

# **Responsiveness Summary – Butte Mine Flooding Operable Unit**

The responsiveness summary includes comments received on the draft BMFOU five-year review report (Volume 3) during the December 12, 2010 through January 31, 2011 comment period. The comments are shown as received but were edited to include only those comments pertaining to the BMFOU. EPA responses are included in italicized text.



**Comments from Atlantic Richfield:**

**BUTTE MINE FLOODING OPERABLE UNIT**

AR agrees that the Horseshoe Bend water treatment plant's ability to meet the final pH standard, the cadmium standard and the other performance requirements associated with potential future discharge of treated water to SBC identified in EPA's five-year review issues 1, 2, 3, 4 and 7 are legitimate issues.

- *EPA Response: Comment noted and the final text continues to contain these recommendations.*

However, the scope of work for the site already contemplates a thorough technology review well before any discharges to SBC occur. These and other issues should be considered as part of that review rather than by completing additional performance testing now.

- *EPA Response: The issues identified in the five year review are of sufficient importance that they should be highlighted in the five year review recommendations. EPA would like to be sure the requirements of the existing Mine Flooding Consent Decree work plan are followed, and the necessary testing and engineering work needed to meet standards once a discharge from the Horse Shoe Bend Treatment Plant goes to Silver Bow Creek is done in a timely and complete manner. EPA, in consultation with DEQ, will work with the Mine Flooding Settling Defendants to ensure this is done.*

**Specific Comments**

1. Issue 5 - Use of scale inhibitors to control gypsum scaling issues in the treatment system may have an effect on metals removal in the treatment plant: Use of scale inhibitors within the treatment process is a temporary operational test and is not currently being proposed as a sustainable option. Should use of the scale inhibitors prove to be successful, and should they be proposed in the future, impacts to other treatment goals would be evaluated.

- *EPA Response: EPA acknowledges AR's response to this issue and is very interested in how the Mine Flooding Settling Defendants plan to address the gypsum scaling issue.*

2. Issue 6 - The beta-photon procedure used to evaluate the concentration of radio- nuclides in the treatment plant effluent is not practical, given the need to analyze 179 different radionuclides: AR agrees with EPA's general conclusion regarding the beta-photon emitter performance standard within the Consent Decree (CD). Based upon the rationale provided in the Performance Test Report, the beta-photon emitter performance standard should be removed from the performance standard requirements of the CD.

- *EPA Response: EPA acknowledges the comment, and will work with DEQ and the Mine Flooding Settling Defendants to address this issue appropriately.*

**Comments from CTEC:**

16. Specific remedial action objectives included in the Butte Mine Flooding Operable Unit (BMFOU) ROD include “Implementing a comprehensive monitoring program to verify the protectiveness of the CWLs.” The final review should include an evaluation of the critical water level (CWL) and whether the assumptions used in calculating the CWL are still correct.

- *EPA Response: The MBMG conducts the comprehensive groundwater monitoring program for the BMFOU. As part of the monitoring, the MBMG annually updates the Berkeley Pit infilling model (which involves verifying that the CWL is protective and valid,) and also estimates the time at which the CWL will be reached. Current estimates are that the CWL of 5,410 feet will be reached in 2022 in the Anselmo mine. There are multiple bedrock wells surrounding the Berkeley Pit that are considered compliance wells. This adds another layer of certainty that the Berkeley Pit water itself will be kept below the CWL of 5,410 and that the annual updates are valid.*

**Comments from the January 11, 2011 Public Meeting Transcript:**

Mr. Penhaligen – page 36, lines 18-20, 24-25, and page 37 lines 5-6:

“...but why are we waiting for the water to get to the critical stage in the Berkeley Pit to start that type of pumping and treating? ...Why are we waiting to get to that critical level? Because critical means critical. ...Isn't the Berkeley Pit getting higher?”

- *EPA Response: The critical water level is a level set at an elevation that the Pit water can never exceed. By pumping and treating the water at that level, you ensure that the bedrock aquifer contaminated water will not be released into other aquifers, and that bedrock groundwater always flows downhill towards the Pit, not away from the Pit. Making the critical water level lower would not further the protectiveness of the remedy.*