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**Butte Priority Soils Operable Unit (BPSOU) Unreclaimed Sites
-Draft Final Field Sampling Plan (FSP) #4: UR-16 and UR-21**

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July 26, 2021

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Butte Priority Soils Operable Unit (BPSOU) Unreclaimed Sites -Draft Final Field Sampling Plan (FSP) #4: UR-16 and UR-21

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 #4 (FSP Package #4) includes Unreclaimed (UR) Sites UR-16, and UR-21. Site evaluations will be performed using means and methods provided in the Atlantic Richfield Company Final Unreclaimed Sites 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 (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 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 10, 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	July 26, 2021	TBD
5	UR-12, 13, 33, and 38	July 26, 2021	TBD
6	UR-05, 27, 28, 29, 30, and 34	July 26, 2021	TBD
7	UR-01, 02, 03, 04, 15, and 17	July 26, 2021	TBD

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

Element	Reference Location	
	FSP	UR 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 #4 at 2 UR Sites located in the northern area of Butte, Montana, southwest of the Berkeley Pit. 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. These 2 UR Sites are each larger than 1.5 acres. Sites UR-16 and 21 are in residential/commercial areas with daily potential of exposure.

Site: UR-16 Jefferson St and S Warren Ave. (Garden and Shields Avenues)

Background

Site UR-16 is approximately 1.5 acres and is located at the southwest corner of Garden and Shields Avenues, just south of the Berkeley Pit visitors center (Figure 1). The site is bound on the east side by Garden Avenue with McGruff Park on the east side of Garden Ave. Site UR-16 is bound on the south by 2 businesses, on the west by Warren Avenue, and on the northwest by a BNSF rail line. The majority of Site UR-16 is owned by Pegasus One LLC. Anderson Trust sold to Mining City Services in October of 2020. BNSF owns a parcel north of Jefferson Street outside of UR-16 boundary. A small portion at the north end of UR-16 is owned by John Fagan. BNSF could own a small piece, depending on how the boundary line is drawn. Site UR-16 appears to have generally good vegetation. There are bare areas at the base of the slope coming from the railroad grade and also along the vacated alignment of Jefferson Street. The northern section of UR-16 contains bare areas with manganese staining. The southern section of UR-16 is being used for storage and contains cars, recreational vehicles, trailers, a cargo container, and debris. There is a road along the east boundary of the southern section that looks to be used often by motor travel. Site UR-16 is in the Warren Avenue 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 record for one previous soil sample near Site UR-16. The sample was collected in 1993 as part of a railbed assessment study. The approximate sample location is included on Figure 1 with results provided in Table 1 below. The results listed show an exceedance of the BPSOU action level for arsenic. 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)**

	Sample Station ID	
COC	RRMY001MY-1	MTW004-00
Arsenic	536,536	487
Cadmium	NA	20
Copper	NA	3,070
Lead	327,327	914
Zinc	NA	1,780
Sample Date	6/4/1993/5/93	5/9/1991

COC: contaminant of concern. NA: not analyzed.

Site: UR-21 E. Galena St. (300 Block)

Background

Site UR-21 is approximately 2.2 acres and is located southeast of the intersection of East Galena and South Ohio Streets (Figure 2). The site is in a mixed residential / commercial area. Site UR-21 is bounded on the south by East Mercury Street and on the east by vacant lots in the 300 block of East Galena and East Mercury streets. Ownership of Site UR-21 includes Galena Street LLC (with Capgras as the contact buyer), Cynthia Stark, Butte Public Housing, Butte-Silver Bow, Bill Maloney, and Candice Garmoe. Ownership along the northeast boundary is debatable; it is not known whether property boundaries are within the UR Site boundary. Site UR-21 is vacant land with moderate vegetation, but also several distinct bare areas especially in the northern section. The west boundary is littered with trash.

Site UR-21 is in the Anaconda Road/Butte Brewery drainage basin and sits north of the Belmont Diversion structure.

Previous Sampling Efforts

No previous sampling data available.

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 2 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 Figure 1 and Figure 2.

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

Attachments:

Figure 1 Unreclaimed Site UR-16 Proposed Sample Locations
Figure 2 Unreclaimed Site UR-21 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

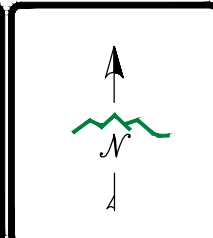
Joe Vranka / EPA - email
David Shanight / CDM - email
Curt Coover / CDM - email
James Freeman / DOJ - email
John Sither / DOJ - email
Jenny Chambers / DEQ - email
Dave Bowers / DEQ - email
Carolina Balliew / DEQ - email
Matthew Dorrington / DEQ - email
Jim Ford / NRDP - email
Ray Vinkey / NRDP - email
Harley Harris / NRDP - email
Katherine Hausrath / NRDP - email
Meranda Flugge / NRDP - email
Ted Duaiame / 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
Molly Maffei / 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
 ▲ PREVIOUS SOIL SAMPLE LOCATION
 UR-16 IS 1.98 ACRES



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

SCALE IN FEET
 0 50 100

FIGURE 1 UNRECLAIMED SITE
 UR-16
 PROPOSED
 SAMPLE LOCATIONS

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

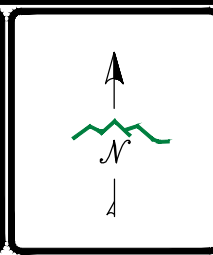
DATE: 5/2021



LEGEND:

● PROPOSED SOIL SAMPLE LOCATION

UR-21 IS 2.20 ACRES



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

SCALE IN FEET

0 30 60

FIGURE 2 UNRECLAIMED SITE
UR-21
PROPOSED
SAMPLE LOCATIONS

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

DATE: 5/2021