Summer 8-18-2021

Butte Priority Soils Operable Unit (BPSOU) Unreclaimed Sites – Final Field Sampling Plan (FSP) #2; Unreclaimed Sites UR-24, UR-26, and UR-40.

Mike McAnulty

Atlantic Richfield Company

317 Anaconda Road
Butte MT 59701

Mike Mc Anulty
Liability Manager

Direct (406) 782-9964
Fax (406) 782-9980

August 18, 2021

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 Code: 8ORC-C

Daryl Reed
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

Butte Priority Soils Operable Unit (BPSOU) Unreclaimed Sites – Final Field Sampling Plan (FSP) #2; Unreclaimed Sites UR-24, UR-26, and UR-40.

Dear Agency Representatives:

As described in Appendix D, Attachment C to the 2020 Consent Decree, areas listed as Unreclaimed Solid Media Sites within Butte Priority Soils Operable Unit (BPSOU) may have potentially been impacted by historic mining and therefore may pose a threat to human health, contribute metals-impacted sediments to existing or planned wet weather control features, or contribute to the degradation of surface water quality. There are a total of 39 unclaimed sites, multiple sites will be organized in a package for approval. Field sampling plan (FSP) package #2 (FSP Package #2) includes Unreclaimed (UR) Sites UR-24, UR-26, and UR-40. Site evaluations will be performed using means and methods provided in the Atlantic Richfield Company Final UR Quality Assurance Project Plan (QAPP) published October 12, 2018, which was prepared in accordance with U.S. Environmental Protection Agency (EPA) guidance documents EPA QA/R-5 and EPA QA/G-5 for QAPP development. The QAPP was updated in 2021 (and is referred to herein as UR Sites QAPP) as a component of the BPSOU Solid Media Management Project Plan. Results from site evaluations will be used to prepare site declarations and assist with determination of site remediation requirements. Site evaluations will begin in 2021 and are anticipated to be completed in 2022, or as site access allows. Site declarations for sites sampled in 2021 are anticipated to be provided for Agency review and approval by the end of 2021. Declarations of sites sampled after 2021 will be provided as soon as feasible. Remedial action will be performed following Agency approval of pertinent site-specific remedial action work plans.

A preliminary list of FSP packages, provided below, will be updated to record the status and progress related to FSP package submittals.

Package	Sites	Submittal Date	Approval Date
1	UR-31, 32, and 39	May 19, 2021	June 8, 2021
2	UR-24, 26, and 40	June 30, 2021	TBD
3	UR-06, 07, 20, 22, 35, and 36	July 2, 2021	TBD
4	UR-16 and 21	TBD	TBD
5	UR-12, 13, 33, and 38	TBD	TBD
6	UR-05, 27, 28, 29, 30, and 34	TBD	TBD
7	UR-01, 02, 03, 04, 15, and 17	TBD	TBD

The crosswalk list provided below references where pertinent field sample collection and documentation elements are discussed.

	Reference Location	
Element	**FSP**	**UR Sites QAPP**
Title page and approval authority.		Page i
Introduction and appropriate Agency-approved UR-Sites QAPP reference.	X	
Goals and objectives of sampling.		Section 2.4, 3.2
Proposed schedule for field work.	X	
Site figure including sampling locations, number and depth of samples to be collected, and sample field identification.	X	Section 3.2.1
Field activity methods and procedures, standard operating procedures.		Section 3.2, Table 4
Sample labeling and shipping.		Section 3.2.5, Appendix C
Sample analysis, specifying X-ray fluorescence (XRF) vs. laboratory analysis and laboratory name.		Section 3.3
Figure showing the site and/or area represented by a sample, sample ID, and aliquot locations for composite samples.	X	

Soil sampling is proposed for FSP Package #2 at 3 UR Sites located in the south area of Butte, Montana, near the Copper Mountain Recreation Complex and Beef Trail. The results of the soil sampling will be used to support the site declaration and potential future remediation requirements for each site. This FSP is consistent with Section 3.0 Data Acquisition protocol described in the UR Sites QAPP. The UR Sites 24 and 26 are each less than 1.0 acre, UR-40 is 3.2 acres. UR-24 is located outside the complex fence, however debris protruding the ground presents hazards to children playing. UR-26 is a vacant lot with exposure potential to nearby residents. UR-40 is a vacant lot outside the fence of the complex that contains trails and residences nearby. Each of the sites is

discussed separately below. The attachments at the end of this document include figures for each site showing the proposed soil sampling locations.

Site: UR-24 Clark Mill and Adjacent Mill Tailings

Background

Site UR-24 is approximately 0.7 acres. It is located within the Copper Mountain Recreation Park on Beef Trail Road (Figure 1). The site is part of an east-facing slope along an unnamed drainage west of the football fields and east of the driving range. The site has both areas with moderate vegetation and some significant bare areas. Many of the bare areas appear to have exposed mine waste. There is also metal debris and other garbage protruding through the ground within UR-24. This is the result of improperly covered garbage in the closed former Butte-Silver Bow landfill. Rilling has developed in some of the bare areas with fine-grained soils.

Site UR-24 is owned by Butte-Silver Bow. The nearest residence is about 1,300 feet south of Site UR-24 and higher in the drainage. There is fencing around the Copper Mountain Recreation Park but there is no fencing specifically around Site UR-24. Site UR-24 is in the Grove Gulch drainage basin of BPSOU.

Previous Sampling Efforts

There is no record of previous soil sampling at this site or in the vicinity of UR-24.

Site: UR-26 Grove Creek from Hanson to Rowe Rd

Background

Site UR-26 is estimated at 0.37 acres. It is located just east of the intersection of South Montana Street, Beef Trail Road, and Hanson Road. From there, Site UR-26 trends northeasterly toward Rowe Road (Figure 2). Access to UR-26 is from Hanson Road or possibly from South Dakota Street.

The majority of Site UR-26 is owned by Kenneth and Margie Reap. A small portion of the site is owned by Butte-Silver Bow. Site UR-26 is vacant land that occupies the north bank of Grove Creek in a mostly residential part of Butte. The site has two piles of soil located in the northwest section; good grass cover has established along the walking path down the middle of the site that runs east-west. Site UR-26 is in the Grove Gulch drainage basin of BPSOU and runoff from the site flows immediately into Grove Creek.

Previous Sampling Efforts

Soil samples have been collected in the past at Site UR-26. Data obtained from the Geocortex web-based database at https://eis2.woodardcurran.com/Html5Viewer/index.html?viewer=BPButte.BPSOU contains the records for previous soil samples at or near Site UR-26. Approximate sample locations for the

samples are included on Figure 2 with results provided in Table 1 below. Some of the samples listed show exceedances of BPSOU action levels for arsenic, lead, and zinc. The BPSOU action levels are listed in Tables 1 and 2 of the UR Sites QAPP.

Table 1: Previous Sampling Results from BPSOU Soil Sampling
(units are milligrams per kilograms)

	Station ID	
COC	SO-GG-E	SO-GG-F
Arsenic	16	26
Cadmium	<4	<4
Copper	72 J	90 J
Lead	58	91
Zinc	200	574
Sample Date	11/3/97	11/3/97

COC: contaminants of concern.

Site: UR-40 East Clark Mill Tailings

Background

Site UR-40 (Source Area No. 155E) is approximately 3.2 acres located near east of the Copper Mountain Recreation Park. The site can be accessed from either South Montana Street or Beef Trail Road (Figure 3). The northern two-thirds of Site UR-40 consist of an abandoned railroad grade and the land surrounding it. The southern lobe of the site is near the bottom of a long, north-draining slope with the former Clark Mill at the top of the slope. Site UR-40 is owned by Butte-Silver Bow and is bounded on the north by a trucking firm and on the southeast by a residential neighborhood along South Montana Street. The nearest residence is about 100 feet due east of the east portion of Site UR-40. Parcels to the north and southeast of Site UR-40 are fenced, but there is not fencing that restricts access to UR-40. The fence along the east side of Copper Mountain Park does prevent direct access to UR-40 from the park.

The site has areas with both moderate vegetation and some significant bare areas. Some of the bare areas have white salts and black-stained gravel, which may be impacts from mine waste. Rilling has developed in some of the bare areas with fine-grained soils. Site UR-40 is in the Grove Gulch drainage basin.

Previous Sampling Efforts

Data obtained from the Geocortex web-based database at https://eis2.woodardcurran.com/Html5Viewer/index.html?viewer=BPButte.BPSOU contains the records for previous soil sample locations at or near Site UR-40. Approximate sample locations are included on Figure 3 with results provided in Table 2 and Table 3 below. Two of these samples were from studies of former and current railroad beds within BPSOU. Some of the samples listed show exceedances of BPSOU action levels for arsenic and zinc. The BPSOU action levels are listed in Tables 1 and 2 of the UR Sites QAPP.

Table 2: Previous Sampling Results from BPSOU Soil Sampling (units are milligrams per kilograms)

	Sample Station ID		
COC	MTW010-00	RRNB012	FSUA-104
Arsenic	188	16	404
Cadmium	4	NA	NA
Copper	314 J	27	203
Lead	304	27	914
Zinc	1,030	100	2,000
Sample Date	5/16/91	6/10/93	12/14/95

COC: contaminant of concern. NA: not analyzed.

In October 2005, Atlantic Richfield conducted soil sampling in the area surrounding the Clark Tailings and compiled the results into the Final Source Area Remedial Action Design Memorandum in 2007. The 2005 sampling was mostly to the south of UR-40 but did overlap slightly. The south lobe of UR-40 coincides with Sub-area 8 of the 2005 sampling event. The results for the Sub-area 8 samples (Clark8-uv and Clark8-v) are in Table 3. The samples were composites and collected from a depth of 0-2 inches. The results for the "Sub-area 8" samples do not exceed the BPSOU open space action levels for arsenic or lead, which is what they were being evaluated for at the time of that study. However, the results do exceed the storm water screening criteria for arsenic, lead, and zinc.

Table 3: Previous Sampling Results from BPSOU Soil Sampling (units are milligrams per kilograms)

	Sample Station ID	
COC	Clark8-uv (unvegetated)	Clark8-v (vegetated)
Arsenic	628	142
Cadmium	4.9	<3.9
Copper	367	153
Lead	1,110	201
Zinc	1,800	658
Sample Date	Oct. 2005	Oct. 2005

COC: contaminant of concern.

Unreclaimed Sites QAPP

All field work and soil analysis will be completed in accordance with the UR Sites QAPP. The UR Sites QAPP will be reviewed annually and updated as needed on Agency review and approval. Soil sampling will be conducted at the 3 UR Sites at depth intervals of 6 to 12 inches, 2 to 6 inches, and 0 to 2 inches. Sampling will take place in that order from the deepest interval (6 to 12 inches) to the shallowest interval (0 to 2 inches). Proposed sample locations for each site are shown on Figures 1 through 3.

Sampling Procedure

All sampling procedures are to be followed according to the UR Sites QAPP, which describes the activities necessary to conduct soil sampling and characterization activities on UR Sites within BPSOU. It also describes the quality assurance/quality control policies and procedures to be used during collection and analysis. Implementation of this fieldwork will likely commence in the spring of 2021, assuming that access has been obtained for all subject parcels.

If you have questions or comments, please do not hesitate to call me at (907) 355-3914.

Sincerely,

Mike McAnulty

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

Attachments:

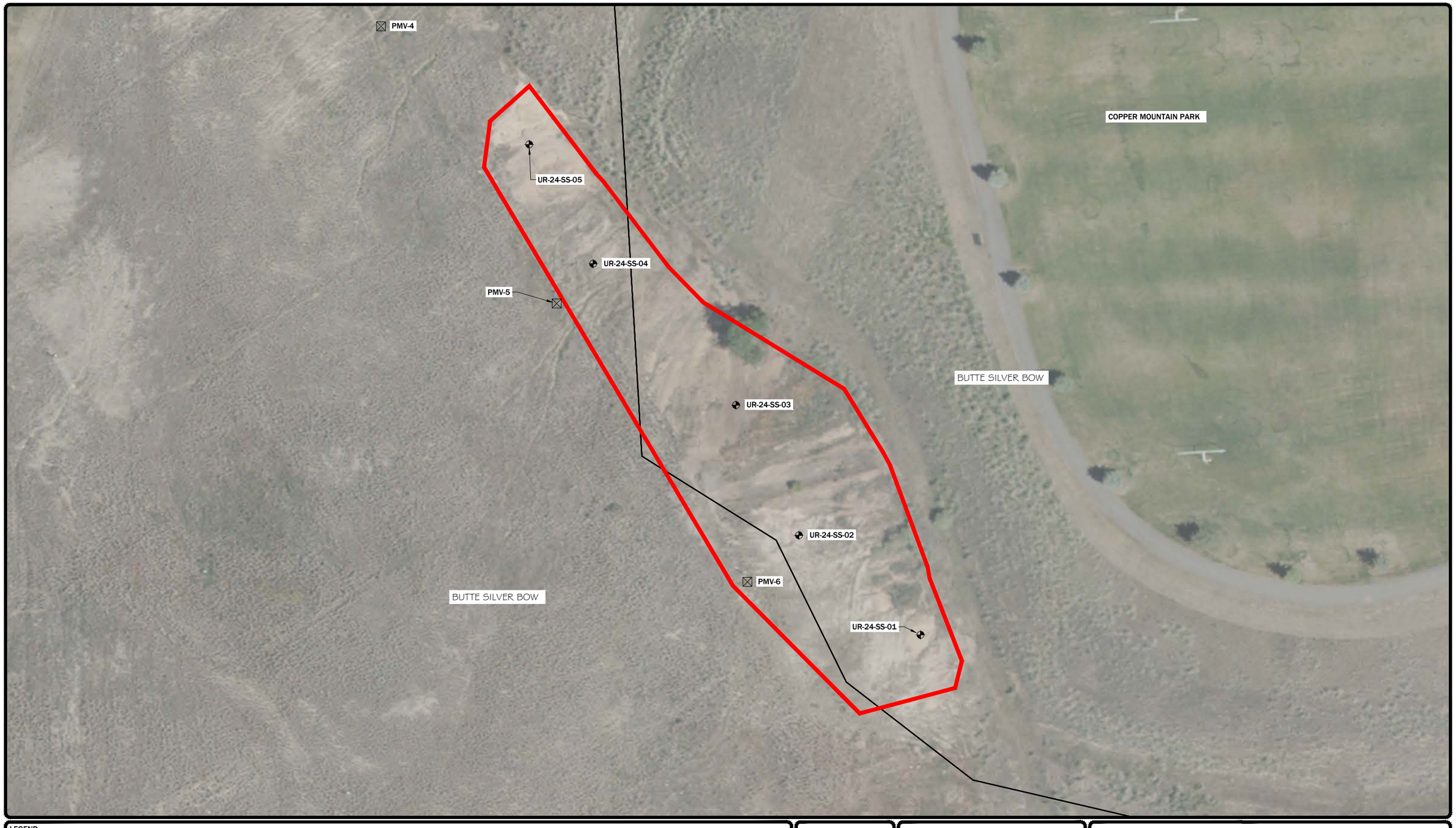
Figure 1 Unreclaimed Site UR-24 Proposed Sample Locations
Figure 2 Unreclaimed Site UR-26 Proposed Sample Locations
Figure 3 Unreclaimed Site UR-40 Proposed Sample Locations

Cc: Patricia Gallery / Atlantic Richfield - email
Chris Greco / Atlantic Richfield – email
Josh Bryson / Atlantic Richfield - email
Mike Mc Anulty / 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
John Davis / PRR - email

Joe Vranka / EPA - email
David Shanight / CDM - email
Curt Coover / CDM - email
James Freeman / DOJ - email
John Sither / DOJ - email
Jenny Chambers / DEQ - email
Dave Bowers / DEQ - email
Carolina Balliew / DEQ - email
Matthew Dorrington / DEQ - email
Jim Ford / NRDP - email
Ray Vinkey / 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
Kristen Stevens / UP - email
Robert Bylsma / UP - email
John Gilmour / Kelley Drye - email
Leo Berry / BNSF - email
Robert Lowry / BNSF - email
Brooke Kuhl / BNSF – email
Mark Engdahl / BNSF - email
Jeremie Maehr / Kennedy Jenks - email
Annika Silverman / Kennedy Jenks - email
Matthew Mavrinac / RARUS - email
Harrison Roughton / RARUS - email
Brad Gordon / RARUS - email
Mark Neary / BSB - email
Eric Hassler / BSB - email
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
Jeremy Grotbo / BSB – email
Josh Vincent / WET - email
Craig Deeney / TREC - email
Scott Bradshaw / TREC - email
Brad Archibald / Pioneer - email
Pat Sampson / Pioneer - email
Mike Borduin / Pioneer - email
Joe McElroy / Pioneer – email

Andy Dare / Pioneer – email
Karen Helfrich / Pioneer - email
Leesla Jonart / Pioneer - email
Connie Logan/ Pioneer – email
Ian Magruder/ CTEC- email
CTEC of Butte – email
Scott Juskiewicz / Montana Tech – email

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



LEGEND:

- PROPOSED SOIL SAMPLE LOCATION
- PASSIVE METHANE VENT (PMV) FOR CLOSED LANDFILL

UR-23 IS 0.7 ACRES

N

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 20 50

FIGURE 1

UNRECLAIMED SITE
UR-24
PROPOSED
SAMPLE LOCATIONS

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2018

8/13/2021 4:07:51 PM Z:\SHARED\ACTIVE PROJECTS\ARCO\UNRECLAIMEDSITES\CADD\FIGURES\UR24-FIG-001-21.DWG

LEGEND:

- PROPOSED SOIL SAMPLE LOCATION
- PREVIOUS SOIL SAMPLE LOCATION

UR-26 IS 0.37 ACRES

N

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 20 40

FIGURE 2

UNRECLAIMED SITE
UR-26
PROPOSED
SAMPLE LOCATIONS

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 5/2021

8/16/2021 9:18:27 AM Z:\SHARED\ACTIVE PROJECTS\ARCO\UNRECLAIMEDSITES\CADD\FIGURES\UR26-FIG-001-21.DWG

LEGEND:

- PROPOSED SOIL SAMPLE LOCATION
- PREVIOUS SOIL SAMPLE LOCATION

UR-14 IS 3.2 ACRES

N

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 100 200

FIGURE 3

UNRECLAIMED SITE UR40 PROPOSED SAMPLE LOCATIONS

PIONEER TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 06/2021

8/16/2021 10:21:28 AM Z:\SHARED\ACTIVE PROJECTS\ARCO\UNRECLAIMEDSITES\CADD\FIGURES\UR40-FIG-001-21.DWG