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JON GOLDSTEIN  
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 4, 2009

David Gregory  
Federal Project Director  
Los Alamos Site Office  
Department of Energy  
3747 West Jemez Road, Mail Stop A316  
Los Alamos, NM 87544

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Laboratory  
Environmental Programs, MS M992  
Los Alamos, NM 87545

**RE: NOTICE OF DISAPPROVAL  
INVESTIGATION REPORT FOR NORTH ANCHO CANYON AGGREGATE  
AREA  
LOS ALAMOS NATIONAL LABORATORY (LANL),  
EPA ID #NM0890010515  
HWB-LANL-09-052**

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 North Ancho Canyon Aggregate Area* (Report), dated September 2009 and referenced by LA-UR-09-5314/EP2009-0371. NMED has reviewed this document and hereby issues this Notice of Disapproval (NOD).

General Comments

1. To facilitate NMED's review of the Report, to eliminate discrepancies, and to ensure that, in the future, investigation reports submitted to NMED comply with Section XI.C of the March 1, 2005 Order on Consent (Order), NMED directs the Permittees to incorporate the information in Appendix B (Data Review) of the Report, into the appropriate sections of the main text. For example, the entirety of Section B-2.1 (SWMU 39-002(a) Area 1) in Appendix B must be included in Section 5.3.5 (Spatial Distribution of COPCs at





SWMU 39-002(a) Area 1) of the main text of the Report.

2. In an effort to determine the source of water in the 15 existing angled boreholes at solid waste management units (SWMU) 39-001(a) and 39-001(b), NMED directed the Permittees to “attempt removing (intact) the PVC in a few of the angled boreholes so that the actual construction of the “wells” could be evaluated” (Email from NMED to the Permittees dated June 2, 2009). Furthermore, in an email dated July 30, 2009, NMED instructed the Permittees to provide justification in the investigation report for why the 80-feet of PVC pipe, specifically in borehole ASC-3, could not be removed.

The Permittees have not provided any information regarding the angled boreholes (e.g., were they removed, plugged and abandoned). Additionally, the angled boreholes (DM-4, ASC-0, ASC-2, ASC-3, ASC-4, DM-6, ASC-11, ASC-12, ASC-13, ASC-14, ASC-15, ASC-16, ASC-17, ASC-18, and ASC-19) are not depicted on any figures in the Report (e.g., Figure 3.2-1). The Permittees must revise the Report to include a discussion of the status of these 15 boreholes as well as revise all figures to include their locations.

#### Specific Comments:

##### 1. Executive Summary, page v, paragraph 4:

**Permittees’ Statement:** “Phase II remediation activities at SWMU 39-001(a) are ongoing, and an addendum to this investigation report will be submitted when they are completed.”

**NMED Comments:** The Permittees did not request an extension to complete remediation activities at SWMU 39-001(a), nor did they contact NMED to discuss the deviation from the approved Work Plan. The Permittees should have included SWMU 39-001(a) in the Permittees’ recommendations for a second phase of field work. The Permittees are reminded that this additional remediation work was not included in the scope of work in the approved Work Plan. The Permittees must submit a work plan for the additional remediation activities at SWMU 39-001(a) no later than December 30, 2009.

##### 2. Section 2.8 Field Screening for Metals by X-Ray Fluorescence, page 6, paragraph 2:

**Permittees’ Statement:** “Because the XRF results are not directly comparable to analytical background values (BV), the samples with the highest 25% of detected concentrations were selected for off-site laboratory analysis based on historical chemicals of potential concern (COPCs) (if available), on operational processes, expected COPCs, or the most elevated concentrations above BV.”

**NMED Comment:** Section 5.1.2.3, Metals Field Screening, of the approved Work Plan states only that “[a]n elevated detection for XRF analysis is defined as an instrument reading that exceeds 2 times the background value of the sample matrix,” not a percentage of samples with the highest detected concentrations. The Permittees must

provide justification for this deviation or for the selection of a certain percentage of samples.

3. **Section 2.10.2, Deviations, SWMU 39-002(a) Area 1, page 7:**

**NMED Comment:** Table 4.0-1 of the Work Plan states that samples will be obtained from three depth intervals below the ground surface at each sampling location at SWMU 39-002(a) Area 1: 0-1.0 feet, 1.0-2.0 feet, and 2.0-3.0 feet. The Report indicates that in some instances, all three samples were not collected at each sampling location (e.g., sampling locations 39-01491, 39-01493, 39-01494). The Permittees must revise the Report to explain why these required samples were not collected.

4. **Section 2.10.11, SWMU 39-004(d), page 8:**

**Permittees' Statement:** "Samples collected at SWMU 39-004(d) for analysis of dioxins/furans were not submitted for analysis. The radiological activity of these samples exceeded the criteria for acceptance by the off-site laboratory conducting dioxin/furans analysis."

**NMED Comment:** The Permittees state that "[n]ature and extent are not defined for the three active firing sites [SWMUs 39-004(c), 39-004(d), and 39-008], but the results of the preliminary characterization indicated that contaminants are not migrating off-site from these SWMUs." The samples at 39-004(d) were not submitted for dioxin/furan analysis; therefore, the Permittees cannot definitively state that no contaminants are migrating off-site. The Permittees must revise the Report to state that it is unknown whether or not current operations at the firing site contribute to off-site migration of dioxins/furans. Extended drainage sampling confirmed that other contaminants are not migrating off-site and the South Canyons investigations will address any contaminants that migrate from the site.

5. **Section 3.2.1.3, Type of Materials Excavated, page 11:**

**Permittees' Statement:** "An additional 2 ft of material was excavated beneath the impacted decision units, and further confirmation sampling was conducted. Analytical results for these samples have not yet been received"

**NMED Comment:** See specific comment # 1.

6. **Section 3.2.3.1, SWMU 39-006(a), Site Description, Seepage Pit, page 13, paragraph 2:**

**Permittees' Statement:** "The pit consisted of large cobblestones mixed with sandy loam. It was excavated using the tracked excavator, and the contents were piled and sampled separately from any other waste. Figure 3.2-6 shows the final excavation boundaries and sampling locations."

**NMED Comment:** Figure 3.2-6 does not show sampling locations. The Permittees must revise Figure 3.2-6 to include the sampling locations.

**7. Section 3.6, Excavation Backfilling, page 14, paragraph 2:**

**Permittees' Statement:** "Stockpile 3, composed of sand filter material from SWMU 39-006(a), was placed into the sand filter excavation. It was spread and compacted along the entire floor to a height of approximately 3 ft."

**NMED Comment:** The Permittees must revise the Report to provide additional information regarding the type of material (e.g., soil, sand filter components, contaminants) that was placed in the excavation at SWMU 39-006(a). The Permittees are allowed to return overburden material *only* to excavations as backfill, with the condition that the overburden meets residential SSLs/SALs.

**8. Section 4.3, Ecological Screening Levels, page 16:**

**Permittees' Statement:** "All of the sites, except for the active firing site [SWMUs 39-004(c), 39-004(d), and 39-008] and SWMUs 39-001(a), 39-001(b), and 39-002(b) were evaluated for potential ecological risk."

**NMED Comment:** The Permittees did not provide an explanation in the Report. The Permittees must revise this Section to include explanations of why ecological risk screenings were not conducted at SWMUs 39-004(c), 39-004(d), and 39-008, 39-001(a), 39-001(b), and 39-002(b).

**9. Section 6.1, Conclusions, Summary of Remediation Activities, page 52:**

**Permittees' Statement:** "At SWMU 39-001(a), the remediation activities in the work plan were completed and confirmation sampling demonstrated that cleanup levels were exceeded for Arochlor-1242. Therefore, a second phase of remediation was implemented and is being completed, requiring submittal of an addendum at a future date"

**NMED Comment:** See Specific Comment # 1.

**10. Section 7.1, Recommendations, Sites Recommended for Corrective Action Complete without Controls, page 54:**

**NMED Comment:** The Permittees have requested certificates of completion for SWMUs 39-001(b) and 39-005 and Areas of Concern (AOC) 39-002(c), 39-002(d), 39-002(e) 39-002(f), and 39-007(d). NMED concurs that the nature and extent of contamination has been defined at the aforementioned SWMUs and AOCs. To facilitate the review process and for administrative completeness, the Permittees must submit their request for Certificates of Completion under separate cover.

**11. Section 7.2, Recommendations, Sites Recommended for Additional Characterization or Remediation, page 54:**

**Permittees' Statement:** "Based on the results of the North Ancho Canyon Aggregate Area investigation, five sites are recommended for additional characterization or remediation."

**NMED Comment:** NMED concurs that additional characterization and/or remediation is required at SWMU 39-002(a) Area 1, SWMU 39-002(a) Area 2, SWMU 39-007(a), SWMU 39-006(a), AOC 39-002(b), and SWMU 39-001(a); however, the Permittees did not propose a schedule for submittal of a Phase II Investigation Work Plan. The Permittees must revise the Report to include a section that addresses the proposed schedule for submittal of a Phase II Investigation Work Plan.

**12. Appendix B, Section B-2.16.5.4, Summary of Extent at SWMU 39-001(a), page B-62:**

**Permittees' Statement:** After an evaluation of the extent of SWMU 39-001(a), the following issues remain:

- Vertical extent is not defined for mercury and uranium at some locations.
- Vertical extent is not defined for uranium-238 at one location."

**NMED Comment:** The statement suggests that extent is not defined for mercury, uranium, and uranium-238. However, Sections 6.1 (Summary of Remediation Activities) and 3.2.1.3 (Type of Materials Excavated) suggest that cleanup standards were exceeded for Aroclor-1242 only, necessitating additional remediation. The Permittees must revise the Report to resolve this discrepancy. Also See General Comment # 1.

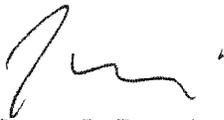
**13. Summary Tables:**

**NMED Comment:** The Permittees must include the residential soil screening levels (SSLs)/screening action levels (SALs) and the industrial SSLs/SALs in each of the summary tables for each SWMU/AOC for comparison purposes, (e.g., Tables 5.3-2, 5.3-3, and 5.3-4). The Permittees must revise each of the summary tables to include this information.

The Permittees must address all comments and submit a revised Report by December 4, 2009. As part of the response letter that accompanies the revised Report, the Permittees shall include a table that details where all revisions have been made to the Report and that cross-references NMED's numbered comments. All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order. In addition, the Permittees shall submit a redline-strikeout version that includes all changes and edits to the Report (electronic copy) with the response to this NOD.

Please contact Kathryn Roberts at (505) 476-6041 should you have any questions.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc:

J. Kieling, NMED HWB  
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File: '09 LANL, TA-39, SWMUs: 39-001(a), 39-001(b), 39-002(a), 39-004(c), 39-004(d), 39-005, 39-006(a), 39-007(a), 39-008, 39-010, and AOCs: 39-002(b), 39-002(c), 39-002(f), and 39-007(d)