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## Final 2022 Residential Metals Abatement Program (RMAP) Koprivica Park Soil Remedial Action Work Plan (RAWP)

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### **Atlantic Richfield Company**

Mike Mc Anulty

Liability Manager

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December 7, 2022

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Jonathan Morgan, Esq. DEQ, Legal Counsel P.O. Box 200901 Helena, Montana 59620-0901

RE: Final 2022 RMAP Koprivica Park Soil Remedial Action Work Plan (RAWP)

Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company and Butte-Silver Bow to submit the Final 2022 RMAP Koprivica Park Soil Remedial Action Work Plan (RAWP) in response to the Agencies November 22, 2022, letter approving the November 4, 2022, Draft Final submittal. The report and appendices may be downloaded at the following link:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/EsgTbvVfgzZDhXWTnVd8rMABO\_Gbzmi1ncOpx3V4\_-l4lQ.

If you have any questions or comments, please call me at (907) 355-3914 or Eric Hassler at (406) 497-5042.

Sincerely,

Mike Mednulty

Mike Mc Anulty
Liability Manager
Remediation Management Services Company
An affiliate of **Atlantic Richfield Company** 

Eric Hassler, Director
Department of Reclamation
and Environmental Services
Butte-Silver Bow





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David Shanight / CDM - email

Curt Coover / CDM - email

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Carolina Balliew / DEQ - email

Wil George / DEQ – email

Jim Ford / NRDP - email

Pat Cunneen / NRDP - email

Harley Harris / NRDP - email

Katherine Hausrath / NRDP - email

Meranda Flugge / NRDP - email

Ted Duaime / MBMG - email

Gary Icopini / MBMG - email

Becky Summerville / MR - email

John DeJong / UP - email

Robert Bylsma / UP - email

John Gilmour / Kelley Drye - email

Leo Berry / BNSF - email

Robert Lowry / BNSF - email

Brooke Kuhl / BNSF – email

Lauren Knickrehm / BNSF - email

Jeremie Maehr / Kennedy Jenks - email

Doug Brannan / Kennedy Jenks - email

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Chad Anderson / BSB - email Brandon Warner / BSB - email Abigail Peltomaa / BSB - email Eileen Joyce / BSB – email Sean Peterson/BSB - email Gordon Hart / BSB - email Dan Janosko / BSB – email Karen Maloughney / BSB – email Josh Vincent / WET - email Craig Deeney / TREC - email Scott Bradshaw / TREC - email Brad Archibald / Pioneer - email Pat Sampson / Pioneer - email Joe McElroy / Pioneer – email Andy Dare / Pioneer - email Karen Helfrich / Pioneer – email Leesla Jonart / Pioneer - email Randa Colling / Pioneer – email Ian Magruder/ CTEC- email CTEC of Butte - email Scott Juskiewicz / Montana Tech – email

File: MiningSharePoint@bp.com - email BPSOU SharePoint - upload

## SILVER BOW CREEK/BUTTE AREA NPL SITE BUTTE PRIORITY SOILS OPERABLE UNIT

Final

2022 Residential Metals Abatement Program (RMAP) Koprivica Park Soil Remedial Action Work Plan (RAWP)

**Butte-Silver Bow County** 

and

Atlantic Richfield Company



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8, MONTANA OFFICE

FEDERAL BUILDING, 10 West 15<sup>TH</sup> Street, Suite 3200 Helena, MT 59626-0096 Phone 866-457-2690 www.epa.gov/region8

Ref: 8MO

November 22, 2022

Mr. Mike McAnulty Liability Manager Atlantic Richfield Company 317 Anaconda Road Butte, Montana 59701

> Re: Approval letter for the Draft Final Residential Metals Abatement Program (RMAP) Koprivica Park Soil Remedial Action Work Plan (RAWP) (dated November 4, 2022)

#### Dear Mike:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is approving the *Draft Final RMAP Koprivica Park RAWP (dated November 4, 2022)*. Please distribute the document as final.

If you have any questions or concerns, please call me at (406) 457-5019.

Sincerely,

NIKIA GREENE Digitally signed by NIKIA GREENE Date: 2022.11.22 10:48:02 -07'00'

Nikia Greene

Remedial Project Manager

cc: (email only)
Butte File
Matt Dorrington, DEQ
Daryl Reed; DEQ
Will George; DEQ

Jon Morgan; DEQ counsel Carolina Balliew; DEQ Harley Harris; NRDP Katherine Hausrath; NRDP

Jim Ford; NRDP Pat Cunneen: NRDP John Gallagher; BSBC Sean Peterson; BSBC Eileen Joyce; BSBC Eric Hassler; BSBC

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Brooke Kuhl; BNSF counsel Lauren Knickrehm; for BNSF

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Becky Summerville; counsel for Inland Properties Inc.

Robert Lowry, BNSF counsel

Loren Burmeister; AR

Josh Bryson; AR Chris Greco; AR Mike Mcanulty; AR Dave Griffis; AR

Jean Martin; Counsel AR

Mave Gasaway; attorney for AR Adam Cohen; Counsel for AR Pat Sampson; Pioneer for AR Scott Sampson; Pioneer for AR

Scott Bradshaw; TREC

Karen Helfrich; Pioneer for AR Andy Dare; Pioneer for AR Scott Sampson; Pioneer for AR Brad Archibald; Pioneer for AR Andy Dare; Pioneer for AR

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Ian Magruder; CTEC (Tech Advisor)

Janice Hogan; CTEC

Marissa Stockton; Rosendale State Director

Kristi Carroll; Montana Tech Library

## SILVER BOW CREEK/BUTTE AREA NPL SITE BUTTE PRIORITY SOILS OPERABLE UNIT

## Final

## 2022 Residential Metals Abatement Program (RMAP) Koprivica Park Soil Remedial Action Work Plan (RAWP)

#### Prepared for:

**Butte-Silver Bow County** 

Superfund Division 155 W. Granite Street Butte, Montana 59701

and

Atlantic Richfield Company

317 Anaconda Road Butte, Montana 59701

Prepared by:

Pioneer Technical Services, Inc.

1101 S. Montana Street Butte, Montana 59701

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Attachment B Sugar Beet Lime QA Data

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Attachment C Fabric Specification Sheet

Attachment D Type B Material Borrow Stockpile Data

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Attachment E Agency Approved Kaw Avenue Borrow Stockpile Data

Attachment E-1 Energy Labs Data Report

Attachment E-2 Pace Analytical Data Report

Attachment F S&N Concrete Aggregate Stockpile Data

Attachment F-1 Pace Analytical Data Reports

#### **DOCUMENT MODIFICATION SUMMARY**

Modification	Author	Version	Description	Date
0	Jesse Schwarzrock	Draft	Issued for Internal Review	10/24/22
1	Jesse Schwarzrock	Draft Final	Issued for Agency Review	11/04/22
2	Jesse Schwarzrock	Final	Issued Final to Agencies	12/07/22

#### 1.0 INTRODUCTION

This Remedial Action Work Plan (RAWP) outlines a portion of the remedial action (RA) work resulting from the 2022 Residential Metals Abatement Program (RMAP) park soil sampling event that began in June 2022 and is currently on-going. The sampling event was conducted according to the *Final 2022 Residential Metals Abatement Program (RMAP) Quality Assurance Project Plan (QAPP) (Non-Residential Parcels)* (Butte-Silver Bow County and Atlantic Richfield Company, 2022a) and the *Final 2022 Residential Metals Abatement Program (RMAP) Park Soil Sampling Field Sampling Plan (FSP) Submittal #3 [Covering Koprivica Park, McGruff Park, Skate Park, Belmont Park, Rock Park, and Hanna Park] (Butte-Silver Bow County and Atlantic Richfield Company, 2022b).* 

#### 2.0 PARK SOIL REMEDIATION SCOPE

The scope of work covered by this RAWP includes the following park(s):

• Koprivica Park (see Table 1).

#### 3.0 PARK SOIL REMEDIATION SCHEDULE

Remedial activities may begin in the Fall of 2022 but will most likely be initiated and completed during the 2023 construction season. All scheduling decisions will be vetted through relevant stakeholders to ensure minimal disturbance to the public.

#### 4.0 REMEDIAL ACTION WORK PLAN

#### 4.1 Koprivica Park Remedial Action

Remediation at Koprivica Park consists of two polygons totaling approximately 0.16 acres. Both Play Area 1 (PA1) and Play Area 2 (PA2) are in the extreme southwest corner of the park at the intersection of Oregon Avenue and East First Street.

- Polygon PA1 (3,494 square feet).
- Polygon PA2 (3,494 square feet).

Both polygons are playground areas with an existing sand material cover (approximately 6 inches thick) on top of the soil tested in this investigation (see Figure 1). The Individual Site Work Plan (ISWP) is provided in Attachment A.

#### 4.1.1 Excavation

PA1 has a lead exceedance to a depth of 12 inches. PA2 did not have any exceedances; however, PA2 will be remediated along with PA1 since the two sampling areas constitute one continuous playground area that was split into two sampling areas due to QAPP (Butte-Silver Bow County and Atlantic Richfield Company, 2022a) sampling logic.

As previously discussed, both polygons have an existing 6-inch sand material cover. Based on this information, the removal area will be dictated by the original sampling polygon areas with the RMAP maximum remove depth of 14 inches below the existing sand material cover (see Detail 3 on Figure 2).

A 1-foot mandatory buffer will be maintained around all existing utilities. If achieving the removal depth means encroaching within the 1-foot mandatory utility buffer, excavation work will stop when at the 1-foot from utility mark. No removal work will take place within 1 foot of existing utilities. As mandated by Atlantic Richfield Company's *Remediation Management — Control of Work Defined Practices*, mechanical excavation is not allowed within 2 feet of existing utilities. Therefore, any excavation work within 2 feet of the utility will be hand excavation. The excavation depth will be measured from below the existing wood chip cover, where applicable.

Discussions with the park owner are on-going about existing playground equipment removal/replacement. At this time, it is anticipated that crews will remove and dispose of all existing playground equipment. Replacement equipment will be approved by the park owner prior to order and installation.

If the park owner chooses to keep any pieces of existing playground equipment, construction crews will conduct excavation work around these existing structures as site conditions allow. Crews will avoid disturbing soil adjacent to the playground equipment foundations and slope downward at a 45-degree angle until removal depth is achieved or another obstacle is encountered that limits further excavation. Crews will confer with the on-site U.S. Environmental Protection Agency (EPA) representative to make site-specific excavation decisions around any existing structures.

All excavated material will be disposed of within the Butte Mine Waste Repository (see Figure 4). Depth of the excavation area will be verified by measuring with a hand tape and using existing perimeter features (i.e., the elevation of the concrete curbing/tree areas/native soil around the excavation perimeter).

If excavations are not able to be backfilled during the same shift that they were developed, site control measures will be implemented during non-working hours. This may include perimeter control via safety cones and caution tape, construction fencing, or other approved methods.

#### 4.1.2 Backfill

Once the on-site EPA representative approves the excavation area, backfill work will begin (see Detail 4 on Figure 2). A 2-inch-thick layer of sugar beet lime (see Section 5.1, Attachment B, and Attachment B-1) will be placed at the bottom of the excavation in case the underlying native soil has pH issues.

Once the lime layer is in place, a separation fabric (see Section 5.2 and Attachment C) will be placed, consistent with current RMAP practices. The separation fabric will indicate the boundary between remediated and native soil for any future excavation work in this area.

Once the separation fabric is installed, 12 inches of Type B fill material (see Section 5.3, Attachment D, and Attachment D-1) will be placed. The backfill material will not be compacted to attain a specific density and moisture content but will be slightly compacted to impede future settling of the backfill material.

After placement and compaction of Type B fill material is complete, a second layer of separation fabric will be placed to act as a weed barrier. Then a final 6-inch-thick layer of new sand cover material (or other owner approved cover material) will be placed on top of the weed barrier.

#### 4.1.3 Revegetation

This playground area will be surfaced with sand material (or other owner-approved cover material). Therefore, revegetation is not anticipated for the primary work areas. However, existing sod may be disturbed through ingress/egress activities.

For those areas that need revegetation work, sod placement will be the most appropriate option given the maintained, irrigated nature of the property. Sod procurement is detailed in Section 5.6. All previously sodded areas disturbed during construction will receive sod. After final grading of backfill areas is complete, areas to be sodded will be raked or otherwise cleared of stones larger than 1 inch in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas

#### 4.2 Dust Control

This work will be performed within a residential area; consequently, controlling fugitive dust emissions is a high priority. If fugitive dust emissions become significant during the work, all work will be shut down until alternative and satisfactory dust control methods are determined. The contractor will be responsible for acquiring water for dust control from a source of the contractor's choice.

#### 4.3 Best Management Practices

Best management practices (BMPs) will be installed as necessary to ensure sediment does not leave the work area.

#### 5.0 MATERIALS

#### 5.1 Sugar Beet Lime Source

Sugar beet lime will be procured from Western Sugar Cooperative in Billings, Montana. This material is currently being hauled from Billings to the Anaconda Smelter National Priorities List (NPL) Site. Internal quality assurance data from the past three months are provided in Attachment B. The corresponding laboratory reports are in Attachment B-1.

#### 5.2 Fabric Material

Geotex 801 will be used for the separation fabric to provide a barrier between the growth medium and native soil. The material specifications are in Attachment C.

#### 5.3 Type B Backfill Borrow Source

Type B fill material will be used for all required backfill material. Atlantic Richfield Company developed this fill material within the South Borrow Area of Remedial Design Unit (RDU) 8 of the Anaconda Smelter NPL Site in November 2020 (the location is shown on Figure 5) and screened it to a 6-inch minus product. The quality assurance data are provided in Attachment D, and the corresponding laboratory reports are in Attachment D-1. Because this material is fill material (not growth medium), only metals data are provided, consistent with past EPA requests in Anaconda.

#### 5.4 Backfill Borrow Source

Growth medium is not anticipated to be necessary for the Koprivica Park RA at this time. In the event it is required, the Kaw Avenue growth medium borrow stockpile will be used (the location is shown on Figure 6). The Agency approved quality assurance data are provided in Attachment E, and the corresponding laboratory reports are in Attachments E-1 and E-2.

#### 5.5 Sand Cover Material

Sand cover material will tentatively be procured from S&N Concrete in Anaconda, Montana. These discussions are still on-going with the park owner. The quality assurance data are provided in Attachment F, and the corresponding laboratory reports are in Attachment F-1. Because this material is cover material (not growth medium), only metals data are provided, consistent with past EPA requests in Anaconda.

#### **5.6** Sod

If needed, Kentucky bluegrass sod will be procured from Summit Valley Turf in Whitehall, Montana.

#### 6.0 REFERENCES

Butte-Silver Bow County and Atlantic Richfield Company, 2022a. Final 2022 Residential Metals Abatement Program (RMAP) Quality Assurance Project Plan (QAPP) (Non-Residential Parcels). Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit. June 21, 2022.

Butte-Silver Bow County and Atlantic Richfield Company, 2022b. Final 2022 Residential Metals Abatement Program (RMAP) Park Soil Sampling Field Sampling Plan (FSP) Submittal #3 [Covering Koprivica Park, McGruff Park, Skate Park, Belmont Park, Rock Park, and Hanna Park]. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit. June 14, 2022.

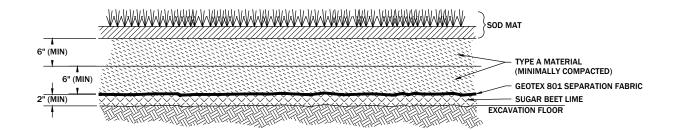
#### **FIGURES**

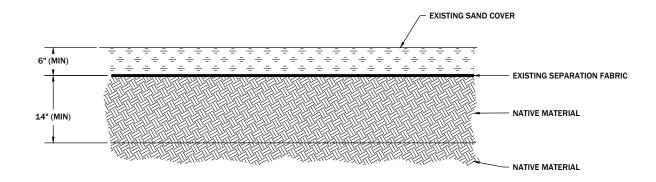


TECHNICAL SERVICES, INC.

DATE: 10/24/2022

Non-Samplable Area

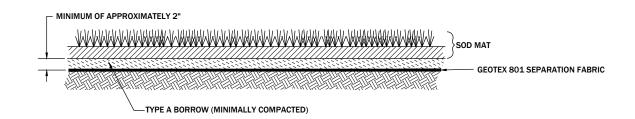


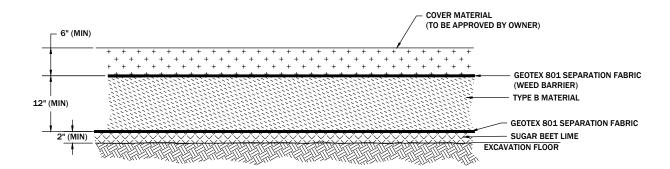


#### 14" SOIL AND SOD REMOVAL/REPLACEMENT DETAIL/

NOTE: 14" OF NATIVE SOIL TO BE REMOVED. IT WILL BE REPLACED WITH 2" OF LIME, A SEPARATION FABRIC, AND 12" OF TYPE A KAW AVENUE STOCKPILE GROWTH MEDIUM.



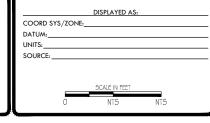




#### TREE CANOPY REMOVAL/REPLACEMENT DETAIL/

NOTE: A FULL 14" OF REMOVAL WILL BE ATTEMPTED WITHIN TREE CANOPIES, BUT WILL NOT BE FEASIBLE IN ALL AREAS DUE TO TREE ROOTS. IN THESE AREAS, A MINIMUM REMOVAL OF THE EXISTING COVER MATERIAL (SOD/AGGREGATE) PLUS 2" OF NATIVE MATERIAL WILL BE ATTEMPTED. IN THIS SCENARIO, NO LIME WILL BE PLACED. A SEPARATION FABRIC, 2" OF KAW AVENUE STOCKPILE GROWTH MEDIUM, AND WOOD CHIPS/LANDSCAPING MATERIAL CHOSEN BY THE OWNER WILL BE PLACED TO BACKFILL THE EXCAVATION AREA.

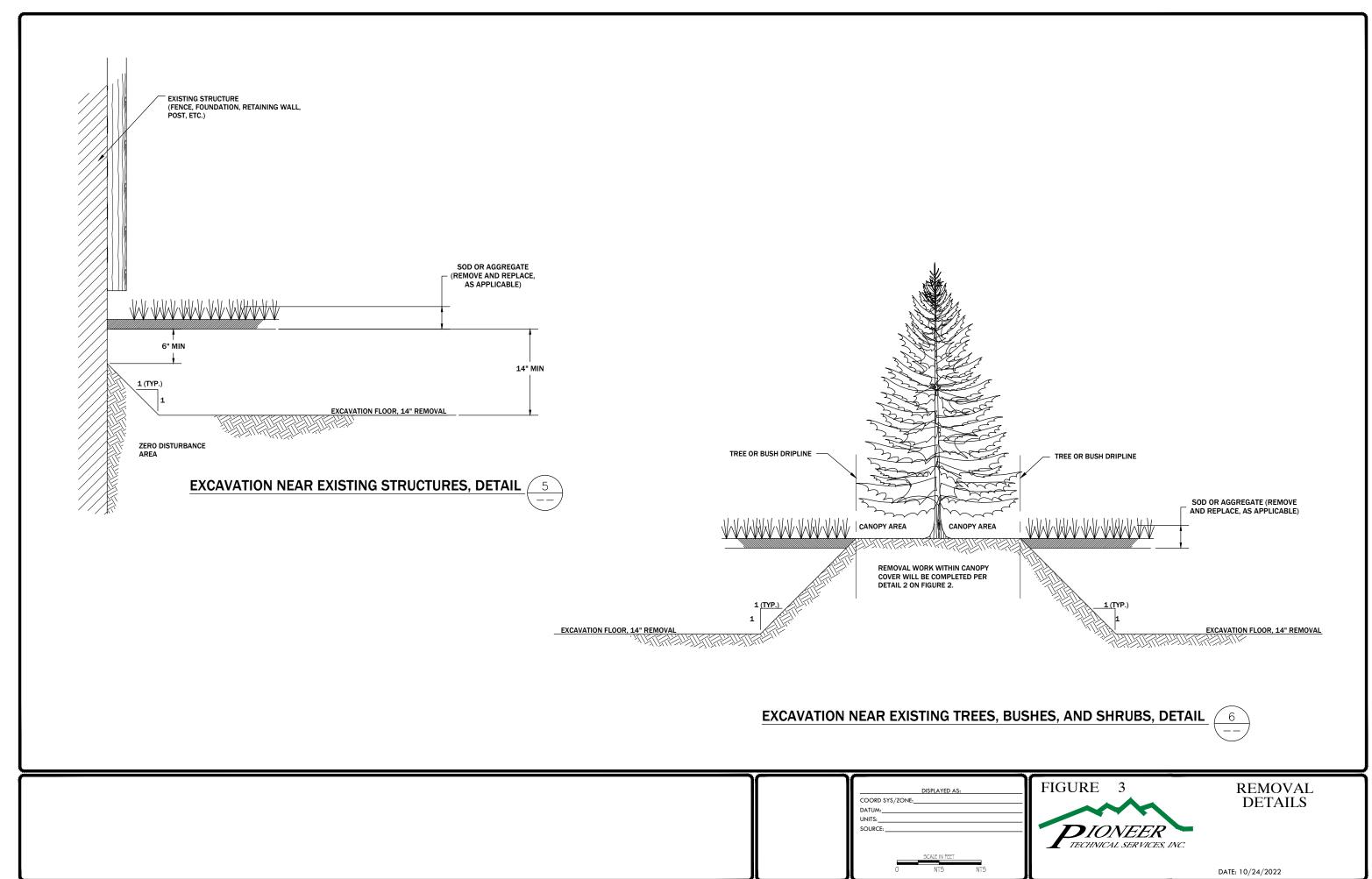


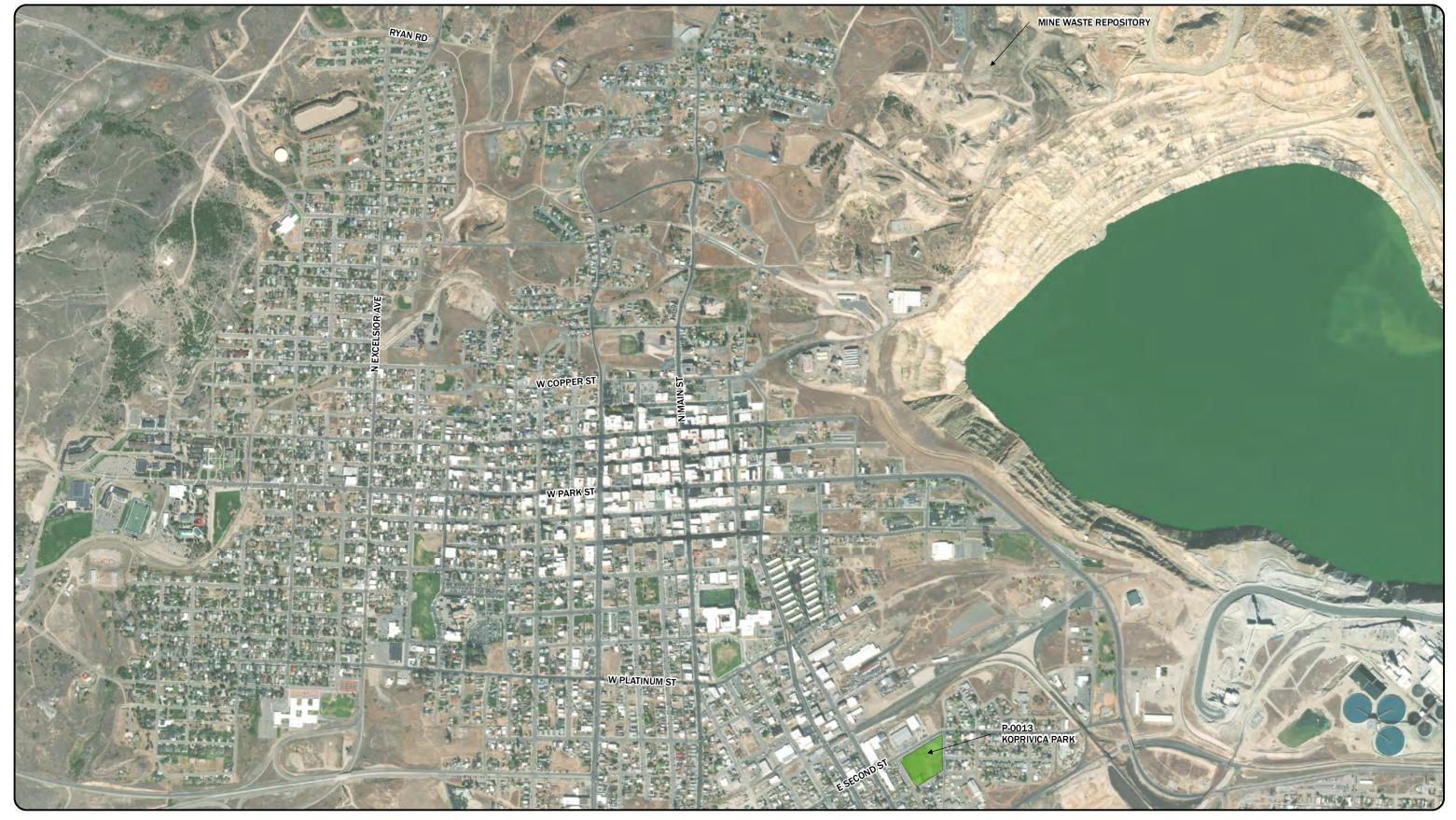




REMOVAL CROSS SECTIONS

DATE: 10/24/2022



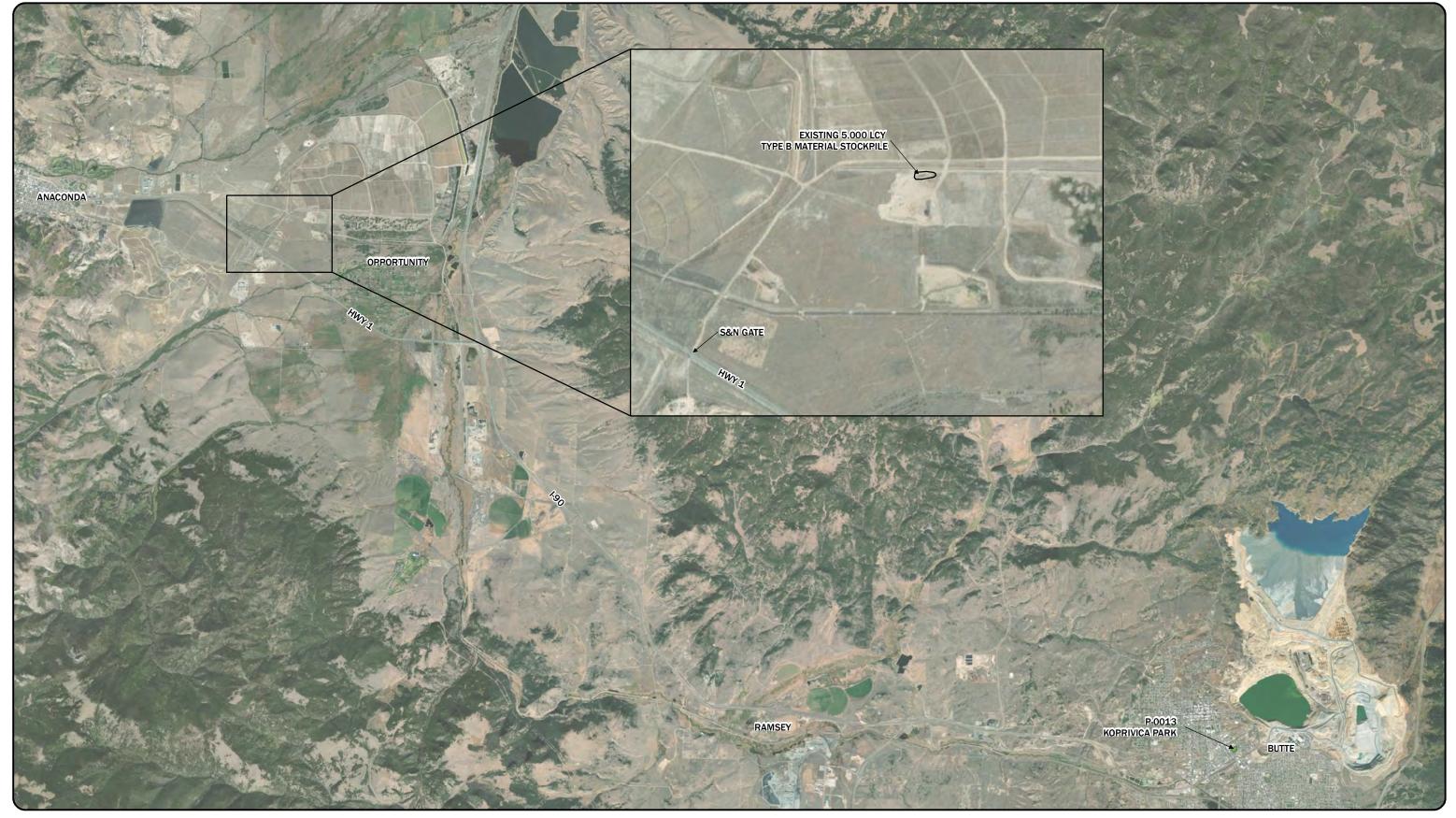




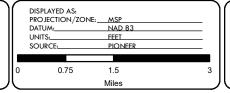
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MINE WASTE REPOSITORY LOCATION



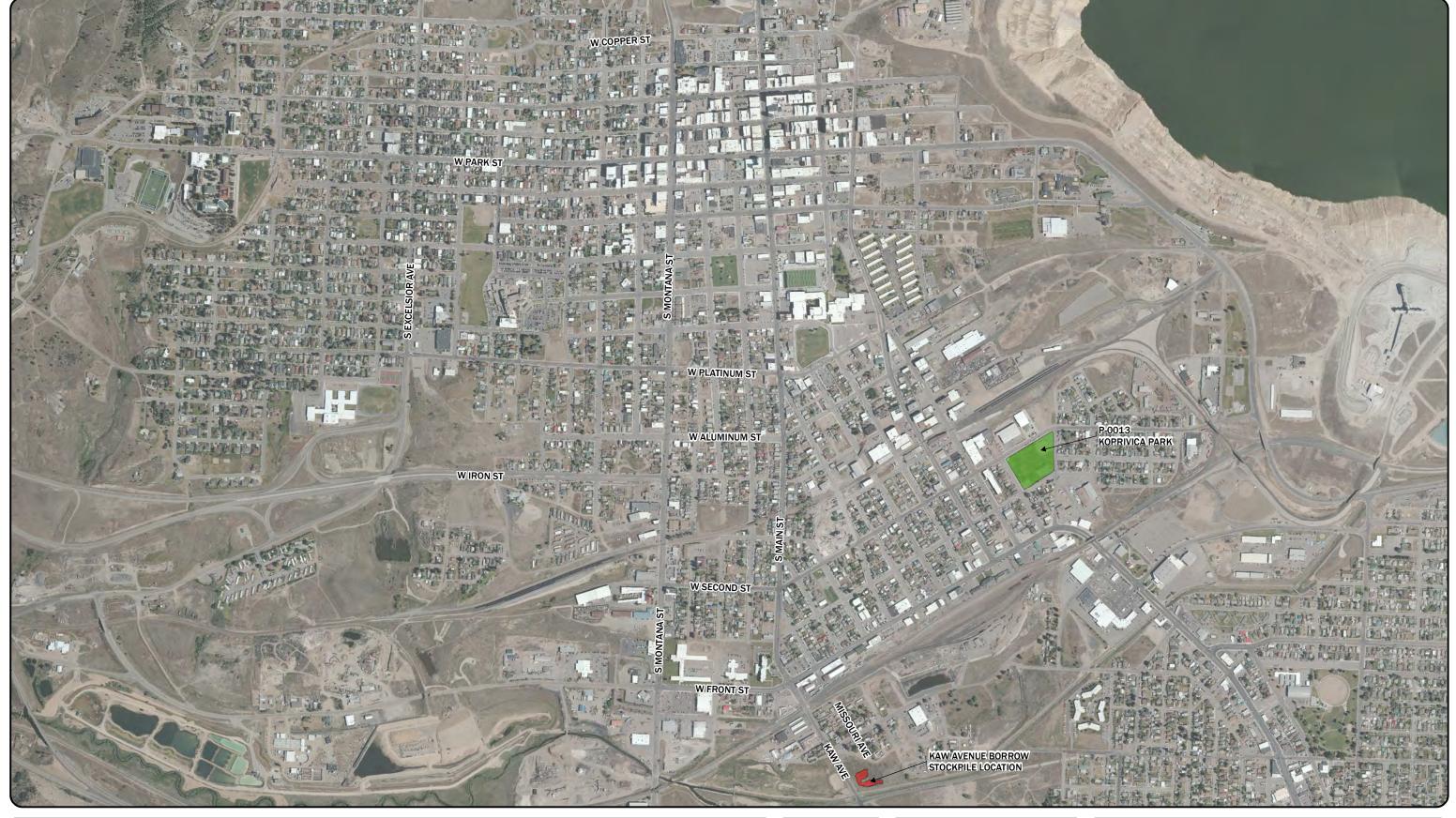




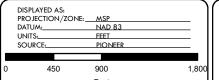


TYPE B BORROW STOCKPILE LOCATION

DATE: 10/24/2022









KAW AVENUE BORROW STOCKPILE LOCATION

#### **TABLES**

#### **TABLE 1: KOPRIVICA PARK PROPERTY INFORMATION**

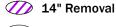
Count	Res-ID	Geocode	Name	Owner
1	P-0013	01119818301150000	Koprivica Park	Koprivica Family Park Inc

# ATTACHMENT A DRAFT KOPRIVICA PARK INDIVIDUAL SITE WORK PLAN (ISWP)





No Action Required



26" Removal



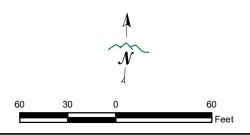
Un-Samplable Area

## KOPRIVICA PARK INDIVIDUAL SITE WORK PLAN

RESIDENTIAL METALS ABATEMENT PROGRAM (RMAP) **BUTTE, MONTANA** 

SHEET 1 OF 2





1. LOOK ON BACK OF SHEET FOR DATA TABLE.

2. EVEN THOUGH PA2 CAME BACK BELOW ACTION LEVELS, IT WILL BE REMEDIATED ALONG WITH PA1. THESE TWO SAMPLING POLYGONS REPRESENT ONE PLAY AREA THAT WAS SPLIT INTO TWO SAMPLING AREAS DUE TO SAMPLING LOGIC IN THE QAPP.

Boundaries on this site work plan DO NOT represent a legal survey. These boundaries are to be used for general reference only. No liability is assumed by Atlantic Richfield Company or Pioneer Technical Services for the accuracy of these.

## **Atlantic Richfield Company**

A BP affiliated company



Date: 8/1/2022 Revision#: 0 File Name: RMAP\_ISWP\_KoprivicaPark

				COI	MPOSITE S	SAMPLING	DATA SU	MMARY									
Resident ID	SAMPLING COMPONENTS	COMPONENT SURFACE AREA			POSITE ARS					MPOSITE LI					POSITE ME		
P-0013	SANN ENTE CONN CITERIES	(Square Feet)	0-2"	2-6"	6-12"	12-18"	18-24"	0-2"	2-6"	6-12"	12-18"	18-24"	0-2"	2-6"	6-12"	12-18"	18-2
P-0013-PA1	Playground Area 1 (PA1)	3,494	48	100	196	N/A	N/A	588	1,600	5,660	N/A	N/A	0.27	2.80	16.70	N/A	N/
P-0013-PA2	Playground Area 2 (PA2)	3,494	76	138	133	N/A	N/A	703	1,060	1,150	N/A	N/A	0.44	0.59	1.10	N/A	N/
-0013-PA2-D-2	Play Area 2 (PA2) Duplicate	-	N/A	143	N/A	N/A	N/A	N/A	1,060	N/A	N/A	N/A	N/A	0.81	N/A	N/A	N/
P-0013-PA3	Playground Area 3 (PA3)	3,436	87	120	126	N/A	N/A	840	849	798	N/A	N/A	0.44	0.63	0.43	N/A	N/
P-0013-PA4	Playground Area 4 (PA4)	3,436	140	141	104	N/A	N/A	967	954	1,010	N/A	N/A	0.75	0.57	1.20	N/A	N/
P-0013-PA5	Playground Area 5 (PA5)	2,141	18	17	24	N/A	N/A	71	67	112	N/A	N/A	0.03	0.02	0.02	N/A	N/
P-0013-HA1	High Access Area 1 (HA1)	8,884	28	44	56	N/A	N/A	149	276	813	N/A	N/A	0.20	0.11	0.06	N/A	N/
0013-HA1-D-2	High Access Area 1 (HA1) Duplicate	-	N/A	47	N/A	N/A	N/A	N/A	382	N/A	N/A	N/A	N/A	0.15	N/A	N/A	N,
P-0013-HA2	High Access Area 2 (HA2)	8,884	23	51	73	N/A	N/A	167	393	820	N/A	N/A	0.10	0.10	0.19	N/A	N/
		Max:	140	143	196	0	0	967	1,600	5,660	0	0	0.75	2.80	16.70	0.00	0.0
		250 (1															
	Composite Arsenic Concentration is ≥ 2																
	Composite Lead Concentration is ≥ 1,2																
21/2	Composite Mercury Concentration is ≥		Diam														
N/A	= Not applicable per 2022 RMAP Qualit	ty Assurance Project	Pian.														
	ISI	M SAMPLING DATA	SUMMAR	1													
		COMPONENT	ISM AR	SENIC	ISM	LEAD	ISM M	ERCURY									
Resident ID	CANADUNA CONTROLITA	COMPONENT	CONCENT	TRATION	CONCEN	TRATION	CONCEN	TRATION									
	SAMPLING COMPONENTS	SURFACE AREA	(mg,	/kg)	(mg	g/kg)	(mg	(/kg)									
P-0013		(Square Feet)	0-2"	2-12"	0-2"	2-12"	0-2"	2-12"									
P-0013-IS1	ISM Replicate A		45	80	442	747	0.29	0.57									
P-0013-IS1	ISM Replicate B	103,158	38	82	478	823	0.37	0.49									
P-0013-IS1	ISM Replicate C		29	79	338	636	0.45	0.53									
		95% UCL:	51	83	542	894	0.50	0.60									
	ISM Arsenic 95% UCL is ≥ 250 mg/kg.																
	ISM Lead 95% UCL is ≥ 1,200 mg/kg.																
	ISM Mercury 95% UCL is $\geq$ 1,200 mg/kg.																
N/A	= Not applicable per 2022 RMAP Qualit	ty Assurance Project	Dlan														
IN/A	- Not applicable per 2022 KIVIAF Qualif	Assurance Project	riali.														
	REMEDIAL	ACTION SUMMAR	Υ														
Resident ID			E	STIMATED (		1											
		COMPONENT	Excavation	Lime	General	Cover											
P-0013	SAMPLING COMPONENTS	SURFACE AREA	(Cubic	(Cubic	Backfill	Material											
		(Square Feet)	Yards)	Yards)	(Cubic	(Square											
D 0042 511	Division of the state of the st	2.00	·		Yards)	Feet)											
P-0013-PA1	Playground Area 1 (PA1)	3,494	151	22	129	3,494											
P-0013-PA2	Playground Area 2 (PA2)	3,494	151	22	129	3,494											
P-0013-PA3 P-0013-PA4	Playground Area 3 (PA3)	3,436	0	0	0	0											
ローロロコ ユーD Λ //	Playground Area 4 (PA4)	3,436	0	0	0	0											
		2,141	0	0	0	0											
P-0013-PA5	Playground Area 5 (PA5)		_		_	_											
P-0013-PA5 P-0013-HA1	High Access Area 1 (HA1)	8,884	0	0	0	0											
P-0013-PA5	, , , , , , , , , , , , , , , , , , , ,		0 0 0	0 0	0 0	0 0											

## KOPRIVICA PARK INDIVIDUAL SITE WORK PLAN

RESIDENTIAL METALS
ABATEMENT PROGRAM (RMAP)
BUTTE, MONTANA
SHEET 2 OF 2







## ATTACHMENT B SUGAR BEET LIME QA DATA

## APPENDIX B - SUGAR BEET LIME QA DATA (From ARWW&S, RDU 3)

			Lime % as CaCO <sub>3</sub>	% Passing No. 60 Screen (dry)
Sample ID	Date Collected	Butte Hill Reveg Spec:	Min of 65%	Min of 50%
1 22RDU3_SBL_011	06/13/22	]	78.4%	93.9%
2 22RDU3_SBL_012	06/13/22		77.4%	94.3%
3 22RDU3_SBL_013	06/13/22	] [	76.9%	92.8%
4 22RDU3_SBL_014	06/29/22	Volume Tested:	77.9%	95.7%
5 22RDU3_SBL_015	06/29/22	Approximatley	78.4%	95.9%
6 22RDU3_SBL_016	07/07/22	4,500 cy	76.4%	99.3%
7 22RDU3_SBL_017	07/07/22		78.8%	98.5%
8 22RDU3_SBL_018	07/12/22		77.9%	97.0%
9 22RDU3_SBL_019	07/12/22		77.4%	96.3%
		MAX:	78.8%	99.3%
		MIN:	76.4%	92.8%
		AVE:	77.7%	96.0%

## ATTACHMENT B-1 ENERGY LABS DATA REPORTS

#### ANALYTICAL SUMMARY REPORT

June 28, 2022

Woodard and Curran 1015 S Montana St Butte, MT 59701-2805

Work Order: B22061398 Quote ID: B5361

Project Name: ARWW&S, RDU3, 0232257.03

Energy Laboratories Inc Billings MT received the following 3 samples for Woodard and Curran on 6/15/2022 for analysis.

Lab ID	Client Sample ID	Collect Date Receive Date	Matrix	Test
B22061398-001	22RDU_3_SBL_011	06/13/22 14:45 06/15/22	Solid	Lime as CaCO3, % Moisture Sieve Analysis, Dry Sieve Analysis, Wet
B22061398-002	22RDU_3_SBL_012	06/13/22 14:50 06/15/22	Solid	Same As Above
B22061398-003	22RDU_3_SBL_013	06/13/22 14:55 06/15/22	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Woodard and Curran

Client Sample ID: 22RDU 3 SBL 012

Project: ARWW&S, RDU3, 0232257.03 Report Date: 06/28/22

 Lab ID:
 B22061398-001
 Collection Date:
 06/13/22 14:45

 Client Sample ID:
 22RDU\_3\_SBL\_011
 DateReceived:
 06/15/22

Matrix: Solid

Analyses	Result U	nits Qualifier	s RL	MCL/ QCL I	Wethod	Analysis Date / By
PHYSICAL CHARACTERISTICS Moisture (As Received)	28.6 w	t%	0.2	Ī	D2974	06/21/22 10:09 / srm
CHEMICAL CHARACTERISTICS						
Lime as CaCO3	78.4 %	1	0.1	ι	JSDA23c	06/28/22 07:52 / srm
SIEVE ANALYSIS						
No. 60 (250um), Retained	84.4 w	t%-wet	0.1		SSSA 15-2	06/28/22 07:42 / srm
No. 60 (250um), Passed	93.9 w	t%-dry	0.1	,	SSSA 15-2	06/22/22 14:51 / srm
Pan	< 0.1 w	t%-dry	0.1	,	SSSA 15-2	06/22/22 14:51 / srm
Pan	15.6 w	t%-wet	0.1		SSSA 15-2	06/28/22 07:42 / srm

**Lab ID:** B22061398-002 **Collection Date:** 06/13/22 14:50

DateReceived: 06/15/22
Matrix: Solid

MCL/ **Result Units** Qualifiers RL QCL Method **Analyses** Analysis Date / By PHYSICAL CHARACTERISTICS Moisture (As Received) 28.8 wt% 0.2 D2974 06/21/22 10:09 / srm **CHEMICAL CHARACTERISTICS** Lime as CaCO3 USDA23c 06/28/22 07:52 / srm 77.4 % 0.1 SIEVE ANALYSIS No. 60 (250um), Retained 90.9 wt%-wet 0.1 SSSA 15-2 06/28/22 07:42 / srm No. 60 (250um), Passed 94.3 wt%-dry SSSA 15-2 06/22/22 14:51 / srm 0.1 Pan < 0.1 wt%-dry 0.1 SSSA 15-2 06/22/22 14:51 / srm Pan 9.1 wt%-wet SSSA 15-2 06/28/22 07:42 / srm 0.1

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Woodard and Curran

**Project:** ARWW&S, RDU3, 0232257.03 **Report Date:** 06/28/22

 Lab ID:
 B22061398-003
 Collection Date:
 06/13/22 14:55

 Client Sample ID:
 22RDU\_3\_SBL\_013
 DateReceived:
 06/15/22

Matrix: Solid

				MCL/	
Analyses	Result Ur	nits Qualifiers	RL	QCL Method	Analysis Date / By
PHYSICAL CHARACTERISTICS					
Moisture (As Received)	27.5 wt	%	0.2	D2974	06/21/22 10:09 / srm
CHEMICAL CHARACTERISTICS					
Lime as CaCO3	76.9 %		0.1	USDA23c	06/28/22 07:52 / srm
SIEVE ANALYSIS					
No. 60 (250um), Retained	78.8 wt	%-wet	0.1	SSSA 15-2	06/28/22 07:42 / srm
No. 60 (250um), Passed	92.8 wt	%-dry	0.1	SSSA 15-2	06/22/22 14:51 / srm
Pan	< 0.1 wt	%-dry	0.1	SSSA 15-2	06/22/22 14:51 / srm
Pan	21.2 wt	%-wet	0.1	SSSA 15-2	06/28/22 07:42 / srm

Report RL - Analyte Reporting Limit

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

MCL - Maximum Contaminant Level



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Woodard and Curran Work Order: B22061398 Report Date: 06/28/22

Analyte	Result Units	RL %REC Low Limit High Limit RPD RPDLimit Qual
Method: USDA23c		Batch: R383791
Lab ID: B22061398-001A DUP Lime as CaCO3	Sample Duplicate 78.4 %	Run: MISC-SOIL_220628A 06/28/22 07:52 0.10 0.0 30
<b>Lab ID: LCS-2206280752</b> Lime as CaCO3	Laboratory Control Sample 9.40 %	Run: MISC-SOIL_220628A 06/28/22 07:52 0.10 88 70 130

## **Work Order Receipt Checklist**

#### Woodard and Curran

Login completed by: Yvonna E. Smith

#### B22061398

Date Received: 6/15/2022

Reviewed by:	BL2000\lcadreau		R	eceived by: srg
Reviewed Date:	6/19/2022		Ca	rrier name: Return-FedEx Ground
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sh	nipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present ✓
Chain of custody present?		Yes ✓	No 🗌	
Chain of custody signed whe	n relinquished and received?	Yes √	No 🗌	
Chain of custody agrees with	sample labels?	Yes √	No 🗌	
Samples in proper container/	bottle?	Yes √	No 🗌	
Sample containers intact?		Yes √	No 🗌	
Sufficient sample volume for	indicated test?	Yes √	No 🗌	
All samples received within h (Exclude analyses that are co such as pH, DO, Res CI, Sul	onsidered field parameters	Yes √	No 🗌	
Temp Blank received in all sh	nipping container(s)/cooler(s)?	Yes	No 🔽	Not Applicable
Container/Temp Blank tempe	erature:	14.3°C No Ice		
Containers requiring zero heabubble that is <6mm (1/4").	adspace have no headspace or	Yes	No 🗌	No VOA vials submitted ✓
Water - pH acceptable upon	receipt?	Yes	No 🗌	Not Applicable 🗹

#### **Standard Reporting Procedures:**

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

#### **Contact and Corrective Action Comments:**

None

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-		AB

# Chain of Custody and Analytical Request Record

of 1

Page 1

822041398 z ZZ Z Z ပ EPA/State Compliance: Sampler: (Please Print) Quote/Bottle Order: Receipt Temp **Custody Sea** Kristopher Bosch 2 Cooler ID(s): Shipped by: On Cooler Signature Match On Ice: Intact ATNO İSA Y RIOTA RIOBALI Signature: Yes RUSH sample submittal Contact ELI prior to scheduling - See nstruction Page for charges and Comments: Purchase Order: (406)291-2617 Sample Origin (Provide as much information as possible.) State: Date/Time: Date/Time: Cell: 0 S I (TAT) bnuorenruT brabnat2 SEE ATTACHED Received by Laboratoric ANALYSIS REQUESTED Received by (print) Received by (print) (406)291-2617 Phone/Fax: ARWW&S, RDU3, 0232257.03 Project Name, PWS, Permit, Etc. Kevin Bethke (406)586-8364 Invoice Contact & Phone: PLEASE PRINT Signature 7 1 7 Contact Name: B5361 - Lime Quality Signature Garrett Craig Mumber of Containers
Sample Type: A W S V B O D
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water MATRIX S ഗ 17:30 S EDD/EDT (Electronic Data) Collection 1015 S Montana St Suite C, Butte MT, 59701 Date/Time: 06/13/2022 14:45 14:50 06/13/2022 14:55 ■ No Hard Copy Email: gcraig@woodardcurran.com 🗆 No Hard Copy Email: kbethke@woodardcurran.com 1800 Koch Suite A, Bozeman MT, 59715 Date/Time 06/13/2022 06/13/2022 Collection LEVEL IV Format: NELAC Kristopher Bosch Relinquished by (print): Relinquished by (print): Name, Location, Interval, etc.) Report Mail Address (Required): SAMPLE IDENTIFICATION Special Report/Formats Invoice Address (Required): 22RDU3\_SBL\_012 22RDU3\_SBL\_013 22RDU3 SBL 011 POTWWWTP Woodard & Curran Company Name: Custody MUST be Record State: Other: 2 0 9

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. ar.

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Lab Disposal:

Return to Client:

Sample Disposal:

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

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Signed

### ANALYTICAL SUMMARY REPORT

July 13, 2022

Woodard and Curran 1015 S Montana St Butte, MT 59701-2805

Work Order: B22070163 Quote ID: B5361

Project Name: ARWW&S 0232257.04

Energy Laboratories Inc Billings MT received the following 2 samples for Woodard and Curran on 7/5/2022 for analysis.

Lab ID	Client Sample ID	Collect Date Receive Date	Matrix	Test
B22070163-001	22RDU3_SBL_014	06/29/22 17:00 07/05/22	Solid	Lime as CaCO3, % Moisture Sieve Analysis, Dry Sieve Analysis, Wet
B22070163-002	22RDU3_SBL_015	06/29/22 17:10 07/05/22	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Billings, MT 800.735.4489 . Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Woodard and Curran

Client Sample ID: 22RDU3 SBL 014

Client Sample ID: 22RDU3 SBL 015

**Project:** ARWW&S 0232257.04 **Report Date: 07/13/22** 

Lab ID: Collection Date: 06/29/22 17:00 B22070163-001 DateReceived: 07/05/22

Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS Moisture (As Received)	23.8	wt%		0.2		D2974	07/08/22 10:15 / srm
CHEMICAL CHARACTERISTICS	20.0	WU70		0.2		D2374	07/00/22 10:107 3111
Lime as CaCO3	77.9	%		0.1		USDA23c	07/13/22 15:11 / srm
SIEVE ANALYSIS							
No. 60 (250um), Retained	93.5	wt%-wet		0.1		SSSA 15-2	07/12/22 11:37 / srm
No. 60 (250um), Passed	95.7	wt%-dry		0.1		SSSA 15-2	07/08/22 11:26 / srm
Pan	< 0.1	wt%-dry		0.1		SSSA 15-2	07/08/22 11:26 / srm
Pan	6.5	wt%-wet		0.1		SSSA 15-2	07/12/22 11:37 / srm

B22070163-002 Collection Date: 06/29/22 17:10 Lab ID:

DateReceived: 07/05/22

Matrix: Solid

MCL/ **Result Units** Qualifiers RL QCL Method **Analyses** Analysis Date / By PHYSICAL CHARACTERISTICS Moisture (As Received) 22.3 wt% 0.2 D2974 07/08/22 10:15 / srm **CHEMICAL CHARACTERISTICS** Lime as CaCO3 78.4 % USDA23c 07/13/22 15:11 / srm 0.1 SIEVE ANALYSIS No. 60 (250um), Retained 88.1 wt%-wet 0.1 SSSA 15-2 07/12/22 11:37 / srm No. 60 (250um), Passed 95.9 wt%-dry SSSA 15-2 07/08/22 11:26 / srm 0.1 Pan < 0.1 wt%-dry 0.1 SSSA 15-2 07/08/22 11:26 / srm Pan 11.9 wt%-wet SSSA 15-2 07/12/22 11:37 / srm 0.1

RL - Analyte Reporting Limit MCL - Maximum Contaminant Level Report

Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)



### **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Woodard and Curran Work Order: B22070163 Report Date: 07/13/22

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA23c								Batch:	R384614
Lab ID:	B22070163-001A DUP	Sample Duplica	ate			Run: MISC	-SOIL_220713B		07/13	3/22 15:11
Lime as Ca	aCO3	78.4	%	0.10				0.6	30	
Lab ID:	LCS-2207131511	Laboratory Cor	ntrol Sample			Run: MISC	-SOIL_220713B		07/13	3/22 15:11
Lime as Ca	aCO3	9.80	%	0.10	92	70	130			

### **Work Order Receipt Checklist**

### Woodard and Curran

Login completed by: Dylan A. Chirrick

### B22070163

Date Received: 7/5/2022

Reviewed by: gmccartne Reviewed Date: 7/9/2022	у		Received by: dac  Carrier name: Return-FedEx Ground		
Shipping container/cooler in good condition	?	Yes 🔽	No 🗌	Not Present	
Custody seals intact on all shipping contain	er(s)/cooler(s)?	Yes √	No 🗌	Not Present	
Custody seals intact on all sample bottles?		Yes	No 🗌	Not Present ✓	
Chain of custody present?		Yes √	No 🗌		
Chain of custody signed when relinquished	and received?	Yes √	No 🗌		
Chain of custody agrees with sample labels	?	Yes	No 🗹		
Samples in proper container/bottle?		Yes √	No 🗌		
Sample containers intact?		Yes √	No 🗌		
Sufficient sample volume for indicated test?		Yes √	No 🗌		
All samples received within holding time? (Exclude analyses that are considered field such as pH, DO, Res Cl, Sulfite, Ferrous In		Yes 🗸	No 🗌		
Temp Blank received in all shipping contain	er(s)/cooler(s)?	Yes	No 🔽	Not Applicable	
Container/Temp Blank temperature:		25.3°C No Ice			
Containers requiring zero headspace have rebubble that is <6mm (1/4").	no headspace or	Yes	No 🗌	No VOA vials submitted 🗸	
Water - pH acceptable upon receipt?		Yes	No 🗌	Not Applicable 🗹	

### **Standard Reporting Procedures:**

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

### **Contact and Corrective Action Comments:**

The sample identification indicated on the container label for sample 22RDU3\_SBL\_015 is 22RDU3\_SBL\_015 and on the Chain of Custody it is 22RDU3\_SBL\_15. Proceeded with the sample identification as indicated on the sample container.

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# Chain of Custody and Analytical Request Record

of 1

Page 1

Z zz Z O Sampler: (Please Print) EPA/State Compliance: Adden Nation Nat Quote/Bottle Order: Receipt Temp Custody Seal Cooler ID(s): 2 Signature Match On Bottle On Cooler On Ice: Shyla Wesely Intact Y MOTAMOBA Signature Yes RUSH sample submittal Contact ELI prior to scheduling - See Instruction Page for charges and Comments: Purchase Order: (406)291-2617 Sample Origin  $\succeq$ (Provide as much information as possible.) State: Date/Time: Date/Time: Cell: S I Standard Turnaround (TAT) SEE ATTACHED ANALYSIS REQUESTED Received by (print): Received by (print): (406)291-2617 Phone/Fax: Project Name, PWS, Permit, Etc. Kevin Bethke (406)586-8364 Invoice Contact & Phone: ARWW&S 0232257.04 PLEASE PRINT 7 1 Contact Name: B5361 - Lime Quality Garrett Craig Mumber of Containers Sample Type: A W S V B O DW Air Water Soils/Solids Vegetation Bioassay Other DW - Drinking Water MATRIX S S EDD/EDT (Electronic Data) Collection 1015 S Montana St Suite C, Butte MT, 59701 Time 🗖 No Hard Copy Email: kbethke@woodardcurran.com 1710 ■ No Hard Copy Email: gcraig@woodardcurran.com 1700 1800 Koch Suite A, Bozeman MT, 59715 Date/Time: 6/29/22 Date/Time: Collection LEVEL IV Date Format: NELAC 6/29/22 6/29/22 Relinquished by (print): (Name, Location, Interval, etc.) Report Mail Address (Required): SAMPLE IDENTIFICATION Custody Shyla Wesely Special Report/Formats: Invoice Address (Required) 22RDU3 SBL 014 22RDU3 SBL 15 POTW/WWTP Woodard & Curran Company Name: MUST be Record State: Other:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Lab Disposal

Return to Client:

Sample Disposal:

Signed

### ANALYTICAL SUMMARY REPORT

July 20, 2022

Woodard and Curran 1015 S Montana St Butte, MT 59701-2805

Work Order: B22070686 Quote ID: B5361

Project Name: ARWW&S, RDU3, 0232257.03

Energy Laboratories Inc Billings MT received the following 2 samples for Woodard and Curran on 7/11/2022 for analysis.

Lab ID	Client Sample ID	Collect Date Receive Date	Matrix	Test
B22070686-001	22RDU3_SBL_016	07/07/22 11:20 07/11/22	Solid	Lime as CaCO3, % Moisture Sieve Analysis, Dry Sieve Analysis, Wet
B22070686-002	22RDU3_SBL_017	07/07/22 11:25 07/11/22	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Woodard and Curran

Client Sample ID: 22RDU3 SBL 017

Project: ARWW&S, RDU3, 0232257.03 Report Date: 07/20/22

 Lab ID:
 B22070686-001
 Collection Date:
 07/07/22 11:20

 Client Sample ID:
 22RDU3 SBL 016
 DateReceived:
 07/11/22

Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS Moisture (As Received)	25.7	wt%		0.2		D2974	07/19/22 09:43 / srm
CHEMICAL CHARACTERISTICS Lime as CaCO3	76.4	%		0.1		USDA23c	07/20/22 15:36 / srm
SIEVE ANALYSIS							
No. 60 (250um), Retained	76.9	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
No. 60 (250um), Passed	99.3	wt%-dry		0.1		SSSA 15-2	07/19/22 10:34 / srm
Pan	< 0.1	wt%-dry		0.1		SSSA 15-2	07/19/22 10:34 / srm
Pan	23.1	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm

**Lab ID:** B22070686-002 **Collection Date:** 07/07/22 11:25

DateReceived: 07/11/22
Matrix: Solid

MCL/ **Result Units** Qualifiers RL QCL Method **Analyses** Analysis Date / By PHYSICAL CHARACTERISTICS Moisture (As Received) 25.9 wt% 0.2 D2974 07/19/22 09:43 / srm **CHEMICAL CHARACTERISTICS** Lime as CaCO3 78.8 % USDA23c 07/20/22 15:36 / srm 0.1 SIEVE ANALYSIS No. 60 (250um), Retained 26.8 wt%-wet 0.1 SSSA 15-2 07/20/22 11:27 / srm No. 60 (250um), Passed 98.5 wt%-dry SSSA 15-2 07/19/22 10:34 / srm 0.1 Pan < 0.1 wt%-dry 0.1 SSSA 15-2 07/19/22 10:34 / srm Pan 73.2 wt%-wet SSSA 15-2 07/20/22 11:27 / srm 0.1

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)



### **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Woodard and Curran Work Order: B22070686 Report Date: 07/20/22

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA23c								Batch:	: R384936
Lab ID:	B22070686-001A DUP	Sample Duplica	ate			Run: MISC	-SOIL_220720B		07/20	0/22 15:36
Lime as Ca	aCO3	75.9	%	0.10				0.7	30	
Lab ID:	LCS-2207201536	Laboratory Cor	ntrol Sample			Run: MISC	-SOIL_220720B		07/20	0/22 15:36
Lime as Ca	aCO3	9.50	%	0.10	89	70	130			

### **Work Order Receipt Checklist**

### Woodard and Curran

Login completed by: Dylan A. Chirrick

### B22070686

Date Received: 7/11/2022

Reviewed by:	BL2000\lcadreau			Received by: dac
Reviewed Date:	7/12/2022		C	Carrier name: Return-FedEx Ground
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sl	nipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present ✓
Chain of custody present?		Yes ✓	No 🗌	
Chain of custody signed whe	en relinquished and received?	Yes ✓	No 🗌	
Chain of custody agrees with	sample labels?	Yes ✓	No 🗌	
Samples in proper container	/bottle?	Yes √	No 🗌	
Sample containers intact?		Yes ✓	No 🗌	
Sufficient sample volume for	indicated test?	Yes ✓	No 🗌	
All samples received within h (Exclude analyses that are c such as pH, DO, Res Cl, Su	onsidered field parameters	Yes 🗸	No 🗌	
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes 🔽	No 🗌	Not Applicable
Container/Temp Blank tempe	erature:	24.0°C No Ice		
Containers requiring zero he bubble that is <6mm (1/4").	adspace have no headspace or	Yes 🗌	No 🗌	No VOA vials submitted   ✓
Water - pH acceptable upon	receipt?	Yes	No 🗌	Not Applicable 🔽

### **Standard Reporting Procedures:**

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

### **Contact and Corrective Action Comments:**

None

LABORATORIES

# Chain of Custody and Analytical Request Record PLEASE PRINT

of 1 Page 1

Z ပ > Sampler: (Please Print) EPA/State Compliance: > Quote/Bottle Order: Receipt Temp **Custody Seal** Kristopher Bosch Cooler ID(s): 2 Signature Match On Cooler On Bottle On Ice: Intact MEDRAMORY MO EISM) Signature Contact ELI prior to RUSH sample submittal Yes scheduling - See Instruction Page for charges and Comments: Purchase Order: (406)291-2617 Sample Origin (Provide as much information as possible.) State: Date/Time Date/Time Celli 0 S I Standard Turnaround (TAT) SEE ATTACHED ANALYSIS REQUESTED Received by (print) (406)291-2617 Phone/Fax: ARWW&S, RDU3, 0232257.03 Savattor 1/8/12 Project Name, PWS, Permit, Etc. Kevin Bethke (406)586-8364 Invoice Contact & Phone: 7 1 B5361 - Lime Quality Contact Name: Garrett Craig Number of Containers
Sample Type: A W S V B O D'
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water MATRIX S S 12:00 EDD/EDT (Electronic Data) Collection Time 1015 S Montana St Suite C, Butte MT, 59701 11:20 07/07/2022 11:25 ☑ No Hard Copy Email: gcraig@woodardcurran.com 🗆 No Hard Copy Email: kbethke@woodardcurran.com 07/08/22 1800 Koch Suite A, Bozeman MT, 59715 Date/Time 07/07/2022 Collection LEVEL IV Date Format: NELAC Relinquished by (print) Hannah Foster Name, Location, Interval, etc. Report Mail Address (Required) SAMPLE IDENTIFICATION Special Report/Formats Invoice Address (Required): 22RDU3\_SBL\_016 22RDU3 SBL 017 POTW/WTP Woodard & Curran Company Name: MUST be Custody Record Other: State: 9 8 5

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis reduested This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

7

Lab Disposal:

Return to Client:

Sample Disposal:

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

Page 5 of 5

Signed

### ANALYTICAL SUMMARY REPORT

July 20, 2022

Woodard and Curran 1015 S Montana St Butte, MT 59701-2805

Work Order: B22071162 Quote ID: B5361

Project Name: ARWW&S, RDU3, 0232257.03

Energy Laboratories Inc Billings MT received the following 2 samples for Woodard and Curran on 7/14/2022 for analysis.

Lab ID	Client Sample ID	Collect Date Receive Date	Matrix	Test
B22071162-001	22RDU3_SBL_018	07/12/22 15:00 07/14/22	Solid	Lime as CaCO3, % Moisture Sieve Analysis, Dry Sieve Analysis, Wet
B22071162-002	22RDU3_SBL_019	07/12/22 15:05 07/14/22	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Woodard and Curran

Project: ARWW&S, RDU3, 0232257.03 **Report Date:** 07/20/22

Lab ID: Collection Date: 07/12/22 15:00 B22071162-001 Client Sample ID: 22RDU3\_SBL\_018 DateReceived: 07/14/22

Matrix: Solid

Analyses	Result U	nits	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS Moisture (As Received)	23.4 w	rt%		0.2		D2974	07/19/22 09:43 / srm
CHEMICAL CHARACTERISTICS	25.1 1	270		0.2		52011	07, 10,22 00: 10 / 01111
Lime as CaCO3	77.9 %	Ď		0.1		USDA23c	07/20/22 15:36 / srm
SIEVE ANALYSIS							
No. 60 (250um), Retained	60.8 w	rt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
No. 60 (250um), Passed	97.0 w	t%-dry		0.1		SSSA 15-2	07/19/22 10:36 / srm
Pan	< 0.1 w	t%-dry		0.1		SSSA 15-2	07/19/22 10:36 / srm
Pan	39.2 w	t%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm

Collection Date: 07/12/22 15:05 Lab ID: B22071162-002

DateReceived: 07/14/22

Client Sample ID: 22RDU3\_SBL\_019 Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Moisture (As Received)	31.7	wt%		0.2		D2974	07/19/22 09:43 / srm
CHEMICAL CHARACTERISTICS Lime as CaCO3	77.4	%		0.1		USDA23c	07/20/22 15:36 / srm
SIEVE ANALYSIS							
No. 60 (250um), Retained	79.7	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
No. 60 (250um), Passed	96.3	wt%-dry		0.1		SSSA 15-2	07/19/22 10:36 / srm
Pan	< 0.1	wt%-dry		0.1		SSSA 15-2	07/19/22 10:36 / srm
Pan	20.3	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm

MCL - Maximum Contaminant Level Report RL - Analyte Reporting Limit

Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)



### **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Woodard and Curran Work Order: B22071162 Report Date: 07/20/22

Analyte	-	Result	Units	RL	%REC L	ow Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA23c								Batch:	R384936
Lab ID:	B22070686-001A DUP	Sample Duplica	ate		F	Run: MISC	-SOIL_220720B		07/20	)/22 15:36
Lime as Ca	aCO3	75.9	%	0.10				0.7	30	
Lab ID:	LCS-2207201536	Laboratory Con	trol Sample		Run: MISC-SOIL_220720B				07/20/22 15:36	
Lime as Ca	aCO3	9.50	%	0.10	89	70	130			

### **Work Order Receipt Checklist**

### Woodard and Curran

### B22071162

Login completed by:	Tyler J. Gasser		Date F	Received: 7/14/2022
Reviewed by:	gmccartney		Rec	eived by: tae
Reviewed Date:	7/19/2022		Carri	ier name: Return-FedEx Ground
Shipping container/cooler in	good condition?	Yes 🗸	No 🗌	Not Present
Custody seals intact on all sh	nipping container(s)/cooler(s)?	Yes 🗸	No 🗌	Not Present
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present 🗹
Chain of custody present?		Yes √	No 🗌	
Chain of custody signed whe	en relinquished and received?	Yes √	No 🗌	
Chain of custody agrees with sample labels?		Yes √	No 🗌	
Samples in proper container/	/bottle?	Yes √	No 🗌	
Sample containers intact?		Yes √	No 🗌	
Sufficient sample volume for	indicated test?	Yes √	No 🗌	
All samples received within h (Exclude analyses that are co such as pH, DO, Res Cl, Su	onsidered field parameters	Yes ✓	No 🗌	
Temp Blank received in all sh	nipping container(s)/cooler(s)?	Yes 🗸	No 🗌	Not Applicable
Container/Temp Blank tempe	erature:	22.4°C No Ice		
Containers requiring zero heabubble that is <6mm (1/4").	adspace have no headspace or	Yes	No 🗌	No VOA vials submitted
Water - pH acceptable upon	receipt?	Yes 🗌	No 🗌	Not Applicable 🔽

### **Standard Reporting Procedures:**

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

### **Contact and Corrective Action Comments:**

None

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# Chain of Custody and Analytical Request Record

of 1

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1162 z > ပ Sampler: (Please Print) EPA/State Compliance: □ 8 ATINO ESU VACTAROEAJ Quote/Bottle Order: Receipt Temp Kristopher Bosch **Custody Seal** Cooler ID(s): On Cooler On Cooler Signature Match On Ice: Intact Signature Yes RUSH sample submittal Contact ELI prior to scheduling – See Instruction Page for charges and Comments: Purchase Order: (406)291-2617 Sample Origin Σ State: (Provide as much information as possible.) Date/Time: Date/Time: Cell I S Standard Turnaround (TAT) SEE ATTACHED REQUESTED Received by (print) Received by (print) (406)291-2617 Phone/Fax: Project Name, PWS, Permit, Etc. ARWW&S, RDU3, 0232257.03 ANALYSIS Signature 17:10 Kevin Bethke (406)586-8364 Invoice Contact & Phone: PLEASE PRINT Contact Name: 7 1 B5361 - Lime Quality Garrett Craig Mumber of Containers
Sample Type: A W S V B O DW
Air Water Soils/Soilds
Vegetation Bioassay Other
DW - Drinking Water MATRIX ഗ S 12:00 EDD/EDT (Electronic Data) Collection 1015 S Montana St Suite C, Butte MT, 59701 15:00 15:05 ☐ No Hard Copy Email; kbethke@woodardcurran.com ■ No Hard Copy Email: gcraig@woodardcurran.com Date/Time: 07/13/22 1800 Koch Suite A, Bozeman MT, 59715 07/12/2022 07/12/2022 Collection Date LEVEL IV Format: NELAC Relinquished by (print) Name, Location, Interval, etc. Report Mail Address (Required): SAMPLE IDENTIFICATION Hannah Foster Special Report/Formats Invoice Address (Required): 22RDU3\_SBL\_018 22RDU3 SBL 019 POTW/WTP Woodard & Curran Company Name: MUST be Custody Other: Record State: M 10 9 8

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

7

Lab Disposal:

Return to Client:

Sample Disposal:

Signed

## ATTACHMENT C FABRIC SPECIFICATION SHEET



**GEOTEX**® **801** is a polypropylene, staple fiber, needlepunched nonwoven geotextile produced by Propex, and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The fibers are needled to form a stable network that retains dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils.

**GEOTEX 801** conforms to the property values listed below<sup>1</sup>. Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). This product is NTPEP approved for AASHTO standards.

		M	ARV <sup>2</sup>		
PROPERTY	TEST METHOD	ENGLISH	METRIC		
ORIGIN OF MATERIALS	<u> </u>				
% U.S. Manufactured Inputs		100%	100%		
% U.S. Manufactured		100%	100%		
MECHANICAL	·				
Tensile Strength (Grab)	ASTM D-4632	205 lbs	912 N		
Elongation	ASTM D-4632	50%	50%		
CBR Puncture	ASTM D-6241	525 lbs	2336 N		
Trapezoidal Tear	ASTM D-4533	80 lbs	356 N		
ENDURANCE	·				
UV Resistance % Retained at 500 hrs	ASTM D-4355	70%	70%		
HYDRAULIC					
Apparent Opening Size (AOS) <sup>3</sup>	ASTM D-4751	80 US Std. Sieve	0.180 mm		
Permittivity	ASTM D-4491	1.5 sec <sup>-1</sup>	1.5 sec <sup>-1</sup>		
Water Flow Rate	ASTM D-4491	110 gpm/ft <sup>2</sup>	4482 l/min/m <sup>2</sup>		
	[				
ROLL SIZES		12.5 ft x 360 ft	3.81 m x 109.8 m		
		15 ft x 300 ft	4.57 m x 91.5 m		

### NOTES:

- 1. The property values listed above are effective 04/2011 and are subject to change without notice.
- Values shown are in weaker principal direction. Minimum average roll values (MARV) are calculated as the typical minus two standard deviations.
   Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- 3. Maximum average roll value.



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# ATTACHMENT D TYPE B MATERIAL BORROW STOCKPILE DATA

## APPENDIX D - TYPE B MATERIAL QA DATA (From CS OU)

			As	Cd	Cu	Pb	Zn	Hg
Sample ID	Date Collected	Butte Hill Reveg Spec:	< 97 mg/kg	< 4 mg/kg	< 250 mg/kg	< 100 mg/kg	< 250 mg/kg	< 5 mg/kg
1 20-CS-Type B-1203-001	12/03/20		5.8	0.08	10.9	4.7	21.7	-
2 20-CS-Type B-1203-002	12/03/20		4.5	0.10	12.3	4.9	25.8	-
3 20-CS-Type B-1203-003	12/03/20		3.4	Non Detect	8.7	4.7	19.4	-
4 20-CS-Type B-1203-004	12/03/20		8.3	0.13	17.2	6.3	29.7	-
5 20-CS-Type B-1203-005	12/03/20		7.7	0.11	16.8	7.1	29.9	-
6 20-CS-Type B-1203-006	12/03/20		7.8	0.10	14.6	5.9	28.2	-
7 20-CS-Type B-1203-007	12/03/20	Volume Tested: Approximatley	10.9	0.09	13.7	5.4	25.7	-
8 20-CS-Type B-1203-008	12/03/20		5.0	0.11	10.5	4.8	23.5	-
9 20-CS-Type B-1203-009	12/03/20		10.1	0.11	18.2	6.7	31.7	-
10 20-CS-Type B-1203-010	12/03/20	5,000 cy	5.7	0.09	12.6	5.5	26.2	-
11 20-CS-Type B-1203-011	12/03/20		3.9	Non Detect	8.6	4.0	20.8	-
12 20-CS-Type B-1203-012	12/03/20		3.8	0.09	8.9	5.3	26.7	-
13 21-TypeB-0817-001	08/17/21		-	-	-	-	-	0.02
14 21-TypeB-0817-002	08/17/21		-	-	-		-	0.02
15 21-TypeB-0817-003	08/17/21		-	-	-	-	-	0.01
16 21-TypeB-0817-004	08/17/21		-	-	-		-	0.02
		MAX:	10.9	0.13	18.2	7.1	31.7	0.02
		MIN:	3.4	0.08	8.6	4.0	19.4	0.01
		AVE:	6.4	0.10	12.8	5.4	25.8	0.02

## ATTACHMENT D-1 PACE ANALYTICAL DATA REPORTS





December 11, 2020

Jesse Schwarzrock Pioneer Technical Services 307 E Park Suite 421 Anaconda, MT 59711

RE: Project: CS OU Borrow Development

Pace Project No.: 10541146

### Dear Jesse Schwarzrock:

Enclosed are the analytical results for sample(s) received by the laboratory on December 04, 2020. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the TNI standards, BP LaMP Technical Requirements Revision 12.1, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Anderson jennifer.anderson@pacelabs.com (612)607-6436 Project Manager

Inder

**Enclosures** 

cc: Jennifer Norman, Portage Inc.







### **CERTIFICATIONS**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air

Lab

A2LA Certification #: 2926.01\* Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009\*

Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014\* Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 Colorado Certification #: MN00064

Connecticut Certification #: PH-0256 EPA Region 8+Wyoming DW Certification #: via MN 027-

053-137

Florida Certification #: E87605\*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 5 10167

lowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: Al-03086\*
Louisiana DW Certification #: MN00064

Maine Certification #: MN00064\* Maryland Certification #: 322

Massachusetts DWP Certification #: via MN 027-053-137

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137\*

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240\*

Mississippi Certification #: MN00064 Missouri Certification #: 10100

Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081\*
New Jersey Certification #: MN002
New York Certification #: 11647\*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530

North Dakota Certification #: R-036 Ohio DW Certification #: 41244 Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507\*

Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001\*
Pennsylvania Certification #: 68-00563\*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192\*
Utah Certification #: MN00064\*

Vermont Certification #: VT-027053137 Virginia Certification #: 460163\* Washington Certification #: C486\* West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

\*Please Note: Applicable air certifications are denoted with

an asterisk (\*).

### **REPORT OF LABORATORY ANALYSIS**

(612)607-1700



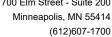
### **SAMPLE SUMMARY**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10541146001	20-CS-TypeB-1203-001	Solid	12/03/20 10:30	12/04/20 10:40
10541146002	20-CS-TypeB-1203-002	Solid	12/03/20 10:35	12/04/20 10:40
10541146003	20-CS-TypeB-1203-003	Solid	12/03/20 10:40	12/04/20 10:40
10541146004	20-CS-TypeB-1203-004	Solid	12/03/20 10:45	12/04/20 10:40
10541146005	20-CS-TypeB-1203-005	Solid	12/03/20 10:50	12/04/20 10:40
10541146006	20-CS-TypeB-1203-006	Solid	12/03/20 10:55	12/04/20 10:40
10541146007	20-CS-TypeB-1203-007	Solid	12/03/20 11:00	12/04/20 10:40
10541146008	20-CS-TypeB-1203-008	Solid	12/03/20 11:05	12/04/20 10:40
10541146009	20-CS-TypeB-1203-009	Solid	12/03/20 11:10	12/04/20 10:40
10541146010	20-CS-TypeB-1203-010	Solid	12/03/20 11:15	12/04/20 10:40
10541146011	20-CS-TypeB-1203-011	Solid	12/03/20 11:20	12/04/20 10:40
10541146012	20-CS-TypeB-1203-012	Solid	12/03/20 11:25	12/04/20 10:40

### REPORT OF LABORATORY ANALYSIS





### **SAMPLE ANALYTE COUNT**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10541146001	20-CS-TypeB-1203-001	EPA 6020A	RJS		PASI-M
10541146002	20-CS-TypeB-1203-002	EPA 6020A	RJS	5	PASI-M
10541146003	20-CS-TypeB-1203-003	EPA 6020A	RJS	5	PASI-M
10541146004	20-CS-TypeB-1203-004	EPA 6020A	RJS	5	PASI-M
10541146005	20-CS-TypeB-1203-005	EPA 6020A	RJS	5	PASI-M
10541146006	20-CS-TypeB-1203-006	EPA 6020A	RJS	5	PASI-M
10541146007	20-CS-TypeB-1203-007	EPA 6020A	RJS	5	PASI-M
10541146008	20-CS-TypeB-1203-008	EPA 6020A	RJS	5	PASI-M
10541146009	20-CS-TypeB-1203-009	EPA 6020A	RJS	5	PASI-M
10541146010	20-CS-TypeB-1203-010	EPA 6020A	RJS	5	PASI-M
10541146011	20-CS-TypeB-1203-011	EPA 6020A	RJS	5	PASI-M
10541146012	20-CS-TypeB-1203-012	EPA 6020A	RJS	5	PASI-M

PASI-M = Pace Analytical Services - Minneapolis





### **PROJECT NARRATIVE**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Method: EPA 6020A

Description: 6020A MET ICPMS
Client: BPAR-PIONEER-MT
Date: December 11, 2020

### **General Information:**

12 samples were analyzed for EPA 6020A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3050B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

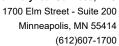
All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.





Project: CS OU Borrow Development

Pace Project No.: 10541146

Cadmium

Date: 12/11/2020 10:35 AM

Copper

Lead

Zinc

Sample: 20-CS-TypeB-1203-001 Lab ID: 10541146001 Collected: 12/03/20 10:30 Received: 12/04/20 10:40 Matrix: Solid Results reported on a "wet-weight" basis **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual Analytical Method: EPA 6020A Preparation Method: EPA 3050B **6020A MET ICPMS** Pace Analytical Services - Minneapolis 5.8 mg/kg 0.49 20 12/08/20 16:12 12/10/20 14:13 7440-38-2 Arsenic

0.078

0.98

0.20

4.9

20

20

20

20

12/08/20 16:12 12/10/20 14:13 7440-43-9

12/08/20 16:12 12/10/20 14:13 7440-50-8

12/08/20 16:12 12/10/20 14:13 7439-92-1

12/08/20 16:12 12/10/20 14:13 7440-66-6

0.081

10.9

4.7

21.7

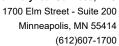
mg/kg

mg/kg

mg/kg

mg/kg

### **REPORT OF LABORATORY ANALYSIS**



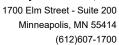


Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Results reported on a "wet-weight" basis												
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual				
6020A MET ICPMS	Analytical Met		OA Preparation Me	ethod: E	EPA 3050B							
Arsenic	4.5	mg/kg	0.46	20	12/08/20 16:12	12/10/20 14:29	7440-38-2					
Cadmium	0.10	mg/kg	0.074	20	12/08/20 16:12	12/10/20 14:29	7440-43-9					
Copper	12.3	mg/kg	0.93	20	12/08/20 16:12	12/10/20 14:29	7440-50-8					
Lead	4.9	mg/kg	0.19	20	12/08/20 16:12	12/10/20 14:29	7439-92-1					
Zinc	25.8	mg/kg	4.6	20	12/08/20 16:12	12/10/20 14:29	7440-66-6					





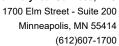
Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Results reported on a "wet-weight" basis											
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
6020A MET ICPMS	Analytical Met Pace Analytica		0A Preparation Me Iinneapolis	thod: E	EPA 3050B						
Arsenic	3.4	mg/kg	0.49	20	12/08/20 16:12	12/10/20 14:32	7440-38-2				
Cadmium	ND	mg/kg	0.078	20	12/08/20 16:12	12/10/20 14:32	7440-43-9				
Copper	8.7	mg/kg	0.98	20	12/08/20 16:12	12/10/20 14:32	7440-50-8				
Lead	4.7	mg/kg	0.20	20	12/08/20 16:12	12/10/20 14:32	7439-92-1				
Zinc	19.4	mg/kg	4.9	20	12/08/20 16:12	12/10/20 14:32	7440-66-6				

### **REPORT OF LABORATORY ANALYSIS**



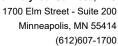


Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Met	hod: EPA 6020	OA Preparation Me	thod: E	PA 3050B			
	Pace Analytica	al Services - M	linneapolis					
Arsenic	8.3	mg/kg	0.47	20	12/08/20 16:12	12/10/20 14:41	7440-38-2	
Cadmium	0.13	mg/kg	0.075	20	12/08/20 16:12	12/10/20 14:41	7440-43-9	
Copper	17.2	mg/kg	0.94	20	12/08/20 16:12	12/10/20 14:41	7440-50-8	
Lead	6.3	mg/kg	0.19	20	12/08/20 16:12	12/10/20 14:41	7439-92-1	
Zinc	29.7	mg/kg	4.7	20	12/08/20 16:12	12/10/20 14:41	7440-66-6	





Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Lead

Zinc

Sample: 20-CS-TypeB-1203-005 Lab ID: 10541146005 Collected: 12/03/20 10:50 Received: 12/04/20 10:40 Matrix: Solid Results reported on a "wet-weight" basis **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual Analytical Method: EPA 6020A Preparation Method: EPA 3050B **6020A MET ICPMS** Pace Analytical Services - Minneapolis 7.7 mg/kg 0.47 20 12/08/20 16:12 12/10/20 14:45 7440-38-2 Arsenic Cadmium 0.11 mg/kg 0.075 20 12/08/20 16:12 12/10/20 14:45 7440-43-9 Copper 16.8 mg/kg 0.93 20 12/08/20 16:12 12/10/20 14:45 7440-50-8

0.19

4.7

20

20

12/08/20 16:12 12/10/20 14:45 7439-92-1

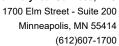
12/08/20 16:12 12/10/20 14:45 7440-66-6

7.1

29.9

mg/kg

mg/kg





Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Sample: 20-CS-TypeB-1203-006 Lab ID: 10541146006 Collected: 12/03/20 10:55 Received: 12/04/20 10:40 Matrix: Solid

Results reported on a "wet-wei	<b>ght" basis</b> Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Metl		— ————————————————————————————————————	thod: E	EPA 3050B	•	-	
Arsenic	7.8	mg/kg	0.48	20	12/08/20 16:12	12/10/20 14:48	7440-38-2	
Cadmium	0.10	mg/kg	0.077	20	12/08/20 16:12	12/10/20 14:48	7440-43-9	
Copper	14.6	mg/kg	0.96	20	12/08/20 16:12	12/10/20 14:48	7440-50-8	
Lead	5.9	mg/kg	0.19	20	12/08/20 16:12	12/10/20 14:48	7439-92-1	
Zinc	28.2	mg/kg	4.8	20	12/08/20 16:12	12/10/20 14:48	7440-66-6	





Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Lead

Zinc

Sample: 20-CS-TypeB-1203-007 Lab ID: 10541146007 Collected: 12/03/20 11:00 Received: 12/04/20 10:40 Matrix: Solid Results reported on a "wet-weight" basis **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual Analytical Method: EPA 6020A Preparation Method: EPA 3050B **6020A MET ICPMS** Pace Analytical Services - Minneapolis 10.9 mg/kg 0.49 20 12/08/20 16:12 12/10/20 14:51 7440-38-2 Arsenic Cadmium 0.091 mg/kg 0.078 20 12/08/20 16:12 12/10/20 14:51 7440-43-9 Copper 13.7 mg/kg 0.98 20 12/08/20 16:12 12/10/20 14:51 7440-50-8

0.20

4.9

20

20

12/08/20 16:12 12/10/20 14:51 7439-92-1

12/08/20 16:12 12/10/20 14:51 7440-66-6

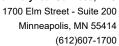
5.4

25.7

mg/kg

mg/kg

### **REPORT OF LABORATORY ANALYSIS**





Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Copper

Lead

Zinc

Sample: 20-CS-TypeB-1203-008 Lab ID: 10541146008 Collected: 12/03/20 11:05 Received: 12/04/20 10:40 Matrix: Solid Results reported on a "wet-weight" basis **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual Analytical Method: EPA 6020A Preparation Method: EPA 3050B **6020A MET ICPMS** Pace Analytical Services - Minneapolis 5.0 mg/kg 0.47 20 12/08/20 16:12 12/10/20 14:54 7440-38-2 Arsenic Cadmium 0.11 mg/kg 0.075 20 12/08/20 16:12 12/10/20 14:54 7440-43-9

0.94

0.19

4.7

20

20

20

12/08/20 16:12 12/10/20 14:54 7440-50-8

12/08/20 16:12 12/10/20 14:54 7439-92-1

12/08/20 16:12 12/10/20 14:54 7440-66-6

10.5

4.8

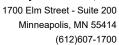
23.5

mg/kg

mg/kg

mg/kg

### **REPORT OF LABORATORY ANALYSIS**



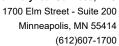


Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Met Pace Analytica		0A Preparation Me linneapolis	thod: E	EPA 3050B			
Arsenic	10.1	mg/kg	0.46	20	12/08/20 16:12	12/10/20 14:57	7440-38-2	
Cadmium	0.11	mg/kg	0.073	20	12/08/20 16:12	12/10/20 14:57	7440-43-9	
Copper	18.2	mg/kg	0.92	20	12/08/20 16:12	12/10/20 14:57	7440-50-8	
Lead	6.7	mg/kg	0.18	20	12/08/20 16:12	12/10/20 14:57	7439-92-1	
Zinc	31.7	mg/kg	4.6	20	12/08/20 16:12	12/10/20 14:57	7440-66-6	





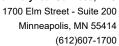
Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Sample: 20-CS-TypeB-1203-010 Lab ID: 10541146010 Collected: 12/03/20 11:15 Received: 12/04/20 10:40 Matrix: Solid Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6020A MET ICPMS	Analytical Met	hod: EPA 6020	A Preparation Me	thod: E	EPA 3050B				
Pace Analytical Services - Minneapolis									
Arsenic	5.7	mg/kg	0.48	20	12/08/20 16:12	12/10/20 15:00	7440-38-2		
Cadmium	0.094	mg/kg	0.076	20	12/08/20 16:12	12/10/20 15:00	7440-43-9		
Copper	12.6	mg/kg	0.95	20	12/08/20 16:12	12/10/20 15:00	7440-50-8		
Lead	5.5	mg/kg	0.19	20	12/08/20 16:12	12/10/20 15:00	7439-92-1		
Zinc	26.2	mg/kg	4.8	20	12/08/20 16:12	12/10/20 15:00	7440-66-6		



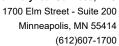


Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Met	hod: EPA 6020	0A Preparation Me	thod: E	PA 3050B			
	Pace Analytica	al Services - M	linneapolis					
Arsenic	3.9	mg/kg	0.49	20	12/08/20 16:12	12/10/20 15:03	7440-38-2	
Cadmium	ND	mg/kg	0.078	20	12/08/20 16:12	12/10/20 15:03	7440-43-9	
Copper	8.6	mg/kg	0.97	20	12/08/20 16:12	12/10/20 15:03	7440-50-8	
Lead	4.0	mg/kg	0.19	20	12/08/20 16:12	12/10/20 15:03	7439-92-1	
Zinc	20.8	mg/kg	4.9	20	12/08/20 16:12	12/10/20 15:03	7440-66-6	





Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Results reported on a "wet-weig	ght" basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Met Pace Analytica		0A Preparation Me linneapolis	ethod: E	EPA 3050B			
Arsenic	3.8	mg/kg	0.48	20	12/08/20 16:12	12/10/20 15:06	7440-38-2	
Cadmium	0.094	mg/kg	0.077	20	12/08/20 16:12	12/10/20 15:06	7440-43-9	
Copper	8.9	mg/kg	0.96	20	12/08/20 16:12	12/10/20 15:06	7440-50-8	
Lead	5.3	mg/kg	0.19	20	12/08/20 16:12	12/10/20 15:06	7439-92-1	
Zinc	26.7	mg/kg	4.8	20	12/08/20 16:12	12/10/20 15:06	7440-66-6	



### **QUALITY CONTROL DATA**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

QC Batch: 714545 Analysis Method: EPA 6020A

QC Batch Method: EPA 3050B Analysis Description: 6020A Solids UPD4

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10541146001, 10541146002, 10541146003, 10541146004, 10541146005, 10541146006, 10541146007,

10541146008, 10541146009, 10541146010, 10541146011, 10541146012

METHOD BLANK: 3814382 Matrix: Solid

Associated Lab Samples: 10541146001, 10541146002, 10541146003, 10541146004, 10541146005, 10541146006, 10541146007,

10541146008, 10541146009, 10541146010, 10541146011, 10541146012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.46	12/10/20 14:05	
Cadmium	mg/kg	ND	0.073	12/10/20 14:05	
Copper	mg/kg	ND	0.92	12/10/20 14:05	
Lead	mg/kg	ND	0.18	12/10/20 14:05	
Zinc	mg/kg	ND	4.6	12/10/20 14:05	

LABORATORY CONTROL SAMPLE:	3814383	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	47.2	42.7	90	80-120	
Cadmium	mg/kg	47.2	44.1	93	80-120	
Copper	mg/kg	47.2	46.6	99	80-120	
Lead	mg/kg	47.2	46.7	99	80-120	
Zinc	mg/kg	47.2	45.0	95	80-120	

MATRIX SPIKE & MATRIX SI	PIKE DUPLI	CATE: 3814	384		3814385							
			MS	MSD								
		10541146001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	5.8	47.2	49	43.7	47.4	80	85	75-125	8	20	
Cadmium	mg/kg	0.081	47.2	49	41.6	45.2	88	92	75-125	8	20	
Copper	mg/kg	10.9	47.2	49	54.3	59.1	92	98	75-125	9	20	
Lead	mg/kg	4.7	47.2	49	47.3	52.3	90	97	75-125	10	20	
Zinc	mg/kg	21.7	47.2	49	62.1	68.3	86	95	75-125	10	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**

(612)607-1700



### **QUALIFIERS**

Project: CS OU Borrow Development

Pace Project No.: 10541146

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

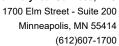
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Date: 12/11/2020 10:35 AM

### **REPORT OF LABORATORY ANALYSIS**





### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: CS OU Borrow Development

Pace Project No.: 10541146

Date: 12/11/2020 10:35 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10541146001	20-CS-TypeB-1203-001	EPA 3050B	714545	EPA 6020A	714943
10541146002	20-CS-TypeB-1203-002	EPA 3050B	714545	EPA 6020A	714943
10541146003	20-CS-TypeB-1203-003	EPA 3050B	714545	EPA 6020A	714943
10541146004	20-CS-TypeB-1203-004	EPA 3050B	714545	EPA 6020A	714943
10541146005	20-CS-TypeB-1203-005	EPA 3050B	714545	EPA 6020A	714943
10541146006	20-CS-TypeB-1203-006	EPA 3050B	714545	EPA 6020A	714943
10541146007	20-CS-TypeB-1203-007	EPA 3050B	714545	EPA 6020A	714943
10541146008	20-CS-TypeB-1203-008	EPA 3050B	714545	EPA 6020A	714943
10541146009	20-CS-TypeB-1203-009	EPA 3050B	714545	EPA 6020A	714943
10541146010	20-CS-TypeB-1203-010	EPA 3050B	714545	EPA 6020A	714943
10541146011	20-CS-TypeB-1203-011	EPA 3050B	714545	EPA 6020A	714943
10541146012	20-CS-TypeB-1203-012	EPA 3050B	714545	EPA 6020A	714943

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# Laboratory Management Program LaMP Chain of Custody Record

Page\_\_1\_\_of\_\_1\_\_

Rush TAT:

Req Due Date (mm/dd/yy):	Lab Work Order Number:
3P Site Node Path:	BP Facility No:

Lab N	Lab Name: Pace Anal	Pace Analytical Services			Facility Address:	Addre	SS:								Const	Consultant/Contractor:		ioneer Te	Pioneer Technical Services	rices	
Lab 4	Address: 1700 Elm	Lab Address: 1700 Elm Street Minneapolis, MN 55414	IN 55414		City, S	tate, Zl	City, State, ZIP Code:	<i>i</i> :							Const	itant/Cont	Consultant/Contractor Project No:		CS OU Bon	CS OU Borrow Development	nent
Lab PM:	PM: Jennifer Anderson	Inderson			Lead F	Regulat	Lead Regulatory Agency:	ency:							Address:	1	307 E Park Suite 421, Anaconda MT, 59711	421, Anac	onda MT, 5	3711	
Lab F	Lab Phone: 612-607-1700	1700			Califon	nia Glo	California Global ID No.	.: 9							Const	ltant/Conti	Consultant/Contractor PM: Jesse Schwarzrock	esse Schv	warzrock		
Lab S	Lab Shipping Acent:				Enfos Proposal No:	Propos	ial No:								£	Phone: 406-697-0949	97-0949	E .	ail: jschwar technica	Email: jschwarzrock@pioneer- technical.com	Jer-
Lab E	ab Bottle Order No:				Accounting Mode:	M Guite	ode:	۵	Provision	ŀ					Email	Email EDD To:	Jesse Schwarzrock	arzrock			
Other	Other Info: Profile: 35	Profile: 35746, Line 3			Stage:			`	Activity:						Invoice To:	- To:	HB.		Contractor	×	
BP P	BP Project Manager (PM): Luke Pokorny	): Luke Pokomy			2	Matrix		No. C	ontain	ers / F	Containers / Preservative	rative		å	quested	Requested Analyses		L	Report T	Report Type & QC Level	evel
ВРР	BP PM Phone: 406-723-1832	1832			$\vdash$	_			L			<u></u>							To a	Standard x	
BP P	BP PM Email: luke.pokorny@bp.com	corny@bp.com						S											Full Data Package	ackage	
Lab No.		Sample Description	Date	Ti Be	bilo2 \ lio2	Water / Liquid Air / Vapor	le this location a well?	Total Number of Container	Unpreserved	EONH	ЮН	Methanol	As, Cd, Cu, Pb, ZN by 6020				-		ა 	Соттепть	
	20-CS-TypeB-1203-001	3-001	12/03/20	10:30	×			<u>_</u>					×				8				i.
	20-CS-TypeB-1203-002	3-002	12/03/20	10:35	×			1					×				837	- 1			
	20-CS-TypeB-1203-003	3-003	12/03/20	10:40	×			1					×				8	100		. • •	
	20-CS-TypeB-1203-004	3-004	12/03/20	54:01	×			-					×	·			$\omega_{t}$	ريون			
	20-CS-TypeB-1203-005	3-005	12/03/20	10:55	×			_					×				8	١٨			
	20-CS-TypeB-1203-006	3-006	12/03/20	10:55	×			-					×				$\infty$	ة و	EACEDIC	OF CACE DISC. TUESE CAMORES	20101
	20-CS-TypeB-1203-007	3-007	12/03/20	1:B	×			-					×				8	7		, HEST 9	CHILLIA
	20-CS-TypeB-1203-008	3-008	12/03/20	11:08	×			-					×				00	احد			
	20-CS-TypeB-1203-009	3-009	12/03/20	0):/1	×			-					×				8	9			
	20-CS-TypeB-1203-010	3-010	12/03/20	91:11	×			-					×				0	0			
	20-CS-TypeB-1203-011	3-011	12/03/20	2:3	×			_	-				×				07,		•		
	20-CS-TypeB-1203-012	3-012	12/03/20	11:25	×	_		1					×				0/2	2			
Samp	Sampler's Name:	Cole Dallasепта			Ì	֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡֡	Reling	Relinquished By / Affiliation	By / A	ffiliati	uo		Date	Time		Acc	Accepted By / Affiliation	Affiliation	٠.	Date	Time
Samp	Sampler's Company:	Pioneer Technical Services	services		1	6	13		3	7	275		13/3/00	Œ; W		Z	7	7 <u>a</u> C		07/4/21	Ohel
Shipn	Shipment Method:	FedEx Overnight Ship Date	Ship Date: 12	13/20	,					╮						-			:		
Shipn	Shipment Tracking No:																	i			
Spec	Special Instructions:																				
	THIS LINE - LAB LIS	THIS LINE - LAB U.S.F. ONLY Custody Seals in Place (788 / No	Seals in Placer	Ves / No	Tem	p Blan	Temp Blank: 1691 No	g	_ ŏ	oler Te	no du	Receipt:	Cooler Temp on Receipt: 2.7	°F/C	— F	Trip Blank: Yes / NO	(\$\int \)	MS/MSD	Sample St	MS/MSD Sample Submitted: Yes / MS	ZZ.

WO#:10541146

Page 21 of 22

## Pace Analytical\*

### Document Name:

### Sample Condition Upon Receipt (SCUR) - ESI

Document Revised: 12Aug2020

Page 1 of 1

Document No.: ENV-FRM-MIN4-0149 Rev.01

Pace Analytical Services - Minneapolis

Sample Condition Client Name:		Proj	ect #:					
Upon Receipt – ESI				1.1	Λ#·	1 0	<b>7444</b>	6
BP- ploneer tech				W	UH·	TA	<u>54114</u>	0
DP Plonece 1000				PM	: JMA		Due Date:	12/19/20
Courier: ☐ Fed Ex ☐ UPS ☐ USPS	□Clie	nt				D D701		12/10/20
Pace SpeeDee Commer	cial			· CL	CENT: B	P-PIOR	IEER	
	Se	e Exceptio	ns 🖂	\				)
Tracking Number: 4279 9929 1428		V-FRM-MIN	14-0142					
Custody Seal on Cooler/Box Present? Yes No	Seals	s Intact?	ΣY	es □No	Biolo	gical Tiss	ue Frozen? 🔲	Yes □No ဩN/A
	None	Other	r:			Tei	mp Blank? 💢	Yes □No
Thermometer:       ☐ T1(0461) ☑ T2(1336) ☐ T3(0459)         ☐ T4(0254) ☐ T5(0489)	Type of Ice	<i>-</i>	<i>N</i> et	□Blue	□None	□Dry	Melted	
Temp should be above freezing to 6°C Cooler Temp Read w/t	emp blank:_	2,5			oc	_	e Corrected	See Exceptions
Correction Factor: +0.2 Cooler Temp Corrected w/to	awan blank s	7. =	2		٥С		no temp blank °C	ENV-FRM-MIN4-0142
		<i></i>				only): .	12-12-	1 Container
USDA Regulated Soil: ( N/A, water sample/Other:				Initials of Pe		_		<del> </del>
Did samples originate in a quarantine zone within the United Stat				, .		~_	urce (internationa	ally, including
ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?		No No		vaii and Puerto	•	\ 		
If Yes to either question, fill out a Regula	tea Soil Che	CKIIST (F-N	VIN-Q-:	338) and inci	luae with			
						сомм	ENTS:	· 
	Yes No		1.					
	Yes No	<b></b>	2.					
	Yes No	□N/A	3.					
Samples Arrived within Hold Time?	Yes □No		<b>4</b> .	Tracel Californ	- Dunc E	Takal Calif	inner /F and i Class	/cBOD Hex Chrome
Short Hold Time Analysis (<72 hr)?	Yes 🔏 No			Turbidity []!				CBOD Hex Chrome
Rush Turn Around Time Requested?	Yes 🔲 No		6.				Lilopinos 🗀	
	Yes □No						-	
·	Yes No	<b>⊠</b> N/A	7.					
Correct Containers Used?	Yes No		8. 6	lastiz	bear			
	Yes 🛛 No		<u> </u> -	IMILO	bags			
	Yes No	<u>k-</u> 7	9.					
	Yes No	XÎ N/A					ed container? 🔲	
Is sufficient information available to reconcile the samples to the COC $\sqrt{M}$	Yes 🗌 No		11. 11	no, write ID/ [	Jate/ Ilme o	n containe	er Below:	See Exception L  ENV-FRM-MIN4-0142
Matrix: ☐ Water ဩSoil ☐ Oil ☐ Other								
All containers needing acid/base preservation have been			12. Sa	mple#				
checked?	Yes 🗌 No	Ø N/A						
All containers needing preservation are found to be in compliance with EPA recommendation?		da .		☐ NaOH	H	INO₃	∐H₂SO₄	☐Zinc Acetate
compliance with EPA recommendation ?   (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	Yes □No	J <b>∑</b> N/A						
		<b></b>	Positi	ve for Res.	Yes			See Exception
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease,	res □No	<b>☑</b> N/A	Chlori	=	]No	рН Рар	er Lot#	ENV-FRM-MIN4-0142
DRO/8015 (water) and Dioxin/PFAS *If adding preservative to a container it must be added to associated field and equipment blanks	lvarify with P	M first)		hlorine	0-6 Roll	<u> </u>	0-6 Strip	0-14 Strip
a container it must be added to associated field and equipment blanks	(verny with	, 3,					,	
Extra labels present on soil VOA or WIDRO contaners?	Yes No	[X]N/A	13.					See Exception
Headspace in VOA Vials (greater than 6mm)?	Yes 🗌 No	X N/A						ENV-FRM-MIN4-0140
3 Trip Blanks Present?		<b>∏</b> N/A	14.					
Trip Blank Custody Seals Present?	Yes No	√N/A		Pace Trip Bla	nk Lot#(if	purchase	d):	
Temp Log: Temp must be maintained at <6°C during login, record temp every								
20 mins			ON/RE	SOLUTION			Data Required	?
Opened Time: 1158 Temp: 2.5 Corrected Temp: 2.7	Person Co					Date	/Time:	
Time: put in cooler	Comments	/Resolut	ion:					
Time: 1218 Temp: 3,3   Corrected Temp: 3,5								
Project Manager Review:					Date	<u></u> 12	/07/2020	
Note: Whenever there is a discrepancy affecting North Carolina compli	ance samples,	a copy of	this for	m will be sent			DEHNR Certificat	ion Office ( i.e out of
hold, incorrect preservative, out of temp, incorrect containers)	,	• •	-		•		,	,

Labeled by: TMC 3Page 22 of 22

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700



August 25, 2021

Jesse Schwarzrock Pioneer Technical Services 307 E Park Suite 421 Anaconda, MT 59711

RE: Project: BPSOU School Sampling Pace Project No.: 10574925

Dear Jesse Schwarzrock:

Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2021. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the TNI standards, BP LaMP Technical Requirements Revision 12.1, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Anderson jennifer.anderson@pacelabs.com (612)607-6436 Project Manager

Inder

**Enclosures** 

cc: Lester Dupes, Environmental Standards Alyssa Reed, Environmental Standards, Inc.





### **CERTIFICATIONS**

Project: BPSOU School Sampling

Pace Project No.: 10574925

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air

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A2LA Certification #: 2926.01\* Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009\*

Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014\* Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137 Florida Certification #: E87605\* Georgia Certification #: 959 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368

Kansas Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: Al-03086\*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064\* Maryland Certification #: 322 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137\*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240\* Mississippi Certification #: MN00064 Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081\*
New Jersey Certification #: MN002
New York Certification #: 11647\*
North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101 Ohio VAP Certification (1800) #: CL110\*

Oklahoma Certification #: 9507\*

Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001\*
Pennsylvania Certification #: 68-00563\*
Puerto Rico Certification #: MN00064
South Carolina Certification #: TN02818
Texas Certification #: T104704192\*
Utah Certification #: MN00064\*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163\*

Vermont Certification #: V1-027033137
Virginia Certification #: 460163\*
Washington Certification #: C486\*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

\*Please Note: Applicable air certifications are denoted with

an asterisk (\*).

### **REPORT OF LABORATORY ANALYSIS**



### **SAMPLE SUMMARY**

Project: BPSOU School Sampling

Pace Project No.: 10574925

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10574925001	21-TypeB-0817-001	Solid	08/17/21 11:20	08/18/21 08:50
10574925002	21-TypeB-0817-002	Solid	08/17/21 11:30	08/18/21 08:50
10574925003	21-TypeB-0817-003	Solid	08/17/21 11:40	08/18/21 08:50
10574925004	21-TypeB-0817-004	Solid	08/17/21 11:50	08/18/21 08:50

### **REPORT OF LABORATORY ANALYSIS**



### **SAMPLE ANALYTE COUNT**

Project: BPSOU School Sampling

Pace Project No.: 10574925

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10574925001	21-TypeB-0817-001	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574925002	21-TypeB-0817-002	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574925003	21-TypeB-0817-003	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574925004	21-TypeB-0817-004	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis





### **PROJECT NARRATIVE**

Project: BPSOU School Sampling

Pace Project No.: 10574925

**Date:** August 25, 2021

Samples analyzed for method 6020 arsenic and lead were analyzed after they were dried and sieved using a number 60 sieve.

### **REPORT OF LABORATORY ANALYSIS**



### **PROJECT NARRATIVE**

Project: BPSOU School Sampling

Pace Project No.: 10574925

Method: EPA 7471B
Description: 7471B Mercury
Client: BPAR-PIONEER-MT
Date: August 25, 2021

### **General Information:**

4 samples were analyzed for EPA 7471B by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 7471B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project: BPSOU School Sampling

Pace Project No.: 10574925

Date: 08/25/2021 05:32 PM

Sample: 21-TypeB-0817-001 Lab ID: 10574925001 Collected: 08/17/21 11:20 Received: 08/18/21 08:50 Matrix: Solid

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	,	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.018	mg/kg	0.018	0.0077	1	08/23/21 17:49	08/25/21 14:51	7439-97-6			
Dry Weight / %M by ASTM D2974	•	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	0.99	%	0.10	0.10	1		08/20/21 13:56		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574925

Date: 08/25/2021 05:32 PM

Sample: 21-TypeB-0817-002 Lab ID: 10574925002 Collected: 08/17/21 11:30 Received: 08/18/21 08:50 Matrix: Solid

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.017	mg/kg	0.017	0.0073	1	08/23/21 17:49	08/25/21 14:57	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	1.4	%	0.10	0.10	1		08/20/21 13:56		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574925

Date: 08/25/2021 05:32 PM

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	,	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.013J	mg/kg	0.020	0.0088	1	08/23/21 17:49	08/25/21 14:59	7439-97-6			
Dry Weight / %M by ASTM D2974	•	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	1.1	%	0.10	0.10	1		08/20/21 13:56		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574925

Date: 08/25/2021 05:32 PM

Sample: 21-TypeB-0817-004 Lab ID: 10574925004 Collected: 08/17/21 11:50 Received: 08/18/21 08:50 Matrix: Solid

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.018J	mg/kg	0.020	0.0088	1	08/23/21 17:49	08/25/21 15:01	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	1.1	%	0.10	0.10	1		08/20/21 13:57		N2		



### **QUALITY CONTROL DATA**

Project: BPSOU School Sampling

Pace Project No.: 10574925

QC Batch: 765313 Analysis Method: EPA 7471B

QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574925001, 10574925002, 10574925003, 10574925004

METHOD BLANK: 4079252 Matrix: Solid

Associated Lab Samples: 10574925001, 10574925002, 10574925003, 10574925004

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/kg <0.0079 0.018 0.0079 08/25/21 14:48

LABORATORY CONTROL SAMPLE: 4079253

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Mercury 0.47 0.48 102 80-120 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4079254 4079255

MS MSD

10574925001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Result % Rec % Rec **RPD** RPD Qual Result Conc. Conc. Limits 0.018 0.51 100 20 Mercury mg/kg 0.48 0.5 0.51 98 80-120

SAMPLE DUPLICATE: 4079256

Date: 08/25/2021 05:32 PM

10574925001 Dup Max RPD RPD Qualifiers Parameter Units Result Result 0.018 0.018 0 20 Mercury mg/kg

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



### **QUALITY CONTROL DATA**

Project: BPSOU School Sampling

Pace Project No.: 10574925

QC Batch: 764856 Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574925001, 10574925002, 10574925003, 10574925004

SAMPLE DUPLICATE: 4077836

 Parameter
 Units
 10574920001 Result
 Dup Result
 Max RPD
 RPD
 Qualifiers

 Percent Moisture
 %
 16.2
 17.7
 9
 30 N2

SAMPLE DUPLICATE: 4077837

Date: 08/25/2021 05:32 PM

		10574716004	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	19.4	21.0	8	3	0 N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALIFIERS**

Project: BPSOU School Sampling

Pace Project No.: 10574925

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### **ANALYTE QUALIFIERS**

Date: 08/25/2021 05:32 PM

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

### **REPORT OF LABORATORY ANALYSIS**



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: BPSOU School Sampling

Pace Project No.: 10574925

Date: 08/25/2021 05:32 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574925001	21-TypeB-0817-001	EPA 7471B	765313	EPA 7471B	765752
10574925002	21-TypeB-0817-002	EPA 7471B	765313	EPA 7471B	765752
10574925003	21-TypeB-0817-003	EPA 7471B	765313	EPA 7471B	765752
10574925004	21-TypeB-0817-004	EPA 7471B	765313	EPA 7471B	765752
10574925001	21-TypeB-0817-001	ASTM D2974	764856		
10574925002	21-TypeB-0817-002	ASTM D2974	764856		
10574925003	21-TypeB-0817-003	ASTM D2974	764856		
10574925004	21-TypeB-0817-004	ASTM D2974	764856		

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# Laboratory Management Program LaMP Chain of Custody Record

Lab Work Order Number: Req Due Date (mm/dd/yy): BP Site Node Path: BP Facility No:

Rush TAT:

Page\_\_1\_\_of\_\_1\_

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Time Report Type & QC Level Nate: If cample not collected indicate "No Email: jschwarzrock@pioneer-technical.com **BPSOU School Sampling** Date Comments Full Data Package Standard \_ Contractor X RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND Pioneer Technical Services 307 E Park Suite 421, Anaconda MT, 59711 JO#: 10574925 Consultant/Contractor PM: Jesse Schwarzrock S B Accepted By / Affiliation Jesse Schwarzrock Consultant/Contractor Project No: Phone: 406-697-0949 Consultant/Contractor: Mar. 0574925 Requested Analyses Email EDD To: Invoice To: Address: ングで Time 8/13/21 171 Mercury, dry weight × × × × Date Air dry&sieve\*, 6020 (As, Cd, Cu, Pb, Containers / Preservative Disser Methanol HCI Relinquished By / Affiliation EONH Provision **≯OSZH Activity** Mobile Sprannall Unpreserved Š. Lead Regulatory Agency: California Global ID No.: Total Number of Containers City, State, ZIP Code: Enfos Proposal No: s this location a well? Accounting Mode: Facility Address: Matrix Air / Vapor Water / Liquid Stage: bilo2 \ lio2 × × × × 8/17/2021 1150 30 37.5 Time 0 703 08/17/21 08/17/21 08/17/21 08/17/21 Date FedEx Overnight Ship Date: 1700 Elm Street Minneapolis, MN 55414 Pioneer.Technical Services Shighent Tracking No: 4378 9935 BP Project Manager (PM): Mike Mc Anulty Molly Sprunger Pace Analytical Services Sample Description mcanumc@bp.com Jennifer Anderson 612-607-1700 BP PM Phone: 406-723-1822 21-TypeB-0817-002 21-TypeB-0817-003 21-TypeB-0817-004 21-TypeB-0817-001 Special Instructions: ab Shipping Accnt: ab Bottle Order No: Sampler's Company: Shighent Method: Sampler's Name: BP PM Email: ab Address: ab Phone: ab Name: Other Info: ab PM: Lab No.

BP Remediation Management COC - Effective Date: starting August 16, 2011. THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes No

BP LaMP COC Rev. 8, 24 June 2012 MS/MSD Sample Submitted: Yes(1 No

Trip Blank: Yes (No

, F/C

Cooler Temp on Receipt: 5.4

Temp Blank; Yes / No



### **Document Name:**

### Sample Condition Upon Receipt (SCUR) - ESI

Document Revised: 12Aug2020

Page 1 of 1

	Document No.: ENV-FRM-MIN4-0149 Rev.01	Pace Analytical Services -  Minneapolis
Sample Condition Upon Receipt – ESI Tech Specs Client Name:	Project #:	IO#:10574925
Courier: Fed Ex UPS Pace SpeeDee	e Commercial Cl	M: JMA Due Date: 08/25/21 LIENT: BP-PIONEER
Tracking Number: 4278 9935 (	703 See Exceptions L ENV-FRM-MIN4-0142	
Custody Seal on Cooler/Box Present?	es 🗌 No <b>Seals Intact? </b> 🗖 Yes 🔲	No Biological Tissue Frozen? Yes No N/A
Packing Material: Bubble Wrap Bubble	ubble Bags None Other:	Temp Blank?
Thermometer:	T3(0459) Type of Ice: Wet 🗆 Blue	None Dry Melted
	corrected w/temp blank: 5.4  Corrected w/temp blank: 5.4	OC Average Corrected Temp (no temp blank OC only):  OC only):  OC OL ONLY OC
USDA Regulated Soil: ( N/A, water sample/ODDid samples originate in a quarantine zone within ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA ( If Yes to either question, file	the United States: AL, AR, CA, FL, GA, Did samples of	
		COMMENTS:
Chain of Custody Present and Filled Out?	Yes No 1.	
Chain of Custody Relinquished? Sampler Name and/or Signature on COC?		**************************************
Sampler Name and/or Signature on Cocr	Yes □No □N/A 3.	

				COMMENTS:	
Chain of Custody Present and Filled Out?	✓Yes	□No		1.	
Chain of Custody Relinquished?	Yes	□No		2.	
Sampler Name and/or Signature on COC?	Yes	□No	□N/A	3.	
Samples Arrived within Hold Time?	Yes	□No		4.	
Short Hold Time Analysis (<72 hr)?	□Yes	₽Ño		5. Fecal Coliform HPC Total Coliform/E coli BOD Turbidity Nitrate Nitrite Orthophos	/cBOD Hex Chrome
Rush Turn Around Time Requested?	√Yes	□No		6.	
Sufficient Sample Volume?	Yes	□No			
Triple Volume Provided for MS/MSD (if more than 10 samples)?	Yes	□No		7.	
Correct Containers Used?	Yes	□No		8.	******
-Pace Containers Used?	Yes	□No			
Containers Intact?	Yes	□No		9.	
Field Filtered Volume Received for Dissolved Tests?	Yes	□No	ZN/A	10. Is sediment visible in the dissolved container?	Yes No
Is sufficient information available to reconcile the samples to the COC	Yes	□No		11. If no, write ID/ Date/Time on Container Below:	See Exception  ENV-FRM-MIN4-0142
Matrix: Water Soil Oil Other			,	,	FIAA-LVIAI-IAIIIAA-0145
All containers needing acid/base preservation have been				12. Sample #	
checked?	□Yes	□No.	ØN/A	·	
All containers needing preservation are found to be in				☐ NaOH ☐ HNO₃ ☐ H₂SO₄	Zinc Acetate
compliance with EPA recommendation?	□Yes	□No	√N/A		
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)			/ <b></b>	•	•
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease,	□Yes	ΠÑο	⊠N/A	Positive for Res. Yes	See Exception
DRO/8015 (water) and Dioxin/PFAS *If adding preservative to			<b>/</b> 211//	Chlorine? No pH Paper Lot#	ENV-FRM-MIN4-0142
a container it must be added to associated field and equipment b	olanks (ve	rify with F	PM first)	Res. Chlorine 0-6 Roll 0-6 Strip	0-14 Strip .
Extra labels present on soil VOA or WIDRO contaners?	□Yes		Zhu	12	
Headspace in VOA Vials (greater than 6mm)?	Yes	□No □No	Øn/a Øn/a	13.	See Exception ENV-FRM-MIN4-0140
3 Trip Blanks Present?	Yes	□No	ZÎN/A	14.	
Trip Blank Custody Seals Present?	Yes	□No	Øn/a	Pace Trip Blank Lot # (if purchased):	
Temp Log: Temp must be maintained at <6°C during login, record temp ev	erv				
30	′   _	LICAIT NI	TIEICATI	ON/DECOLUTION Sield Date Beauties	15 Dv Dv-

Opened Time: 11:30 5.4 Corrected Temp: 5.4 Person Contacted: Comments/Resolution: Time: put in cooler JMA 8/19/21 Corrected Temp: Time: Temp: 08/19/2021 **Project Manager Review:** Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Labeled by: \_

# ATTACHMENT E AGENCY APPROVED KAW AVENUE BORROW STOCKPILE DATA

Source: <u>Kaw Avenue Stockpile</u>
Sample #: <u>BPSOU-KAW-1</u>

Description	Speci	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)						Organic Matter (%)
A	s <	97	26.9	Χ		3.70
Co	d <	4	0.9	X		
Cu	u <	250	66.9	X		Soil Nutrients
Hg	q <	5	0.03	X		
Pi	-	100	29.4	X		N (mg/kg) N/A
Zı	n <	250	132.0	X		P (mg/kg) N/A
pH (s.u.)			•			K (mg/kg) N/A
	> <	5.5 8.5	7.9	Χ		
SAR						
	<	12	1.12	X		
Saturation (%)						
	<	85	42.7	Х		
	>	25	42.1	^		
EC (mmhos/cm)						
	<	4	1.3	Χ		
Textural Classification	<u>n</u>					Particle Size
(USDA) <2.0 mm						Sand (%) 52
		Loam		Χ		Silt (%) 28
		andy loam				Clay (%) 20
	-	clay loam				
		Sandy clay				
		Clay loam				
	0:14	Silty clay				
	Silty	clay loam				
		Silt loam Silt				
*Dor EDA App	roval (La					
*Per EPA App	iovai (L08	anny sand)				
Rock Content (%)						
(by volume)	<	45	13.1	Χ		

<u>Legena:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

<b>Atlantic Richfield Representative:</b>	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA Digitally signed by NIKIA GREENE Date: 2021.08.27 11:11:04-06'00'	Date:		
MT DEQ Representative:	Clay Reel	Date:	8/27/2021	

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-2</u>

Description	<b>Specification</b>	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)					Organic Matter (%)
As	< 97	15.9	Х		3.50
Cd	< 4	0.5	Х		
Cu	< 250	36.2	Х		Soil Nutrients
Hg	< 5	0.02	Х		
Pb	< 100	16.0	Х		N (mg/kg) N/A
Zn	< 250	76.0	Х		P (mg/kg) N/A
pH (s.u.)					K (mg/kg) N/A
	> 5.5	8.0	Х		
	< 8.5	6.0	^		
SAR					
	< 12	0.77	X		
Saturation (%)					
	< 85	43.7	Х		
	> 25	43.7	^		
EC (mmhos/cm)					
	< 4	0.9	Χ		
Textural Classification					Particle Size
(USDA) <2.0 mm					Sand (%) 44
	Loam		Χ		Silt (%) 32
	Sandy loam				Clay (%) 24
	Sandy clay loam				
	Sandy clay				
	Clay loam				
	Silty clay				
	Silty clay loam				
	Silt loam				
*D	Silt				
*Per EPA Appro	oval (Loamy sand)				
Rock Content (%)					
(by volume)	< 45	17.3	Х		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA Digitally signed by NIKIA GREENE Date: 2021.08.27 11:12:44 -06'00'	_Date:		
MT DEQ Representative:	ClayReel	_Date:	8/27/2021	
	U			

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-3</u>

Description	Speci	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)						Organic Matter (%)
As	s <	97	29.8	Х		3.60
Co	d <	4	0.8	Χ		
Cu	u <	250	64.7	Х		Soil Nutrients
Hg	g <	5	0.02	Χ		
PI	b <	100	23.8	Χ		N (mg/kg) N/A
Zı	n <	250	103.0	X		P (mg/kg) N/A
pH (s.u.)						K (mg/kg) N/A
	> <	5.5 8.5	7.8	Χ		
SAR						
	<	12	0.78	X		
Saturation (%)						
	<	85	44.4	Х		
	>	25	44.4	^		
EC (mmhos/cm)						
	<	4	1.5	X		
Textural Classification	<u>1</u>					Particle Size
(USDA) <2.0 mm						Sand (%) 42
		Loam		X		Silt (%) 32
		andy loam				Clay (%) 26
		clay loam				
		Sandy clay				
		Clay loam				
	0.11	Silty clay				
	Silty	clay loam				
		Silt loam				
*D FDA A		Silt				
*Per EPA App	roval (Loa	amy sand)				
Rock Content (%)						
(by volume)	<	45	12.5	Χ		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA Digitally signed NIKIA GREENE Date: 2021.08.27 11:16:08 -06'00'			
MT DEQ Representative:	Clay Reel	Date:	8/27/2021	

Source: <u>Kaw Avenue Stockpile</u>
Sample #: <u>BPSOU-KAW-4</u>

Description		Specif	ication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)							Organic Matter (%)
	As	<	97	31.0	Χ		3.50
	Cd	<	4	0.8	Χ		
	Cu	<	250	77.9	Χ		Soil Nutrients
	Hg	<	5	0.03	X		
	Pb	<	100	26.6	X		N (mg/kg) N/A
	Zn	<	250	129.0	Χ		P (mg/kg) N/A
pH (s.u.)							K (mg/kg) N/A
		> <	5.5 8.5	7.7	Χ		
SAR				•			
		<	12	0.56	X		
Saturation (%)							
		<	85	49.4	Х		
		>	25	49.4	^		
EC (mmhos/cm)							
		<	4	1.5	Χ		
Textural Classification	<u>on</u>						Particle Size
(USDA) <2.0 mm							Sand (%) 34
		0	Loam				Silt (%) 38
			ndy loam				Clay (%) 28
			clay loam				
			andy clay		V		
		(	Clay loam		Х		
		Silty	Silty clay clay loam				
		Silty	Silt loam				
			Silt				
*Per EPA Ap	anro	wal (Loa					
1012177	opi0	vai (Loa	iniy sand)				
Rock Content (%)							
(by volume)		<	45	12.2	Χ		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21
EPA Representative:	NIKIA  Digitally signed by NIKIA GREENE  Date: 2021.08.27 11:17:59-06'00'	Date:	
MT DEQ Representative:	ClayReel	Date:	8/27/2021

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-5</u>

Description	Speci	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)						Organic Matter (%)
A	s <	97	33.9	Х		3.80
Co	d <	4	0.9	Х		
Cı	u <	250	78.2	X		Soil Nutrients
H		5	0.03	X		
Pi		100	26.9	X		N (mg/kg) N/A
Zi		250	127.0	X		P (mg/kg) N/A
pH (s.u.)						K (mg/kg) N/A
	> <	5.5 8.5	7.8	Χ		
SAR						
	<	12	0.47	Χ		
Saturation (%)			•			
	<	85	52.2	Х		
	>	25	52.2	^		
EC (mmhos/cm)						
	<	4	1.0	X		
Textural Classification	<u>n</u>					Particle Size
(USDA) <2.0 mm						Sand (%) 28
	_	Loam				Silt (%) 42
		andy loam				Clay (%) 30
		clay loam				
		Sandy clay				
		Clay loam		Χ		
	0.11	Silty clay				
	Silty	clay loam				
		Silt loam				
*Day EDA Ann		Silt				
*Per EPA App	novai (L0a	amy sand)				
Rock Content (%)						
(by volume)	<	45	9.3	Χ		

<u>Legend:</u>	_
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative	Mclhulty Date:	8-21-21	
NIKIA EPA Representative:  GREET	Digitally signed by NIKIA GREENE Date: 2021.08.27 11:19:54-0600' Date:		
MT DEQ Representative:	Date:	8/27/2021	

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-6</u>

Description		Specif	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)							Organic Matter (%)
	As	<	97	43.4	Х		3.70
	Cd	<	4	1.0	Х		<u> </u>
	Cu	<	250	99.3	Х		Soil Nutrients
	Hg	<	5	0.03	Х		
	Pb	<	100	36.1	Х		N (mg/kg) N/A
	Zn	<	250	143.0	Х		P (mg/kg) N/A
pH (s.u.)							K (mg/kg) N/A
		>	5.5	7.9	Х		
		<	8.5	7.9	^		
SAR							
		<	12	0.88	Х		
Saturation (%)							
		<	85	49.2	Х		
		>	25	43.2	^		
EC (mmhos/cm)							
		<	4	1.4	Х		
Textural Classificat							Particle Size
(USDA) <2.0 mm	<u>1</u>						Sand (%) <u>34</u>
			Loam		X		Silt (%) 40
			andy loam				Clay (%) 26
			clay loam				
			andy clay				
		(	Clay loam				
			Silty clay				
		Silty	clay loam				
			Silt loam				
			Silt				
*Per EPA A	Appro	val (Loa	amy sand)				
Rock Content (%)							
(by volume)		<	45	11.0	X		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA Digitally signed by NIKIA GREENE Date: 2021.08.27	Date:		
MT DEQ Representative:	ClayReel	Date:	8/27/2021	

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-7</u>

Description	Speci	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)						Organic Matter (%)
A	s <	97	36.6	Χ		4.10
C	d <	4	0.9	X		
С	u <	250	85.7	X		Soil Nutrients
H	q <	5	0.03	X		
Р	-	100	28.8	X		N (mg/kg) N/A
Z	n <	250	133.0	X		P (mg/kg) N/A
pH (s.u.)			•			K (mg/kg) N/A
	> <	5.5 8.5	7.5	Χ		
SAR						
	<	12	0.39	X		
Saturation (%)						
	<	85	49.3	Х		
	>	25	49.5	^		
EC (mmhos/cm)						
	<	4	1.3	Χ		
Textural Classification	<u>n</u>					Particle Size
(USDA) <2.0 mm						Sand (%) <u>32</u>
		Loam				Silt (%) 40
		andy loam				Clay (%) 28
		clay loam				
		Sandy clay				
		Clay loam		Χ		
	0.114	Silty clay				
	Silty	clay loam				
		Silt loam				
*D ED A		Silt				
*Per EPA App	orovai (Lo	amy sand)				
Rock Content (%)						
(by volume)	<	45	11.5	Χ		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA Digitally signed by NIKIA GREENE Date: 2021.08.27 11:24:49 -06'00'	Date:		
MT DEQ Representative:	Clay Reel	_Date:	8/27/2021	

Source: <u>Kaw Avenue Stockpile</u> Sample #: <u>BPSOU-KAW-8</u>

Description		Speci	fication	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)							Organic Matter (%)
	As	<	97	37.8	Х		3.70
	Cd	<	4	0.9	Х		
	Cu	<	250	82.9	X		Soil Nutrients
	Hg	<	5	0.03	Х		
	Pb	<	100	27.5	X		N (mg/kg) N/A
	Zn	<	250	131.0	X		P (mg/kg) N/A
pH (s.u.)							K (mg/kg) N/A
		>	5.5				( 3 9/1
		<	8.5	7.4	Χ		
SAR							
		<	12	0.79	X		
Saturation (%)							
		<	85	45.7	V		
		>	25	45.7	Х		
EC (mmhos/cm)							
		<	4	2.1	Χ		
<b>Textural Classificat</b>							Particle Size
(USDA) <2.0 mm	<u>1</u>						Sand (%) 46
			Loam		Χ		Silt (%) 28
		Sa	andy loam				Clay (%) 26
		Sandy	clay loam				
		S	Sandy clay				
			Clay loam				
			Silty clay				
		Silty	clay loam				
			Silt loam				
			Silt				
*Per EPA A	ppro	oval (Loa	amy sand)				
Rock Content (%)							
(by volume)		<	45	12.2	Χ		

<u>Legend:</u>	
# Value	- Criteria met
# Value	- Does not meet Criteria

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21	
EPA Representative:	NIKIA GREENE GREENE Date: 2021.08.27 11:26:25	Date:		
MT DEQ Representative:	ClayReel	Date:	8/27/2021	

# ATTACHMENT E-1 ENERGY LABS DATA REPORT

### **ANALYTICAL SUMMARY REPORT**

August 20, 2021

Pioneer Technical Services 307 E Park Ste 421 Anaconda, MT 59711-2300

Work Order: B21081152 Quote ID: B5332

Project Name: BPSOU School Sampling

Energy Laboratories Inc Billings MT received the following 8 samples for Pioneer Technical Services on 8/12/2021 for analysis.

Lab ID	Client Sample ID	Collect Date Receive Date	e Matrix	Test
B21081152-001	BPSOU-KAW-1	08/10/21 12:30 08/12/21	Soil	Metals, Saturated Paste Conductivity, Saturated Paste Extract Organic Carbon/Matter Walkley- Black pH, Saturated Paste Saturated Paste Extraction ASA Particle Size Analysis / Texture Sodium Adsorption Ratio Saturation Percentage Sieve Analysis, Dry
B21081152-002	BPSOU-KAW-2	08/10/21 12:35 08/12/21	Soil	Same As Above
B21081152-003	BPSOU-KAW-3	08/10/21 12:40 08/12/21	Soil	Same As Above
B21081152-004	BPSOU-KAW-4	08/10/21 12:45 08/12/21	Soil	Same As Above
B21081152-005	BPSOU-KAW-5	08/10/21 12:50 08/12/21	Soil	Same As Above
B21081152-006	BPSOU-KAW-6	08/10/21 12:55 08/12/21	Soil	Same As Above
B21081152-007	BPSOU-KAW-7	08/10/21 13:00 08/12/21	Soil	Same As Above
B21081152-008	BPSOU-KAW-8	08/10/21 13:05 08/12/21	Soil	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

Report Date: 08/20/21

CLIENT: Pioneer Technical Services
Project: BPSOU School Sampling

Work Order: B21081152 CASE NARRATIVE

Tests associated with analyst identified as ELI-H were subcontracted to Energy Laboratories, 3161 East Lyndale Ave, Helena, MT, EPA Number MT00945.





Prepared by Billings, MT Branch

Client: Pioneer Technical Services Project: **BPSOU School Sampling** Lab ID: B21081152-001

Client Sample ID: BPSOU-KAW-1

Report Date: 08/20/21 Collection Date: 08/10/21 12:30 DateReceived: 08/12/21

Matrix: Soil

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	52	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	28	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	20	%		1		ASA15-5	08/19/21 12:17 / eli-h
Геxture	L			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
oH, sat. paste	7.9	s.u.		0.1		ASA10-3	08/19/21 08:57 / eli-h
Conductivity, sat. paste	1.3	mmhos/cm		0.1		ASA10-3	08/19/21 12:46 / eli-h
Saturation	42.7	%		0.1		USDA27a	08/19/21 08:37 / eli-h
Calcium, sat. paste	6.10	meq/L		0.05		SW6010B	08/19/21 23:25 / eli-h
Magnesium, sat. paste	3.16	meq/L		0.08		SW6010B	08/19/21 23:25 / eli-h
Sodium, sat. paste	2.41	meq/L		0.04		SW6010B	08/19/21 23:25 / eli-h
Sodium Adsorption Ratio (SAR)	1.12	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	3.7	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	5.8	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained	13.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	81.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit Definitions:

QCL - Quality Control Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Pioneer Technical Services Project: **BPSOU School Sampling** Lab ID: B21081152-002

Client Sample ID: BPSOU-KAW-2

Collection Date: 08/10/21 12:35 DateReceived: 08/12/21 Matrix: Soil

Report Date: 08/20/21

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	44	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	32	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	24	%		1		ASA15-5	08/19/21 12:17 / eli-h
Texture	L			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
pH, sat. paste	8.0	s.u.		0.1		ASA10-3	08/19/21 08:57 / eli-h
Conductivity, sat. paste	0.9	mmhos/cm		0.1		ASA10-3	08/19/21 12:47 / eli-h
Saturation	43.7	%		0.1		USDA27a	08/19/21 08:37 / eli-h
Calcium, sat. paste	4.38	meq/L		0.05		SW6010B	08/19/21 23:42 / eli-h
Magnesium, sat. paste	2.60	meq/L		0.08		SW6010B	08/19/21 23:42 / eli-h
Sodium, sat. paste	1.44	meq/L		0.04		SW6010B	08/19/21 23:42 / eli-h
Sodium Adsorption Ratio (SAR)	0.77	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	3.5	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	< 0.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit Definitions:

QCL - Quality Control Limit

MCL - Maximum Contaminant Level



Matrix: Soil



Client Sample ID: BPSOU-KAW-3

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client:Pioneer Technical ServicesReport Date:08/20/21Project:BPSOU School SamplingCollection Date:08/10/21 12:40Lab ID:B21081152-003DateReceived:08/12/21

MCL/ RL **Result Units** Qualifiers QCL Method Analysis Date / By **Analyses** PHYSICAL CHARACTERISTICS 42 % ASA15-5 08/19/21 12:17 / eli-h Sand 1 Silt 32 % 1 ASA15-5 08/19/21 12:17 / eli-h Clay 26 % 1 ASA15-5 08/19/21 12:17 / eli-h Texture L 1 ASA15-5 08/19/21 12:17 / eli-h SATURATED PASTE EXTRACT pH, sat. paste 7.8 s.u. 0.1 ASA10-3 08/19/21 08:58 / eli-h 1.5 mmhos/cm 0.1 ASA10-3 08/19/21 12:47 / eli-h Conductivity, sat. paste 44.4 % USDA27a 08/19/21 08:38 / eli-h Saturation 0.1 8.57 meq/L 0.05 SW6010B 08/19/21 23:46 / eli-h Calcium, sat. paste Magnesium, sat. paste 3.22 meq/L 0.08 SW6010B 08/19/21 23:46 / eli-h 1.90 meq/L SW6010B Sodium, sat. paste 0.04 08/19/21 23:46 / eli-h Sodium Adsorption Ratio (SAR) 0.78 unitless USDA20b 0.01 08/20/21 12:23 / eli-h **CHEMICAL CHARACTERISTICS** Organic Matter 3.6 % 0.2 ASA29-3 08/20/21 12:20 / eli-h SIEVE ANALYSIS 1 in (25 mm), Retained 3.6 wt%-dry 0.1 SSSA 15-2 08/17/21 16:35 / eli-h 12.5 wt%-dry SSSA 15-2 08/17/21 16:35 / eli-h No. 10 (2 mm), Retained 0.1 SSSA 15-2 Pan 83.9 wt%-dry 0.1 08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit

**Definitions:** QCL - Quality Control Limit

MCL - Maximum Contaminant Level





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Pioneer Technical Services Report Date: 08/20/21 **BPSOU School Sampling** Project: Collection Date: 08/10/21 12:45 Lab ID: B21081152-004 DateReceived: 08/12/21 Client Sample ID: BPSOU-KAW-4 Matrix: Soil

MCL/ RL **Result Units** Qualifiers QCL Method Analysis Date / By **Analyses** PHYSICAL CHARACTERISTICS 34 % ASA15-5 08/19/21 12:17 / eli-h Sand 1 Silt 38 % 1 ASA15-5 08/19/21 12:17 / eli-h Clay 28 % 1 ASA15-5 08/19/21 12:17 / eli-h Texture CL 1 ASA15-5 08/19/21 12:17 / eli-h SATURATED PASTE EXTRACT pH, sat. paste 7.7 s.u. 0.1 ASA10-3 08/19/21 08:59 / eli-h 0.1 ASA10-3 08/19/21 12:48 / eli-h Conductivity, sat. paste 1.5 mmhos/cm 49.4 % USDA27a 08/19/21 08:38 / eli-h Saturation 0.1 8.03 meq/L 0.05 SW6010B 08/19/21 23:51 / eli-h Calcium, sat. paste Magnesium, sat. paste 3.97 meq/L 0.08 SW6010B 08/19/21 23:51 / eli-h 1.38 meq/L SW6010B Sodium, sat. paste 0.04 08/19/21 23:51 / eli-h Sodium Adsorption Ratio (SAR) 0.56 unitless USDA20b 0.01 08/20/21 12:23 / eli-h

**CHEMICAL CHARACTERISTICS** Organic Matter 3.5 % 0.2 ASA29-3 08/20/21 12:20 / eli-h SIEVE ANALYSIS 1 in (25 mm), Retained < 0.1 wt%-dry 0.1 SSSA 15-2 08/17/21 16:35 / eli-h 12.2 wt%-dry SSSA 15-2 08/17/21 16:35 / eli-h No. 10 (2 mm), Retained 0.1 SSSA 15-2 Pan 87.8 wt%-dry 0.1 08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit

**Definitions:** QCL - Quality Control Limit MCL - Maximum Contaminant Level





Client Sample ID: BPSOU-KAW-5

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Pioneer Technical Services Report Date: 08/20/21 Project: **BPSOU School Sampling** Collection Date: 08/10/21 12:50 Lab ID: B21081152-005 DateReceived: 08/12/21

Matrix: Soil

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	28	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	42	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	30	%		1		ASA15-5	08/19/21 12:17 / eli-h
Texture	CL			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
pH, sat. paste	7.8	s.u.		0.1		ASA10-3	08/19/21 09:00 / eli-h
Conductivity, sat. paste	1.0	mmhos/cm		0.1		ASA10-3	08/19/21 12:49 / eli-h
Saturation	52.2	%		0.1		USDA27a	08/19/21 08:38 / eli-h
Calcium, sat. paste	5.10	meq/L		0.05		SW6010B	08/19/21 23:55 / eli-h
Magnesium, sat. paste	3.13	meq/L		0.08		SW6010B	08/19/21 23:55 / eli-h
Sodium, sat. paste	0.96	meq/L		0.04		SW6010B	08/19/21 23:55 / eli-h
Sodium Adsorption Ratio (SAR)	0.47	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	3.8	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	1.6	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained	9.3	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	89.0	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit

Definitions: QCL - Quality Control Limit MCL - Maximum Contaminant Level





Prepared by Billings, MT Branch

Client: Pioneer Technical Services Project: **BPSOU School Sampling** Lab ID: B21081152-006

Client Sample ID: BPSOU-KAW-6

Collection Date: 08/10/21 12:55 DateReceived: 08/12/21 Matrix: Soil

Report Date: 08/20/21

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	34	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	40	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	26	%		1		ASA15-5	08/19/21 12:17 / eli-h
Texture	L			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
pH, sat. paste	7.9	s.u.		0.1		ASA10-3	08/19/21 09:02 / eli-h
Conductivity, sat. paste	1.4	mmhos/cm		0.1		ASA10-3	08/19/21 12:50 / eli-h
Saturation	49.2	%		0.1		USDA27a	08/19/21 08:38 / eli-h
Calcium, sat. paste	6.64	meq/L		0.05		SW6010B	08/20/21 00:04 / eli-h
Magnesium, sat. paste	4.32	meq/L		0.08		SW6010B	08/20/21 00:04 / eli-h
Sodium, sat. paste	2.06	meq/L		0.04		SW6010B	08/20/21 00:04 / eli-h
Sodium Adsorption Ratio (SAR)	0.88	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	3.7	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	< 0.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit Definitions:

QCL - Quality Control Limit

MCL - Maximum Contaminant Level



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Pioneer Technical Services
Project: BPSOU School Sampling
Lab ID: B21081152-007

Client Sample ID: BPSOU-KAW-7

Collection Date: 08/10/21 13:00
DateReceived: 08/12/21
Matrix: Soil

Report Date: 08/20/21

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	32	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	40			1		ASA15-5	08/19/21 12:17 / eli-h
Clay	28			1		ASA15-5	08/19/21 12:17 / eli-h
Texture	CL			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
pH, sat. paste	7.5	s.u.		0.1		ASA10-3	08/19/21 09:02 / eli-h
Conductivity, sat. paste	1.3	mmhos/cm		0.1		ASA10-3	08/19/21 12:51 / eli-h
Saturation	49.3	%		0.1		USDA27a	08/19/21 08:38 / eli-h
Calcium, sat. paste	7.19	meq/L		0.05		SW6010B	08/20/21 00:51 / eli-h
Magnesium, sat. paste	3.45	meq/L		80.0		SW6010B	08/20/21 00:51 / eli-h
Sodium, sat. paste	0.90	meq/L		0.04		SW6010B	08/20/21 00:51 / eli-h
Sodium Adsorption Ratio (SAR)	0.39	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	4.1	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	< 0.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained	11.5	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	88.5	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit

**Definitions:** QCL - Quality Control Limit

MCL - Maximum Contaminant Level





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Pioneer Technical Services Report Date: 08/20/21 Project: **BPSOU School Sampling** Collection Date: 08/10/21 13:05 Lab ID: B21081152-008 DateReceived: 08/12/21 Client Sample ID: BPSOU-KAW-8 Matrix: Soil

					MCL/		
Analyses	Result	Units	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	46	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	28	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	26	%		1		ASA15-5	08/19/21 12:17 / eli-h
Texture	L			1		ASA15-5	08/19/21 12:17 / eli-h
SATURATED PASTE EXTRACT							
pH, sat. paste	7.4	s.u.		0.1		ASA10-3	08/19/21 09:03 / eli-h
Conductivity, sat. paste	2.1	mmhos/cm		0.1		ASA10-3	08/19/21 12:52 / eli-h
Saturation	45.7	%		0.1		USDA27a	08/19/21 08:39 / eli-h
Calcium, sat. paste	12.8	meq/L		0.05		SW6010B	08/20/21 00:56 / eli-h
Magnesium, sat. paste	3.82	meq/L		80.0		SW6010B	08/20/21 00:56 / eli-h
Sodium, sat. paste	2.29	meq/L		0.04		SW6010B	08/20/21 00:56 / eli-h
Sodium Adsorption Ratio (SAR)	0.79	unitless		0.01		USDA20b	08/20/21 12:23 / eli-h
CHEMICAL CHARACTERISTICS							
Organic Matter	3.7	%		0.2		ASA29-3	08/20/21 12:20 / eli-h
SIEVE ANALYSIS							
1 in (25 mm), Retained	< 0.1	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
No. 10 (2 mm), Retained		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	87.8	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report RL - Analyte Reporting Limit

Definitions: QCL - Quality Control Limit MCL - Maximum Contaminant Level

Prepared by Helena, MT Branch

Client: Pioneer Technical Services Work Order: B21081152 Report Date: 08/20/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD F	RPDLimit Qual
Method: ASA10-3						Ar	nalytical Run	: SOIL EC_210819A
Lab ID: ICV_1_210818_1	Initial Calibra	tion Verification S	Standard					08/19/21 12:43
Conductivity, sat. paste	1.51	mmhos/cm	0.10	107	90	110		
Lab ID: CCV_1_210818_1	Continuing C	alibration Verifica	tion Standa	rd				08/19/21 12:43
Conductivity, sat. paste	5.22	mmhos/cm	0.10	104	90	110		
Lab ID: CCV1_1_210818_1	Continuing C	alibration Verifica	tion Standa	rd				08/19/21 12:44
Conductivity, sat. paste	0.924	mmhos/cm	0.10	92	90	110		
Method: ASA10-3								Batch: 57600
Lab ID: MB-57600	Method Blan	k			Run: SOIL	EC_210819A		08/19/21 12:45
Conductivity, sat. paste	ND	mmhos/cm	0.05					
Lab ID: LCS-57600	Laboratory C	ontrol Sample			Run: SOIL	EC_210819A		08/19/21 12:46
Conductivity, sat. paste	4.37	mmhos/cm	0.10	104	80	120		
Lab ID: B21081152-005ADUP	Sample Dupl				Run: SOIL	EC_210819A		08/19/21 12:49
Conductivity, sat. paste	1.08	mmhos/cm	0.10				3.1	20
Method: ASA10-3					al R	un: SOIL PH I	METER - OR	ION A211_210819A
Lab ID: ICV_1_210818_1		tion Verification S						08/19/21 08:53
pH, sat. paste	7.03	s.u.	0.10	100	98.6	101.4		
Lab ID: CCV_1_210818_1	Continuing C	alibration Verifica	tion Standa	rd				08/19/21 08:54
pH, sat. paste	7.04	s.u.	0.10	101	98.6	101.4		
Lab ID: CCV1_1_210818_1	Continuing C	alibration Verifica	tion Standa	rd				08/19/21 08:55
pH, sat. paste	4.01	s.u.	0.10	100	97.5	102.5		
Method: ASA10-3								Batch: 57600
Lab ID: LCS-57600	Laboratory C	ontrol Sample			Run: SOIL	PH METER -	ORION A2	08/19/21 08:56
pH, sat. paste	8.08	s.u.	0.10	100	95	105		
Lab ID: B21081152-005ADUP	Sample Dupl	icate			Run: SOIL	PH METER -	ORION A2	08/19/21 09:01
pH, sat. paste	7.82	s.u.	0.10				0.3	20

Qualifiers:

RL - Analyte Reporting Limit



Prepared by Helena, MT Branch

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	ASA15-5								Bato	ch: 57612
Lab ID:	B21081152-002ADUP	Sample Duplic	ate			Run: SOIL	HYDROMETE	R_210820	08/19	/21 12:17
Sand		44.0	%	1.0				0.0	20	
Silt		32.0	%	1.0				0.0	20	
Clay		24.0	%	1.0				0.0	20	
Texture		L		1.0						
Lab ID:	LCS-57612	Laboratory Co	ntrol Sample			Run: SOIL	HYDROMETE	R_210820	08/19	/21 12:17
Sand		46.0	%	1.0	110	70	130			
Silt		28.0	%	1.0	88	70	130			
Clay		26.0	%	1.0	100	70	130			



Prepared by Helena, MT Branch

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	ASA29-3								Bate	ch: 57606
<b>Lab ID:</b> Organic Ma	<b>LCS-57606</b> atter	Laboratory Cor 1.13	ntrol Sample %	0.17	116		SOILS_210820/ 130	A	08/20	)/21 12:20
Lab ID: Organic Ma	<b>MB-57606</b> atter	Method Blank ND	%	0.2		Run: MISC	SOILS_210820/	Ą	08/20	)/21 12:20
Lab ID: Organic Ma	<b>B21081152-006ADUP</b> atter	Sample Duplica 3.74	ate %	0.17		Run: MISC	SOILS_210820/	A	08/20	)/21 12:20

Prepared by Helena, MT Branch

Client: Pioneer Technical Services Work Order: B21081152 Report Date: 08/20/21

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	SW6010B						Ana	alytical Ru	ın: ICP2-HE	_210819B
Lab ID:	ICV	Initial Calibra	tion Verificati	on Standard					08/19	9/21 14:52
Calcium		40.3	mg/L	1.0	101	90	110			
Magnesium		39.9	mg/L	1.0	100	90	110			
Sodium		40.0	mg/L	1.0	100	90	110			
Lab ID:	CCV	Continuing C	alibration Ver	rification Standa	rd				08/19	9/21 14:56
Calcium		25.2	mg/L	1.0	101	90	110			
Magnesium		24.9	mg/L	1.0	100	90	110			
Sodium		25.4	mg/L	1.0	102	90	110			
Lab ID:	ICB	Continuing C	alibration Bla	nk					08/19	9/21 15:00
Calcium		0.0347	mg/L	1.0						
Magnesium		0.0127	mg/L	1.0						
Sodium		0.00124	mg/L	1.0						
Lab ID:	ICSA	Interference (	Check Sampl	e A					08/19	9/21 15:09
Calcium		483	mg/L	1.0	97	80	120			
Magnesium		535	mg/L	1.0	107	80	120			
Sodium		-0.00132	mg/L	1.0		0	0			
Lab ID:	ICSAB	Interference (	Check Sampl	e AB					08/19	9/21 15:14
Calcium		489	mg/L	1.0	98	80	120			
Magnesium		536	mg/L	1.0	107	80	120			
Sodium		19.6	mg/L	1.0	98	80	120			
Method:	SW6010B								Bat	tch: 57600
Lab ID:	MB-57600	Method Blanl	<			Run: ICP2-	HE_210819B		08/19	9/21 23:03
Calcium		ND	mg/L	0.1			_			
Magnesium		ND	mg/L	0.02						
Sodium		ND	mg/L	0.02						
Calcium, sa	t. paste	ND	meq/L	0.007						
Magnesium	, sat. paste	ND	meq/L	0.002						
Sodium, sat	i. paste	ND	meq/L	0.0009						
Lab ID:	LFB-57600	Laboratory F	ortified Blank			Run: ICP2-	HE_210819B		08/19	9/21 23:08
Calcium		48.7	mg/L	1.0	97	80	120			
Magnesium		52.8	mg/L	1.0	106	80	120			
Sodium		52.4	mg/L	1.0	105	80	120			
Calcium, sa		2.43	meq/L	0.050	97	80	120			
Magnesium	, sat. paste	4.35	meq/L	0.082	106	80	120			
Sodium, sat	t. paste	2.28	meq/L	0.043	105	80	120			
Lab ID:	LCS-57600	Laboratory C					HE_210819B		08/19	9/21 23:12
Calcium		209	mg/L	1.0	96	70	130			
Magnesium		80.6	mg/L	1.0	95	70	130			
Sodium		692	mg/L	1.0	113	70	130			

Qualifiers:

RL - Analyte Reporting Limit

Prepared by Helena, MT Branch

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	SW6010B								Bat	ch: 57600
Lab ID:	LCS-57600	Laboratory Co	ontrol Sample			Run: ICP2-	HE_210819B		08/19	)/21 23:12
Calcium, sa	at. paste	10.4	meq/L	0.050	96	70	130			
Magnesium	ı, sat. paste	6.64	meq/L	0.082	95	70	130			
Sodium, sa	t. paste	30.1	meq/L	0.043	113	70	130			
Lab ID:	B21081152-001AMS2	Sample Matri	x Spike			Run: ICP2-	HE_210819B		08/19	)/21 23:34
Calcium		215	mg/L	1.0	92	70	130			
Magnesium	l	141	mg/L	1.0	102	70	130			
Sodium		162	mg/L	1.0	107	70	130			
Calcium, sa	at. paste	10.7	meq/L	0.050	92	70	130			
Magnesium	ı, sat. paste	11.6	meq/L	0.082	102	70	130			
Sodium, sa	t. paste	7.04	meq/L	0.043	107	70	130			
Lab ID:	B21081152-001AMSD2	Sample Matri	x Spike Duplicate			Run: ICP2-	HE_210819B		08/19	/21 23:38
Calcium		217	mg/L	1.0	95	70	130	1.2	20	
Magnesium	ı	142	mg/L	1.0	104	70	130	0.9	20	
Sodium		157	mg/L	1.0	102	70	130	3.0	20	
Calcium, sa	at. paste	10.8	meq/L	0.050	95	70	130	1.2	20	
Magnesium	ı, sat. paste	11.7	meq/L	0.082	104	70	130	0.9	20	
Sodium, sa	t. paste	6.83	meq/L	0.043	102	70	130	3.0	20	
Lab ID:	B21081152-005Adup	Sample Dupli	cate			Run: ICP2-	HE_210819B		08/19	/21 23:59
Calcium		104	mg/L	1.0				1.9	30	
Magnesium	ı	38.8	mg/L	1.0				1.9	30	
Sodium		22.9	mg/L	1.0				3.8	30	
Calcium, sa	at. paste	5.20	meq/L	0.050				1.9	30	
Magnesium	ı, sat. paste	3.19	meq/L	0.082				1.9	30	
Sodium, sa	t. paste	0.994	meq/L	0.043				3.8	30	

Billings, MT 800.735.4489 • Casper, WY 888.235.0515 Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

# **QA/QC Summary Report**

Prepared by Helena, MT Branch

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA20b								Bat	ch: 57600
Lab ID:	B21081152-005ADUP	Sample Duplica	ate			Run: SOIL	CALC_210820A		08/20	/21 12:23
Sodium Ads	sorption Ratio (SAR)	0.480 ເ	unitless	0.10				2.1	30	
Lab ID:	LCS-57600	Laboratory Control Sample				Run: SOIL	CALC_210820A		08/20	)/21 12:23
Sodium Ads	sorption Ratio (SAR)	10.3 ι	unitless	0.10	117	80	120			



Prepared by Helena, MT Branch

Analyte		Result Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA27a							Bato	ch: 57600
Lab ID: Saturation	LCS-57600	Laboratory Control Sample 42.0 %	0.10	101	Run: SOIL 80	DRYING OVE 120	N 2_21082	2 08/19	/21 08:37
Lab ID: Saturation	B21081152-005ADUP	Sample Duplicate 51.1 %	0.10		Run: SOIL	DRYING OVE	N 2_21082 2.3	2 08/19/ 20	/21 08:38

Date Received: 8/12/2021

Login completed by: Richard L Shular

# **Work Order Receipt Checklist**

# Pioneer Technical Services B21081152

gpay.					
Reviewed by:	BL2000\tedwards		Re	eceived by: its	
Reviewed Date:	8/16/2021		Ca	rrier name: FedEx	
Shipping container/cooler in	good condition?	Yes √	No 🗌	Not Present	
Custody seals intact on all sl	hipping container(s)/cooler(s)?	Yes	No 🗌	Not Present ✓	
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present ✓	
Chain of custody present?		Yes √	No 🗌		
Chain of custody signed whe	en relinquished and received?	Yes √	No 🗌		
Chain of custody agrees with	n sample labels?	Yes ✓	No 🗌		
Samples in proper container	/bottle?	Yes ✓	No 🗌		
Sample containers intact?		Yes ✓	No 🗌		
Sufficient sample volume for indicated test?		Yes ✓	No 🗌		
All samples received within h (Exclude analyses that are c such as pH, DO, Res Cl, Su	onsidered field parameters	Yes ✓	No 🗌		
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable	
Container/Temp Blank tempe	erature:	23.0°C No Ice			
Water - VOA vials have zero	headspace?	Yes	No 🗌	No VOA vials submitted	
Water - pH acceptable upon	receipt?	Yes	No 🗌	Not Applicable	

### **Standard Reporting Procedures:**

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

### **Contact and Corrective Action Comments:**

Results due 08/20/21 per Gina Mccartney, Energy Laboratories Project Manager.

$\subseteq$
B
Time

# Laboratory Management Program LaMP Chain of Custody Record

Page\_1\_ of\_1\_

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Rush TAT: Lab Work Order Number: Req Due Date (mm/dd/yy): BP Facility No: BP Site Node Path:

2 9 1	Lab Name Energ	Energy Laboratories			Faci	Facility Address	Mess											8	Ĭ	Consultant/Contractor	ا ق	ğ	Pioneer Technical Services	<b>\$</b>	
1	1 22	1120 S 27th St. Billings MT 58101	3101		ð	100	City, State, ZIP Code	98										S	Anal	Oraco	P P	Consultant/Contractor Project No.	BPSOU School Sampling	ol Sampling	
Lab PM		Gina McCartney	:		3	Lead Regulat	datory	ory Agency	×									Address		07 E P	ark Su	<b>3</b> 421.	307 E Park Suite 421, Anaconda MT, 59711	11	
de l	Lab Phone 800-7	800-735-4489			ð	eirro ei	Slobal	California Global ID No.										Const	Ment	Consultant/Contractor PM:	P.	Ιİ	Jesse Schwarzrock		
Sqe	ab Shipping Acent.				Enfo	s Prog	Enfos Proposal No	9										đ.	one 4	Phone 406-697-0949	960-		Email: jschwerzrocki technical.com	jschwerzrock <b>O</b> pioneer- technical.com	
Lab B	ab Bottle Order No.				Acco	Accounting M	Mode.	aš l	P	Provision -		į	1					Email	Email EDD To		See Sc	Jeese Schwarzrock			
Other Info.	r Imfo.	:			Stage				४	Activity:								Invoice To	<b>●</b> To			- da	Contractor —X	*	
95 4	roject Manager (	BP Project Manager (PM) Mike Mc Anulty				Matrix	ž	<u> </u>	3	Ě	is/	Containers / Preservative	iği X					ested	Requested Analyses	/ses			Report Typ	Report Type & QC Level	79
<u>a</u>	BP PM Phone 406-723-1822	723-1822					$\vdash$	<u> </u>				$\vdash$	<u> </u>	_		<u> </u>				_	-		REPS	Standerd X	
<u>₽</u>	BP PM Email moal	mcanumc@bp com													(ww)			•		ck)			Full Data Package	change —	
<b>4</b> 3		Sample Description	Date	Time	5/108 / 1108	VieteW ↓ Liquid	New Profession a wall at	is this location a well?  Total Number of Containers	Devieseradi	H2504	EONH	нсі	lonartieM	AGSU entixeT	% Course Meterial (1" and 2	egalmeone G notarula 2.	Electrical Conductivity	Sodium Adsorption Ratio	Hq eteaq betanute3	Organic Metter (Welkley Bis			Note if sample not collected, indicate "No Sample" in comments and single-strike out Comments	not collected, indica ments and single-si <b>Comments</b>	ries out
	BPSOU-KAW-1	<u>ر</u> ا	06/10/21	12:30	×		<b></b>	<u> </u>	×		<del>                                     </del>	$\vdash$		×	×	×	×	×	×	×			RUSH TURNAROUND \$210.811.24	UND B21	28118
	BPSOU-KAW-2	-2	08/10/21	12:35	×		_	<u> </u>	x			$\vdash$	$\vdash$	×	×	×	×	×	×	×			RUSH TURNAROUND	OND	505
	BPSOU-KAW-3	<b>્</b>	06/10/21	12:40	×				х			$\vdash$		×	×	×	×	×	×	×			RUSH TURNAROUND	OND	500
	BPSOU-KAW-4	*	06/10/21	12:45	×				X					×	×	×	×	×	×	×			RUSH TURNAROUND	OND	-tet
	BPSOU-KAW-5	(-5	06/10/21	12:50	×		$\vdash$		x				_	×	×	×	×	×	×	×			RUSH TURNAROUND	GND	-ov5
	BPSOU-KAW-6	9-1	06/10/21	12:55	×				X			$\vdash$	-	×	×	×	×	×	×	×	_		RUSH TURNAROUND	GND	امه-
	BPSOU-KAW-7	<i>L</i> -7	06/10/21	13:00	×				×			$\vdash \vdash$		×	×	×	×	×	×	×			RUSH TURNAROUND	QND	لغ
	BPSOUKAW-8	8-1	06/10/21	13:05	×				×		Н	$\vdash$		×	×	×	×	×	×	×			RUSH TURNAROUND	QNS	-90¢
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Same	Sampler's Name.	Kile Denney			1_	1	12	Relinquished By / Affiliation	Į į	<u>۲</u>	į	- -	-	_	ğ	ᄩ	, E		1	8	1 2	y / Am	Accepted By / Affiliation	Dage Dage	Time
Semp	Sampler's Company	Pioneer Technical Services	Services		10	660	100	allacen	3	`	12			119	HIMPS	1600	Q								
Ships	Shipment Method	Fedex	Ship Date \$////	KIII						<b> </b>				$\vdash \vdash$							1				
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BP LaMP COC Rev. 8, 24 June 2012

MS/MSD Sample Submitted: Yes / No

Trip Blank Yes / No

, F/C

Cooler Temp on Receipt.

Temp Blank. Yes / No

# ATTACHMENT E-2 PACE ANALYTICAL DATA REPORT

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700



August 19, 2021

Jesse Schwarzrock Pioneer Technical Services 307 E Park Suite 421 Anaconda, MT 59711

RE: Project: BPSOU School Sampling

Pace Project No.: 10574177

### Dear Jesse Schwarzrock:

Enclosed are the analytical results for sample(s) received by the laboratory on August 12, 2021. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the TNI standards, BP LaMP Technical Requirements Revision 12.1, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Anderson jennifer.anderson@pacelabs.com (612)607-6436 Project Manager

Inder

**Enclosures** 

cc: Cole Dallaserra, Pioneer Technical Jennifer Norman, Portage Inc.





### **CERTIFICATIONS**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air

Lab

A2LA Certification #: 2926.01\* Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009\*

Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014\* Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 Colorado Certification #: MN00064

Connecticut Certification #: PH-0256 EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137 Florida Certification #: E87605\* Georgia Certification #: 959 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368

Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: Al-03086\*
Louisiana DW Certification #: MN00064

Maine Certification #: MN00064\* Maryland Certification #: 322 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137\*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240\* Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064

New Hampshire Certification #: 2081\* New Jersey Certification #: MN002 New York Certification #: 11647\* North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAR Certification (1700) #: CL 101

Ohio VAP Certification (1700) #: CL101 Ohio VAP Certification (1800) #: CL110\*

Oklahoma Certification #: 9507\*

Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001\*
Pennsylvania Certification #: 68-00563\*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192\*
Utah Certification #: MN00064\*
Vermont Certification #: VT-027053137

Vermont Certification #: VI-02/05313/
Virginia Certification #: 460163\*
Washington Certification #: C486\*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

\*Please Note: Applicable air certifications are denoted with

an asterisk (\*).



### **SAMPLE SUMMARY**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10574177001	BPSOU-KAW-1	Solid	08/10/21 12:30	08/12/21 08:50
10574177002	BPSOU-KAW-1	Solid	08/10/21 12:30	08/12/21 08:50
10574177003	BPSOU-KAW-2	Solid	08/10/21 12:35	08/12/21 08:50
10574177004	BPSOU-KAW-2	Solid	08/10/21 12:35	08/12/21 08:50
10574177005	BPSOU-KAW-3	Solid	08/10/21 12:40	08/12/21 08:50
10574177006	BPSOU-KAW-3	Solid	08/10/21 12:40	08/12/21 08:50
10574177007	BPSOU-KAW-4	Solid	08/10/21 12:45	08/12/21 08:50
10574177008	BPSOU-KAW-4	Solid	08/10/21 12:45	08/12/21 08:50
10574177009	BPSOU-KAW-5	Solid	08/10/21 12:50	08/12/21 08:50
10574177010	BPSOU-KAW-5	Solid	08/10/21 12:50	08/12/21 08:50
10574177011	BPSOU-KAW-6	Solid	08/10/21 12:55	08/12/21 08:50
10574177012	BPSOU-KAW-6	Solid	08/10/21 12:55	08/12/21 08:50
10574177013	BPSOU-KAW-7	Solid	08/10/21 13:00	08/12/21 08:50
10574177014	BPSOU-KAW-7	Solid	08/10/21 13:00	08/12/21 08:50
10574177015	BPSOU-KAW-8	Solid	08/10/21 13:05	08/12/21 08:50
10574177016	BPSOU-KAW-8	Solid	08/10/21 13:05	08/12/21 08:50



### **SAMPLE ANALYTE COUNT**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10574177001	BPSOU-KAW-1	EPA 6020A	BWB	5	PASI-M
10574177002	BPSOU-KAW-1	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177003	BPSOU-KAW-2	EPA 6020A	BWB	5	PASI-M
10574177004	BPSOU-KAW-2	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177005	BPSOU-KAW-3	EPA 6020A	BWB	5	PASI-M
10574177006	BPSOU-KAW-3	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177007	BPSOU-KAW-4	EPA 6020A	BWB	5	PASI-M
10574177008	BPSOU-KAW-4	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177009	BPSOU-KAW-5	EPA 6020A	BWB	5	PASI-M
10574177010	BPSOU-KAW-5	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177011	BPSOU-KAW-6	EPA 6020A	BWB	5	PASI-M
10574177012	BPSOU-KAW-6	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177013	BPSOU-KAW-7	EPA 6020A	BWB	5	PASI-M
10574177014	BPSOU-KAW-7	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10574177015	BPSOU-KAW-8	EPA 6020A	BWB	5	PASI-M
10574177016	BPSOU-KAW-8	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis





### **PROJECT NARRATIVE**

Project: BPSOU School Sampling

Pace Project No.: 10574177

**Date:** August 19, 2021

Samples analyzed for method 6020 arsenic, cadmium, copper, lead and zinc were analyzed after they were dried and sieved using a number 60 sieve.



### **PROJECT NARRATIVE**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Method: EPA 6020A

Description: 6020A MET ICPMS
Client: BPAR-PIONEER-MT
Date: August 19, 2021

### **General Information:**

8 samples were analyzed for EPA 6020A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3050B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 764488

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10574177001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 4075058)
  - Zinc

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### **Additional Comments:**



### **PROJECT NARRATIVE**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Method: EPA 7471B
Description: 7471B Mercury
Client: BPAR-PIONEER-MT
Date: August 19, 2021

### **General Information:**

8 samples were analyzed for EPA 7471B by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 7471B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-1 Lab ID: 10574177001 Collected: 08/10/21 12:30 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA	6020A Prepa	aration Met	hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapo	is					
Arsenic	26.9	mg/kg	0.50	0.11	1	08/19/21 08:25	08/19/21 11:57	7440-38-2	
Cadmium	0.90	mg/kg	0.079	0.031	1	08/19/21 08:25	08/19/21 11:57	7440-43-9	
Copper	66.9	mg/kg	0.99	0.24	1	08/19/21 08:25	08/19/21 11:57	7440-50-8	
Lead	29.4	mg/kg	0.20	0.029	1	08/19/21 08:25	08/19/21 11:57	7439-92-1	
Zinc	132	mg/kg	5.0	0.89	1	08/19/21 08:25	08/19/21 11:57	7440-66-6	M1



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-1 Lab ID: 10574177002 Collected: 08/10/21 12:30 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA ytical Service:			hod: El	PA 7471B			
Mercury	0.026	mg/kg	0.022	0.0094	1	08/16/21 13:44	08/18/21 15:47	7439-97-6	
Dry Weight / %M by ASTM D2974	•	Method: ASTI ytical Services		lis					
Percent Moisture	10.5	%	0.10	0.10	1		08/17/21 10:41		N2



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-2 Lab ID: 10574177003 Collected: 08/10/21 12:35 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	•		.6020A Prepa		hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapol	is					
Arsenic	15.9	mg/kg	0.46	0.10	1	08/19/21 08:25	08/19/21 12:17	7440-38-2	
Cadmium	0.49	mg/kg	0.074	0.029	1	08/19/21 08:25	08/19/21 12:17	7440-43-9	
Copper	36.2	mg/kg	0.93	0.22	1	08/19/21 08:25	08/19/21 12:17	7440-50-8	
Lead	16.0	mg/kg	0.19	0.027	1	08/19/21 08:25	08/19/21 12:17	7439-92-1	
Zinc	76.0	mg/kg	4.6	0.83	1	08/19/21 08:25	08/19/21 12:17	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-2 Lab ID: 10574177004 Collected: 08/10/21 12:35 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	•		.7471B Prep s - Minneapo		hod: E	PA 7471B			
Mercury	0.022	mg/kg	0.022	0.0095	1	08/16/21 13:44	08/18/21 15:53	7439-97-6	
Dry Weight / %M by ASTM D2974	•	Method: AST ytical Service	M D2974 s - Minneapo	lis					
Percent Moisture	11.7	%	0.10	0.10	1		08/17/21 10:41		N2



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-3 Lab ID: 10574177005 Collected: 08/10/21 12:40 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA	6020A Prepa	aration Met	hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapo	lis					
Arsenic	29.8	mg/kg	0.49	0.11	1	08/19/21 08:25	08/19/21 12:20	7440-38-2	
Cadmium	0.82	mg/kg	0.078	0.031	1	08/19/21 08:25	08/19/21 12:20	7440-43-9	
Copper	64.7	mg/kg	0.98	0.24	1	08/19/21 08:25	08/19/21 12:20	7440-50-8	
Lead	23.8	mg/kg	0.20	0.029	1	08/19/21 08:25	08/19/21 12:20	7439-92-1	
Zinc	103	mg/kg	4.9	0.88	1	08/19/21 08:25	08/19/21 12:20	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-3 Lab ID: 10574177006 Collected: 08/10/21 12:40 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA ytical Service			hod: El	PA 7471B			
Mercury	0.016J	mg/kg	0.020	0.0086	1	08/16/21 13:44	08/18/21 15:55	7439-97-6	
Dry Weight / %M by ASTM D2974	•	Method: ASTI ytical Service:		lis					
Percent Moisture	10.9	%	0.10	0.10	1		08/17/21 10:41		N2



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-4 Lab ID: 10574177007 Collected: 08/10/21 12:45 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	•		.6020A Prepa		hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapo	lis					
Arsenic	31.0	mg/kg	0.45	0.099	1	08/19/21 08:25	08/19/21 12:31	7440-38-2	
Cadmium	0.77	mg/kg	0.073	0.029	1	08/19/21 08:25	08/19/21 12:31	7440-43-9	
Copper	77.9	mg/kg	0.91	0.22	1	08/19/21 08:25	08/19/21 12:31	7440-50-8	
Lead	26.6	mg/kg	0.18	0.027	1	08/19/21 08:25	08/19/21 12:31	7439-92-1	
Zinc	129	mg/kg	4.5	0.82	1	08/19/21 08:25	08/19/21 12:31	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-4 Lab ID: 10574177008 Collected: 08/10/21 12:45 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.027	mg/kg	0.019	0.0082	1	08/16/21 13:44	08/18/21 16:00	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	9.4	%	0.10	0.10	1		08/17/21 10:41		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-5 Lab ID: 10574177009 Collected: 08/10/21 12:50 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	33.9	mg/kg	0.47	0.10	1	08/19/21 08:25	08/19/21 12:34	7440-38-2	
Cadmium	0.90	mg/kg	0.075	0.030	1		08/19/21 12:34		
Copper	78.2	mg/kg	0.94	0.23	1	08/19/21 08:25	08/19/21 12:34	7440-50-8	
Lead	26.9	mg/kg	0.19	0.028	1	08/19/21 08:25	08/19/21 12:34	7439-92-1	
Zinc	127	mg/kg	4.7	0.85	1	08/19/21 08:25	08/19/21 12:34	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-5 Lab ID: 10574177010 Collected: 08/10/21 12:50 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	,	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.026	mg/kg	0.022	0.0097	1	08/16/21 13:44	08/18/21 16:02	7439-97-6			
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis										
Percent Moisture	13.3	%	0.10	0.10	1		08/17/21 10:41		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-6 Lab ID: 10574177011 Collected: 08/10/21 12:55 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	•		6020A Prepa		hod: E	PA 3050B			
	Pace Analytical Services - Minneapolis								
Arsenic	43.4	mg/kg	0.47	0.10	1	08/19/21 08:25	08/19/21 12:37	7440-38-2	
Cadmium	1.0	mg/kg	0.075	0.030	1	08/19/21 08:25	08/19/21 12:37	7440-43-9	
Copper	99.3	mg/kg	0.94	0.23	1	08/19/21 08:25	08/19/21 12:37	7440-50-8	
Lead	36.1	mg/kg	0.19	0.028	1	08/19/21 08:25	08/19/21 12:37	7439-92-1	
Zinc	143	mg/kg	4.7	0.85	1	08/19/21 08:25	08/19/21 12:37	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-6 Lab ID: 10574177012 Collected: 08/10/21 12:55 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.027	mg/kg	0.020	0.0088	1	08/16/21 13:44	08/18/21 16:03	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	7.2	%	0.10	0.10	1		08/17/21 10:42		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-7 Lab ID: 10574177013 Collected: 08/10/21 13:00 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual			
6020A MET ICPMS	,	Analytical Method: EPA 6020A Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis										
	Pace Anai	yticai Service	s - Minneapo	IIS								
Arsenic	36.6	mg/kg	0.47	0.10	1	08/19/21 08:25	08/19/21 12:41	7440-38-2				
Cadmium	0.91	mg/kg	0.075	0.030	1	08/19/21 08:25	08/19/21 12:41	7440-43-9				
Copper	85.7	mg/kg	0.94	0.23	1	08/19/21 08:25	08/19/21 12:41	7440-50-8				
Lead	28.8	mg/kg	0.19	0.028	1	08/19/21 08:25	08/19/21 12:41	7439-92-1				
Zinc	133	mg/kg	4.7	0.85	1	08/19/21 08:25	08/19/21 12:41	7440-66-6				



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-7 Lab ID: 10574177014 Collected: 08/10/21 13:00 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	,	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.032	mg/kg	0.018	0.0079	1	08/16/21 13:44	08/18/21 16:05	7439-97-6			
Dry Weight / %M by ASTM D2974	•	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	8.4	%	0.10	0.10	1		08/17/21 10:42		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-8 Lab ID: 10574177015 Collected: 08/10/21 13:05 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA							
	Pace Anal	ytical Service	s - Minneapo	lis					
Arsenic	37.8	mg/kg	0.50	0.11	1	08/19/21 08:25	08/19/21 12:44	7440-38-2	
Cadmium	0.86	mg/kg	0.080	0.031	1	08/19/21 08:25	08/19/21 12:44	7440-43-9	
Copper	82.9	mg/kg	1.0	0.24	1	08/19/21 08:25	08/19/21 12:44	7440-50-8	
Lead	27.5	mg/kg	0.20	0.029	1	08/19/21 08:25	08/19/21 12:44	7439-92-1	
Zinc	131	mg/kg	5.0	0.90	1	08/19/21 08:25	08/19/21 12:44	7440-66-6	



Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Sample: BPSOU-KAW-8 Lab ID: 10574177016 Collected: 08/10/21 13:05 Received: 08/12/21 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	,	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.028	mg/kg	0.020	0.0086	1	08/16/21 13:44	08/18/21 16:06	7439-97-6			
Dry Weight / %M by ASTM D2974	•	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	8.6	%	0.10	0.10	1		08/17/21 10:42		N2		



#### **QUALITY CONTROL DATA**

Project: BPSOU School Sampling

Pace Project No.: 10574177

QC Batch: 763252 Analysis Method: EPA 7471B

QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574177002, 10574177004, 10574177006, 10574177008, 10574177010, 10574177012, 10574177014,

10574177016

METHOD BLANK: 4069399 Matrix: Solid

Associated Lab Samples: 10574177002, 10574177004, 10574177006, 10574177008, 10574177010, 10574177012, 10574177014,

10574177016

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersMercurymg/kg<0.0087</td>0.0200.008708/18/21 15:44

LABORATORY CONTROL SAMPLE: 4069400

Spike LCS LCS % Rec Parameter Units Result % Rec Limits Qualifiers Conc. 97 80-120 Mercury mg/kg 0.48 0.47

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4069402 4069403

MSD MS MS 10574177002 Spike Spike MS MSD MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual

Mercury mg/kg 0.026 0.5 0.53 0.50 0.53 93 95 80-120 5 20

SAMPLE DUPLICATE: 4069401

Date: 08/19/2021 04:00 PM

10574177002 Dup Max RPD RPD Parameter Units Result Result Qualifiers 0.026 0.028 8 20 Mercury mg/kg

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALITY CONTROL DATA**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

QC Batch: 764488 Analysis Method: EPA 6020A

QC Batch Method: EPA 3050B Analysis Description: 6020A Solids UPD4

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574177001, 10574177003, 10574177005, 10574177007, 10574177009, 10574177011, 10574177013,

10574177015

METHOD BLANK: 4075056 Matrix: Solid

Associated Lab Samples: 10574177001, 10574177003, 10574177005, 10574177007, 10574177009, 10574177011, 10574177013,

10574177015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analvzed	Qualifiers
				IVIDL	Analyzeu	
Arsenic	mg/kg	<0.11	0.50	0.11	08/19/21 11:50	
Cadmium	mg/kg	< 0.031	0.079	0.031	08/19/21 11:50	
Copper	mg/kg	<0.24	0.99	0.24	08/19/21 11:50	
Lead	mg/kg	< 0.029	0.20	0.029	08/19/21 11:50	
Zinc	mg/kg	<0.89	5.0	0.89	08/19/21 11:50	

LABORATORY CONTROL SAMPLE:	4075057					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	48.1	54.5	113	80-120	
Cadmium	mg/kg	48.1	56.5	118	80-120	
Copper	mg/kg	48.1	57.1	119	80-120	
Lead	mg/kg	48.1	56.3	117	80-120	
Zinc	mg/kg	48.1	55.9	116	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 4075	058		4075059							
			MS	MSD								
	10	0574177001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	26.9	48.1	47.6	82.6	82.6	116	117	75-125	0	20	
Cadmium	mg/kg	0.90	48.1	47.6	58.1	57.4	119	119	75-125	1	20	
Copper	mg/kg	66.9	48.1	47.6	127	124	125	119	75-125	3	20	
Lead	mg/kg	29.4	48.1	47.6	85.6	85.6	117	118	75-125	0	20	
Zinc	mg/kg	132	48.1	47.6	194	191	130	123	75-125	2	20	M1

SAMPLE DUPLICATE: 4075963						
		10574177001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Arsenic	mg/kg	26.9	27.3	2	20	
Cadmium	mg/kg	0.90	0.94	5	20	
Copper	mg/kg	66.9	68.1	2	20	
Lead	mg/kg	29.4	30.0	2	20	
Zinc	mg/kg	132	133	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALITY CONTROL DATA**

Project: BPSOU School Sampling

Pace Project No.: 10574177

QC Batch: 763834 Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574177002, 10574177004, 10574177006, 10574177008, 10574177010, 10574177012, 10574177014,

10574177016

SAMPLE DUPLICATE: 4072583

10573913001 Dup Max Parameter Units Result Result **RPD RPD** Qualifiers Percent Moisture % 6.6 6.3 5 30 N2

SAMPLE DUPLICATE: 4072770

Date: 08/19/2021 04:00 PM

10574177014 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 8.4 Percent Moisture % 7.9 6 30 N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALIFIERS**

Project: BPSOU School Sampling

Pace Project No.: 10574177

#### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

#### **ANALYTE QUALIFIERS**

Date: 08/19/2021 04:00 PM

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: BPSOU School Sampling

Pace Project No.: 10574177

Date: 08/19/2021 04:00 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574177001	BPSOU-KAW-1	EPA 3050B	764488	EPA 6020A	764645
10574177003	BPSOU-KAW-2	EPA 3050B	764488	EPA 6020A	764645
10574177005	BPSOU-KAW-3	EPA 3050B	764488	EPA 6020A	764645
10574177007	BPSOU-KAW-4	EPA 3050B	764488	EPA 6020A	764645
10574177009	BPSOU-KAW-5	EPA 3050B	764488	EPA 6020A	764645
10574177011	BPSOU-KAW-6	EPA 3050B	764488	EPA 6020A	764645
10574177013	BPSOU-KAW-7	EPA 3050B	764488	EPA 6020A	764645
10574177015	BPSOU-KAW-8	EPA 3050B	764488	EPA 6020A	764645
0574177002	BPSOU-KAW-1	EPA 7471B	763252	EPA 7471B	764049
0574177004	BPSOU-KAW-2	EPA 7471B	763252	EPA 7471B	764049
0574177006	BPSOU-KAW-3	EPA 7471B	763252	EPA 7471B	764049
0574177008	BPSOU-KAW-4	EPA 7471B	763252	EPA 7471B	764049
0574177010	BPSOU-KAW-5	EPA 7471B	763252	EPA 7471B	764049
0574177012	BPSOU-KAW-6	EPA 7471B	763252	EPA 7471B	764049
0574177014	BPSOU-KAW-7	EPA 7471B	763252	EPA 7471B	764049
0574177016	BPSOU-KAW-8	EPA 7471B	763252	EPA 7471B	764049
0574177002	BPSOU-KAW-1	ASTM D2974	763834		
0574177004	BPSOU-KAW-2	ASTM D2974	763834		
0574177006	BPSOU-KAW-3	ASTM D2974	763834		
0574177008	BPSOU-KAW-4	ASTM D2974	763834		
0574177010	BPSOU-KAW-5	ASTM D2974	763834		
0574177012	BPSOU-KAW-6	ASTM D2974	763834		
0574177014	BPSOU-KAW-7	ASTM D2974	763834		
0574177016	BPSOU-KAW-8	ASTM D2974	763834		

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Laboratory Management Program LaMP Chain of Custody Record

Req Due Date (mm/dd/yy):

Lab Work Order Number:

BP Site Node Path: BP Facility No:

007 有 Time 852 Report Type & QC Level Email: jschwarzrock@pioneer-technical.com BPSOU School Sampling 8/12/21 Standard ---Date Full Data Package RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND Contractor X RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND Pioneer Technical Services 307 E Park Suite 421, Anaconda MT, 59711 JO#: 10574177 Jesse Schwarzrock Accepted By / Affiliation Email EDD To: Jesse Schwarzrock Consultant/Contractor Project No: Consultant/Contractor PM: Phone: 406-697-0949 Consultant/Contractor: Bridge Requested Analyses Invoice To: Address: 600 Ime 7471 Mercury, dry weight × × × × 10/11/8 Date Air dry&sieve\*, 6020 (As, Cd, Cu, Pb No. Containers / Preservative Methanol SLA HCI Relinquished By / Affiliation HIO3 Provision Activity: Semlan HSSO4 Unpreserved ead Regulatory Agency: California Global ID No.: Total Mumber of Containers ~ ~ N N 0 N 2 City, State, ZIP Code: Enfos Proposal No: Silew a noitaool aint a Accounting Mode: Facility Address: Matrix Air / Vapor Water / Liquid Stage: P!|08 / |!08 × 12:55 12:35 12:40 12:45 12:50 13:00 13:05 12:30 Time 11/1/8 8703 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 FedEx Overnight Ship Date: 08/10/21 Date 1700 Elm Street Minneapolis, MN 55414 Pioneer Technical Services 9,56 BP Project Manager (PM): Mike Mc Anuity Pace Analytical Services Kile Denney Sample Description 9950 BP PM Email: mcanumc@bp.com Jennifer Anderson BP PM Phone: 406-723-1822 612-607-1700 pecial Instructions: BPSOU-KAW-5 BPSOU-KAW-2 BPSOU-KAW-3 BPSOU-KAW-4 BPSOU-KAW-6 BPSOU-KAW-8 hipment Tracking No: BPSOU-KAW-7 BPSOU-KAW-1 ab Bottle Order No: .ab Shipping Accnt: Sampler's Company: Shipment Method: Sampler's Name: ab Address: ab Phone: ab Name Other Info: ab PM: Lab No.

BP LaMP COC Rev. 8, 24 June 2012

MS/MSD Sample Submitted: Yes ((5)

Trip Blank: Yes /

\_\*F6/

Cooler Temp on Receipt:

Temp Blank: 🎉 / No

BP Remediation Management COC - Effective Date: starting August 16, 2011

THIS LINE - LAB USE ONLY: Custody Seals In Place: (Yes) / No

## Pace Analytical®

hold, incorrect preservative, out of temp, incorrect containers)

#### Document Name:

#### Sample Condition Upon Receipt (SCUR) - ESI

Document No.:

ENV-FRM-MIN4-0149 Rev.01

Document Revised: 12Aug2020

Page 1 of 1

Pace Analytical Services -Minneapolis

Sample Condition	Client Name	•			Proj	ect #:						
Upon Receipt ESI Tech Specs								I/A	b · 4	OE.	74177	•
	BP-Pro	neer					<u>                                    </u>	<u>IV</u> †	<u> </u>	.VJ		- /40 /04
Courier:	=======================================	UPSUSPS SpeeDeeComi	mercia	☐Clier al	nt			1: JN LIEN		D PIONE-	ue Date: 00 ER	8/19/21
Tracking Number:	9550 4	1946 8703			e Exception V-FRM-MIN							
<b>Custody Seal on Coo</b>	oler/Box Presen	t? ☑Yes ☐No	0	Seals	Intact?	$\nabla$ Y	es 🗌	]No	Biolo	gical Tiss	iue Frozen? 🔲	Yes □No Øn/A
Packing Material:	Bubble Wra	. 7		None	Other	r:			_	Te	mp Blank? 💆	∯Yes □No
Thermometer:	_ T1(0461)			Type of Ice	······································		□Blue		None	□Dry	Melted	
Temp should be above free	ezing to 6°C	Cooler Temp Read	w/ten	np blank:_	2	.9			°C		e Corrected	☐See Exceptions
Correction Factor: <u>†</u>	rue Coo	ler Temp Corrected v	v/tem	np blank :_	2				oc	only):	no temp blank °C	ENV-FRM-MIN4-0142
<b>USDA Regulated Soil:</b>	•			)							ontents: <u>#13</u> 8	
Did samples originate in ID, LA. MS, NC, NM, NY,	, OK, OR, SC, TN,	TX or VA (check maps	;)? [	Yes	No	Hav	waii and Po	uerto R	ico)?	`		ally, including
lf '	Yes to either qu	uestion, fill out a Reg	ulate	d Soil Ched	:klist (F-N	MN-Q-	338) and	includ	le with			7.775
Chain of Custody Presen	st and Filled Out	)	¥Yes	Пис		1.				сомм	ENTS:	<del></del>
Chain of Custody Relings			X Yes			2.						
Sampler Name and/or Si		?	Ø Yes		□n/a	3.						, , <u>, , , , , , , , , , , , , , , , , </u>
Samples Arrived within I	Hold Time?		<b>∠</b> Yes	. □No	•	4.					· · ·	-0.510
Short Hold Time Analysi	is (<72 hr)?		Yes	₩No							form/E coli 🔲 BOD, thophos 🔲	/cBOD Hex Chrome
Rush Turn Around Time	Requested?		Yes	. □No		6.						
Sufficient Sample Volume			✓Yes	No								
Triple Volume Provided fo		re than 10 samples)?	Yes		⊠N/A	7.						
Correct Containers Used	-		Yes Yes	=		8.						
-Pace Containers Used Containers Intact?	<u>ar</u>		<del> </del>			9.						
Field Filtered Volume Re	ceived for Disso	lved Tests?	Yes		ØN/A	10.	Is sedime	ent visi	ble in th	ne dissolve	ed container?	Yes No
Is sufficient information ava					4-1.17		f no, write					See Exception
Matrix: ☐Water ☑Soil	☐Oil ☐Other											ENV-FRM-MIN4-0142
All containers needing a		ation have been				12. S	ample#					
checked?			□Yes	i □No	عN/A		-					
All containers needing p	reservation are f	ound to be in					☐ Nac	ОН		HNO₃	□H <sub>2</sub> SO <sub>4</sub>	☐Zinc Acetate
compliance with EPA rec	commendation?		□Yes	No	N/A						_	ш
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, Na	OH >9 Sulfide, N	laOH>10 Cyanide)										_
Exceptions: VOA, Colifor		•	□Yes	□No	<b>Æ</b> N/A	l	ive for Re	=				See Exception ENV-FRM-MIN4-0142
DRO/8015 (water) and D	-	<del>-</del> '				Chlor		N		рн Рар	er Lot#	<del></del>
a container it must be add	ded to associated	field and equipment bia	anks (v	erity with Pl	M first)	nes.	Chlorine	١٠	-6 Roll		0-6 Strip	0-14 Strip
Extra labels present on s	oil VOA or WIDR	O contaners?	□Yes	. □No	⊠n/a	13.						See Exception
Headspace in VOA Vials			Yes		⊠N/A	13.						ENV-FRM-MIN4-0140
3 Trip Blanks Present?			□Yes		⊠N/A	14.						
Trip Blank Custody Seals	Present?		☐Yes	□No	<b>⊠</b> N/A		Pace Trip	Blank	Lot # (if	purchase	d):	
Temp Log: Temp must be mai 20 mins	intained at <6°C dur	ing login, record temp ever		CLIENT NO	TIFICATI	ON/RE	SOLUTIO	DN_		Field	l Data Required	? □Yes □No
Opened Time: 1145 T	Гетр: 2,9	Corrected Temp: 2		Person Cor	ntacted:					Date	:/Time:	
	out in cooler			Comments	/Resolut	ion:					-	
Time: 1158 T	Гетр: <i>3. 0</i>	Corrected Temp: 3.0										0.00-0
Project Manager Rev	view:	Andrew							Date	e: <i>O</i>	8/16/2021	

Note: Whenever there is a discrepance section, North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of

Page 30 of 37 Labeled by: \_

									 ,									-					
C6h1	Pace Analytical www.pacelabs.com		s veduesieu by.						LAB USE ONLY	)90	200	600	नि १९५	Const	නුර	F00	පිරුර	Comments					Samples Intact (V br N
40231493		s <u>x</u> No	O/ 12/2021 Requested /																IR40-Rush	30 Sieve	Include soil prep log	Follow QAPP	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	<b>∑</b> [	Cert. Needed:	Owner Necelveu Date.			əv	vəis &	Preserved Containers		×	×	×	×	×	×	×	×		Date/Time	8/13/21 0940 #60 Sieve		7.	Received on Ice
	ogged into eCOC.	2 <u>2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 </u>	n oanipiing	al Green Bay	Street 1 54303	59-2436	PB	Drason	Matrix	77001 Solid 1	77003 Solid 1	77005 Solid 1	77007 Solid 1	77009 Solid 1	77011 Solid 1	77013 Solid 1	77015 Solid 1		Received By	Prensen Pace	•	7	N N N N
	Samples Pre-Logged into eCOC.		allie: Braco scribol sampling	Pace Analytica	Suite 9	Phone (920)469-2436			Collect Date/Time Lab ID	8/10/2021 12:30 10574177001	8/10/2021 12:35 10574177003	8/10/2021 12:40 10574177005	8/10/2021 12:45   10574177007	8/10/2021 12:50   10574177009	8/10/2021 12:55   10574177011	8/10/2021 13:00 10574177013	8/10/2021 13:05 10574177015		Date/Time Re	1 appose 18118			Seal Custody Seal
Stoton Transfer Chain of Cinctody			4177 WOLKOIGE NAINE.	AND THE PROPERTY OF THE PROPER	lesota 44.4	<u>1</u> 9			Sample Type	PS	Sd	PS	PS	PS	PS	PS	PS		id By	<u>X</u>			Cooler Temperature on Receipt 1/1/17 °C
			Report To	Jennifer Anderson	Pace Analytical Minnesota 1700 Elm Street	Phone (612)607-6436			Item Sample ID	1 BPSOU-KAW-1	2 BPSOU-KAW-2	3 BPSOU-KAW-3	4 BPSOU-KAW-4	5 BPSOU-KAW-5	6 BPSOU-KAW-6	7 BPSOU-KAW-7	8 BPSOU-KAW-8		Transfers Released By	1 FRD		3	Cooler Temperati

This chain of custody is considered complete as is since this information is available in the owner laboratory.

<sup>\*\*\*</sup>In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

₽ X

Rush TAT:

Rich Page\_1\_ of\_1\_ Bouer

Laboratory Management Program LaMP Chain of Custody Record Req Due Date (mm/dd/yy): BP Site Node Path:

Report Type & QC Level Note: If sample not collected, indicate "No Email: jschwarzrock@pioneer-**BPSOU School Sampling** Standard x Full Data Package Comments RUSH TURNAROUND RUSH TURNAROUND Contractor "X RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND RUSH TURNAROUND technical.com Pioneer Technical Services Address: 307 E Park Suite 421, Anaconda MT, 59711 Consultant/Contractor PM: Jesse Schwarzrock Email EDD To: Jesse Schwarzrock Consultant/Contractor Project No: Phone: 406-697-0949 Consultant/Contractor: Requested Analyses Invoice To: Lab Work Order Number: 1471 Mercury, dry weight × × × × × × × × Air dry&sieve\*, 6020 (As, Cd, Cu, Pb Zn) × × × × × × × No. Containers / Preservative Methanol HCI HUO3 Provision — Activity: HS2O4 Unpreserved ead Regulatory Agency: California Global ID No.: Total Number of Containers 0 0 N ~ 2 ~ 2 City, State, ZIP Code: Enfos Proposal No: Accounting Mode: Is this location a well? Facility Address: Matrix Alt / Vapor Water / Liquid Stage: Soil / Solid × × × × × × × × BP Facility No: 12:45 12:35 12:40 12:55 13:00 Time 12:30 12:50 13:05 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 08/10/21 Date Lab Address: 1700 Elm Street Minneapolis, MN 55414 BP Project Manager (PM): Mike Mc Anulty Pace Analytical Services Sample Description BP PM Email: mcanumc@bp.com Jennifer Anderson 612-607-1700 BP PM Phone: 406-723-1822 2-WAY-001-KAW-2 BPSOU-KAW-4 BPSOU-KAW-5 BPSOU-KAW-6 BPSOU-KAW-3 BPSOU-KAW-7 BPSOU-KAW-8 BPSOU-KAW-1 Lab Shipping Accnt: .ab Bottle Order No: .ab Phone: Lab Name: Other Info: Lab PM: Lab No.

BP LaMP COC Rev. 8, 24 June 2012 MS/MSD Sample Submitted: Yes / No

Trip Blank: Yes / No

Benzenthee

2420

3/13/2

**A** 

FedEx Overnight Ship Date: 8/1/1/2

Pioneer Technical Services

Sampler's Company: Shipment Method:

Kile Denney

Sampler's Name:

9/1/26

9950

Special Instructions:

Shipment Tracking No:

12/11/3 Date

Time

Date

Accepted By / Affiliation

Time

Relinquished By / Affiliation

°F/C Cooler Temp on Receipt: Temp Blank: Yes / No □ THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No
BP Remediation Management COC - Effective Date: starting August 16, 2011.

□ THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No
□ THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No
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□ THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No
□ THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No
□ THIS LINE - Pace Analytical Services, LLC 1241 Bellevue Street, Suite 9 Green Bay, Wi 54302

Date/ Time:

Initial when completed:

Lab Std #ID of preservation (if pH adjusted):

Lab Lot# of pH paper:

Sample Preservation Receipt Form Project # 40231493 All containers needing preservation have been checked and noted below: a Yes and a All

Client Name: Face Minn

2,5/5/10 2.5 / 5 / 10 2.5/5/10 2.5/6/10 2.5/5/10 2.5/5/10 2.5/5/10 2.5/5/10 2,5/5/10 2.5/5/10 2,5/5/10 2.5/5/10 2.5/5/10 2.5/5/10 2.5/6/10 2.5/5/10 2.5/5/10 2.5/5/10 2.5/5/10 2.5/5/10 Volume (mL) Hafter adjusted 4NO3 pH ≤2 NaOH pH 212 NaOH+Zn Act pH ≥9 12SO4 pH S2 ' (mmə<) slsiV AOV СN General SPLC Taqa **MPFU MGFU** Jars U69L neen Q69V M69A H69A Vials U65V T69<sub>Q</sub> A69V **BP35** ВРЗИ **Plastic BP3B** B **UE48** UIAB BG3N **YGSS** UBĐA U49A Glass S†9∀ HFDA Bein บเอ∧ Pace Lab# 900 004 005 600 010 012 016 018 002 800 013 014 015 019 003 011 017 020 007 9

Headspace in VOA Vials (>6mm): DYes DNo DXA \*If yes look in headspace column Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other.

AG1U 1 liter amber glass	<b>BP1U</b> 1 liter plastic unpres	VG9A	VG9A 40 mL clear ascorbic	JGFU	JGFU 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T	DG9T 40 mL amber Na Thio	വദ്ദാ	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U	/G9U   40 mL clear vial unpres	WGFU	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H	VG9H 40 mL clear vial HCL	WPFU	WPFU 4 oz plastic jar unpres
AG4U 120 mL amber glass unpres	BP3S 250 mL plastic H2SO4	NG9M	VG9M 40 mL clear vial MeOH	SP5T	SP5T 120 mL plastic Na Thiosulfate
AG5U 100 mL amber glass unpres		VG9D	VG9D 40 mL clear vial DI	ZPLC	ziploc bag
AG2S 500 mL amber glass H2SO4				S S	
<b>ச்த்3ப</b> 250 mL clear glass unpres					

FCB-C-046-Rev.03 (11Feb2020) Sample Preservation Receipt Form

Page 1 of  $\mathcal{A}$ 

## Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302

Document Name:

Sample Condition Upon Receipt (SCUR)

Document No.: ENV-FRM-GBAY-0014-Rev.00 Document Revised: 26Mar2020

Author:

Pace Green Bay Quality Office

## Sample Condition Upon Receipt Form (SCUR)

0				Project #:		
Client Name: Lace Minn					WO#:4	0231493
Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speede	е 🗀 (	JPS	□ W	/altco	01 10 11 11 10 10 11 11 11	
Client Pace Other:						
Tracking #: 4550 9946953	7			<b>-</b>	40231493	
Custody Seal on Cooler/Box Present: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				Ses ☐ no		
Custody Seal on Samples Present: ☐ yes 🏋				🗆 yes 🔀 no		
Packing Material: Bubble Wrap  Bubb	_		None		! 	
	Type of	f Ice:	Wet	Blue Dry None	Samples or	ice, cooling process has begun
Cooler Temperature Uncorr: WH /Corr: N						Person examining contents:
Temp Blank Present:  yes  no		Biolo	gical T	issue is Frozen:	☐ yes ☐ no	Date: 8 137 /Initials; 18
Temp should be above freezing to $6^{\circ}$ C. Biota Samples may be received at $\leq 0^{\circ}$ C if shipped on Dr	y Ice.					Labeled By Initials:
Chain of Custody Present:	Yes I	□No	□N/A	1.		
Chain of Custody Filled Out:	<b>X</b> Yes ∣	□No	□n/a	2.		
Chain of Custody Relinquished:	Mes ∣	□No	□n/a	3.	i :	
Sampler Name & Signature on COC:	□Yes	□No	<b>∑</b> √0/A	4 I PWY	) 1B	8/13/21
Samples Arrived within Hold Time:	Yes !	□No		5.	1	1. 10.
<ul> <li>VOA Samples frozen upon receipt</li> </ul>	□Yes	□No		Date/Time:	:	· · · · · · · · · · · · · · · · · · ·
Short Hold Time Analysis (<72hr):	□Yes	<b>X</b> No	0	6.		
Rush Turn Around Time Requested:	XYe)	MNd	413/	<u>&amp;1</u>	1	
Sufficient Volume:		C	4	8.		
For Analysis: Zves □no MS/MSD:	□Yes [	<b>X</b> 10	□n/a		i	
Correct Containers Used:	<b>X</b> √es [	□No		9.		
-Pace Containers Used:	□Yes [	□No	Ì <b>Ç</b> √I/A			
-Pace IR Containers Used:	□Yes	χŃο	□n/a		:	· · · · · · · · · · · · · · · · · · ·
Containers Intact:	Yes [	□No		10.	:	<u></u>
Filtered volume received for Dissolved tests	□Yes [	□No	Ď <b>X</b> I/A	11.	:	
Sample Labels match COC:	Aires (		Z□N/A	12.005 Hr	ne 12:4	158/13/21
-Includes date/time/ID/Analysis Matrix:	<u>S'</u>	~~1 	4		: :	
Trip Blank Present:	□Yes [	□No	XN/A	13.		
Trip Blank Custody Seals Present	□Yes [	□No	N/A			
Pace Trip Blank Lot # (if purchased):						
Client Notification/ Resolution:			<b>5</b>		checked, see attach	ned form for additional comments
Person Contacted:			Date/	ııme:		
Comments/ Resolution:						
					:	
					:	

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

Page of Q

2	nternal Transfer Chain of Custody	 ביי	n of c	Cueto	Ž								7	ولال	CPV1EEUT	6		
		5		X Samples	es Pre-L	Pre-Logged into eCOC.	to eCO(	oj.	State Cert.	State Of Origin: MT	ë ₩□!	<sub>s</sub>	% × 3			Pace	₹ }	۵
킭	Workorder: 10574177   Report To	Workorder Name: BPSUU	er Name	BPSOU Sch		School Sampling To	ıng		Owne	Owner Received Date:	/ed Da		8/12/2021 Request	, po	Results Requested By: Analysis	ested by	: 8/19/2021	
Pag	Jennifer Anderson Pace Analytical Minnesota			Pace 1241	Pace Analytical Green Bay 1241 Bellevue Street	al Green Street	Bay										,	
넍퉏띣	1700 Elm Street Minneapolis, MN 55414 Phone (612)607-6436			Suite 9 Green B Phone (6	Suite 9 Green Bay, WI 54302 Phone (920)469-2436	3ay, WI 54302 920)469-2436					9/		<b>□</b> #	0   <del> </del>	10574177	177		
								PB			ry & Sie	<b>5</b> . ==						
								Presei	Preserved Containers	ainers	O -iA	=-	<b>              </b>    0574177	_				
		San	Sample   Collect	) joej				iertt(	;	:								
E E	n Sample ID	8		Date/Time	LabiD		Matrix	>									LAB USE ONLY	
_	BPSOU-KAW41	PS		8/10/2021 12:30	-	10574177001	Solid	1			×						<u>0</u> 0	Т
اہ	BPSOU-KAW-2	PS	8/10	8/10/2021 12:35		10574177003	Solid	-			×						2005	
<u>_</u>	BPSOU-KAW-3	8		8/10/2021 12:40	-		Solid	-			×			1			603	
4	BPSOU-KAW4	S.		8/10/2021 12:45			Solid	1			×						कु	
2	BPSOU-KAW45	PS		8/10/2021 12:50		_	Solid	-	_		×						SOS	
۵	BPSOU-KAW6	S		8/10/2021 12:55			Solid	-			×						900	T
	BPSOU-KAW-7	PS		8/10/2021 13:00		10574177013	Solid	-			×						00	
اھ	BPSOU-KAW-8	PS		8/10/2021 13:05		10574177015	Solid	-			×		_				200	
#															Comments			T
먑	Transfers Released By			Date/Time		Received By				Date/Time	<u>"</u>	IR40-Rush	_					
-	XJPX XJPX		80	8/13/2/10	960	PRADLA	208	300	8	13/21 0940 #60 Sieve	<u> </u>	60 Sieve		,				
7	all	· S	<b>∞</b>	Metr	2	1	h	1/00	7	10/11	12.9 II	clude so	6/2/ 8'S Include soil prep log	ס				
8			7			1					۳	Follow QAPP	dd				9	$\neg \tau$
ပ	Cooler Temperature on Receipt 🛚 🖊	ceipt N	o. ₩/		<b>Custody Seal</b>	Seal (Y	Z O		Rece	Received on Ice		Y or (	3		Samples Intact	Intacf (	Y Dr N	
		1				1	١										•	

\*\*\*In order to maintain client confidertiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

## Pace Analytical®

#### **Document Name:**

### Sample Condition Upon Receipt (SCUR) - MN

**Document No.:** 

ENV-FRM-MIN4-0150 Rev.02

Document Revised: 14Apr2021

Page 1 of 1

Pace Analytical Services -Minneapolis

Upon Receipt D		Project	#:	MO	#:1	05	74177	
Pace Green Bay	1,,,,,,,			PM:			e Date: 08	/19/21
☐Pace ☐SpeeDee	JUSPS Commercia			CLIE	NT: BP-I			10/21
Tracking Number: 2937186-1		See Exceptio ENV-FRM-MII		/				
Custody Seal on Cooler/Box Present? Yes	No	Seals Intact	Yes	□No	Biolo	gical Tis	sue Frozen? 🔲	es No NA
Packing Material: Bubble Wrap Bubble B	ags 🔲 N	lone   Oth	er:			Te	mp Blank?	Yes No
Thermometer:       ☐ T1(0461) ☐ T2(1336) ☐ T3(0459)         T4(0254) ☐ T5(0489)	OS418-LS 16028505		∐Wet	□Blue	None	□Dry	Melted	
Did Samples Originate in West Virginia? ☐Yes ☐No	Were	All Container T	emps Tak	en? 🗌 Yes	i □No Z	N/A		
Temp should be above freezing to 6°C Cooler Temp Re	ad w/temp	blank:			⁰C		ge Corrected	See Exceptions ENV-FRM-MIN4-0142
Correction Factor: 7 r ve Cooler Temp Correct	ed w/temp	blank:			⁰c	· · · · ·		1 Container
USDA Regulated Soil: ( N/A, water sample/Other:	tad States A	)					ontents: HKB ource (internations	
Did samples originate in a quarantine zone within the Uni ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check m	naps)? 🔲	Yes 🗷 No	Hawa	ii and Puer	to Rico)?		Yes No	illy, including
If Yes to either question, fill out a	Regulated S	Soil Checklist (F	-MN-Q-33	8) and in	clude with :	COMM		
Chain of Custody Present and Filled Out?	Yes	□No	1.			COMM	LITTO:	
Chain of Custody Relinquished?		□No	2.					
Sampler Name and/or Signature on COC?		No □N/A	3.	1 1 1 1	::			
Samples Arrived within Hold Time?	Yes	□No	4.					
Short Hold Time Analysis (<72 hr)?	□Yes	<b>⊿</b> 4∘					orm/E coliBOD/c	BOD Hex Chrome
Rush Turn Around Time Requested?	✓Yes	□No	6.					
Sufficient Volume?	✓Yes	□No	7.					
Correct Containers Used?	Yes	□No □No	8.					
-Pace Containers Used? Containers Intact?	Pes	□No □No	9.					
Field Filtered Volume Received for Dissolved Tests?	∐Yes	□no ☑n/a		ediment v	isible in the	dissolve	d container?	es No
Is sufficient information available to reconcile the samples			· · · · · · · · · · · · · · · · · · ·		Date/Time on			See Exception
to the COC?		□No						ENV-FRM-MIN4-0142
Matrix: Water Soil Oil Other								
All containers needing acid/base preservation have been checked?	∐Yes	□No □N/A	12. Samp	ole#				
All containers needing preservation are found to be in	∐Yes	□no □n/a	[ [	NaOH	□ни	NO₃	∐H₂SO₄	Zinc Acetate
compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)								
, , , , , , , , , , , , , , , , , , ,		/	Positive 1	for Res. 🗌	]Yes			See Exception
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease,	∐Yes	□No □M/A	Chlorine	? [	No	pH Pape	er Lot#	ENV-FRM-MIN4-0142
DRO/8015 (water) and Dioxin/PFAS			Res. Chic	orine	0-6 Roll		0-6 Strip	0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	Yes	□No ☑N/A	13.					See Exception
Headspace in VOA Vials (greater than 6mm)?	Yes	□No □N/A						ENV-FRM-MIN4-0140
Trip Blank Present?		□No □N/A	14.	o Trin Pla	nk Lot#/ifn	urchaco	4).	
Trip Blank Custody Seals Present?	Yes	□No ∕□N/A	Pac	е тпр ыа	nk Lot # (if p			
CLIENT NOTIFICATION/RESOLUTION			D-4- /T	·	Fiel	d Data F	Required? Ye	es ∐No
Person Contacted:  Comments/Resolution:			. Date/T	ine:				
Commency resolution.			<del></del>	<del> </del>				
Project Manager Review:	e e!	***************************************		Date:	08/10	1202	1	
Note: Whenever there is a discrepancy a ocung to a second	a compliance	samples, a copy	of this form	will be ser	nt to the Nor	ナレンと th Carolir	na DEHNR Certificat	ion Office (i.e out of
hold, incorrect preservative, out of temp, incorrect containers).								•

Labeled by: HKBO



#### Document Name:

#### Sample Condition Upon Receipt (SCUR) Exception Form

pt (SCUR) Exception Form Page 1 of 1

Pace Analytical Services - Minneapolis

Document Revised: 04Jun2020

Document No.: **ENV-FRM-MIN4-0142 Rev.01** 

1057/177

SCUR Exceptions:						Wor	kord	er #: <sup>105</sup>	5/41//	/
Out of Temp Sample IDs	Container Type	# of Containers			PM No	otified? □'	Yes 🗌	No		
				If yes, i		ho was con ndicate rea			me.	50 100 100 W 50 100 100 100 100 100 100 100 100 100
						oler Projec yes, fill out info				
						No Temp I	Blank			
		,	Re	ead Temp		rected Ten		Aver	age Te	mp
				19.8		T			19.7	
			<b>↓</b>	19.7						
			4	19.6						
we '			┨ └──	19.6		<u> </u>				
			Issu	e Type:			Con	ainer	#	of
Tracking Number	/Temperature	)	1020		nple ID			/pe		ainers
	•									
			4 L							
- <u>/</u>										
· · · · · · · · · · · · · · · · · · ·								•		
		<del></del>	1							
	,									
	pH Ad	justment	Log for	Preserv	ed Sam	ples				
Sample ID	Type o		Date Adjusted	Time Adjusted	Amoun t Added (mL)	Lot # Added	pH After	In Compl		Initials
Jampie ID	rieser	v. iteceipt	Aujusteu	Aujusteu	(1112)	Added	Aitei	Yes		meidis
							_	Yes	No	
								Yes	No	
								☐Yes	No	
Comments:	1							I		<u> </u>
					***			••••		

# ATTACHMENT F S&N CONCRETE AGGREGATE STOCKPILE DATA

#### APPENDIX F - S&N CONCRETE AGGREGATE QA DATA

			As	Cd	Cu	Pb	Zn	Hg
Sample ID	Date Collected	Butte Hill Reveg Spec:	< 97 mg/kg	< 4 mg/kg	< 250 mg/kg	< 100 mg/kg	< 250 mg/kg	< 5 mg/kg
1 22-RMAP-SNROAD-1	07/27/22	Volume Tested:	8.1	0.13	36.1	10.0	89.4	0.01
2 22-RMAP-SNROAD-2	07/27/22	- Approximatley	7.4	0.11	32.1	9.0	82.0	0.01
3 22-RMAP-SNPIT-1	07/27/22		9.2	0.15	45.0	10.9	102.0	0.01
4 22-RMAP-SNPIT-2	07/27/22	10,000 cy	8.3	0.15	42.7	9.8	96.1	0.01
•		MAX:	9.2	0.15	45.0	10.9	102.0	0.01
		MIN:	7.4	0.11	32.1	9.0	82.0	0.01
		Δ\/F·	8.3	0.14	39 N	9.9	92.4	0.01

# ATTACHMENT F-1 PACE ANALYTICAL DATA REPORTS

Pace Analytical Services, LLC 1700 Elm Street Minneapolis, MN 55414 (612)607-1700



August 16, 2022

Jesse Schwarzrock Pioneer Technical Services 307 E Park Suite 421 Anaconda, MT 59711

RE: Project: BPSOU Park Sampling

Pace Project No.: 10618818

#### Dear Jesse Schwarzrock:

Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2022. The results relate only to the samples included in this report. Results contained within this report conform to the most current version of the TNI standards, BP LaMP Technical Requirements Revision 12.1, and any applicable Quality Assurance Project Plan (QAPP), or Work Plan unless otherwise narrated in the body of this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Anderson jennifer.anderson@pacelabs.com (612)607-6436 Project Manager

Inder

**Enclosures** 

cc: Cole Dallaserra, Pioneer Technical BPEquis UploadEmail, BP EQUIS





#### **CERTIFICATIONS**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air

Lab

A2LA Certification #: 2926.01\* Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009\*

Alaska DW Certification #: MN00064 Arizona Certification #: AZ0014\* Arkansas DW Certification #: MN00064 Arkansas WW Certification #: 88-0680 California Certification #: 2929 Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137 Florida Certification #: E87605\* Georgia Certification #: 959 Hawaii Certification #: MN00064 Idaho Certification #: MN00064 Illinois Certification #: 200011 Indiana Certification #: C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167 Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062 Louisiana DEQ Certification #: AI-03086\* Louisiana DW Certification #: MN00064 Maine Certification #: MN00064\* Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137\*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240\* Mississippi Certification #: MN00064 Missouri Certification #: 10100 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064 New Hampshire Certification #: 2081\* New Jersey Certification #: MN002 New York Certification #: 11647\*

North Carolina DW Certification #: 27700 North Carolina WW Certification #: 530 North Dakota Certification (A2LA) #: R-036 North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244 Ohio VAP Certification (1700) #: CL101

Ohio VAP Certification (1800) #: CL110\* Oklahoma Certification #: 9507\*

Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001\*

Oregon Secondary Certification #: MN20
Pennsylvania Certification #: 68-00563\*
Puerto Rico Certification #: MN00064
South Carolina Certification #: TN02818
Texas Certification #: T104704192\*
Utah Certification #: MN00064\*

Vermont Certification #: VT-027053137 Virginia Certification #: 460163\* Washington Certification #: C486\* West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

\*Please Note: Applicable air certifications are denoted with

an asterisk (\*).



#### **SAMPLE SUMMARY**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10618818001	22-RMAP-SNROAD-1	Solid	07/27/22 08:00	07/28/22 08:50
10618818002	22-RMAP-SNROAD-1	Solid	07/27/22 08:00	07/28/22 08:50
10618818003	22-RMAP-SNROAD-2	Solid	07/27/22 08:05	07/28/22 08:50
10618818004	22-RMAP-SNROAD-2	Solid	07/27/22 08:05	07/28/22 08:50
10618818005	22-RMAP-SNPIT-1	Solid	07/27/22 08:15	07/28/22 08:50
10618818006	22-RMAP-SNPIT-1	Solid	07/27/22 08:15	07/28/22 08:50
10618818007	22-RMAP-SNPIT-2	Solid	07/27/22 08:20	07/28/22 08:50
10618818008	22-RMAP-SNPIT-2	Solid	07/27/22 08:20	07/28/22 08:50



#### **SAMPLE ANALYTE COUNT**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10618818001	22-RMAP-SNROAD-1	EPA 6020A	NN2	5	PASI-M
10618818002	22-RMAP-SNROAD-1	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10618818003	22-RMAP-SNROAD-2	EPA 6020A	NN2	5	PASI-M
10618818004	22-RMAP-SNROAD-2	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10618818005	22-RMAP-SNPIT-1	EPA 6020A	NN2	5	PASI-M
10618818006	22-RMAP-SNPIT-1	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10618818007	22-RMAP-SNPIT-2	EPA 6020A	NN2	5	PASI-M
10618818008	22-RMAP-SNPIT-2	EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis





#### **PROJECT NARRATIVE**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

**Date:** August 16, 2022

Samples analyzed for method 6020 were analyzed after they were dried and sieved using a number 60 sieve.



#### **PROJECT NARRATIVE**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Method: EPA 6020A

Description: 6020A MET ICPMS
Client: BPAR-PIONEER-MT
Date: August 16, 2022

#### **General Information:**

4 samples were analyzed for EPA 6020A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3050B with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:



#### **PROJECT NARRATIVE**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Method:EPA 7471BDescription:7471B MercuryClient:BPAR-PIONEER-MTDate:August 16, 2022

#### **General Information:**

4 samples were analyzed for EPA 7471B by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7471B with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNROAD-1 Lab ID: 10618818001 Collected: 07/27/22 08:00 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		6020A Prepa		hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapo	lis					
Arsenic	8.1	mg/kg	0.49	0.14	1	08/11/22 18:24	08/16/22 00:15	7440-38-2	
Cadmium	0.13	mg/kg	0.078	0.029	1	08/11/22 18:24	08/16/22 00:15	7440-43-9	
Copper	36.1	mg/kg	0.97	0.30	1	08/11/22 18:24	08/16/22 00:15	7440-50-8	
Lead	10	mg/kg	2.4	0.45	5	08/11/22 18:24	08/12/22 19:48	7439-92-1	
Zinc	89.4	mg/kg	4.9	1.1	1	08/11/22 18:24	08/16/22 00:15	7440-66-6	



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNROAD-1 Lab ID: 10618818002 Collected: 07/27/22 08:00 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA ytical Service:			hod: El	PA 7471B			
Mercury	<0.0087	mg/kg	0.020	0.0087	1	08/09/22 14:37	08/10/22 15:32	7439-97-6	
Dry Weight / %M by ASTM D2974	•	Method: ASTI ytical Service:		lis					
Percent Moisture	0.63	%	0.10	0.10	1		08/04/22 13:09		N2



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNROAD-2 Lab ID: 10618818003 Collected: 07/27/22 08:05 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA	6020A Prepa	aration Met	hod: E	PA 3050B			
	Pace Anal	ytical Service	s - Minneapo	lis					
Arsenic	7.4	mg/kg	0.46	0.13	1	08/11/22 18:24	08/16/22 00:18	7440-38-2	
Cadmium	0.11	mg/kg	0.074	0.027	1	08/11/22 18:24	08/16/22 00:18	7440-43-9	
Copper	32.1	mg/kg	0.93	0.28	1	08/11/22 18:24	08/16/22 00:18	7440-50-8	
Lead	9.0	mg/kg	2.3	0.43	5	08/11/22 18:24	08/12/22 19:52	7439-92-1	
Zinc	82.0	mg/kg	4.6	1.1	1	08/11/22 18:24	08/16/22 00:18	7440-66-6	



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNROAD-2 Lab ID: 10618818004 Collected: 07/27/22 08:05 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.010J	mg/kg	0.018	0.0080	1	08/09/22 14:37	08/10/22 15:33	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	0.78	%	0.10	0.10	1		08/04/22 13:09		N2		



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNPIT-1 Lab ID: 10618818005 Collected: 07/27/22 08:15 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		6020A Prepa		hod: E	PA 3050B			
	Pace Analytical Services - Minneapolis								
Arsenic	9.2	mg/kg	0.46	0.13	1	08/11/22 18:24	08/16/22 00:22	7440-38-2	
Cadmium	0.15	mg/kg	0.074	0.027	1	08/11/22 18:24	08/16/22 00:22	7440-43-9	
Copper	45.0	mg/kg	0.93	0.28	1	08/11/22 18:24	08/16/22 00:22	7440-50-8	
Lead	10.9	mg/kg	2.3	0.43	5	08/11/22 18:24	08/12/22 19:55	7439-92-1	
Zinc	102	mg/kg	4.6	1.1	1	08/11/22 18:24	08/16/22 00:22	7440-66-6	



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNPIT-1 Lab ID: 10618818006 Collected: 07/27/22 08:15 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.0096J	mg/kg	0.019	0.0084	1	08/09/22 14:37	08/10/22 15:35	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	3.7	%	0.10	0.10	1		08/04/22 13:10		N2		



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNPIT-2 Lab ID: 10618818007 Collected: 07/27/22 08:20 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		6020A Prepa		hod: E	PA 3050B			
	Pace Analytical Services - Minneapolis								
Arsenic	8.3	mg/kg	0.49	0.14	1	08/11/22 18:24	08/16/22 00:25	7440-38-2	
Cadmium	0.15	mg/kg	0.078	0.029	1	08/11/22 18:24	08/16/22 00:25	7440-43-9	
Copper	42.7	mg/kg	0.98	0.30	1	08/11/22 18:24	08/16/22 00:25	7440-50-8	
Lead	9.8	mg/kg	2.5	0.46	5	08/11/22 18:24	08/12/22 19:59	7439-92-1	
Zinc	96.1	mg/kg	4.9	1.2	1	08/11/22 18:24	08/16/22 00:25	7440-66-6	



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Sample: 22-RMAP-SNPIT-2 Lab ID: 10618818008 Collected: 07/27/22 08:20 Received: 07/28/22 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL _	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	•	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis									
Mercury	0.011J	mg/kg	0.018	0.0079	1	08/09/22 14:37	08/10/22 15:36	7439-97-6			
Dry Weight / %M by ASTM D2974	,	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis									
Percent Moisture	2.9	%	0.10	0.10	1		08/04/22 13:10		N2		



### **QUALITY CONTROL DATA**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

QC Batch: 832541 Analysis Method: EPA 7471B

QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10618818002, 10618818004, 10618818006, 10618818008

METHOD BLANK: 4409993 Matrix: Solid

Associated Lab Samples: 10618818002, 10618818004, 10618818006, 10618818008

Blank Reporting

Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/kg <0.0085 0.020 0.0085 08/09/22 18:40

LABORATORY CONTROL SAMPLE: 4409994

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units Mercury 0.49 0.51 105 80-120 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4409996 4409997

MS MSD

10618797002 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result % Rec % Rec **RPD** RPD Qual Result Conc. Limits 0.027 20 Mercury mg/kg 0.65 0.68 0.81 0.81 120 114 80-120

SAMPLE DUPLICATE: 4409995

Date: 08/16/2022 06:40 PM

10618797002 Dup Max RPD RPD Qualifiers Parameter Units Result Result 0.027 0.028 4 20 Mercury mg/kg

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALITY CONTROL DATA**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

QC Batch: 832536 Analysis Method: EPA 6020A

QC Batch Method: EPA 3050B Analysis Description: 6020A Solids UPD4

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10618818001, 10618818003, 10618818005, 10618818007

METHOD BLANK: 4409975 Matrix: Solid

Associated Lab Samples: 10618818001, 10618818003, 10618818005, 10618818007

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	<0.14	0.50	0.14	08/12/22 18:21	
Cadmium	mg/kg	< 0.029	0.080	0.029	08/12/22 18:21	
Copper	mg/kg	< 0.31	1.0	0.31	08/12/22 18:21	
Lead	mg/kg	< 0.093	0.50	0.093	08/12/22 18:21	
Zinc	mg/kg	1.4J	5.0	1.2	08/12/22 18:21	

LABORATORY CONTROL SAMPLE:	4409976	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Arsenic	mg/kg	50	52.7	105	80-120	
Cadmium	mg/kg	50	52.7	105	80-120	
Copper	mg/kg	50	54.4	109	80-120	
Lead	mg/kg	50	56.4	113	80-120	
Zinc	mg/kg	50	53.0	106	80-120	

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	ATE: 4409	978		4409979	1						
			MS	MSD								
	10	0618797001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Arsenic	mg/kg	22.9	50	48.1	72.0	73.0	98	104	75-125	2	20	
Cadmium	mg/kg	0.83	50	48.1	50.7	51.5	100	105	75-125	2	20	
Copper	mg/kg	79.5	50	48.1	129	134	98	113	75-125	4	20	
Lead	mg/kg	29.8	50	48.1	84.4	88.8	109	123	75-125	5	20	
Zinc	mg/kg	184	50	48.1	226	235	83	106	75-125	4	20	

SAMPLE DUPLICATE: 4409977						
		10618797001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Arsenic	mg/kg	22.9	23.3		20	
Cadmium	mg/kg	0.83	0.90	8	20	
Copper	mg/kg	79.5	81.8	3	20	
Lead	mg/kg	29.8	32.0	7	20	
Zinc	mg/kg	184	188	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALITY CONTROL DATA**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

QC Batch: 832300 Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10618818002, 10618818004, 10618818006, 10618818008

SAMPLE DUPLICATE: 4408950

 Parameter
 Units
 10618818002 Result
 Dup Result
 Max RPD
 RPD
 Qualifiers

 Percent Moisture
 %
 0.63
 0.61
 2
 30 N2

SAMPLE DUPLICATE: 4408951

Date: 08/16/2022 06:40 PM

		10618144001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	41.9	43.3	3	3	0 N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALIFIERS**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### **ANALYTE QUALIFIERS**

Date: 08/16/2022 06:40 PM

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: BPSOU Park Sampling

Pace Project No.: 10618818

Date: 08/16/2022 06:40 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10618818001	22-RMAP-SNROAD-1	EPA 3050B	832536	EPA 6020A	834148
10618818003	22-RMAP-SNROAD-2	EPA 3050B	832536	EPA 6020A	834148
10618818005	22-RMAP-SNPIT-1	EPA 3050B	832536	EPA 6020A	834148
10618818007	22-RMAP-SNPIT-2	EPA 3050B	832536	EPA 6020A	834148
10618818002	22-RMAP-SNROAD-1	EPA 7471B	832541	EPA 7471B	833446
10618818004	22-RMAP-SNROAD-2	EPA 7471B	832541	EPA 7471B	833446
10618818006	22-RMAP-SNPIT-1	EPA 7471B	832541	EPA 7471B	833446
10618818008	22-RMAP-SNPIT-2	EPA 7471B	832541	EPA 7471B	833446
10618818002	22-RMAP-SNROAD-1	ASTM D2974	832300		
10618818004	22-RMAP-SNROAD-2	ASTM D2974	832300		
10618818006	22-RMAP-SNPIT-1	ASTM D2974	832300		
10618818008	22-RMAP-SNPIT-2	ASTM D2974	832300		

0 544
D A

## Laboratory Management Program LaMP Chain of Custody Record

BP Site Node Path:

Keq Due Date (mm/dd/yy):	Lab Work Order Number:

\$ 2 m Mg Page\_1\_of\_1\_

Rush TAT: XX No

Γ <b>-</b>			ВР	BP Facility No:									1	Ľ	ib Wor	k Ord	Lab Work Order Number:	ber:					
Lab Name:		Pace Analytical Services			Facili	Facility Address:	Iress:										Cons	Consultant/Contractor:	tractor:	P.	Pioneer Technical Services	ices	
Lab A	Lab Address: 1700 Elm	1700 Elm Street Minneapolis, MN 55414	MN 55414		City,	City, State, ZIP	ZIP C	Code:									Cons	Consultant/Contractor Project No:	tractor P	roject N	o: BPSOU Park Sampling	Sampling	
Lab PM:		Jennifer Anderson			Lead	Regu	Lead Regulatory Agency	Agenc)	١.								Address:	ł	E Park S	uite 42	307 E Park Suite 421, Anaconda MT, 59711	711	
Lab Phone:	none: 612-607-1700	1700			Califo	omia G	California Global ID No.:	D No.:									Cons	Consultant/Contractor PM:	tractor P		Jesse Schwarzrock		
Lab Sł	Lab Shipping Accnt:				Enfos	s Prop	Enfos Proposal No:	ö		-							<u> </u>	Phone: 406-697-0949	-697-094	6	Email: jschwarzrock@pioneer- technical.com	rock@pionee	ی
Lab Bo	Lab Bottle Order No:				Accol	unting	Accounting Mode:		Pro	Provision-	1						Emai	Email EDD To:	Jesse (	Jesse Schwarzrock	rock		
Other Info:	nfo:				Stage:	äi			Ac	Activity:							Invoice To:	e To:		H	Contractor—X	     <u>*</u>	
ВР Рп	BP Project Manager (PM): Mike Mc Anulty	I): Mike Mc Anulty				Matrix	×	Š.		taine	rs / Pr	Containers / Preservative	tive			Requ	ested	Requested Analyses	   		Report Type &	pe & QC Level	svel
BP P∿	BP PM Phone: 406-723-1822	1822					$\vdash$	ļ				-		ʻqc						F	St	Standard X	
BP PN	BP PM Email: mcanumc@bp.com	c@bp.com												Cu, I	W. V.						Full Data Package	ckage —	
Lab No.	Sample [	Sample Description	Date	Time	bilos / lios	Water / Liquid	Air / Vapor Is this location a well?	Total Number of Containers	Unpreserved	H2SO4	ниоз	Methanol HCI		Air dry&sieve*, 6020 (As, Cd, Zn)	7471 Mercury, dry weight			#O##		9	MO#:10618818		
	22-RMAP-SNROAD-1	4D-1	07/27/22	8:00 AM	×	-	<u> </u>	7			-			×	×	ļ				-	RUSH-TURNAROUND	UND	
	22-RMAP-SNROAD-2	4D-2	07/27/22	8:05 AM	×			7						×	×	-					RUSH TURNAROUND	OND	
	22-RMAP-SNPIT-1	1	07/27/22	8:15 AM	×		<u> </u>	7						×	×						RUSH TURNAROUND	UND	
	22-RMAP-SNPIT-2	5	07/27/22	8:20	×			7			<u> </u>			×	×						RUSH TURNAROUND	QND	
						<u></u>																	
					i															-			
																			ļ				
															ļ								
Sample	Sampler's Name:	Cole Dallaserra				C	Relir	laupu	ed B	y / Af	Relinquished By / Affiliation	_		Date		Time		Ac	epted I	3y / Aff	Accepted By / Affiliation	Date	Time
Sample	Sampler's Company:	Pioneer Technical Services	Services		V	13	Poly	1/	Crew	/ -	579			Tokoz		2097	1	11 (S) (V)	1/24	9		2/28/2	8:80
Sabme	S时pment Method:	FedEx Overnight Ship Date:	Ship Date:	7/27/2022															ļ ,				
eis eis	Skipment Tracking No:	5405 1821	2850 11																				
Speci	Special Instructions:																						

BP Remediation Management COC - Effective Date: starting August 16, 2011. THIS LINE - LAB USE ONLY: Custody Seals In Place (Yes) No

BP LaMP COC Rev. 8, 24 June 2012

MS/MSD Sample Submitted: Yes / 🐼

Trip Blank: Yes / 🕪

Cooler Temp on Receipt: 0,4

Temp Blank: (Yes / No

Pace

Qualtrax ID: 52738

DC#_Tit	e: ENV-F	RM-MIN4-0149 v03	_Sample Condition	ı Upon Receipt
(OCHD)	CCI			

(SCUR) - ESI

Effective Date: 04/12/2022

Sample Condition Upon	Client Name:				Pr	oject #:	- MO	#:1	.0618	381	8
Receipt – ESI Tech Specs	$\sim$	ioneer				•		JMA .			08/04/22
Courier:		]UPS []USPS		Client			CLIE	NT: BP-	-PIONEER		
	_	eeDee Commercial									
Tracking Number	540518				Exception V-FRM-MIN		\ <u> </u>				
_	Cooler/Box Presen	_/	lo.		s intact?		 s ∏No	Riolog	ical Tissue Fro	en? 🗆 Ve	s □No ☑N/A
•		ar:	_		_		:s 🗀 140	Piolog		Blank?	
Packing Material:		#####################################		None	Other:			<del></del>	1 emp 1	oiank: ,	res □No
	☐ T1(0461) ☐ 12(1) ☐ T5(0489) ☐ T6(0.		(0254)	Type of ice:	a	Wet	□Blue	□None		Melted	
Temp should be above freez	ing to 6°C <b>Coo</b> l	ler Temp Read w/ten	ıp blank:		<u> </u>		oc		Average Corr (no temp bla		P See Exceptions ENV-FRM-MIN4-0142
Correction Factor:	Ne Cooler To	emp Corrected w/ten	np blank:	:C	<u>), 4</u>		°c		°c		1 Container
USDA Regulated Soil: (	_			_)		Date/	nitials of Pers	on Examini	ng Contents: _	Mu	7/28/20
Did samples originate in			ates: AL,		-GA, ID,	Did	samples original	te from a fore	eign source (inter		cluding Hawaii and
LA. MS, NC, NM, NY, O				No -:: Chaoblia	A /ENIV EN		rto Rico)? 4-0154) ===d i=	Yes dethe with	∠No SCUB/COC non	anuo-b	
	if tes to either q	uestion, fill out a Reg	urated Sc	on Checklis	· (EIVV-PK	141-14111/	+-0134) and in	wide with	COMMENTS		
Chain of Custody Preser	at and Filled Out?		Yes	□No		1.			COMMENTS	•	
Chain of Custody Reling			Z Yes			2.					
Sampler Name and/or S			✓Yes		□n/a	3.					
Samples Arrived within			✓Yes			4.					
Short Hold Time Analys			□Yes	,⊿No					al Coliform/E coli [		Hex Chrome
Rush Turn Around Time	Requested?		√Yes	□No		6.					
Sufficient Sample Volume?			√yes	∐No		_					
Triple Volume Provided for		in 10 samples)?	ÛYes		ØN/A	7.					
Correct Containers Used			,⊠Yes ⊠Yes			8.					
-Pace Containers Use Containers Intact?	:u:		Z Yes			9.					
Field Filtered Volume Re	eceived for Dissolve	ed Tests?	☐Yes		⊠N/A	10.	ls sediment v	isible in the	dissolved cont	ainer? 🔲 Y	es 🗌 No
Is sufficient information avail			√Yes			11. if	no, write ID/ Dat	e/Time on Co	ntainer Below:		Exception FRM-MIN4-0142
Matrix: □Water ☑Soil [		<del></del>									
All containers needing a	acid/base preservat	ion have been	_	_	_/	12. 5	ample #				
checked?			∐Yes	□No	ØN/A						
All containers needing p	oreservation are for	and to be in					☐ NaOH	□ нъ	NO₃ □H	₂SO₄	Zinc Acetate
compliance with EPA re			□Yes	□No	⊠N/A				_ <del>_</del>		
(HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, Na	OH >9 Sulfide, NaO	H>10 Cyanide)	_ ~								Can Eu
Exceptions: VOA, Colifo			□Yes	□No	<b>⊠</b> N/A	Posit Chlor	ive for Res. 📋		nii Panor I osii		See Exception  ENV-FRM-MIN4-014
DRO/8015 (water) and I				Da & Francis			iner Chlorine	Q-6 Roll	pH Paper Lot# 0-6	Strip	0-14 Strip
a container it must be adde	ed to associated field a	ana equipment blanks (v	enty with I	PIMI TIEST)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Extra labels present on:			□Yes		⊠N/A		13.				See Exception
Headspace in VOA Vials	(greater than 6mm	Ŋſ	☐Yes		N/A	14.					ENV-FRM-MIN4-014
3 Trip Blanks Present? Trip Blank Custody Seals	s Present?		□Yes □Yes		ØN/A ØN/A	14.	Pace Trip Blan	ık Lot # (if p	ourchased):		
Temp Log: Temp must be maint		n, record temp every 20 min		CLIENT NOT		N/RFSC				Required	Yes No
Opened Time: 10115		Corrected Temp: 0.4		Person Con		-1 11EA			Date/Time		
Time: 10: 35	put in cooler			Comments/		n:					
Time:	Temp:	Corrected Temp:									
Project Manager	Review:		3					Dat	<sub>te:</sub> 08,	/OI/20	722
Project Manager Note: Whenever there is a	discrepancy of the large	No . C	a sample	s, a copy of t	his form wi	ll be sent	to the North Ca	rolina DEHNI	R Certification Off	ice (i.e., out	of hold, incorrect
oreservative, out of temp, in		•	0.00								
'							Lab	peled by:	·		
										PNA	$\mathcal{M}(\mathcal{D})$

## Internal Transfer Chain of Custody

1334BH

State Of Origin: M1

Face Analytical " LAB USE ONLY 7/28/2022 Results Requested By: 8/4/2022 003 007 400 00 Comments Normal processing Requested Analysis 8 × IR40-Rush 7/29/22 #60 Sieve Yes Owner Received Date: × × × Air Dry & Sieve Cert. Needed: Date/Time Preserved Containers 8 Other X Samples Pre-Logged into eCOC. Matrix Solid Solid Solid Solid Pace Analytical Green Bay Workorder Name: BPSOU Park Sampling Received By Green Bay, WI 54302 Phone (920)469-2436 1241 Bellevue Street 7/27/2022 08:15 | 10618818005 10618818003 10618818007 10618818001 Subcontract To 7/23/22 10/5 Suite 9 7/27/2022 08:05 7/27/2022 08:20 7/27/2022 08:00 Date/Time Date/Time Collect Sample PS S S S Febex Pace Analytical Minnesota Workorder: 10618818 Minneapolis, MN 55414 Released By Phone (612)607-6436 22-RMAP-SNROAD-2 22-RMAP-SNROAD-1 22-RMAP-SNPIT-2 22-RMAP-SNPIT-1 Jennifer Anderson 1700 Elm Street Sample ID Report To **Transfers** ltem |

Custody Seal Por N

Cooler Temperature on Receipt NA °C

Samples Intact ( or

Received on Ice Y or N

Include soil prep log Follow QAPP

This chain of custody is considered complete as is since this information is available in the owner laboratory,

<sup>\*\*</sup>In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.



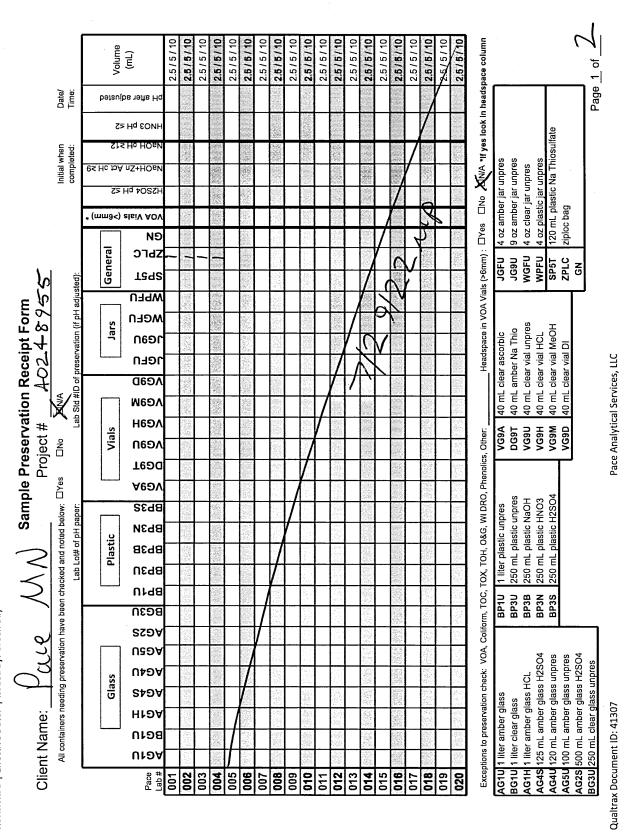
# 

BP Facility No:

.	
Req Due Date (mm/dd/yy):	Lab Work Order Number:

Lab Name:		Pace Analytical Services			Facility Address:	y Add	ress:					727. 12.					8	Consultant/Contractor:	1/Cont	ractor.		Pioneer	Pioneer Technical Services	vices	
Lab Ad	Lab Address: 1700 Elm St	1700 Elm Street Minneapolis, MN 55414	AN 55414		City, State,	state,	ZIP Code:	ode:									ၓ	Consultant/Contractor Project No.	t/Cont	ractor	Projec	t No:	BPSOU Pa	BPSOU Park Sampling	
Lab PM:	A: Jennifer Anderson	derson			Lead	Regul	atory,	Lead Regulatory Agency:	×								Ac	Address:	307	E Park	Suite	421, An	307 E Park Suite 421, Anaconda MT, 59711	9711	
Lab Phone:	ione: 612-607-1700	00			Califo	mia G	lobal	California Global ID No.				_*					S	Consultant/Contractor PM:	t/Cont	ractor	PM:	Jesse S	Jesse Schwarzrock		
Lab Sh	Lab Shipping Accnt:				Enfos Proposal No:	Prop	osal N	<u>;;</u>										Phone	Phone: 406-697-0949	90-769	949	Ш	mail: jschwarzrock( technical.com	Email: jschwarzrock@pioneer- technical.com	3r-
Lab Bo	Lab Bottle Order No:	-			Accounting	ınting	Mode		Pro	Provision.	1						ū	Email EDD To:	D To:	Jesse	e Schv	Jesse Schwarzrock			
Other Info:	nfo:	e*			Stage:				Ā	Activity:							Ē	Invoice To:	ö		BP.	1	Contractor —X	or—X	
BP Pro	BP Project Manager (PM): Mike Mc Anulty	Miké Mc Anulty				Matrix	. <u>×</u>	z	No. Co	ntain	rs / F	reser	Containers / Preservative			Re	Requested Analyses	ed Ana	alyses				Report 1	Report Type & QC Level	evel
BP PM	BP PM Phone: 406-723-1822	22						_						,dq									S	Standard "x	
BP PM	BP PM Email: mcanumc@bp.com	bp.com												,uO ,									Full Data Package	ackage	
Lab No.	Sample Description	scription	Date	Time	bilo8 \ lio8	Vater √ Liquid	Air / Vapor s this location a well?	Total Number of Containers		12804	EONF	10H	Methanol	ir dry&sieve*, 6020 (As, Cd	n) 471 Mercury, dry weight							Š	e. If sample not	Note: If sample not collected, indicate	ate
100	22-RMAP-SNROAD-1	7	07/27/22	8:00 AM	×	┿	4_	↓``	_				1		-		-	-	-			_ ≅_	RUSH TURNAROUND	QNNO	
700	22-RMAP-SNROAD-2	-2	07/27/22	8:05 AM	×			2						×	×							푒	RUSH TURNAROUND	ONNO	
500	003 22-RMAP-SNPIT-1		07/27/22	8:15 AM	×	$\vdash$		2						×	×							RI	RUSH TURNAROUND	OUND	
¥50	22-RMAP-SNPIT-2		07/27/22	8:20	×	-		2				>		×	×							RI	RUSH TURNAROUND	OUND	
												*													
	*																					$\dashv$			
									-																
												-													
												-, -	-	_	_			_	$\dashv$						
															_										
Sample	Sampler's Name:	Cole Dallaserra		-			Reli	nquis	ped	Relinquished By / Affiliation	ffiliat	uo			Date	Time	Je		AC	epte	d By	Accepted By / Affiliation	ion	Date	Time
Sample	Sampler's Company:	Pioneer Technical Services	Services		1/8	19	1/2	allen	1		101	3		10/2	74/20/	60	B					d			
Shilleme		/erniç	Ship Date:	712712022			刀	160ex	X					7/2	22/122	1015	प्र				$\mathcal{X}$	X	Dave	7/29/	5101
wg/us	Shigment Tracking No:	2150 16	1602 9	9676								-		_				١		$\geq$					
Speci	Special Instructions:	-										- 2- 3-													
8	THIS LINE - LAB USE ONLY:		ly Seals In Pl	Custody Seals In Place: 168 / No	_	emp	Blank:	Temp Blank: Yes / 🚯	9	_	ooler	Temp (	n Rece	Cooler Temp on Receipt: NA	A	J/J.	_	Trip Blank: Yes / NO	nk: Ye	ΟN/s	_	MS/MS	D Sample Su	MS/MSD Sample Submitted: Yes / NO	(O
BP Re	BP Remediation Management COC - Effective Date: starting August 16, 2011.	ent COC - Effective	Date: startin	g August 16, 201																			BP LaMF	BP LaMP COC Rev. 8, 24 June 2012	4 June 2012

DC#\_Title: ENV-FRM-GBAY-0035 v01\_Sample Preservation Receipt Form Revision: 3 | Effective Date: | Issued by: Green Bay



DC#\_Title: ENV-FRM-GBAY-0014 v02\_SCUR Revision: 3 | Effective Date: | Issued by: Green Bay

Sample (	Condition	Upor	n Receipt For	m (SCUR)	
Client Name: Parce M	$\mathcal{N}$		Project #:	WO# : 4	10248955
Courier: ☐ CS Logistics Fed Ex ☐ Speed	e 🗖 UPS	□w	/altco		
☐ Client ☐ Pace Other:				11011111111	
Tracking #: 5150 1602 997	6/5/5	0/0	<u>-02.99</u> 8	40248955	<b>20</b> 1 12 115 215
Custody Seal on Cooler/Box Present: Kyes	no Seals	intact:	▼ yes ☐ no		
Custody Seal on Samples Present:  yes	no Seals	intact:	□ yes □ no		
Packing Material:					
Thermometer Used SR - 107	* * .	Wet	Blue Dry None	Samples o	n ice, cooling process has begun  Person examining contents:
Cooler Temperature Uncorr: WA ICorr:	NIA				امنا
Temp Blank Present:  yes no	Biolo	gical I	issue is Frozen:	☐ yes ☐ no	Date: 7/29/22 Initials: 1/9
Temp should be above freezing to 6°C.  Biota Samples may be received at ≤ 0°C if shipped on Dr	y Ice.	:	r		Labeled By Initials:
Chain of Custody Present:	Yes □No	.□N/A	1.		
Chain of Custody Filled Out:	XYes □No	□n/a	2.		
Chain of Custody Relinquished:	<b>≭</b> yes □No	□n/a	3.	1/29/221	ρ
Sampler Name & Signature on COC:	□Yes □No	XN/A	4. IRWO	(/2-1	
Samples Arrived within Hold Time:	¥yes □No		5.		
- VOA Samples frozen upon receipt	□Yes □No		Date/Time:		
Short Hold Time Analysis (<72hr):	□Yes XNo		6.		
Rush Turn Around Time Requested:	X	7129	122 mp		
Sufficient Volume:			8.		
For Analysis: ★es □No MS/MSD	∵ □Yes <b>X</b> \o	□n/a			· · · · · · · · · · · · · · · · · · ·
Correct Containers Used:	XXes □No		9.		
-Pace Containers Used:	□Yes XNQ	□n/a			
-Pace IR Containers Used:	□Yes □No	¥w <sub>A</sub>			
Containers Intact:	Xves □No		10.		
Filtered volume received for Dissolved tests	□Yes □No	XVA	11.		
Sample Labels match COC:	XYes □No	□N/A	12.		
-Includes date/time/ID/Analysis Matrix:	<u> </u>				
Trip Blank Present:	□Yes □No	XV/A	13.		
Trip Blank Custody Seals Present	□Yes □No	<b>X</b> YA			
Pace Trip Blank Lot # (if purchased):					
Client Notification/ Resolution:		<b>5</b> .5		checked, see attac	hed form for additional comments
Person Contacted: Comments/ Resolution:		_Date/	ı im <b>e</b> :	<u>.                                      </u>	
Commonitor (Cooluno).					
•					

Qualtrax Document ID: 41292

Pace Analytical Services, LLC

Pace Analytical "www.pacelebs.com

### Internal Transfer Chain of Custody

X Samples Pre-Logged into eCOC.

State Of Origin: MT

Cert. Needed:	 	×	
Owner Received Date:	Date:	7/28/2022	Results Re

			3		 	ŭ	Cert Needed:		×		
Wo	Workorder: 10618818	Workorder	Workprder Name: BPSOU Park	Park Sampling		ć	Owner Received Date:	~ ~	7	22 Results Beginseted By: 8/4/2022	d Byr. 8/4/2022
Rep	Report To		Subcontract To	ct To	D				Requester	Ľ	
Jen	Jennifer Anderson Pace Analytical Minnesota		Pace,	Pace Analytical Green Bay	n Bay						MO#:10618818
12	1700 Elm Street		Suite 9								
Fige Page	Minneapolis, MN 55414 Phone (612)607-6436		Greer	Green Bay, WI 54302 Phone (920)469-2436	C) (O			ə		10618818	
								vəis :			
					-	PB		8 V10			
						Preserved Containers	Containers	ı ₁iA			
		Samp	1000			erttO					
	ilemi Sample ib-	MD6	Date/IIme	Labiu	Matrix	·					LAB USE ONLY
-	22-RMAP-SNROAD-1	S	7/27/2022 08:00	10618818001	Solid	1		×			100
7	22-RMAP-SNROAD-2	PS	7/27/2022 08:05	10618818003	Solid	1		×			802
က	22-RMAP-SNPIT-1	S	7/27/2022 08:15	10618818005	Solid	1		×			903
4	22-RMAP-SNPIT-2	PS	7/27/2022 08:20	10618818007	Solid	-		×			700
5											
KIR KIR KIR KIR KIR KIR KIR KIR KIR KIR										Comments	
Trar	Transfers Released By		Date/Time	Received By	*		Date/Tlme	BR40-Rush	Rush	Normal processing	

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

Custody Seal 

or (N)

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(

Cooler Temperature on Receipt

8/1/22 1/0:00 7/23/22 10/5

ö

Samples Intact (

Include soil prep log

27/2/8

2/5 #60 Sieve

Follow QAPP Z) lo ≻

Received on Ice

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Page 1 of 1



DC#\_Title: ENV-FRM-MIN4-0150 v05\_Sample Condition Upon Receipt (SCUR)

Effective Date: 04/12/2022

Sample Condition Upon Client N. Receipt	P	Bay	,	Projed	ct #:		WO#∶1	106188	818	8
Courier: Fed E	x ☐UPS ☐SpeeDee	□USPS □Commer	cial	Client			PM: JMA CLIENT: BP	Due Da		08/04/22
Tracking Number:				0142	KIVI-IVIIN4-					
TT7 (0042) □ 0	e Wrap Bubble 2(1336)	1)	(	□c 5)	ice:	]Wet	<u></u>	Temp Blank		]Yes No
Did Samples Originate in West Virgin	ia? ∐Yes IatNo Were	All Container	Temps Ta	i <b>ken?</b> □yes	□No <b>I</b> ZN/A					
Temp should be above freezing to 6	5°C Cooler Temp				4MB			Average Correct Temp (no temp i only):		See Exceptions ENV-FRM-MIN4-014; 1 Container
	vater sample/Other: tine zone within the Uni TX or VA (check maps)? o either question, fill out	ted States:	) AL, AR, C	A, FL, GA,	ID, LA. Did Hav	sampl vaii an	d Puerto Rico)?	a foreign source (in	<b>7</b> No	/27 Inally, including
	☐ Duluth ☐ Minnea		/irginia				C	OMMENTS:		
Chain of Custody Present and F Chain of Custody Relinquished?		Yes	No □No		1.				·	
Sampler Name and/or Signature	e on COC?	Yes	□No	ØN/A	3.			· · · · · · · · · · · · · · · · · · ·		
Samples Arrived within Hold Tir		Yes	∐No.				<pre>&lt; 8 hrs &gt;8hr,</pre>	<24 hrs, 🔲>24 hrs Coliform/E coli 🔲 BC	ND /sDOD	. Пи сь
Short Hold Time Analysis (<72		∐Yes	■No					Orthophos Othe		Hex Chrome
Rush Turn Around Time Request Sufficient Volume?	sted?	Yes Yes	□No □No		6. 7.			<del></del>		
Correct Containers Used?		Yes			8.					
-Pace Containers Used?		Yes	No							
Containers Intact? Field Filtered Volume Received	for Dissalved Tosts?	Yes	No-	ГЖ./»			at a think a time of the second			
Is sufficient information availab		Yes	No	<b>⊿</b> N/A			Date/Time on Conta	olved container?	Yes	No See Exception □
samples to the COC?  Matrix: Water Soil Oil	Other-	Yes	□No			, -		anter belote.		NV-FRM-MIN4-0142
All containers needing acid/base		☐Yes	□No	□łn/A	12. Sample #					
been checked?				121.47.7						
All containers needing preservat compliance with EPA recommer (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , <2pH, NaOH >9 S Cyanide)	idation?	Yes	□No	⊠N/A	∏ N	аОН	☐ HNO₃	☐H <sub>2</sub> SO <sub>4</sub>	Zi	nc Acetate
Exceptions: VOA, Coliform, TOC/ DRO/8015 (water) and Dioxin/Pl	•	∐Yes	□No	⊠N/A	Positive for R Chlorine?	_	]Yes ]No pHP	aper Lot#		ee Exception -FRM-MIN4-0142
•					Res. Chlorine	Ī	0-6 Roll	0-6 Strip	0-:	14 Strip
Headspace in Methyl Mercury C		Yes	□No	<b>Z</b> N/A						
Extra labels present on soil VOA		Yes	□No	₽N/A	13.					See Exception
Headspace in VOA Vials (greater Trip Blank Present?	tnan 6mm)?	Yes	□No	N/A	1.4	-				ENV-FRM-MIN4-014
Trip Blank Custody Seals Present	?	∐Yes ∐Yes	□No □No	ØN/A ØN/A	14. Pace Tri	p Blar	nk Lot # (if purcha	ised):		
CLIENT NOTIFICATIO Person Contacted:	N/RESOLUTION				Date/Time				Yes	□No
Comments/Resolution:						-				
Project Manager Reviote: Whenever there is a discrepancy a deservative, out of temp, incorrect contains	fecting North, Jeromia (ch.)	de	ς, ο συγ	of this for			08/16 h Carolina DEHNR Ce Labeled by:	2/2022 ertification Office (i.e.	<del>sout o</del> f h	Page 28 of 28

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