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Date: January 22, 2008
Refer To: EP2008-0017

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Response to Notice of Disapproval for the Investigation Report for Consolidated Units 16-007(a)-99 and 16-088(a)-99 and Revision 1

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the response to notice of disapproval (NOD) for the investigation report for Consolidated Units 16-007(a)-99 and 16-088(a)-99 and Revision 1 of that report. Also enclosed is an electronic copy of a redline/strikeout version of the report showing the changes made in response to the NOD. A cross-reference table detailing the revisions to the original work plan that cross-references the New Mexico Environment Department's comments is also included.

If you have any questions, please contact Don Hickmott at (505) 667-8753 (dhickmott@lanl.gov) or Woody Woodworth at (505) 665-5820 (lwoodworth@doeal.gov).

Sincerely,

Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

SS/DG/DM/DH:sm

Enclosures: Two hard copies with electronic files:
1) Response to the Notice of Disapproval for the Investigation Report for Consolidated Units 16-007(a)-99 and 16-088(a)-99 (EP2008-0017) and CD with ProUCL input/output files
2) Investigation Report for Consolidated Units 16-007(a)-99 and 16-088(a)-99, Revision 1 (EP2008-0018)
3) An electronic copy of the redline-strikeout version of the plan that includes all changes and edits to the document
4) Cross-reference table of NMED comments

Cy: (w/enc.)
Woody Woodworth DOE-LASO, MS A316
Kevin Reid, TPMC
Don Hickmott, EES-6, MS M992
RPF, MS M707 (with two CDs)
Public Reading Room, MS M992

Cy: (Letter and CD only)
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
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Tom Skibitski, NMED-OB, Santa Fe, NM
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Susan G. Stiger, ADEP, MS J591
Carolyn A. Mangeng, ADEP, MS J591
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Dave McInroy, EP-CAP, MS M992
IRM-RMMSO, MS A150

Cross-Reference of NMED's Comments to Report Sections and Pages

NMED Comment	Original Report Section	Original Report Page No.
1. Borehole locations 16-26642, 16-26648 and 16-26649 are not depicted on the Figure 4.1-1. These locations are also not included in the Table (6.2-1) that lists all samples collected at 16-008(a)-99. Explain why the analytical results for samples collected from these three locations are not included in the IR.	Table 4.2-1 has been revised.	59
2. Table J-6.0-1 of Appendix J lists New Mexico Water Quality Control Commission (NMWQCC) domestic water supply surface water standards for barium and beryllium. The maximum detected concentrations of barium (6,700 µg/L and 67,000 µg/L in filtered and unfiltered samples, respectively) exceed the standard (2,000 µg/L) for both filtered and unfiltered samples. The maximum detected concentration of beryllium (32.3 µg/L in unfiltered samples) exceeds the standard (4 µg/L). Revise the text to state that barium and beryllium were detected above their respective cleanup standards in surface water.	Sections 7.3.3 and J-6.1 and Table J-6.0-1	38, J-24, J-90
3. There is widespread residual low level contamination of high explosives, and inorganic and organic chemicals at consolidated unit 16-008(a)-99. The 90s Line Pond receives water from seasonal precipitation as well as storm water runoff from surrounding areas. Water accumulates in the pond and standing water is present in the pond for most of the year. NMED is concerned that this is a source of subsurface contaminant migration. Additionally, since water leaves the pond both by infiltration into the subsurface and by evaporation, this could result in increasing concentrations of contaminants in the pond sediments. The Permittees must propose measures to address this concern in the next phase of investigation to be conducted at the site.	Executive Summary, Sections 4.5, 7.2.2, 7.3.2, 7.3.3, and 8.0	vi, 22, 36, 37, 38, 40
4. Nickel was detected at concentrations (e.g., 104 mg/kg at location 16-26737) greater than the background value (15.4 mg/kg) in the drainage near the confluence with Cañon de Valle. Samples were collected from only one depth and no samples were collected downgradient of this location in the 90s Line drainage. Lateral and vertical extent of nickel in the 90s Line drainage is not defined. Revise the text accordingly. At location 16-26687, chromium VI was not detected in the sample collected from a depth of 4.2-6.2 ft, but was detected in the sample collected from 8.0-9.4 ft below ground surface (bgs). The concentrations increased rather than decreased with depth at this location. Revise the text accordingly.	Sections 6.2.1.3, 7.3.1, 8.0, and I-6.1.1 Sections 6.2.1.3, I-6.1.1	32, 36,40, I-18 32, I-19
5. Table I-4.8-1 reports HMX and RDX as being detected at 21 µg/L and 281 µg/L, respectively. Resolve the discrepancy and revise the table or text accordingly.	Section I-6.3.2	I-29
6. The discussion on page J-4 indicates that the exposure scenarios addressed in the human health risk evaluation utilized analytical results between 0 and 11 feet bgs. The Permittees must explain how exposure of potential receptors to contamination at depths greater than 11 feet bgs would be prevented (e.g., controls to prevent excavations deeper than 11 feet bgs).	No changes to text needed.	
7. ProUCL 4.0 was used to calculate the majority of the exposure point concentrations (EPCs) used in the human health risk evaluation. However, the ProUCL input and output files were not included with the IR. The Permitttees must submit electronic copies of the ProUCL 4.0 input and output files used in estimating EPCs. This information is needed to review the application of ProUCL 4.0 and confirm the reported results.	No changes to text needed. Data included on attached CD.	

NMED Comment	Original Report Section	Original Report Page No.
8. The text neither identifies the chemicals of potential concern (COPCs) adjusted nor illustrates the calculation method used to make the adjustment. Revise text or Table J-4.1-1 to indicate COPCs for which no NMED screening level was available and that an alternate screening level was taken from another source and adjusted to a 1 x 10-5 target risk.	Section J-4.1	J-11
9. The last paragraph indicates that the EPCs for inorganic COPCs are similar to background concentrations. The Permittees assert that if aluminum and manganese were removed from the hazard index (HI) calculation based on background considerations, the calculated HIs for the construction worker would fall below the NMED target HI of 1.0 for both 16-007(a)-99 and 16-008(a)-99. The text offers no other information supporting this statement. The Permittees must provide quantitative analysis that demonstrates detected concentrations of inorganic COPCs are equivalent to or less than background concentrations.	Executive Summary, Sections J-4.3.2, 7.2.1, and7.4.1	v, J-13, 35, 39
10. The interpretation of the human health risk evaluation for Consolidated Unit 16-007(a)-99 notes that the HI for the construction worker scenario (reported as 8.7 in Section J-4.3.2, Exposure Evaluation) was above the NMED target HI of 1.0. The discussion further notes that the HI is reduced to approximately 1.0 "...based on the uncertainty analysis..." presented in Section J-4.3. While Section J-4.3 identifies and discusses various sources of uncertainty inherent in the human health risk evaluation, sufficient information to support a decrease in the calculated HI is not provided, nor is sufficient information furnished in Section J-4.4. Revise the interpretation of the HI for the construction worker at Consolidated Unit 16-007(a)-99 to either include or reference the location, of a quantitative analysis, based on site data, demonstrating that the EPCs for aluminum and manganese are the same as the approved background concentrations. If such a presentation cannot be provided, present the HI of 8.7 for the construction worker as a final result of the human health risk analysis. The interpretation of the human health risk evaluation for Consolidated Unit 16-008(a)-99 notes that the HI for the construction worker (reported as 3.8 in Section J-4.3.2, Exposure Evaluation) was above the NMED target HI of 1.0. The discussion further notes that the HI is reduced to approximately 0.2 "...based on the uncertainty analysis..." presented in Section J-4.3. While Section J-4.3 identifies and discusses various sources of uncertainty inherent in the human health risk evaluation, sufficient information to support a decrease in the calculated HI is not provided, nor is sufficient information furnished in Section J-4.4. Revise the interpretation of the HI for the construction worker at Consolidated Unit 16-008(a)-99 to either include or reference the location, of a quantitative analysis demonstrating that the EPCs for aluminum and manganese are the same as the approved background concentrations. If this cannot be provided, present the HI of 3.8 for the construction worker as a final result of the human health risk analysis.	Executive Summary, Sections J-4.3.2, J-4.4, 7.2.1, and 7.4.1	v, J-13, 35, 39

NMED Comment	Original Report Section	Original Report Page No.
11. Terrestrial receptors were the focus of the entire ecological risk screening effort to determine site ecological risk conditions. However, the risk conclusions do not thoroughly describe any receptor-specific lines of evidence that assess realistic considerations typically described within the risk characterization (e.g., exposure pathway completeness to subsurface soil, size of area in relation to habitat or home range). The only receptor-specific considerations used in the IR are the use of population area use factors (AUFs) as part of the hazard quotient (HQ) process. However, there is no supporting narrative within the text that integrates these lines of evidence into the risk characterization. The Permittees must include a summary risk characterization for each receptor evaluated. These summary descriptions should describe the realistic exposure settings, the uncertainties identified in the characterization process, and a summary of any risk concerns.	No changes to text needed.	
12. Each of these subsections should provide a concise statement describing the status of any threatened and endangered species associated with the sites. It is unclear if any such species are present within or adjacent to the sites evaluated. Provide a summary of the threatened and endangered species status, appropriate assessment endpoints, if needed, and any supporting habitat maps that depict critical information describing their occurrence.	Section J-5.2, Attachment J-1	J-16, J1-2
13. There are summary statements within each Consolidated Unit assessment noting that plant observations support the findings of no risk to this community. It is unclear if field observations and scientific studies were conducted to measure on-site phytotoxicity conditions. Please revise each of these subsections to provide the supporting field observation information or scientific studies that support the no risk conclusions for plants.	Section J-5.2, J-5.5-6, Attachment J-1	J-16, J-21, J1-2
14. This section provides an assessment of surface water and groundwater risk conditions by comparing sample results to applicable criteria. This section relies, in part, upon the use of standards protective of aquatic life. However, per the ecological risk screening approaches, aquatic life was not identified as being a suitable receptor population. The Permittees must review the text within this subsection and revise, if appropriate, the stated assumptions that aquatic life is not considered a receptor group of concern and that the use of the criteria within this section is strictly a tool to identify any chemicals requiring further evaluation.	No changes to text needed.	
15. Cadmium was retained as a chemical of potential concern (COPC) for soil, fill, and tuff in Sections I-4.1.1, I-4.1.2 and Table I-2.0-1of Appendix I, but was not included in the Table J-2.2-4. The detection limits for cadmium in samples collected for 16-008(a)-99 were above the background values. Revise Table J-2.2-4 and associated risk evaluation tables to include cadmium.	Appendix J	J-39, J-42, J-45, J-55, J-67, J-70, J-73, J-81, J-84
16. Table J-4.2-11 lists a Construction Worker Soil Screening Level (SSL) of 2.33E+04 milligrams per kilogram (mg/kg) for di-n-octylphthalate. According to footnote g, the value is for a surrogate, di-n-butylphthalate. However, Table J-4.2-9, Comparison of Noncarcinogenic COPCs to SSLs for the Industrial Scenario at Consolidated Unit 16-008(a)-99, lists a value of 2.5E+04 mg/kg which is based on the value available in the EPA Region 9 PRG Table. Revise footnote g of Table J-4.2.-11 to explain why a surrogate was used instead of the value listed in Table J-4.2-9 for di-n-octylphthalate.	Appendix J, Table J-4.2-11	J-71
17. According to text in Section 7.3.3, mercury exceeded the NMWQCC surface water wildlife habitat standard and lead exceeded the NMWQCC surface water livestock standard. Both mercury and lead should have been included in the Table J-6.0-1. Revise the table to include both mercury and lead.	Sections 7.3.3 and J-6.1 and Table J-6.0-1	38, J-24, J-90

NMED Comment	Original Report Section	Original Report Page No.
18. According to the approved work plan (March 2005), the Permittees should have collected three samples near the previous sampling location 16-02377. However, the figure depicts only one 2006-2007 sampling location (i.e., 16-26676). Explain why only one sample was collected instead of three, as proposed. Four shallow boreholes were proposed for 90s Line Pond (depicted by orange squares in Figure 4.2-1b of the 2005 Workplan). The borehole that should have been drilled at the southwestern edge of pond is not depicted in the figure. Please clarify if the borehole was drilled, and if samples were collected at this location.	Appendix C, Section C-2.3.3	C-3