

July 10, 2015

**VIA ELECTRONIC MAIL**

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**Re: June 2015 Monthly Report of Activities  
Butte Priority Soils Operable Unit  
Unilateral Administrative Order- Docket No. CERCLA 08-2011-0011**

Dear Project Representatives:

Enclosed, please find the Monthly Progress Report for the Silver Bow Creek/Butte Area Superfund Site, as required by the Butte Priority Soils Unilateral Administrative Order.

If you have any questions or comments, please call me at (406) 723-1826.

Sincerely,



Loren Burmeister  
Project Manager  
Butte Priority Soils Operable Unit

Enclosure (2): Monthly Report of Activities  
Attachment A: Problems Encountered

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Jim Ford / NRDP - email  
Greg Mullen / NRDP - email  
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Ted Duaine / MBMG - email  
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Robert Bylsma / UP - email  
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Eric Hassler / BSB - email  
Dave Schultz / BSB - email  
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Molly Maffei / BSB - email  
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Don Booth / AR Consultant - email  
Craig Deeney / TREC - email  
Scott Bradshaw / TREC - email  
Brad Archibald / Pioneer - email  
Pat Sampson / Pioneer - email  
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**MONTHLY REPORT OF ACTIVITIES**  
**Butte Priority Soils Operable Unit**  
**Unilateral Administrative Order**  
**June 2015**

The United States Environmental Protection Agency (EPA) issued a Unilateral Administrative Order (UAO) for the Butte Priority Soils Operable Unit (BPSOU) on July 21, 2011, with that Order taking effect September 6, 2011. Under this UAO, two groups were identified as jointly and severally liable to perform the work describe therein. The Group 1 Respondents include Atlantic Richfield Company (AR), Butte – Silver Bow County (BSB), Inland Properties (Inland), and RARUS Railroad Company. Group 2 Respondents under the BPSOU UAO include BNSF and Union Pacific Railroads.

The work required under this UAO has been ordered to fill the interim period while all affected parties continue to work with the EPA and Montana Department of Environmental Quality (DEQ) to come to agreement on an all-inclusive Consent Decree (CD) for the BPSOU. The activities described in this report are consistent with those work directives outlined in the UAO and include all technical studies, design, construction, monitoring, and maintenance efforts performed by Atlantic Richfield on behalf of RARUS and the other Group 1 Respondents, for the previous month.

**Operations and Maintenance Activities for June 2015**

**BTL, WCP, & MSD OM&M**

During the month of June, the Butte Treatment Lagoons (BTL) operated under Section 3.5 of the Partial Remedy Implementation (PRI) Work Plan of the Unilateral Administrative Order (UAO). Influent flow was directed to Lagoon Cells A1, B1, and C1 with discharge from Lagoon Cell A1, B3 and C3 routed to Cell A2 and Cell A3 for additional treatment prior to discharge at the effluent monitoring station. This treatment sequence is consistent with routine spring operations of the system.

During June, approximately 46 million gallons of water were treated at the BTL. The volume consisted of 16.25 million gallons being pumped from the Metro Storm Drain (MSD) sub-drain, 5.5 million gallons from the West Camp Pump Station (WCP-1) and the remainder coming from the ground and surface water capture systems in Lower Area One (LAO). The influent water reaching BTL was treated by addition of 25 tons of lime by gravimetric lime dosing.

Routine Monday and Thursday samples were collected throughout the month. An additional monthly sample suite was collected on Monday, June 15, 2015. Sample results received from Pace Analytical continue to be consistent with normal operating ranges of the treatment system.

The MSD 30 hp Godwin electric pump was operated during the entire month of June due to construction activities for the MSD vault upgrades. The MSD discharge flowmeter located in BRW was disconnected at the BRW SCADA panel on June 1, the SCADA

panel was relocated to the north as part of the MSD Vault Upgrades and the flowmeter reconnected on June 8, 2015.

The water level in the MSD wet vault was maintained at a constant water level below the perforated drain invert level throughout June, except for short periods of heavy rainfall.

The Missoula Gulch Catch Basin (CB)-8 by-pass inlet, fore-bay, and sediment vault and the Kaw Avenue wetlands continue to be checked on a weekly basis with maintenance performed as needed throughout the month.

The second quarter IM PSD and site overview inspections were completed in June for BTL/LAO and WCP off-site pumping station. The MSD site inspection was postponed until completion of the upgrades at which time the new system will undergo shakedown.

### **Base Flow Monitoring**

During May, Blacktail Creek and Silver Bow Creek had water flow rates above seasonal averages. As the month progressed precipitation was scarce, temperatures soared to near-record highs, and both Blacktail and Silver Bow Creek dropped to just below their seasonal flow averages. Base flow was conducted June 15 under stable flow conditions.

The June data from continuous stage recorders was downloaded on July 1 for correct time, stage, and file names. The bubbler system at each station was purged and any accumulated debris was removed from the bubbler and staff gages. The precipitation records for BMMA, BTL-LAO, and the Kelley Mine Yard were obtained and entered into database-compatible spreadsheets. The June precipitation records from Atlantic Richfield's (AR) weather stations at the Butte Silver Bow Maintenance shop (BSB Shop) and CB-1 were also downloaded July 1.

### **Wet Weather Monitoring**

In response to precipitation events, wet weather monitoring occurred on June 4. The month of June started with cloudy weather and finished extremely warm and dry. In between there were only a few precipitation events, with only one event at the beginning of the month meeting wet weather monitoring criteria.

On June 4, Butte experienced a precipitation event starting around 1545 MST and lasting for about 2 hours. There was a total of 0.20 inches of precipitation that started with high intensity and quickly became moderate intensity, and moderate duration at the Kelley Mine Weather Station. The BTL/LAO Weather station reported a total of 0.22 inches. BMMA reported 0.15 inches, BSB Shop reported 0.41 inches, and CB-1 reported 0.13 inches of precipitation. Flow at SS-04 increased from a baseflow of 29 cfs at 1730 MST to a peak of 72 cfs at 2000. On the same day, SS-07 increased to a peak of 98 cfs at 2015 MST from a baseflow of 41 cfs at 1815 MST. Runoff was significant enough to trigger samplers on Blacktail Creek, Silver Bow Creek, historical D-TEC locations, and storm drain samplers. All 8 samplers in Blacktail and Silver Bow Creeks collected samples. 18 of the 22 samplers installed in storm drains or historical D-TEC locations collected samples. All samples were prepped and sent to the laboratory for analyses.

### **Expanded Analyses Wet Weather Sampling**

Eight additional samplers were installed at existing creek and storm drain locations for the purpose of acquiring additional data to support future source analysis. Eight sites were equipped with an ISCO 3700 automated sampler, assigned to pull different volumes of storm water. Sediment traps were also installed at each site to ensure ample representation. The goal is to obtain one sample from each site during the 2015 wet weather season.

### **Opportunistic Sampling**

Opportunistic sampling sites are identified as areas that appear to be major Total Suspended Solids (TSS) loaders to storm drains, through identification of areas of sediment buildup near storm drains or evidence of surface runoff. Multiple areas have been identified, but only a few samples were collected in June due to low precipitation. One water sample and three sediment samples were collected during the month of June.

### **Ground Water Monitoring**

Site-wide water levels were measured on June 24-26, and level monitoring transducers were downloaded at that time. Stage was measured at surface water sites associated with groundwater monitoring on June 25.

### **Catch Basin Monitoring**

All three catch basins held water at the beginning of May and water levels decreased steadily with high temperatures and low precipitation throughout the month. Records and field observations indicate catch basin 8 discharged through the round orifice, while catch basins 1 and 9 did not discharge this month. According to transducer data, CB-8 discharge through the seep hole began May 27 and continued through June 9.

## **Construction Activities for June 2015**

### **Wetland Demonstration Area Reclamation**

Construction activity continued in June for this project and included organic amendment and seeding of the engineered cover material, fence repair, and decorative boulder placement. A final walk-through was completed June 2nd and punch list items were completed in June.

### **MSD Pump Station Upgrade**

Construction activity continued in June for the MSD Pump Station Upgrade. Activity performed by Jordan Contracting, Inc. included continuation of the localized construction dewatering at the MSD area, modification of the existing MSD Dry Vault piping, installation of the manifold piping within the newly constructed vault, partial backfilling of the manifold vault, installation of the north bypass structure, installation of the HDPE connections from the manifold vault to the HDD drilled section by means of traditional trench-and-bury, hydrostatic pressure testing of completed sections of HDPE and ductile iron piping, and installation of HDPE piping, ductile iron wyes and valves at the BRW area,.

### **Continental Roadside Channel**

Construction activities began on September 8<sup>th</sup> 2014 and were completed on May 12<sup>th</sup> 2015. A final walk-through was completed on May 4<sup>th</sup> and all punch-list items have since been completed.

### **Non-Construction Efforts for June 2015**

#### **Groundwater DSRs and Plans**

The 2014 Interim Ground water Monitoring DSR was submitted on May 5, 2015. The final version of the 2012 Ground Water DSR was submitted on May 26, 2015.

#### **Surface Water DSRs and Plans**

The 2013 and 2014 Draft DSRs (base flow, wet weather and diagnostic) were submitted on May 11, 2015. Comments from the agencies on the 2008-2012 DSRs were received June 11, 2015. Revisions to these reports are underway.

#### **Mine Waste Repository O&M Plan**

All comments from BSB and AR on the Draft Mine Waste Repository O&M Manual have been incorporated. The Draft Final Mine Waste Repository Operation & Maintenance Manual was jointly submitted (AR and BSB) for Agency review and comment on May 8, 2015. Revisions to this plan are underway to clarify certain activities.

#### **BTL OM&M Plan Updates**

The Draft Operations Guide, *Draft Final Operations Guide for Butte Treatment Lagoon (BTL) Lower Area One (LAO) Groundwater Treatment System*, is under internal and BSB review. The final plan will be submitted to the agencies for review and comment in late July.

The Draft Final BTL and MSD Sub-Drain Data Management and Reporting Plan is being revised to address EPA/DEQ comments received June 15<sup>th</sup>, and system reporting capabilities. The revised plan will be included as an appendix of the *Draft Final Operations Guide for Butte Treatment Lagoon (BTL) Lower Area One (LAO) Groundwater Treatment System* when it is submitted for Agency review. The plan describes the long-term data collection, usage and distribution, and reporting requirements for the BTL treatment system at LAO and MSD Sub-Drain Loading Study. Revisions to the plan are anticipated to reflect system reporting capabilities. Initial data reports submitted to the offsite database manager were reviewed and accepted for use and import into the BPSOU database. Weekly reports will utilize the updated report format through the remainder of 2015.

The BTL Sampling and Analysis Plan (SAP) is being updated, and will be included as an appendix of the *Draft Final Operations Guide for Butte Treatment Lagoon (BTL) Lower Area One (LAO) Groundwater Treatment System* when it is submitted for Agency review. The SAP presents the sampling procedures, laboratory analytical methods, and

Quality Assurance/Quality Control (QA/QC) procedures applicable to the routine sampling activities at the Lower Area One (LAO)/Butte Treatment Lagoons (BTL) Groundwater Treatment System.

### **Operations Data Historian**

The BTL data historian license was upgraded to enhance data archiving capabilities and allow real-time trending capabilities. Additional user interface screens were developed to allow entry of manual field data. Manual field data can now be stored, archived, and accessed through the historian.

## **Technical Studies & Reports for June 2015**

### **MSD Sub-Drain Loading Study**

Field activities under the MSD Sub-Drain Loading Study included a June 11 data download and inspection of all flow meters along the MSD Sub-Drain. Data from water level transducers along the MSD Sub-Drain were also downloaded on June 25. Atlantic Richfield submitted the *BPSOU Draft Final 2014 Metro Storm Drain Sub-Drain Loading Study Data Summary Report* on June 26<sup>th</sup> for agency review.

### **BRW Evaluation of Capture Effectiveness**

Field activities under the BRW Evaluation of Capture Effectiveness included downloading data from water level transducers at the monitoring well and surface water locations by both Pioneer and TREC, respectively, on June 25, 2015.

### **MSD Sub-Drain Groundwater Management Report**

The *MSD Sub-Drain Groundwater Management Report* and 10 supporting reports evaluate options to optimize the MSD Sub-Drain based on effectiveness, implementability, and cost. As of December 17, 2014, Atlantic Richfield has received EPA comments on all 11 documents and is the process of finalizing each document. The following reports have been submitted as final:

- *Final Revised Technical Memorandum Influence of Montana Resources Operational Ponds on Discharge to the Metro Storm Drain (MSD) Sub-Drain* – submitted May 26, 2015
- *Final 2013 Evaluation of a Diversion from the Metro Storm Drain Sub-Drain to the Berkeley Pit* – submitted June 9, 2015
- *Final Technical Memorandum Percolation Evaluation for Upper Metro Storm Drain Buried Tailings, Diggings East Tailings, and Northside Tailings Area* – submitted June 18, 2015
- *Final 2011 Blacktail Creek and Silver Bow Creek Radon Tracing and Thermal Imaging Survey Technical Memorandum* – submitted July 6, 2015

### **GAP Study**

Additional comments were received from EPA on March 2, 2015. Revisions to the report to address these comments were conducted during June 2015. Final submittal of this report is anticipated to be in late July.

## Upcoming Activities for July 2015

### **BTL Operations**

Operation of the BTL is expected to remain consistent with routine summer operating conditions. Dewatered sediment located in the drying beds is tentatively scheduled to be transported to the Mine Waste Repository, dependent on other site activities and water content. Minor site maintenance tasks such as vegetation trimming and road maintenance are also anticipated in July.

### **MSD Pump Station Upgrades**

Jordan Contracting, Inc. will continue construction of the MSD Pump Station Upgrades. Work is scheduled to continue through July of 2015 for the MSD Pump Station Upgrades.

### **Wetlands Demonstration Area**

A Construction Completion Report is being developed with a draft-final submittal planned for the end of September.

### **GW/SW Monitoring**

Base flow monitoring of Silver Bow Creek and Blacktail Creek, including flow measurements and sample collection, with an attempt to monitor under stable conditions, will occur in July. Base flow monitoring is coordinated and held in conjunction with other work in the area. At the end of the month, site wide groundwater levels and associated surface water levels will be measured.

### **Continental Roadside Channel**

A Construction Completion Report is being developed with a draft-final submittal planned for the end of July.

### **Groundwater Technical Reports**

The following groundwater reports are expected to be completed and submitted for agency review and finalization in July:

- *Final 2011 Blacktail Creek and Silver Bow Creek Radon Tracing and Thermal Imaging Survey Technical Memorandum*
- *Final 2010 MSD Sub-Drain Phase I, II, and III Isolation Test Technical Memorandum*
- *Final 2013 Metro Storm Drain Fingerprinting Technical Memorandum*

## **Attachment A: Problems Encountered**

There is a large beaver dam in Blacktail Creek impacting flow at SS-04. The beaver dam partially breached near the right edge of water during April, causing an increase in flow. Monitoring of the dam will continue periodically to ensure its effectiveness and to be able to predict its impact on flow upstream and downstream.

Inadvertent data loss occurred at SS-05 ISCO from 6/5/15 through 6/9/15. The H-350 stage recorder is also disconnected due to equipment malfunction at this time. There is a level monitoring transducer installed at SS-05; refer to the transducer file for stage levels at this site.