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

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Atlantic Richfield Company

Mike Mc Anulty Liability Manager 317 Anaconda Road Butte MT 59701 Direct (406) 782-9964 Fax (406) 782-9980

November 4, 2022

Nikia Greene Remedial Project Manager US EPA – Montana Office Baucus Federal Building 10 West 15th Street, Suite 3200 Helena, Montana 59626	Erin Agee Senior Assistant Regional Counsel US EPA Region 8 Office of Regional Counsel CERCLA Enforcement Section 1595 Wynkoop Street Denver, CO 80202 Mail Codo: 80PC C
	Mail Code: 80RC-C
Daryl Reed	Jonathan Morgan, Esq.

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

RE: Draft Final 2022 RMAP Cherokee 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 Draft Final 2022 RMAP Cherokee Park Soil Remedial Action Work Plan (RAWP). The report and appendices may be downloaded at the following link:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/EoDS4GUTAflNmW7F80l8sloBpoh IVwyCfhpBtAqBVPKPbg.

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





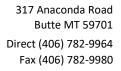
Atlantic Richfield Company

Mike Mc Anulty

Liability Manager

Cc:

Patricia Gallery / Atlantic Richfield - email Chris Greco / Atlantic Richfield – email Josh Bryson / Atlantic Richfield – email Mike McAnulty / Atlantic Richfield – email Loren Burmeister / Atlantic Richfield – email Dave Griffis / Atlantic Richfield - email Jean Martin / Atlantic Richfield - email Irene Montero / Atlantic Richfield - email David A. Gratson / Environmental Standards / email Mave Gasaway / DGS - email Brianne McClafferty / Holland & Hart - email Joe Vranka / EPA - email David Shanight / CDM - email Curt Coover / CDM - email James Freeman / DOJ - email John Sither / DOJ - email Amy Steinmetz / DEQ - email Dave Bowers / DEQ - email Carolina Balliew / DEQ - email Matthew Dorrington / 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 Matthew Mavrinac / RARUS - email Harrison Roughton / RARUS - email Brad Gordon / RARUS - email Mark Neary / BSB - email Eric Hassler / BSB - email





Atlantic Richfield Company

Mike Mc Anulty

Liability Manager

Julia Crain / BSB - email 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 317 Anaconda Road Butte MT 59701 Direct (406) 782-9964 Fax (406) 782-9980



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

Draft Final

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

Butte-Silver Bow County

and

Atlantic Richfield Company

November 4, 2022

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

Draft Final

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

Prepared for:

Butte-Silver Bow County Superfund Division 155 W. Granite 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

November 4, 2022

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Attachment B Sugar Beet Lime QA Data Attachment B-1 Energy Labs Data Reports
Attachment C Fabric Specification Sheet
Attachment D Type B Material Borrow Stockpile Data Attachment D-1 Pace Analytical Data Reports
Attachment E BSB Public Works Department Standard Drawing R-CGS1 (Curb and Gutter)
Attachment F Agency Approved Kaw Avenue Borrow Stockpile Data Attachment F-1 Energy Labs Data Report Attachment F-2 Pace Analytical Data Report
Attachment G S&N Concrete Aggregate Stockpile Data Attachment G-1 Pace Analytical Data Reports

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

DOCUMENT MODIFICATION SUMMARY

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 #2 [Covering Scown Field, Cherokee Park, Copper/Emmet, West Side Subdivision Park, Chester Steele Park, and Cinders Field]* (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):

• Cherokee 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 Cherokee Park Remedial Action

Remediation at Cherokee Park consists of two polygons totaling approximately 0.05 acres. Play Area 1 (PA1) is in the northwest corner of the park. Play Area 2 (PA2) is in the center of the park.

- Polygon PA1 (79 square feet).
- Polygon PA2 (2,058 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

Both polygons (PA1 and PA2) have lead exceedances to a depth of 12 inches. As previously stated, 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 removal 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 shall be hand excavation. The excavation depth will be measured from below the existing wood chip cover, where applicable.

Three pieces of playground equipment exist within the work area. The crew will remove and dispose of monkey bars located within PA1. The monkey bars will be replaced with a new piece of playground equipment approved by Butte-Silver Bow (BSB). PA2 contains a swing set and a newer piece of equipment that includes a slide. The crew will remove and dispose of the swing set. It will be replaced with a new piece of playground equipment approved by BSB. The play set that includes the slide meets current playground equipment requirements and will be left in place. Construction crews will conduct excavation work around this existing structure so much as site conditions allow. Excavation around playground equipment footings will be conducted according to Detail 6 on Figure 3. 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 onsite U.S. Environmental Protection Agency (EPA) representative to make site-specific excavation decisions around this existing structure.

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

Care will be taken to protect existing asphalt paving and concrete curbing in and around the work area. If any of this existing infrastructure is damaged, it will be replaced/repaired.

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 has approved 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 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 soils 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 BSB-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 BSB approved cover material). Therefore, revegetation is not anticipated for the primary work areas. However, given the location of the playground areas, existing sod will most likely be disturbed through ingress/egress activities.

For those areas that will 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 Curb and Gutter

Curb and gutter will be installed along the eastern boundary of Cherokee Park (see Figure 1) to prevent the possibility of storm water runoff from upgradient areas potentially impacting the park area. The curb and gutter will be constructed to meet the BSB Public Works Department Standard Drawing R-CGS1 provided in Attachment E. The work will be completed according to the latest version of the *Montana Public Works Standard Specifications* (Montana Contractors Association, 2021).

4.3 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.

4.4 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 Cherokee 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 F, and the corresponding laboratory reports are in Attachments F-1 and F-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 BSB. The quality assurance data are provided in Attachment G, and the corresponding laboratory reports are in Attachment G-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

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 #2 [Covering Scown Field, Cherokee Park, Copper/Emmet, West Side Subdivision Park, Chester Steele Park, and Cinders Field]. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit. June 21, 2022.
- Montana Contractors Association, 2021. Montana Public Works Standard Specifications, Seventh Edition. April 2021.

FIGURES



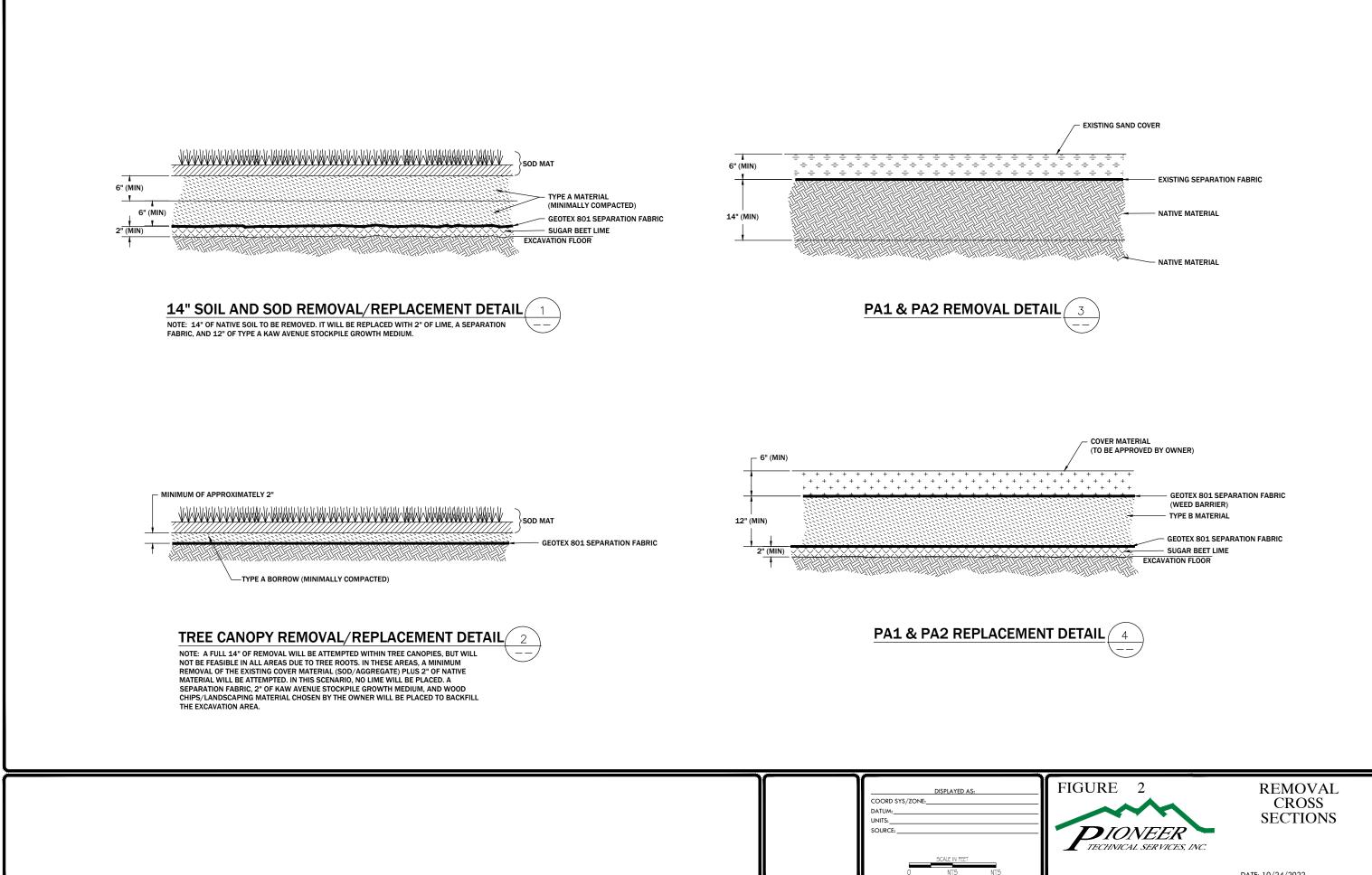
LEGEND	\uparrow	DISPLAYED AS: PRO JECTION/ZONE: <u>MSP</u> DATUM: <u>NAD 8</u>
14" Removal		UNITS:FEETSOURCE:PIONEE
26" Removal		0 15 30

Path: Z:\Shared\Active Projects\ARCO\BPSOU\RMAP\GIS\Parks\Park RAWP Figures\CherokeePark_CopperCrystal\RAWP_CherokeePark_CopperCrystal1.mxd

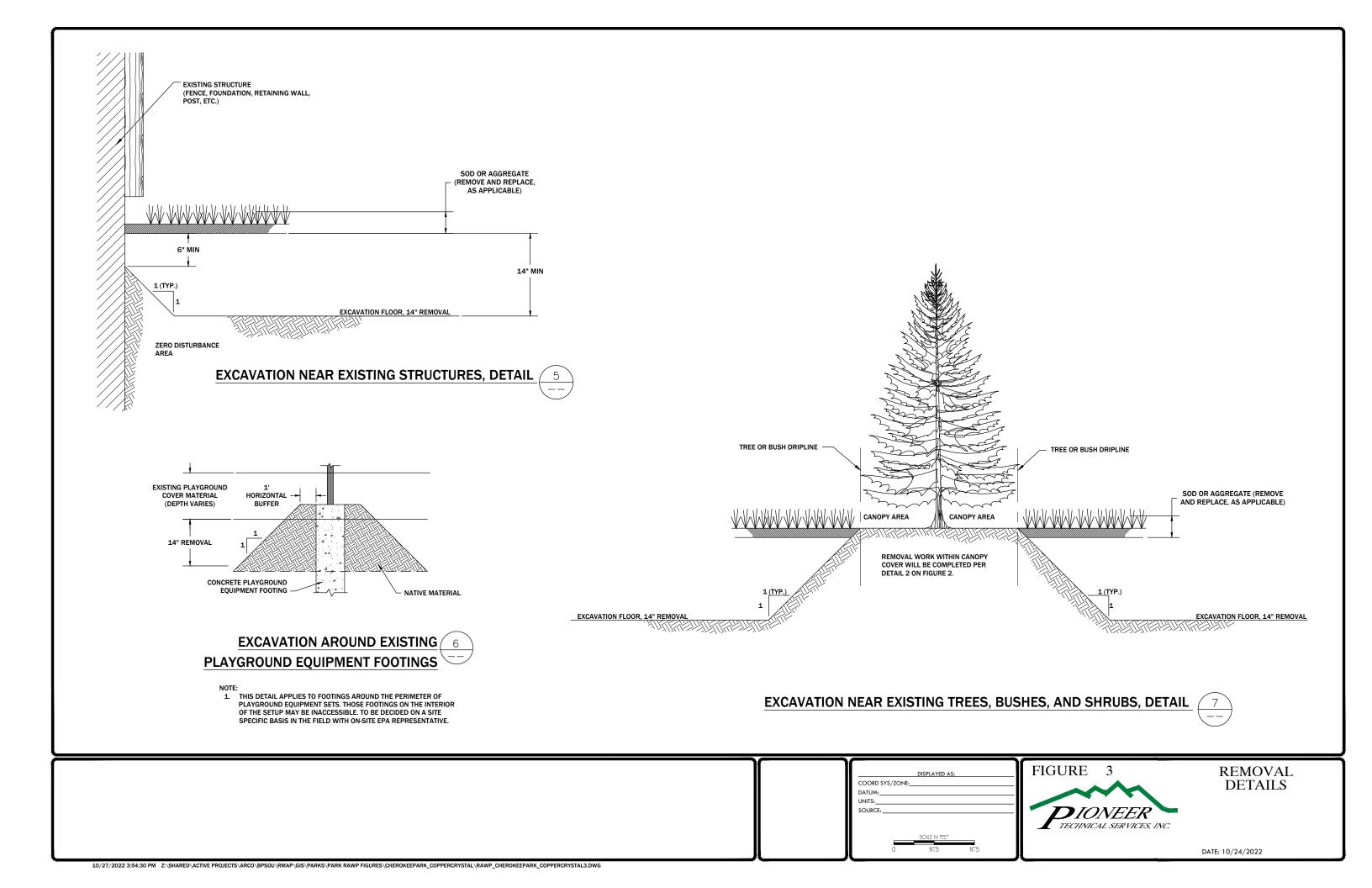


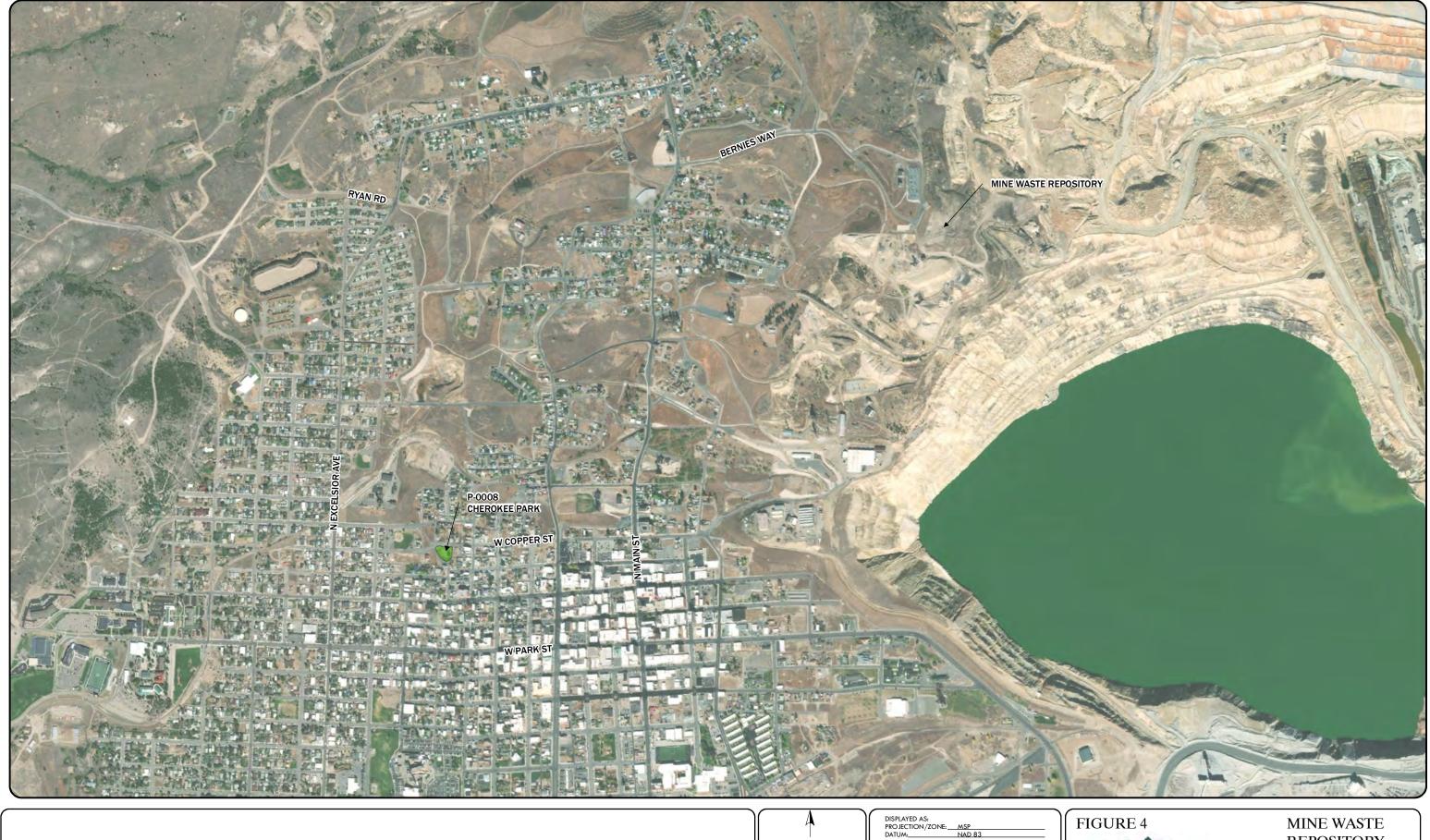
PIONEER

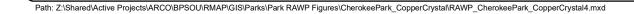
P-0008 CHEROKEE PARK SITE OVERVIEW

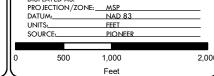


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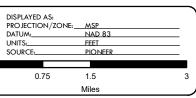
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MINE WASTE REPOSITORY LOCATION

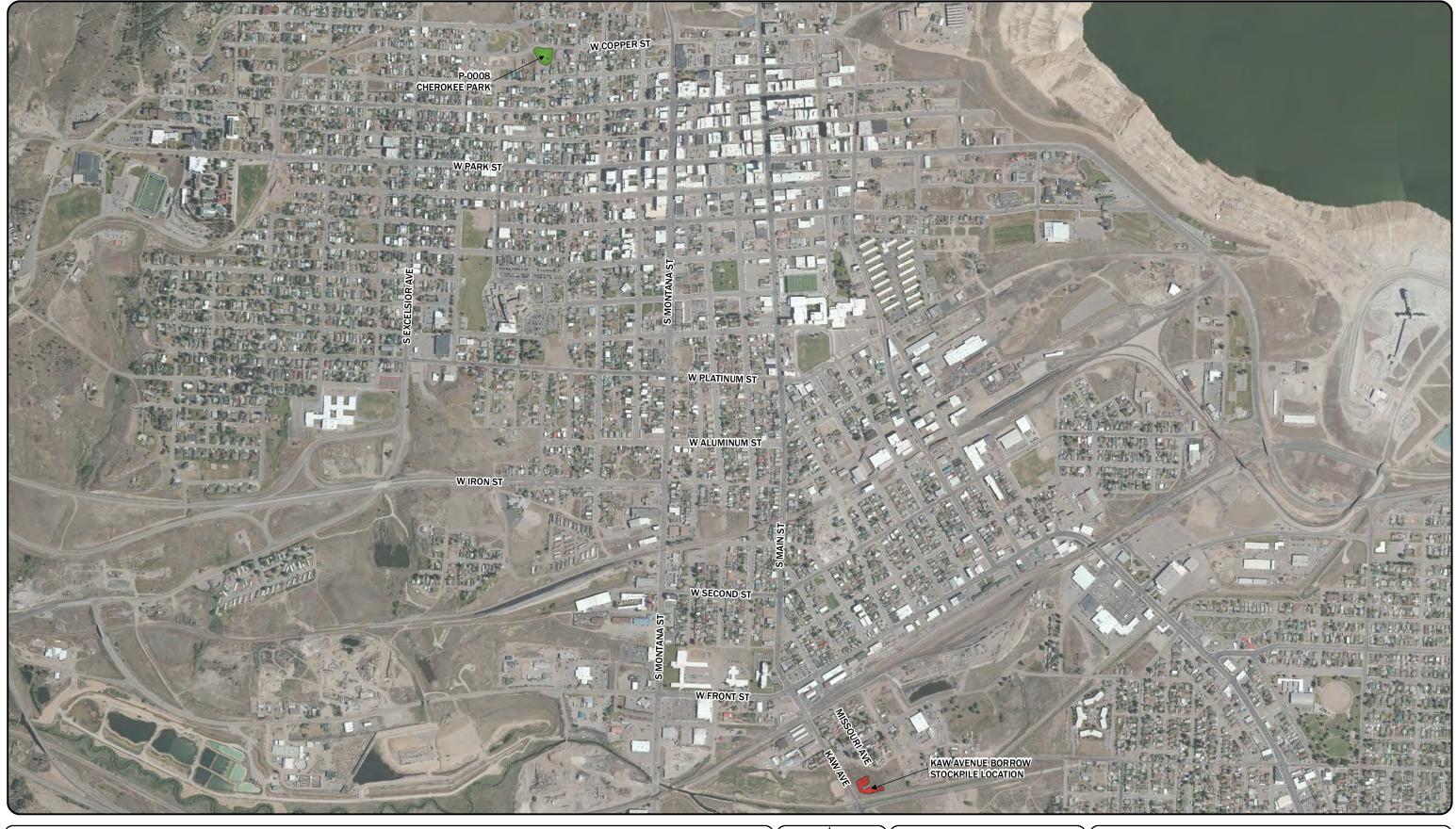


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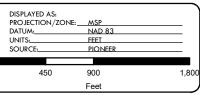




TYPE B BORROW STOCKPILE LOCATION



	DISPLAY PRO JECT DATUM: UNITS: SOURCE
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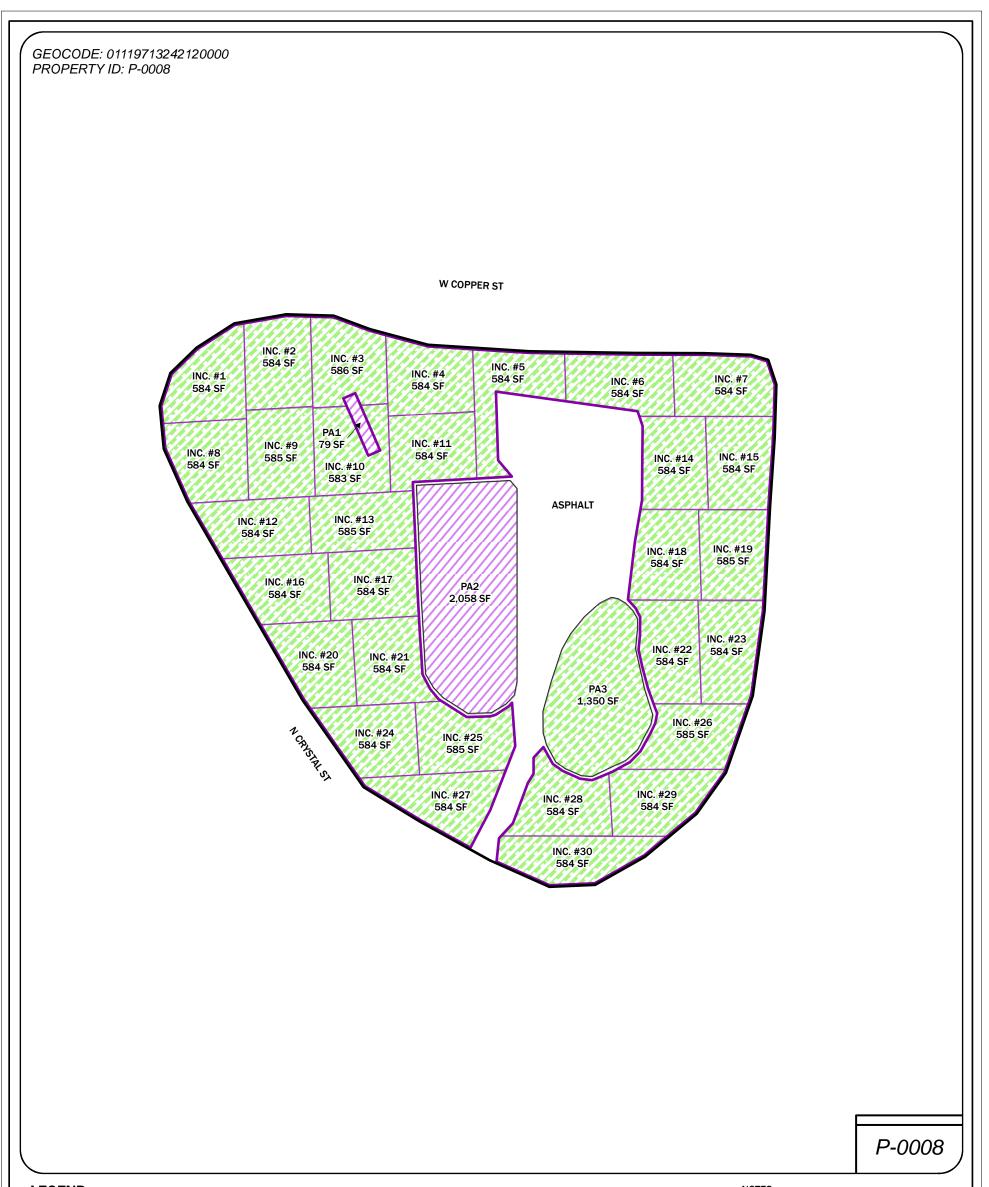
KAW AVENUE BORROW STOCKPILE LOCATION

TABLES

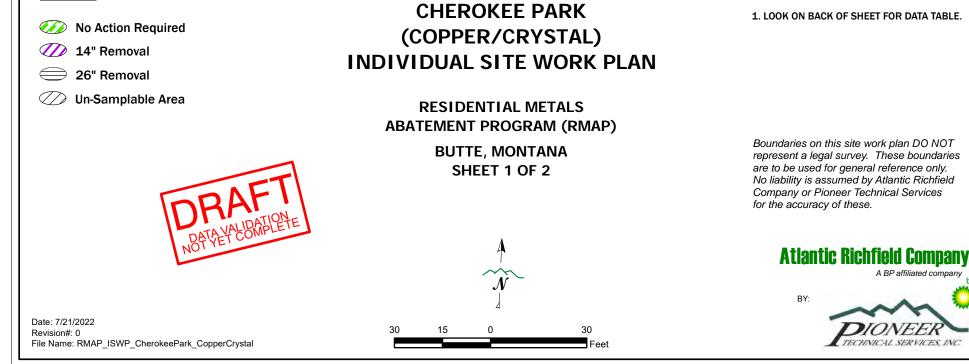
TABLE 1: CHEROKEE PARK PROPERTY INFORMATION

Count	Res-ID	Geocode	Name	Owner
1	P-0008	01119713242120000	Cherokee Park	BSB

ATTACHMENT A DRAFT CHEROKEE PARK INDIVIDUAL SITE WORK PLAN (ISWP)



LEGEND



NOTES:

bp

	ACTION SUMMARY TAE																
				со	MPOSITE S	SAMPLING	DATA SU	MMARY									
Resident ID	SAMPLING COMPONENTS	COMPONENT SURFACE AREA			POSITE ARS					MPOSITE L					POSITE ME		
P-0008		(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-0008-PA1	Playground Area 1 (PA1)	79	32	86	137	N/A	N/A	551	521	1,240	N/A	N/A	0.09	0.28	0.49	N/A	N//
P-0008-PA2	Playground Area 2 (PA2)	2,058	65	112	198	, N/A	N/A	1.250	1.740	3,050	, N/A	N/A	0.54	0.76	0.65	N/A	, N//
0008-PA2-D-2	Play Area 2 (PA2) Duplicate	-	N/A	115	N/A	N/A	N/A	N/A	1,920	N/A	N/A	N/A	N/A	0.89	N/A	N/A	N/
P-0008-PA3	Playground Area 3 (PA3)	1,350	57	61	32	N/A	N/A	984	902	423	N/A	N/A	0.74	0.46	0.34	N/A	N/
		Max:	65	115	198	0	0	1,250	1,920	3,050	0	0	0.74	0.89	0.65	0.00	0.0
		250 //															
	Composite Arsenic Concentration is ≥																
	Composite Lead Concentration is ≥ 1,2																
	Composite Mercury Concentration is ≥	••••	Dian														
N/A	= Not applicable per 2022 RMAP Quali	ty Assurance Project	Plan.														
	15	M SAMPLING DAT	SUMINAR	Ŷ													
Resident ID	SAMPLING COMPONENTS	COMPONENT SURFACE AREA	ISM AF CONCEN (mg	TRATION	CONCEN	LEAD ITRATION	CONCEN	ERCURY TRATION									
P-0008		(Square Feet)	0-2"	/Kg) 2-12"	0-2"	g/kg) 2-12"	0-2"	/kg) 2-12"									
P-0008-IS1	ISM Replicate A		30	113	543	1.030	0.74	0.86									
P-0008-IS1	ISM Replicate B	17,534	26	106	392	899	0.21	0.51									
P-0008-IS1	ISM Replicate C	1,,551	32	98	368	951	0.09	0.89									
		95% UCL:		118	594	1,071	1.22	1.29									
	ISM Arsenic 95% UCL is ≥ 250 mg/kg. ISM Lead 95% UCL is ≥ 1,200 mg/kg. ISM Mercury 95% UCL is ≥ 147 mg/kg. = Not applicable per 2022 RMAP Quali	ty Assurance Project	Plan.														
	REMEDIAL	ACTION SUMMAR															
Resident ID			-	STIMATED	QUANTITIE	5											
P-0008	SAMPLING COMPONENTS	COMPONENT SURFACE AREA (Square Feet)	Excavation (Cubic Yards)	Lime (Cubic Yards)	General Backfill (Cubic Yards)	Sod (Square Feet)											
P-0008-PA1	Playground Area 1 (PA1)	79	3	0.5	3	79											
P-0008-PA2	Playground Area 2 (PA2)	2,058	89	13	76	2,058											
P-0008-PA3	Playground Area 3 (PA3)	1,350	0	0	0	0											
P-0008-IS1	ISM Polygon	17,534 21.021	0 92	0 13	0 79	0 2,137											

CHEROKEE PARK (COPPER/CRYSTAL) 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 ₃	% 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	Τ Γ	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	Τ Γ	78.8%	98.5%
8 22RDU3_SBL_018	07/12/22	Τ Γ	77.9%	97.0%
9 22RDU3_SBL_019	07/12/22	Τ Γ	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:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client:	Woodard and Curran	Pre	pared by	Billings, MT E	Branch			
Project:	ARWW&S, RDU3, 023	2257.03					Repor	t Date: 06/28/22
Lab ID: Client Sample ID:	B22061398-001 22RDU_3_SBL_011						DateRec	Date: 06/13/22 14:45 eived: 06/15/22 Matrix: Solid
Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARA	ACTERISTICS							
Moisture (As Receive	ed)	28.6	wt%		0.2		D2974	06/21/22 10:09 / srm
CHEMICAL CHAR	ACTERISTICS							
Lime as CaCO3		78.4	%		0.1		USDA23c	06/28/22 07:52 / srm
SIEVE ANALYSIS								
No. 60 (250um), Reta	ined	84.4	wt%-wet		0.1		SSSA 15-2	06/28/22 07:42 / srm
No. 60 (250um), Pass	sed	93.9	wt%-dry		0.1		SSSA 15-2	06/22/22 14:51 / srm
Pan			wt%-dry		0.1		SSSA 15-2	06/22/22 14:51 / srm
Pan		15.6	wt%-wet		0.1		SSSA 15-2	06/28/22 07:42 / srm
Lab ID: Client Sample ID:	B22061398-002 22RDU_3_SBL_012						DateRec	Date: 06/13/22 14:50 eived: 06/15/22 Matrix: Solid
						MCL/		

Analyses	Result Units	Qualifiers RL	QCL Metho	d Analysis Date / By	_
PHYSICAL CHARACTERISTICS Moisture (As Received)	28.8 wt%	0.2	D2974	06/21/22 10:09 / srm	
	20.0 Wt/0	0.2	02314	00/21/22 10.09 / Silli	
CHEMICAL CHARACTERISTICS Lime as CaCO3	77.4 %	0.1	USDA	23c 06/28/22 07:52 / srm	
SIEVE ANALYSIS					
No. 60 (250um), Retained	90.9 wt%-w	et 0.1	SSSA	15-2 06/28/22 07:42 / srm	
No. 60 (250um), Passed	94.3 wt%-d	ry 0.1	SSSA	15-2 06/22/22 14:51 / srm	
Pan	< 0.1 wt%-d	ry 0.1	SSSA	15-2 06/22/22 14:51 / srm	
Pan	9.1 wt%-w	et 0.1	SSSA	15-2 06/28/22 07:42 / srm	



No. 60 (250um), Passed

Pan

Pan

06/22/22 14:51 / srm

06/22/22 14:51 / srm

06/28/22 07:42 / srm

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Project:	Woodard and Curran ARWW&S, RDU3, 023	2257.03					Repor	t Date: 06/28/22
Lab ID: Client Sample ID:	B22061398-003 22RDU_3_SBL_013					Collection Date: 06/13/22 14:55 DateReceived: 06/15/22 Matrix: Solid		
Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHAR		27.5	wt%		0.2		D2974	06/21/22 10:09 / srm
CHEMICAL CHAR Lime as CaCO3	ACTERISTICS	76.9	%		0.1		USDA23c	06/28/22 07:52 / srm
SIEVE ANALYSIS No. 60 (250um), Reta		78.8	wt%-wet		0.1		SSSA 15-2	06/28/22 07:42 / srm

0.1

0.1

0.1

SSSA 15-2

SSSA 15-2

SSSA 15-2

92.8 wt%-dry

< 0.1 wt%-dry

21.2 wt%-wet



QA/QC Summary Report

Prepared by Billings, MT Branch

Client:	Woodard and Curran			Work Order:	B2206	51398	Report	t 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	Sample Duplie	cate			Run: MISC	-SOIL_220628A		06/28	3/22 07:52
Lime as (CaCO3	78.4	%	0.10				0.0	30	
Lab ID:	LCS-2206280752	Laboratory Co	ontrol Samp	le		Run: MISC	-SOIL_220628A		06/28	3/22 07:52
Lime as (CaCO3	9.40	%	0.10	88	70	130			



Work Order Receipt Checklist

Woodard and Curran

B22061398

Login completed by:	Yvonna E. Smith		Date F	Received: 6/15/2022
Reviewed by:	BL2000\lcadreau		Rec	ceived by: srg
Reviewed Date:	6/19/2022		Carr	ier 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	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 sl	hipping 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

Company Name: Woodard & Curran Report Mail Address 1015 S Montan												
Woodard & C Report Mail Ar 1015 S Mo	ne:			Project Name, PWS, Permit, Etc.	ne, PWS, I	Permit, Etc.	Permit, Etc. Sample		S	Sample Origin	EPA/St	EPA/State Compliance:
Report Mail Ac 1015 S Mo	urran			ARWW&S, RDU3, 0232257.03	RDU3, 02	232257.03			S	State: MT	Yes []	No 🗆
1015 S Mo	Report Mail Address (Required):			Contact Name:	ne:	Phor	Phone/Fax:		Cell:		Sample	Sampler: (Please Print)
	1015 S Montana St Suite C, Butte MT, 59701	C, Butte MT,	59701	Garrett Craig	ß	(40	(406)291-2617		(4	(406)291-2617	Kristop	Kristopher Bosch
No Hard Cc	ଷ No Hard Copy Email: gcraig@woodardcurran.com	woodardcurran	com	Invoice Contact & Phone: Kevin Bethke (406)586-	e Contact & Phone: Bethke (406)586-8364	one: 36-8364			۲. ۲	Purchase Order:	Quote/	Quote/Bottle Order:
Invoice Address (Required):	Invoice Address (Required): 1800 Koch Suite A Bozeman MT 50715	707 AUT 507	15	M		ANALYSIS F	REQUESTED	0		Contact ELI prior to RUSH sample submittal	rior to submittal	Shipped by:
		Woodardcurrar	C OU	ntainers S V B O E s/Solids Water Water				HED		R for charges and scheduling – See Instruction Page	be See ge	Cooler ID(s):
Special Rep	Special Report/Formats:			of Cc W A Bioa Bioa	1			IDA.	_	U Comments:		Receipt Temp ° C
		EDD/EDT (Electronic Data)	ictronic Data)	Type Type r Wate tation V - Dr	dileuc			TΤΑ				On Ice: Y N
State:		LEVEL IV NELAC		uN i≜ Megee V⊟) əmiJ -			SEE	tandard	<u></u>		dy Seal tottle Y cooler Y
SAMPLE I (Name, Loc	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	B5361					I		Signature Υ N Match
¹ 22RDU3_5	SBL_011	06/13/2022	14:45	S	2							\$ \$22061398
² 22RDU3_SBL_012	SBL_012	06/13/2022	14:50	S								
³ 22RDU3_SBL_013	SBL_013	06/13/2022	14:55	S	2							O H
4					-							ISI
5												
Q												40
7	-											LV
80												<u>40</u>
6) En la
10												77
Custody	Relinquished by (print): Kristopher Bosch		Date/Time: 06/13/2022 17:30		Signature:	R	-Received by (print):		Date	Date/Time:	Signature	ure:
Record		Date/Time	ne:	Signature	iture:		Received by (print):		Date	Date/Time:	Signature:	:eur
Signed	Samula Disnosal	Return to Client:		Lab Disposal:	7		Received by Laborato	dell'he	(Date	Rind Ke	Senature	an Moduly

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at <u>www.energylab.com</u> for additional information, downloadable fee schedule, forms, and links.



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 Receiv	ve 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:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Project:	Woodard and Curran ARWW&S 0232257.04						Repo	ort Date: 07/13/22
Lab ID:	B22070163-001						Collecti	on Date: 06/29/22 17:00
Client Sample ID:	22RDU3_SBL_014						DateR	eceived: 07/05/22
								Matrix: Solid
Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHAR	ACTERISTICS							
Moisture (As Receiv	ed)	23.8	wt%		0.2		D2974	07/08/22 10:15 / srm

CHEMICAL C Lime as CaCO3		77.9 %	0.1	USDA23c	07/13/22 15:11 / srm
SIEVE ANAL	YSIS				
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
Lab ID:	B22070163-002			Collection	Date: 06/29/22 17:10

Client Sample ID: 22RDU3_SBL_015

Collection Date: 06/29/22 17:10 DateReceived: 07/05/22 Matrix: Solid

					MCL/		
Analyses	Result U	nits	Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
loisture (As Received)	22.3 w	t%		0.2		D2974	07/08/22 10:15 / srm
CHEMICAL CHARACTERISTICS							
ime as CaCO3	78.4 %)		0.1		USDA23c	07/13/22 15:11 / srm
SIEVE ANALYSIS							
lo. 60 (250um), Retained	88.1 w	t%-wet		0.1		SSSA 15-2	07/12/22 11:37 / srm
lo. 60 (250um), Passed	95.9 w	t%-dry		0.1		SSSA 15-2	07/08/22 11:26 / srm
Pan	< 0.1 w	t%-dry		0.1		SSSA 15-2	07/08/22 11:26 / srm
Pan	11.9 w	t%-wet		0.1		SSSA 15-2	07/12/22 11:37 / srm



QA/QC Summary Report

Prepared by Billings, MT Branch

Client:	Woodard and Curran			Work Order:	B2207	0163	Report	t 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 Duplic	ate			Run: MISC	-SOIL_220713B		07/13	3/22 15:11
Lime as	CaCO3	78.4	%	0.10				0.6	30	
Lab ID:	LCS-2207131511	Laboratory Co	ntrol Samp	le		Run: MISC	-SOIL_220713B		07/13	3/22 15:11
Lime as (CaCO3	9.80	%	0.10	92	70	130			



Work Order Receipt Checklist

Woodard and Curran

B22070163

Login completed by: Dylan A. Chirrick		Date F	Received: 7/5/2022
Reviewed by: gmccartney		Rec	eived by: dac
Reviewed Date: 7/9/2022		Carr	ier name: Return-FedEx Ground
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present
Custody seals intact on all shipping container(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 parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)	Yes 🗹	No 🗌	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable
Container/Temp Blank temperature:	25.3°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	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.

Company Name: Woodard & Curran						L							
Woodard & C	me:			Project Nar	ne, PM	Project Name, PWS, Permit, Etc.	tc.			Sample Origin	rigin	EPA/Sta	EPA/State Compliance:
	Curran			ARWW&S 0232257.04	02322	57.04				State: MT	Т	Yes 🗆	No 🗆
Report Mail A	Report Mail Address (Required):			Contact Name:	me:	ā	Phone/Fax:			Cell:		Samplei	Sampler: (Please Print)
1015 S Mc	1015 S Montana St Suite C, Butte MT, 59701	C, Butte MT	, 59701	Garrett Craig	ig	•)	(406)291-2617			(406)291-2617	-2617	Shyla Wesely	esely
B No Hard C	No Hard Copy Email: <u>gcraig@woodardcurran.com</u>	voodardcurran	com	Invoice Contact & Phone. Kevin Bethke (406)586-	hact & ke (40	Invoice Contact & Phone: Kevin Bethke (406)586-8364				Purchase Order:	Order:	Quote/B	Quote/Bottle Order:
Invoice Addre	Invoice Address (Required): 1800 Koch Suite & Bozeman MT 50715	707 TM 407	ц Г	M		ANAL YSIS	REQUESTED		Ĺ	CO	Contact ELI prior to RUSH sample submittal	to bmittal	Shipped by:
	Doversion outle A, bozetital Mit, 037 10	woodardcurrar		rtainers S V B O E s/Solids say <u>O</u> ther Water				HED	(TAT) i	R sch Inst	for charges and scheduling – See Instruction Page		Cooler ID(s):
Special Re	Special Renort/Formats			A V Soil Bioas Bioas	-			ACŀ	ouno	U Col	Comments:		Receipt Temp
		EDD/EDT(Electronic Data)	ectronic Data)	Typer c Type: Type	2 uality			(TTA	Turnar) (On Ice: Y N
State:		LEVEL IV NELAC		uN ∋lqms2 IA Vege⊻ VD) əmiJ -			SEE	tandard	<u>ہ</u>			Custody Seal On Bottle Y N On Cooler Y N
SAMPLE (Name, Loc	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	B5361				S	г			Signature Y N Match
¹ 22RDU3_SBL_014	SBL_014	6/29/22	1700	S	2								5902028
² 22RDU3_SBL	SBL_15	6/29/22	1710	S	2								
3													05
4						4							ISI
5													司人
9													40
7													
8													1 10
6													
10													771
Custody	Relinquished by (print): Shyla Wesely	Date/Time: 6/29/22	ne: 22	X	Sature:		Received by (print):		Ğ	Date/Time:		Signature:	
MUST he		Date/Time	.eu	Sigh	ature:		Received by (print):		D	Date/Time:		Signature:	.:.
Signed	Sample Disposal:	Return to Client:		Lab Disposal;	sal:		Received by Laborato	Nin	5.00	Date/Time: 51	211 115	Signatur	J.

Page 5 of 5



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:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Project:	Woodard and Curran ARWW&S, RDU3, 023	32257.03					Repor	t Date: 07/20/22
Lab ID: Client Sample ID:	B22070686-001 22RDU3_SBL_016						DateRec	Date: 07/07/22 11:20 eeived: 07/11/22 Matrix: Solid
Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHAR	ACTERISTICS							
Moisture (As Receive	ed)	25.7	wt%		0.2		D2974	07/19/22 09:43 / srm
CHEMICAL CHAR	ACTERISTICS							
Lime as CaCO3		76.4	%		0.1		USDA23c	07/20/22 15:36 / srm
SIEVE ANALYSIS								
No. 60 (250um), Reta	ained	76.9	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
No. 60 (250um), Pass		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: Client Sample ID:	B22070686-002 22RDU3_SBL_017						DateRec	Date: 07/07/22 11:25 eived: 07/11/22 Matrix: Solid

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



QA/QC Summary Report

Prepared by Billings, MT Branch

Client:	Woodard and Curran			Work Order:	B2207	70686	Repor	t 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 Duplic	cate			Run: MISC	-SOIL_220720B		07/20)/22 15:36
Lime as (CaCO3	75.9	%	0.10				0.7	30	
Lab ID:	LCS-2207201536	Laboratory Co	ntrol Sampl	e		Run: MISC	-SOIL_220720B		07/20)/22 15:36
Lime as (CaCO3	9.50	%	0.10	89	70	130			



Work Order Receipt Checklist

Woodard and Curran

B22070686

Login completed by: Dylan A. Chirrick		Date	e Received: 7/11/2022
Reviewed by: BL2000\lcadreau		R	eceived by: dac
Reviewed Date: 7/12/2022		Ca	arrier name: Return-FedEx Ground
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present
Custody seals intact on all shipping container(s)/cooler(s	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 parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes 🗹	No 🗌	
Temp Blank received in all shipping container(s)/cooler(s	s)? Yes 🗹	No 🗌	Not Applicable
Container/Temp Blank temperature:	24.0°C No Ice		
Containers requiring zero headspace have no headspace bubble that is <6mm (1/4").	e 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

BORATOR	ES											
Company Name:	16.			Project Nam	ne, PWS	Project Name, PWS, Permit, Etc.	Permit, Etc.		Sampl	Sample Origin	EPA/St	EPA/State Compliance:
Woodard & Curran	urran			ARWW&S,	RDU3,	RDU3, 0232257.03			State:	MT	Yes 🗆	D N
port Mail Ac	Report Mail Address (Required):			Contact Name:	ne:	Phon	Phone/Fax:		Cell:		Sample	Sampler: (Please Print)
15 S Mo	1015 S Montana St Suite C, Butte MT, 59701	C, Butte MT,	59701	Garrett Craig	D	(406	(406)291-2617		(406)	(406)291-2617	Kristoph	Kristopher Bosch
Jo Hard Co	No Hard Copy Email: <u>gcraig@woodardcurran.com</u>	woodardcurran	com	Invoice Contact & Phone: Kevin Bethke (406)586-	tact & P ce (406)	ntact & Phone: ke (406)586-8364			Purch	Purchase Order:	Quote/I	Quote/Bottle Order:
bice Addres	Invoice Address (Required):	TM NET		MC		ANALYSIS F	REQUESTED	6	1	Contact ELI prior to RUSH sample submittal	ior to submittal	Shipped by:
		IIdii Mil, 037	1	rtainers 5 V B O C /Solids Water Water					æ	for charges and scheduling – See Instruction Page	d ee Je	Cooler ID(s):
lo Hard Co ecial Rep	No Hard Copy Email: kbetnke@woodargcurran.com Special Report/Formats:	woodargcurrar		of Cor et <u>S</u> oils inking <i>l</i>	Â			around TACH		Comments:		Receipt Temp ° C
DW		EDD/EDT (Electronic Data)		Typer Type tation tation Top	tilen(-				On Ice: Y N
POTW/WWTP State: Other:		Format: LEVEL IV NELAC		iuN elqms2 i <u>iA</u> 9₽9⊻ VD	D əmiJ -			SEE based				Custody Seal On Bottle Y N On Cooler Y N Intact Y N
SAMPLE Jame, Loc	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	8236			5	E			ture Y
22RDU3_	SBL_016	07/07/2022	11:20	S	2							\$770706
22RDU3_SBL_017	SBL_017	07/07/2022	11:25	S	2							
) E
												ISM
) <u>A</u>
												Y0.
												<u></u>
												Y0
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Custody	Hannah Foster	Date/Time: 07/08/22	a/22 12:00	Z	Signature:	11/8/12	Keceived		Date/ I me.		oignature	i i i i i i i i i i i i i i i i i i i
MIST he		Date/Time	ne:	Signi	Signature:	100.21	Received by (print):		Date/Time:		Signature:	ure:
Signed	Cample Disnosal	Return to Client:		Lab Disposal:	sal:		Received by Laborate	Minic	Vate/ I ime:	11100 1	The signature	K &



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 Recei	ve 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:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client:	Woodard and Curran	110	purcu by	Dinings, Mr I	Jianon			
Project:	ARWW&S, RDU3, 023	32257.03					Repor	t Date: 07/20/22
Lab ID: Client Sample ID:	B22071162-001 22RDU3_SBL_018						DateRec	Date: 07/12/22 15:00 eived: 07/14/22 Matrix: Solid
Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHAR	ACTERISTICS							
Moisture (As Receive	ed)	23.4	wt%		0.2		D2974	07/19/22 09:43 / srm
CHEMICAL CHAR	ACTERISTICS							
Lime as CaCO3		77.9	%		0.1		USDA23c	07/20/22 15:36 / srm
SIEVE ANALYSIS								
No. 60 (250um), Reta	ained	60.8	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
No. 60 (250um), Pass	sed	97.0	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		39.2	wt%-wet		0.1		SSSA 15-2	07/20/22 11:27 / srm
Lab ID:	B22071162-002							Date: 07/12/22 15:05
Client Sample ID:	22RDU3_SBL_019							eived: 07/14/22 Matrix: Solid

Analyses	Result Ur	nits Qua	lifiers 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 No. 60 (250um), Passed Pan Pan	96.3 wt	%-dry	0.1 0.1 0.1 0.1		SSSA 15-2 SSSA 15-2 SSSA 15-2 SSSA 15-2	07/20/22 11:27 / srm 07/19/22 10:36 / srm 07/19/22 10:36 / srm 07/20/22 11:27 / srm



QA/QC Summary Report

Prepared by Billings, MT Branch

Client:	Woodard and Curran	Work Order: B22071162	Report Date: 07/20/22
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Analyte Result Units RL %REC Low Limit High Limit **RPD RPDLimit** Qual Method: USDA23c Batch: R384936 Lab ID: B22070686-001A DUP Sample Duplicate Run: MISC-SOIL 220720B 07/20/22 15:36 Lime as CaCO3 75.9 0.7 % 0.10 30 Run: MISC-SOIL_220720B 07/20/22 15:36 Lab ID: LCS-2207201536 Laboratory Control Sample Lime as CaCO3 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	ceived by: tae
Reviewed Date: 7/19/2022		Carr	ier name: Return-FedEx Ground
Shipping container/cooler in good condition?	Yes 🖌	No 🗌	Not Present
Custody seals intact on all shipping container(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 parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)	Yes 🗸	No 🗌	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes 🗹	No 🗌	Not Applicable
Container/Temp Blank temperature:	22.4°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	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

Company Name: Woodard & Curran Report Mail Address (Required): 1015 S Montana St Suite C, Butte MT, 59701 1016 S Montana St Suite C, Butte MT, 59701 Invoice Address (Required): Invoice Address (Required): 1800 Koch Suite A, Bozeman MT, 59715	uired): Suite craig@ Bozer Bozer			Project Nam ARWW&S,	Project Name, PWS, Permit, Etc.	Permit, Etc. Sample		Sa	Sample Origin	EPA/St	EPA/State Compliance:
Woodard & Curran Report Mail Address (Req 1015 S Montana St Invoice Address (Requirec Invoice Address (Requirec 1800 Koch Suite A,	uired): Suite craig@ d): Bozer			ARWW&S,							
Report Mail Address (Req 1015 S Montana St B No Hard Copy Email: <u>9</u> Invoice Address (Requirec 1800 Koch Suite A,	uired): Suite craig@ Bozer Bozer				ARWW&S, RDU3, 0232257.03	03		Sta	State: MT	Yes []	□ °N
1015 S Montana St B No Hard Copy Email: <u>9</u> Invoice Address (Required 1800 Koch Suite A,	Suite craig@ bozer			Contact Name:		Phone/Fax:		Cell:		Sample	Sampler: (Please Print)
No Hard Copy Email: <u>9</u> Invoice Address (Requirec 1800 Koch Suite A ,	craig@ ط): Bozer	C, Butte MT	, 59701	Garrett Craig		(406)291-2617		(40	(406)291-2617	Kristopł	Kristopher Bosch
Invoice Address (Required 1800 Koch Suite A,	1): Bozen	woodardcurrar	n.com	Invoice Con Kevin Bethk	Invoice Contact & Phone: Kevin Bethke (406)586-8364			Pu	Purchase Order:	Quote/F	Quote/Bottle Order:
	0400	nan MT 597	۲ ۲	MC	ANAL VSIS	REQUESTED		T	Contact ELI prior to RUSH sample submittal	r to ubmittal	Shipped by:
I NO HARD LODV FMAIL	bethke	woodardcurrai	D.com	vntainers V S V B O [Is/Solids ssay <u>O</u> ther Water				(TAT) b		υ	Cooler ID(s):
Special Report/Formats	ats:			Biog			-		Comments:		C o
		EDD/EDT(Electronic Data)	ectronic Data)	noitete N - Dri	(tileu)		-				On Ice: Y N
State:		LEVEL IV	-	DA ⊼ede	D əmi-		' 33S				Custody Seal On Bottle Y N
Other:		NELAC			1-1		_				Un Cooler Y N
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	TION al, etc.)	Collection Date	Collection Time	MATRIX	9238						ure Y
¹ 22RDU3_SBL_018		07/12/2022	15:00	S	7						11110214
² 22RDU3_SBL_019		07/12/2022	15:05	S							
3											0
4					*						ISI
5											74
9											<u>40</u>
2											L.
8											14C
0											18(
10											
Custody Relinquished by (print): Hannah Foster	by (print): Oster	Date/Time: 07/13/22	ne: 3/22 12:00	Signature:	who have	Received by (print):		Date/Time	me:	Signature	le:
MICT No.	by (print):	Date/Time	ne:			Received by (print):		Date/Time	.eu	Signature:	
Signed Samula Disposal	·leson	Return to Client:		Lab Disposal:	Z is	Received by Laboratory:	1 miles	Date/Tir	7.14-27. R	Signatu	En & M. Na
											5

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

ATTACHMENT C FABRIC SPECIFICATION SHEET

GEOTEX

BY PROPEX

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 below¹. 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.

		М	ARV ²
PROPERTY	TEST METHOD	ENGLISH	METRIC
ORIGIN OF MATERIALS	· ·		
% 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) ³	ASTM D-4751	80 US Std. Sieve	0.180 mm
Permittivity	ASTM D-4491	1.5 sec ⁻¹	1.5 sec ⁻¹
Water Flow Rate	ASTM D-4491	110 gpm/ft ²	4482 l/min/m ²
ROLL SIZES		12.5 ft x 360 ft 15 ft x 300 ft	3.81 m x 109.8 m 4.57 m x 91.5 m

NOTES:

The property values listed above are effective 04/2011 and are subject to change without notice. 1.

2 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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Propex Operating Company, LLC · 6025 Lee Highway, Suite 425 · PO Box 22788 · Chattanooga, TN 37422

ph 423 899 0444 · ph 800 621 1273 · fax 423 899 7619

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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	Butte Hill Reveg Spec: Volume Tested: Approximatley 5,000 cy MIN: MIN: AVE:	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	Volumo Tostod:	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
			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,

Inder

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

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 #: 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 Massachusetts DWP Certification #: via MN 027-053-137 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137* Minnesota Dept of Ag Certifcation #: 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 (*).



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



SAMPLE ANALYTE COUNT

Project:CS OU Borrow DevelopmentPace Project No.:10541146

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10541146001	 20-CS-ТуреВ-1203-001	EPA 6020A		5	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

Sample: 20-CS-TypeB-1203-001	Lab ID: 105	541146001	Collected: 12/03/2	0 10:30	Received: 12	2/04/20 10:40 N	latrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		20A Preparation Me	thod: E	PA 3050B			
	Pace Analytica	al Services - I	vinneapoils					
Arsenic	5.8	mg/kg	0.49	20	12/08/20 16:12	12/10/20 14:13	7440-38-2	
Cadmium	0.081	mg/kg	0.078	20	12/08/20 16:12	12/10/20 14:13	7440-43-9	
Copper	10.9	mg/kg	0.98	20	12/08/20 16:12	12/10/20 14:13	7440-50-8	
Lead	4.7	mg/kg	0.20	20	12/08/20 16:12	12/10/20 14:13	7439-92-1	
Zinc	21.7	mg/kg	4.9	20	12/08/20 16:12	12/10/20 14:13	7440-66-6	



Project: CS OU Borrow Development

Pace Project No.: 10541146

Sample: 20-CS-TypeB-1203-002	Lab ID: 10	541146002	Collected: 12/03/2	20 10:38	5 Received: 12	/04/20 10:40 N	/atrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Me	thod: EPA 602	20A Preparation Me	thod: E	PA 3050B			
	Pace Analytic	al Services - I	Minneapolis					
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

Sample: 20-CS-TypeB-1203-003	Lab ID: 105	641146003	Collected: 12/03/2	0 10:40	Received: 12	/04/20 10:40 N	latrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		20A Preparation Me	thod: E	PA 3050B			
	Pace Analytica	al Services - l	viinneapoiis					
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	



Project: CS OU Borrow Development

Pace Project No.: 10541146

Sample: 20-CS-TypeB-1203-004	Lab ID: 10	541146004	Collected: 12/03/2	20 10:48	5 Received: 12	/04/20 10:40 N	/latrix: Solid	
Results reported on a "wet-weight"		Linite	Dement Linsit		Drevensed	A see by see al		Qual
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Met	hod: EPA 602	20A Preparation Me	thod: E	PA 3050B			
	Pace Analytic	al Services -	Minneapolis					
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

Sample: 20-CS-TypeB-1203-005	Lab ID: 10	541146005	Collected: 12/03/2	20 10:50	0 Received: 12	/04/20 10:40 N	/atrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Me	thod: EPA 60	20A Preparation Me	thod: E	PA 3050B			
	Pace Analytic	al Services -	Minneapolis					
Arsenic	7.7	mg/kg	0.47	20	12/08/20 16:12	12/10/20 14:45	7440-38-2	
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	
Lead	7.1	mg/kg	0.19	20	12/08/20 16:12	12/10/20 14:45	7439-92-1	
Zinc	29.9	mg/kg	4.7	20	12/08/20 16:12	12/10/20 14:45	7440-66-6	



Project: CS OU Borrow Development

Pace Project No.: 10541146

Sample: 20-CS-TypeB-1203-006	Lab ID: 10	541146006	Collected: 12/03/2	20 10:58	5 Received: 12	2/04/20 10:40 N	/atrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical Me	thod: EPA 602	20A Preparation Me	thod: E	PA 3050B			
	Pace Analytic	al Services -	Minneapolis					
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

Sample: 20-CS-TypeB-1203-007	Lab ID: 105	41146007	Collected: 12/03/2	0 11:00	0 Received: 12	/04/20 10:40 N	latrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		20A Preparation Me	thod: E	PA 3050B			
	Pace Analytica	al Services - l'	viinneapoiis					
Arsenic	10.9	mg/kg	0.49	20	12/08/20 16:12	12/10/20 14:51	7440-38-2	
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	
Lead	5.4	mg/kg	0.20	20	12/08/20 16:12	12/10/20 14:51	7439-92-1	
Zinc	25.7	mg/kg	4.9	20	12/08/20 16:12	12/10/20 14:51	7440-66-6	



Project: CS OU Borrow Development

Pace Project No.: 10541146

Sample: 20-CS-TypeB-1203-008	Lab ID: 10	541146008	Collected: 12/03/2	20 11:05	5 Received: 12	/04/20 10:40 N	/atrix: Solid				
Results reported on a "wet-weight"	basis										
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050B										
	Pace Analytic	al Services -	Minneapolis								
Arsenic	5.0	mg/kg	0.47	20	12/08/20 16:12	12/10/20 14:54	7440-38-2				
Cadmium	0.11	mg/kg	0.075	20	12/08/20 16:12	12/10/20 14:54	7440-43-9				
Copper	10.5	mg/kg	0.94	20	12/08/20 16:12	12/10/20 14:54	7440-50-8				
Lead	4.8	mg/kg	0.19	20	12/08/20 16:12	12/10/20 14:54	7439-92-1				
Zinc	23.5	mg/kg	4.7	20	12/08/20 16:12	12/10/20 14:54	7440-66-6				



Project: CS OU Borrow Development

Pace Project No.: 10541146

Sample: 20-CS-TypeB-1203-009 Results reported on a "wet-weight"	Lab ID: 10	541146009	Collected: 12/03/2	20 11:10) Received: 12	/04/20 10:40 N	/atrix: Solid	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	thod: EPA 602 al Services - N	20A Preparation Me Minneapolis	thod: E	PA 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

Sample: 20-CS-TypeB-1203-010	Lab ID: 105	641146010	Collected: 12/03/2	20 11:15	5 Received: 12	/04/20 10:40 N	latrix: Solid	
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		20A Preparation Me	thod: E	PA 3050B			
	,	al Selvices - I	•					
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

Sample: 20-CS-TypeB-1203-011	Lab ID: 10	541146011	Collected: 12/03/2	0 11:20	Received: 12	/04/20 10:40 N	latrix: Solid	
Results reported on a "wet-weight"	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,		20A Preparation Me	thod: E	PA 3050B			
	Pace Analytic	al Services - l	Vinneapolis					
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

Sample: 20-CS-TypeB-1203-012	Lab ID: 10	541146012	Collected: 12/03/2	20 11:25	5 Received: 12	2/04/20 10:40 N	/latrix: Solid					
Results reported on a "wet-weight"												
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual				
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050B											
	Pace Analytic	al Services -	Minneapolis									
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

QC Batch:	714545			Analy	sis Metho	d: E	EPA 6020A								
QC Batch Method:	EPA 30	50B		Analy	sis Descri	ption: 6	6020A Solids UPD4								
				Labor	atory:	F	Pace Analyt	ical Service	es - Minnea	apolis					
Associated Lab Sar)1, 10541146002)8, 10541146009	,	,	,		,	16006, 105	41146007,					
METHOD BLANK:	3814382			I	Matrix: So	olid									
Associated Lab Sar			01, 10541146002 08, 10541146009		6010, 1054				16006, 105	41146007,					
Parar	neter		Units	Resu	ılt	Limit	Analy	/zed	Qualifier	S					
Arsenic		·	mg/kg		ND	0.46	5 12/10/20	0 14:05							
Cadmium			mg/kg		ND	0.073	3 12/10/20	0 14:05							
Copper			mg/kg		ND	0.92	2 12/10/20	0 14:05							
Lead			mg/kg		ND	0.18									
Zinc			mg/kg		ND	4.6	5 12/10/20	0 14:05							
ABORATORY CO	NTROL SA	MPLE: 3	3814383												
Parar	neter		Units	Spike Conc.	LC Res		LCS % Rec	% Re Limi		Qualifiers					
Arsenic			mg/kg	47.2	2	42.7	90	3 0	30-120						
Cadmium			mg/kg	47.2		44.1	93		30-120						
Copper			mg/kg	47.2		46.6	99		30-120						
Lead			mg/kg	47.2		46.7	99		30-120						
Zinc			mg/kg	47.2	2	45.0	98	5 č	30-120						
MATRIX SPIKE & M	IATRIX SF	PIKE DUPL	ICATE: 38143	84		3814385									
				MS	MSD										
Parameter		Units	10541146001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qua		
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				
_ead		mg/kg	4.7	47.2	49	47.3	52.3	90	97	75-125	10				
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

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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.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	CS OU Borrow Development
Pace Project No.:	10541146

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

BP Site Node Path:										
				Req Dut	Req Due Date (mm/dd/yy):	id/yy):		Rush TAT:	² ×	
BP Facility No:	:0			Lab W	Lab Work Order Number:	mber:				
Lab Name: Pace Analytical Services Facility Address:	Facility Address:				ð	Consultant/Contractor:		Pioneer Technical Services	Se	
Lab Address: 1700 Elm Street Minneapolis, MN 55414 City, State, ZIP C	City, State, ZIP Code:		1		8	Consultant/Contractor Project No:	r Project No:	CS OU Borrow Development	Development	
Lab PM: Jennifer Anderson Lead Regulatory	Lead Regulatory Agency	ancy:			PA	Address: 307 E Par	k Suite 421, /	307 E Park Suite 421, Anaconda MT, 59711	+	Ι
Lab Phone: 612-607-1700 California Global	California Global ID No.	Vo.:			<u>ð</u>	Consultant/Contractor PM:		Jesse Schwarzrock		
Lab Shipping Acont	Enfos Proposal No:					Phone: 406-697-0949	949	Email: jschwarzrock@pioneer- tachnical com	ck@pioneer-	
Lab Bottle Order No: Accounting Mode	Accounting Mode:	Provision			5	Email EDD To: Jesse Schwarzrock	e Schwarzro	ck k		
Other Info: Profile: 35746, Line 3 Stage:	Stage:	Activity:		. • •	È	Invoice To:		Contractor X		
BP Project Manager (PM): Luke Pokorny Matrix	-	No. Containers / Preservative	^o reservative	<u> </u>	Request	Requested Analyses		Report Type	Report Type & QC Level	_
BP PM Phone: 406-723-1832								Standard	lard x	
BP PM Email: <u>luke.pokorny@bp.com</u>		S						Full Data Package	age	
		fontainer		0209 Vd N2						
Lab Sample Description Solid Solid Solid Yepor	rr / Liquid Vapor s location a	¢C pərvəsə	lone	q' Cn' bp'				Солг	Comments	
9tsW Air∖∖	etsW Air / IA		Meth	o, sA	<u></u>		• •			
20-CS-TypeB-1203-001 12/03/20 X	×	1	-	×			100			
20-CS-TypeB-1203-002 12/03/20 10.35 ×	×	1		×			17 8			
20-CS-TypeB-1203-003 12/03/20 12/03/20 X	×	1		×	-		83	•	. • •	
12/03/20	×	1		×			84	•		
20-CS-TypeB-1203-005 12/03/20 20-CS-TypeB-1203-005 X	×			×			Se	· · · ·	 	
20-CS-TypeB-1203-006 12/03/20 [0:55 X		1		×			8			ć
20-CS-TypeB-1203-007 12/03/20 1/ : 06 X	×	1		×			83		ITESE SAMPI	g
20-CS-TypeB-1203-008 12/03/20 11 : 05 ×	×	1		×			505		· · ·	
20-CS-TypeB-1203-009 12/03/20 L/: /0 ×	×	1		×			8			
20-CS-TypeB-1203-010 12/03/20 21/1:16 X	×	1		×			00			
20-CS-TypeB-1203-011 12/03/20 1/: 70 X	×	-		×			160	•		
20-CS-Турев-1203-012 12/03/20 11: 35 х		1		×			012	· ·	-	_
Sampler's Name: Cole Dallaserra	Relinqu	Relinquished By / Affiliation	ion	Date	Time	Accepte	Accepted By / Affiliation	ation	Date Ti	Time
Sampler's Company: Pioneer Technical Services	late that	Prairie 1	275	12/3/20	0;30	R	рас		(1) 07/h/21	Oher
Shipment Method: FedEx Overnight Ship Date: 12/372-0						_				
Shipment Tracking No:										
Special Instructions:										
THIS LINE - LAB LISE ONLY. Custody Seals In Place Cas / No Temp Blank	Temp Blank		Cooler Temp on Receipt:	いい		Trip Blank: Yes / No	~	MS/MSD Sample Submitted: Yes / Mo	itted: Yes / Mo	0
)±:105411	116						-	BP LaMP COC	BP LaMP COC Rev. 8, 24 June 2012	ie 2012

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10541146

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	ace Analytical *	Sample Co	ondition Up			UR) - ESI			ge 1 of 1	
	uoon mary nour	• •		nent No	· ·		Pa		tical Services	-
1		EN	IV-FRM-MI			1			neapolis	
· ·					r					
	Client Name:			Proj	ject #:					
Upon Receipt – ESI Tech Specs	4 - >-	L. I.					0#:	10!	54114	.6
	BP- ploneur	pen								
Courier:	K Fed Ex UPS			nt			: JMA		Due Date:	12/18/20
4			_			CL1	ENT: B	P-PIO	NEER	
		_		e Exceptio	ns 🗌 🛛	\				
Tracking Number: <u></u>	278 9929	1428		V-FRM-MIN						
Custody Seal on Coole	er /Box Present? 🕅 Ye	s 🗌 No	Seals	s Intact?	[∑]Yes	5 🗌 No	Biolo	gical Tiss	sue Frozen? 🗌	Yes 🗌 No 🕅 N/A
Packing Material:	Bubble Wrap	ıbble Bags	None	Othe	r:			Те	mp Blank? 🏾 📡	Yes 🗌 No
	т1(0461) 💹 т2(1336) 🗖 т	3(0459)	Type of Ice	. M	Wet	Blue	None	□Dry		
	T4(0254) 🔲 T5(0489)			7.						
Temp should be above freez		emp Read w/t	emp blank:_	2.5			ºC		e Corrected no temp blank	See Exceptions
Correction Factor: +(<u>) 7</u> Cooler Temp C	orrected w/te	mp blank :_	2.3	7		°C	only):	°C	ENV-FRM-MIN4-0142
	N/A, water sample/Ot	her:)		Date/I	nitials of Pe	erson Exai	mining Co	ontents: KT	
	a quarantine zone within		es: AL, AR, CA	A, FL, GA,	-			-	ource (internation	ally, including
	OK, OR, SC, TN, TX or VA (No		ii and Puerto	•	□ ·	<i></i>	
If Ye	es to either question, fil	out a Regula	ted Soil Che	cklist (F-I	MN-Q-33	38) and incl	ude with			
		k n						COMM	ENTS:	
Chain of Custody Present Chain of Custody Relinqui		· <u>如</u> ` 			1.					
Sampler Name and/or Sig				□n/a	3.					
Samples Arrived within Ho		<u>ے</u> رکلا			4.					
Short Hold Time Analysis		<u>שק</u> יים ום	<u></u>		5.					/cBOD Hex Chrome
Rush Turn Around Time R		ایک			6.	Turbidity 🔲 I	Nitrate 🗌 N	itrite 🗌 Oı	thophos 🗌	
Sufficient Sample Volume?	icquesteut	—————————————————————————————————————			0.					
Triple Volume Provided for	MS/MSD (if more than 10 s			Ď∰N/A	7.					
Correct Containers Used?		<u></u>				astiz	brack			
-Pace Containers Used	?				1 4	w / c	bags			
Containers Intact?	aived for Dissolved Tests?			X N/A	9. 10. l		uiathla in th	o diseolu	ed container?	
Field Filtered Volume Reco				J <u>A</u> IN/A		s sealment v 10, write ID/ D				See Exception
Is sufficient information available		to the COC A	′es □No					containt		ENV-FRM-MIN4-0142
Matrix: Water Soil All containers needing acid					12 500	unia 4				
checked?	uppase preservation have		′es □No	尬 N/A	12. Sar	npre #				
All containers needing pre	servation are found to be	in				🗌 NaOH	<u></u> н	INO₃	H₂SO₄	Zinc Acetate
compliance with EPA reco			′es 🗌 No	JØN/A						
(HNO3, H2SO4, <2pH, NaO			_	_	Desitiv	e for Res.	Yes			See Exception 🗌
Exceptions: VOA, Coliform		• —	es ∐No	ØN/A	Chlorin	=]No	oH Pap	er Lot#	ENV-FRM-MIN4-0142
DRO/8015 (water) and Dic a container it must be adde			(verify with P	M first)	Res. Ch		0-6 Roll	pritup	0-6 Strip	0-14 Strip
Extra labels present on soi Headspace in VOA Vials (g		יs? □ז □ז	_	XIN/A XIN/A	13.					See Exception
3 Trip Blanks Present?	reater than oning:	<u>ים</u> ום			14.					EN 4-FKI4I-I4IIN4-0140
Trip Blank Custody Seals P	resent?					ace Trip Bla	nk Lot # (if	purchase	d):	
Temp Log: Temp must be maint	tained at <6°C during login, reco	ord temp every			on /	0.1171-011				
20 mins Opened Time: 川5を、Ter	mp: 2,5 Corrected T	emp: 2.7	CLIENT NO Person Cor		UN/RES	OLUTION			I Data Required	? Yes No
	mp: 2,5 Corrected T t in cooler		Comments		ion:			Date	<u>, anne.</u>	
Time: 1218 Ter		emp: A.S	connenta	,						
	1	°						12	/07/2020)
Project Manager Revie		Carolina compli		2 60701 - 5	this form		Date to the Nor			
Note: Whenever there is a d hold, incorrect preservative,			ance samples,	a copy of	ana rorm	win be sellt	to the NUT		, or nan der unde	

Labeled by:	TW	C

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,

Inder

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

Enclosures

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





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

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 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 #: 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 #: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 (*).



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



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.



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

Sample: 21-TypeB-0817-001 Results reported on a "dry weight"		10574925001 adjusted for		d: 08/17/21 D isture, sar				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury		Method: EPA /tical Services	•		hod: Ef	PA 7471B			
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	,	Method: ASTN /tical Services		lis					
Percent Moisture	0.99	%	0.10	0.10	1		08/20/21 13:56		N2



Project: BPSOU School Sampling

Pace Project No.: 10574925

Sample: 21-TypeB-0817-002 Results reported on a "dry weight"		10574925002 adjusted for		1: 08/17/21 Disture, san				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury		Method: EPA [·] ytical Services	•		hod: El	PA 7471B			
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	,	Method: ASTN ytical Services		lis					
Percent Moisture	1.4	%	0.10	0.10	1		08/20/21 13:56		N2



Project: BPSOU School Sampling

Pace Project No.: 10574925

Sample: 21-TypeB-0817-003 Results reported on a "dry weight"		10574925003 adjusted fo		l: 08/17/21 isture, san				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA ytical Service			hod: El	PA 7471B			
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	,	Method: AST		is					
Percent Moisture	1.1	%	0.10	0.10	1		08/20/21 13:56		N2



Project: BPSOU School Sampling

Pace Project No.: 10574925

Sample: 21-TypeB-0817-004 Results reported on a "dry weight"		10574925004 adjusted for		d: 08/17/21 Disture, sar				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA			hod: El	PA 7471B			
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	,	Method: ASTN ytical Services		lis					
Percent Moisture	1.1	%	0.10	0.10	1		08/20/21 13:57		N2



QUALITY CONTROL DATA

	BPSOU Sc 10574925	chool Samp	ling										
QC Batch:	765313			Anal	ysis Metho	od:	EPA 7471B						
QC Batch Method:	EPA 7471	1B		Anal	ysis Descr	iption:	7471B Mero	cury Solids	6				
				Labo	oratory:		Pace Analy	tical Servio	ces - Minnea	polis			
Associated Lab Sam	ples: 10	574925001	, 10574925002	2, 1057492	25003, 105	74925004							
METHOD BLANK:	4079252				Matrix: S	olid							
Associated Lab Sam	ples: 10	574925001	, 10574925002	, 1057492	25003, 105	74925004							
				Bla	nk	Reporting							
Param	leter		Units	Res	ult	Limit	MD	L	Analyzed	Qı	ualifiers		
Mercury			mg/kg	<	0.0079	0.01	8 (0.0079 0	8/25/21 14:4	48			
LABORATORY CON		1PLE: 40	79253 Units	Spike Conc.	Re	CS sult	LCS % Rec	% F Lim	nits C	Qualifiers	_		
Mercury			mg/kg	0.4	17	0.48	10	2	80-120				
MATRIX SPIKE & M	ATRIX SPI	KE DUPLIC	ATE: 40792	54 MS	MSD	407925	5						
		1(0574925001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter		Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury		mg/kg	0.018	0.48	0.5	0.51	0.51	100	98	80-120	1	20	
SAMPLE DUPLICAT	E: 40792	56											
Param	eter		Units	105749 Res		Dup Result	RPI	C	Max RPD	Qualif	iers		
Mercury			mg/kg		0.018	0.01	8	0	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 Sam	pling						
Pace Project No.:	10574925							
QC Batch:	764856		Analysis Meth	od:	ASTM D2974			
QC Batch Method:	ASTM D2974		Analysis Desc	ription:	Dry Weight / %N	by ASTM D2	2974	
			Laboratory:		Pace Analytical S	Services - Mir	nneapolis	
Associated Lab Sar	mples: 1057492500	1, 105749250	02, 10574925003, 10	574925004				
SAMPLE DUPLICA	TE: 4077836							
	(i.e. +0//000		10574920001	Dup		Max		
Parar	meter	Units	Result	Result	RPD	RPD	Qualifiers	
	meter	Units %	Result	Result 17.		 9	Qualifiers 30 N2	
Parar Percent Moisture SAMPLE DUPLICA							·	
Percent Moisture							·	
Percent Moisture			16.2	17.		9	·	

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

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.:	10574925

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

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		B	BP Facility No:	ļ			,				Lab W	ork Orde	Lab Work Order Number:		•••			
Lab Name:	: Pace Analytical Services			Facility	Facility Address:		 	- 4 - 4					Consultant	Consultant/Contractor:	Pione	Pioneer Technical Services	es Se	
Lab Address:	ss: 1700 Elm Street Minneapolis, MN 55414	<i>d</i> N 55414		City, S	City, State, ZIP Code:	Code:		- 1. 1			-		Consultant	Consultant/Contractor Project No:	Project No:	BPSOU School Sampling	ol Sampling	
. :Md dbJ	Jennifer Anderson			Lead R	tegulator	Lead Regulatory Agency:							Address:	307 E Park	Suite 421,	307 E Park Suite 421, Anaconda MT, 59711	Ξ	
Lab Phone:	612-607-1700		.*	Califon	nia Glob	California Global ID No.:							Consultant	Consultant/Contractor PM:		Jesse Schwarzrock		
Lab Shipping Accnt:	ng Accnt:			Enfos I	Enfos Proposal No:	No:		-		* <u>-</u>		• • •	Phone:	Phone: 406-697-0949	49	Email: jschwarzrock@pioneer- technical.com	ock@pioneer com	
Lab Bottle Order No:	Order No:	15		Accour	Accounting Mode:	le:	Provision						Email EDD To:		Jesse Schwarzrock			
Other Info:				Stage:			Activity:						Invoice To:		BP	Contractor	×	
BP Project	BP Project Manager (PM): Mike Mc Anulty		-	2	Matrix	No.		ners / P	Containers / Preservative	tive		Requ	Requested Analyses	yses		Report Type &	g	Level
BP PM Pho	BP PM Phone: 406-723-1822	,					-			Ър'						Star	Standard x	
BP PM Email:	aii: <u>mcanumc@bp.com</u>			1						'nO (Full Data Package	kage –	
								-		0 (As, Cd		•			2 2	to: If camulo not collected indicate "No	tod indicato "	<u>4</u>
Lab No.	Sample Description	Date	, Time	bilo2 \ lio5	Vater / Liquid	s this location a w	15204 Jubieseived	EON+	łCl ∖etµsuol	ir dry&sieve*, 602	n) A71 Mercury, dry					Com	Comments	
21-1	21-TypeB-0817-001	08/17/21	1120		/						z	<u> </u>				RUSH TURNAROUND	DN	
L-12	21-TypeB-0817-002	08/17/21	1130	×		-	-				×					RUSH TURNAROUND	QN	
L-1-2	21-TypeB-0817-003	08/17/21	0.h 11	×		₩					×			1		RUSH TURNAROUND	QN	
21-1	21-TypeB-0817-004	08/17/21	1150	×		₹.					×					RUSH TURNAROUND	QN	
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			J											H 1	057	JOH 10574925		
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	,													10574925				
	3			- -												•		
Sampler's Name:	Name: Molly Sprunger				Rei	linquish	Relinquished By / Affiliation	Affiliati	uc		Date	Time		Accepted By / Affiliation	By / Affili	ation	Date	Time
Sampler's Company:	Company: Pioneer Technical Services	Services		MOUL	5	SDWWM	NYN	1 pi une	Neer	8	17/21	SMEI	1 R	the	1/-	a e	8/12/12	لو،ح
Shippnent Method:	FedEx Overnight	Ship Date:	8/17/2021		-		÷ ۹ ه						2012 - 1 	2				
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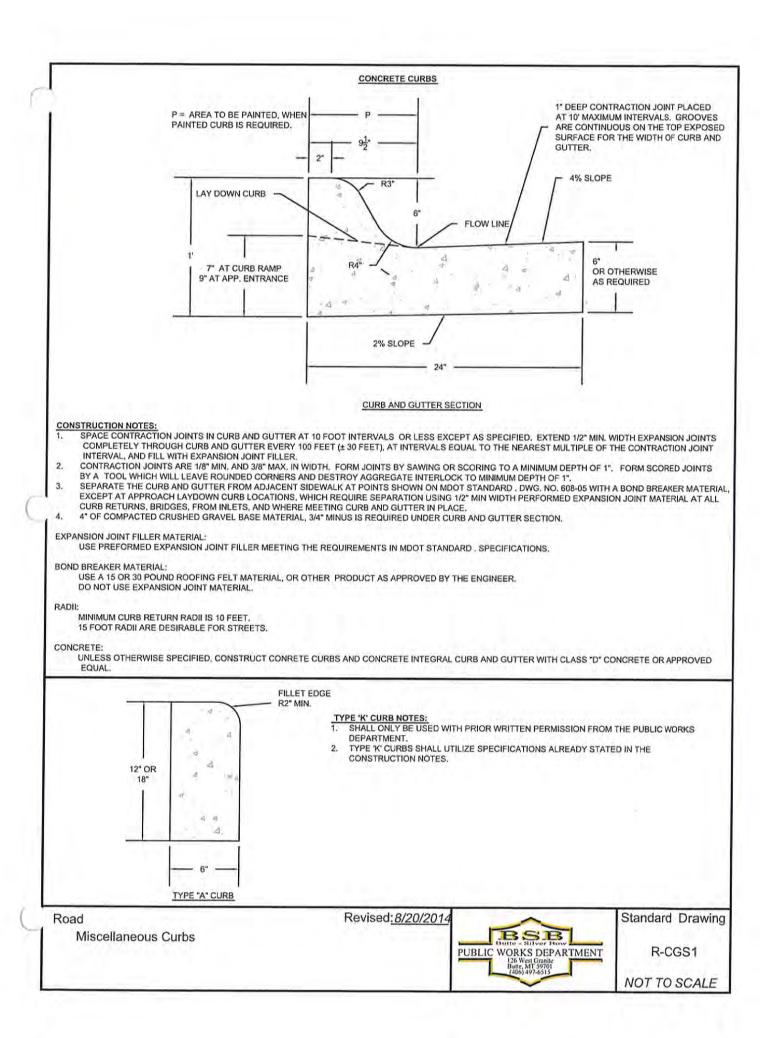
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		Pace Analytica	d [*] Samn	le Co			eipt (SCUF	2) - ESI		age 1 of 1	020
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									- 1		
Sample Co		Client Name	:			Proj	ect #:				
Upon Rece Tech S			ť		~				14·10	574925	5
rears	pecs	₽ ₽₽		i				M			
Courier:			UPS USP		Cli	ent			JMA ENT: BP-PIO	Due Date: 0 NEER	8/25/21
Tracking I	Number:		135 (703		s	ee Exceptio NV-FRM-MIN					
Custody S	eal on Co	oler/Box Presen	nt? 🖉 Yes 🔲 I	١o	Sea	ls Intact?	∕ ☐Yes	No	Biological 1	issue Frozen? 🔲	Yes 🗌 No 🗖 N/A
Packing N	laterial:	Bubble Wra	p Bubble Bag	s	None	Othe		_	-		Yes No
		•	2(1336) 🗌 T3(0459)	-							
Thermome	eter:	T4(0254)	5(0489)		Type of l	ce: 🖊	Wet	Blue	None 1	Pry Melted	
Temp should	be above fi	reezing to 6°C	Cooler Temp Read	l w/te	emp blank	:	5.4			age Corrected	See Exceptions
Correction	Costo	True				_	5.4	4		p (no temp blank	ENV-FRM-MIN4-0142
			ler Temp Corrected	w/te	mp blank		(°C only		1 Container
			r sample/Other:)					Contents: <u>HKB</u>	8/18/21
			one within the United							source (internation	ally, including
ID, LA. MS, I			, TX or VA (check ma					and Puert		Yes No	
		r Yes to either q	uestion, fill out a Re	gulat	ed Soll Ch	ecklist (F-	VIN-Q-338) T	and inc			
Chain of Curt	tody Brock	ant and Filled Out	2	171	D N		1		CON	IMENTS:	
Chain of Cust		ent and Filled Out	f				1. 2.				、
		Signature on COC	 cr				3.				
Sampler Nan Samples Arri				Z			4.				
• •••		· · · · · · · · · · · · · · · · · · ·						cal Colifor			/cBOD Hex Chrome
Short Hold T				Y				rbidity 🗌	Nitrate Nitrite	Orthophos	
		ne Requested?		<u>_</u>			6.				
Sufficient San	•			<u>η</u> γ		-					
			ore than 10 samples)?				7.			· · · ·	
Correct Cont -Pace Con				'A'			8.				
Containers Ir		seu:					9.		· · · · · · · · ·		
		Received for Disso	lved Tests?			A		ediment	visible in the diss	lved container?	
			e the samples to the CO				<u> </u>		Date/Time on Cont		
			and samples to the CO	. , ביי					•, ••		ENV-FRM-MIN4-0142
		acid/base preserv	vation have been			, ,	12. Samp	0.#			
checked?	sneeding	acity base preserv	vation have been	Πv	es 🗆 No		IZ. Samp	ie#			
			۴.	 .							
	-	preservation are					[] NaOH	☐ HNO₃	H₂SO₄	Zinc Acetate
•		ecommendation?		Πı	es 🗌 No						
(HNO₃, H₂SO	₄, <2pH, ↑	NaOH >9 Sulfide, N	NaOH>10 Cyanide)			1			¬		, ,
-	-	orm, TOC/DOC Oi		ΠY	es 🗌 No	ØN/A	Positive for	_	_Yes ⊐Na		See Exception
	-		dding preservative to		h		Chlorine? Res. Chlor			aper Lot#	I
a container it	must be a	uued to associated	l field and equipment l	Janks	(verity with	PM first)		inne .	0-6 Roll	0-6 Strip	0-14 Strip
Extra labels p	present or	soil VOA or WIDI	RO contaners?	ΠY	es 🗌 No		13.		L	I	See Exception
		s (greater than 6r		_ ⊟'			10.				ENV-FRM-MIN4-0140
3 Trip Blanks			· · · · · · · · · · · · · · · · · · ·	Πv			14.		,		
Trip Blank Cu	istody Sea	lls Present?		Πı	es 🗌 No		Pac	e Trip Bla	ink Lot # (if purch	ased):	
	ip must be n	naintained at <6°C du	ring login, record temp ev	/ery					<u> </u>		
20 mins	11.20-	F /					ON/RESOL	UTION		eld Data Required	? Yes No
Opened Time:			Corrected Temp: 5.4	<u>t</u>		ontacted:			D	ate/Time:	
Time:	<u>11:45</u>	_ put in cooler			Commer	its/Resolut	ion:				
Time:	IA 8/19/21	Temp:	Corrected Temp:					· · · · ·	,	00404==	M-5
Project M	lanager R	eview:	11	c					Date:	08/19/2021	
		a discrepancy af	tang North Carolina d	omplia	ance sample	es, a copy of	this form w	ill be sent		lina DEHNR Certifica	tion Office (i.e out of

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

ĸ

ATTACHMENT E

BSB PUBLIC WORKS DEPARTMENT STANDARD DRAWING R-CGS1 (CURB & GUTTER)



ATTACHMENT F AGENCY APPROVED KAW AVENUE BORROW STOCKPILE DATA

8/21/2021

Sourc		Ka		<u>e Stockp</u> -KAW-1	<u>ile</u>		
Sample	#.		<u>BF300</u>	<u>-rvA vv-1</u> Specifi	cation	Mot	
Description		Sneci	ification	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)		opee	incation	Campic	103	NO	Organic Matter (%)
	As	<	97	26.9	Х		3.70
	Cd	<	4	0.9	Х		
	Cu	<	250	66.9	Х		Soil Nutrients
	Hg	<	5	0.03	Х		
	Pb	<	100	29.4	Х		N (mg/kg) N/A
nll (o. u.)	Zn	<	250	132.0	Х		P (mg/kg) N/A
<u>pH (s.u.)</u>		>	5.5				K (mg/kg) N/A
		<	3.5 8.5	7.9	Х		
SAR							1
		<	12	1.12	Х		
Saturation (%)							1
		<	85	42.7	Х		
FO (marking (am))		>	25				
EC (mmhos/cm)		<	4	1.3	Х		
Textural Classificat	ion		•				Particle Size
<u>(USDA) <2.0 mm</u>							Sand (%) 52
			Loam		Х		Silt (%) 28
			andy loam				Clay (%) 20
			clay loam				
			Sandy clay Clay loam				
			Silty clay				
		Siltv	clay loam				
		,	Silt loam				
			Silt				
*Per EPA A	ppro	val (Lo	amy sand)				
Deals Content (0/)							
Rock Content (%) (by volume)		<	45	13.1	Х		
				11			
Legend:							
# Value		- Criter					
<u># Value</u>		- Does	not meet C	riteria			
				Mike A	1 chine	alta	
Atlantic Richfiel	d R	epres	entative	The the	-unive	my	Date: 8-21-21

EPA Representative:	NIKIA GREENE Date: 2021.0 11:11:04-06'	^{18.27} Date:	
MT DEQ Representative:	Hay Reed	Date:	8/27/2021

Sour Sample		<u>Ka</u>		<u>e Stockp</u> - <u>KAW-2</u> Specifie		Mot	
Description		Speci	fication	Sample		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
nH (o.u.)	Zn	<	250	76.0	Х		P (mg/kg) N/A K (mg/kg) N/A
<u>pH (s.u.)</u>		>	5.5				K (mg/kg) N/A
		<	8.5	8.0	Х		
SAR			0.0				•
		<	12	0.77	Х		
Saturation (%)							1
· · · ·		<	85	40.7	V		
		>	25	43.7	Х		
EC (mmhos/cm)							1
		<	4	0.9	Х		
Textural Classificat							Particle Size
<u>(USDA) <2.0 mm</u>	<u>n</u>		1		X		Sand (%) 44
		e.	Loam andy loam		Х		Silt (%) <u>32</u> Clay (%) <u>24</u>
			clay loam				Clay (78) 24
			Sandy clay				
			Clay loam				
			Silty clay				
		Silty	clay loam				
		-	Silt loam				
			Silt				
*Per EPA A	Appro	oval (Loa	amy sand)				
Rock Content (%)							1
(by volume)		<	45	17.3	Х		
				-		•	•

Legend:

Value - Criteria met # Value - Does not meet Criteria

Atlantic Richfield Representative:	Mike McAnulty	Date:	8-21-21
EPA Representative:	NIKIA GREENE Digitally signed by NIKIA GREENE Date: 2021.08.27 11:12:44-06'00'	Date:	
MT DEQ Representative:	Claug Ree L	Date:	8/27/2021

Sourc Sample		Ka		le Stockp I-KAW-3				
				Specifi			_	
Description		Speci	fication	Sample	Yes	No	Other Information Requested	
Chemical (mg/kg)							Organic Matter (%)	
	As	<	97	29.8	Х		3.60	
	Cd	<	4	0.8	Х			
	Cu	<	250	64.7	Х		Soil Nutrients	
	Hg	<	5	0.02	Х			
	Pb	< <	100	23.8 103.0	X X		N (mg/kg) N/A P (mg/kg) N/A	
mH (o.u.)	Zn	<	250	103.0	~			
<u>pH (s.u.)</u>			5.5				K (mg/kg) N/A	
		> <	5.5 8.5	7.8	Х			
SAR							1	
		<	12	0.78	Х			
Saturation (%)								
		< >	85 25	44.4	Х			
EC (mmhos/cm)								
		<	4	1.5	Х			
Textural Classificat							Particle Size	
<u>(USDA) <2.0 mm</u>	<u>)</u>						Sand (%) 42	
		-	Loam		Х		Silt (%) 32	
			andy loam				Clay (%) 26	
			clay loam					
			Sandy clay					
			Clay loam					
		0.11	Silty clay					
		Silty	clay loam					
			Silt loam					
*Per EPA A	nnr	oval (Lov	Silt amv sand)					
	ppic	שמו (בטמ	any saluj	L				
Rock Content (%)							1	
<u>(by volume)</u>		<	45	12.5	Х]	
Legend:							_	

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 11:16:08-06'00'	Date:	
MT DEQ Representative:	Clayf Reel	Date:	8/27/2021

-							
Sour Sample		Ka		le Stockp -KAW-4	<u>ile</u>		
-				Specifi	cation	Met	
Description		Spec	ification	Sample	Yes	No	Other Information Requested
Chemical (mg/kg)							Organic Matter (%)
	As	<	97	31.0	Х		3.50
	Cd	<	4	0.8	Х		
	Cu	<	250	77.9	Х		Soil Nutrients
	Hg	<	5	0.03	Х		
	Pb	<	100	26.6	Х		N (mg/kg) N/A
	Zn	<	250	129.0	Х		P (mg/kg) N/A
pH (s.u.)							K (mg/kg) N/A
		>	5.5	7.7	Х		
		<	8.5	1.1	^		
SAR							1
		<	12	0.56	Х		
Saturation (%)							1
		<	85	49.4	Х		
		>	25	49.4	~		

<u>EC (mmhos/cm)</u>							
	<	4	1.5	Х			
Textural Classification					Particle Size		
<u>(USDA) <2.0 mm</u>						Sand (%)	34
		Loam				Silt (%)	38
	Sar	ndy loam				Clay (%)	28
	Sandy o	lay loam					
	Sa	andy clay	,				
	С	lay loam		Х			
		Silty clay	,				
	Silty o	lay loam					
		Silt loam					
		Silt					
*Per EPA Appro	oval (Loar	ny sand)					
	-	- /	<u>E</u>				

12.2

Х

Legend:

Rock Content (%) (by volume)

EC (mmhos/cm)

Value - Criteria met # Value - Does not meet Criteria

<

45

Atlantic Richfield Representative:	Mike Mednulty	Date:	8-21-21
EPA Representative:	NIKIA GREENE	Date:	
MT DEQ Representative:	Clauf Reel	Date:	8/27/2021

Sour Sample		Ka		<u>ie Stockp I-KAW-5</u>	<u>oile</u>		
				Specifi		Met	_
Description		Speci	fication	Sample	Yes	No	Other Information Requested
<u>Chemical (mg/kg)</u>	As Cd	< <	97 4	33.9 0.9	X X		Organic Matter (%) 3.80
	Cu Hg Pb Zn	< < < <	250 5 100 250	78.2 0.03 26.9 127.0	X X X X		Soil Nutrients N (mg/kg) N/A P (mg/kg) N/A
<u>pH (s.u.)</u>		> <	5.5 8.5	7.8	х		K (mg/kg) N/A
SAR		<	12	0.47	х]
<u>Saturation (%)</u>		< >	85 25	52.2	х		
EC (mmhos/cm)		<	4	1.0	х		
Textural Classificat (USDA) <2.0 mn *Per EPA A Rock Content (%)	<u>n</u>	Sandy Silty	Loam andy loam clay loam Sandy clay Clay loam Silty clay clay loam Silt loam Silt loam		x		Particle Size Sand (%) 28 Silt (%) 42 Clay (%) 30
(by volume)		<	45	9.3	Х		J
Legend:							

Value - Criteria met # Value - Does not meet Criteria

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

Sour Sample		<u>Kaw Avenue Stockp</u> <u>BPSOU-KAW-6</u>							
				Specifi	_		7		
Description		Speci	fication	Sample	Yes	No	Other Informa		ested
Chemical (mg/kg)							Organic Matte		1
	As	<	97	43.4	Х			3.70	
	Cd	<	4	1.0	Х				
	Cu	<	250	99.3	Х		Soil Nutrients		
	Hg	<	5	0.03	Х			1	
	Pb		100	36.1	Х			N (mg/kg)	N/A
	Zn	<	250	143.0	Х			P (mg/kg)	N/A
<u>pH (s.u.)</u>								K (mg/kg)	N/A
		> <	5.5 8.5	7.9	Х				
SAR									
		<	12	0.88	Х				
Saturation (%)									
		< >	85 25	49.2	Х				
EC (mmhos/cm)									
		<	4	1.4	Х				
Textural Classificat	tion						Particle Size		
<u>(USDA) <2.0 mn</u>	<u>1</u>							Sand (%)	34
			Loam		Х			Silt (%)	40
		S	andy loam					Clay (%)	26
			[,] clay loam						
			Sandy clay						
			Clay loam						
			Silty clay						
		Silty	[,] clay loam						
			Silt loam						
			Silt						
*Per EPA A	Appro	oval (Loa	amy sand)						
Rock Content (%)									
(by volume)		<	45	11.0	Х]		
Legend:									

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 11:22:16-06'00'	Date:	
MT DEQ Representative:	tay Reel	Date:	8/27/2021

8/21/2021

Sourc	ce:	Kav	<u>v Avenu</u>	e Stockp	ile				
Sample	#:		BPSOU	-KAW-7					
				Specifi	cation	Met			
Description		Speci	fication	Sample	Yes	No	Other Informa	ation Reques	sted
Chemical (mg/kg)							Organic Matte	e <u>r (%)</u>	
	As	<	97	36.6	Х			4.10	
	Cd	<	4	0.9	Х				
	Cu	<	250	85.7	Х		Soil Nutrients	5	
	Hg	<	5	0.03	Х				N1/A
	Pb Zn	< <	100 250	28.8 133.0	X X			N (mg/kg) P (mg/kg)	N/A N/A
pH (s.u.)	211		200	155.0	~			K (mg/kg)	N/A N/A
<u>pir (s.u.)</u>		>	5.5					R (IIIg/Rg)	
		<	8.5	7.5	Х				
SAR			0.0						
		<	12	0.39	Х				
Saturation (%)									
		<	85	49.3	Х				
		>	25	40.0	~				
EC (mmhos/cm)				4.0	X				
		<	4	1.3	Х		Dentiele Cine		
Textural Classificat (USDA) <2.0 mm							Particle Size	Sand (%)	32
(USDA) <2.0 mm	-		Loam					Sand (%) Silt (%)	40
		Sa	andy loam					Clay (%)	28
			clay loam					0.0.9 (70)	
			Sandy clay						
			Clay loam		Х				
			Silty clay						
		Silty	clay loam						
			Silt loam						
		. /.	Silt						
*Per EPA A	ppro	oval (Loa	amy sand)						
Rock Content (%)									
(by volume)		<	45	11.5	Х				
<u></u>									
Legend:									
# Value		- Criteria							
# Value		- Does r	not meet C	Criteria					

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

Sour Sample		Ka		<u>ie Stockp</u> I-KAW-8					
				Specifi		Met	-		
Description		Speci	ification	Sample	Yes	No	Other Informati	ion Reque	sted
Chemical (mg/kg)							Organic Matter		
	As	<	97	37.8	Х			3.70	
	Cd	<	4	0.9	Х				
	Cu	<	250	82.9	Х		Soil Nutrients		
	Hg	<	5	0.03	Х				
	Pb	<	100	27.5	Х			N (mg/kg)	N/A
	Zn	<	250	131.0	Х			P (mg/kg)	N/A
<u>pH (s.u.)</u>								K (mg/kg)	N/A
		> <	5.5 8.5	7.4	Х				
SAR							1		
		<	12	0.79	Х				
Saturation (%)							1		
		< >	85 25	45.7	Х				
EC (mmhos/cm)							1		
		<	4	2.1	Х				
Textural Classifica	tion						Particle Size		
(USDA) <2.0 mn	n							Sand (%)	46
	_		Loam		Х			Silt (%)	28
		S	andy loam					Clay (%)	26
		Sandy	[,] clay loam					·	
		Ś	Sandy clay	,					
			Clay loam						
			Silty clay	,					
		Silty	clay loam						
		-	Silt loam						
			Silt						
*Per EPA A	Appro	oval (Lo	amy sand)						
Rock Content (%)			15				1		
<u>(by volume)</u>		<	45	12.2	Х		1		
Legend:									

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

 Atlantic Richfield Representative:
 Mike Melluulty
 Date:
 8-21-21

 EPA Representative:
 NIKIA GREENE
 Date:
 8-21-21

 MT DEQ Representative:
 Date:
 8/27/2021

8/21/2021

ATTACHMENT F-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 R	eceive Date	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:

ENERGY	Trust our People. Trust our Data. www.energylab.com
CLIENT:	Pioneer Technical Services
Project:	BPSOU School Sampling

B21081152

Work Order:

Report Date: 08/20/21

CASE NARRATIVE

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



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 12:30
Lab ID:	B21081152-001	DateReceived: 08/12/21
Client Sample ID	: BPSOU-KAW-1	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
Texture	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



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 12:35
Lab ID:	B21081152-002	DateReceived: 08/12/21
Client Sample ID	BPSOU-KAW-2	Matrix: Soil

					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	17.3	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	82.7	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h



Prepared by Billings, MT Branch

Client:	Pioneer Technical Services	Report
Project:	BPSOU School Sampling	Collection
Lab ID:	B21081152-003	DateRece
Client Sample ID:	BPSOU-KAW-3	M

 Report Date:
 08/20/21

 Collection Date:
 08/10/21 12:40

 DateReceived:
 08/12/21

 Matrix:
 Soil

		Units			MCL/		
Analyses	Result		Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	42	%		1		ASA15-5	08/19/21 12:17 / eli-h
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
Conductivity, sat. paste	1.5	mmhos/cm		0.1		ASA10-3	08/19/21 12:47 / eli-h
Saturation	44.4	%		0.1		USDA27a	08/19/21 08:38 / eli-h
Calcium, sat. paste	8.57	meq/L		0.05		SW6010B	08/19/21 23:46 / eli-h
Magnesium, sat. paste	3.22	meq/L		0.08		SW6010B	08/19/21 23:46 / eli-h
Sodium, sat. paste	1.90	meq/L		0.04		SW6010B	08/19/21 23:46 / eli-h
Sodium Adsorption Ratio (SAR)	0.78	unitless		0.01		USDA20b	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
No. 10 (2 mm), Retained	12.5	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h
Pan	83.9	wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h

Report Definitions:



Prepared by Billings, MT Branch

Client:	Pioneer Technical Services	F
Project:	BPSOU School Sampling	Colle
Lab ID:	B21081152-004	Da
Client Sample ID:	BPSOU-KAW-4	

 Report Date:
 08/20/21

 Collection Date:
 08/10/21 12:45

 DateReceived:
 08/12/21

 Matrix:
 Soil

					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	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
Conductivity, sat. paste	1.5	mmhos/cm		0.1		ASA10-3	08/19/21 12:48 / eli-h
Saturation	49.4	%		0.1		USDA27a	08/19/21 08:38 / eli-h
Calcium, sat. paste	8.03	meq/L		0.05		SW6010B	08/19/21 23:51 / eli-h
Magnesium, sat. paste	3.97	meq/L		0.08		SW6010B	08/19/21 23:51 / eli-h
Sodium, sat. paste	1.38	meq/L		0.04		SW6010B	08/19/21 23:51 / eli-h
Sodium Adsorption Ratio (SAR)	0.56	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	12.2	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 Definitions:

RL - Analyte Reporting Limit QCL - Quality Control Limit



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
Client Sample ID	: BPSOU-KAW-5	Matrix: Soil

					MCL/		
Analyses	Result I	Units (Qualifiers	RL	QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Sand	28 9	%		1		ASA15-5	08/19/21 12:17 / eli-h
Silt	42 9	%		1		ASA15-5	08/19/21 12:17 / eli-h
Clay	30 9	%		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							
oH, sat. paste	7.8 s	s.u.		0.1		ASA10-3	08/19/21 09:00 / eli-h
Conductivity, sat. paste	1.0 r	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 i	meq/L		0.05		SW6010B	08/19/21 23:55 / eli-h
Magnesium, sat. paste	3.13 ı	meq/L		0.08		SW6010B	08/19/21 23:55 / eli-h
Sodium, sat. paste	0.96 i	meq/L		0.04		SW6010B	08/19/21 23:55 / eli-h
Sodium Adsorption Ratio (SAR)	0.47 u	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							
l 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		wt%-dry		0.1		SSSA 15-2	08/17/21 16:35 / eli-h



Prepared by Billings, MT Branch

Client:	Pioneer Technical Services	Report Date: 08/20/21
Project:	BPSOU School Sampling	Collection Date: 08/10/21 12:55
Lab ID:	B21081152-006	DateReceived: 08/12/21
Client Sample ID	BPSOU-KAW-6	Matrix: Soil

					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							
oH, 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	11.0	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



Prepared by Billings, MT Branch

Pioneer Technical Services	
BPSOU School Sampling	Co
B21081152-007	C
BPSOU-KAW-7	
	BPSOU School Sampling B21081152-007

 Report Date:
 08/20/21

 Collection Date:
 08/10/21 13:00

 DateReceived:
 08/12/21

 Matrix:
 Soil

					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		0.08		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 Definitions: RL - Analyte Reporting Limit QCL - Quality Control Limit



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		0.08		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	12.2	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



Client: Pioneer Technical Servic	es W	ork Order: E	32108	1152	Report	Date: 0	8/20/21	
Analyte	Result Units	RL %	%REC	Low Limit	High Limit	RPD R	PDLimit	Qual
Method: ASA10-3					Analy	tical Run:	SOIL EC	_210819A
Lab ID: ICV_1_210818_1	Initial Calibration Verification	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 Calibration Verifica	ation Standard					08/19	/21 12:43
Conductivity, sat. paste	5.22 mmhos/cm	0.10	104	90	110			
Lab ID: CCV1_1_210818_1	Continuing Calibration Verification	ation Standard					08/19	/21 12:44
Conductivity, sat. paste	0.924 mmhos/cm	0.10	92	90	110			
Method: ASA10-3							Bate	ch: 57600
Lab ID: MB-57600	Method Blank			Run: SOIL	EC_210819A		08/19	/21 12:45
Conductivity, sat. paste	ND mmhos/cm	0.05			_			
Lab ID: LCS-57600	Laboratory Control 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 Duplicate			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 ME	FER - ORI	ON A211_	_210819A
Lab ID: ICV_1_210818_1	Initial Calibration Verification	Standard					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 Calibration Verifica	ation Standard					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 Calibration Verification	ation Standard					08/19	/21 08:55
pH, sat. paste	4.01 s.u.	0.10	100	97.5	102.5			
Method: ASA10-3							Bate	ch: 57600
Lab ID: LCS-57600	Laboratory Control Sample			Run: SOIL	PH METER - OR	ION A2	08/19	/21 08:56
pH, sat. paste	8.08 s.u.	0.10	100	95	105			
Lab ID: B21081152-005ADUP	Sample Duplicate			Run: SOIL	PH METER - OR	ION A2	08/19	/21 09:01
pH, sat. paste	7.82 s.u.	0.10				0.3	20	



Client:	Pioneer Technical Service	es		Work Order:	B2108	1152	Repo	ort Date:	08/20/21	
Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	ASA15-5								Bat	ch: 57612
Lab ID:	B21081152-002ADUP	Sample Duplic	cate			Run: SOIL	HYDROMETEI	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	e		Run: SOIL	HYDROMETEI	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			



Client: Pioneer Technical Servic	es		Work Order:	B2108	1152	Report	Date:	08/20/21	
Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: ASA29-3								Bat	ch: 57606
Lab ID: LCS-57606	Laboratory Cor	trol Sample	е		Run: MISC	SOILS_210820A	\	08/20)/21 12:20
Organic Matter	1.13	%	0.17	116	70	130			
Lab ID: MB-57606	Method Blank				Run: MISC	SOILS_210820A	\	08/20)/21 12:20
Organic Matter	ND	%	0.2						
Lab ID: B21081152-006ADUP	Sample Duplica	ate			Run: MISC	SOILS_210820A	\	08/20)/21 12:20
Organic Matter	3.74	%	0.17						



Prepared by Helena, MT Branch

Client:	Pioneer Technical Service	S	I	Work Order:			Repo	ort Date: 08/20/21
Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD RPDLimit Qual
Method:	SW6010B						An	alytical Run: ICP2-HE_210819B
Lab ID:	ICV	Initial Calibrat	tion Verificat	ion Standard				08/19/21 14:52
Calcium		40.3	mg/L	1.0	101	90	110	
Magnesiu	m	39.9	mg/L	1.0	100	90	110	
Sodium		40.0	mg/L	1.0	100	90	110	
Lab ID:	CCV	Continuing Ca	alibration Ve	rification Standa	rd			08/19/21 14:56
Calcium		25.2	mg/L	1.0	101	90	110	
Magnesiu	m	24.9	mg/L	1.0	100	90	110	
Sodium		25.4	mg/L	1.0	102	90	110	
Lab ID:	ICB	Continuing Ca	alibration Bla	ank				08/19/21 15:00
Calcium		0.0347	mg/L	1.0				
Magnesiu	m	0.0127	mg/L	1.0				
Sodium		0.00124	mg/L	1.0				
Lab ID:	ICSA	Interference (Check Samp	le A				08/19/21 15:09
Calcium		483	mg/L	1.0	97	80	120	
Magnesiu	m	535	mg/L	1.0	107	80	120	
Sodium		-0.00132	mg/L	1.0		0	0	
Lab ID:	ICSAB	Interference (Check Samp	le AB				08/19/21 15:14
Calcium		489	mg/L	1.0	98	80	120	
Magnesiu	m	536	mg/L	1.0	107	80	120	
Sodium		19.6	mg/L	1.0	98	80	120	
Method:	SW6010B							Batch: 57600
Lab ID:	MB-57600	Method Blank	κ.			Run: ICP2-	HE_210819B	08/19/21 23:03
Calcium		ND	mg/L	0.1				
Magnesiu	m	ND	mg/L	0.02				
Sodium		ND	mg/L	0.02				
Calcium, s	sat. paste	ND	meq/L	0.007				
Magnesiu	m, sat. paste	ND	meq/L	0.002				
Sodium, s	sat. paste	ND	meq/L	0.0009				
Lab ID:	LFB-57600	Laboratory Fo	ortified Blank	(Run: ICP2-	HE_210819B	08/19/21 23:08
Calcium		48.7	mg/L	1.0	97	80	120	
Magnesiu	m	52.8	mg/L	1.0	106	80	120	
Sodium		52.4	mg/L	1.0	105	80	120	
Calcium, s		2.43	meq/L	0.050	97	80	120	
-	m, sat. paste	4.35	meq/L	0.082	106	80	120	
Sodium, s	sat. paste	2.28	meq/L	0.043	105	80	120	
Lab ID:	LCS-57600	Laboratory Co		le		Run: ICP2-	HE_210819B	08/19/21 23:12
Calcium		209	mg/L	1.0	96	70	130	
N 4	m	80.6	mg/L	1.0	95	70	130	
Magnesiu		0010	<u>g</u> / =	1.0	35	10	100	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Client:	Pioneer Technical Service	es	v	Vork Order:	B2108	1152	Repo	rt Date:	08/20/21	
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, s	at. paste	10.4	meq/L	0.050	96	70	130			
Magnesiur	n, sat. paste	6.64	meq/L	0.082	95	70	130			
Sodium, sa	at. 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			
Magnesiur	n	141	mg/L	1.0	102	70	130			
Sodium		162	mg/L	1.0	107	70	130			
Calcium, s	at. paste	10.7	meq/L	0.050	92	70	130			
Magnesiur	n, sat. paste	11.6	meq/L	0.082	102	70	130			
Sodium, sa	at. paste	7.04	meq/L	0.043	107	70	130			
Lab ID:	B21081152-001AMSD2	Sample Matri	x Spike Duplic	ate		Run: ICP2-	HE_210819B		08/19)/21 23:38
Calcium		217	mg/L	1.0	95	70	130	1.2	20	
Magnesiur	n	142	mg/L	1.0	104	70	130	0.9	20	
Sodium		157	mg/L	1.0	102	70	130	3.0	20	
Calcium, s	at. paste	10.8	meq/L	0.050	95	70	130	1.2	20	
Magnesiur	n, sat. paste	11.7	meq/L	0.082	104	70	130	0.9	20	
Sodium, sa	at. 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	
Magnesiur	n	38.8	mg/L	1.0				1.9	30	
Sodium		22.9	mg/L	1.0				3.8	30	
Calcium, s	at. paste	5.20	meq/L	0.050				1.9	30	
Magnesiur	n, sat. paste	3.19	meq/L	0.082				1.9	30	
Sodium, sa	at. paste	0.994	meq/L	0.043				3.8	30	



Client:	Pioneer Technical Servic	es		Work Order:	B2108	81152	Report	t Date:	: 08/20/21	
Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA20b								Bat	ch: 57600
Lab ID:	B21081152-005ADUP	Sample Dupli	cate			Run: SOIL	CALC_210820A		08/20)/21 12:23
Sodium A	Adsorption Ratio (SAR)	0.480	unitless	0.10				2.1	30	
Lab ID:	LCS-57600	Laboratory Co	ontrol Sample	Э		Run: SOIL	CALC_210820A		08/20)/21 12:23
Sodium A	Adsorption Ratio (SAR)	10.3	unitless	0.10	117	80	120			



Client:	Pioneer Technical Service	s		Work Order:	B2108	1152	Repo	ort Date:	08/20/21	
Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	USDA27a								Bat	ch: 57600
Lab ID: Saturation	LCS-57600	Laboratory Co 42.0	ntrol Sample %	e 0.10	101	Run: SOIL 80	DRYING OVEN 120	N 2_21082	2 08/19	9/21 08:37
Lab ID: Saturation	B21081152-005ADUP	Sample Duplic 51.1	cate %	0.10		Run: SOIL	DRYING OVE	N 2_21082 2.3	2 08/19 20	9/21 08:38



B21081152

Work Order Receipt Checklist

Pioneer Technical Services

Login completed by:	Richard L. Shular		Date I	Received: 8/12/2021	
Reviewed by:	BL2000\tedwards		Red	ceived by: its	
Reviewed Date:	8/16/2021		Carr	rier name: FedEx	
Shipping container/cooler in	good condition?	Yes 🗸	No 🗔	Not Present	
	o 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 \checkmark	
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.

Boltom Empty information Partial Service Domain Economic Information Partial Service Partia Service Partia Service Pari				Ba Sit	BP Site Node Path: BP Facility No:										ş 1	∎ Š	a č d t	yer K	Req Due Date (mm/dd/yy): Lab Work Order Number:				Rush TAT:	X H	ž
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ATTACHMENT F-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,

Inder

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

Enclosures

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





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

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 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 #: 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 #: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 (*).



SAMPLE SUMMARY

Project: BPSOU School Sampling

Pace Project No.:	1	
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SF 300	301001	Samp
105741	77	

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 SamplingPace 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 6020ADescription:6020A MET ICPMSClient:BPAR-PIONEER-MTDate: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 7471BDescription:7471B MercuryClient:BPAR-PIONEER-MTDate: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

Sample: BPSOU-KAW-1	Lab ID:	10574177001	Collected	d: 08/10/21	12:30	Received: 08/	12/21 08:50 Ma	atrix: Solid	
Results reported on a "wet-weig	ght" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA 6	020A Prepa	aration Met	hod: EF	PA 3050B			
	Pace Anal	ytical Services	 Minneapo 	lis					
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

Sample: BPSOU-KAW-1 Results reported on a "dry weight"		10574177002 adjusted for		d: 08/10/21 Disture, sar				atrix: Solid			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	Analytical Method: EPA 74718 Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis										
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	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis										
Percent Moisture	10.5	%	0.10	0.10	1		08/17/21 10:41		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Sample: BPSOU-KAW-2	Lab ID:	10574177003	Collected	d: 08/10/21	12:35	Received: 08/	12/21 08:50 M	atrix: Solid	
Results reported on a "wet-weig	pht" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA 6	020A Prepa	aration Met	hod: EF	PA 3050B			
	Pace Anal	ytical Services	- Minneapo	lis					
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

Sample: BPSOU-KAW-2 Results reported on a "dry weight"		10574177004 adjusted for	• • • • • • • • •	d: 08/10/21 Disture, sar				atrix: Solid			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	Analytical Method: EPA 74718 Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis										
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	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis										
Percent Moisture	11.7	%	0.10	0.10	1		08/17/21 10:41		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Sample: BPSOU-KAW-3	Lab ID:	10574177005	Collecte	d: 08/10/21	12:40	Received: 08/	12/21 08:50 M	atrix: Solid	
Results reported on a "wet-weig	ght" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6			hod: EF	PA 3050B			
	Pace Anal	ytical Services	- 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

Sample: BPSOU-KAW-3 Results reported on a "dry weight"		10574177006 adjusted for		d: 08/10/21 Disture, sar				atrix: Solid			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	Analytical Method: EPA 74718 Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis										
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	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis										
Percent Moisture	10.9	%	0.10	0.10	1		08/17/21 10:41		N2		



Project: BPSOU School Sampling

Pace Project No.: 10574177

Sample: BPSOU-KAW-4	Lab ID:	10574177007	Collected	d: 08/10/21	12:45	Received: 08/	12/21 08:50 M	atrix: Solid	
Results reported on a "wet-weig	ht" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6	•		nod: EF	PA 3050B			
	Pace Anal	ytical Services	- 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

Sample: BPSOU-KAW-4 Results reported on a "dry weight"		10574177008 adjusted for		d: 08/10/21 Disture, sar				atrix: Solid			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	Analytical Method: EPA 74718 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

Sample: BPSOU-KAW-5	Lab ID:	10574177009	Collected	d: 08/10/21	12:50	Received: 08/	12/21 08:50 M	atrix: Solid	
Results reported on a "wet-weig	ght" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6	•		hod: EF	PA 3050B			
	Pace Anal	ytical Services	- Minneapo	lis					
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 08:25	08/19/21 12:34	7440-43-9	
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

Sample: BPSOU-KAW-5 Results reported on a "dry weight"		10574177010 adjusted for		d: 08/10/21 Disture, sar				atrix: Solid			
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
7471B Mercury	Analytical Method: EPA 74718 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

Sample: BPSOU-KAW-6	Lab ID:	10574177011	Collected	d: 08/10/21	12:55	Received: 08/	12/21 08:50 Ma	atrix: Solid	
Results reported on a "wet-weig	ht" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	Analytical	Method: EPA 6	020A Prep	aration Met	nod: EF	PA 3050B			
	Pace Anal	ytical Services	- Minneapo	lis					
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

Sample: BPSOU-KAW-6	Lab ID:	10574177012	Collected	d: 08/10/21	12:55	Received: 08/	12/21 08:50 Ma	atrix: 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 74718 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

Sample: BPSOU-KAW-7	Lab ID:	10574177013	Collecte	d: 08/10/2 ⁻	13:00	Received: 08/	12/21 08:50 M	atrix: 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 6	020A Prep	aration Met	hod: EF	PA 3050B				
	Pace Anal	ytical Services	- Minneapo	lis						
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

Sample: BPSOU-KAW-7 Results reported on a "dry weight"		10574177014 adjusted for		d: 08/10/21 Disture, san				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	-	Method: EPA 7 ytical Services			hod: El	PA 7471B			
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	,	Method: ASTM /tical Services		lis					
Percent Moisture	8.4	%	0.10	0.10	1		08/17/21 10:42		N2



Project: BPSOU School Sampling

Pace Project No.: 10574177

Sample: BPSOU-KAW-8	Lab ID:	10574177015	Collected	d: 08/10/21	13:05	Received: 08/	12/21 08:50 M	atrix: Solid	
Results reported on a "wet-weig	pht" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6	•		hod: EF	PA 3050B			
	Pace Anal	ytical Services	- 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

Sample: BPSOU-KAW-8 Results reported on a "dry weight"		10574177016 adjusted for		d: 08/10/21 Disture, sar				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA 7 /tical Services			hod: El	PA 7471B			
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	,	Method: ASTM /tical Services		lis					
Percent Moisture	8.6	%	0.10	0.10	1		08/17/21 10:42		N2



QUALITY CONTROL DATA

Project:	BPSO	U School Sar	npling										
Pace Project No.:	10574	177											
QC Batch:	7632	52		Anal	/sis Metho	d:	EPA 7471B						
QC Batch Method:	EPA	7471B		Anal	/sis Descri	iption:	7471B Mer	cury Solids					
				Labo	ratory:		Pace Analy	tical Servic	es - Minnea	apolis			
Associated Lab Sar	mples:	105741770 105741770	02, 1057417700 16	4, 1057417	7006, 105	74177008,	105741770)10, 10574 ⁻	177012, 10	574177014	4,		
METHOD BLANK:	40693	99			Matrix: S	olid							
Associated Lab Sar	mples:	105741770 105741770	02, 1057417700 16	4, 1057417	7006, 105	74177008,	105741770)10, 10574 ⁻	177012, 10	574177014	4,		
				Blai		Reporting							
Parar	neter		Units	Res	ult	Limit	MD	L	Analyzed	Q	ualifiers		
Mercury			mg/kg	<	0.0087	0.02	0	0.0087 0	8/18/21 15:	44			
LABORATORY CO		SAMPLE:	4069400 Units	Spike Conc.	LC	CS sult	LCS % Rec	% R Lim		Qualifiers			
Mercury		· _	mg/kg	0.4	8	0.47	g	17	80-120				
MATRIX SPIKE & N	IATRIX	SPIKE DUPL	ICATE: 4069	402		4069403	}						
				MS	MSD								
			10574177002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Paramete	r	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 DUPLICA	TE: 40	069401											
				105741		Dup			Max				
Parar	neter		Units	Res	ult	Result	RP	D	RPD	Quali	fiers		
Mercury			mg/kg		0.026	0.02	8	8	20	0			

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

Pace Project No.: 10												
QC Batch: 7	64488		Anal	ysis Metho	d: E	PA 6020A						
QC Batch Method: E	PA 3050B			, ysis Descri		020A Solic	ls UPD4					
				pratory:	•			ces - Minnea	nolie			
Accorded to a Comple	o: 1057/1770	01, 1057417700		,					•	1		
Associated Lab Sample	105741770		5, 1057417	7005, 105	74177007, 1	00741770	09, 10074	177011, 100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	',		
METHOD BLANK: 40				Matrix: So								
Associated Lab Sample	s: 105741770 105741770	01, 1057417700 15	3, 1057417	77005, 105	74177007, 1	05741770	09, 10574	177011, 10	574177013	,		
			Bla	nk	Reporting							
Paramete	r	Units	Res	ult	Limit	MD	L	Analyzed	Qı	alifiers		
Arsenic		mg/kg		<0.11	0.50		0.11 0	08/19/21 11:	50			
Cadmium		mg/kg		<0.031	0.079			08/19/21 11:				
Copper		mg/kg		<0.24	0.99		0.24 0	8/19/21 11:	50			
_ead		mg/kg		<0.029	0.20		0.029 0	8/19/21 11:	50			
Zinc		mg/kg		<0.89	5.0		0.89 0)8/19/21 11:	50			
_ABORATORY CONTR		4075057										
	OL OANT LE.	-010001	Spike	LC	s	LCS	% F	Rec				
Paramete	r	Units	Conc.	Res		% Rec	Lim		Qualifiers	_		
Arsenic		mg/kg	48		54.5	11		80-120				
Cadmium		mg/kg	48	.1	56.5	11		80-120				
Copper		mg/kg	48		57.1	11		80-120				
Lead		mg/kg	48		56.3	11		80-120				
Zinc		mg/kg	48	.1	55.9	11	6	80-120				
MATRIX SPIKE & MAT		_ICATE: 4075	058		4075059							
			MS	MSD								
		10574177001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Arsenic	mg/kg		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	110		75-125	1	20	
Copper	mg/kg	66.9	48.1	47.6	127	124	125		75-125	3	20	
_ead	mg/kg	29.4	48.1	47.6	85.6	85.6	117		75-125	0	20	
Zinc	mg/kg	132	48.1	47.6	194	191	130	123	75-125	2	20	M1
SAMPLE DUPLICATE:	4075963											
Paramete	r	Units	105741 Res		Dup Result	RPI)	Max RPD	Qualif	iers		
Arsenic				26.9	27.3		2	20				
Cadmium		mg/kg		0.90	0.94		2 5	20				
Cadmium Copper		mg/kg mg/kg		66.9	0.94 68.1		5 2	20				
Lead		mg/kg		29.4	30.0		2	20				
Zinc		mg/kg		132	133		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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project:	BPSOU Sc	hool Sampling						
Pace Project No.:	10574177							
QC Batch:	763834		Analysis Meth	iod:	ASTM D2974			
QC Batch Method:	ASTM D2	974	Analysis Desc	cription:	Dry Weight / %I	M by ASTM D	02974	
Associated Lab Sar		574177002, 1057417700 574177016	Laboratory: 4, 10574177006, 10		Pace Analytical 10574177010,		•	
SAMPLE DUPLICA	TE: 407258	33						
Dama		11	10573913001	Dup	000	Max		
Parar	meter	Units	Result	Result	RPD		Qualifiers	
Percent Moisture		%	6.6	6.	3	5	30 N2	
SAMPLE DUPLICA	TE: 407277	70						
			10574177014	Dup		Max		
Parar	meter	Units	Result	Result	RPD	RPD	Qualifiers	
		%	8.4	7.		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

- 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

10574177001 BPSOU-KAW-1 EPA 3050B 764488 EPA 6020A 10574177003 BPSOU-KAW-2 EPA 3050B 764488 EPA 6020A 10574177005 BPSOU-KAW-3 EPA 3050B 764488 EPA 6020A	764645 764645
10574177005 BPSOU-KAW-3 EPA 3050B 764488 EPA 6020A	
	704045
	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
10574177002 BPSOU-KAW-1 EPA 7471B 763252 EPA 7471B	764049
10574177004 BPSOU-KAW-2 EPA 7471B 763252 EPA 7471B	764049
10574177006 BPSOU-KAW-3 EPA 7471B 763252 EPA 7471B	764049
10574177008 BPSOU-KAW-4 EPA 7471B 763252 EPA 7471B	764049
10574177010 BPSOU-KAW-5 EPA 7471B 763252 EPA 7471B	764049
10574177012 BPSOU-KAW-6 EPA 7471B 763252 EPA 7471B	764049
10574177014 BPSOU-KAW-7 EPA 7471B 763252 EPA 7471B	764049
10574177016 BPSOU-KAW-8 EPA 7471B 763252 EPA 7471B	764049
10574177002 BPSOU-KAW-1 ASTM D2974 763834	
10574177004 BPSOU-KAW-2 ASTM D2974 763834	
10574177006 BPSOU-KAW-3 ASTM D2974 763834	
10574177008 BPSOU-KAW-4 ASTM D2974 763834	
10574177010 BPSOU-KAW-5 ASTM D2974 763834	
10574177012 BPSOU-KAW-6 ASTM D2974 763834	
10574177014 BPSOU-KAW-7 ASTM D2974 763834	
10574177016 BPSOU-KAW-8 ASTM D2974 763834	

B Facility Misc. Lab Work Order Munder: Media Services Evally Address. Description Evally Address. Description Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally Address. Evally Address. Evally Address. Evally Address. Media Services Evally Address. Evally			Labora BP Site	BP Site Node Path:	laye		1	lgor		Law	ז ג	lan I		Custody Record Req Due Date (mm/dd/yy):	Keco	ž ív			Page Rush TAT:	τl ×	of
		-	18	P Facility No:								. 1	Lab	Work Or	ter Numi	l E					
State Manaeurole, MY 15414 Consultant Contractor Project Na. Consultant Consultant Na. Consultant Contractor Na. Consultant Contractor Na. Consultant Contractor Na. Consultant Consultant Na. Consultant Contractor Na. Consultant Control Na. Consultant Contractor Na. Consultant Control Na.		tical Services			Facility	y Addre	:ss:					-			Const	ultant/Cont	ractor:	Pioneer 1	echnical Servic	S	
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					ment No				Pa		ytical Services	-
			EN	V-FRM-M			.01				neapolis	
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Sample Co Upon Rece Tech Sj	ipt – ESI	· · ·			Proj	ect #:		10	# :1	05	74177	
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Tracking I	Number: 9550	9946 8703			e Exceptio NV-FRM-MIN				, , = -			
Custody S	eal on Cooler/Box Pres	ent? 🕢 Yes 🔲 N	١o	Sea	s Intact?	۶U	'es 📋	No	Biolo	gical Tiss	sue Frozen? 🗌	Yes 🗌 No 🕅 N/A
Packing N	laterial: 📓 Bubble W	/rap 🛛 🕅 Bubble Bag	s [None	Othe	r:				Te	mp Blank? 🛛 🕅	∯Yes □No
Thermome	eter: T1(0461) 🖌	T2(1336) T3(0459) T5(0489)		Type of Ic	*	Wet	Blue	[None	Dry	Melted	
Temp should	be above freezing to 6°C	Cooler Temp Read	l w/te	mp blank:	2	9			⁰C		e Corrected no temp blank	
Correction	Factor: true C	ooler Temp Corrected	w/te	mp blank :	2	9			°C	only):		ENV-FRM-MIN4-0142
Did samples	l ated Soil: (🗌 N/A, wa originate in a quarantin NC, NM, NY, OK, OR, SC, 1 If Yes to either	e zone within the United	d State os)?	es: AL, AR, C	No	Dic Ha	l samples o waii and Pu	origina uerto f	te from a Rico)?	foreign so	OC paperwork.	
										сомм	ENTS:	
	tody Present and Filled C tody Relinguished?	put?	<u>Қ</u> М			1.						
	ne and/or Signature on C	0C?	 ضγ			3.						
	ved within Hold Time?		ر الک			4.						
Short Hold Ti	ime Analysis (<72 hr)?		ΠY	es 🖾 No		5.	Fecal Col	liform ∕ □Ni	HPC trate]Total Colii itrite 🗌 Or	form/E coli 🔲 BOD rthophos 🔲	/cBOD Hex Chrome
	round Time Requested?		μX	es 🗌 No		6.						
Sufficient Sam	ple Volume? Provided for MS/MSD (if	more than 10 samples)?	⊠Y □	· <u> </u>	⊠N/A	7.						
	ainers Used?	more than to samples/t	- <u>N</u>			8.				·····.		
-Pace Con	tainers Used?		_ <u>j</u> ⊇́γ									
Containers In			ØY			9.						
Field Filtered	Volume Received for Dis	ssolved Tests?	Πv	es 🗌 No	ØN/A	10.					ed container? 🗌	
	ormation available to recon	•	: ØY	es 🗌 No		11.	f no, write l	ID/ Da	te/Time o	n Containe	er Below:	See Exception ENV-FRM-MIN4-0142
	ater 🖾 Soil 🗌 Oil 🗌 Othe											
All containers checked?	s needing acid/base pres	ervation have been	ΠY	es 🗌 No	Ø∰N/A	12.5	ample #					
compliance w	s needing preservation a vith EPA recommendatio 4, <2pH, NaOH >9 Sulfide	n?	٦Y	es 🗌 No	N/A		🗌 NaC	OH	Пн	INO₃	□H₂SO₄	Zinc Acetate
Exceptions: V	/OA, Coliform, TOC/DOC	Oil and Grease,	٦Y	es 🗌 No	j <mark>Æ</mark> N∕A		ive for Res rine?	=	Yes No		er Lot#	See Exception
	vater) and Dioxin/PFAS *I must be added to associat	•.	lanks	(verify with I	PM first)		Chlorine		D-6 Roll	рпгар	0-6 Strip	0-14 Strip
	present on soil VOA or W NOA Vials (greater than			=	⊠n/a ⊠n/a	13.		L				See Exception
3 Trip Blanks Trip Blank Cu	Present? stody Seals Present?				K∑n/a ∑N/A	14.	Pace Trip	Black	(ot # /;*	nurchasa	v4)•	
Temp Log: Tem	p must be maintained at <6°C	during login, record temp ev									Data Required	
20 mins Opened Time:	1145 Temp: 2.9	Corrected Temp: 9		Person Co				//₩			/Time:	
Time:	put in cooler	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Comment		ion:					<u> </u>	
Time: <i>[158</i>	Temp: 3 . 0	Corrected Temp: 3.0										
Project M	anager Review:	1. 1. 1. 1. 1.							Date	. 0	8/16/202	
Note: Whenev	ver there is a discrepance preservative, out of temp		omplia	nce samples	s, a copy of	this fo	rm will be s	sent to				

Labeled by:	HB(Page 30 of 3	7

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tuzzy a	MT Ves X No	8/1	Requested Analysis						C0C	003	664	Swo	<u>ଚ</u> ର୍ଭୁକ	1000 Loo	008	Comments	IR40-Rush	#60 Sieve	Include soil prep log	Follow QAPP	Y or N Samples Intact Y Dr N
	State Of Origin: Cert. Needed:	Owner Received Date:		Ð	Dry & Siev	Preserved Containers		×	×		X	X	X	X	X		Date/Time	8/13/21 0940 #60 Sieve	-		Received on Ice
of Custody	X Samples Pre-Logged into eCOC.	Name: BPSOU School Sampling	Subcontract To	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436	Bd	Presen	Sample Collect Type Date/Time Lab ID Matrix	8/10/2021 12:30 10574177001 Solid 1	8/10/2021 12:35 10574177003 Solid 1	8/10/2021 12:40 10574177005 Solid 1	8/10/2021 12:45 10574177007 Solid 1	8/10/2021 12:50 10574177009 Solid 1	8/10/2021 12:55 10574177011 Solid 1	8/10/2021 13:00 10574177013 Solid 1	8/10/2021 13:05 10574177015 Solid 1		Date/Time Received By	B/13/210940 Hearen Vace			ୁ ୯୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦୦
Internal Trancfor Chain of Custody		Workorder: 10574177 Workorder Name:	Report To	Jennifer Anderson Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612)607-6436			Sample Item Sample ID	1 BPSOU-KAW-1 PS	2 BPSOU-KAW-2 PS	3 BPSOU-KAW-3 PS	4 BPSOU-KAW-4 PS	5 BPSOU-KAW-5 PS	6 BPSOU-KAW-6 PS	7 BPSOU-KAW-7 PS	8 BPSOU-KAW-8 PS		Transfers Released By	1 Fed EX	2	3	Cooler Temperature on Receipt N/H °C

FMT-ALL-C-002rev.00 24March2009

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Laboratory Management Program LaMP Chain of Custody Record المرادي BPsite Mode Points - Laboratory Management Program LaMP Chain of Custody Record

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			BP Sit	BP Site Node Path:										Req [Due D	ate (m	Req Due Date (mm/dd/yy):	ÿ			Rush TAT:	×	No No
4	1000	1	8	BP Facility No:										Lab	Work	Order	Lab Work Order Number:	iii					
Lab	ab Name: Pace Ana	Pace Analytical Services			Facili	Facility Address:	ess:										Consult	Consultant/Contractor:	actor:	Pion	Pioneer Technical Services	ses	
del	ab Address: 1700 Eln	1700 Elm Street Minneapolis, MN 55414	MN 55414		City.	City, State,	ZIP Code:	je.									Consult	Consultant/Contractor Project No:	actor Pro	ject No	BPSOU School Sampling	ol Sampling	
Lab	Lab PM: Jennifer	Jennifer Anderson			Lead	Lead Regulatory Agency:	atory A	gency:									Address:		Park St	ite 421	307 E Park Suite 421, Anaconda MT, 59711	11	
Lab	Lab Phone: 612-607-1700	-1700			Califo	California Global ID No.:	lobal II	No.:									Consul	Consultant/Contractor PM:	actor PN	: Jess	Jesse Schwarzrock		
Lab	Lab Shipping Accnt:				Enfos	Enfos Proposal No:	sal No										Pho	Phone: 406-697-0949	97-0945		Email: jschwarzrock@pioneer- technical.com	ock@pionee com	2
Lab	Lab Bottle Order No:				Acco	Accounting Mode:	Mode:		Provision	15							Email E	Email EDD To:	Jesse Schwarzrock	chwarzı			
g	Other Info:				Stage:				Activity:	Ä							Invoice To:	To:	ш	BP I	Contractor X	_×_	
В	BP Project Manager (PM): Mike Mc Anulty	Mike Mc Anulty				Matri	ž	°. V	Conta	iners	/ Pres	Containers / Preservative	Ve Ve			Reque	sted A	Requested Analyses			Report Tyl	Report Type & QC Level	vel
đ	BP PM Phone: 406-723-1822	-1822				-			-	<u> </u>			Ча								Star	Standard x	
B	BP PM Email: <u>mcanumc@bp.com</u>	ic@bp.com						1						'no 'r						i I.	Full Data Package	ckage	
							5lle/	menistro		·····											Note: If sample not collected, indicate "No	ected. indicate	No N
Lab No.	Sample	Sample Description	Date	Time	Soil / Solid	Water / Liquid Alr / Vapor	le this location a v	Total Number of C	Unpreserved	HNO3 	HCI	lonstteM		Air dry&sieve*, 60: Zn) 			· · · · · · · · · · · · · · · · · · ·				ы С	Comments	
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San	Sampler's Name:	Kile Denney					Relin	quish	Relinquished By / Affiliation	/ Affili	ation			Date		Time		Acc	pted B	y / Aff	Accepted By / Affiliation	Date	Time
Sarr	Sampler's Company.	Pioneer Technical Services	Services		14	1	rell	rellisen	ļ	5421	5		ŝ	10/11/2	7	600							
ιΞ Γ	Shipment Method:	FedEx Overnight Ship Date:	Ship Date: 8	101118	tec	Ψ	ĸ		•				Ð	<u> આગ્ર</u> ય		orto	Ľ	Mensenhere	2 G	No O	J.	8/13/21	0770
age age	Bhipment Tracking No:	9950	56 9/1/100	9537										•									
380	Special Instructions:																						
f 37	THIS LINE - LAE	THIS LINE - LAB USE ONLY: Custody Seals in Place: Yes / No	ty Seats in Plac	e: Yes / No		emp B	ank: Y	Temp Blank: Yes / No		Cook	r Temp	Cooler Temp on Receipt:	ceipt:		°F/C		Trip B	Trip Blank: Yes / No	No	W	MS/MSD Sample Submitted: Yes / No	nitted: Yes /	9
<u>B</u>	Remediation Manag∈	BP Remediation Management COC - Effective Date: starting August 16, 2011.	Date: starting	August 16, 201	Ι.																BP LaMP C	BP LaMP COC Rev. 8, 24 June 2012	l June 2012

Page 1 of \mathcal{A}

F3B-C-046-Rev.03 (11Feb2020) Sample Preservation Receipt Form

AG1U 1 liter amber glass	BP1U	BP1U 1 liter plastic unpres	VG9A	VG9A 40 mL clear ascorbic	JGFU	JGFU 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U	BP3U 250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B	BP3B 250 mL plastic NaOH	VG9U	VG9U 40 mL clear vial unpres	WGFU	MGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N	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	BP3S 250 mL plastic H2SO4	VG9M	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	ZPLC ziploc bag
AB2S 500 mL amber glass H2SO4					BN	
etc3u 250 mL clear glass unpres						

		Volume	(mL)	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	2.5/5/10	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	olumn
Date/ Time:	pa	əjsu(l	pH after ac					-											- Alternation				A CONTRACTOR	Headspace in VOA Vials (>6mm) : ⊡Yes ⊡No ⊡VA *If yes look in headspace column
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Initial when completed:		212	Hq HObN				100 100 100 100 100 100 100 100 100 100	1																s look
Initial comp	6< Ha		nZ+HO _b N						and the														and the second	∖ *If ye
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Lab Std #ID of preservation (if pH adjusted):		S	MGFU	<u> </u>	tion and the						Contraction of the second s			_							\mathbf{F}			n VOA
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reserv			JGFU	╞				-												1				Heads
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ainers			HLÐA															•						oresen
All containers needing preservation have been checked and noted below Lab Lot# of pH paper			0198	┡																				ins to p
K			AG1U Lab #	5	002	2	4	005	006	27	008		01	11	012	13	4	15	016	17	18	19	50	Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI
			Pa Lat	001	ŏ	003	004	ŏ	ŏ	007	ŏ	600	010	011	ò	013	014	015	ò	017	018	019	020	யி

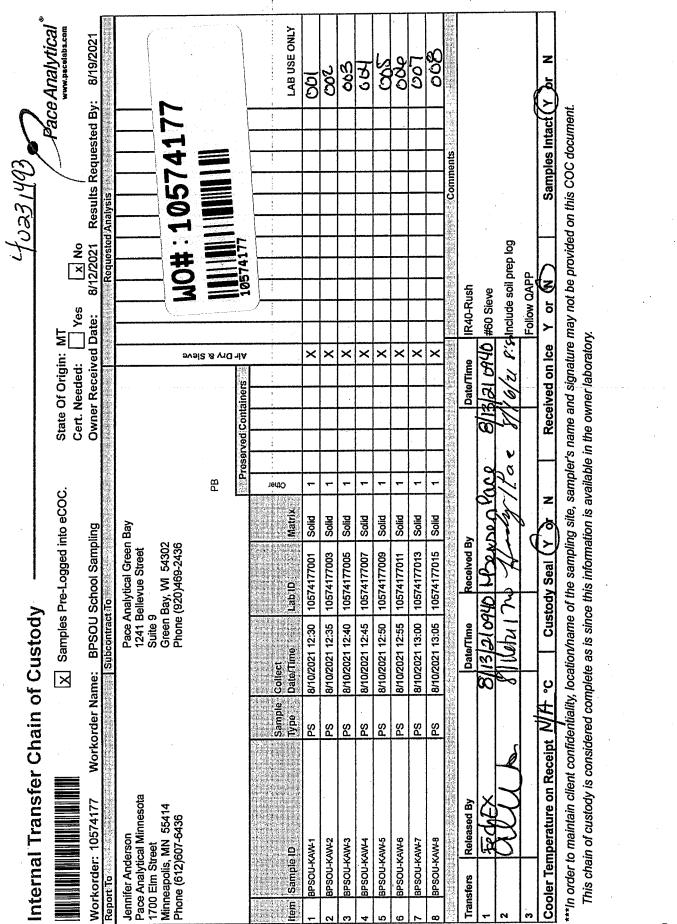
Pace Analytical Services, LLC 1241 Bellevue Street, Suite 9 Green Bay, WI 54302

Client Name: Pare MUN

			ment Name:		Documer	nt Revised: 26Mar2020
Pace Analytical [®]	Sample C	_	n Upon Receipt (S	SCUR)	Boounio	
1241 Bellevue Street, Green Bay, WI 54302	ENV-I		ument No.: BAY-0014-Rev.(00	Pace Gre	Author: een Bay Quality Office
Sample C	ondition	Upo	n Receipt For		CUR)	
R sois			Project #:			
Client Name: face Munn		-		MO	#:4	0231493
Courier: CS Logistics KFed Ex Speedee	UPS 🗖 UPS		altco			
Tracking #: <u>1050 4946953</u>	7		-	4023	1493	
Custody Seal on Cooler/Box Present: Xyes				L		
Custody Seal on Samples Present: Lyes Xn			🗖 yes 🕅 no			
Packing Material: KBubble Wrap D Bubble Thermometer Used SR - 90 NAKA					0	· · · · · · · · · · · · · · · · · · ·
Thermometer Used SR	44	: vvet	Blue Dry None		Samples or	rice, cooling process has begun Person examining contents:
Temp Blank Present: yes Txho		- Daical T	issue is Frozen:	D ves	no	Date: 8/132/Initials; HB
Temp should be above freezing to 6°C.		5				
Biota Samples may be received at < 0°C if shipped on Dry	Ice.					Labeled By Initials:
Chain of Custody Present:	Yes INO	□n/A	1.			
Chain of Custody Filled Out:	Yes □No	□n/A	2.			
Chain of Custody Relinquished:	Kres □No	□n/A	3.			
Sampler Name & Signature on COC:	□Yes □No		4 I RWY	$\overline{)}$	HB.	8/13/21
Samples Arrived within Hold Time:	Yes 🗆 No		5.			
- VOA Samples frozen upon receipt	□Yes □No		Date/Time:	•		·
Short Hold Time Analysis (<72hr):	□Yes XNo	0	6.			
Rush Turn Around Time Requested:	XYe XNd	alst	21			
Sufficient Volume:			8.			
For Analysis: Dres DNo MS/MSD:	□Yes 🖍o	□n/A				
Correct Containers Used:	Xyes □No		9.			
-Pace Containers Used:	□Yes □No	`X \/A				
-Pace IR Containers Used:	□Yes 🕅No	□n/A				
Containers Intact:	Yes 🗆 No		10.	:		·
Filtered volume received for Dissolved tests				:		· · · · · · · · · · · · · · · · · · ·
Sample Labels match COC:	Ares (XNo		12.005 Hr	ne 1	2:4 4	13/21
-Includes date/time/ID/Analysis Matrix:	\underline{S}	4		:		•
Trip Blank Present:	□Yes □No		13.			
Trip Blank Custody Seals Present	□Yes □No					
Pace Trip Blank Lot # (if purchased):						
Client Notification/ Resolution:		Deter		checked	l, see attach	ed form for additional comments
Person Contacted: Comments/ Resolution:		_Date/	nine.	- 		

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

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FMT-ALL-C-002rev.00 24March2009

Page 1 of 1

Thursday. August 12, 2021 7:23:42 AM

		0		Doc	cument N	lame:	D	ocument	t Revised: 14Ap	r2021
		Pace Analytical *	Sample Co	nditior	n Upon R	eceipt (SCUR)	- MN		Page 1 of 1	
	/	v			ocument				nalytical Service	es -
	L/	····	EN	V-FRM	1-MIN4-0	150 Rev.02		Ν	Ainneapolis	
Sample Co Upon Ro Courier:		Client Name: Pace GreanBay			Project	PM	: JMA	(74177 Due Date: 08	
		Pace SpeeDee	Commerc	cial		CL	IENT: B	P-PIONE	EER	
Tracking I		2937186-1		E	ee Exceptio NV-FRM-MII	¥4-0142		· · · ·		
Custody S	Seal on Co	oler/Box Present? Yes	No	Se	als Intacti	Yes	No Bi	ological T	issue Frozen?	Yes No N/A
Packing N	Material:	Bubble Wrap Bubb	ole Bags]None	☐Oth	er:		1	remp Blank?	Yes 🛛 No
Thermom	leter: [☐ T1(0461)	160285	5052	Type of Ice:	Wet B	/		ry 🗍 Meited	
		te in West Virginia? 🗌 Yes 🇯				emps Taken?				
Temp should	-	eezing to 6°C Cooler Tem ۲ ۲ سر Cooler Temp Cor	p Read w/terr rected w/tem	-			℃°C	Tem	age Corrected o (no temp blank o: 19.7 °C	See Exceptions ENV-FRM-MIN4-0142
		: (🗌 N/A, water sample/Othe		p branne	\ \	Date/Initials	and the second se		Contents: HKK	3 8/17/21
Did sample	s originate NC, NM, N	in a quarantine zone within the Y, OK, OR, SC, TN, TX or VA (che f Yes to either question, fill o	United States: eck maps)? []Yes	No	A, Did samples Hawaii and F	originate from Puerto Rico)?	n a foreign [source (internation Yes	
								COM	MENTS:	
Chain of Cus	stody Prese	nt and Filled Out?	Yes	□No		1.				
Chain of Cus			Yes	<u></u> No		2.				
Sampler Nar Samples Arri		Signature on COC?	Yes		N/A	3. 4.				
Short Hold T						5. Fecal Col			iform/E coli BOD/ Orthophos Other	cBOD Hex Chrome
Rush Turn A	round Tim	e Requested?	∠ Yes	□No		6.				
Sufficient Vo	olume?		Yes	No		7.				<u></u>
Correct Cont			Yes	No No		8.				
-Pace Con Containers II	ntainers Use ntact?	207	Yes Yes	No No		9.				
		eceived for Dissolved Tests?	Yes	No			nt visible in	the dissolv	/ed container? 🗌	Yes No
	informatior	n available to reconcile the sam				11. If no, write I				See Exception
		Oil Other								
All container checked?	rs needing a	acid/base preservation have be	en 🔤 Yes	⊡No	ØN/A	12. Sample #				
compliance v	with EPA re	preservation are found to be in commendation? aOH >9 Sulfide, NaOH>10 Cyan		∏No		NaC	он 🔲	HNO₃	[]]H₂SO₄	Zinc Acetate
			_			Positive for Res				See Exception
Exceptions: DRO/8015 (v	•	rm, TOC/DOC Oil and Grease, Dioxin/PFAS	L_ Yes	∐No	DIN/A	Chlorine? Res. Chlorine	No 0-6 Roll		per Lot# 0-6 Strip	ENV-FRM-MIN4-0142
01070010 (nacci) ana					Res. Chiorine			0-0300	0-14 Strip
	•	soil VOA or WIDRO containers?		∐No	ZN/A	13.				See Exception
Headspace in Trip Blank Pr		s (greater than 6mm)?	Yes Yes		<u>/</u> N/A	14.				ENV-FRM-MIN4-0140
Trip Blank Cu		s Present?					Blank Lot # (if purchas	ed):	
Person Cont	tacted:			. <u> </u>		Date/Time:			Required?	∕es □No
Comments/	Resolution	li	· · · · · · · · · · · · · · · · · · ·			· · · · · · ·		. .		· · · · · · · · · · · · · · · · · · ·
Pr	roject Man	ager Review: 🥒 🔐		,		Da	te: 08/	9/202	21	
Note: Whene	ver there is	a discrepancy a company in a discrepancy a company incorrect contain ve, out of temp, incorrect contain	renna compliant ners).	cē sampl	es, a copy	of this form will be	sent to the f	North Carol	lina DEHNR Certifica	ation Office (i.e out of

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Labeled by: <u>HKB()</u>

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Pace Analytical [®]	Document Name: Sample Condition Upon Receipt (SCUR) Exception Form	Document Revised: 04Jun2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0142 Rev.01	Pace Analytical Services - Minneapolis

SCUR Exceptions:

Workorder #:¹⁰⁵⁷⁴¹⁷⁷

Out of Temp Sample IDs	Container Type	# of Containers		PM Notified?	No
				icate who was contacte If no, indicate reason w	
				ple Cooler Project?	
				No Temp Blank	
	-	,	Read Temp	Corrected Temp	Average Temp
			19.8	T	19.7
			19.7	1	and an
	· · · · · · · · · · · · · · · · · · ·		19.6		
· · · · · · · · · · · · · · · · · · ·			19.6	¥	
					tainer

Tracking Number/Tempe	rature
· ·	
186-811	1997 - 19
2014 - 20	

Issue Type:	Container	# of
Sample ID	Туре	Containers
	,h,	
		····· ································

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amoun t Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								Yes No	
								Yes No	
								Yes No	
								Yes No	

Comments:

ATTACHMENT G S&N CONCRETE AGGREGATE STOCKPILE DATA

APPENDIX G - 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
		AVE:	8.3	0.14	39.0	9.9	92.4	0.01

ATTACHMENT G-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,

Inder

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

Enclosures

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





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

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* 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 (*).



SAMPLE SUMMARY

Project:BPSOU Park SamplingPace 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 SamplingPace Project No.:10618818

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10618818001	22-RMAP-SNROAD-1	EPA 6020A		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 6020ADescription:6020A MET ICPMSClient:BPAR-PIONEER-MTDate: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

Sample: 22-RMAP-SNROAD-1	Lab ID:	10618818001	Collected	d: 07/27/22	2 08:00	Received: 07/	28/22 08:50 Ma	atrix: Solid	
Results reported on a "wet-weigh	t" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6			hod: El	PA 3050B			
	Pace Anal	ytical Services	- 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

Sample: 22-RMAP-SNROAD-1 Results reported on a "dry weight"		10618818002 adjusted for		1: 07/27/22 D isture, sar				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA ytical Services			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: ASTN ytical Services		is					
Percent Moisture	0.63	%	0.10	0.10	1		08/04/22 13:09		N2



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Sample: 22-RMAP-SNROAD-2 Results reported on a "wet-weigh		10618818003	Collected	d: 07/27/22	2 08:05	Received: 07	28/22 08:50 Ma	atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6 ytical Services	•		hod: El	PA 3050B			
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

Sample: 22-RMAP-SNROAD-2 Results reported on a "dry weight"		10618818004 adjusted for		d: 07/27/22 Disture, sar		•••••••••••••••••••••••••••••••••••••••		atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	,	Method: EPA 7 ytical Services			hod: El	PA 7471B			
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		Method: ASTM ytical Services		lis					
Percent Moisture	0.78	%	0.10	0.10	1		08/04/22 13:09		N2



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Sample: 22-RMAP-SNPIT-1	Lab ID:	10618818005	Collected	d: 07/27/22	2 08:15	Received: 07/	28/22 08:50 Ma	atrix: Solid	
Results reported on a "wet-weigh	nt" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6			nod: EF	PA 3050B			
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		
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

Sample: 22-RMAP-SNPIT-1 Results reported on a "dry weight"		10618818006 adjusted for		d: 07/27/22 D isture, sar		•••••••••••••••••••••••••••••••••••••••		atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	-	Method: EPA [·] ytical Services			hod: El	PA 7471B			
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	,	Method: ASTN ytical Services		lis					
Percent Moisture	3.7	%	0.10	0.10	1		08/04/22 13:10		N2



Project: BPSOU Park Sampling

Pace Project No.: 10618818

Sample: 22-RMAP-SNPIT-2	Lab ID:	10618818007	Collected	d: 07/27/22	2 08:20	Received: 07/	28/22 08:50 Ma	atrix: Solid	
Results reported on a "wet-weigh	ht" basis								
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS	,	Method: EPA 6			hod: Ef	PA 3050B			
	Pace Anal	ytical Services	- Minneapo	lis					
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

Sample: 22-RMAP-SNPIT-2 Results reported on a "dry weight"		10618818008 adjusted for		d: 07/27/22 D isture, sar				atrix: Solid	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
7471B Mercury	2	Method: EPA 7 /tical Services	•		hod: El	PA 7471B			
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	,	Method: ASTN vtical Services		lis					
Percent Moisture	2.9	%	0.10	0.10	1		08/04/22 13:10		N2



QUALITY CONTROL DATA

Project:	BPSOU Pa	ark Sampliı	ng										
Pace Project No.:	10618818												
QC Batch:	832541	<u> </u>		Anal	ysis Meth	od:	EPA 7471B						
QC Batch Method:	EPA 747	1B		Anal	ysis Desc	ription:	7471B Merc	cury Solids	5				
				Labo	oratory:		Pace Analy	tical Servio	ces - Minnea	ipolis			
Associated Lab Sam	ples: 10)618818002	2, 10618818004	, 106188 <i>′</i>	18006, 10	618818008							
METHOD BLANK:	4409993				Matrix: S	Solid							
Associated Lab Sam	ples: 10	061881800	2, 10618818004	, 106188 [,]	18006, 10	618818008							
				Bla	nk	Reporting							
Param	neter		Units	Res	ult	Limit	MD	L	Analyzed	Qu	ualifiers		
Mercury			mg/kg	<	0.0085	0.02	0 0	0.0085 0	8/09/22 18:4	40			
LABORATORY CON	ITROL SAM	MPLE: 44	409994										
_				Spike		CS	LCS	% F					
Param	leter		Units	Conc.	Re	esult	% Rec	Lim	nits C	Qualifiers	_		
Mercury			mg/kg	0.4	19	0.51	10	5	80-120				
MATRIX SPIKE & M	ATRIX SPI		CATE: 44099	96		4409997	,						
				MS	MSD								
		1	10618797002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter		Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Mercury		mg/kg	0.027	0.65	0.68	0.81	0.81	120	114	80-120	1	20	
SAMPLE DUPLICAT	E: 44099	190		106187	07002	Dup			Max				
Param	eter		Units	Res		Result	RPI	C	RPD	Qualif	iers		
Mercury			mg/kg		0.027	0.02		4	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

,	SOU Park Samp	bling										
,	618818 		Anal	ysis Metho	id. ⊨	PA 6020A						
	PA 3050B			ysis Metrio ysis Descri		020A Solids		1				
	FA 3030D			-	•				aanalia			
Associated Lab Comula	100100100	04 4004004000		oratory:		ace Analyti	cal Sel	vices - Minr	leapoils			
Associated Lab Sample	s: 106188180	01, 1061881800	3, 106188	18005, 106	18818007							
METHOD BLANK: 440	09975			Matrix: S	olid							
Associated Lab Sample	s: 106188180	01, 1061881800	3, 106188 <i>°</i>	18005, 106	18818007							
			Bla	nk	Reporting							
Paramete	r	Units	Res	ult	Limit	MDL	•	Analyze	ed C	Qualifiers	5	
Arsenic		mg/kg		<0.14	0.50		0.14	08/12/22 1	18:21			
Cadmium		mg/kg		<0.029	0.080		0.029	08/12/22 1				
Copper		mg/kg		<0.31	1.0)	0.31	08/12/22 1	18:21			
Lead		mg/kg		<0.093	0.50		0.093	08/12/22 1	18:21			
Zinc		mg/kg		1.4J	5.0)	1.2	08/12/22 1	18:21			
LABORATORY CONTR	OL SAMPLE:	4409976	Spike	LC	20	LCS	0/	Rec				
Paramete	r	Units	Spike Conc.		sult	% Rec		imits	Qualifiers			
Arsenic		mg/kg	Ę	50	52.7	105	5	80-120				
Cadmium		mg/kg	Ę	50	52.7	105		80-120				
Copper		mg/kg	Ę	50	54.4	109)	80-120				
Lead		mg/kg	Ę	50	56.4	113		80-120				
Zinc		mg/kg	ţ	50	53.0	106	i	80-120				
MATRIX SPIKE & MATF		-ICATE: 4409	978		4409979							
			MS	MSD	1100010							
		10618797001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Red			RPD	RPD	Qua
Arsenic	mg/kg	22.9	50	48.1	72.0	73.0		98 1	04 75-12	5 2	2 20	
Cadmium	mg/kg	0.83	50 50	48.1	50.7	51.5			05 75-12			
Copper	mg/kg	79.5	50	48.1	129	134			13 75-12			
Lead	mg/kg	29.8	50	48.1	84.4	88.8			23 75-12			
Zinc	mg/kg	184	50	48.1	226	235			06 75-12			
SAMPLE DUPLICATE:	4409977		106187	97001	Dup			Max				
Paramete	r	Units	Res		Result	RPD		RPD	Qua	lifiers		
Arsenic		mg/kg		22.9	23.3		2		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			
7:00				101	400		0		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.

188

184

mg/kg

2

20

REPORT OF LABORATORY ANALYSIS

Zinc

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QUALITY CONTROL DATA

Project:	BPSOU Park Sampli	ng					
Pace Project No.:	10618818						
QC Batch:	832300		Analysis Meth	od:	ASTM D2974		
QC Batch Method:	ASTM D2974		Analysis Desc	ription:	Dry Weight / %I	M by ASTM D2	2974
			Laboratory:		Pace Analytical	Services - Mir	nneapolis
Associated Lab Sar	mples: 1061881800	2, 106188180	04, 10618818006, 10	618818008	-		
SAMPLE DUPLICA	TE: 4408950						
	(IE. 4400000		10618818002	Dup		Мах	
Para	meter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture		%	0.63	0.6	1	2	30 N2
Percent Moisture SAMPLE DUPLICA	ATE: 4408951	%	0.63	0.6	1	2	30 N2
	NTE: 4408951	%	0.63	0.6 	1	2 Max	30 N2
	NTE: 4408951 meter	% Units			1 RPD		30 N2 Qualifiers

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



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

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 Park SamplingPace Project No.:10618818

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		

REPORT OF LABORATORY ANALYSIS

٢			BP Site	BP Site Node Path: BP Facility No:										Req Lab	Req Due Date (mm/dd/yy): Lab Work Order Number:	ite (mn Drder I	/dd/yy Numbe				Rust	Rush TAT:	₂ X
Lab Name:		Pace Analytical Services			Facili	Facility Address:	ress:									Ē	Consulta	Consultant/Contractor:	actor:	Pion	Pioneer Technical Services	Services	
Lab Address:		1700 Elm Street Minneapolis, MN 55414	MN 55414		City,	City, State, ZIP Code:	ZIP CC	ode:									Consulta	int/Contr	actor Pr	Consultant/Contractor Project No:	BPSO	BPSOU Park Sampling	þ
Lab PM:	Jennifer Anderson	Anderson			Lead	Lead Regulatory	atory	Agency:									Address:		E Park S	uite 421,	307 E Park Suite 421, Anaconda MT,	Т, 59711	
Lab Phone:	ne: 612-607-1700	1700			Califo	California Global	lobal I.	ID No.:									Consulta	Consultant/Contractor PM:	actor PN		Jesse Schwarzrock	×	
Lab Ship	Lab Shipping Accnt:				Enfos	Enfos Proposal No:	osal N(8		-							Phon	Phone: 406-697-0949	97-0948		Email: jsc	Email: jschwarzrock@pioneer- technical com	oneer-
Lab Bott	Lab Bottle Order No:				Acco	Accounting Mode:	Mode:		Provision	sion –							Email EDD To:		Jesse S	Jesse Schwarzrock	ў 	100.000	
Other Info:	jo:				Stage:				Activity:	vity:							Invoice To:	ö		BP	Col	Contractor X	
BP Proj∈	ect Manager (PM)	BP Project Manager (PM): Mike Mc Anulty				Matrix	×	°. No		ainer	s / Pre	Containers / Preservative	ve			sentes	ted An	Requested Analyses		ĺ	Repo	Report Type & QC Level	c Level
BP PM F	BP PM Phone: 406-723-1822	822				⊢	<u> </u>				<u> </u>		<u>чс</u>	-'n	┝					╞		Standard	
BP PM E	BP PM Email: mcanumc@bp.com	@bp.com											U "U	l 'no					· .		Full D	Full Data Package [—]	1
Lab No.	Sample [Sample Description	Date	Time	bilos / lios	Water / Liquid	Air / Vapor Is this location a well?	Total Number of Containers	Unpreserved	42SO4	нсі ниоз	Methanol		Air dry&sieve*, 6020 (As, Cd, Zn) Z72 Mercury, dry weight	7471 Mercury, dry weight		_ 3 = ;			WO# : 10618	MO# : 10618818	1	
5	22-RMAP-SNROAD-1	D-1	07/27/22	8:00 AM	×			2			I				×						RUSH TURNAROUND	VAROUND	
5	22-RMAP-SNROAD-2	D-2	07/27/22	8:05 AM	×			2					ļ	×	×					-	RUSH TURNAROUND	AROUND	
Ņ	22-RMAP-SNPIT-1	-	07/27/22	8:15 AM	×			2						×	×						RUSH TURNAROUND	AROUND	
6	22-RMAP-SNPIT-2	2	07/27/22	8:20	×			2						×	×						RUSH TURNAROUND	JAROUND	
										+													
						$\left \right $				+													
Sampler's Name:	s Name:	Cole Dallaserra				q	Relin	quish	ied By	/ Affi	Relinquished By / Affiliation			Date		Time		Acc(epted E	Accepted By / Affiliation	ation	Date	Time
Sampler	Sampler's Company:	Pioneer Technical Services	Services		V	Ŋ	12	Moren	2		243		Ň	Cerds		2097	M	ilse	1124	CE		182/14	QS:8 29
S时 men	Signment Method:	FedEx Overnight Ship Date:	Ship Date:	7/27/2022																			
Skipmen	Shipment Tracking No:	Stos 1221	1 0385	1.																			
Special	Special Instructions:																						
}	THIS LINE - LAB USE ONLY: Custody Seals In Place (Yes) No	THIS LINE - LAB USE ONLY: Custody Seals In Place Cest No	tv Seals In Plac	ar Vac VO	۲ 	Temp Block: Key Mo	•	1	-					•		•		•	(١.			

Boog	DC#_Title: (SCUR) - E	ENV-FRM-MIN SI	N4-01/	49 v03_	Samp	le Cor	ndition l	Jpon Ro	eceipt		
-Paue montal stress	Effective Date	e: 04/12/2022									
									00	40040	
Sample Condition Upon Receipt – ESI Tech Specs		ioneer			Pr	oject #:	- <u>WO</u> PM:			18818 ue Date: 0	
Courier:	Fed Ex	UPS USPS		Client				NT: BP-			
Tracking Number		210385			e Exception V-FRM-MIN		<u> </u>				
5	Cooler/Box Presen		lo		s intact?		No	Biolog	ical Tissue	Frozen? Yes	
-	Bubble Wrap	Bubble Bags	_	_	Other:	-					∑]Yes □No
Thermometer:		336) 🗖 T3(0459) 🗌 T4	(005 A)	Type of ice:	_	Wet	Blue	 □None	Drγ	Melted	
Temp should be above free		ler Temp Read w/tem	p blank:	(3.4		_°C		-	Corrected Temp	See Exceptions
Correction Factor:		emp Corrected w/ten	n blank	. C	>.4		°C		(no tem	p blank only): °C	ENV-FRM-MIN4-0142
USDA Regulated Soil: Did samples originate LA. MS, NC, NM, NY, C	in a quarantine zon K, OR, SC, TN, TX or	e within the United St	🗌 Yes	No		Did sa Puerto	mples original o Rico)?	e from a fore	eign source i		7/28/27 Iding Hawaii and
-Chain of Custody Prese	nt and Filled Out?		V Yes	No		1.			COMMAN	EM15.	
Chain of Custody Relin			V Yes	No		2.					
Sampler Name and/or					□n/A	3.					
Samples Arrived within			Yes			4. 5. □	Fecal Coliform	HPC Tota	al Coliform/F	coli 🗍 BOD/cBOD 🗌	Hex Chrome
Short Hold Time Analy			□Yes								
Rush Turn Around Tim			Yes			6.					
Sufficient Sample Volume Triple Volume Provided fo		in 10 samples)?	,⊉Yes ′⊒Yes			7.					
Correct Containers Use			<u>Ø</u> ¥es			8.					
-Pace Containers Us Containers Intact?	ed?					9.					
Field Filtered Volume F	leceived for Dissolve	ed Tests?					s sediment v	isible in the	dissolved	container? [] Yes	No
Is sufficient information ava	lable to reconcile the sa	mples to the COC?	₽Yes	No		11. #n	o, write ID/ Dai	e/Time on Co	ntainer 8elo		xception M-MIN4-0142
Matrix: Water Soil	Oil Other	······································									· · · · · · · · · · · · · · · · · · ·
All containers needing checked?	acid/base preservat	ion have been	∐¥es	No		12. San	nple #				
All containers needing		und to be in			,		🗌 NaOH	🗌 HN	103	H ₂ SO ₄	Zinc Acetate
(HNO ₃ , H ₂ SO ₄ , <2pH, N)H>10 Cvanide)	□Yes	No							
Exceptions: VOA, Colife			[] Yes	No			e for Res. 🗌			.	See Exception
DRO/8015 (water) and a container it must be add			erify with	PM first)		Chlorin Res. Ch		No 0-6 Roll	pH Paper	0-6 Strip	0-14 Strip
Extra labels present on	soil VOA or WIDRO	containers?	□Yes	No			13.	l		l	See Exception
Headspace in VOA Vial	s (greater than 6mn	n)?	Yes	No							ENV-FRM-MIN4-0140
3 Trip Blanks Present? Trip Blank Custody Sea	is Present?		□Yes □Yes			14. P	ace Trip Blar	ık Lot # (if p	urchased)	.	
Temp Log: Temp must be main		n, record temp every 20 mins	_		/	N/RESOLI	JTION		Field	Data Required?	Yes No
Opened Time: 10115	Temp: 0. 4	Corrected Temp: 0.4	1	Person Con	tacted:					/Time:	
Time: 10:35	put in cooler	Corrected Temp:		Comments/	Resolutio	n:					
Time:	Temp:	i vonecteo rengi							(08/01/202	22
Project Manage Note: Whenever there is a		Andian	a sannae	s, a copy of t	his form wil	li be sent to	the North Ca	Dat rolina DEHNR	te: Certificatio	on Office (i.e., out of	hold, incorrect
preservative, out of temp,		•								• *	
							Lat	peled by:			
										PMI	$M(\gamma)$

.

Intorn	Internal Tranefor Chain of Custody	, diec	of Custody						4234895	ogst	Ĉ	
			X Samples Pre-Logged into eCOC.	Pre-Logged i	nto eCOC	ö	State Of Origin: MT Cert. Needed:	: MT Yes	No		Pace	Pace Analytical *
Workord	Workorder: 10618818 Worl	Workorder Name:		BPSOU Park Sampling	g		Owner Received Date:	d Date:	7/28/2022	Results Requested By:	uested By	: 8/4/2022
Report To			Subcontract To	(To					Requested Analysis	Analysis		
Jennifer Anderson Pace Analytical Mi	Jennifer Anderson Pace Analytical Minnesota		Pace A 1241 Bu	Pace Analytical Green Bay 1241 Bellevue Street	Bay							
1700 Elm Street Minneapolis, MN	Street lis, MN 55414		Suite 9 Green I	Bay, WI 54302								
Phone (61	Phone (612)607-6436		Phone	Phone (920)469-2436								
						6						
					-	Preserve	Preserved Containers					
								-				
		Sample				Other						
Item Samp	Samplo ID	Type	Date/Time	Lab ID	Matrix							LAB USE ONLY
1 22-RM	22-RMAP-SNROAD-1	PS	7/27/2022 08:00	10618818001	Solid	-	×					001
2 22-RM/	22-RMAP-SNROAD-2	PS	7/27/2022 08:05	10618818003	Solid	1	X					002
3 22-RM/	22-RMAP-SNPIT-1	PS	7/27/2022 08:15	10618818005	Solid	ب	×					003
4 22-RM/	22-RMAP-SNPIT-2	PS	7/27/2022 08:20	10618818007	Solid		×					004
5												
										Comments	S	
Transfers	Released By		Date/Time	Received By	_		Date/Time	IR40-Rush		Normal processing		
-	Fecex		2/0/22/62/2	15 Magda	ata0K	Dour	2/21/22/22	5 #60 Sieve	Ð			
2				5				Include (Include soil prep log			
3								Follow QAPP	АРР			
Cooler To	Cooler Temperature on Receipt NA	t NA	ပ့	Custody Seal 🛛 🖗	P or N		Received on Ice	e Y or	Q	Sample	Samples Intact ()	or N
***In ordei	***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.	dentiality	/, location/name (of the samplin	g site, saı	mpler's na	ame and signatur	re may not	be provided	I on this COC o	document.	

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

MA B1:2022 11:20:18 AM 58 58 58 59 58

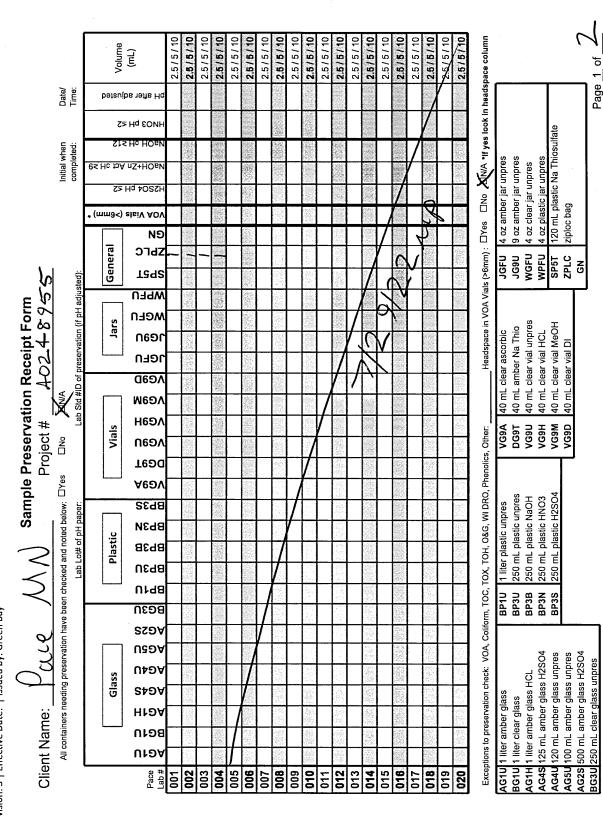
FMT-ALL-C-002rev.00 24March2009

\Box
dq
NAME

Laboratory Management Program LaMP Chain of Custody Record イムダイム Page 1 of 1 BP Site Node Path: XX No Req Due Date (mm/dd/yy): Kush TAT: XX No

		-	B	BP Facility No:										ab Wo	Lab Work Order Number:	er Num	Der:					
Lab Name:		Pace Analytical Services			Facility	Facility Address:	SS:									Const	Consultant/Contractor:	ractor:	Pion	Pioneer Technical Services	es	
Lab A	Lab Address: 1700 Elm	1700 Elm Street Minneapolis, MN 55414	MN 55414		City, State,	tate, ZI	, ZIP Code:									Const	Consultant/Contractor Project No:	ractor Pro	oject No	BPSOU Park Sampling	Sampling	
Lab PM:		Jennifer Anderson			Lead F	Lead Regulatory Agency:	ory Ag(sncy:			۰. ب					Address:		E Park St	uite 421,	307 E Park Suite 421, Anaconda MT, 59711	11	
Lab Phone:	hone: 612-607-1700	-1700			Califor	California Global ID No.	bal ID	No.:								Const	Consultant/Contractor PM:	ractor PN		Jesse Schwarzrock		
Lab SI	Lab Shipping Accnt:				Enfos	Enfos Proposal No:	al No:									Чd	Phone: 406-697-0949	697-0949		Email: jschwarzrock@pioneer- technical.com	ock@pionee: com	- <u>-</u>
Lab B(Lab Bottle Order No:				Accou	Accounting Mode:	lode:		Provision							Email	Email EDD To:	Jesse Schwarzrock	chwarzr	ock		
Other Info:	Info:				Stage:				Activity:							Invoice To:	e To:	H	BP —	ContractorX	¥	
BP Pr	oject Manager (PN	BP Project Manager (PM): Mike Mc Anulty				Matrix		No.	Sontai	ners /	Containers / Preservative	vative			Requ	lested .	Requested Analyses			Report Type & QC Level	e & QC Le	evel
BP PN	BP PM Phone: 406-723-1822	-1822											hb,							Star	Standard — x	
BP PN	BP PM Email: mcanumc@bp.com	c@bp.com											ʻnŊ ʻ							Full Data Package	kage —	
	· -						vell?	Sontainers					20 (As, Cd	14bi9w						Note: If sample not collected, indicate	llected, indica	a
Lab No.		Sample Description	Date	Time		رapor رامانط د / لـامانا	v s location a v	Number of (pəniəse			lone	09 ,*9v9i2&\	Mercury, dry						Con	Comments	-
					/ lioS		1		H2SC Unpre	ONH	нсі	Meth	Air dry Air dry									
00	22-RMAP-SNROAD-1	AD-1	07/27/22	8:00 AM	×			2					×	×						RUSH TURNAROUND	QN	
200	22-RMAP-SNROAD-2	AD-2	07/27/22	8:05 AM	×			2					×	×						RUSH TURNAROUND	DN	
600	003 22-RMAP-SNPIT-1	5	07/27/22	8:15 AM	×			 N					×	×						RUSH TURNAROUND	DN	
6 ⁰	22-RMAP-SNPIT-2	-2	07/27/22	8:20	×			2			7		×	×						RUSH TURNAROUND	QN	
											1											
																_						
											-1-											
			-																			
Sampl	Sampler's Name:	Cole Dallaserra				-	Reling	uishe	d By /	Relinquished By / Affiliation	tion		õ	Date	Time		Act	Accepted By / Affiliation	3y / Aff	iliation	Date	Time
Sampl	Sampler's Company:	Pioneer Technical Services	Services		15	10		ler a	Į	121	13		20%	202/202	loc					ş		
Shillem	Shighment Method:	FedEx Overnight Ship Date:	Ship Date:	7/27/2022		+-1-	3	ACX ACX					7/2	22/22/2	1015		200	Mart	A	Loave	129/	1015
ug Bug type type type type type type type type	Shigment Tracking No:	SISO 16	1602 9	976														D		-		
Spec	Special Instructions:																					
8	THIS LINE - LAB USE ONLY:	USE ONLY:	Custody Seals In Place: Res / No	ce: Kes / No	Ĕ	Temp Bl	Blank: Yes / 🚯	s / 🚯		Cooler	Temp c	on Rece	Cooler Temp on Receipt: $\overline{\mathbf{NA}}$		°F/C	Trip	Trip Blank: Yes / NO	s / NO	WS	MS/MSD Sample Submitted: Yes / NO	hitted: Yes /	Q
BP Re	mediation Manage	BP Remediation Management COC - Effective Date: starting August 16, 2011.	e Date: starting	August 16, 201			1													BP LaMP C	BP LaMP COC Rev. 8, 24 June 2012	June 2012

DC#_Title: ENV-FRM-GBAY-0035 v01_Sample Preservation Receipt Form Revision: 3 | Effective Date: | Issued by: Green Bay



Qualtrax Document ID: 41307

Pace Analytical Services, LLC

DC#_Title: ENV-FRM-GBAY-0014 v02_SCUR Revision: 3 | Effective Date: | Issued by: Green Bay

Sample Cond	lition Upon Receipt Form (SCUR)	
Client Name: Pare MN	W0#:40248955	
Courier: CS Logistics Fed Ex Speedee		
Client Pace Other:		
Tracking #: 5150 1602 9976	5150/602,998 40248955	
Custody Seal on Cooler/Box Present: Kyes no	Seals intact: 🗙 yes 🗖 no	J
Custody Seal on Samples Present: 🔲 yes 🕅 no	Seals intact: 🔲 yes 🔲 no	
Packing Material: D Bubble Wrap Bubble Ba		
	e of Ice: Wet Blue Dry None Samples on ice, cooling process has begun Person examining contents:	—–
Cooler Temperature Uncorr: N/4 /Corr: N/		
Temp Blank Present: 🔲 yes 🖄 🔨	Biological Tissue is Frozen: Tyes To Date: 7/2.9/2.24Initials	2
Temp should be above freezing to 6°C. Biota Samples may be received at \leq 0°C if shipped on Dry Ice.	Labeled By Initials:	
Chain of Custody Present:	s 🗆 No 🗇 N/A 1.	
Chain of Custody Filled Out:	s 🗆 No 🗇 N/A 2.	
Chain of Custody Relinquished:	s []NO []N/A 3.	
Sampler Name & Signature on COC:	s []NO []N/A 3. s []NO X/N/A 4. IRWO 7/29/22MP	
Samples Arrived within Hold Time:	s □No 5.	
- VOA Samples frozen upon receipt	s DNo Date/Time:	
Short Hold Time Analysis (<72hr):	s 🗶 No 6.	
Rush Turn Around Time Requested:) = 7/29/122 Mp	
Sufficient Volume:	8.	
For Analysis: 🔀 es 🛛 No MS/MSD: 🗆 Yes		
Correct Containers Used:	s □No 9.	
-Pace Containers Used:		
-Pace IR Containers Used:	s Ing Xna	
Containers Intact:	s 🗆 No 🔰 10.	
Filtered volume received for Dissolved tests	s 🗆 No 💹 11.	
Sample Labels match COC:	s 🗆 No 🗇 N/A 12.	
-Includes date/time/ID/Analysis Matrix:	5	
Trip Blank Present:	s 🗆 No 🗶 NA 13.	
Trip Blank Custody Seals Present		
Pace Trip Blank Lot # (if purchased):		
Client Notification/ Resolution:	If checked, see attached form for additional comments	
Person Contacted:	Date/Time:	
Comments/ Resolution:		—

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

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Qualtrax Document ID: 41292

Pace Analytical Services, LLC

Internal Transfer Chain of Custody	Chain	of Custor							ect	solgy ect		·
		X Sample	X Samples Pre-Logged into eCOC.	into eCO	പ	State	State Of Origin: M1	n: MT			Pac	ace Analytical " www.pacelaba.com
			;			Cert.	Cert. Needed:	C Yes		Q		
Workorder: 10618818	Workorder Name:	ā	BPSOU Park Sampling	bu	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	OWn	Owner Received Date:	ed Date:	7/28/2022	3	Results Requested By:	r: 8/4/2022
Jennifer Anderson		Pace	Pace Analytical Green Bay	n Bay						#OM	• •	10618818
Pace Analytical Minnesota 1700 Elm Street Minneapolis MN 55414		1241 Suite Greei	1241 Bellevue Street Suite 9 Green Bav Wi 54303									
Phone (612)607-6436		Phon	Phone (920)469-2436	1 00				Эл;		10618818	818	
								əis xə				
					PB Prese	oB Preserved Containers	tainers	Vir Dry				
tem Sample JD:	Sample	lei Collect DaterTime	LabID	Matrix	Other			, ,				LAB USE ONLY
1 22-RMAP-SNROAD-1	PS		10618818001	Solid	-			×				001
2 22-RMAP-SNROAD-2	PS	7/27/2022 08:05	10618818003	Solid	1			×				002
3 22-RMAP-SNPIT-1	BS	7/27/2022 08:15	10618818005	Solid	1			×				003
4 22-RMAP-SNPIT-2	S	7/27/2022 08:20	10618818007	Solid				×				004
5												
								A DESCRIPTION OF THE OWNER OF THE		Ŭ.	Comments	
Transfers Released By		Date/Time	Received By	Зy			Date/TIme		IR40-Rush	Normal processing	essing	
1 Fedex		5101 22/62/2	1015 Mm	atto	000	23	7/29/2	22 #60 Sieve	ieve			
2 2 2	لانتشر -	anne 18/1/22 110:00	. 00 201	JAN	Alec	je.	3/2/22	ž	Include soil prep log	бо		
3	- 		0				. 1	Foliov	Follow QAPP			
Cooler Temperature on Receipt	ceipt 🦯	°C Cu	Custody Seal	Q or (N	$\overline{\mathbf{a}}$	Rece	Received on Ice		r (N)	š	Samples Intact 🕉	or N
***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. This chain of custody is considered complete as is since this information is available in the owner laboratory.	confidential onsidered c	ity, location/name omplete as is sin	e of the samplice this information	MA 8/16/22 sampling site, sampler's name and signature <i>m</i> information is available in the owner laboratory.	ampler's ailable i	s name a in the ow	ınd signatı mer labor	ure may r atory.	ot be prov	ided on this	COC document.	
								(
Pa												
age 27 d												
Rhursday, July 28, 2022 11:20:18.	M								FMT-ALL-C-	FMT-ALL-C-002rev.00 24March2009	arch2009	Page 1 of 1

Pace	(SCUR)	: ENV-FRM		0150	v05_S	ample C	ondi	tion Upo	on Re	eceipt		
i martica connes	Effective Dat	te: 04/12/20)22							······		
Sample Condition Upon Receipt	Client Name:	green	Bay	/	Projec	:t #:		WO‡	‡ :1	L061	881	.8
		UPS SpeeDee	USPS Commer	cial	Client			PM: JM CLIENT		Due -PIONEER	Date:	08/04/22
Tracking Number:	,,		1			RM-MIN4-						······································
Packing Məterial:	61) T2(1336) 42) 01339252/1	☐Bubble F [T3(0459) ☐ T4(0254 710 ☐122639816 ☐) 🔲 T5(0489) 140792808		□C 5)	ottact?	s □Wet				Blank?	is □No ☑N/A □Yes ☑No ⁄ielted
Did Samples Originate in Wes Temp should be above frees Correction Factor:	zing to 6°C	La™o Were / Cooler Temp ler Temp Corro	Read w/t	emp bl	ank: 🟒				.	Average Cor Temp (no te only):		See Exceptions ENV-FRM-MIN4-0142
USDA Regulated Solf (Did samples originate in a MS, NC, NM, NY, OK, OR, S] N/A, water sar quarantine zon SC, TN, TX or VA I f Yes to either o	mple/Other: e within the Unit (check maps)? question, fill out	ted States: Yes a Regulate	AL, AR, C No d Soil Ch	A, FL, GA,	Date/ ID, LA.	Did sam Hawaii a	of Person Ex ples originat and Puerto R	amining te from tico)?	TYes	ce (interna	3/22 ationally, including
Location (check	one): 🛛 Dulu	uth 🗹 Minnea	polis 🛛	Virginia						OMMENTS:		
Chain of Custody Present Chain of Custody Relingu		t?	Yes Yes	No No		1.						
Sampler Name and/or Sig	gnature on CO	C?	Yes	No	N/A	3.						
Samples Arrived within H Short Hold Time Analysis			Yes Yes	No.		4. 5. □Fe	al Colifo	orm 🗌 HPC [<24 hrs, >24 Coliform/E coli	BOD/cB	DD Hex Chrome
Rush Turn Around Time	Requested?		Yes	<u>□</u> No		6.				Orthophos	Other	
Sufficient Volume? Correct Containers Used?	 ว	<u> </u>	Yes			7.	·					
-Pace Containers Used Containers Intact?	-		Yes Yes Yes			8.			ورور المراجع المراجع	איישראנייניינייינייייני		
Field Filtered Volume Rec	ceived for Disso	olved Tests?	Yes	□No	ZN/A					olved contain		
Is sufficient information a samples to the COC? Matrix: Water ZSoil [oncile the	Mes	∏No		11. If no, v	vrite ID,	/ Date/Time (on Cont	ainer Below:		See Exception
All containers needing act been checked?	id/base preser	vation have	Yes	No	⊿ n/A	12. Sampl	e #					·
All containers needing pro compliance with EPA recc (HNO ₃ , H ₂ SO ₄ , <2pH, NaC Cyanide)	ommendation?)	Yes	□No	ØN/A] NaOH		HNO₃	∏H₂so	D ₄	Zinc Acetate
Exceptions: VOA, Coliforn DRO/8015 (water) and Di		l and Grease,	Yes	□No	⊠ N/A	Positive fo Chlorine?	ĺ	Yes No	pH P	aper Lot#	El	See Exception
						Res. Chlor	ine	0-6 Roll		0-6 Strip		0-14 Strip
Headspace in Methyl Mer			Yes	No	∠ N/A			- 1			l	
Extra labels present on so Headspace in VOA Vials (g			Yes Yes	No No	₽N/A ₽N/A	13.						See Exception
Trip Blank Present? Trip Blank Custody Seals P	Present?		☐Yes ☐Yes	∏No ∏No		14. Pace	Trip Bl	ank Lot # (if	purcha	used):		
CLIENT NOTIF Person Contacted: Comments/Resolution:	ICATION/RESO	LUTION				Date/Ti				Data Require	d? 🗌Ye	sNo
Project Manag ote: Whenever there is a discre eservative, out of temp, incorre	pancy affecting N	-f-A	des	es, Copy	of this form	n will be sent t	Date o the No	e:C orth Carolina D Labeled	28/16 DEHNR Ce by:	2/2022 entification Office		f hold incorrect

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