Fall 9-20-2024

Butte Priority Soils Operable Unit (BPSOU) Final Insufficiently Reclaimed Sites Field Sampling Plan (FSP) BRES No. 34E – Eveline Dump East

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September 20, 2024

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Re: Butte Priority Soils Operable Unit (BPSOU) Final Insufficiently Reclaimed Sites Field Sampling Plan (FSP) BRES No. 34E – Eveline Dump East.

Dear Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company (Atlantic Richfield) to distribute the Butte Priority Soils Operable Unit (BPSOU) Final Insufficiently Reclaimed (IR) Sites Field Sampling and Investigation Plan (FSP) Butte Remediation Evaluation System (BRES) No. 34E – Eveline Dump East per the Agency approval received September 16, 2024. A link to the Agency approval letter is included in Attachment 1.

As described in Appendix D, Attachment C, Section 7.0 of the 2020 BPSOU Consent Decree (BPSOU CD) (available at BPSOU CD), sites within the BPSOU reclaimed prior to the establishment of the Butte Hill Revegetation Specifications (BHRS), Appendix A of the BPSOU CD, are considered to be IR Solid Media Sites. Since additional reclamation work may be required to bring the sites into compliance with the BHRS, the sites will be evaluated to assess past actions and to identify any site-specific conditions that fail to meet the BHRS.

The site evaluation will include a review of available BRES field evaluations and site construction completion reports along with on-site evaluation and sampling. The site evaluation will include sampling within the existing site boundary performed according to the Atlantic Richfield *2024 Final Insufficiently Reclaimed Sites Quality Assurance Project Plan (QAPP)* (referred to herein as IR Sites QAPP). A link to the IR Sites QAPP is provided in Attachment 1.

The sampling boundary and proposed soil sampling stations and deficiencies identified during previous BRES evaluations are shown on Figure 1.

Field sampling within the existing boundary will be performed to determine whether contaminants are present, whether the existing cap and supported growth media are sufficiently protective of

human health and the environment, how observed site conditions compare to the BHRS, and whether there are previously unidentified conditions contributing to site deficiencies.

The site evaluation is anticipated to be completed in 2024. A site summary and declaration will be prepared to present all available site data and describe which, if any, BHRS criteria are not met. The site will be evaluated following the recreational land use soil action levels for human health, soil screening criteria, and cover soil chemical suitability criteria provided in the IR Sites QAPP. A list of approved FSPs is provided in Attachment 2.

If further remediation is recommended after the evaluation and sampling are complete, a remedial action work plan (RAWP) describing actions that will be implemented at the site will be provided for Agency review and approval.

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

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

Background

The Eveline East Dump (BRES No. 34E) is approximately 1 acre located east of Walkerville Drive and north of Ryan Road. It is adjacent to the park located in this area. Waste rock materials were partially removed and disposed of at the Moose Dump disposal site in the summer of 1988. Removing the waste rock created a more gradual slope, which was capped with two inches of crushed lime rock from the Anaconda quarry and 18 inches of soil from the Minnie Irvine borrow area. The area was chisel plowed following application of 300 pounds (lbs)/acre of 11-52-0 fertilizer. A double disc drill was used to plant the Walkerville EPA seed mixture described in the BPSOU *Solid*

Media Management Program Plan[1], at 20 lbs/acre. A straw spreader was used to spread straw at 2 tons/acre, which was then crimped with a crimper.

The BRES No. 34E - Eveline East site is privately owned by two owners and will require two fully executed access agreements to be secured prior to initiating any sampling activities. As described in the BPSOU *Source Areas and Reclaimed Boundary Adjustments*[2] and the 2021 BRES evaluation, both property owner's fenced yards have been proposed to be removed from the area and will be or have been sampled by the Residential Metals Abatement Program (RMAP). The park adjacent to the site was sampled by the RMAP non-residential program in 2022[3]. The park boundary can be seen on Figure 1.

An adjusted boundary was proposed for BRES No. 34E – Eveline Dump East, to accurately represent the reclaimed area and align site boundaries with completed site remediation efforts. As described in the BPSOU *Source Areas and Reclaimed Boundary Adjustments*[2], this was completed by using a high-resolution aerial image and visual comparisons to identify the areas of apparent remediation. Note that the Agencies have not approved the adjusted boundary and the adjustment may be made after RMAP sampling and remediation (if necessary) of the residential portion to be transferred is complete. To verify the proposed boundary adjustment, samples will be collected in areas that are included in the proposed boundary area, but just outside of the original boundary area.

Previous Evaluation Findings

As specified in the BPSOU CD, information collected during previous site investigations has been reviewed and incorporated into the proposed sampling design. Given the date of remediation, the site should be investigated to ensure the cap is adequate for operation and maintenance.

The site was evaluated in 2017 and 2021 during the recurring 4-year cycle of field evaluations of previously reclaimed sites within the BPSOU. The results from both BRES Field Evaluation Summary and Technical Recommendation Reports indicate a variety of non-desirable vegetation occurring throughout the site and plant litter contributing to flow patterns and soil movement. Sheep fescue and yellow sweet clover dominate most of the site. Site edges have been investigated to determine if engineered controls would aid in reducing further deposition and erosion from the site.

Previous Sampling Efforts

The BPSOU OneMap database contains the records for previous soil samples collected within the BPSOU. No historical sample stations are located on BRES No. 34E – Eveline Dump East. The BPSOU

[1] Atlantic Richfield Company and Butte-Silver Bow, 2023. Final Solid Media Management Program Plan. Prepared by Pioneer Technical Services, Inc. December 7, 2023.

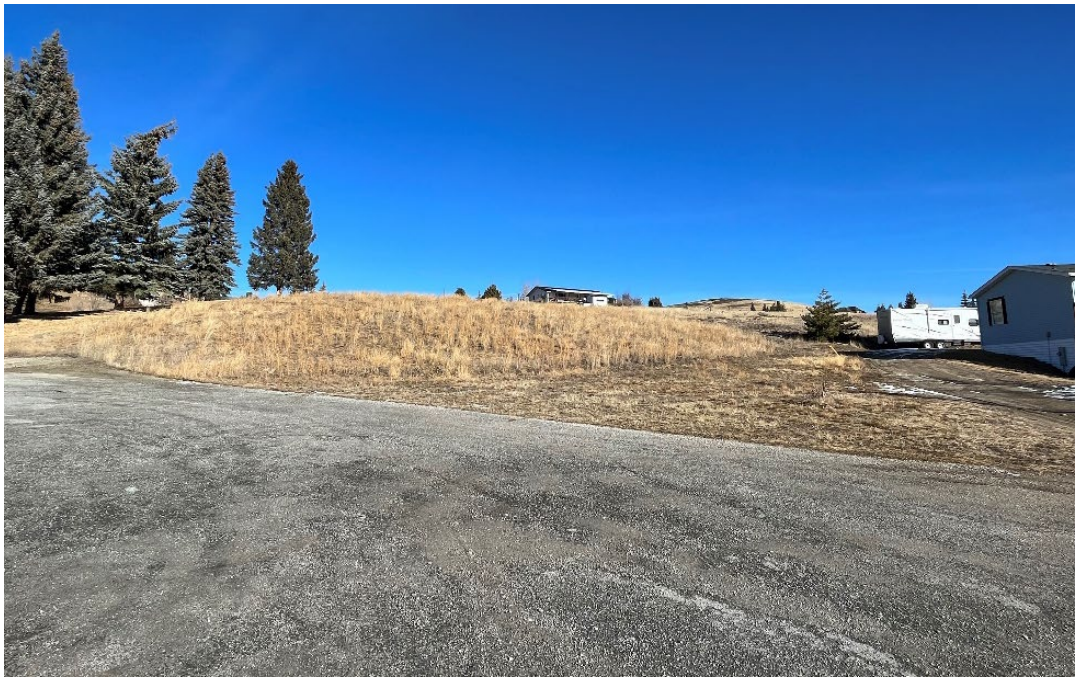
[2] Atlantic Richfield Company and Butte-Silver Bow, 2022. Draft Final Source Areas and Boundary Adjustments. Prepared by Pioneer Technical Services, Inc. April 4, 2022.

[3] Butte Silver Bow County and Atlantic Richfield Company, 2022. Final 2022 Residential Metals Abatement Program Park Soil Sampling Field Sampling Plan (FSP) Submittal #1 [Covering Walkerville Ball Park, Antimony Ball Field, Walkerville Park (Walkerville Drive & Ryan Road), Walkerville Park (5th & Transit), and Walkerville Park (Alley of North Main & Alley of West Daly)], June 14, 2022.

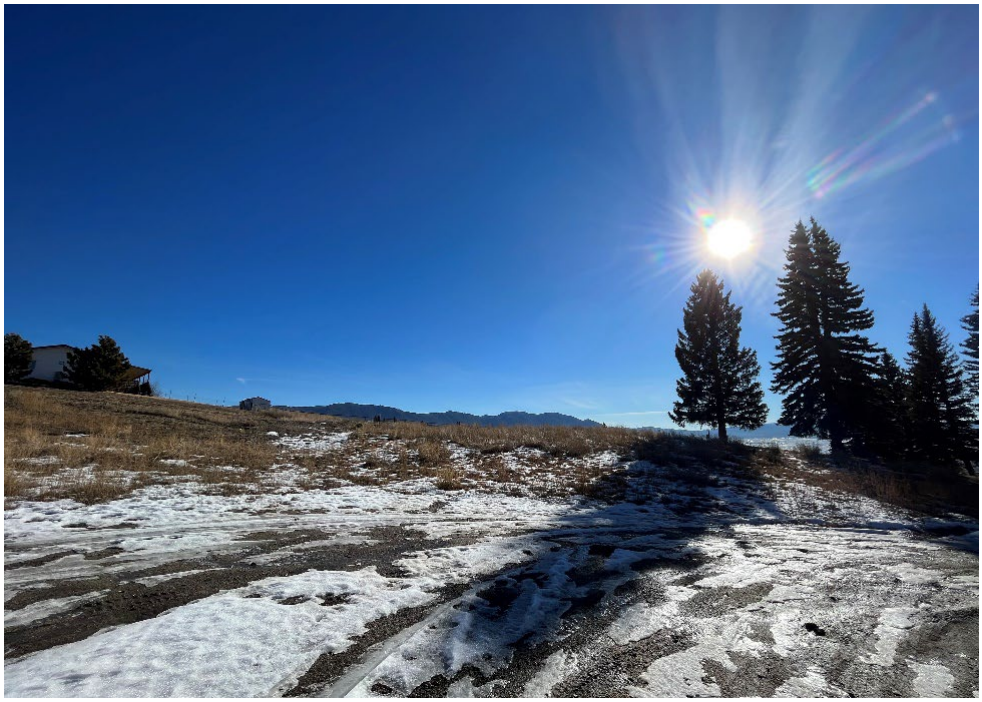
soil action levels and screening criteria are listed in Table 1 and Table 2, respectively, in Section 2.5 of the IR Sites QAPP.

Preliminary Field Visit

A preliminary field visit occurred during the development of this sampling plan to qualify current site conditions and identify focus areas for further investigation. Due to private ownership, and areas of site with snow fall, no preliminary onsite evaluations were complete to identify soil staining or potential sediment migration areas. Sampling locations were determined by a preliminary field visit to determine barren (non-vegetative) areas, satellite imagery, and BRES evaluations conducted by BSB. A site evaluation will be conducted immediately prior to field activities to confirm the site sample locations. Photograph 1 and Photograph 2, taken during the field visit, show an overview of the site.



Photograph 1. Overview of BRES No. 34E facing north



Photograph 2. Overview of BRES No. 34E facing south.

The area will be further investigated during site sampling for potential opportunistic sample location(s). Figure 1 illustrates the proposed sample stations and adjusted boundary lines.

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 approved BRES 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. 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 visually evaluated per the data sheet provided in Attachment 3 to determine storm water flow patterns and identify if additional storm water controls will 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 visually 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.

The final remedial cap configuration (i.e., vegetative or engineered) will be coordinated with the landowners' end usage.

Sampling Procedure

All soil sampling and characterization activities and procedures within the existing site boundary will follow the 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.

Sample Station	Two Depth Intervals (inches)
IR-34E-SS01	(1) 0-6, (2) 6-18
IR-34E-SS02	(1) 0-6, (2) 6-18
IR-34E-SS03	(1) 0-6, (2) 6-18
IR-34E-SS04	(1) 0-6, (2) 6-18

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 BPSOU 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:

Figures
Attachment 1 – Document Links
Attachment 2 – FSP Submittal List
Attachment 3 – Field Data Sheet

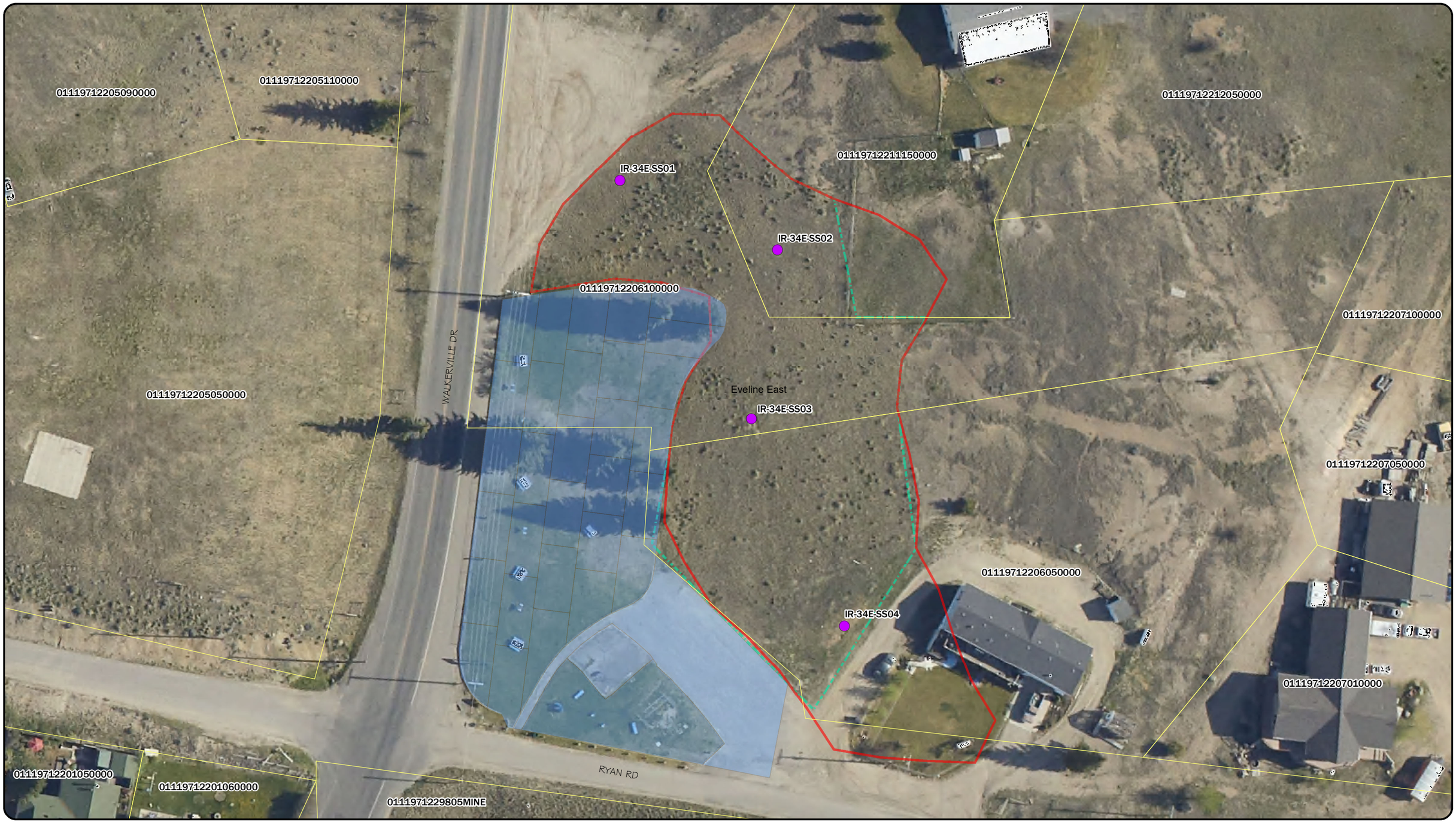
Cc: (email only)

Chris Greco / Atlantic Richfield
Josh Bryson / Atlantic Richfield
Tim Hilmo / Atlantic Richfield
Loren Burmeister / Atlantic Richfield
Dave Griffis / Atlantic Richfield
Jean Martin / Atlantic Richfield
Irene Montero / Atlantic Richfield
David A. Gratson / Environmental Standards
Mave Gasaway / DGS
Adam Cohen / DGS
Lucas Satterlee / DGS
Brianne McClafferty / Holland & Hart
Carolina Balliew / EPA
Emma Rott / EPA
David Shanight / CDM
Curt Coover / CDM
James Freeman / DOJ
Amy Steinmetz / DEQ
Logan Dudding / DEQ
Katie Garcin-Forba / DEQ
Doug Martin / NRDP
Jim Ford / NRDP
Pat Cunneen / NRDP
Katherine Hausrath / NRDP
Ted Duaime / MBMG
Gary Icopini / MBMG
Becky Summerville / MR
John DeJong / UP
Robert Bylsma / UP
John Gilmour / Kelley Drye
Leo Berry / BNSF
Robert Lowry / BNSF
Brooke Kuhl / BNSF
Lauren Knickrehm / BNSF
Doug Brannan / Kennedy Jenks
Matthew Mavrinac / RARUS
Harrison Roughton / RARUS
Brad Gordon / RARUS
Mark Neary / BSB
Eric Hassler / BSB
Brandon Warner / BSB
Abigail Peltomaa / BSB
Aaron Rains / BSB
Sean Peterson/BSB
Josh Vincent / WET
Kevin Bethke / W&C
Scott Bradshaw / W&C
Emily Evans / W&C
Paddy Stoy / W&C
Joe McElroy / Pioneer
Mark Meyer / Pioneer
Pat Sampson / Pioneer
Troy Colvin / Pioneer
Karen Helfrich / Pioneer
Brad Hollamon / Pioneer
Randa Colling / Pioneer
Rich Keeland / Aspect
Andy White / Aspect
Ian Magruder/ CTEC
CTEC of Butte
Scott Juskiewicz / Montana Tech

File: RMO – upload
BPSOU SharePoint – upload

Figures

Figure 1 – Insufficiently Reclaimed Sites BRES No. 34E - Eveline Dump East Proposed Sample Stations



LEGEND

- SAMPLE UNDER IR QAPP
- PROPERTY OWNERSHIP
- BRES BOUNDARY (ORIGINAL)
- BRES BOUNDARY (PROPOSED ADJUSTMENT)
- RMAP SAMPLING

THE PARCEL BOUNDARIES SHOWN ARE FOR REFERENCE USE ONLY AND DO NOT REPRESENT A LEGAL SURVEY

N

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

0 25 50 100
Feet

FIGURE 1

INSUFFICIENTLY RECLAIMED
SITE BRES No. 34E
EVELINE DUMP EAST

PIONEER TECHNICAL SERVICES, INC.

DATE: 4/8/2024

Path: Z:\Shared\Active Projects\ARCO\BPSOU\LandSupport\SolidMedia\Insufficiently_Unreclaimed_UR_IR_Sampling_FSP_IR_Sampling_FSP\Sampling_2024_FSP\IR34E_FSP_001_24.mxd

Attachment 1
Document Links

Document Links

Insufficiently Reclaimed Sites QAPP:

Final 2024 IR Sites QAPP

Agency Approval Letter:

Agency Approval Letter

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. 68 – Little Mina-2	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
BRES No. 125 – Child Harold-2 Dump	8/8/2024	6/28/2024
BRES No. 121 – Travona Dump	8/8/2024	6/28/2024
BRES No. 34E – Eveline Dump East	9/20/2024	9/16/2024
BRES No. 45 – Garfield	8/8/2024	
BRES No. 49 – Old Glory	8/8/2024	6/28/2024
BRES No. 52 – Moscow	9/20/2024	9/16/2024
BRES No. 74 – West Gagnon Dump	8/8/2024	6/28/2024
BRES No. 78 – Original Mine	9/20/2024	9/16/2024

Attachment 3
Field Data Sheet

Site: Date: Personnel:

Are rills present? If yes, describe.

Areas of flow present? Is sediment being deposited? Describe.

Describe any flow patterns from above/on to site.

Describe any flow patters below/off-site.

Identify stormwater infrastructure on/adjacent to the Site. Describe the condition (ie. new construction, heavily sedimented, etc.)

General Site Observations (Presence/type/condition of cap, Vegetation, Soil staining, Structures on Site, etc.)