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Fall 9-26-2022

### **Approval letter for: Butte Priority Soils Operable Unit (BPSOU) Revised Draft Final Quarterly Operations and Maintenance Report Butte Treatment Lagoons System – Second Quarter 2021 (dated July 20, 2022)**

Nikia Greene

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8, MONTANA OFFICE**

FEDERAL BUILDING, 10 West 15<sup>TH</sup> Street, Suite 3200  
Helena, MT 59626-0096  
Phone 866-457-2690  
[www.epa.gov/region8](http://www.epa.gov/region8)

Ref: 8MO

September 26, 2022

Mr. Dave Griffis  
Treatment Operations Project Manager  
Atlantic Richfield Company  
317 Anaconda Road  
Butte, MT 59701

**Re: Approval letter for: Butte Priority Soils Operable Unit (BPSOU) Revised Draft Final  
Quarterly Operations and Maintenance Report Butte Treatment Lagoons System –  
Second Quarter 2021 (dated July 20, 2022)**

Dear Dave:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is approving the *Revised Draft Final Quarterly Operations and Maintenance Report Butte Treatment Lagoons System – Second Quarter 2021 (dated July 20, 2022)* with the following comments that can be addressed during the annual quality assurance project plan update.

**Comments**

Atlantic Richfield Company Response to Specific Comment to Main Report from Section 4.0, System Performance Summary, regarding mercury analysis: The standard Method 245.1 has protocols for sample collection, preservation, and storage based on the operational detection limit of 0.2 µg/L total mercury. Pace's modified 245.1 Low Level in house analytical technique has a detection limit in the range of 4.7 ng/L, which is a trace level technique. It is correct that Method 1631 has a lower detection limit, 0.5 ng/L, which has associated trace metal sample handling and sample storage requirement designed for low level. The modified Method 245.1 Low Level does not appear to have an associated due diligence incorporated into sampling and storage protocol. It is not appropriate to use protocols designed for the standard Method 245.1 technique, as the modified Method 245.1 has well over an order of magnitude more sensitivity.

It is recommended that all mercury samples be collected following the EPA Guidance for Implementation and Use of EPA method 1631 for the Determination of Low-level Mercury (40CFR part 136), March 2001, EPA 821-R-01-023. This would ensure that the mercury samples were able to be analyzed by the Method 1613 if available. If not, then the laboratories modified Low Level Method 245.1 would be used also ensuring the low-level detection limits could be utilized. Not using the appropriate collection procedures dictated by these low-level methods does not provide the full benefit of samples being analyzed by these methods, and potentially compromises the value of these methods and their ability to achieve low level reporting limits including the laboratory specific one used by Pace.

Accuracy and precision of the results may be compromised by not following the whole vetted sample collection and analyses procedures. If appropriate sample collection and preparation procedures are not followed, it does call into question whether the data can be considered enforcement if no other qualifications are required.

Has the laboratory performed studies comparing analyses of samples by Method 1613 (following the appropriate collection procedures) and their Low-Level Method 245.1 without following special sampling procedures? A study of this type would be useful in determining potential discrepancies between the methods and sample collection procedures that could be affecting sample results.

When preparing the annual update of the quality assurance project plan for these sampling activities, please address EPA's above comments and concerns on the sampling and analytical procedures. This should also include a focused review of the mercury sampling data quality objectives.

If you have any questions or concerns, please call me at (406) 457-5019.

Sincerely,

Nikia Greene  
Remedial Project Manager

cc: (email only)

Butte File

Matt Dorrington; DEQ

Daryl Reed; DEQ

Will George; DEQ

Jon Morgan; DEQ counsel

Carolina Balliew; DEQ

Harley Harris; NRDP

Katherine Hausrath; NRDP

Jim Ford; NRDP

Pat Cunneen; NRDP

John Gallagher; BSBC

Sean Peterson; BSBC

Eileen Joyce; BSBC

Eric Hassler; BSBC

Brandon Warner; BSBC

Chad Anderson; BSBC

Karen Maloughney; BSBC

Julia Crain; BSBC

Abby Peltomaa; BSBC

Jeremy Grotbo; BSBC

John DeJong; UP  
Robert Bylsma; UP counsel  
Leo Berry; BNSF and UP counsel  
Doug Brannan; Kennedy Jenks for BNSF and UP  
Brooke Kuhl; BNSF counsel  
Lauren Knickrehm; for BNSF  
Philip Hooper; Kennedy Jenks for BNSF and UP  
Bob Andreoli; Patroit/RARUS  
Becky Summerville; counsel for Inland Properties Inc.  
Robert Lowry, BNSF counsel  
Loren Burmeister; AR  
Josh Bryson; AR  
Chris Greco; AR  
Mike Mcanulty; AR  
Dave Griffis; AR  
Jean Martin; Counsel AR  
Mave Gasaway; attorney for AR  
Adam Cohen; Counsel for AR  
Pat Sampson; Pioneer for AR  
Scott Sampson; Pioneer for AR  
Scott Bradshaw; TREC  
Karen Helfrich; Pioneer for AR  
Andy Dare; Pioneer for AR  
Scott Sampson; Pioneer for AR  
Brad Archibald; Pioneer for AR  
Andy Dare; Pioneer for AR  
Tina Donovan; Woodardcurran for AR  
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Gary Icopini; MBMG  
David Shanight, CDM Smith  
Curt Coover, CDM Smith  
Chapin Storrar; CDM Smith  
Erin Agee, EPA  
Joe Vranka; EPA  
Chris Wardell; EPA  
Dana Barnicoat; EPA  
Charlie Partridge; EPA  
Ian Magruder; CTEC (Tech Advisor)  
Janice Hogan; CTEC  
Marissa Stockton; Rosendale State Director  
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