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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

November 13, 2006

David Gregory  
Federal Project Director  
Los Alamos Site Office  
Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, NM 87544

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Laboratory  
P.O. Box 1663, Mail Stop M992  
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATIONS FOR THE SUPPLEMENTAL INVESTIGATION WORK PLAN FOR SAMPLING AT MATERIAL DISPOSAL AREA L, SOLID WASTE MANAGEMENT UNIT 54-006 AND THE SAMPLING AND ANALYSIS PLAN FOR IMPOUNDEMENTS B, C, AND D AT MATERIAL DISPOSAL AREA (MDA) L, SOLID WASTE MANAGEMENT UNIT 54-006, AT TECHNICAL AREA 54, LOS ALAMOS NATIONAL LABORATORY (LANL)  
EPA ID #NM0890010515, HWB-LANL-06-020**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) has received and reviewed the United States Department of Energy and the Los Alamos National Security, LLC's (collectively, the Permittees) *Supplemental Investigation Work Plan for Sampling at Material Disposal Area L, Solid Waste Management Unit 54-006* and the *Sampling and Analysis Plan for Impoundments B, C, and D at Material Disposal Area L, Solid Waste Management Unit 54-006, Revision 1*, dated October 2006 and referenced by LA-UR-06-7348/EP2006-0906 and LA-UR-06-7347/EP2006-0925, respectively. NMED hereby issues this Approval with Modifications for the aforementioned documents. NMED makes the following modifications to the proposed work:



11962

**Comments on the Supplemental Investigation Work Plan for Sampling at Material Disposal Area L, Solid Waste Management Unit 54-006**

**1) Section 3.1 Field Screening, page 5:**

**NMED Comment:** The Permittees state that a Brüel and Kjaer (B&K) monitor will be used for vapor phase field screening of VOCs and a Photoionization Detector (PID) equipped with an 11.7 eV lamp will be used to field screen core samples for VOCs. NMED requires the Permittees to use both the PID and B&K monitor for vapor phase field screening of VOCs. NMED does not require field screening of core samples for VOCs because the headspace cannot be contained. Results will therefore be unreliable.

**2) Section 4.6 Collection of Pore-Gas Samples, page 7:**

**NMED Comment:** The Permittees proposed analyzing pore-gas samples for VOCs and moisture. Tritium was detected in borehole 54-24241 (BH D-1) at a concentration of 19,500 pico-curies per liter (pCi/L) at a depth of 154-156 feet -- nearly 5 times higher than the concentration of 3,820 pCi/L reported at a depth of 15-17 feet in the same borehole. Similar conditions were observed in borehole 54-24242 (BH-A), where tritium was detected at a concentration of 2,560 pCi/L at a depth of 15-17 feet and 12,000 pCi/L at a depth of 100-102 feet. An increase in tritium concentrations with depth suggests the likelihood of preferential pathways for downward transport of contaminants beneath the site that may result in more rapid contaminant transport toward the regional water table. The Permittees must therefore include tritium in the vapor sampling analytical suite.

**3) Table 4.4-1 Proposed Sample Descriptions and Rationale, page 19:**

NMED stated in the Notice of Disapproval (NOD) dated August 25, 2006, that “[p]ore-gas samples must be collected at a minimum of one sample for every 50 feet of boring including depths corresponding to the depths of tuff sample collection and depths corresponding to the pore-gas sampling ports in boreholes A, B, C, E, F, and G...” The Permittees state in their Supplemental Plan that, “Pore-gas samples will be collected at the sampling port with the highest concentration of VOCs and at the deepest instrumented sampling port.” Collecting vapor samples from two sampling ports will not accomplish the goal of obtaining corresponding data from the existing boreholes. The Permittees must collect vapor samples in the existing boreholes at 20 feet, 80 feet, and the deepest instrumented sampling port. These depths correspond to the proposed pore-gas sampling intervals in the three new boreholes and target each of the stratigraphic units present at MDA L.

**Comments on the Sampling and Analysis Plan for Impoundments B, C, and D at Material Disposal Area L, Solid Waste Management Unit 54-006, Revision 1**

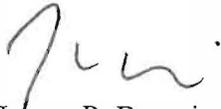
**1) Section 3.1 Borehole Drilling, page 5:**

NMED concurs with the 18 proposed borehole locations. However, in order to confirm the presence of the ramps shown in Figure 3.1-1, the Permittees must drill the additional boreholes identified on the attached figure. As with all other borings, these additional boreholes must be advanced using the direct push method. The Permittees must advance all boreholes beyond the sludge/tuff interface to ensure that the entire contents of the impoundments have been sampled. The Permittees are not required to collect a sample of the tuff below the base of the impoundments.

The Respondents must document in the Supplemental Investigation Report all activities conducted pursuant to this approval, including the modifications outlined in this letter. The Supplemental Investigation Report, summarizing the results of both the Work Plan and SAP implementation, must be submitted by April 30, 2007.

Please contact Kathryn Chamberlain at (505) 428-2546 should you have any questions.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

JPB:kc

cc: K. Chamberlain, NMED HWB  
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file: Reading and LANL TA-54 '06 (SWMU; 54-006)



Figure 3.1-1. Proposed borehole locations based on MDA L Impoundment sampling plan

○ NMED Proposed Boreholes

SAP for Impoundments B, C, and D