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Butte Priority Soils Operable Unit (BPSOU) Draft Final Insufficiently Reclaimed Sites Field Sampling Plan (FSP) for UR-19 – Butte, Anaconda & Pacific Railway from Montana Street to South Arizona Avenue – Montana Street Adjacent Parcel

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November 8, 2023

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Re: Butte Priority Soils Operable Unit (BPSOU) Draft Final Insufficiently Reclaimed Sites Field Sampling Plan (FSP) for UR-19 – Butte, Anaconda & Pacific Railway from Montana Street to South Arizona Avenue – Montana Street Adjacent Parcel

Dear Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company (Atlantic Richfield) to submit the Butte Priority Soils Operable Unit (BPSOU) Draft Final Insufficiently Reclaimed (IR) Sites Field Sampling and Investigation Plan (FSP) for Unreclaimed (UR) UR-19 – Butte, Anaconda & Pacific Railway from Montana Street to South Arizona Avenue – Near Montana Street Proposed Sampling.

Although UR-19 was designated as UR in the 2020 BPSOU Consent Decree (CD), available at https://www.co.silverbow.mt.us/2161/ButtePriority-Soils-Operable-Unit-Consent-Decree, reclamation was performed at the site under Railroad Bed Time Critical Removal Action (TCRA) from July through October 2001[1]. Recent site evaluations conducted under the Non-residential Metals Abatement Program scope of work has identified additional sampling necessary adjacent to UR-19, near its intersection with Montana Street, including the gravel roadway adjacent to south rail bed slopes and a presumed UR parcel (the vegetated area located east of Montana Street, between a commercial auto repair shop and the 900 block of Placer Street) previously identified by the Agencies (Figure 1). The identified areas 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. It is also noted that other areas (including side slopes) within the previously reclaimed UR-19 site are in current disrepair and require maintenance to address the concern of sediment migration from the railbed.

[1] AERL, 2002. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Draft Railroad Bed Time Critical Removal Action BA&P/Rarus Construction Completion Report. Prepared for ARCO Environmental Remediation, L.L.C. by HKM Engineering, Inc. February 18, 2002.

Therefore, it is proposed herein that the UR-19 boundary be adjusted to incorporate this adjacent area, near Montana Street, and additional samples be collected as shown on Figure 1. Additionally, Atlantic Richfield proposes to implement necessary maintenance actions on engineered industrial covers of UR-19 rail right-of-way and adjacent slopes as described in the Final Rarus Railway BPSOU Superfund Operations and Maintenance (O&M) Plan[2].

The site evaluation will include a review of available Butte Remediation Evaluation System (BRES) field evaluations and site construction completion reports (as available) and on-site evaluation and soil sampling. The site evaluation will include field sampling within and beyond the existing site boundary. Sampling within the existing site boundary will be performed according to the 2023 Final Insufficiently Reclaimed Sites Quality Assurance Project Plan (QAPP) (referred to herein as IR Sites QAPP). Field sampling outside of the existing site boundary (proposed boundary adjustments; Figure 1) will be performed according to the 2023 Final UR Sites QAPP (referred to herein as UR Sites QAPP). Links to the IR Sites QAPP and the UR Sites QAPP are provided in Attachment 1.

Field sampling will be performed to determine the following:

- Whether contaminants are present above action levels.
- Whether the site is contributing metals-impacted sediment to existing or planned wet weather control features.
- Whether historical mine waste at the site is contributing to the degradation of surface water quality.
- Whether there are previously unidentified conditions contributing to site deficiencies.

After completion of the site evaluation, a site summary and declaration will be prepared to present all available site data and describe which, if any, Butte Hill Revegetation Specifications (BHRS) criteria are not met. The site will be evaluated following the suitable land use Soil Action Levels for Human Health and Soil Screening Criteria for Waste Identification under the IR Sites QAPP and UR Sites QAPP. Samples will be evaluated using Commercial action levels (see Figure 1). A list of previously approved IR FSPs is provided in Attachment 2. The crosswalk list provided below references where pertinent field sample collection and documentation elements are discussed.

[2] Atlantic Richfield Company, 2020. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Final Rarus Railway BPSOU Superfund Operations and Maintenance (O&M) Plan. Atlantic Richfield Company. December 11, 2020.

	Reference Location		
Element	**FSP**	**IR Sites QAPP**	**UR Sites QAPP**
Title Page and Approval Authority	Approval Letter	Page i	Page i
Site Introduction and Appropriate Agency-Approved QAPP Reference	Page 1, Page 2		
Data Quality Objectives		Section 2.5	Section 2.5
Site and Sampling Objectives	Figure 1 - Figure 3	Section 3.0	Section 3.0
Proposed Schedule for Site Field Work	Page 2		
Site Figure	Figure 1 - Figure 3		
Sampling Procedures and Standard Operating Procedures (SOPs)		Section 3.2 Appendix B	Section 3.2 Appendix B
Sample Analysis Methods		Section 3.3	Section 3.3

Background

Site UR-19 is located on the Butte, Anaconda & Pacific (BA&P, formerly Rarus) Railway between Montana Street and South Arizona Avenue. It is a long, narrow section of active railway that is approximately 3.7 acres in size. Patriot Rail, the parent company of BA&P is the primary owner of Site UR-19. However, there are numerous parcels that border Patriot Rail within UR-19 (including privately owned portions proposed for further evaluation herein; see Figure 1). The orientation of Site UR-19 is approximately southwest to northeast, and this section of track runs through areas designated as both commercial and residential zoning. The presumed UR portion proposed for further evaluation is approximately 0.08 acres in size. Completed access agreements will be obtained prior to sampling activities.

The site is orientated across multiple drainage basins within the BPSOU. Most of Site UR-19 is in the Buffalo Gulch drainage basin. The last block on the east end from Utah Avenue to South Arizona Avenue is situated within the Anaconda Road/Butte Brewery drainage basin. The last block on the west end from Montana Street to Placer Street (where additional sampling is proposed as detailed in this FSP) is in the Montana Street drainage basin.

Proposed Sampling Boundary Adjustments

The proposed adjusted sampling boundary for UR-19 (Figure 1) was amended to incorporate the remedial action boundary[3], as well as a small, unknown area adjacent to Montana Street, the vegetated area located between a commercial auto repair shop and the 900 block of Placer Street, previously identified by the Agencies (Figure 1). The proposed sampling areas will be evaluated using Commercial action levels.

[3] AERL, 2002. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Draft Railroad Bed Time Critical Removal Action BA&P/Rarus Construction Completion Report. Prepared for ARCO Environmental Remediation, L.L.C. by HKM Engineering, Inc. February 18, 2002.

Note that Agencies have not yet approved the proposed adjusted boundary. It is anticipated that results obtained from the proposed sampling described herein will provide further justification to support proposed boundary adjustments.

Previous Evaluation Findings

As previously described, Atlantic Richfield performed remediation of UR-19 in 2001, under the Railroad Bed TCRA. Additionally, Atlantic Richfield drafted an O&M plan, outlining processes for remedial action performed on property owned and operated by Rarus (BA&P) Railway, LLC[4].

Previous Sampling Efforts

No historical samples are found within the proposed UR boundary.

Preliminary Site Evaluation – Insufficiently Reclaimed Area (UR-19)

A preliminary site evaluation was conducted during development of this sampling plan to inspect current site conditions and identify focus areas for further investigation. Photograph 1 through Photograph 4 show current site conditions of the gravel roadway adjacent to south rail bed slopes within the proposed IR boundary adjustment.

Photograph 1: South slope of railbed, facing west toward Montana Street, exhibits rilling and staining.

[4] Atlantic Richfield Company, 2020. Silver Bow Creek/Butte Area NPL Site Butte Priority Soils Operable Unit Final Rarus Railway BPSOU Superfund Operations and Maintenance (O&M) Plan. Atlantic Richfield Company. December 11, 2020.

Photograph 2: Unknown property marker and vehicles staged on gravel road south of railway.

Photograph 3: North side of parking area, facing west.

Photograph 4: Gravel road south of railway, facing east. Willows and ground cover prevent sediment and ground cover migration from road and railbed to the south.

Preliminary Site Evaluation – Unreclaimed Area

Photograph 5 through Photograph 7 show the presumed UR site located between a commercial auto repair shop (Montana Street) and the 900 block of Placer Street, previously identified by the Agencies. The adjacent, east to west vegetated parcel, owned by Gold Hill Evangelical Lutheran Church, has been sampled under the Residential Metals Abatement Program (RMAP), and any prescribed remediation will also be performed under RMAP. Therefore, the UR portion of this investigation focuses on the strip of vegetated land owned by the commercial auto repair shop, east of the willow trees planted in north to south alignment. Preliminary field investigation photographs show well established, maintained vegetation, with no apparent barren areas or off-site migration of sediment, with some weedy species present in small quantities.

Photograph 5. Southern portion of vegetated area.

Photograph 6. Vegetated area, facing west. Good vegetative cover, with few weeds.

Photograph 7. Site overview of vegetated area, facing north.

Site Characterization Plan

Per the IR Sites QAPP, the site will be sampled at two depth intervals [(1) 0 to 6 inches and (2) 6 to 18 inches] to determine whether waste is present and/or confirm the depth of previous reclamation efforts. Opportunistic samples may be obtained in the field at the discretion of field sampling personnel or Agency oversight representative(s). The field team leader will be responsible for determining the appropriate number and depth of samples as dictated by field conditions.

Samples collected within the boundary will be sampled following procedures in the IR Sites QAPP using a systematic procedure to determine the extent of waste present, previous reclamation, and transient material. Samples collected outside of the original boundary will be collected following protocol described in the 2023 UR Sites QAPP. Samples obtained outside of the original boundary will be obtained from three depth intervals [(3) 0 to 2 inches, (4) 2 to 6 inches, and (5) 6 to 12 inches] per the UR Sites QAPP sampling protocol. Field and laboratory analytical results will be used to prepare the site declaration and prescribe site remedial improvements.

Existing site grading and drainages will be evaluated to determine storm water flow patterns and identify if additional storm water controls may be necessary to help prevent sediment migration. Contributing sources of storm water upgradient and adjacent to the site will also be investigated.

At minimum, items identified below, but not specifically detailed in the QAPP, may be evaluated to determine adequacy and to identify if additional remedial measures are necessary. Additional items also may be identified during the remedial design process.

- Evaluate relative percent vegetative cover (as needed).
    - Coordinate and confirm plant species with biology/plant ecologist or related subject matter expert (as needed).
- Evaluate the performance of existing storm water controls to mitigate run-on/runoff.
- Evaluate location and condition of existing storm water controls.
- Identify potential remedial improvements to mitigate site erosion and vegetative areas to meet the BHRS.
- Identify necessary maintenance for successful long-term operation.
- Evaluate steep slopes for erosion of possible mining waste and potential for regrading.

Sampling Procedure

All soil sampling and characterization activities and procedures within the remedial action boundary will follow depth intervals as listed in the IR Sites QAPP. However, the 0- to 6-inch interval will not be sampled for United States Department of Agriculture Soil Classification Analyses due to use of a rock or riprap engineered cap versus a vegetative cap. This will be recorded as a deviation from the 2023 IR Sites QAPP. Samples will be obtained from the sample stations listed below. The IR Sites QAPP describes the quality assurance/quality control policies and procedures that will be used during sample collection and analyses. Since the site does not have an existing BRES ID, UR-19 will be retained to identify all soil samples collected under this plan.

Sample Station	Two Depth Intervals (inches)*
UR-19-SS01	(1) 0-6, (2) 6-18
UR-19-SS02	(1) 0-6, (2) 6-18
UR-19-SS03	(1) 0-6, (2) 6-18
UR-19-SS04	(1) 0-6, (2) 6-18

*Note that depth intervals may be modified at the discretion of field personnel. All soil sampling and characterization activities and procedures outside of the remedial action boundary will follow the UR Sites QAPP. Samples will be obtained from the sample stations listed below. The UR Sites QAPP also describes the quality assurance/quality control policies and procedures that will be used during sample collection and analyses.

Sample Station	Three Depth Intervals (inches)*
UR-19-SS05	(3) 0-2, (4) 2-6, (5) 6-12
UR-19-SS06	(3) 0-2, (4) 2-6, (5) 6-12
UR-19-SS07	(3) 0-2, (4) 2-6, (5) 6-12

*Note that depth intervals may be modified at the discretion of field personnel. In addition to planned UR samples, opportunistic grab samples (0-2 inches) will be collected for any sediment that is presumed to have migrated from the UR-19 adjacent UR area. Opportunistic grab sampling will follow the UR Sites QAPP.

All reasonable efforts will be made to complete the site evaluation in 2023, contingent upon approval, access, and site accessibility. If completion is not feasible in 2023, efforts will resume in the second quarter of 2024.

Site Summary Report and Declaration

After the site evaluation and data collection activities are complete, a site evaluation summary report will be prepared and submitted to Agencies for review and approval. The report will include a summary of all available site sampling data and a site declaration specifying any deficient criteria as specified in the CD.

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 – UR-19 BA&P Railway Near Montana Street Proposed Sampling

Attachment 1 – Document Links
Attachment 2 – FSP Submittal List

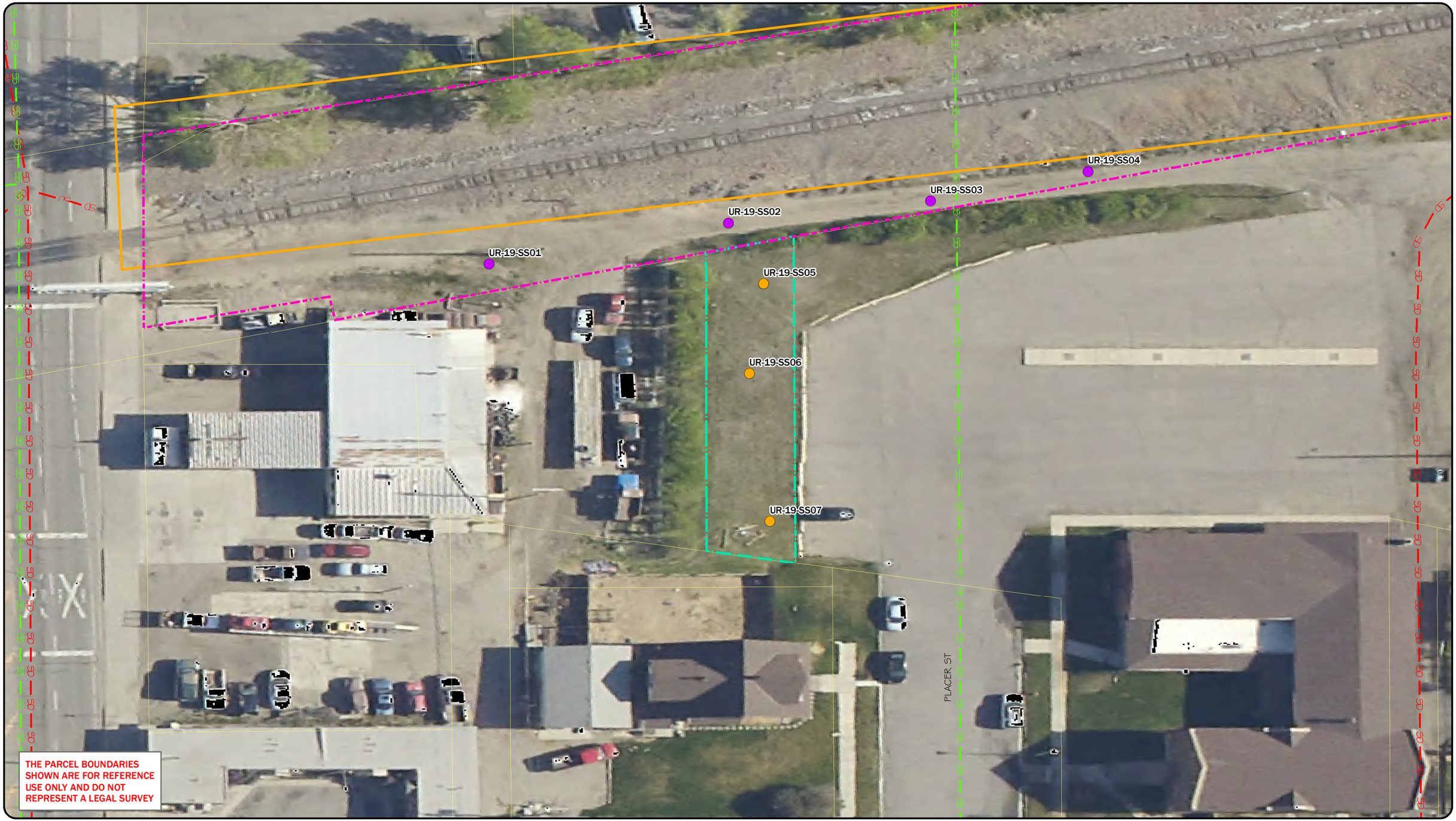
Cc: Chris Greco / Atlantic Richfield – email
Josh Bryson / Atlantic Richfield – email
Loren Burmeister / Atlantic Richfield – email
Dave Griffis / Atlantic Richfield – email
Jean Martin / Atlantic Richfield – email
Irene Montero / Atlantic Richfield – email
David A. Gratson / Environmental Standards – email
Carolina Balliew / EPA – email
Mave Gasaway / DGS – email
Adam Cohen / DGS – email
Brianne McClafferty / Holland & Hart – email
David Shanight / CDM – email
Curt Coover / CDM – email
James Freeman / DOJ – email
Amy Steinmetz / DEQ – email
Dave Bowers / DEQ – email
Katie Garcin-Forba / DEQ – email
Jim Ford / NRDP – email
Pat Cunneen / NRDP – email
Katherine Hausrath / NRDP – email
Doug Martin / 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
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
Julia Crain / BSB – email
Brandon Warner / BSB – email

Abigail Peltomaa / BSB – email
Eileen Joyce / BSB – email
Sean Peterson/BSB – email
Josh Vincent / WET – email
Scott Bradshaw / W&C – email
Emily Stoick / W&C – email
Pat Sampson / Pioneer – email
Andy Dare / Pioneer – email
Karen Helfrich / Pioneer – email
Randa Colling / Pioneer – email
Ian Magruder/ CTEC – email
Joe Griffin / CTEC – email
CTEC of Butte – email
Scott Juskiewicz / Montana Tech – email

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

Figures

Figure 1 –UR-19 BA&P Railway Near Montana Street Proposed Sampling



SAMPLE UNDER IR QAPP
SAMPLE UNDER UR QAPP
SANITARY SEWER
STORM WATER
UNRECLAIMED SITES
PROPOSED UR BOUNDARY CHANGES
PROPOSED IR BOUNDARY CHANGES
PROPERTY OWNERSHIP

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD 83
UNITS: INT'L FT
SOURCE: PIONEER/BSB/AR/QSI 2020

0 20 40 80
Feet

FIGURE 1

PIONEER TECHNICAL SERVICES, INC.

UR-19 BA&P RAILWAY
NEAR MONTANA STREET
PROPOSED SAMPLING

DATE: 11/1/2023

Path: Z:\Shared\Active Projects\ARCO\BPSOU\LandSupport\SolidMedia\Insufficiently_Unreclaimed_UR_IR_Sampling_FSP_UR_Sampling_FSP\Sampling2023_FSP\UR19_Fig_001a_23.mxd

Attachment 1
Document Links

Document Links

Insufficiently Reclaimed Sites QAPP:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/EmJhgF-yu75Kt75NdN0H36kBEl3iIIwsyxw0_2hwlBF3rg

Unreclaimed Sites QAPP:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/Eu_Z0KyPQXtOinyQVW544FIB0Cis0uBfs-n-Zwi0K-M3rw

Attachment 2
FSPs Submittal List

Site	Submittal Date	Approval Date
BRES No. 104 – Colorado Dump Shaft	9/29/2021	11/5/2021
BRES No. 104 – Colorado Dump Shaft, Final Revised	12/2/2021	12/6/2021
BRES No. 154 – Clark Mill Tailings NE	12/1/2021	12/6/2021
BRES No. 30 – Atlantic-1	1/12/2022	2/22/2022
BRES No. 16 – Curry	1/12/2022	2/22/2022
BRES No. 8 – Belle of Butte	3/11/2022	9/26/2022
BRES No. 38 – Sister Dump	6/16/2022	9/26/2022
BRES No. 32 – Corra 2 Dump	6/20/2022	6/30/2022
BRES No. 158 – Waste Rock Dump	6/20/2022	7/11/2022
BRES No. 50 Zelia	6/22/2022	6/30/2022
BRES No. 93 – Soudan Dump	6/23/2022	6/30/2022
BRES No. 96 Washoe Dump	6/23/2022	7/11/2022
BRES No. 133 – Dexter Mill	7/14/2022	7/26/2022
BRES No. 37 – Josephine Shaft	7/20/2022	7/26/2022
BRES No. 34 – Eveline Dump	7/22/2022	8/2/2022
BRES No. 17 – Paymaster	7/25/2023	8/10/2023
BRES No. 31 – Waste Dump #5	7/25/2023	8/10/2023
BRES No. 48 – Old Glory West	7/25/2023	8/10/2023
BRES No. 66 – West Ruby Dump	7/25/2023	8/10/2023
BRES No. 134 – Star West Dump	7/25/2023	8/10/2023
BRES No. 174 – Buffalo South and Buffalo Ditch	7/25/2023	8/10/2023
BRES No. 84 – Mandan Park	7/25/2023	8/2/2023