

September 22, 2003

Mr. Ray Cherniske  
Remediation Manager  
Molycorp, Inc.  
P.O. Box 469  
Questa, NM 87556-0469

SUBJECT: COMMENTS ON THE AUGUST 2003 DRAFT SUPPLEMENTAL  
CHARACTERIZATION PLAN FOR THE MOLYCORP, INC., WASHINGTON ,  
PA SITE

Dear Mr. Cherniske:

I am responding to your request for comments on the August 2003, draft Supplemental Site Characterization Plan for the Washington, PA site. We have completed the technical review of your request and offer the following specific section comments:

1. Section 1.1: This section of the document provides the general characterization project objectives. However, because of the site complexity, numerous unknown conditions, and the various types of site areas to be addressed, NRC recommends that a more formal data quality objective (DQO) section be developed for each site area that follows the guidance contained in the U.S. Environmental Protection Agency's *Data Quality Objectives Process for Hazardous Waste Site Investigations*; EPA/QA/G-4HW, January 2000. For example, site areas may require varying degrees of characterization survey information based on expected site conditions. This same guidance has been adapted into the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*.
2. Sections 1.2.5 and 1.2.6: These sections provide information on prior investigations and remedial actions. It is unclear, for some of the areas discussed, whether or not they are within the bounds of proposed characterization activities. It would be helpful if the land areas in these sections, where applicable, were cross-referenced to the appropriate land area nomenclature (Areas 1 through 10) used in Section 1.2.2 and elsewhere throughout the document. Alternatively, the investigated or remediated areas could be referenced to, and shown on, a site map that also includes the ten characterization area demarcations.
3. Section 4.1.1, Page 4-3: The bulletized list provides the procedure for performing gamma scans of investigated areas. NRC recommends that additional information be included regarding the method for determining the minimum, maximum, and average count rates. Furthermore, if not already planned, NRC recommends that the surveyor use the audio output to identify suspect locations of elevated activity requiring further investigation. NRC also recommends that rather than using the gamma radiation levels to reposition boring locations as discussed in the next paragraph, that any suspect locations identified during gamma walkovers be considered for judgmental sampling in addition to the proposed systematic locations discussed in later sections.

4. Sections 4.1.2.1, 4.1.2.2, and 4.1.2.3: NRC recommends that the document include additional information on what process was used to determine the number of sample locations in each characterization area. Alternatively, this information could be discussed in a formalized DQO section as discussed in Comment No. 1. This comment also applies as applicable to Sections 4.2, 4.2.1, 4.3.1, 4.4.2, and 4.5.1.
5. Section 4.1.2.1, Page 4-5, 3rd Paragraph: NRC recommends that additional information be provided regarding the decision process for core section analysis. As written, it is unclear what the intended process is for determining the depth intervals that will be analyzed. For instance, will each 1-foot section be analyzed or is the intended guidance to only analyze certain sections representing 1-foot intervals that exhibit elevated activity; or alternatively, is it intended to possibly composite and analyze the entire core? Furthermore, mixing English and metric units hinders clarity. Lastly, what is the technical basis for the intervals of interest? Again, a formal DQO presentation that outlines ultimate data use would be helpful. Site modeling applications to determine release criteria and an idea of the eventual compliance units—e.g., will compliance be based on concentrations over intervals of 15 centimeters, one meter, or some other interval—will necessitate that this information be known prior to implementing the plan.
6. Sections 4.2 through 4.8: The proposed characterization activities for the areas discussed in these sections concentrate primarily—with a few noted exceptions for Areas 4 and 6 in Sections 4.2 and 4.4, respectively—on chemical concerns. The plans for Areas 4 through 9 do not include gamma walkover surveys or radiological analyses, with the exception of radiological analysis of suspected NORM-containing refractory brick found in Area 4 and sediments from Chartiers Creek in Area 6.

The site history provided, although extensive and well documented, does not completely eliminate the possibility that these remaining areas have been impacted by site activities. For example, there are several references to possible slag disposal in some of the areas discussed in these Sections, albeit the slag is believed to not have been from the licensed operations. As another example, Section 4.9 states that within Area 10 “There are no records of slag or processed material ever being produced or stored in either of these areas; however...thorium was identified at a concentration greater than 10 pCi/g...” Therefore, NRC recommends that both gamma walkovers of judgmental areas and random and or judgmental radiological sampling be performed.

Although this characterization plan makes no reference to nor purports to follow the guidance in MARSSIM, NRC recommends that consideration be given to incorporating some of the MARSSIM principles in designing the characterization surveys for Areas 4 through 9 to address the preceding concern. Proper planning using these principles may assist with the eventual plans and requirements to release the site. That is, Areas 4 through 9 may be considered as Class 3 areas as defined in MARSSIM and an appropriate characterization survey that satisfies both the characterization and eventual final status survey objectives should be planned. Appropriate application of the DQO process would be necessary to achieve this objective.

General comments:

1. Please clarify the hydraulic conductivity testing that will be performed.
2. What is the reason for not analyzing for thorium or radon in the water samples?
3. How many water sampling events will be performed?
4. It is not clear that radiological background levels can be determined from one shallow bedrock well and one overburden monitoring well in Area 10. Therefore, it may be more appropriate to select a gross alpha concentration, that is independent of background levels, where additional radiological analyses are performed when this value is exceeded.
5. Although we have recommended the use of some of the principles of MARSSIM to assist in the characterization of the site, please note that your approved Decommissioning Plan requires Final Status Surveys to be conducted under the guidance contained in NUREG-5849.

If you would like to discuss these comments, please call me at 301-415-5869.

Sincerely,

***/RA/***

Thomas G. McLaughlin, Project Manager  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

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