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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 1, 2008

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**RE: APPROVAL WITH DIRECTION  
INVESTIGATION REPORT FOR THE MIDDLE MORTANDAD/TEN SITE  
AGGREGATE, REVISION 2  
LOS ALAMOS NATIONAL LABORATORY (LANL)  
EPA ID #NM0890010515  
HWB-LANL-05-016**

Dear Messrs. Gregory and McInroy:

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) *Investigation Report for the Middle Mortandad/ Ten Site Aggregate, Revision 2* (Report), dated February 2008 and referenced by LA-UR-08-0336/EP2008-0035. NMED has reviewed the Report and hereby issues this Notice of Approval with Direction. The Permittees are hereby directed to resolve the following discrepancies and submit replacement pages.

**Mesa Top Subarea**

1. **NOD Comment # 16, SWMU 35-009(a):** The Permittees stated in their response to Specific Comment #16 of the notice of disapproval (NOD, 2/13/08) that Tables D-2.0-1, D-2.0-3, and D-3.0-3 had been revised to reflect the depth interval of 7.5 to 8.0 ft for samples 0435-96-0051 and 0435-96-0052. These tables have not been revised. Additionally, Figures 5.0-4 and F-



3.2-9 have not been revised as indicated in the Permittees response. The Permittees must submit revised replacement tables and figures.

2. **Section 5.3, Conclusions-Mesa Top Subarea, page 13:** The dose for area of concern (AOC) 35-018(a) is erroneously reported as 2.0, the correct number is 0.2 (see Table 5.3-1). Correct the typographical error.

3. **Tables 5.3-1 and F-10.0-1, Summary of Human Health Risk Screening for Site Decisions, page 182:** For AOC 35-014(f), hazard index (HI) for residential scenario should be 0.2 and total excess cancer risk should be  $7E-07$  (see Tables F-3.4-19 and F-3.4-20) and not 0.01 and  $2E-07$ , respectively. The HI should be 0.006 (see Table F-3.4-24), not 0.007 for AOC 35-018(a). Revise the tables accordingly.

4. **Table D-2.3-3, EPCs for Organic COPCs at Consolidated Unit 35-003(j)-99, page D-194:** The exposure point concentration (EPC) for Aroclor-1254 is reported at 1.3 mg/kg (for both 0-1 ft and 0-10 ft) in the third column, but the last column states "Not a COPC for this depth." Revise the last column to state that Aroclor-1254 is a COPC and the maximum detected value is reported.

5. **Table F-3.4-9, Screening Evaluation for Consolidated Unit 35-003(j)-99, Noncarcinogenic COPCs, page F-266:** The EPC values reported for some organic chemicals in Table D-2.3-3 are not the same values reported in Table F-3.4-9. For example, EPCs for trichlorofluoromethane, trimethylbenzene[1,3,5-] and xylene (for samples collected from 0-10 ft depth) are reported as 0.005, 0.003 and 0.009, respectively in Table F-3.4-9, but are reported as 0.00332, 0.005, and 0.00588 in Table D-2.3-3. Resolve the discrepancies and revise the table accordingly.

6. **Table F-3.4-10, Screening Evaluation for Consolidated Unit 35-003(j)-99, Carcinogenic COPCs, page F-267:** The EPC values reported in Table D-2.3-3 for chrysene are 10.7 mg/kg and 2.726 mg/kg for samples collected from 0-1 and 0-10 ft depth, respectively. However, Table F-3.4-10 indicates that chrysene was not detected in samples collected from 0-1 ft and a value of 3.26 mg/kg is reported for samples collected from 0-10 ft depth. Resolve the discrepancy and revise the carcinogenic risk screening evaluation using correct values for chrysene. Also revise the associated text, if applicable.

7. **Table F-3.4-25, Screening Evaluation for AOC 35-018(a), Carcinogenic COPCs, page F-274:** The EPC for benzo(k)fluoroanthene is reported at 0.2 mg/kg for samples collected from 0-10 ft depth in Table F-3.4-25, but in Table D-2.11-3, it is reported as not detected and not considered a COPC. Resolve the discrepancy and revise the appropriate table and text.

#### Ten Site Slope Subarea

8. **Section D-3.2-12, Organic COPC Summary at SWMU 35-009(a), page D-34:** The Permittees state that "Pyrene was detected in the 0-1 ft bgs depth range and therefore was not

included in the evaluation of industrial or recreational risk for the site.” Pyrene is not reported as detected in the 0-1 ft depth range (see Table D-3.0-6). Revise the text accordingly.

### **Mortandad Slope Subarea**

9. **Table 12.0-1, Summary of Investigations for SWMUs and AOCs in Middle Mortandad/Ten Site Aggregate, page 197:** The human health risk screening evaluation indicated that SWMU 35-016(o) does not pose unacceptable risk under a recreational use scenario (see Table 5.3-1). For SWMU 35-016(o), it should have been a ‘No’ under the Complete without Controls column and ‘Yes’ under the Complete with Controls column. Revise the table accordingly.
10. **Figure 5.2-7, Mortandad Slope Area B radionuclide COPCs detected above background values in all media ,page F-213:** The Figure 5.2-7 has not been revised to depict radionuclides detected in two samples collected at location 35-23183 as stated in the response to Specific Comment #71 of the NOD. Additionally, sampling location 35-02095 is not depicted on the figure. Revise the figure accordingly.
11. **Table F-5.4-16, Screening Evaluation for SWMU 35-016(o), Noncarcinogenic COPCs, page F-309:** The EPC for benzoic acid for 0-1 ft should be 0.084 and not 0.84 (see Table D-4.7-3). Correct the typographical error.

### **Pratt Canyon Subarea**

12. **Section 8.3, Conclusions-Pratt Canyon Subarea, page 31:** The Permittees have not revised the third paragraph of Section 8.3 as stated in the response to NOD Specific Comment #75. Revise the text in Section 8.3.
13. **Table F-6.4-6, Screening Evaluation for SWMU 35-003(d)-00, Radionuclide COPCs, page F-322:** The EPC for plutonium-238 (0-1 ft), strontium-90 (0-1 ft) and uranium-235 (0-10 ft) should be 0.124, 46.19, and 0.050 respectively (see Table D-5.1-2). Revise the table with correct values.

### **Sigma Mesa Subarea**

14. **Table F-9.4-5, Screening Evaluation for SWMU 60-004(e), Noncarcinogenic COPCs, page F-354:** The EPC for barium (0-10 ft) is reported at 131mg/kg in Table F-9.4-5 and as 70.9 in Table D-8.2-1. The EPC for toluene (0-10 ft) is reported as 0.0063 mg/kg in Table F-9.4-5 and as 0.063 in Table D-8.2-2. Resolve the discrepancies and revise the table accordingly.

The Permittees must demonstrate compliance with the New Mexico Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC) and the New Mexico WQCC Ground and Surface Water Protection Regulations (20.6.2 NMAC) as required by Section VIII.C of the 2005 Order. Surface water site assessments were conducted for the sites, but low erosion potential scores do not necessarily indicate that the sites will not have adverse effect on the surface water quality. NMED

Messrs. Gregory and McInroy  
April 1, 2008  
Page 4

will issue Certificates of Completion for the solid waste management units and areas of concern listed in Table 12.0-1 of the Report after such demonstration has been made.

The Permittees must address all comments and submit replacement pages in a redline-strikeout version by April 22, 2008. All submittals (including figures) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order.

Please contact Neelam Dhawan at (505) 476-6042, should you have any questions.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
K. Roberts, NMED HWB  
N. Dhawan, NMED HWB  
R. Kay, NMED HWB  
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S. Stiger, ENV MS J591  
File: Reading and LANL '08, Middle Mortandad/Ten Site Aggergate (TAs 4, 5, 35, 52, 60 and 63)