2547886-1**						
1,2,3,4,6,7,8-HpCDD		12600	19800		pg/g	44	50	11-FEB-21
OCDD		103000	193000	G	pg/g	61	50	11-FEB-21
Total-HpCDD		22400	35400		pg/g	45	50	11-FEB-21
COMMENTS: Sample and Duplicate do not match for OCDD. Sample consists of wet sediment with long plant fibers with some darker particles.								
WG3473412-4 DUP		**L2547886-1**						
2,3,7,8-TCDD		8.7	8.75		pg/g	0.7	50	09-FEB-21
1,2,3,7,8-PeCDD		42.6	45.2		pg/g	5.9	50	09-FEB-21
1,2,3,4,7,8-HxCDD		144	161		pg/g	11	50	09-FEB-21
1,2,3,6,7,8-HxCDD		331	368		pg/g	11	50	09-FEB-21
1,2,3,7,8,9-HxCDD		425	436		pg/g	2.6	50	09-FEB-21
2,3,7,8-TCDF		5.6	7.16		pg/g	25	50	09-FEB-21
1,2,3,7,8-PeCDF		12.8	13.6		pg/g	6.1	50	09-FEB-21
2,3,4,7,8-PeCDF		13.2	14.9		pg/g	12	50	09-FEB-21
1,2,3,4,7,8-HxCDF		64.0	56.3		pg/g	13	50	09-FEB-21
1,2,3,6,7,8-HxCDF		64.0	70.3		pg/g	9.4	50	09-FEB-21
2,3,4,6,7,8-HxCDF		280	460		pg/g	49	50	09-FEB-21
1,2,3,7,8,9-HxCDF		21.8	25.1		pg/g	14	50	09-FEB-21
1,2,3,4,6,7,8-HpCDF		2240	2690		pg/g	18	50	09-FEB-21
1,2,3,4,7,8,9-HpCDF		202	217		pg/g	7.2	50	09-FEB-21
OCDF		6060	6930		pg/g	13	50	09-FEB-21
Total-TCDD		44.7	71.3		pg/g	46	50	09-FEB-21
Total-PeCDD		380	421		pg/g	10	50	09-FEB-21
Total-HxCDD		3440	3650		pg/g	5.9	50	09-FEB-21
Total-TCDF		260	294		pg/g	12	50	09-FEB-21
Total-PeCDF		885	872		pg/g	1.5	50	09-FEB-21
Total-HxCDF		2280	2500		pg/g	9.2	50	09-FEB-21
Total-HpCDF		6170	6890		pg/g	11	50	09-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-2 LCS								
2,3,7,8-TCDD			80.0		%		67-158	08-FEB-21
1,2,3,7,8-PeCDD			97.0		%		70-142	08-FEB-21
1,2,3,4,7,8-HxCDD			96.0		%		70-164	08-FEB-21
1,2,3,6,7,8-HxCDD			86.0		%		76-134	08-FEB-21
1,2,3,7,8,9-HxCDD			102.0		%		64-162	08-FEB-21
1,2,3,4,6,7,8-HpCDD			89.0		%		70-140	08-FEB-21
OCDD			90.0		%		78-144	08-FEB-21
2,3,7,8-TCDF			84.0		%		75-158	08-FEB-21
1,2,3,7,8-PeCDF			82.0		%		80-134	08-FEB-21
2,3,4,7,8-PeCDF			77.0		%		68-160	08-FEB-21
1,2,3,4,7,8-HxCDF			84.0		%		72-134	08-FEB-21
1,2,3,6,7,8-HxCDF			90.0		%		84-130	08-FEB-21
2,3,4,6,7,8-HxCDF			86.0		%		70-156	08-FEB-21
1,2,3,7,8,9-HxCDF			89.0		%		78-130	08-FEB-21
1,2,3,4,6,7,8-HpCDF			86.0		%		82-122	08-FEB-21
1,2,3,4,7,8,9-HpCDF			89.0		%		78-138	08-FEB-21
OCDF			70.0		%		63-170	08-FEB-21
WG3473412-1 MB								
2,3,7,8-TCDD			N/A	[U]	pg/g			08-FEB-21
1,2,3,7,8-PeCDD			N/A	[U]	pg/g			08-FEB-21
1,2,3,4,7,8-HxCDD			N/A	[U]	pg/g			08-FEB-21
1,2,3,6,7,8-HxCDD			N/A	[U]	pg/g			08-FEB-21
1,2,3,7,8,9-HxCDD			N/A	[U]	pg/g			08-FEB-21
1,2,3,4,6,7,8-HpCDD			N/A	J,R	pg/g			08-FEB-21
OCDD			N/A	J,R	pg/g			08-FEB-21
2,3,7,8-TCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,7,8-PeCDF			N/A	[U]	pg/g			08-FEB-21
2,3,4,7,8-PeCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,4,7,8-HxCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,6,7,8-HxCDF			N/A	[U]	pg/g			08-FEB-21
2,3,4,6,7,8-HxCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,7,8,9-HxCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,4,6,7,8-HpCDF			N/A	[U]	pg/g			08-FEB-21
1,2,3,4,7,8,9-HpCDF			N/A	[U]	pg/g			08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-1 MB								
OCDF			N/A	J,R	pg/g			08-FEB-21
Total-TCDD			N/A	[U]	pg/g			08-FEB-21
Total-PeCDD			N/A	[U]	pg/g			08-FEB-21
Total-HxCDD			N/A	[U]	pg/g			08-FEB-21
Total-HpCDD			N/A	[U]	pg/g			08-FEB-21
Total-TCDF			N/A	[U]	pg/g			08-FEB-21
Total-PeCDF			N/A	[U]	pg/g			08-FEB-21
Total-HxCDF			N/A	[U]	pg/g			08-FEB-21
Total-HpCDF			N/A	[U]	pg/g			08-FEB-21
Surrogate: 13C12-2,3,7,8-TCDD			73.0		%		25-164	08-FEB-21
Surrogate: 13C12-1,2,3,7,8-PeCDD			65.0		%		25-181	08-FEB-21
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			63.0		%		32-141	08-FEB-21
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			75.0		%		28-130	08-FEB-21
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			70.0		%		23-140	08-FEB-21
Surrogate: 13C12-OCDD			81.0		%		17-157	08-FEB-21
Surrogate: 13C12-2,3,7,8-TCDF			63.0		%		24-169	08-FEB-21
Surrogate: 13C12-1,2,3,7,8-PeCDF			60.0		%		24-185	08-FEB-21
Surrogate: 13C12-2,3,4,7,8-PeCDF			59.0		%		21-178	08-FEB-21
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			54.0		%		26-152	08-FEB-21
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			65.0		%		26-123	08-FEB-21
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			61.0		%		29-147	08-FEB-21
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			54.0		%		28-136	08-FEB-21
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			59.0		%		28-143	08-FEB-21
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			56.0		%		26-138	08-FEB-21
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			64.0		%		31-197	08-FEB-21
PBDE-1614-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-4 DUP		**L2547886-1**						
BDE 10		13.7	15.2		pg/g	10	50	08-FEB-21
BDE 7		743	916		pg/g	21	50	08-FEB-21
BDE 8/11		249	315		pg/g	23	50	08-FEB-21
BDE 12/13		110	140		pg/g	24	50	08-FEB-21
BDE 15		49.9	59.5		pg/g	18	50	08-FEB-21
BDE 32		70.4	77.2		pg/g	9.2	50	08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PBDE-1614-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-4 DUP		**L2547886-1**						
BDE 17/25		954	1070		pg/g	11	50	08-FEB-21
BDE 28/33		196	243		pg/g	21	50	08-FEB-21
BDE 35		44.0	54.0		pg/g	20	50	08-FEB-21
BDE 37		7.80	9.72		pg/g	22	50	08-FEB-21
BDE 75		<0.69	<0.79	RPD-NA	pg/g	N/A	50	08-FEB-21
BDE 51		311	359		pg/g	14	50	08-FEB-21
BDE 49		1860	2230		pg/g	18	50	08-FEB-21
BDE 71		<0.92	<1.1	RPD-NA	pg/g	N/A	50	08-FEB-21
BDE 47		2210	3130		pg/g	34	50	08-FEB-21
BDE 79		2.80	5.60	G	pg/g	67	50	08-FEB-21
BDE 83		<2.6	5.94	G	pg/g	N/A	50	08-FEB-21
BDE 66		79.8	107		pg/g	29	50	08-FEB-21
BDE 77		2.30	4.00	J	pg/g	1.70	1.8	08-FEB-21
BDE 100		604	923		pg/g	42	50	08-FEB-21
BDE 119/120		14.8	14.0		pg/g	5.6	50	08-FEB-21
BDE 99		502	1750	G	pg/g	111	50	08-FEB-21
BDE 116		<3.3	<0.90	RPD-NA	pg/g	N/A	50	08-FEB-21
BDE 118		8.5	12.8		pg/g	40	50	08-FEB-21
BDE 85		23.6	87.5	G	pg/g	115	50	08-FEB-21
BDE 126		2.9	3.26		pg/g	12	50	08-FEB-21
BDE 105		<2.4	<0.65	RPD-NA	pg/g	N/A	50	08-FEB-21
BDE 155		91.3	123		pg/g	30	50	08-FEB-21
BDE 154		264	442	G	pg/g	50	50	08-FEB-21
BDE 153		145	385	G	pg/g	91	50	08-FEB-21
BDE 140		12.4	20.9	G	pg/g	51	50	08-FEB-21
BDE 138/166		57.0	131	G	pg/g	79	50	08-FEB-21
BDE 156		<7.1	<2.7	RPD-NA	pg/g	N/A	50	08-FEB-21
BDE 128		12.0	30.0	J,G	pg/g	18.0	12.4	08-FEB-21
BDE 184		102	122		pg/g	18	50	08-FEB-21
BDE 183		1080	1190		pg/g	9.7	50	08-FEB-21
BDE 191		85.2	96.9		pg/g	13	50	08-FEB-21
BDE 181		38.0	45.5		pg/g	18	50	08-FEB-21
BDE 190		66.0	59.0		pg/g	11	50	08-FEB-21
BDE 197		988	1130		pg/g	13	50	08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PBDE-1614-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-4 DUP		**L2547886-1**						
BDE 203		854	1010		pg/g	17	50	08-FEB-21
BDE 196		640	777		pg/g	19	50	08-FEB-21
BDE 208		6340	6880		pg/g	8.2	50	08-FEB-21
BDE 207		5770	5870		pg/g	1.7	50	08-FEB-21
BDE 206		10100	11600		pg/g	14	50	08-FEB-21
PBEB		<0.23	<0.14	RPD-NA	pg/g	N/A	50	08-FEB-21
HBB		38.2	48.2		pg/g	23	50	08-FEB-21
COMMENTS: Duplicate does not pass criteria for some targets. Sample consists of wet sediment with long plant fibers with some darker particles.								
WG3473412-4 DUP		**L2547886-1**						
BDE 30		<6.4	<3.5	RPD-NA	pg/g	N/A	50	09-FEB-21
BDE 209		405000	499000	G	pg/g	21	50	09-FEB-21
WG3473412-2 LCS								
BDE 10			64.0		%		5-130	08-FEB-21
BDE 7			75.0		%		5-130	08-FEB-21
BDE 8/11			88.0		%		20-150	08-FEB-21
BDE 12/13			88.0		%		5-130	08-FEB-21
BDE 15			95.0		%		50-150	08-FEB-21
BDE 30			82.0		%		5-130	08-FEB-21
BDE 32			90.0		%		50-150	08-FEB-21
BDE 17/25			93.0		%		50-150	08-FEB-21
BDE 28/33			101.0		%		50-150	08-FEB-21
BDE 35			108.0		%		50-150	08-FEB-21
BDE 37			116.0		%		50-150	08-FEB-21
BDE 75			97.0		%		50-150	08-FEB-21
BDE 51			93.0		%		50-150	08-FEB-21
BDE 49			97.0		%		50-150	08-FEB-21
BDE 71			97.0		%		50-150	08-FEB-21
BDE 47			110.0		%		50-150	08-FEB-21
BDE 79			107.0		%		50-150	08-FEB-21
BDE 83			78.0		%		60-140	08-FEB-21
BDE 66			114.0		%		50-150	08-FEB-21
BDE 77			106.0		%		50-150	08-FEB-21
BDE 100			90.0		%		50-150	08-FEB-21
BDE 119/120			91.0		%		50-150	08-FEB-21
BDE 99			93.0		%		50-150	08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PBDE-1614-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-2 LCS								
BDE 116			74.0		%		40-140	08-FEB-21
BDE 118			102.0		%		50-150	08-FEB-21
BDE 85			96.0		%		50-150	08-FEB-21
BDE 126			99.0		%		50-150	08-FEB-21
BDE 105			95.0		%		50-150	08-FEB-21
BDE 155			93.0		%		50-150	08-FEB-21
BDE 154			99.0		%		50-150	08-FEB-21
BDE 153			91.0		%		50-150	08-FEB-21
BDE 140			97.0		%		50-150	08-FEB-21
BDE 138/166			82.0		%		50-150	08-FEB-21
BDE 156			80.0		%		50-150	08-FEB-21
BDE 128			75.0		%		50-150	08-FEB-21
BDE 184			98.0		%		50-150	08-FEB-21
BDE 183			99.0		%		50-150	08-FEB-21
BDE 191			86.0		%		50-150	08-FEB-21
BDE 181			74.0		%		50-150	08-FEB-21
BDE 190			68.0		%		50-150	08-FEB-21
BDE 197			97.0		%		50-150	08-FEB-21
BDE 203			96.0		%		50-150	08-FEB-21
BDE 196			93.0		%		50-150	08-FEB-21
BDE 208			109.0		%		50-200	08-FEB-21
BDE 207			92.0		%		50-200	08-FEB-21
BDE 206			88.0		%		50-200	08-FEB-21
BDE 209			103.0		%		50-200	08-FEB-21
PBEB			124.0		%		50-150	08-FEB-21
HBB			97.0		%		50-150	08-FEB-21
WG3473412-1 MB								
BDE 10			<0.023	[U]	pg/g		9	08-FEB-21
BDE 7			<0.021	[U]	pg/g		9	08-FEB-21
BDE 8/11			<0.015	[U]	pg/g		18	08-FEB-21
BDE 12/13			<0.013	[U]	pg/g		18	08-FEB-21
BDE 15			<0.011	[U]	pg/g		9	08-FEB-21
BDE 30			<0.055	[U]	pg/g		9	08-FEB-21
BDE 32			<0.039	[U]	pg/g		9	08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PBDE-1614-HRMS-BU	**Solid**							
Batch R5371220								
WG3473412-1 MB								
BDE 17/25			<0.050	[U]	pg/g		18	08-FEB-21
BDE 28/33			<0.048	[U]	pg/g		18	08-FEB-21
BDE 35			<0.033	[U]	pg/g		9	08-FEB-21
BDE 37			<0.034	[U]	pg/g		9	08-FEB-21
BDE 75			<0.035	[U]	pg/g		9	08-FEB-21
BDE 51			<0.031	[U]	pg/g		9	08-FEB-21
BDE 49			<0.046	[U]	pg/g		9	08-FEB-21
BDE 71			<0.047	[U]	pg/g		9	08-FEB-21
BDE 47			2.10	J,R	pg/g		9	08-FEB-21
BDE 79			<0.030	[U]	pg/g		9	08-FEB-21
BDE 83			<0.10	[U]	pg/g		28	08-FEB-21
BDE 66			<0.051	[U]	pg/g		9	08-FEB-21
BDE 77			<0.032	[U]	pg/g		9	08-FEB-21
BDE 100			0.190	M,J,R	pg/g		14	08-FEB-21
BDE 119/120			<0.080	[U]	pg/g		14	08-FEB-21
BDE 99			1.00	M,J,R	pg/g		14	08-FEB-21
BDE 116			<0.13	[U]	pg/g		14	08-FEB-21
BDE 118			<0.090	[U]	pg/g		14	08-FEB-21
BDE 85			<0.078	[U]	pg/g		14	08-FEB-21
BDE 126			<0.056	[U]	pg/g		14	08-FEB-21
BDE 105			<0.096	[U]	pg/g		14	08-FEB-21
BDE 155			<0.065	[U]	pg/g		18	08-FEB-21
BDE 154			<0.081	[U]	pg/g		18	08-FEB-21
BDE 153			<0.17	[U]	pg/g		18	08-FEB-21
BDE 140			<0.15	[U]	pg/g		18	08-FEB-21
BDE 138/166			<0.27	[U]	pg/g		36	08-FEB-21
BDE 156			<0.35	[U]	pg/g		18	08-FEB-21
BDE 128			<0.31	[U]	pg/g		18	08-FEB-21
BDE 184			<0.11	[U]	pg/g		23	08-FEB-21
BDE 183			<0.17	[U]	pg/g		23	08-FEB-21
BDE 191			<0.27	[U]	pg/g		23	08-FEB-21
BDE 181			<0.26	[U]	pg/g		23	08-FEB-21
BDE 190			<0.38	[U]	pg/g		23	08-FEB-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PBDE-1614-HRMS-BU	**Solid**							
Batch **R5371220**								
WG3473412-1 **MB**								
BDE 197			<0.21	[U]	pg/g		23	08-FEB-21
BDE 203			<0.27	[U]	pg/g		23	08-FEB-21
BDE 196			<0.25	[U]	pg/g		23	08-FEB-21
BDE 208			<0.18	[U]	pg/g		45	08-FEB-21
BDE 207			<0.17	[U]	pg/g		45	08-FEB-21
BDE 206			<0.21	[U]	pg/g		45	08-FEB-21
BDE 209			<2.0	[U]	pg/g		45	08-FEB-21
PBEB			<0.030	[U]	pg/g		9	08-FEB-21
HBB			0.527	M,J	pg/g		9	08-FEB-21
Surrogate: 13C12 BDE 15			58.0		%		20-150	08-FEB-21
Surrogate: 13C12 BDE 28			60.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 47			62.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 77			61.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 100			68.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 99			67.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 126			60.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 154			60.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 153			64.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 183			65.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 197			56.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 207			72.0		%		20-200	08-FEB-21
Surrogate: 13C12 BDE 209			25.0		%		20-200	08-FEB-21
Surrogate: 13C6 HBB			45.0		%		25-150	08-FEB-21
Surrogate: 13C12 BDE 138 Cleanup			50.0		%		30-135	08-FEB-21

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
J,G	QC result did not meet ALS DQO. Refer to narrative comments for further information. Duplicate expressed in terms of absolute difference.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Environmental

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com burlington@alsenviro.com

COC # L2547886

Page 1 of 1

Report To		Report Format / Distribution				Service Requested
Company:	Blue Mountain Environmental and Consulting Co. Inc. (BMEC)	☐ Standard	☐ Other:			☑ Regular Service
Contact:	Yancy Meyer	☑ PDF	☐ Excel	☐ Digital	☐ Fax	☐ Rush Service (3 days with prior consultation) - surcharge applies
Address:	PO Box 545/125 Main St., Waitsburg, WA 99361	Email 1:	ymeyer@bmecww.com			☐ Other - Please contact ALS
Phone:	509-520-4416 Fax:	Email 2:				
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information				Analysis Request
Company:		Job #:	E2020/1204			
Contact:		Location:	Port of Pasco Lagoons			
Address:		PO:				
Phone:	Fax:	Sampled by:	Y. Meyer			
Lab Work Order #		ALS Contact:	Alastair Blythe			

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Dioxins/Furans EPA 1613	PDBE EPA 1614	Hazardous? Provide Details	Highly Contaminated?	Number of Containers
1	SL-C	12-Jan-21	9:00	soil	x	x			4
2	NL-C	12-Jan-21	9:50	soil	x	x			4

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:
	1-12-21	1400	AARON AULTON	13 JAN 2021	13:55	6.2 °C				Yes / No ? If Yes add SIF

DEPARTMENT OF ECOLOGY
State of Washington

2015 Application for Coverage Under the General Permit for Biosolids Management

1. Facility Information	
Name of Facility	Port of Pasco Big Industrial Park
Owner	Port of Pasco
Ownership Status	☐ **Federal** ☐ **State** ☒ **Local** ☐ **Private** ☐ **Other:**
Physical Address	1110 Osprey Pointe Ave., Pasco, WA 99301
Mailing Address	PO Box 769, Pasco, WA 99301
Permit Number	

2. Facility Contacts		
	Primary Contact	**Responsible Official**
Name	Yancy Meyer	Tracy Friesz
Title	Enviromental Professional	Facility Engineer
Phone	509-520-4416	509-547-3378
Email	ymeyer@bmecww.com	tfriesz@portofpasco.org

3. **Facility type** (*check all that apply*)
☐ Major sewage treatment facility (design *flow of ≥1 mgd or serving a population of ≥10,000*)
☐ Minor sewage treatment facility (design *flow of <1 mgd and serving a population of <10,000*)
☐ Class I sewage treatment facility (*have a pretreatment program or designated as Class I*)
☐ Composting facility (*receive biosolids or sewage sludge for composting*)
☐ Septage management facility (*land apply or prepare septage for land application*)
☐ Beneficial use facility (*receive biosolids from others for direct land application*)
☒ Lagoon facility *(all solids are stored in lagoons)*
☐ Out-of-State (importing material to a facility within Washington State)
☐ Other—describe:

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4. Other Permits (*check all that apply*)	
☐ National Pollutant Discharge Elimination System (NPDES) – Permit Number:	
☐ State Waste Discharge – Permit Number:	
☐ National Emission Standards for Hazardous Pollutants Preconstruction	
☐ Prevention of Significant Deterioration Program	
☐ Ocean Dumping	☐ Nonattainment Program
☐ Stormwater Discharge	☐ Underground Injection Control Program
☐ Dredge or Fill	☐ Hazardous Waste Management Program
☐ Other – Describe:	

5. Pathogen Reduction (*check all that apply; see **WAC 173-308-170** or **WAC 173-308-270[3]***)	
Class A	**Class B**
☐ Alternative 1 (*time/temperature*)	☒ Alternative 1 (7 *samples*)
☐ Alternative 2 (*pH/time/temperature/% solids*)	Alternative 2 (*process to significantly reduce pathogens [PSRP]*) ☐ Aerobic digestion ☐ Air drying ☐ Anaerobic digestion ☐ Composting ☐ Liming (septage, see below)
Alternative 3 (*process to further reduce pathogens [PFRP]*) ☐ Composting ☐ Heat drying ☐ Heat treatment ☐ Pasteurization ☐ Beta ray irradiation ☐ Gamma ray irradiation ☐ Thermophilic aerobic digestion	
☐ Alternative 4 (*PFRP equivalent*)	☐ Alternative 3 (*PSRP equivalent*)
Septage	☐ **Sent for Further Treatment**
☐ Injection	
☐ Incorporation	☐ **Did not meet requirements** (explain):
☐ pH stabilization	

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6. Vector Attraction Reduction (see ***WAC 173-308-180*** or ***WAC 173-308-270[3]***)	
☐ Alternative 1 (*38% volatile solids reduction*) ☐ Alternative 1a (*bench test-anaerobic*) ☐ Alternative 1b (*bench test-aerobic*)	☐ Alternative 4 (*pH stabilization*) ☐ Alternative 5 (*≥75% solids*) ☐ Alternative 6 (*≥90% solids*)
☐ Alternative 2 (*SOUR*)	☐ Alternative 7 (*injection*)
☐ Alternative 3 (*aerobic process*)	☐ Alternative 8 (*incorporation*)
☐ **Sent for Further Treatment**	☐ Did not meet requirements (explain):

7. Pollutants *(not applicable to septage unless required by permit; see **WAC 173-308-160**)*	
Number of pollutant monitoring events in the past year:	0
Pollutants Exceeding Table 1 or 3 Values:	0

8. Process, Production & Storage	
How are your biosolids produced and managed?	NA
Planned Changes?	NA
Average Production (+/- 10 dry tons)	NA
How often and what time of year testing conducted?	NA
Who hauls your biosolids?	NA
Where do your biosolids go? How much?	NA
If you are not a Lagoon Facility proceed to Section 9 (all lagoon facilities must answer the following)	
Date of last measured depth. How much has accumulated?	Unknown

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When was the last dredging event?	Unknown
Do you plan to dredge during this permit cycle?	Unknown

9. Attachments (Check off each requirement for your facility type)

Wastewater Treatment Plants that DO NOT Land Apply Biosolids

- ☐ **Vicinity Map.** The map must extend at least 1 mile around the perimeter of the facility and any associated treatment or storage facilities. The map must also show the location and means of access.
- ☐ **Facility Schematic.** The Facility Schematic must show how you process and/or manage biosolids.
- ☐ **State Environmental Policy Act (SEPA).** The act of applying for coverage under this permit triggers a requirement for review under SEPA. This does not necessarily mean that a new SEPA threshold determination will be required.
- ☐ **Contingency Plan.** Describe your plans for handling biosolids in the event that your biosolids cannot be sent to their usual end use location or fail to meet quality goals.
  - ☐ **N/A.** We have long-term treatment (lagoons).
- ☐ **Biosolids/Soil Sampling & Analysis Plan (SAP).** A Biosolids/Soil Sampling and Analysis Plan is required when you sample your biosolids and land application site(s).
  - ☐ **N/A.** We have long term treatment or send for further treatment.
- ☐ **Analytical Data.** The past two years of data related to your biosolids, land application site soil, and/or land application site waters.
  - ☐ **N/A.** We have long term treatment or send for further treatment and have no data.
- ☐ **Spill Prevention & Response Plan.** Required if you or your agent transport your biosolids.

Wastewater Treatment Plants that Land Apply Biosolids

- ☐ **Vicinity Map.** The map must extend at least 1 mile around the perimeter of the facility and any associated treatment or storage facilities. The map must also show the location and means of access.
- ☐ **Facility Schematic.** The Facility Schematic must show how you process and/or manage biosolids.
- ☐ **Contingency Plan.** Describe your plans for handling biosolids in the event that your biosolids cannot be sent to their usual end use location or fail to meet quality goals.
  - ☐ **N/A.** We have long-term treatment (lagoons).

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☐ **Analytical Data.** The past two years of data related to your biosolids, land application site soil, and/or land application site waters.
☐ **Spill Prevention & Response Plan.** Required if you or your agent transport your biosolids.
☐ **Biosolids/Soil Sampling & Analysis Plan (SAP).** A Biosolids/Soil Sampling and Analysis Plan is required when you sample your biosolids and land application site(s).
☐ **Site Specific Land Application Plan (SSLAP).** Required for every site where non-exceptional quality biosolids are applied.
☐ **General Land Application Plan (GLAP).** To maintain the option of proposing new sites for applying non-exceptional quality biosolids during the term of this permit.
☐ **State Environmental Policy Act (SEPA).** The act of applying for coverage under this permit triggers a requirement for review under SEPA. This does not necessarily mean that a new SEPA threshold determination will be required.
☐ **Public Notice.** Depending on your operation you may be required to conduct Public Notice as part of submitting this application.
Beneficial Use Facilities
☐ **Vicinity Map.** The map must extend at least 1 mile around the perimeter of the facility and any associated treatment or storage facilities. The map must also show the location and means of access.
☐ **Spill Prevention & Response Plan.** Required if you or your agent transport your biosolids.
☐ **Analytical Data.** The past two years of data related to your biosolids, land application site soil, and/or land application site waters.
☐ **Biosolids/Soil Sampling & Analysis Plan (SAP).** A Biosolids/Soil Sampling and Analysis Plan is required when you sample your biosolids and land application site(s).
☐ **Site Specific Land Application Plan (SSLAP).** Required for every site where non-exceptional quality biosolids are applied.
☐ **General Land Application Plan (GLAP).** To maintain the option of proposing new sites for applying non-exceptional quality biosolids during the term of this permit.

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☐ **State Environmental Policy Act (SEPA).** The act of applying for coverage under this permit triggers a requirement for review under SEPA. This does not necessarily mean that a new SEPA threshold determination will be required, but any decisions regarding what is needed in order to comply with SEPA must be made by the SEPA Lead Official.
☐ **Public Notice.** Depending on your operation you may be required to conduct Public Notice as part of submitting this application.
Other
☐ **Temporary Disposal Plan.** Required if you dispose sewage sludge in a landfill on a temporary basis (see WAC 173-308-300(8)). ☒ **N/A.** We do not send (or plan to send) any sewage sludge to a landfill.

10. Certification Statement (*must be signed by the **Responsible Official listed above**) (see **WAC 173-308-310***)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Responsible Official Signature Tracy Friesz Date 12/11/2020

Responsible Official Name and Title Tracy, Friesz, Facilities Engineer