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VIA ELECTRONIC MAIL

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**Re: May 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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Craig Deeney / TREC - email
Scott Bradshaw / TREC - email
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MONTHLY REPORT OF ACTIVITIES
Butte Priority Soils Operable Unit
Unilateral Administrative Order
May 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 May 2015

BTL, WCP, & MSD OM&M

During the month of May, 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 May, approximately 44 million gallons of water were treated at the BTL. The volume consisted of 16.4 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 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, May 18, 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 May due to construction activities for the MSD vault upgrades.

The water level in the MSD wet vault was maintained at a constant water level below the perforated drain invert level throughout May, 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.

Dredging operations began in lagoon cell A1 on Thursday April 9th. Dredging operations were completed on Monday May 11th. The dredge, float pipe and associated equipment was removed from the lagoons and deconned at the BRW drying beds prior to storage. The dredge was loaded and prepared for return to the vendor at that time.

Base Flow Monitoring

The month of May saw Blacktail Creek and Silver Bow Creek both staying near seasonal averages during the first part of the month. Baseflow was conducted May 4 under stable flow conditions; hydrographs for both creeks were near the lowest flows for the month. Around the middle of the month, numerous local and upper elevation precipitation events brought above average stream flows lasting through the end of May. Locally, the latter half of May brought cool, wet weather for consecutive weeks.

The continuous stage recorders were checked on June 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. 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 June 1.

Wet Weather Monitoring

Mechanical samplers were set at Blacktail Creek, Silver Bow Creek, and historical tributary sites on March 16; ISCO samplers were then installed at creek locations March 24-26 to couple with mechanical samplers. ISCO samplers were installed at Butte Hill Diagnostic Monitoring locations beginning on April 24 and installation of Butte Hill Diagnostic locations was completed May 21.

In response to precipitation events, wet weather monitoring occurred on May 5, May 12, and May 26. The month of May started warm and dry, but quickly turned cloudy and cool, with multiple days of small storms intermixed with larger storms. Snow fell in the Highlands during a few storms in the middle of the month and subsequently melted off during the second half of the month.

On May 5, Butte experienced a precipitation event starting around 15:40 MST followed by another event starting around 21:00 MST. This thunder storm occurred after a period of dry days. There was a total of 0.28 inches of moderate-intensity, short-duration rainfall at the Kelley Mine Weather Station falling during both of the short events. The

BTL/LAO Weather station reported a total of 0.26 inches. BMMA reported 0.13 inches, BSB Shop reported 0.14 inches, and CB-1 reported 0.26 inches of precipitation. Flow at SS-04 did not increase due to precipitation. On the same day, SS-07 increased to a peak of 37 cfs at 22:45 MST from a base of 28 cfs at 12:00 MST. Runoff was significant enough to trigger only storm drain stations; Silver Bow Creek did not reach sampling criteria. At this point, 14 samplers had been installed in culverts and manholes; 9 sampled, which were prepped and sent to the laboratory for analyses.

On May 12, Butte experienced a precipitation event starting around 14:00 MST. This storm occurred after a cloudy but mostly dry days before hand. There was a total of 0.20 inches of low intensity moderate duration rainfall at the Kelley Mine Weather Station. The BTL/LAO Weather station reported a total of 0.27 inches. BMMA reported 0.17 inches, BSB Shop reported 0.15 inches, and CB-1 reported 0.23 inches of precipitation. Flow at SS-04 did not increase due to precipitation. On the same day, SS-07 increased to a peak of 39 cfs at 20:30 MST from a base of 26 cfs at 15:15 MST. Runoff was significant enough to trigger only storm drain stations; Silver Bow Creek did not reach sampling criteria. At this point, 15 samplers had been installed in culverts and manholes; 10 sampled, which were prepped and sent to the laboratory for analyses.

On May 26, Butte experienced a precipitation event starting around 18:00 MST. This thunder storm occurred after a small storm the previous day. There was a total of 0.63 inches of varying intensity moderate duration rainfall at the Kelley Mine Weather Station. The BTL/LAO Weather station reported a total of 0.30 inches. BMMA reported 0.17 inches, BSB Shop reported 0.42 inches, and CB-1 reported 0.35 inches of precipitation. Flow at SS-04 SS-07 increased to a peak of 76 cfs at 20:15 MST from a base of 33 cfs at 18:30 MST. On the same day, SS-07 increased to a peak of 100 cfs at 21:00 MST from a base of 42 cfs at 18:30. Runoff was significant enough to trigger Silver Bow Creek and samples were collected from all 8 stations. At this point, all 17 samplers had been installed in culverts and manholes; 13 sampled, which were prepped and sent to the laboratory for analyses.

Ground Water Monitoring

Site-wide water levels were measured on May 27-29, and level monitoring transducers were downloaded at that time. Stage was measured at surface water sites associated with groundwater monitoring on April 27.

Catch Basin Monitoring

All three catch basins held water at the beginning of May and water levels increased dramatically with numerous wet weather events. 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 the beginning of June.

Construction Activities for May 2014

Wetland Demonstration Area Reclamation

Construction activity continued in May for this project and included organic amendment and seeding of the engineered cover material. Remaining work to be performed by Jordan Contracting, Inc. includes fence repair and decorative boulder placement.

Continental Roadside Channel

Construction activities began on September 8th 2014 and were completed on May 12th 2015.

MSD Pump Station Upgrade

Construction activity continued in May for the MSD Pump Station Upgrade. Activity performed by Jordan Contracting, Inc. included continuation of the localized construction dewatering at the MSD area, construction of the new concrete vault walls, and relocation of the MSD BRW Discharge SCADA panel. Concrete work for the new vault will continue through May along with modification of the existing MSD Dry Vault piping.

Rising River, Inc. finished the Horizontal Directional Drill (HDD) installation of the new MSD discharge line and the new bypass connection to the BRW-00 pond. Jordan Contracting, Inc. will install the remaining pipe sections by traditional trench and bury methods.

Non-Construction Efforts for May 2014

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.

Mine Waste Repository O&M Plan

All comments from BSB and AR on the Draft Mine Waste Repository O&M Manual have been incorporated. A joint cover letter (BSB and AR) has been prepared and is awaiting signatures from the respective parties. Once signed, the document will be jointly submitted as a Draft Final to the Agencies for their review and comment. Anticipated submittal is now expected in early May.

OM&M Plan Updates

The Draft Operations Guide is awaiting review and concurrence from Butte-Silver Bow (BSB) personnel. The final plan will be provided to the agencies for review and comment as a joint submittal from BSB and AR.

The Draft Final BTL and MSD Sub-Drain Data Management and Reporting Plan was submitted to the agencies for review and comment. 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. Minor 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. Standard weekly and quarterly report templates are being prepared. An updated weekly report format was introduced in April. 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 available for review by the Agencies in June. 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 May 2015

MSD Sub-Drain Loading Study

Field activities under the MSD Sub-Drain Loading Study included a May 6 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 May 27.

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 May 27, 2015.

MSD Sub-Drain Groundwater Management Report

The MSD Sub-Drain Groundwater Management Report was submitted to the Agencies on June 28, 2013, and consisted of 10 supporting reports. As indicated in the UAO, this report evaluates 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 10 supporting reports and EPA has requested that these reports be finalized. Atlantic Richfield is in the process of updating all 10 supporting reports and the MSD Sub-Drain Groundwater Management Report for final submittal.

On May 22, 2015, Atlantic Richfield submitted the final versions of the *Influence of Montana Resources Operational Ponds on Discharge to the Metro Storm Drain (MSD)*

Sub-Drain) Tech Memo and Percolation Evaluation for Upper MSD Buried Tailings, Diggings East Tailings, and Northside Tailings Areas.

GAP Study

Additional comments were received from EPA on March 2, 2015. Revisions to the report to address these comments are underway.

Upcoming Activities for June 2015

BTL Operation

Operation of the BTL is expected to remain consistent with routine spring operating conditions. Completion of the second quarter site overview and IM inspections for BTL/LAO will be performed in June.

MSD Loading Study

The June sampling event for the semi-annual MSD Loading Study sampling is tentatively scheduled for Tuesday, June 9.

MSD Pump Station Upgrades

Jordan Contracting, Inc. will finalize construction of the Wetland Demonstration Area Reclamation and continue construction of the MSD Pump Station Upgrades. Work is scheduled to continue into July of 2015 for the MSD Pump Station Upgrades.

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 June. Base flow monitoring is coordinated and held in conjunction with other work in the area. Additional samplers will be installed at existing creek and storm drain locations to provide Expanded Analyses Storm Water samples, intended to capture a June and/or July wet-weather event. At the end of the month, site wide groundwater levels and associated surface water levels will be measured.

Continental Roadside Channel

A project CCR has been initiated with a draft-final submittal planned for the end of June.

Technical Report

In June 2015, the anticipation is that Atlantic Richfield will publish the final versions of the *Final 2013 Evaluation of a Diversion from the Metro Storm Drain Sub-Drain to the Berkeley Pit*.

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.

Transducer was not downloaded at BPS07-21C, due to a large piece of equipment parked on top of well. The transducer will be downloaded next month or when the area is clear.