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FACSIMILE AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

October 31, 2005

Vicki Loucks
Los Alamos Site Office
Department of Energy
528 35th Street, Mail Stop A316
Los Alamos, NM 87544

RE: LAND TRANSFER OF TRACT A-18-b (TA-74 SOUTH-B)
LOS ALAMOS NATIONAL LABORATORY, EPA ID #NM0890010515

Dear Ms. Loucks:

The New Mexico Environment Department (NMED) is in receipt of the Department of Energy's (DOE) written notice to transfer Tract A-18-b (TA-74 South-b) to Los Alamos County (transferee). The tract contains solid waste management units (SWMUs) 19-001, 19-002, 19-003, and area of concern C-19-001. The corrective measures performed at these SWMUs were reported in the *Remedy Completion Report for the Investigation and Remediation of Consolidated Unit 19-001-99 (Former TA-19/East Gate Laboratory) (Report)*, referenced by LA-UR-05-0975/ER2005-0068 and dated July 2005.

The transferee intends to use the land for recreational purposes. NMED has determined that the corrective measures implemented at these SWMUs are not protective of human health and the environment in light of the transferee's intended use. The DOE must complete the additional corrective action requirements described in this letter with regard to this property. NMED requires that these additional activities be completed prior to transfer.

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General Comments:

1. The Report provided a screening evaluation of human health and ecological risks to determine whether remedial action is warranted at the site. As part of an initial screening evaluation, the maximum detected site concentration is typically first used and not the 95% upper confidence level (95% UCL) on the mean. If the maximum detected site concentration exceeds a Soil Screening Levels (SSL), then additional analyses are conducted and the 95% UCL is then used as the exposure point concentration. It is noted that according to the "Screening-Level Ecological Risk Assessment Methods, Revision 2" (LA-UR-04-8246/ER2004-0519) either the maximum or the 95% UCL may be used, depending on sample size and spatial distribution. As there are concerns over the nature and extent of contamination at the site, a comparison of the site maximum detected concentrations to the SSL would be helpful in addressing uncertainties with characterization. The Permittees must provide a table comparing the maximum site concentrations to the appropriate SSLs. In addition, for future screening assessments, the site maximum detected concentrations are preferred as the first step in screening.

2. The Report indicates that one of the land uses is for recreational activities. However, the Report does not address comparison of site data to the Los Alamos National Laboratory recreational screening levels ("Draft Technical Approach for Calculating Recreational Soil Screening Levels for Chemicals" LA-UR-04-7743/ER2004-0610) nor does the Report provide a comparison of recreational levels to residential levels. If a specific comparison to recreational levels is not to be conducted, then the Permittees should provide a discussion indicating that the residential screening levels are more conservative than the recreational levels, and therefore, the risks to the recreationist would be less than those estimated for the resident. The Permittees must revise the Report to provide this analysis and/or discussion.

3. It is noted that screening levels were applied from primarily two sources, including the SSL for NMED and the Environmental Protection Agency (EPA) Region 6 SSLs. It is noted that the most conservative SSL was not always applied. For example, for polychlorinated biphenyls (PCBs), the Region 6 SSL is 2.22 mg/kg while the NMED SSL is 1.12 mg/kg. However, a comparison to both the NMED and Region 6 SSL indicated that the exposure point concentrations were below both values. In the future, the more conservative of the Region 6 or the NMED SSLs (or other screening levels applied) should be used. Please note this for future evaluations.

Specific Comments:

1. Section 2.5.3.1 Inorganic Chemical Data, pg. 9:

The Permittees have eliminated calcium and magnesium as contaminants of potential concern (COPCs) because they are essential nutrients. While studies have indicated that calcium is

relatively non-toxic, studies have shown there to be an upper intake limit for magnesium. The United States Department of Agriculture Food Safety and Inspection Service and the National Academy of Science Food and Nutrition Board have developed upper intake levels (ULs) which should be applied in determining a soil screening level (SSL) that should be used in assessing essential nutrients toxicity. If site concentrations of magnesium are below the SSL, they may be eliminated from further consideration in the risk assessment. The Permittees shall revise the risk assessment accordingly.

2. Section 4.2.2.1 PAH Screening by Immunoassay, pg. 18:

As stated in the approval letter for the work plan, the Permittees were to provide additional information on the PAH field test kit. The information was to include calibration procedures, and the amount, type, and frequency of quality control samples suggested by the test kit's manufacturer. The Permittees must provide this information.

3. Section 4.2.4 Nature and Extent, Inorganic COPCs, pg.22:

The Permittees have not offered an explanation for the elevated cobalt and chromium detections on the mesa top and south slope of the site at depth (between 4 and 6.5 feet). The fact that chromium is not detected above 4 feet does not reasonably suggest that the chromium below this depth is not the result of undocumented or unknown historical operations at TA-19, as the Permittees claim in this section. The fact that chromium and cobalt are increasing with depth does not support the Permittees' statement that "the extent of inorganic chemical contamination has been defined for this CU." The chromium levels are increasing with depth at five locations (19-22608, 19-22615, 19-22627, 19-22630, and 19-22631). Cobalt levels are also increasing with depth at these same locations. This suggests a release may have occurred from the former buildings or another contamination source exists that has not been identified. The Permittees did not determine the extent of these contaminants at these locations before performing the risk assessment. The Permittees must resample theses locations to determine the extent of contamination and, if the additional data warrant, revise the risk assessment using a residential scenario based upon a depth of ten feet below ground surface.

4. Section E-2.1 Historical Analytical Data, pg. E-5:

The discussion of historical data indicates that Cesium-137 (Cs-137) and Europium-152 (Eu-152) were detected in soil and/or tuff. However, it is not clear that these radionuclides were evaluated in the risk assessment, as these radionuclides were not addressed in the tables or plots comparing site data to background. The Permittees must discuss the detected site concentrations in relation to background. If warranted, the Permittees must revise the risk assessment to address these radionuclides.

5. Table E-3.1-2 CU 19-001-99 Carcinogenic Screening Evaluation, pg. E-38:

This table presents the carcinogenic screening evaluation for the constituents of concern. However, several chemicals with carcinogenic toxicity have been omitted, including beryllium, cadmium, and cobalt. Many chemicals exhibit both carcinogenic and noncarcinogenic toxicity, and both toxicities must be evaluated in a risk screen. The Permittees must either provide justification for excluding these metals from the carcinogenic screening or revise the screening to include these metals.

6. Table E-3.1-3 CU 19-001-99 Noncarcinogenic Screening Evaluation, pg. E-39:

This table presents the noncarcinogenic screening evaluation for the constituents of concern. However, several chemicals with noncarcinogenic toxicity have been omitted, including arsenic, chromium, bis(2-ethylhexyl)phthalate, isophrone, DDT, and dieldrin. Many chemicals exhibit both carcinogenic and noncarcinogenic toxicity, and both toxicities must be evaluated in a risk screen. The Permittees must either provide justification for excluding these metals from the noncarcinogenic screening or revise the screening to include these metals.

7. Table E-3.1-3 CU 19-001-99 Noncarcinogenic Screening Evaluation, pg. E-39:

This table lists the SSL for Uranium-235 (U-235) as 17 mg/kg. However, in reviewing "Derivation and Use of Radionuclide Screening Action Levels, Revision 1" (LA-UR-05-1849/ER2005-0127), the screening action level for U-235 is in units of pico Curie per gram (pCi/g) and not mg/kg. Therefore, the application of the SSL of 17 mg/kg is not correct. Using a basic conversion equation, 0.15 pCi/g of U-135 is equivalent to 1 mg/kg U-235. Therefore, the SSL in units of mg/kg should be 0.26 mg/kg. The 95% UCL for U-235 is listed as 0.26 mg/kg, which is essentially equal to the SSL. Therefore, U-235 does not appear to be present at levels above acceptable risk limits. However, the Permittees must verify the SSL for U-235 and verify the units for the screening level.

Should you have any questions, please feel free to contact Darlene Goering at (505) 428-2542.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:dxg

cc: D. Goering, NMED HWB

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file: Reading and LANL '05 (Land Transfer)