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Los Alamos NATIONAL LABORATORY EST. 1943

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Official Correspondence Form

Name:	U1100088
Title:	Approval with Modifications - Phase II Investigation Work Plan for Upper Los Alamos Canyon Aggregate Area
Date Received:	1/21/2011
Addressee Name:	Michael Graham, ADEP
Originator:	James Bearzi, NMED
Action Item Description:	
Action Due Date:	8/30/2012
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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

January 19, 2011

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RE: APPROVAL WITH MODIFICATIONS
PHASE II INVESTIGATION WORK PLAN FOR UPPER LOS ALAMOS CANYON AGGREGATE AREA
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-10-080

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) *Phase II Investigation Work Plan for Upper Los Alamos Canyon Aggregate Area* dated October 2010 and referenced by LA-UR-10-6327 / EP2010-0398 (Work Plan). NMED has reviewed the Work Plan and hereby issues this Approval with Modifications.

1. Section 2.3.3, Proposed Extent Sampling at Solid Waste Management Unit (SWMU) 01-001(a), page 6:

The Permittees proposed collecting subsurface samples at five previously sampled

locations (00-603748, 00-603749, 00-603750, 00-603751, and 00-603761), extending the depth at each location, to define the vertical extent of contamination. Because the concentration of silver increased at sampling locations 00-603752 and 00-603753, define the vertical extent of contamination at these locations in addition to the five proposed locations.

2. Section 2.4.2, Nature and Extent of Contamination, page 7:

The Permittees listed several inorganic contaminants (aluminum, arsenic, barium, beryllium, chromium, copper, iron, manganese, mercury, nickel, selenium, silver and zinc) for which the vertical extent has not been defined at SWMU 01-001(d). Antimony and lead were omitted from the list. Antimony and lead were retained as constituents of potential concern (COPCs) in the *Investigation Report for Upper Los Alamos Canyon Aggregate Area, Revision* 1, dated February 2010 (2010 IR), page 30. Determine the lateral extent of antimony and lead at the site in addition to the above listed contaminants.

3. Section 2.5.2, Nature and Extent of Contamination, page 8:

In addition to cadmium, copper, chromium, nickel, isotopic plutonium and isotopic uranium, also demonstrate that the lateral and vertical extent of Arochlor-1254 has been defined at SWMU 01-001(f).

4. Section 2.4.3, Proposed Extent Sampling and Soil Removal at SWMUs 01-001(d) and 01-006(h), page 7:

The Permittees propose to remove soil at three locations where plutonium 239/240 and mercury concentrations exceed the residential screening action level (SAL) or New Mexico Soil Screening Level (SSL). The Permittees proposed defining the limits of excavation by analyzing step-out samples and collecting confirmation samples upon completion of the soil removal and analyzing the samples for isotopic plutonium. Also demonstrate that mercury-contaminated soils have been removed by and analyzing the confirmation samples for mercury in addition to isotopic plutonium.

5. Section 2.5.3, Proposed Extent Sampling at SWMU 01-001(f), page 9:

The Permittees proposed extending the depth of investigation at several sampling locations to define the vertical extent of metals, methylene chloride, and radionuclides. The Permittees did not include all of the sampling locations where the vertical extent has not been defined. Also determine the vertical extent of chromium at locations 00-603826, 00-603827 and 00-603841 the vertical extent of nickel at location 00-603841.

6. Section 2.8.3, Proposed Extent Sampling at SWMU 01-001(s), page 12

The Permittees may omit analyses of inorganic COPCs (barium, copper, lead, and nickel) at location 03-603865. These inorganic COPCs were not detected above their respective background values (BV) at this location. However, the vertical extent of plutonium 239/240 is not defined at location 03-603865. Further, the Permittees proposed defining the vertical extent of plutonium 239/240 at two locations where plutonium 239/240 was not detected above the BV; 03-603859 and 03-603860. The Permittees may omit isotopic plutonium analyses at locations 03-603859 and 03-603860. Determine the vertical extent of plutonium 239/240 at location 03-603865.

7. Section 2.9.3, Proposed Extent Sampling and Soil Removal at SWMU 01-003(a), page 13:

The Permittees propose extending the depth of sample collection at eleven previously sampled locations and analyzing the samples to determine the vertical extent of several inorganic COPCs, isotopic plutonium, and tritium. According to the 2010 IR, page 43, the vertical extent of tritium has been defined. The Permittees may omit tritium analyses in the proposed samples or provide an explanation why tritium analyses are required in the investigation report.

8. Section 2.22.3, Proposed Extent Sampling at SWMU 03-055(c), page 23:

The Permittees propose collecting subsurface samples at four previously sampled locations (03-603243, 03-603245, 03-603248, and 03-603250), by extending the depth of sample collection at each location to define the vertical extent of zinc. NMED noted that the vertical extent of zinc is not defined at two other previously sampled locations; 03-603254 and 03-603256, where samples were collected from only one depth. Define the vertical extent of zinc at these two locations in addition to the four proposed locations.

9. Section 2.23.3, Proposed Extent Sampling at SWMU 32-002(a), page 23:

The Permittees propose defining the vertical extent of specific inorganic COPCs by collecting samples at deeper depth intervals at three previously sampled locations; 00-603582, 00-603585, and 32-06372. Sampling results from these three locations may be used to define the vertical extent of nickel and chromium at nearby locations. Include chromium and nickel analyses for the samples collected at locations 00-603582 and 00-603585.

10. Plate 4:

The Permittees indicate an excavation measuring 4 ft x 4 ft x 2 ft at location 32-06373 in Plate 4. The excavation was proposed in a 2009 Accelerated Corrective Action work plan. It was reported in *Remedy Completion Report for Upper Los Alamos Canyon Aggregate Area, Former Technical Area 32* (November 2010) that the proposed excavation was based on a sample that had been collected from within a pipe that was subsequently removed. The sample should have

been marked as "removed" in the Environmental Programs Directorate database and should not have been used to represent site conditions. The proposed excavation was deemed not necessary and was not performed. Remove the excavation area from future figures and plates.

The Permittees must note that the scheduled notice date for NMED to take final action on the Work Plan is April 21, 2011, not December 13, 2010.

The Permittees must include the modifications required by this Approval when implementing the work plan and include all results in an Investigation Report. The Permittees must submit an Investigation Report no later than **August 30, 2012**.

Please contact Pat Stewart at (505) 476-6059 should you have any questions.

Sincerely,

James Bearzi
Chief
Hazardous Waste Bureau

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File: Reading and LANL, Upper Los Alamos Canyon Aggregate Area

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