

February 22, 2012

MEMORANDUM TO: Dominick A. Orlando, Senior Project Manager  
Special Projects Branch  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

FROM: Zahira Cruz, Geotechnical Engineer **/RA/**  
Special Projects Branch  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

SUBJECT: REVIEW OF THE UMETCO MINERALS CORPORATION FINAL  
CONSTRUCTION COMPLETION REPORT ADDENDUM I FOR THE  
EAST GAS HILLS RECLAMATION PROJECT ENHANCEMENT  
CONSTRUCTION OF THE ABOVE-GRADE TAILINGS  
IMPOUNDMENT AND A-9 REPOSITORY EROSION PROTECTION  
SYSTEM

By letter dated Friday, January 13, 2012, Umetco Minerals Corporation (Umetco) submitted the Final Construction Completion Report Addendum I for the Above-Grade Tailings Impoundment (AGTI) and A-9 Repository Erosion Protection Enhancement Construction. This report documents the completion of enhancements and repair activities of the erosion protection cover at Umetco's Gas Hills Reclamation Project in Natrona and Fremont Counties, Wyoming.

On December 21, 2010, Umetco submitted a request for approval of an enhanced erosion protection design for the erosion protection later of the rock cover to address sub-grade erosion which resulted in shallow incisions in the erosion protection layer. Umetco also proposed installing multi-layer filters zones on the up and down stream sides of the Launch Rock structure (located on the northeast portion of the AGTI) to reduce erosion and repair erosion sink holes that have developed upstream of the Launch Rock structure. In addition, Umetco proposed repairing the erosion control apron on the southeast corner of the AGTI by placing riprap around the apron channel. On May 9, 2011, Umetco submitted a revised design report in response to NRC's request for additional information dated April 20, 2011. The staff approved the erosion protection enhancement/repairs as License Condition 63 of the License Amendment 64 to Umetco's Materials License No. SUA-648. The staff's Environmental Assessment and Technical Evaluation Report were issued on August 11, 2011 and August 22, 2011, respectively.

CONTACT: Z. Cruz, FSME/DWMEP  
(301) 415-3808

The construction completion report Addendum I describes the erosion protection enhancement/repairs performed in 2011, and includes descriptions of bedding material placement, quarry material, 30/70 blend bedding material production, and documents the results of all quality control testing performed to demonstrate that the construction was performed in accordance with the approved Plans and Specifications. The report also includes tabulations of in-place bedding material gradation tests and field depth verification checks.

Based on its review, the staff concludes that enhancement/repair activities at the Umetco's Gas Hills site were performed in accordance with the requirements in the approved Umetco erosion protection enhancement design report. The staff reviewed field and laboratory test records and determined that the material placement was in accordance with the project specifications and confirmed that the specified testing frequencies were met. This review was supported by an inspection in September 2011. The staff plans a final inspection in June 2012.

During its review, the staff noted that Type A mean diameter ( $D_{50}$ ) cited in the NRC staff's Technical Evaluation and Environmental Assessment is 0.5 inches. Section 3.1.2 of the design report states that the design  $D_{50}$  is 0.5 inches, but the actual  $D_{50}$  is 1 inch based on average field gradations. The construction completion report confirms that the actual Type A  $D_{50}$  is 1 inch. The staff finds the actual  $D_{50}$  acceptable and safety of the design is not affected.

If you have any questions regarding this evaluation, please contact me at 301-415-3808 or by email at [Zahira.Cruz@nrc.gov](mailto:Zahira.Cruz@nrc.gov).

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<b>OFC</b>	DWMEP	DWMEP	DWMEP
<b>NAME</b>	ZCruz	TRowe	ZCruz
<b>DATE</b>	2/21 /12	2/ 21 /12	2/22/12

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