

September 10, 2015

VIA ELECTRONIC MAIL

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**Re: August 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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Montana Tech Library - hard copy
CTEC of Butte - hard copy

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

MONTHLY REPORT OF ACTIVITIES

Butte Priority Soils Operable Unit Unilateral Administrative Order August 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 August 2015

BTL, WCP, & MSD OM&M

During the month of August, 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 Cells B3 and C3 being routed to the effluent and Lagoon Cell A1 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 summer operations of the system. Lagoon Cell B3 effluent was routed to lagoon cell A2 on August 21 to extend retention times. The site operators made this flow adjustment due to elevated pH in the B lagoons and to minimize the possible exceedance of the 9.50 pH standard at the effluent.

During August, approximately 44 million gallons of water were treated at the BTL. The volume consisted of 15 million gallons being pumped from the Metro Storm Drain (MSD) sub-drain, 6.75 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 23 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, August 17, 2015. Sample results received from Pace Analytical continue to be consistent with normal operating ranges of the treatment system.

The MSD dry vault pumps were operated throughout the entire month of August.

The water level in the MSD wet vault was maintained at a constant water level below the perforated drain invert level throughout August, except for short periods to complete MSD Pump Station Upgrade work at the dry vault.

Shakedown of the newly installed piping system and associated valves at the MSD vault and BRW discharge was completed on August 26, 2015. Swabs were flushed thru the MSD north and south force main lines on August 27, 2015 using the newly installed pig launcher located at the MSD vault.

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.

Base Flow Monitoring

Base flow monitoring was conducted August 18 under stable flow conditions. After near drought conditions throughout early summer months, precipitation throughout July saw both Blacktail and Silver Bow creeks at near seasonal average flows to start the month of August. With very little precipitation, combined with warm temperatures, August hovered around seasonal averages all month and at the end of the month flows dropped to just below seasonal averages.

The continuous stage recorders were checked on August 31 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. On the same date, stage data were downloaded from continuous recorders. The precipitation records for BMMA, BTL-LAO, and the Kelley Mine Yard were obtained and entered into the database-compatible spreadsheets. The precipitation records from Atlantic Richfield's (AR) weather stations at the Butte Silver Bow Maintenance shop (BSB Shop) and CB-1 were downloaded September 1.

Wet Weather Monitoring

In response to precipitation events, wet weather monitoring occurred on August 12. August started and finished warm and dry. Mid-month brought a thunderstorm, but the event did not meet wet weather monitoring criteria on Blacktail Creek nor Silver Bow Creek.

On August 12, the Butte Hill experienced a high-intensity, short-duration precipitation event starting just after 1700 MST. Approximately 0.17 inches of precipitation was recorded the Kelley Mine and BTL/LAO Weather Stations. Weather stations at BMMA reported 0.09 inches, BSB Shop reported 0.07 inches. CB-1 weather station reported 0.01 inches, but it was experiencing problems so that value is suspect. Both Blacktail Creek and Silver Bow Creek responded with increased flows, but creek sampling criteria was not met. Of the 22 storm-drain samplers installed, 12 sampled during this event.

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. Samplers had collected on July 27, but it was determined that associated samples did not contain required sediment volumes to proceed with analyses; expanded sites were re-installed on 08/14/2015, in effort to capture a larger precipitation event.

Opportunistic Sampling

Opportunistic sampling sites are identified as areas that appear to be major TSS loaders to storm drains, through identification of areas of sediment buildup near storm drains or evidence of surface runoff. Multiple areas were identified and one water sample and one sediment sample were collected during the month of August.

Ground Water Monitoring

Site-wide water levels were measured on August 26-27, and level monitoring transducers were downloaded at that time. Stage was measured at surface water sites associated with groundwater monitoring on August 26.

Catch Basin Monitoring

All three catch basins held water at the beginning of August and water levels increased with rainfall occurring on August 12. Records and field observations indicate that none of the catch basins discharged during August.

Construction Activities for August 2015

Wetland Demonstration Area Reclamation

Construction activity for the Wetland Demonstration Area Reclamation was completed in July. The punch list items that were completed included the seeding of small areas of the engineered cover material and fence repair.

MSD Pump Station Upgrade

Construction for the MSD Pump Station Upgrade continued throughout August. Activity performed by Jordan Contracting, Inc. (JCI) included installation of the manholes over the bypass connection piping, construction of an access road to the vault area, installation of manifold piping and grating within the newly constructed vault, and continued backfilling of the manifold vault area. JCI removed a significant portion of the Emergency Surface Line (ESL) which was bundled for future transport. The Silver Bow Creek-ESL crossing was removed and the pipe sections were disassembled and stored at the BTL. Backfilling of the Flood Control Dike (FCD) area continues.

Non-Construction Efforts for August 2015

Groundwater DSRs and Plans

Agency approval of the draft final version of the 2013 Ground Water DSR was received on August 31, 2015. The 2014 Ground Water DSR was submitted May 1, 2015 and is awaiting agency comment.

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

Revisions to the draft plan were incorporated based on verbal comments received by EPA. The Draft Final Mine Waste Repository Operation & Maintenance Manual was jointly re-submitted (AR and BSB) for Agency review and comment on August 5, 2015.

BTL OM&M Plan Updates

The Draft Final Operations Guide for Butte Treatment Lagoons (BTL) Lower Area One (LAO) Groundwater Treatment System received Draft review by AR and is being revised for agency submittal. This document describes routine OM&M requirements to maintain reliable and efficient system operation, and includes:

- BTL and MSD Sub-Drain Data Management and Reporting Plan; and
- BTL Compliance Sampling and Analysis Plan (SAP).

Lower Area One Surface Enhancements

LAO Surface Enhancements Request for Proposal was released in August 2015. Construction implementation is anticipated to begin in September.

MSD Sub-Drain Loading Study

No field activities under the MSD Sub-Drain Loading Study took place in August. The flow meters within the MSD Sub-Drain were removed after the sampling event in July because of scheduled jetting. The jetting has not taken place yet, but is scheduled for early September.

BRW Evaluation of Capture Effectiveness

Field activities under the BRW Evaluation of Capture Effectiveness included downloading data from water level transducers at the monitoring wells on August 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 and approved by EPA on June 18, 2015.
- Final 2013 Evaluation of a Diversion from the Metro Storm Drain Sub-Drain to the Berkeley Pit – submitted June 9, 2015 and approved by EPA on June 17, 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
- Final 2010 Metro Storm Drain (MSD) Sub-Drain Phase I, II, and III Isolation Test Technical Memorandum – submitted July 31, 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 September.

Upcoming Activities for September 2015

BTL Operations

Operation of the BTL is expected to remain consistent with routine summer operating conditions. Dredging of treatment sediment is tentatively scheduled to begin in early September, dependent on other site activities and water content. Minor site maintenance tasks such as vegetation trimming and road maintenance are also anticipated in September. Jetting and pigging of the MSD sub-drain will be performed in September.

BTL OM&M Plan

The Draft Final Operations Guide for Butte Treatment Lagoons (BTL) Lower Area One (LAO) Groundwater Treatment System is being revised to include additional Standard Operating Procedures (SOPs), and supporting documents such as the Butte Treatment Lagoons Compliance Sampling and Analysis Plan (SAP), and Data Management and Reporting Plan. The Guide is expected to be submitted for Agency review in September.

Wetlands Demonstration Area

A Draft Construction Completion Report addressing the Wetland Demonstration Area Reclamation activities will be prepared for review and approval by AR in September. Following initial review and revision, this document will be provided to the agencies for review.

MSD Pump Station Upgrades

JCI will continue construction of the MSD Pump Station Upgrades; work is scheduled to conclude in September of 2015. Upcoming tasks include installation of the manifold

vault lid, continued backfill, removal of the ESL from the Hot Plant entrance on Montana Street, and I&C work.

LAO Surface Enhancements

LAO Surface Enhancements proposal documents are due from potential Contractors in early September. Proposal documents submitted by Contractors will be evaluated and contract award will be issued in late September 2015. Atlantic Richfield expects work to commence this fall.

Lexington Mine Site

Pre-design activities have begun for the Lexington Mine site and will continue in September.

Groundwater Technical Reports

Agency comments on MSD groundwater technical reports will continue to be addressed during September. The reports remaining to be finalized include the Fingerprinting Tech Memo, Geochemistry Report, MSD Loading Study, and the MSD Groundwater Management Report.

Base Flow 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 September. 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. Site wide semi-annual sampling of 122 groundwater wells will commence in September.

Attachment A: Problems Encountered

There was a large beaver dam in Blacktail Creek impacting flow at SS-04 that was breached during the evening of August 17. Monitoring of the dam will continue periodically to ensure its effectiveness and to be able to predict its impact on flow upstream and downstream.

The H-350 stage recorder at SS-05 is 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.

Data loss at CB-1 weather station after lightning storm on August 4. Weather station has been fixed and is operating properly.

The Missoula Gulch bypass line was hit by a 3rd party performing a directional boring along Centennial Avenue August 21. The incident was discovered due to loss of flow on August 31 and was subsequently jetted and videoed to determine the location of the obstruction/damage. Water was temporarily routed to Catch Basin 9 while the repair was performed on September 1 and 2.