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Butte Priority Soils Operable Unit (BPSOU) Unreclaimed Sites - Draft Final Field Sampling Plan (FSP) #5: UR-12, UR-13, UR-33, and UR-38.

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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) #5: UR-12, UR-13, UR-33, and UR-38.

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 #5 (FSP Package #5) includes Unreclaimed (UR) Sites UR-12, UR-13, UR-33, and UR-38. 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 the third quarter of 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 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	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 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 #5 at 4 UR Sites located in west Butte, Montana, and south of West Elementary. 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 4 UR Sites vary in size from 0.8 acres to 10.1 acres. Sites UR-13, 33, and 38 are vacant lots with pedestrian and motor vehicle activity. Site UR-12 contains a wooden structure and appears vacant with residential property within 500 feet. Each site 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-12 Williamsburg

Background

Site UR-12 is approximately 1.2 acres and is located immediately west of the community of Williamsburg, south of Interstate 15/90. The site can be accessed by driving to the west end of Munich Street. A small portion of UR-12 sits isolated about 100 feet west of the main portion of the site (Figure 1). The majority of Site UR-12 is owned by James Hendrickson and located on the Highland mining claim. Other portions of UR-12 are owned by Butte-Silver Bow and James O'Hagan. Site UR-12 is vacant land and is outside of the urban area of Butte. Most of the site is bare waste rock with a few trees and sparse ground cover. There are many cars, recreational vehicles, building supplies, and scrap metals being stored on the site.

Site UR-12 is in the Grove Gulch drainage basin of BPSOU, though runoff from the site will not reach Grove Gulch proper. Runoff from Site UR-12 flows to the north going through culverts beneath the interstate, then flows across UR-13, then through culverts beneath the BNSF railroad tracks directly to Silver Bow Creek.

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 one previous soil sample at Site UR-12. Sample 038-WA-24-01 was collected in November 1994 as part of a BPSOU soil sampling program. The approximate sample location for 038-WA-24-01 is included on Figure 1 with results provided in Table 1 below. None of the sample results exceed BPSOU action levels listed in the UR Sites QAPP.

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

	Sample Station ID
COC	038WA24-0
Arsenic	103
Cadmium	ND
Copper	69
Lead	82
Zinc	273
Sample Date	11/14/94

COC: contaminant of concern. ND: not detected.

Site: UR-13 N. of I-15 and W. of Colorado Smelter N.

UR-13 Background

Site UR-13 is approximately 10.1 acres and is located immediately north of Interstate 15/90 and south of the BNSF railroad tracks. Just north of the railroad tracks is Silver Bow Creek and the Lower Area One lagoons (Figure 2). Site UR-13 is bounded on the east by the Montana Pole Plant water treatment facility. Access to UR-13 on the east side is through a locked gate in the fence on the west edge of the pole plant site. The UR-13 site is owned by Atlantic Richfield Company and the Montana Department of Transportation (MDT). MDT owns the far western portion of Site UR-13 and a strip of the site along the south edge that is parallel to the interstate and is a portion of the MDT right-of-way (ROW). Site UR-13 is vacant land except for a billboard and power poles.

Runoff from Site UR-13 flows through culverts beneath the BNSF tracks directly to Silver Bow Creek. Culverts beneath the interstate discharge run-on to UR-13. This water either infiltrates at UR-13 or flows across the site to the BNSF culverts. The site is fenced by the MDT ROW fence along the entire south side and the Montana Pole Plant fence on the east. There is no fence along the north side of UR-13 to separate it from the BNSF ROW. Figure 2 shows the 17 proposed soil sample locations for Site UR-13 (identified as UR13-SS-01 through UR13-SS-17).

Previous Sampling Efforts

Soil samples have been collected in the past at Site UR-13. Data obtained from the Geocortex web-based database at

<https://eis2.woodardcurran.com/Html5Viewer/index.html?viewer=BPButte.BPSOU> contains the records for four previous soil sample locations at Site UR-13. Approximate sample locations are included on Figure 2 with results for three of the locations provided in Table 2 below. Some of the samples listed show exceedances of BPSOU action levels for arsenic, copper, lead, and zinc. The BPSOU action levels are listed in Tables 1 and 2 of the UR Sites QAPP.

At the fourth UR-13 sample location (CT-TCRA) in the Geocortex database, there are 19 samples listed. The samples were collected in June 1990 as part of the Time Critical Removal Action to remove the Colorado Tailings from the floodplain of Silver Bow Creek. The only analytical results provided were for arsenic and lead and all results were qualified "J" estimated. These results are not shown in Table 2.

Additionally, the Geocortex database shows several samples just north of UR-13 along the BNSF railroad. Those samples were part of a railroad bed assessment study and those results are not included in this document.

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

COC	Sample Station ID		
	MHR186	MHN565	FSUA-62
Arsenic	2,630 J	1,580	126
Cadmium	19	17 J	NA
Copper	1,390	2,680 U	149
Lead	407	906 J	1,560
Zinc	2,400	4,930	1,990
Sample Date	7/31/87	6/13/89	12/13/95

COC: contaminant of concern. NA: not analyzed.

Site: UR-33 W. Iron St

Background

Site UR-33 is approximately 1.3 acres and is located south of the Interstate 15/90 Business Loop (West Iron Street) and west and north of South Excelsior Avenue as Excelsior curves to the west (Figure 3). The site is owned by MDT and is vacant ROW land designated as open space.

Site UR-33 is near the bottom of the Missoula Gulch drainage but does not appear to drain directly into Catch Basin 8, though the majority of the site slopes moderately to the south. There is a low ridge near the north edge of the Site that runs parallel to Iron Street. Thus, a small portion of the site drains northward to the ditch along the south edge of Iron Street. There is a fence in the southeast portion of the site that parallels Excelsior Avenue. The remainder of site is not fenced.

Previous Sampling Efforts

There is no record of previous soil sampling at Site UR-33. The January 1994 Missoula Gulch-Emma Dump soil sampling program included several samples from the area south of Site UR-33.

Approximate sample locations for the six samples closest to Site UR-33 are shown on Figure 3 with results provided in Table 3 below. Sample 05 is the only one of the six samples listed that shows exceedances of BPSOU action levels. The results from sample 05 exceeded action levels for lead and zinc. The BPSOU action levels are listed in Tables 1 and 2 of the UR Sites QAPP.

**Table 3: Previous Sampling Results from
BPSOU Missoula Gulch-Emma Dump January 1994 Soil Sampling
(units are milligrams per kilograms)**

COC	Sample Station ID					
	Sample 02	Sample 03	Sample 04	Sample 05	Sample 06	Sample 07
Arsenic	79	59	62	93	38	13
Cadmium	2	2	3	5	2	0
Copper	229	194	263	244	127	22
Lead	92	141	267	1,850	141	70
Zinc	161	437	426	1,140	331	134

COC: contaminant of concern.

Site: UR-38 Isele

Background

Site UR-38 is approximately 0.8 acres and is located southwest of the intersection of Centennial Avenue and South Excelsior Avenue. The RARUS railroad tracks form the south border of UR-38 and south of the tracks is the Ranchland meat packing facility (Figure 4). The site is owned by Atlantic Richfield Company and the parcel is a portion of the Isele mining claim. Site UR-38 is vacant land and has no fencing. The site is easily accessed from the westward extension of South Excelsior Avenue, which is not a through street.

Site UR-38 consists mostly of poorly vegetated to bare waste rock dumps from an unknown mine opening. There is a wooden structure at the end of one of the ridges of waste rock. Runoff from Site UR-38 generally flows to the south and to the southwest. Water will either pond on the north side of the RARUS tracks or, if culverts are present, flow under the tracks. Runoff on the south side of the RARUS tracks in this area has a direct connection to Silver Bow Creek. Site UR-38 is in the Grove Gulch drainage basin of BPSOU. However, the site is north of Silver Bow Creek and runoff from this site will not reach Grove Gulch proper.

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 one previous soil sample at Site UR-38. In June 1996, samples were collected from Sample Station FSUA-132 as part of the Field Survey of UR Areas program. The approximate sample location for FSUA-132 is included on Figure 4 with results provided in Table 4 below. None of the results listed show exceedances of BPSOU action levels, but the zinc result for FSUA-132 is at the action level of 1,000 milligrams per kilogram. The BPSOU action levels are listed in Tables 1 and 2 of the UR Sites QAPP.

Table 4: Previous Sampling Results from BPSOU Phase II June 1996 Soil Sampling (units are milligrams per kilograms)

	Sample Station ID
COC	FSUA-132
Arsenic	155
Cadmium	NA
Copper	78
Lead	626
Zinc	1,000
Sample Date	6/21/96

COC: contaminants of concern. NA: not analyzed

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 4 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 4.

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 McNulty

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

Attachments:

Figure 1 Unreclaimed Site UR-12 Proposed Sample Locations
Figure 2 Unreclaimed Site UR-13 Proposed Sample Locations
Figure 3 Unreclaimed Site UR-33 Proposed Sample Locations
Figure 4 Unreclaimed Site UR-38 Proposed Sample Locations

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Chris Greco / Atlantic Richfield – email
Josh Bryson / Atlantic Richfield - email
Mike Mc Anulty / Atlantic Richfield - email
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David A. Gratson / Environmental Standards / email
Mave Gasaway / DGS - email
John Davis / PRR - email
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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 Duaine / 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

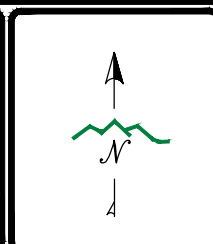
File: MiningSharePoint@bp.com - email
BPSOU SharePoint - upload



LEGEND:

- ⊕ PROPOSED SOIL SAMPLE LOCATION
- △ PREVIOUS SOIL SAMPLE LOCATION

UR-12 IS 1.15 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-12
PROPOSED
SAMPLE LOCATIONS

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

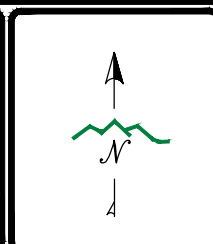
DATE: 5/2021



LEGEND:

- ⊕ PROPOSED SOIL SAMPLE LOCATION
- △ PREVIOUS SOIL SAMPLE LOCATION

UR-13 IS 10.1 ACRES



DISPLAYED AS: _____

COORD SYS/ZONE: MSP

DATUM: NAD 83

UNITS: FEET

SOURCE: PIONEER

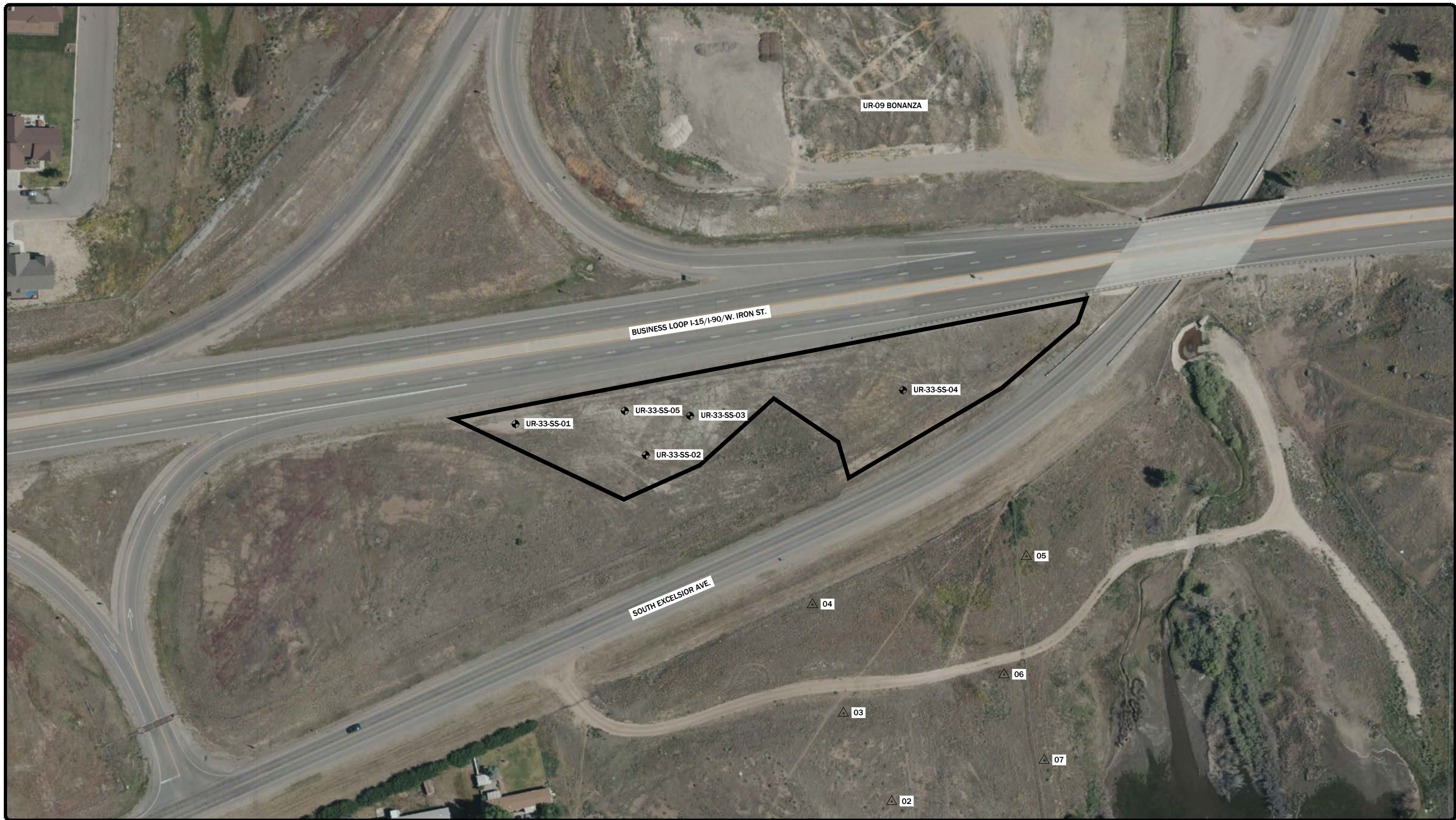
SCALE IN FEET

0 100 200

FIGURE 2 UNRECLAIMED SITE
UR 13
PROPOSED
SAMPLE LOCATIONS

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

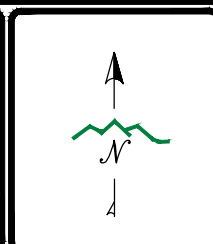
DATE: 5/2021



LEGEND:

- ⊕ PROPOSED SOIL SAMPLE LOCATION
- △ PREVIOUS SOIL SAMPLE LOCATION

UR-33 IS 1.3 ACRES



DISPLAYED AS: _____

COORD SYS/ZONE: MSP

DATUM: NAD 83

UNITS: FEET

SOURCE: PIONEER

SCALE IN FEET

0 50 100

FIGURE 3 UNRECLAIMED SITE
UR-33
PROPOSED
SAMPLE LOCATIONS

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

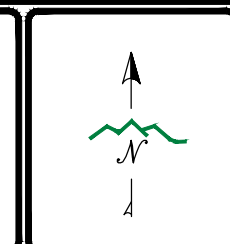
DATE: 5/2021



LEGEND:

- PROPOSED SOIL SAMPLE LOCATION
- PREVIOUS SOIL SAMPLE LOCATION

UR-13 IS 10.1 ACRES



DISPLAYED AS: _____

COORD SYS/ZONE: MSP

DATUM: NAD 83

UNITS: FEET

SOURCE: PIONEER

SCALE IN FEET

FIGURE 4 UNRECLAIMED SITE
UR 38
PROPOSED
SAMPLE LOCATIONS

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

DATE: 5/2021