



BILL RICHARDSON
GOVERNOR

TA-21
State of New Mexico
ENVIRONMENT DEPARTMENT

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

March 5, 2004

David Gregory, Program Manager
Los Alamos Site Office
Department of Energy
528 35th Street, Mail Stop A316
Los Alamos, NM 87544

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

RE: NOTICE OF DEFICIENCY
VCA COMPLETION REPORT ADDENDUM
SOLID WASTE MANAGEMENT UNIT (SWMU) 21-013(d)-99
LOS ALAMOS NATIONAL LABORATORY (LANL), NM0890010515
HWB-LANL-03-014

Dear Mr. Gregory and Mr. Nanos:

The New Mexico Environment Department (NMED) is in receipt of the VCA Completion Report Addendum for SWMU 21-013(d)-99, dated September 2003 and referenced by LA-UR-03-6494 (ER2003-0475). NMED has reviewed this document and is issuing a notice of deficiency. LANL must respond to the comments as outlined in the attachment to this letter within thirty (30) days of receipt of this letter. The human health and ecological screening assessments were not evaluated as part of NMED's review. NMED will evaluate the screening assessments upon LANL's submittal of its response to this request.

This SWMU is part of land transfer tract A-15. NMED has not determined whether or not the corrective measures implemented at this land tract are protective of human health and the environment. After its review of the screening assessments, NMED will make this determination and identify any further investigation, assessment, or remediation that is needed.



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Mr. David Gregory and Mr. Pete Nanos

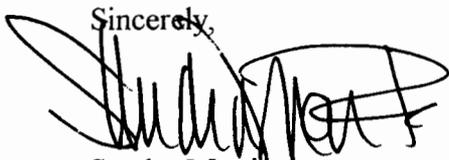
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The Permittees are reminded that a Class 1 permit modification request must be submitted prior to transferring any portion of the facility, and a Class 3 Permit modification request submitted to remove any SWMUs from the permit.

Should you have any questions, please feel free to contact Mr. John Young of my staff at (505) 428-2538.

Sincerely,



Sandra Martin
Acting Chief
Hazardous Waste Bureau

SM:hm

cc: J. Young, NMED HWB
C. Voorhees, NMED DOE OB
S. Yanicak, NMED DOE OB, MS J993
L. King, EPA 6PD-N
J. Vozella, DOE LASO, MS A316
T. Taylor, DOE LASO, MS A316
L. Cummings, LASO, MS A316
A. Ferrell-Brown, Assistant County Administrator, Los Alamos County
P. Bacon, County Attorney, Los Alamos County
B. Ramsey, LANL RRES/DO, MS M591
N. Quintana, LANL E/ER, MS M992
D. McInroy, LANL E/ER, MS M992
file: Reading and LANL (Land Transfer)

Attachment
VCA Completion Report Addendum for SWMU 21-013(d)-99

General Comments:

1. The Permittees must submit all Voluntary Corrective Action Work Plans to NMED for review prior to commencing field work. NMED never received the "Voluntary Corrective Action Plan Addendum for Solid Waste Management Unit (SWMU) 21-013(d)-99 at Technical Area 21," and was not given the opportunity to provide technical or regulatory input prior to the implementation of the plan. This lack of involvement on the part of the Permittees only serves to hinder the corrective action process and delay final decision-making.
2. For appendix J, the Permittees must identify what "Correspondences with Regulatory Agencies" should be included.
3. The signature page of the report is incorrect and reads "VCA Completion Report for SWMU 21-024(f) and AOCs C-21-015 and 21-030 at TA-50".

Specific Comments:

1. **Section 2.2.3 Preliminary Conceptual Model, p.8-9, paragraphs 1 & 2:**

LANL Statement: "The potential pathways for human exposure are dermal contact, inhalation of vapors and particulates, and incidental soil ingestion (Figure 2.2-2). The potential pathways to ecological receptors are root uptake, dermal contact, inhalation of particulates, incidental ingestion of soil, and food web transport (see Appendix F, ESLs and Ecological Scoping Check List)." "Pathways from residual subsurface contamination to potential human receptors would be complete only if contaminated soil or tuff were excavated and brought to the surface."

NMED Comment: The Permittees cannot prove that the subsurface will not be disturbed and contamination brought to the surface. As a land transfer parcel, land development may include the construction of buildings with basements and/or the development of gardens, thus disrupting the subsurface and increasing the potential for contaminants to be brought to the surface. The potential for exposure to subsurface contamination must be included in the risk screening and assessments. Subsurface contamination must be included as a potential pathway to humans because LANL cannot guarantee that this type of exposure won't occur. The Permittees shall revise the report accordingly.

2. Section 2.3.1.2 Sampling, p. 10, paragraph 1:

LANL Statement: “Investigative sampling was conducted at SWMU 21-013(d)-99 in accordance with the approved VCA plan addendum (LANL 2003, 75902), included as Appendix H.”

NMED Comment: The VCA Plan was not approved by NMED. (Also see General Comment # 1)

3. Section 2.3.2.1 Comparison of Inorganic Chemicals with Background, p. 23, paragraph 1:

LANL Statement: “In addition to the comparison of inorganic chemicals with their respective BVs, two statistical tests (Wilcox Rank Sum [WRS] and quantile tests) were used to determine whether the inorganic chemicals were statistically different from the background data sets (EPA 1994, 73793).”

NMED Comment: The Permittees used multiple statistical procedures to eliminate COPCs when some results in the data sets exceeded the background values (BVs) for corresponding constituents. The LANL BVs were calculated based on data collected facility-wide, evaluated by statistical procedures, and established as being the upper tolerance limit (UTL) for the background population of each constituent. According to the application of the UTL, any exceedance of the UTL is indicative of a release. No further statistical tests are necessary to establish that a particular value does not belong to the background population because the calculation of the UTL itself incorporates this information. The Permittees shall not use additional statistical tests to determine COPCs at SWMU 21-013(d)-99 and shall revise the report accordingly. Comparison of exposure concentrations to maximum background is also not necessary.

4. Section 2.3.3.1 Nature and Extent of Contamination (Inorganic Chemicals), p. 41, paragraph 1:

LANL Statement: “As the stainless steel hand auger bucket was advanced in welded and partially welded tuff, abrasion of the hand auger material may have resulted in samples being cross-contaminated by these metals. The stainless steel used in the construction of the auger cylinder is composed of several weight percent chromium, nickel, and copper (source: Material Safety Data Sheet).”

NMED Comment: NMED does not agree with this assertion for the following reasons:

- Unless the Permittees are using sampling equipment that has been compromised (e.g., rusted and chipping), pieces of the sampling equipment should not be found in the sampling medium. Stainless steel is used for such sampling devices

because of its physical and chemical properties. Unless the hand auger bucket is not in good condition and under certain circumstances (e.g., in the presence of water), chemicals from the stainless steel should not be detected in the tuff samples.

- Even though low levels of chromium are ubiquitous throughout the site, the anomalously high concentrations are found in select sampling locations that are clustered in the western portion of the site. Chromium ranges from 171 to 679 ppm in sample locations 21-01932 to 21-01941. These are also the same locations where nickel and copper are consistently detected above background levels. If the Permittees' theory were accurate, the higher concentrations of contaminants would more likely be found uniformly throughout the site rather than clustered.

Even though the Permittees claim these occurrences are difficult to explain, there is a strong possibility that they represent a contaminant release at the site. Given this, the Permittees are required to determine the vertical and horizontal extent of the metals contamination detected above background values with additional sampling.

5. Section 2.3.3.1 Nature and Extent of Contamination (Radionuclides), p. 43, paragraph 2:

NMED Comment: The Permittees compare site data to TA-21-specific baseline radionuclide levels. NMED does not accept site-specific background levels. BVs found in the "Inorganic and Radionuclide Background Data For Soils, Canyon Sediments, and Bandelier Tuff At Los Alamos National Laboratory" document must be used. The Permittees shall revise the report accordingly.

6. 2.3.3.1 Nature and Extent of Contamination (Summary of Nature and Extent of Contamination) p. 45, paragraph 1:

LANL Statement: "Several inorganic, radionuclide, and organic COPCs have been identified for SWMU 21-013(d)-99. Often there is no clear trend in the distribution of these COPCs."

NMED Comment: NMED does not agree that data should show a trend between waste-piles at the site. SWMU 21-013(d)-99 is referred to as a "cold dump" and was used for disposal of construction-related debris and building debris. (Appendix H Section 1.0, & Appendix J, Attachment 4) The debris disposed of originated at different locations, thus the material is not similar. The waste-piles are likely to be heterogeneous. (Also see specific comment # 11.)

7. Section 2.4.1.2 Ecological (c) Uncertainty Analysis Tables 2.4-6 & 2.4-8, p. 56 & 59:

NMED Comment: The Permittees must provide the following information pertaining to Tables 2.4-6 & 2.4-8:

- The calculations for the numbers generated under the 95% UCL (mg/kg). Include discussions of how the distributions (e.g., normal, log normal) were identified/determined.
- The unit of the Bandelier Tuff from which samples were collected and to which background value data were compared.

8. Section 2.4.1.2 Ecological (c) Uncertainty Analysis, p. 58, paragraph 1:

LANL Statement: "However, visual observations during site visits found that the vegetative community is healthy and flourishing in and around the SWMU."

NMED Comment: Subjective analyses such as visual appearance cannot solely be used to quantify the health of an ecosystem. The Permittees shall provide rationale behind the assertion that the site is healthy based on a visual analysis. The Permittees shall identify whether further studies were completed to confirm this information.

9. Section 2.4.1.2 Ecological (c) Uncertainty Analysis, p. 58, paragraph 7:

LANL Statement: "Exposure concentrations for the inorganic COPECs were similar to background and many exceedances of the BVs were limited to tuff, which are unavailable to receptors."

NMED Comment: The Permittees must provide an explanation that ensures the tuff will not be disturbed and contaminants will not be available to ecological and human receptors. (Also see specific comment # 1)

10. Appendix C Results of Quality Assurance/Quality Control Activities, Table C-5.3-1, p. C-24:

LANL Statement: In this table, radionuclides are identified as "Not detected (U); sample concentration was < minimum detectable concentrations (MDC)."

NMED Comment: The Permittees must clarify if the MDC is an appropriate term or if minimum detectable activity (MDA) is more appropriate when applied to radionuclides.

11. Appendix H VCA Plan Addendum for SWMU 21-013(d)-99, Section 4.2 Supplemental Surface and Subsurface Sampling p. 11, paragraph 3:

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LANL Statement: "Surface and subsurface samples will also be collected from eight grid points not previously sampled, from three locations outside of the original grid (Figure 4.2-1), and from the locations of the unsampled soil stock piles."

NMED Comment: It is clear from Figure 2.3-1 that many of the waste-piles have not been sampled. The Permittees must explain why all the waste-piles were not sampled as described in the VCA Plan Addendum and provide rationale for sampling those that were sampled. The Permittees shall sample all waste-piles (if they still remain) to adequately characterize the waste.