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Date: April 22, 2008
Refer To: EP2008-0195

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Response to the Approval with Direction and Replacement Pages for the Investigation Report for the Middle Mortandad/Ten Site Aggregate, Revision 2

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the replacement pages for the investigation report for the Middle Mortandad/Ten Site Aggregate, Revision 2. Hard copies are submitted in both redline/strikeout format and with changes accepted.

The following responses are made to the comments in the New Mexico Environment Department (NMED) approval with direction letter, dated April 1, 2008. The NMED comment is presented verbatim, followed by the Los Alamos National Laboratory (LANL) response.

Mesa Top Subarea

NMED Comment

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.*

LANL Response

1. Tables were revised accordingly. The figures have also been revised, but the notice of disapproval (NOD) response erroneously cited the wrong figure to be changed. Figure F-3.2-4, and not F-3.2-9, is the figure requiring revision. Therefore, Figure F-3.2-4 has been revised.

NMED Comment

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.*

LANL Response

2. The dose and risk information for Consolidated Unit 35-003(j)-99 and Area of Concern (AOC) 35-018(a) was inadvertently reversed in the text. The correct dose for AOC 35-018(a) is 0.000001 mrem/yr for the industrial scenario; the dose for Consolidated Unit 35-003(j)-99 is 0.2 mrem/yr for the industrial scenario. The text has been revised.

NMED Comment

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.*

LANL Response

3. Tables 5.3-1 and F-10.0-1 have been revised. The industrial results instead of the residential results were given for AOC 35-014(f). The hazard index (HI) for AOC 35-018(a) has been revised.

NMED Comment

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.*

LANL Response

4. Table D-2.3-3 has been revised.

NMED Comment

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, trimethylbenezene[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.*

LANL Response

5. Table D-2.3-3 is correct. Table F-3.4-9 has been revised to reflect the correct exposure point concentrations (EPCs).

NMED Comment

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.

LANL Response

6. Table D-2.3-3 is correct. Table F-3.4-10 has been revised to reflect the correct EPCs. No text changes are necessary.

NMED Comment

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.*

LANL Response

7. Benzo(k)fluoranthene was detected at 0.2 mg/kg in a sample collected from 0 to 1 ft below ground surface (bgs) at location 35-02294. Therefore, this maximum detected concentration should have been reported as the EPC for the depth intervals of 0 to 1 and 0 to 10 ft bgs. Tables D-2.11-3 and F-3.4-25 have been revised. Table D.2-0.6 and Figure F-3.2-19 present the correct information. The text in section D-2.11 correctly identifies benzo(k)fluoranthene as a chemical of potential concern (COPC) in soil and fill at AOC 35-018(a).

Ten Site Slope Subarea

NMED Comment

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.*

LANL Response

8. The text should have stated that "Pyrene was *not* 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." The text has been revised.

Mortandad Slope Subarea

NMED Comment

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.*

LANL Response

9. Table 12.0-1 has been revised accordingly.

NMED Comment

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.*

LANL Response

10. Figure F-5.2-7 has been revised to include the radionuclide detections at location 35-23183. In addition, Figure F-5.2-5 has been revised to show inorganic detections at location 35-23183. Location 35-02095 is not depicted on the figures because sediment at this location was removed down to bedrock. Location 35-02096, located approximately 5 ft downstream of location 35-02095, is shown on the map because a deeper confirmation sample remains in place at location 35-02096.

NMED Comment

11. ***Table F-5.4-16, Screening Evaluation for SWMU 35-016(0), 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.*

LANL Response

11. In Table F-5.4-16, the EPC for benzoic acid for the 0- to 1-ft interval has been corrected to 0.084 mg/kg.

Pratt Canyon Subarea

NMED Comment

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.*

LANL Response

12. The third paragraph of section 8.3 has been revised accordingly.

NMED Comment

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.*

LANL Response

13. Table F-6.4-6 has been revised.

Sigma Mesa Subarea

NMED Comment

*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 131 mg/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.*

LANL Response

14. Tables D-8.2-1 and D-8.2-2 are correct. Table F-9.4-5 has been revised to reflect the correct EPCs.

If you have any questions, please contact Becky Coel-Roback at (505) 665-5011 (becky_cr@lanl.gov) or Cheryl Rodriguez at (505) 665-5330 (crodriguez2@doeal.gov).

Sincerely,

for Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

SS/DG/BCR:sm

Enclosures: 1) Two hard copies with electronic files – Replacement pages for the Investigation Report for the Middle Mortandad/Ten Site Aggregate, Revision 2 (EP2008-0035)

Cy: (w/enc.)
Becky Coel-Roback, EP-CAP, MS M992
RPF, MS M707 (with two CDs)
Public Reading Room, MS M992

Cy: (Letter and CD only)
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Cheryl Rodriguez, DOE-LASO, MS A316
David Davenport, Los Alamos Technical Associates
Peggy Reneau, WES-DO, MS M992
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