

TA 16

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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

November 29, 2005

David Gregory, Federal Project Director
Los Alamos Site Operations
Department of Energy
528 35th Street, Mail Stop A316
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David McInroy, Deputy Program Director
Environmental Remediation & Surveillance
Los Alamos National Laboratory
Mail Stop M992
Los Alamos, New Mexico 87545

**SUBJECT: NOTICE OF DISAPPROVAL FOR VOLUNTARY CORRECTIVE ACTION COMPLETION REPORT FOR SOLID WASTE MANAGEMENT UNIT 16-016(c)-99 AT TECHNICAL AREA 16
LOS ALAMOS NATIONAL LABORATORY EPA ID No: NM0890010515
HWB-LANL-03-024**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) has received and reviewed the United States Department of Energy and Regents of the University of California (collectively, the Permittees) document entitled *Voluntary Corrective Action Completion Report for Solid Waste Management Unit 16-016(c)-99 at Technical Area 16* dated November, 2003 and referenced by LA-UR-03-8482 and ER2003-0711. NMED hereby issues this Notice of Disapproval of the aforementioned document. The Permittees must respond to the following comments within thirty days of receipt of this letter.

1. Section 2.3.1, VCA Investigative and Remediation Activities, page 7:

The statement that barium contamination has not penetrated the bedrock beneath the flash pad is not supported by the data. There are no boreholes in the footprint of flash pad 386.



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Most of the samples collected from the footprint of flash pad were surface samples (0-1 ft. depth). At two locations, where samples were collected from two different depths, barium was detected at increasing concentrations in samples obtained at greater depths (e.g., at location ID 16-20189, barium in sample from 0-1 ft depth was at 1040 mg/kg and in sample from 2-3 ft depth was at 1400 mg/kg, and for location ID 16-20300, barium was detected at 120mg/kg at 0-1 ft and at 398 mg/kg at 2-3 ft depth). No data is available from greater depth than 3 feet. Revise the text accordingly.

2. Section 2.3.1, VCA Investigative and Remediation Activities, page 7:

The text states that confirmation sample locations and the matrix type of each sample is depicted in Figure 2.3-1, but Figure 2.3-1 does not provide this information. Revise the figure to indicate location of confirmation samples and indicate the matrix type for each sample taken.

3. Table 2.3-2, Frequency of Detected Inorganic Chemicals above the Background Value-Biological Zone, page 12

The background soil value listed for aluminum and vanadium is 29,900 mg/kg and 36.6 mg/kg, respectively. This appears to be a typographical error, since the soil background value should be 29,200 mg/kg for aluminum and 39.6 mg/kg for vanadium, as noted in Table 6.0-1 of the document *Inorganic and Radionuclide Background Data for Soil, Canyon Sediments, and Bandelier Tuff*, LANL 1998. Revise the tables accordingly.

4. Section 2.4.2.3, Evaluation of Organic Samples, page 16:

Several organic chemicals were eliminated as chemicals of potential concern (COPCs) based upon low detection frequencies. The Environmental Protection Agency (EPA) guidance (*Risk Assessment Guidance for Superfund [RAGS]*, 1989) cited in the Report allows for the elimination of chemicals from a risk assessment if it is detected infrequently (e.g., less than 5% per 20 samples with prior approval from the administrative authority), not detected in other sampled media, and/or if there is no reason to believe the chemical may be present. However, RAGS clearly states that, "chemicals expected to be present should not be eliminated" from the risk assessment. The report provides evidence that these constituents have been historically present at the site, and a review of waste data collected in 1999 and 2000 indicate the presence of these constituents in waste removed from the site. Thus, there is sufficient justification to warrant the inclusion of these constituents in the risk assessment. For the biological zone, the risk assessment should include benzoic acid, 1,4-dichlorobenzene, 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-methylnaphthalene, 3-nitrotoluene, 4-nitrotoluene, and tetryl. For the exposed tuff zone, the risk assessment should include di-n-butylphthalate, 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-methylnaphthalene, 4-nitrotoluene, and tetryl. Revise the risk assessment to include all organic constituents that have been historically present on-site, regardless of the detection frequency.

5. Tables 2.3-7 and 2.3-8, Frequency of Detected Organic Chemicals-Biological and Exposed tuff Zones, pages 17 and 18:

Remove 'footnote c' from Table 2.3-7 and Table 2.3-8. See Comment #4. Revise these tables accordingly.

6. Table 2.3-9, Results of Data Review, page 21:

Some organic chemicals were inappropriately eliminated from further evaluation based on the rationale that the detection frequency was less than 5%. See Comment # 4. Revise Table 2.3-9 to retain organic chemicals (i.e., Benzoic acid, di-n-butylphthalate, 1,4-dichlorobenzene, 1,3-dinitrobenzene, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-methylnaphthalene, 3-nitrotoluene, 4-nitrotoluene, and tetryl) that were eliminated on the bases of less than 5% detection frequency for further evaluation.

7. Section 2.3.2.4, Summary of COPCs, page 23:

Revise the text to include the organic chemicals that were dropped from further evaluation based on less than 5% detection frequency. See Comment #4.

8. Section 2.3.3.1, Contaminated Media-Current Conditions, page 24:

The statement "Neither surface water in the vicinity of the MDA P Site nor groundwater beneath the MDA P Site is impacted by residual contamination in the soil and tuff under current conditions" is misleading. No justification supporting this statement has been provided. Groundwater beneath MDA P has not yet been fully investigated, and the borehole data indicates that contamination has migrated in the subsurface. Surface water investigations in Cañon de Valle have not been completed yet. NMED concurs that the residual contamination at the site after the remediation, in the future, may not significantly contribute to potential contamination of groundwater or surface water. However, the contamination that has migrated offsite over the years and has potentially contributed to contamination of surface water and groundwater has not been addressed yet. NMED acknowledges that since contaminant migration from the site is indistinguishable from contamination from other sources, contamination in Cañon de Valle should be addressed through the upcoming Water Canyon/Cañon de Valle investigation and corrective measures currently underway for SWMU 16-021(c). Groundwater monitoring of Water Canyon/Cañon de Valle shall be conducted in accordance with Section IV.B.3.b.iv of the Consent Order.

9. Section 2.3.3.5, Nature and Extent of Contamination, page 29:

The statement that "All COPC concentrations decreased with depth across the site is incorrect." For example, in borehole 526, barium was detected at 30.9 mg/kg at 2-3 feet and at 413 mg/kg at 53.5-54.5 feet. Revise the report accordingly.

10. Section 2.4.1, Screening Assessments, page 30:

Organic chemicals that were detected in less than 5% of confirmation samples should not have been dropped from consideration for risk assessment. The EPA RAGS guidance clearly states that, "chemicals expected to be present should not be eliminated" from the risk assessment. See Comment #4. Revise the risk assessment to include all organic constituents that have been historically present on-site, regardless of detection frequency.

11. Section 2.4.1.1, Human Health, (c) Uncertainty Analysis, page 37:

Organic chemicals that were detected in less than 5% of confirmation samples were inappropriately excluded from the analysis. Revise the analysis to include all organic chemicals that were expected to be present at the site, regardless of the detection frequency.

12. Section 2.4.1.2 Ecological, (b) Screening Evaluation, page 41:

Version 1.4 of the ECORISK database was used. Provide justification for not using version 1.5, which was released in September 2002. In addition, several COPCs were eliminated from the assessment, as the data provided in ECORISK was less than background and thus, deemed not appropriate for use. Discuss why other sources for ecological toxicity data were not used in these cases.

13. Section 2.4.1.2 Ecological, (b) Screening Evaluation, page 41:

The text states that chemicals with seven or fewer detections in soil above the soil background value are rendered inaccessible to receptors. Because 100% of the site was not sampled, and the lower detection frequency above background does not render the chemicals inaccessible (it lowers the potential for exposure, but not eliminate it), this statement is erroneous. Revise the text to remove the discussion on these chemicals being inaccessible to receptors due to low frequency of detection above background. In addition, there is reasonable evidence to conclude that these chemicals are present at the site due to site activities. The exclusion of these chemicals as COPCs based upon the low frequency of detections is not valid (unless appropriate statistical analyses demonstrates otherwise) and requires prior approval from NMED. Explain why only barium was retained as COPC, when residual concentrations of barium, cobalt, and copper were found to be above the range of background concentration. Revise the risk assessment to address risk associated with exposure to these constituents.

14. Section 2.4.2.2 Groundwater Assessment, page 57:

The statement that residual constituent concentrations at MDA P Site are confined primarily to the upper 5 ft of the soil and tuff is not supported by the data. Barium, RDX and HMX were detected in boreholes 554, 557 and 526 at depth indicating that contamination has moved in the subsurface. Barium was detected at 413 mg/kg in borehole 526 at approximately 55 ft bgs, the last depth sampled. RDX and HMX were also detected at this depth. Barium was detected at 715 mg/kg at approximately 19 ft bgs and at 406 mg/kg at

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approximately 37 ft bgs; RDX was detected at 3.9 mg/kg at approximately 19 ft bgs in borehole 557. Revise the text accordingly.

Please contact Neelam Dhawan of my staff at (505) 428-2540 should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:nmd

Attachment

cc: N. Dhawan, NMED HWB
D. Cobrain, NMED HWB
J. Volkerding, NMED DOE OB
S. Yanicak, NMED DOE OB, MS J993
L. King, EPA 6PD-N
J. Ordaz, ES, LASO, MS A316
K. Hargis, ENV, LANL, MS J591
N. Quintana, LANL E/ER, MS M992

file: Reading and LANL '05 TA 16/16-006(e), 16-010(a), and 16-016(c).