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**Butte Priority Soils Operable Unit (BPSOU) 2021 Monthly Progress Report. Consent Decree for the Butte Priority Soils Operable Unit. Civil Action No. CV 89-039-BU-SEH**

Josh Bryson

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# Atlantic Richfield Company

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August 10, 2021

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**RE: Butte Priority Soils Operable Unit (BPSOU) 2021 Monthly Progress Report. Consent Decree for the Butte Priority Soils Operable Unit. Civil Action No. CV 89-039-BU-SEH**

Agency Representatives:

Enclosed please find the Monthly Progress Report for the Butte Priority Soils Operable Unit of the Silver Bow Creek/Butte Area Superfund Site.

If you have any questions or comments, please call me at (406) 723-1834.

Sincerely,



Josh Bryson, PE, PMP  
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## MONTHLY PROGRESS REPORT

### BUTTE PRIORITY SOILS OPERABLE UNIT CONSENT DECREE PARTIAL REMEDIAL DESIGN/REMEDIAL ACTION AND OPERATION AND MAINTENANCE

**July 2021**

The U.S. Department of Justice filed a motion to enter the Consent Decree for the Butte Priority Soils Operable Unit, Partial Remedial Design/Remedial Action and Operation and Maintenance (BPSOU CD) with the US District Court on June 8, 2020. Following review, the Court entered the BPSOU CD on September 16, 2020. The BPSOU CD became effective 60 days following entry, on November 16, 2020. On August 21, 2020, EPA issued the First Amendment to Administrative Order (CERCLA-08-2011-0011), which by its terms was also effective on November 16, 2020. The First Amendment covers matters related to the Residential Metals Abatement Program.

This monthly progress report describes the work activities completed during the previous work period necessary to fulfill the obligations of the BPSOU CD, pursuant to Appendix D to the Consent Decree, BPSOU Statement of Work, Section 5.0 Reporting.

#### **1. JULY ACTIVITIES**

The following RA activities were conducted this month:

##### **Water Treatment at Butte Treatment Lagoons (BTL) and Lower Area One (LAO)**

- **Operations**
  - During this reporting period approximately 46.7 million gallons of water were treated with the addition of 23 tons of lime by continuous gravimetric lime dosing (19 million gallons from the BPSOU subdrain, 6.9 million gallons from the West Camp Pump Station [WCP-1], and the remainder coming from the ground and surface water capture systems of Lower Area One [LAO]).
  - The BPSOU subdrain dry vault pumps were operated in parallel configuration throughout the entire month.
  - The water in the BPSOU subdrain wet vault was maintained at a consistent water level below the perforated drain invert throughout the month.
  - Exterior and interior lighting upgrades were completed at the BTL/LAO site buildings.

- **Monitoring**
  - Routine Monday (Effluent EFS-07 and Influent INF-04) and Thursday (Effluent EFS-07) samples were collected throughout the month.
  - Additional monthly sampling was completed on Monday, July 26, 2021.
  - All preliminary, non-validated, sample results received from Pace continued to be consistent with normal operating ranges of the treatment system and indicate effluent water quality parameters below the Montana DEQ Circular DEQ-7 (DEQ, 2006) standards.
  - Lime addition rates, influent flows, and lagoon pH have all been within normal operating ranges during this period.
  - All pH values collected for the effluent discharge were below 9.50 standard units (S.U.) for this reporting period.
  
- **Maintenance**
  - Operators conducted daily, weekly, monthly, and quarterly maintenance tasks during July as part of routine inspection and maintenance activities.
  - Big Sky Reclamation began the annual weed spraying activities in the treatment lagoons, floodplain and BRW areas.
  
- **Construction**
  - No construction activities took place during July.

#### **BPSOU Site-Wide Surface Water and Groundwater Monitoring**

- **Base Flow Monitoring**
  - Base flow sampling was conducted July 8, 2021.
  
- **Wet Weather Monitoring**
  - Creek and diagnostic site samples were collected from a wet weather event on July 1 and 20, 2021.
    - Total precipitation at the Kelley Mine Yard for the July 1 event was 0.40 in.
    - Total precipitation at the Kelley Mine Yard for the July 20 event was 0.23 in.
  - July precipitation data from weather station CB-1 was downloaded August 3, 2021.
  
- **Groundwater and Surface Water Monitoring**
  - July catch basin data were downloaded August 2 and 3, 2021. CB-1, CB-8, and CB-9 were discharging during the data downloads. CB-8 and CB-9 did not discharge in the month of July, but CB-1 likely discharged intermittently in the first two weeks of July.
  - Site-wide water levels were measured July 26 and 27, 2021. Data were downloaded and maintenance of transducers was performed.
  - Stage was measured at surface water sites associated with groundwater monitoring on July 27, 2021.

- Monthly field activities performed to monitor the potential impacts to the groundwater remedy because of ongoing and planned restoration and reclamation activities in BPSOU included the following:
  - July 14, 2021: collected water quality samples from Blacktail Creek and Silver Bow Creek and conducted a synoptic water level measuring event.
  - July 15, 16, and 19, 2021: completed groundwater sampling.
- **Calcite Scale Formation Study**
  - Water quality sampling associated with the Calcite Scale Formation Study occurred July 13, 22, and 28, 2021. Water quality sampling associated with the baseflow sampling conducted on July 8, 2021 had additional analyses performed by Pace labs to inform the Calcite Scale Formation Study.

### **BPSOU Pre-Design Investigation and Remedial Design**

- **Butte Reduction Works (BRW) Field Investigation**
  - On July 6, 2021 through July 8, 2021 Pioneer drilled two boreholes for a preliminary geotechnical evaluation and two boreholes for additional waste characterization. On July 19, 2021, O’Keefe Drilling and Pioneer began drilling the remaining 10 boreholes for the preliminary geotechnical evaluation and three boreholes for the additional waste characterization. It is anticipated the drilling will take approximately 2 weeks and will be completed in early August. The details for this work are included in the *BRW Phase III QAPP*.
  - On July 27, 2021 all transducers were downloaded and inspected. Manual water level measurements were also performed and documented at the locations identified in the *BRW Phase III QAPP*.
- **Diggings East Storm Water Basin Site Investigation**
  - No field activity occurred in July.
- **Northside Tailings/East Buffalo Gulch Site Investigation**
  - No field activity occurred in July.
- **Grove Gulch Site Investigations**
  - Grove Gulch piezometer water quality samples were collected, and water levels measured on July 21 and 22, 2021.

### **BPSOU Site-Wide Surface Water and Groundwater Monitoring**

- Comments on the 2019 Sitewide Groundwater Monitoring Data Summary Report (DSR) were received on May 27. The revised DSR and response to comments was submitted to the agencies on July 20, 2021.
- Comments on the 2020 Data Management Plan were received on July 6. The revised DSR and response to comments is anticipated to be submitted in September.
- Approval of the 2019 Sitewide Surface Water Monitoring DSR were received on July 7.
- Comments on the 2019 Diagnostic Surface water Monitoring DSR were received on July 7. The revised DSR and response to comments is anticipated to be submitted in August.

### **BPSOU Pre-Design Investigation and Remedial Design**

- The Buffalo Gulch Remedial Design 60% Submittal Package progressed based on agency comments received on the 30% design submittals. Submittal of the 60% submittal package to the agencies is anticipated near the end of 2021.
- Resubmittal is anticipated for the end of August for the *Buffalo Gulch, Diggings East Remedial Design Project Hydrology Report* and *Buffalo Gulch, Diggings East Remedial Design Project Retention Presentation and Drain Time Report* based on agency comments received on the Buffalo Gulch and Northside Tailings/East Buffalo Gulch Area and Diggings East Remedial Design 30% submittals and pending further discussion with the agencies.
- A Buffalo Gulch Hydrocarbon Soil Monitoring QAPP is being developed and is anticipated to be submitted to the agencies in August. This RFC will detail additional soil sampling and analysis efforts to determine the appropriate hydrocarbon contaminated material handling options.
- The Grove Gulch Remedial Design 60% Submittal Package progressed based on agency comments received on the 30% design submittals. Submittal of the 60% submittal package to the agencies is anticipated in September.
- The Northside Tailings (NST)/East Buffalo Gulch Area and Diggings East (DE) Remedial Design 60% Submittal Package progressed.
- The *BRW Remedial Design 30% Submittal Package* was submitted to the Agencies on May 14, 2021. The submittal included the *BRW RDWP*, *BRW PDI WP*, the *BRW PDI ER*. No comments have been received. The *BRW Remedial Design 60% Submittal Package* progressed while Agencies are reviewing the *BRW Remedial Design 30% Submittal Package*.
- The *BRW PDI ER* is being updated to include data collected from the BRW Phase II Site Investigation, specifically additional data collected during two pumping tests completed in fall 2020. It is anticipated that the updated *BRW PDI ER* will be submitted to Agencies in September, dependent on when comments are received on the *BRW Remedial Design 30% Submittal Package*.
- A *BRW Biotreatability Study Field Sampling Plan* is being developed and is anticipated to be submitted to the Agencies in August. This field sampling plan will detail



additional soil sampling and analysis efforts to determine the appropriate material handling options for hydrocarbon-impacted soils at BRW.

- The *Final BPSOU Butte Treatment Lagoons Stress Test Quality Assurance Project Plan (QAPP)* was submitted to the Agencies 7 days ahead of schedule on July 13, 2021. On July 22, the Agencies provided conditional approval to start the preparatory work.

#### **Copper Mountain Recreational Complex Area**

- Suggested changes to the SOW were made in response to a technical team meeting. Scheduling of a following up meeting to discuss the changes with the Agencies is anticipated in August.

#### **Multi-Pathway Residential Metals Abatement Program (RMAP)**

- The *Revised Final RMAP Quality Assurance Project Plan (QAPP) (Non-Residential Parcels)* reflecting components of the 2020 Unilateral Administrative Order (UAO) pertaining to schools, parks, and non-residential day cares was submitted as final to the Agencies on July 9, 2021. With this final submittal in place, the Agencies approved corresponding fieldwork to begin.
- RMAP school soil sampling field activities began on Monday, July 12, 2021. As of Friday, July 30, 2021, soil sampling was completed a 14 of 21 schools that will be sampled.

#### **Solid Media Management Program**

- The revised *Draft Final Solid Media Management Program Plan (SMMPP)* is being revised and is anticipated to be submitted for Agencies' review by the end of August. Submittal of the SMMPP includes several revised documents as appendices. Documents related to field activities are being submitted separately to allow fieldwork to commence upon Agencies' approval.
  - Appendix A: Final Reclaimed Areas Maintenance and Monitoring Quality Assurance Project Plan – 2021.
    - Submitted for Agencies' review on June 25, 2021.
  - Appendix B: Reclaimed Areas Maintenance and Monitoring Plan in Accordance with Butte Reclamation Evaluation System (BRES).
  - Appendix C: Butte Reclamation Evaluation System Field Manual.
  - Appendix D: Final Unreclaimed Sites Quality Assurance Project Plan – 2021. Submitted for Agency review May 26, 2021.
    - FSP Package #1 (sites UR-31, UR-32, and UR-39) was conditionally approved by the Agencies on June 8, 2021.
    - Agencies' comments were received on July 28, 2021 for FSP Package #2 (sites UR-24, UR-26, and UR-40).
    - FSP Package #3 (sites UR-06, 07, 20, 22, 35, and 36) was submitted for Agencies' review on July 2, 2021.
    - Agencies' comments received for FSP #3 were received July 28, 2021.
  - Appendix E: Residential Metals Abatement Program Quality Assurance Project Plan.

- Appendix F: Multi-Pathway Residential Metals Abatement Program Plan.

## **2. MODIFICATIONS OF THE WORK PLANS/ REQUESTS FOR CHANGE (RFC)/SUBMITTALS**

### **Water Treatment at Butte Treatment Lagoons (BTL) and Lower Area One (LAO)**

None submitted.

### **BPSOU Pre-Design Investigation and Remedial Design**

See previous sections.

## **3. NEXT MONTH'S SCHEDULE**

### **Water Treatment at Butte Treatment Lagoons and Lower Area One (BTL/LAO)**

- **Operations**
  - Routine summer operations tasks are scheduled to be completed during August.
  - Sludge will be hauled from the north drying bed to the Butte Mine Waste Repository during August.
  - Replacement of the IPS flowmeters is scheduled to be completed in August.
  - Jetting of the effluent line(s) within BTL is scheduled for late August.
- **Construction**
  - No construction activities are planned.

### **BPSOU Site-Wide Surface Water and Groundwater Monitoring**

- **Base Flow and Calcite Scale Formation Monitoring**
  - Base flow and Calcite Scale Formation Study monitoring of Silver Bow and Blacktail Creeks, including discharge measurements and water quality sample collection, is scheduled to occur in August, pending weather conditions.
- **Wet Weather Monitoring**
  - Wet weather monitoring of Silver Bow and Blacktail Creeks and diagnostic monitoring sites will continue until uninstallation of the equipment in the fall.
- **Groundwater Monitoring**
  - Monthly site-wide groundwater levels and associated surface water levels are scheduled to be measured and downloaded in August.

### **Comprehensive BPSOU Remedial Action Monitoring**

- Routine monitoring activities are scheduled to start August 18, 2021.
- Monitoring for August will include a synoptic water level and transducer download. Monitoring is expected to extend for at least 2 years beyond completion of the BPSOU RA construction activities.

## **BPSOU Pre-Design Investigation and Remedial Design**

- **Butte Reduction Works Field Investigation**
  - All transducers will be downloaded and inspected at the end of August. Manual water level measurements will be conducted and documented at the end of August.
  - The preliminary geotechnical evaluation and additional waste characterization sampling will be completed in early August. The details for this work are included in the BRW Phase III QAPP.
  - Ongoing design efforts will continue.
  
- **Diggings East (DE) Storm Water Basin Site Investigation**
  - No field activities are anticipated for the month of August.
  
- **Northside Tailings (NST)/East Buffalo Gulch Site Investigation**

Remaining work includes soils characterization, groundwater piezometer installation, and geotechnical sampling on the property owned by Union Pacific Railroad, and work will begin when access agreements are finalized and/or the property is acquired. No field activities are anticipated for the month of August.
  
- **Buffalo Gulch Site Investigation**
  - No field activities are anticipated for the month of June.
  
- **Grove Gulch Site Investigation**
  - Piezometers will be sampled and monitored in August. This will be the final sampling/monitoring event to inform the Grove Gulch design.
  
- **BPSOU Repository Development**
  - No field activities are anticipated for the month of August.
  
- **Unreclaimed Sites**
  - Field sampling plan packages are being prepared for Agency review.
  
- **Insufficiently Reclaimed Areas**
  - Field sampling plan packages are being prepared for Agency review.
  
- **Multi-Pathway Residential Metals Abatement Program (RMAP)**
  - Pending Agencies' approval of the RMAP Non-Residential QAPP and subsequent Field Sampling Plan submittals, soil sampling of Butte area schools will be initiated.
  
- **Groundwater Remedy Optimization**
  - Preparatory work will begin for the BTL Stress Test QAPP, including the following:
    - Layout and fusion of conveyance piping.

- Weekly BTL and pentachlorophenol (PCP) early detection baseline monitoring.
- Blind sweeping and potholing, as required.
- Geoprobe® investigation (collection of lithological cores) at three pumping well locations (BRW-PW-02, DE-PW-02, and BTC-PW-01) to finalize selected well locations.
- Construct drill pads to accommodate pumping well installation at BRW-PW-02, DE-PW-02, and BTC-PW-01.
- Installation, development, and sampling of three new pumping wells (BRW-PW-02, DE-PW-02, and BTC-PW-01).
- Install temporary power at four locations (BRW, Diggings East, Northside Tailings, and Blacktail Creek)
- Install two roadway crossings at George Street and two walking path crossings.

#### **4. COMMUNITY RELATIONS**

##### **BPSOU Remedial Design and Remedial Action**

- A revised *Draft Final Butte Priority Soils Operable Unit Community Engagement Plan for Remedial Work* was submitted to the Agencies on July 30, 2021.
- The first repository siting study (RSS) committee meeting was held on July 13, 2021. The committee includes representatives of Atlantic Richfield, Butte-Silver Bow, EPA, DEQ, Montana Resources and various members of the Butte community, as appointed by Chief Executive Gallagher. The next meeting is scheduled for August 3, 2021.

#### **5. PROBLEMS ENCOUNTERED**

##### **Water Treatment at Butte Treatment Lagoons (BTL) and Lower Area One (LAO)**

None encountered.

##### **BPSOU Site-Wide Surface Water and Groundwater Monitoring**

- A diesel fuel spill that occurred in early 2021 upstream of SS-01 required absorbent booms to be placed at SS-01. The absorbent booms remain in place at SS-01.

#### **6. SAFETY AND HEALTH**

- Poor air quality conditions (smokey conditions created by wildland fires) contributed to employee use of a prescribed rescue inhaler on July 21, 2021. This incident has been characterized as an OSHA recordable illness.