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NMED Hazardous Waste Bureau

February 11, 2005

Mr. David Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505-6303

Reference: Work Assignment No. 06110.290.0002; State of New Mexico Environment Department, Santa Fe, New Mexico; Human Health and Ecological Risk Assessment Support; Risk Assessment Review of the Technical Area 53 (TA-53) Investigation/Remediation Report, Task 2 Deliverable.

Dear Mr. Cobrain:

Enclosed please find the deliverable for the above-referenced work assignment. The deliverable consists of risk assessment review comments on the Los Alamos National Laboratory's (LANL) "TA-53 Investigation/Remediation Report," dated January 2004.

The risk assessment consisted of a comparison of site concentrations to Region 6 outdoor worker screening levels. While labeled an outdoor worker, the screen does not allow for a construction worker scenario. The Region 6 screening values for the outdoor worker closely correlate to the industrial screening levels in New Mexico's Soil Screening Guidance. However, the Region 6 outdoor worker levels may underestimate risk to a construction worker. As an example, the Region 6 outdoor worker screening level for antimony is 450 mg/kg, compared to the New Mexico industrial level of 454 mg/kg. However, the New Mexico screening level for antimony under a construction scenario is 124 mg/kg. Thus, if the Region 6 values for an outdoor worker are to be applied, the site should be limited to non-intrusive activities. If at any time in the future, the site is to be developed (i.e., a building constructed), additional analyses will be required to ensure protection of a construction worker. A comment has been drafted concerning this issue.

The risk assessment applied the 95% upper confidence level (UCL) on the mean as the exposure point concentrations. Typically in a screening assessment, the maximum detected concentration is applied, to add a level of conservatism. However, the New Mexico Soil Screening Guidance allows for the use of either the maximum or the 95% UCL, if deemed appropriate by the NMED. In reviewing the data, none of the maximum

detected concentrations for organic or inorganic constituents exceeded the screening action levels (SAL) for the industrial outdoor worker. For the radionuclides, only cobalt-60, cesium-134, sodium-22, and tritium had maximum detects above their respective industrial SALs. It does not appear that use of the maximum detected concentrations would have affected the outcome of the industrial screen, therefore, the use of the 95% UCLs is acceptable.

The document is formatted in Word. A draft of the deliverable was emailed to you on February 11, 2005 at David_Cobrain@nmenv.state.nm.us and to Ms. Darlene Goering at Darlene_Goering@nmenv.state.nm.us. A finalized hard (paper) copy of this deliverable will be sent via mail. If you have any questions, please call me at (303) 763-7188 or Ms. Paige Walton at (801) 451-2978.

Sincerely,

June K Dreith

June K. Dreith
Program Manager

Enclosure: Review Comments on the TA-53 Investigation/Remediation Report

cc: Ms. Darlene Goering, NMED
Ms. Paige Walton, TechLaw

TASK 3 DELIVERABLE

REVIEW COMMENTS ON THE TA-53 INVESTIGATION/REMEDIATION REPORT

Human Health and Ecological Risk Assessment Support

Submitted by:

TechLaw, Inc.
560 Golden Ridge Road
Suite 130
Golden, CO 80401-9532

Submitted to:

Mr. David Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505

In response to:

Work Assignment No. 06110.290

February 11, 2005

REVIEW COMMENTS ON THE TA-53 INVESTIGATION/REMEDIATION REPORT

General Comments

1. The risk assessment consisted of a comparison of site concentrations to Region 6 outdoor worker screening levels. While labeled an outdoor worker, the screen does not allow for a construction worker scenario. The Region 6 screening values for the outdoor worker closely correlate to the industrial screening levels in New Mexico's Soil Screening Guidance. However, the Region 6 outdoor worker levels may underestimate risk to a constructions worker. While the Region 6 levels incorporate a longer exposure duration, the soil ingestion rate is considerably less than that recommended for a construction worker (EPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Site, March 2001 and New Mexico Soil Screening Guidance, August 2004). For example, the Region 6 outdoor worker screening level for antimony is 450 mg/kg, compared to the New Mexico industrial level of 454 mg/kg. However, the New Mexico screening level for antimony under a construction scenario is 124 mg/kg. Thus, if the Region 6 values for an outdoor worker are to be applied, the site should be limited to non-intrusive activities. If at any time in the future, the site is to be developed (i.e., a building constructed), additional analyses will be required to ensure protection of a construction worker.

2. There is concern over the elimination of chemicals detected in less than 5% of samples. EPA guidance (*Risk Assessment Guidance for Superfund* [RAGS], 1989) allows for the elimination of chemicals from a risk assessment if it is detected infrequently (e.g., less than 5% per 20 samples), not detected in other sampled media, and/or if there is no reason to believe the chemical may be present. However, RAGS clearly states that, "chemicals expected to be present should not be eliminated" from the risk assessment. LANL should clarify that if there is any evidence that a constituent has been historically present at the site, and if waste data and/or history indicates that the constituent could be present as a result of site activities, then this constituent should be included in the risk assessment. For each constituent excluded from the risk assessment based upon the frequency of detection, discuss whether the chemical could be present as a result of site activities. If there is evidence that the chemicals could be present, revise the risk assessment to include these chemicals.

3. There were several non-naturally occurring radionuclide included in the RESRAD analyses (Eu-152, Eu-154, Eu-155, I-129, Np-237, Pu-240, Ru-106, and Tc-99) that were not included in the risk assessment screen. In addition, while it is noted that the thorium isotopes are products of decay, thorium was not included in risk assessment, but was addressed in RESRAD. Also, it is noted that Cs-134 was not include in the RESRAD modeling. Discuss the differences in the radionuclides that were included as constituents of potential concern for the risk assessment and those included in the RESRAD analysis.

Specific Comments

1. Section 2.2, Related SWMUs or AOCs. While it is understood from the text that data collected from Area of Concern (AOC) 53-008 were included as characterization data to determine the nature and extent of contamination for the combined Solid Waste Management Unit (SWMU) 53-002(a)-99, clarify whether these data were used in the risk assessment for SWMU 53-002(a)-99.