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Re: Comments on the Draft Butte Priority Soils Operable Unit (BPSOU) 2022 Draft Site- Wide Surface Water Monitoring Data Summary Report (dated April 7, 2023)

Nikia Greene

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

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Ref: 8MO

July 31, 2023

Mr. Josh Bryson
Liability Manager
Atlantic Richfield Company
317 Anaconda Road
Butte, MT 59701

Re: Comments on the Draft Butte Priority Soils Operable Unit (BPSOU) 2022 Draft Site-Wide Surface Water Monitoring Data Summary Report (dated April 7, 2023)

Dear Josh:

The U.S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is providing comments on the *2022 Draft Site-Wide Surface Water Monitoring Data Summary Report (dated April 7, 2023)*. Please incorporate these comments and submit the final version of the document for EPA and DEQ review.

Comments:

1. Section 3.1.2 Wet Weather Monitoring, Second Paragraph, first sentence: The text indicates 11 wet weather events were sampled at 7 stations. Sample location SS-07 was not sampled during the April to September sampling events. According to table 10, sample location SS-07 was only sampled during the Fall October event. Please update the text accordingly.
2. Section 3.1.2 Wet Weather Monitoring, Second Paragraph: It should be noted whether the rejected results affect data quality objectives.
3. Section 3.3 Sediment Monitoring, First Paragraph, Third Sentence: The text indicates 8 natural samples were collected. It appears only 7 natural samples were collected. Please update the text accordingly.
4. Section 3.3 Sediment Monitoring, First Paragraph: The text indicates 91 natural samples were analyzed. It appears only 84 natural samples were collected. Please confirm and update the text accordingly.
5. Section 4.3: Some of the deeper samples were not collected. These should be listed as deviations.

Appendix A – Data Quality Assessment - Normal Flow and Wet Weather Data

1. Section 1.0 Introduction, Wet Weather SDGs: The wet weather SDG 10606734 lists the sample collection dates as 4/27/2022. A sample was also collected on 4/29/2022. Please confirm and update the list accordingly.

2. Section 1.0 Introduction, Wet Weather SDGs: The wet weather SDG 10613037 lists the sample collection dates as 6/11/2022. A sample was also collected on 6/14/2022. Please confirm and update the list accordingly.
3. Section 3.3.2 Blanks: The text indicates; “*Although Limited packages do not contain ICB and CCB results, the project narratives did not indicate any problems with these laboratory calibration samples.*” A majority of the laboratory data packages do not present ICB/CCB information. It is recommended to rephrase or delete the sentence in the text as not enough information is presented in the data package to adequately draw conclusions on ICB/CCB results for data packages that do not provide calibration blank results.
4. Section 3.3.2.1, Field Blanks, Third Paragraph, First Sentence: Please provide the table number in the first sentence that lists results for all WW FBs.
5. Section 3.3.2.1, Field Blanks Third Paragraph: Please confirm the analytes that were qualified based on field blank criteria. It appears dissolved copper, DOC, total phosphorous and ammonia were not qualified for field blank criteria but are listed in the text. Dissolved and total lead is listed twice. Please also list the table number that summarizes NF and WW FB qualifications in the last sentence.
6. Section 3.3.2.2 Method Blanks, Second Paragraph, Third Sentence: It appears total lead was qualified based on the MB detection and not dissolved lead as listed in the table. Please confirm and update the text accordingly.
7. Section 3.3.3 Matrix Spike and Matrix Spike Duplicate, First paragraph, First Sentence: Please provide the table number for the wet weather MS/MSD results.
8. Section 3.5 Completeness, Third Paragraph, third sentence: The text indicates 11 wet weather events were sampled at 7 stations. Sample location SS-07 was not sampled during the April to September sampling events. According to table 10, sample location SS-07 was only sampled during the Fall October event. Please confirm and update the text accordingly.

Attachment A1 -Normal Flow Analytical and Field Data Validation Checklists

1. For the field blank evaluation when an analyte is detected and associated results require qualification because they fall between the MDL and RL, the validator qualifies the results as estimated nondetect and assigns a UJ qualifier, it is common practice to assign a U qualifier and the additional J qualifier is not required. Please update the DV checklists and associated tables accordingly.
2. Please confirm the Surface Water Monitoring QAPP reference in all the data validation reports. It is listed as 2020 but in the main report sections it is listed as 2022.
3. For the MS/MSD RPD evaluation the text indicates; “For MS & MSD results > 5 times the RL, were results of the MSD \leq 20% relative percent difference (RPD)? If MS or MSD values < 5 times the RL, was the absolute difference between the MS and MSD \leq the RL?” It is not common practice to evaluate the RPD based on the MS/MSD results being > or < than the RL and is not identified in the EPA NFGs or Woodard & Curran guidance documents. MS/MSD RPD evaluation should be performed without the 5x criteria being applied.
4. SDG 10597295, first page: Please add alkalinity to the analysis list in the box.

5. SDG 10597295: Hardness was analyzed using method 2340B. Please update the Method column accordingly.
6. SDG 10633860, first page: Please add alkalinity to the analysis list in the box.

Attachment A2 – Wet Weather Analytical and Field Data Validation Checklists

1. SDG 10610915: For the reasons outlined on page 9, silver and mercury should also be rejected. Please update tables and text accordingly.

Appendix B - Stage and Flow Hydrographs, Normal Flow and Wet Weather Data

1. Figure B8: Please add a footnote consistent with Section 2.6.1.3 explaining why discharge is not presented. Also add footnotes to the remaining figures where only stage or discharge are presented explaining why only one metric is presented.

Appendix E – Data Quality Assessment, Butte Hill Diagnostic Data

1. Section 1.0 Introduction, Diagnostic SDGs: Numerous sample dates are missing from the SDG list of sample dates. Please update the list accordingly.
2. Section 3.0 Data Quality Assessment, Second Paragraph, last sentence: The text reads “Date validation checklists....” The text should read “Data validation checklists...” Please update the text accordingly.
3. Section 3.0 Data Quality Assessment, Fourth Paragraph: The text includes several link errors. Please delete the errors and update the text with the appropriate information.
4. Section 3.2.1 Laboratory and Field Duplicates, First Paragraph: The text includes link errors. Please delete the errors and update the text with the appropriate information.
5. Section 3.3.2 Blanks: The text indicates; “*Although Limited packages do not contain ICB and CCB results, the project narratives did not indicate any problems with these laboratory calibration samples.*” A majority of the laboratory data packages do not present ICB/CCB information. It is recommended to rephrase or delete the sentence in the text as not enough information is presented in the data package to adequately draw conclusions on ICB/CCB results for data packages that do not provide calibration blank results.
6. Section 3.3.2 Blanks: The text indicates “*Professional judgement was used in assigning data validation codes in cases that both the FB and MB had detections >1.5x the MDL. This judgement was based on the magnitude of the FB detection compared to the magnitude of the MB detection.*” Please consider adding both DV codes to indicate that qualifiers would be required for both the FB and MB detection to the applicable text, data validation checklists, and Tables.
7. Section 4.0 – Data Assessment Summary: The summary information should include a statement indicating no results were rejected.
8. Section 5.0 References: The National Functional Guidelines reference date is listed as 2017, please update the date to the most recent date of 2020.

Appendix I – Data Quality Assessment, Sediment Data

1. Section 3.2.1 Laboratory and Field Duplicates, Paragraph 1: According to Tables I2a – I2c, three samples were qualified based on laboratory duplicate precision. Please confirm and update Table I3 and the text accordingly.

2. Section 3.2.1 Laboratory and Field Duplicate, Paragraph 1: Please add pH to the list of affected analytes for laboratory precision.
3. Section 3.3.2 Blanks: The text indicates; “*Although Limited packages do not contain ICB and CCB results, the project narratives did not indicate any problems with these laboratory calibration samples.*” A majority of the laboratory data packages do not present ICB/CCB information. It is recommended to rephrase or delete the sentence in the text as not enough information is presented in the data package to adequately draw conclusions on ICB/CCB results for data packages that do not provide calibration blank results.
4. Section Completeness, Second Paragraph: Please delete the “Error! Reference source not found” language in the text and provide the correct language.
5. Section 3.5 Completeness, Second Paragraph: The text discusses eight natural samples. The previous sentence and the associated tables indicate seven natural samples were collected. Please confirm and update the text accordingly.
6. Section 3.5 Completeness, Second Paragraph: The text discusses 91 natural samples. The associated tables indicate 84 natural samples. Please confirm and update the text accordingly.
7. Section 3.6 Comparability: See the comments on Appendix J.
8. Section 3.8 Data Usability, Table I11 – Quality Status for Sediment Analyses: Table I11 presents quality status counts for the sediment data. The values presented in Tables I2a through I2c do not match the values in Table I11. Please confirm the counts and update the tables and text accordingly if required.
9. Section 4.0 – Data Assessment Summary: Please update the values presented in this section if required as identified in the Section 3.8 comment.
10. Section 4.0 – Data Assessment Summary: The summary information should include a statement indicating no results were rejected.
11. Table 12b: This table includes a J qualifier with an RPD validation code for the pH analysis for sample SED006-081922-0206. Please remove the qualifier and DV code from the table and update the DV report counts and associated text if required.

Attachment A -Laboratory and Field Data Validation Checklists

1. Please provide the laboratory data packages for the sediment data.

Appendix J – Sediment Raw Data

1. Table I12a is missing the MDLs that were presented in previous sediment DSRs. Please add these columns to be consistent with previous DSRs. Tables I2b and I2c are also inconsistent with previous DSRs. Please add needed columns to be consistent.
2. The clay percentages reported are much lower than in previous DSRs. The lab report for sediment was not included in the package. Please review the lab report to see if there is a reason for the large change in clay content. Was there a change in the field procedure that may have affected sample quality? Since metals tend to be concentrated in the finer sediment, representative samples are needed that include the full clay content.

3. The TOC data are inconsistent with previous results. For example, the average of all samples in 2020 was 75,875 mg/kg and 3,751 mg/kg in 2022. Please review TOC data from all three years to determine if there is a miscalculation or inconsistent units.
4. The laboratory report containing the raw data should be included in this Appendix.

Appendix L – BMI Raw Data

1. Is there a laboratory report in addition to the excel table? If so, please include it in this appendix.

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

Sincerely,

Nikia Greene
Remedial Project Manager

Butte File
Chris Greco / Atlantic Richfield
Josh Bryson / Atlantic Richfield
Mike Mc Anulty / Atlantic Richfield
Loren Burmeister / Atlantic Richfield
Dave Griffis / Atlantic Richfield
Jean Martin / Atlantic Richfield
Irene Montero / Atlantic Richfield
David A. Gratson / Environmental Standards
Mave Gasaway / DGS
Adam Cohen / DGS
Brienne McClafferty / Holland & Hart
Daryl Reed / DEQ
Amy Steinmetz / DEQ
Dave Bowers / DEQ
Katie Garcin-Forba / DEQ
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Jim Ford / NRDP
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Ted Duaima / MBMG
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John Gilmour / Kelley Drye
Leo Berry / BNSF
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Brooke Kuhl / BNSF
Lauren Knickrehm / BNSF
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Matthew Mavrinc / RARUS
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Abigail Peltomaa / BSB
Eileen Joyce / BSB
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