



**BILL RICHARDSON**  
GOVERNOR

*State of New Mexico* **ENVIRONMENT DEPARTMENT** *FA-35*

*Hazardous Waste Bureau*  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Telephone (505) 428-2500  
Fax (505) 428-2567  
www.nmenv.state.nm.us



**RON CURRY**  
SECRETARY

**DERRITH WATCHMAN-MOORE**  
DEPUTY SECRETARY

**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

May 5, 2004

Mr. David Gregory, Federal Project, Director  
Los Alamos Site Operations  
Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, New Mexico 87544

Mr. G. Pete Nanos, Director  
Los Alamos National Laboratory  
P.O. Box 1663, Mail Stop A100  
Los Alamos, New Mexico 87545

**SUBJECT: NOTICE OF DEFICIENCY FOR ADDENDUM TO SAP FOR MIDDLE  
MORTANDAD/TEN SITE AGGREGATE  
LOS ALAMOS NATIONAL LABORATORY EPA ID No: NM0890010515  
HWB-LANL-04-005**

Dear Messrs. Gregory and Nanos:

The New Mexico Environment Department (NMED) has received the United States Department of Energy and Regents of the University of California (the Permittees) report entitled "Addendum to SAP for Middle Mortandad/Ten Site Aggregate" dated March 2003 (referenced by LA-UR-04-1714 and ER2004-0078). NMED has reviewed the document and found it to be deficient. The comments are provided as an attachment to this letter. The Permittees must respond to the comments within thirty days of receipt of this letter.



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Messrs. Gregory and Nanos  
May 5, 2004  
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If you have any questions, please contact Neelam Dhawan at (505) 428-2540.

Sincerely,



John Young  
LANL Corrective Action Project Leader  
Permits Management Program

JRY:nmd

Attachment

cc: N. Dhawan, NMED HWB  
J. Schoeppner, NMED GWQB  
M. Leavitt, NMED SWQB  
C. Voorhees, NMED DOE OB  
S. Yanicak, NMED DOE OB, MS J993  
L. King, EPA 6PD-N  
J. Vozella, DOE LAAO, MS A316  
B. Ramsey, LANL RRES-DO, MS J591  
D. Stavert, LANL RRES-DO, MS J591  
N. Quintana, LANL RRES-ER, MS M992  
D. McInroy, LANL RRES-ER, MS M992

File: Reading and LANL TA 35

**ATTACHMENT**  
**COMMENTS ON ADDENDUM TO SAP FOR MIDDLE**  
**MORTANDAD/TEN SITE AGGREGATE**

1. Revise the title of the document from 'Addendum to SAP for Middle Mortandad/Ten Site Aggregate' to 'Supplemental SAP for Middle Mortandad/Ten Site Aggregate.'
2. **Table 1.0-1, TA-04, TA-05, TA-52, TA-60, and TA-63 SWMUs and AOCs in Middle Mortandad/Ten Site Aggregate, page 3**  
Investigations for areas of concern (AOCs) 35-016(g) and 35-016(h) were to be included in the future Addendum according to the Table 1.0-1 of Sampling and Analysis Plan for the Middle Mortandad/Ten Site Aggregate (March 2002, page 10). These sites have not been included in the list of sites to be investigated in the Addendum (Table 1.0-1 of the Addendum to "Sampling and Analysis Plan for the Middle Mortandad/Ten Site Aggregate" (March 2004, page 3). Provide an explanation as to why these sites are not included in the Addendum. NMED may require the Permittees to revise the Addendum to include investigation of these sites in the investigation work plan.
3. **Table 1.1-1, SWMUs and AOCs in TA-05, TA-52 and TA-63 That Have Received NFA Decisions, page 4**
  - AOC 05-006(f) has not been approved for a "no further action" by NMED, but is indicated such in the last column of the table, correct the table. Provide references for ER ID numbers 50023, 51501, 59358, 59676, 59972, and 63042, they are not included in the references provided in Section 6.0 of the Sampling and Analysis Plan for the Middle Mortandad Ten Site Aggregate (SAP) dated March 2002 or the Addendum to "Sampling and Analysis Plan for the Middle Mortandad/Ten Site Aggregate," dated March 2004.
  - AOCs (i.e. 05-006(d), 05-006(f), 05-006(g), C-05-001, 52-002(g), 52-004 and 63-002), that have not been approved for a "no further action" by NMED, should have been included in this investigation or documentation should have been provided supporting the fact that these sites do not pose unacceptable risk to human health and the environment and that no RCRA concerns exist at these sites. NMED has not evaluated these sites to determine if any RCRA concerns exist at these sites and if these sites should be included in the investigation. NMED does not concur with Permittees position that "non-HSWA" sites do not require NMED approval. Sites that may have released hazardous constituents that may pose a risk to human health or the environment need NMED's review before it can be considered for approval of "no further action." Depending on the Permittees response, the SAP may need to be revised.
4. **Table 2.1-1, East Ten Site Slope Subarea SWMUs and AOCs and Their Current Status, page 11**  
The last column of the Table 2.1-1 indicates that there are no chemicals of potential concern (COPCs) for solid waste management unit (SWMU) 63-001(b), but the RFI Work Plan for

Operable Unit 1129 (LA-UR-92-800, May 1992, page 3-136) states that "...solvents and other chemicals may have been discharged into this system in previous years when this building (formerly TA-0-155) was used as a maintenance shop by group ENG-5 (LANL 1990, 0145)." Explain the discrepancy or revise the text as necessary.

**5. Table 2.2-26, Frequency of Inorganic Chemicals Above BVs in the Sigma Mesa Subarea and Table 2.2-27, Summary of Inorganic Chemical Data review for the Sigma Mesa Subarea, page 45**

Table 2.2-26 indicates that barium and chromium were not detected in any of the sludge samples, but last column of Table 2.2-27 indicates that barium and chromium were detected in sludge samples. Explain the discrepancy.

**6. Table 2.4-2, Data Requirements for East Ten Site Slope Subarea, page 59**

- For SWMU 04-001-99, only one sample was analyzed for semi volatile organic compounds (SVOCs) and volatile organic compounds (VOCs), yet the Table indicates that vertical and lateral extent is defined. Please explain how one sample is sufficient to define the vertical and lateral extent at any site let alone a firing site. In addition, SVOCs are expected contaminants at the firing sites.
- For SWMU 05-001(a)-99 and SMWU 05-001(c), SVOCs analysis should be included, they are expected contaminants at the firing sites.
- For SWMU 52-003(a), only one sample was analyzed for metals, VOCs and SVOCs, yet the table indicates that the lateral extent is defined. Please explain how one sample is sufficient to define the lateral extent of contamination.
- For SWMU's 63-001(a) and SWMU 63-001(b), only three samples were analyzed for metals, SVOCs and VOCs. Samples were collected at three different depths at three different locations. Explain how this data is considered sufficient to define vertical and lateral extent.

**7. Figure 3.2-2, Proposed sampling locations at TA-05 (west) in the East Ten Site Slope Subarea, page 74**

Fix the typographical error, SWMU labeled as 05-001(h) in the Figure should have been labeled 05-006(h).

**8. Table 3.2-1; Proposed Samples for East Ten Site Slope Subarea (TA-04 and TA-05), page 78-79**

- For SWMU 04-001-99, SVOC analyses should be included for samples to be collected for AH3 and AH5, and TR1, TR2, TR4, TR5, TR6 and TR7. SVOCs are expected contaminants associated with firing sites. Only one sample was analyzed for SVOCs during 1995 investigation, it is not enough to rule out the presence of SVOCs and to define the extent.
- In 1985, during the Los Alamos Site Characterization Program (LASCP) cleanup (that did not address nonradioactive contamination), the firing pit was cleaned, backfilled and contoured. The proposed samples should not be collected from the clean fill, but should be

collected from soil/tuff beneath the clean fill to ensure that the vertical extent is defined. The depth of the clean fill is not clear from the document. Samples to be collected from drainages should be collected from the benches or other areas where sediments may have accumulated over time, additional samples should be collected from the upper bench of drainages. For SWMU 04-001-99, two samples analyzed for metals in 1995 were from depths 0-0.5 ft and 2-3 ft and may have been from fill material. Metal analysis should be included for two samples to be collected from AH3 and AH5 to define the vertical extent. High Explosive (HE) analysis should also be included for samples to be collected from AH1, AH2, AH3 and AH5 to define the vertical extent.

- For TA-5, SVOC samples should be included in a subset of samples to be collected from AH6, AH7, AH8, AH9, AH10, AH11, AH12, AH13, AH14 and TR9, TR10, TR11, TR13, TR14, TR15 and TR16. SVOCs are potential contaminants associated with firing sites. SVOC analysis were not conducted for any samples collected at SWMU 5-001(a)-99 and SWMU 5-001 (c) during 1995 investigation.
- Contamination was detected at 15 ft beneath the firing pits in TA-5 during the 1985 LASCPC cleanup (only radiological investigation done at that time) and the firing pits were backfilled after the cleanup. Proposed samples to be collected at depths of 3 ft and 6 ft at AH10 may not be able to detect any potential residual contamination at depth because the samples would be collected from the fill material. Samples collected during 1995 investigations, at location ID 05-02056 (at the depth of 20 ft) were from the fill material. Additional samples should be collected from the tuff below the fill material to define the vertical extent.

**9. Section 3.2.1.3, Sample Collection and Analysis, page 80**

For AOC 52-003(a), borehole BH6 should be indicated as BH5. Fix the typographical error.

**10. Table 3.2-2; Proposed Samples for East Ten Site Slope Subarea (TA-52 and TA-63), page 81**

- For SWMU 52-002(a): the extent of contamination is not defined for inorganic and organic chemicals (Table 2.4-2) yet these analyses were not proposed for samples to be collected from BH1, BH2, BH3, TR17, TR18, TR19, and TR20. Only three samples were collected for metals during the previous investigation at random depths and locations (at 9-10 ft at location 52-02006, at 14-15 ft at location 52-02003, and at 19-20 ft at location 52-02001, Table B-2.0-1). Solvents, chemicals and radionuclides were indicated as potential contaminants in the RFI Work Plan for OU 1129 (May 1992, page 3-114). Include SVOC analyses in samples to be collected from TR17, TR18, TR19 and TR20. Only three samples were collected for SVOCs during previous investigation at random depths and locations (at 9-10 ft at location 52-02002, at 14-15 ft at location 52-02003, and at 19-20 ft at location 52-02008, Table B-2.0-1). The data from previous investigations is not adequate to define extent, both lateral and vertical. Include metals and SVOC analysis for a subset of samples to be collected from these boreholes.

**11. Table 3.2-3; Proposed Samples for Sigma Mesa Subarea, page 84**

Include polychlorinated biphenyls (PCB) analysis for samples to be collected from AH20 and AH21 as vertical/lateral extent is not defined. Both the samples collected during previous investigations were from 0-1 ft. Transformers that possibly contained PCB contaminated oils were formerly stored at the site.

**12. Section 5.0, Project Management, page 86**

Include a schedule of implementation for the Sampling and Analysis Plan for the Middle Mortandad/Ten Site Aggregate.

**13. Table B-2.0-2, Inorganic Chemicals with Concentrations (mg/kg) or Detection Limits at or Exceeding BVs in East Ten Site Slope Subarea, page B-14 and Figure C-2d, Inorganic chemicals detected above background in sampling locations at TA-05 (east) in the East Ten Site Slope Subarea**

Detected value of barium at location 05-02025 at 0-0.5 ft is noted as 4070 mg/kg in Figure C-2d, and as 407 mg/kg in Table B-2.0-2. Clarify the discrepancy and fix the typographical error.

**14. Figure C-3a, Inorganic chemicals detected above background in sampling locations at TA-52**

Two separate sampling locations have been labeled by the same number (i.e. 52-02003), revise the figure with location IDs labeled correctly.

**15. Figure C-3c, Radionuclides detected above background in sampling locations at TA-52 in the East Ten Site Slope Subarea**

Two separate sampling locations have been labeled by the same number (i.e. 52-02009), revise the figure with location IDs labeled correctly.