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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 23, 2008

David Gregory Federal Project Director Los Alamos Site Office Department of Energy 528 35th Street, Mail Stop A316 Los Alamos, NM 87544

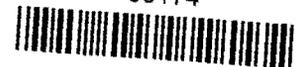
David McInroy Remediation Services Deputy Project Director Los Alamos National Security, L.L.C. P.O. Box 1663, MS M992 Los Alamos, NM 87545

RE: NOTICE OF DISAPPROVAL FOR THE INVESTIGATION WORK PLAN FOR THREEMILE CANYON AGGREGATE AREA LOS ALAMOS NATIONAL LABORATORY (LANL), EPA ID #NM0890010515 HWB-LANL-08-016

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 Work Plan for Threemile Canyon Aggregate Area (Plan), dated July 2008 and referenced by LA-UR-08-4706/EP2008-0375. NMED has reviewed the Plan and hereby issues this Notice of Disapproval (NOD).

30174



General Comments

1. The Permittees must revise the sentence composition in each of the *Scope of Activities* sections to state: "X samples will be taken from the surface and subsurface at X locations" (e.g., "Eighteen surface and subsurface samples will be collected from nine locations ..." will be changed to "Eighteen samples will be taken from the surface and subsurface at nine locations...") for clarity. It is not clear in the original sentence if 36 samples or 18 samples will be taken in total.
2. The Permittees must rephrase the sentences in the *Summary of Data* sections to ensure the text is not misleading. The sentence structure indicates there are many contaminants in the same sample; however, this is not the case. For example Section 6.5.2.2, *Summary of Data*, for SWMU 15-008(b) states, "Arsenic, chromium, calcium, and nickel were detected above BVs in one sample." The contaminants were found in multiple samples, with one constituent detected in each sample. The Permittees must revise their presentation of information in all *Summary of Data* sections.
3. NMED identified several mistakes in presenting the same data in tables and text. The Permittees must ensure the text and associated tables correspond in the *Summary of Data* sections. For example Section 4.2.2, *Summary of Data*, for AOC 12-004(a), states, "Zinc was detected above BV in two samples." Table 2.2-2 in the *Threemile Canyon Aggregate Area HIR* (HIR) shows zinc above the BV in one sample. The Permittees must resolve discrepancies between the text and the reported values in the HIR.
4. The Permittees must discuss the rationale for borehole locations, sampling depths, number of samples and the analytical suites for laboratory analysis and revise Table 4.0-1, *Proposed Sampling Description and Analyses*, accordingly.
5. Section IX.B.2, *Field Exploration Activities*, of the *March 1, 2005 Order on Consent* (the Order) requires that "[t]he depths and locations of all exploratory ... borings shall be specified in the ... site-specific work plans..." The Permittees must discuss and provide a table of the proposed borehole depths.
6. If contamination was detected in previous sampling, the proposed investigation must include the areas and depths previously sampled where contamination was detected and propose additional sampling to determine the lateral and vertical extent of contamination if it was not established in the previous work. For example, in Section 6.5.2.3, *Scope of Activities*, for SWMU 15-008(b), page 27; paragraph 2, the Permittees state: "Samples will be collected from two depths (0 to 0.5 ft and 2 to 3 ft)..." However, according to Figure 4.5-4 and Table 4.5-2 in the *Historical Investigation Report for Threemile Canyon Aggregate Area*, July 2008 (HIR), contamination was found at 2.67 ft in previous sampling at the southern edge of SWMU 15-008(b) in an area associated with SWMU 15-006(c). The Permittees must propose sampling that will meet the objective to define the extent of the contamination and revise the text to reflect the changes.

7. The Permittees must include the dates of previous sampling and reference the HIR tables and figures that present the cited analytical data on Plan figures where site features are shown.
8. All figures provided in the Plan must include all applicable features and structures, underground utilities, and existing well and/or borehole locations. For example, locations of structures within AOCs 12-004(a) and 12-004(b) are described in detail in the text, but are not presented on Figures 4.2-1 or 4.2-2 as site features. Also, the Permittees must label "Redondo Road" on all figures where the road is depicted. The road is referenced in the text, but not labeled on any of the maps. Additionally, AOC C-12-004 appears to be labeled incorrectly (wrong building number) in Figure 4.1-1 and 4.1-2.
9. Section IX.A. *Standard Operating Procedures*, of the Order requires a "brief description of investigation, sampling or analytical methods and procedures in documents submitted to the Department that includes sufficient data to evaluate the quality of the acquired data. The Respondents may reference relevant Standard Operating Procedures as presented on the LANL website. The reference should include the appropriate Internet address." The Permittees must ensure that the websites referenced in the text are up to date with working links. For example on page 41, Section 8.0, *Investigation Methods*, the link does not work; in Appendix B-1, Section B-2.0, *IDW*, the links require a Z number and password to access the site. It is not appropriate to include links to internal websites in a public document.
10. Section XI.B.6.a, *Surface Conditions*, of the Order requires that a detailed description of "current site topography, features and structures including ...topographic drainages, man-made drainages, vegetation, erosional features, and basins," be included in the Plan. The Permittees must provide a description of the topography, vegetation, erosional features, man-made discharges, and structures or reference all applicable sections that describe such features.

Specific Comments:

1. Section 4.3.3, Scope of Activities for AOC 12-004(b), page 18; paragraph 1:

a. **Permittees' Statement:** "The pipe will be removed and disposed of at the appropriate waste facility."

NMED Comment: The Permittees must describe how the pipe is to be characterized prior to disposal. NMED assumes that samples will be obtained following removal of the pipe; however, the Permittees must explain whether or not samples will be obtained prior to or following the removal of the pipe.

b. **Permittees' Statement:** "Samples will be collected from two depths (0 to 0.5 ft and 1 to 2 ft) and analyzed for TAL metals, total uranium, cyanide, perchlorate, SVOCs, HE, isotopic uranium, isotopic plutonium, americium-241, and gamma spectroscopy."

NMED Comment: According to Section 4.3 of the Plan, the pipe was 3ft long and previous sampling found contamination at 2.5ft (HIR, Figure 2.2-2) in the area associated with this AOC. Therefore, at a minimum, proposed sampling must be 2 to 3 ft bgs and also include a 5

to 6 ft interval bgs as required by Section IX.B.2.b.i item 3 of the Order. The Permittees always must propose subsurface sampling beneath the deepest previously detected contamination.

2. **Section 5.1.3, Scope of Activities for AOC C-14-006, page 22, paragraph 1:**

Permittees' Statement: "Ten surface and subsurface samples will be collected from five locations within and bounding the footprint of the former building (Figure 5.1-2). Samples will be collected from two depths (0 to 0.5 ft and 2 to 3 ft) and analyzed for TAL metals, total uranium, cyanide, perchlorate, HE, and isotopic uranium, isotopic plutonium, americium-241, and gamma spectroscopy. Two of the 10 samples will be analyzed for PCBs."

NMED Comment: No previous sampling has been conducted at this site. Therefore analysis for the full analytical suite must be conducted. The Permittees must propose the full analytical suite for each sample or propose a subset of the total number of samples to be analyzed for contaminants that are less likely to be detected (e.g., dioxins, furans, VOCs). The Permittees must provide the rationale for the selections.

3. **Section 6.2.3, Scope of Activities for AOC 15-004(d), page 24, paragraph 2:**

Permittees' Statement: "Eight surface and subsurface samples will be collected from four locations bounding the site (Figure 6.1-2)."

NMED Comment: The Permittees must either move the proposed sampling locations or propose additional sampling locations to determine the lateral extent of contamination. Previous sampling indicates contamination beyond the currently proposed locations (comparing HIR Figures 4.1-2 and 4.1-3 to the Plan Figure 6.1-2). Revise the plan accordingly.

4. **Section 6.5.2.3 Scope of Activities for SWMU 15-008(b), page 27; paragraph 2:**

Permittees' Statement: "Samples will be collected from two depths (0 to 0.5ft and 2 to 3 ft) and analyzed for TAL metals, total uranium, cyanide, perchlorate, HE, isotopic uranium, isotopic plutonium, americium-241, gamma spectroscopy and tritium."

NMED Comment: According to Figure 4.5-4 and Table 4.5-2 in the HIR, contamination was found at 2.67ft in previous sampling at the southern edge of SWMU 15-008(b) in an area associated with SWMU 15-006(c). The Permittees must obtain samples from intervals below the previously deepest detected contamination to determine the vertical extent of contamination.

5. **Section 6.6.2.3, Scope of Activities for AOC 15-008(g), page 29, paragraph 1:**

Permittees' Statement: "Samples will be collected from two depths (0 to 0.5 ft and 2 to 3 ft) and analyzed for TAL metals, total uranium, cyanide, perchlorate, HE, isotopic uranium, isotopic plutonium, americium-241, gamma spectroscopy, and tritium."

NMED Comment: According to Figure 4.6-2 in the HIR, contamination was found to 3.42ft in an area associated with this AOC. The Permittees must obtain samples from intervals below the previously deepest detected contamination to determine the vertical extent of the contamination.

6. **Section 6.7.1.3 and Section 6.7.2.3 Scope of Activities, page 30, paragraph 1 and paragraph 2:**

a. **Permittees' Statement:** "The sampling intervals will be staggered for each borehole such that one sample is collected every 15 ft within a single borehole but every 5 ft collectively from the three boreholes."

NMED Comment: Samples must be obtained from discrete intervals in each boring. The Permittees must sample all borings from the same intervals so that comparable data are acquired. The Permittees must include the proposed sampling intervals in Table 4.0-1.

b. **Permittees' Statement:** "A total of 36 subsurface samples will be collected from three boreholes bounding an approximate 50-ft radius from the shaft (Figure 6.7-2). The target depth of each borehole will be 180 ft bgs. Samples will be collected from 12 depths at 15-ft intervals from each borehole and analyzed for TAL metals, cyanide, perchlorate, HE, and tritium."

NMED Comment: No previous sampling has been conducted at these sites. Therefore analysis for the full analytical suite must be conducted. The Permittees must complete full analytical suite analyses for each sample or propose a subset of the total number of samples to be analyzed for contaminants that are less likely to be detected (e.g. dioxins, furans, VOCs). The Permittees must provide the rationale for the selections.

7. **Section 6.8.3, Scope of Activities for SWMU 15-009(b), page 31:**

Permittees' Statement: HIR Figure 4.6-2 and Plan Figure 6.6-2

NMED Comment: The Permittees must either move the proposed sampling locations or propose additional sampling locations. Previous sampling indicates contamination beyond the currently proposed locations (comparing HIR Figure 4.6-2 and the Plan Figure 6.6-2). Revise the Plan accordingly.

8. **Section 7.2.3, Scope of Activities for SWMU 36-003(a); page 39, paragraph two:**

Permittees' Statement: "Ten samples will be collected from five locations within and bounding the drain field (Figure 7.2-2). Samples will be collected from two depths (base of the drainline and 5ft below the base of the drainline) and analyzed for TAL metals, total uranium, cyanide, nitrate, perchlorate, VOCs, SVOCs, HE, isotopic uranium, isotopic plutonium, americium-241, gamma spectroscopy, and tritium."

NMED Comment: Table 4.0-1, *Proposed Sampling Description and Analysis*, provides contradictory information to the above statement. The table shows the depth of sampling to

be "Soil/tuff interface, 5 ft below soil/tuff interface." The Permittees must clearly state where the samples are to be collected and revise the text and table accordingly.

9. Section 8.3.2, Subsurface Samples, page 43

NMED Comment: The Permittees must discuss the decision making process to be used if contamination is detected by field screening of hand auger samples at the bottom of the borehole and there is a need to extend the borehole beyond the depth proposed in the Plan.

10. Section 8.4, Field-Screening Method, page 44, paragraph one:

Permittees' Statement: "The primary field-screening methods to be used on subsurface core include (1) visual examination and (2) radiological screening."

NMED Comment: The Order, Section IX.B.2.d, *Soil, Rock, and Sediment Sample Field Screening*, states the "primary field screening methods to be used are: (1) visual examination; (2) headspace vapor screening for VOCs; and (3) metals screening. Additional screening for site or release specific characteristics shall be conducted where appropriate." The Permittees must discuss why all Order-required field screening methods are not being utilized.

11. Section 8.7, Equipment Decontamination, page 45, paragraph one:

Permittees' Statement: "Drilling/exploration equipment that may come in contact with the borehole will be decontaminated by steam cleaning, by hot water pressure washing, or by another method before each new borehole is drilled."

NMED Comment: In the IDW discussion (Appendix B-2.6) and Table 8.0-1, *Summary of Investigation Methods*, the preferred method is dry decontamination. The Permittees must describe this method of decontamination and revise the text and tables so they are consistent.

12. Section 8.9.1, Removal of Septic and Settling Tanks, page 46, paragraphs two, three and four:

a. **Permittees' Statement:** "Each septic or settling tank will be located and soil, fill, or other material covering the tank will be excavated and stockpiled next to the excavation" and "[t]he excavated area will then be backfilled with clean fill and material excavated from the surface of the tank."

NMED Comment: The Permittees must sample all overburden material if its intended use is backfill. Soil used as backfill must not exceed residential soil screening levels (SSLs).

b. **Permittees' Statement:** "Potentially contaminated soil beneath the tank will be excavated, characterized and disposed of at an appropriate waste disposal facility," and "Once the tank has been removed, confirmation samples will be collected beneath the inlet and outlet of each tank and from below the tank."

NMED Comment: The Permittees must describe the criteria used to determine the extent of excavation and the estimated depth of the excavation. The Permittees must clarify that confirmation samples will be collected after the potentially contaminated soil is excavated.

13. Section 10.0, Schedule, page 47:

Permittees' Statement: "The scheduled notice date for NMED to approve this investigation work plan is November 28, 2008. Preparation for investigation activities is scheduled to start on December 3, 2008. Fieldwork is expected to start in early April 2009 and will take approximately 7 mo to complete. Fieldwork is scheduled to be complete by November 2009. The investigation report will be delivered to NMED on or before November 2010."

NMED Comment: The Permittees must submit the IR no later than May 31, 2010; six months after completion of fieldwork.

14. Table 4.0-1, Proposed Sampling Description and Analysis, pages 91-100:

NMED Comment: The Permittees must revise Table 4.0-1 to include a column (or columns) which provide the rationale for sampling depths, proposed laboratory analyses and the estimated depth of the soil borings.

15. Table 8.0-1, Summary of Investigation Methods, pages 101-102:

NMED Comment: The Permittees must revise Table 8.0-1 to include corresponding SOP numbers.

16. Appendix B, Section B-2.2, Excavated Environmental Media, page B-2, paragraph 2:

Permittees' Statement: "Most of the overburden soil and rock excavated above sumps and piping are expected to be noncontaminated. In areas where no evidence (e.g. broken pipes, stains, or odors) of contamination is found, the overburden soil will be stockpiled or containerized for reuse as fill in the area from which it was excavated."

NMED Comment: The Permittees must sample all overburden material if its intended use is backfill. Soil used as backfill must not exceed SSLs.

17. Appendix B, Table B-1.0-1, Summary of Estimated IDW Generation and Management, page B-5:

NMED Comment: The Permittees must provide an estimate of the volume of waste generated for each waste stream and revise Table B-1.0-1 to include the estimates.

Messrs. Gregory and McInroy
September 23, 2008
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The Permittees must address all comments and submit a revised Plan by October 23, 2008. As part of the response letter that accompanies the revised Plan, the Permittees shall include a table that details where all revisions have been made to the Plan 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 Plan (electronic copy) with the response to this NOD.

Please contact Kristen Van Horn at (505) 476-6046 should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc:

D. Cobrain, NMED HWB
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file: Reading and LANL'08, TA-12 (SWMU 12-001(a), SWMU 12-001(b), SWMU 12-002, AOC 12-005, AOC 12-004(a), AOC 12-004(b), AOC C-12-001, AOC C-12-002, AOC C-12-003, AOC C-12-004); TA-14 (AOC C-14-006); TA-15 (SWMU 15-004(a), AOC 15-004(d), AOC 15-005(c), SWMU 15-006(b), Consolidated Unit 15-006(c)-99, Consolidated Unit 15-006(d)-99, Consolidated Unit 15-007(c)-99, SWMU 15-009(b), SWMU 15-009(c), SWMU 15-009(h), SWMU 15-010(b), AOC 15-014(h), SWMU 15-014(m)); TA-18 (SWMU 18-007); TA-36 (SWMU 36-002, SWMU 36-003(a), AOC 36-008, SWMU C-36-003)