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Mr. David Cobrain
Hazardous Waste Bureau
2905 Rodeo Park Dr. E/Bldg 1
Santa Fe, NM 87505

RE: Evaluation of the Response to Technical Review Comments on the *Phase II Investigation Report for the TA-16-340 Complex [Consolidated Units 13-003(a)-99 and 16-003(n)-99 and Solid Waste Management Units 16-003(o), 16-026(j2), and 16-029(f)]*, Los Alamos National Laboratory, New Mexico

Dear Mr. Cobrain:

This letter addresses draft evaluations of the responses to technical review comments on the *Phase II Investigation Report for the TA-16-340 Complex [Consolidated Units 13-003(a)-99 and 16-003(n)-99 and Solid Waste Management Units 16-003(o), 16-026(j2), and 16-029(f)]*, Los Alamos National Laboratory (LANL), New Mexico (December 2008). Unless specifically discussed below, the response to the Notice of Disapproval (NOD) was adequate as presented.

General Comment No. 1

This comment requested a explanation of why soil around the 7500 foot contour line that exhibited elevated levels of benzo(a)pyrene and arsenic was not included in the removal action. LANL justified leaving this soil in place due to the following rational:

- The steepness of the terrain would make industrial use highly unlikely, and
- Risk levels could be obtained without including this soil in the removal action.

The rationale of the complexity of terrain is reasonable and it is agreed that development of the site to include areas on the steeper slopes is not probable. However, the condition that risk levels could be met was not demonstrated in the risk assessment. As noted in the response, LANL indicates that the industrial risk level of 1E-05 was slightly exceeded [risk for solid waste management unit (SWMU) 16-003(o) was 3E-05]. Because LANL is using terrain as one of the lines of evidence to support acceptable industrial risk, land use controls may be warranted limiting development on the steeper terrain that was excluded from remediation.

General Comment No. 4

In response to this comment, LANL revised the risk assessment to include an evaluation of the construction worker scenario. It is noted that the resulting risk assessment shows an elevated hazard index for all of the sites. The primary drivers are aluminum (at all sites) and manganese

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[at all except SWMUs 16-026(j2) and 16-029(f)]. The revised report indicates that "EPCs [exposure point concentrations] for these inorganic COPCs [constituents of potential concern] are within the range of background concentrations or less than twice the maximum tuff background concentrations. In addition, for the construction worker scenario, the manganese SSL [soil screening level] is within the range of background concentrations. The HIs [hazard indices] without these inorganic COPCs are less than the NMED target HI of 1.0 (NMED 2006, 092513) for the construction worker scenario". The inhalation pathway is the most significant pathway for exposure to these metals and in particular, manganese. In reviewing the data for aluminum and manganese, it does not appear that the site concentrations fall within the background range of concentrations for soil or tuff and that it appears unlikely that a site attribution analysis (i.e., comparing the populations using a test such as the Wilcoxon Rank Sum test) would conclude that the datasets are statistically similar. It is suggested that engineering controls be used in the event that the site is ever developed to mitigate excess inhalation exposure to a construction worker.

Additional/New Comments

1. Upon additional review of the data presented in Appendix I, Table I-2.3-5, a question arose concerning how some of the EPCs were determined. For several chemicals, the EPC method listed is the maximum detected concentration; however, the datum provided for the EPC does not correlate with the maximum detected concentration. For example, for 1,2-cis-dichloroethene the table lists one detection out of 19 samples, with a minimum concentration of 0.001 milligrams per kilogram (mg/kg), a maximum concentration of 0.021 mg/kg, an average concentration of 0.003 mg/kg, and the resulting EPC of 0.002 mg/kg. It is unclear if there was only a single detection, why the minimum, maximum, average, and EPC are not the same value. In several instances, a similar issue was noted. Please clarify why the EPCs listed as being representative of the maximum detected concentration do not coincide with the maximum concentration listed on the table. Please note that this comment applies to all of the data summary tables provided in Appendix I.

If you or any of your staff have questions, please contact me at (801) 451-2864 or via email at paigewalton@msn.com.

Thank you,

Paige Walton

Paige Walton
AQS Senior Scientist and Project Lead

cc: Neelam Dhawan, NMED (electronic)
Joel Workman, AQS (electronic

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