



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

MAR 19 1997

Ms. Terri Davis
DOE Team Supervisor
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

Re: Corrective Action Documents requested by HRMB

Dear Mr. Garcia:

Enclosed are the copies of the corrective action documents requested by NMED in a February 7, 1997, letter from Ed Kelley. Please note that the copies do not have a signature or an EPA letterhead. However, they are a copy of the documents sent to NMED over the past year.

Should you have any questions pertaining to these documents, please feel free to contact me at (214) 665-7442.

Sincerely,

Richard Mayer
LANL Project Leader

Enclosure



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APR 05 1996

Mr. Benito Garcia
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

Re: Additional Information of Newly Identified AOC
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the information provided by Los Alamos National Laboratory (LANL) dated February 7, 1996, concerning a newly identified solid waste management unit (SWMU) in Technical Area 2.

The area was determined to be a pile of metal nuggets identified now as AOC C-2-001, Metal Nugget Site. Based on the information presented, the EPA does not believe that this site should be added to the Hazardous and Solid Waste Amendments (HSWA) portion of the Resource Conservation and Recovery Act (RCRA) permit.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,


David W. Neleigh, Chief
New Mexico and Federal
Facilities Section


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April 26, 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, Nm 87502

Re: Sampling and Analysis Plans for 21-018(b)
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed Los Alamos National Laboratory's (LANL) sampling and analysis plan dated February 28, 1996, for solid waste management unit (SWMU) 21-018(b). EPA has determined that this plan is deficient. EPA recommends allowing LANL sixty days to respond to the enclosed list of deficiencies.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

**List of Deficiencies
Sampling Plan for 21-018(b)
Los Alamos National Laboratory**

1. **3.0 Data Quality Objectives, p. 4:** The last sentence of bullet 2 should be revised as follows: " Because the purpose of this plan is to confirm the absence of contamination, contamination is defined as a release of hazardous or radioactive constituents to the environment at levels that exceed SALs or background."
2. **Table 1, p.10-11:** How will it be determined when the possible samples will be analyzed? This also applies to Section 4.2.3 Number of Samples. When will samples at the 2-4 foot and 4-6 foot interval be analyzed?
3. **LANL shall provide a schedule for fieldwork and submittal of a report for this unit.**

April 26, 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

Re: Phase II Sampling and Analysis Plans for SWMUs 21-024(i),
21-024(c) and 21-027(a), Los Alamos National Laboratory

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed Los Alamos National Laboratory sampling and analysis plans dated January 29, 1996, for the following solid waste management units: 21-024(i), 21-024(c) and 21-027(a). The plans were found to be deficient, and enclosed is a list of deficiencies. EPA recommends allowing LANL sixty days to respond to these deficiencies.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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List of Deficiencies

Sampling Plan for TA-21 Los Alamos National Laboratory

Sampling plans for the following solid waste management units were reviewed: 21-024(i), 21-024(c), 21-027(a).

General Comments:

1. LANL continues to refer to other workplans, reports, and voluntary corrective action plans for information pertinent to the document being reviewed. If information presented in a previous document is pertinent to the approach being taken in the document being reviewed then LANL needs to repeat and provide the necessary information rather than citing another document. All reports and sampling plans should be complete documents, and the reviewer should not be required to find numerous other documents to complete a review and make a decision on the information being presented. Note: The Voluntary Corrective Action Plan listed (LANL 1995, 01-018) has not been reviewed, and the approach from this document (PRS 21-024(c)) cited on page 5, last paragraph has not been approved.
2. LANL needs to provide the detection limits for the field screening devices being used, in particular for the XRF.
3. Data is being collected for the possible recreational risk assessment and not for an eco-risk assessment which may need to be addressed at a later date.
4. When collecting the exterior samples, LANL should ensure that a sample is collected beneath where the piping enters and exits the septic tank.
5. LANL shall provide a schedule for field activities and RFI Report submittals.

Specific Comments:

PRS 21-024(c)

1. **Figure 2, p. 3:** The correlation between the 20 foot grid and the proposed phase II sampling locations is unclear. Is this related to the approach described in LANL 1995, 01-018, but not described in this document?
2. **3.4.1 Outfall Area, p. 7:** Additional samples should be collected at depth at the outfall location 21-1391, as contamination has already been determined at the surface.

3. Because contamination was found at the outfall, LANL must also investigate the piping to and from the septic tank for leakage.

PRS 21-027(a)

4. **3.3 Field Screening, p. 8:** LANL shall describe the field screening techniques being used for the chromium screening.
5. Depending on the results of Phase II sampling, then the piping may also need to be investigated for leakage.

PRS 21-024(i)

6. Depending on the results of the Phase II sampling, then the piping may also need to be investigated for leakage.

April 26, 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

Re: Review of Draft Expedited Cleanup Plan, SWMu 16-020
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the draft Expedited Cleanup (EC) Plan for solid waste management unit (SWMU) 16-020 at Los Alamos National Laboratory (LANL). Enclosed is a list of comments which LANL needs to address when they revise this EC plan.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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**Comments on Draft Expedited Cleanup Plan
SWMU 16-020
Los Alamos National Laboratory**

General Comment:

1. The Environmental Protection Agency previously agreed that LANL expedited cleanup plans might equate with an RFI Report submittal for a site. If LANL chooses to follow this approach, which would be more efficient than submitting both a plan and report on the same information, then LANL should submit equivalent information to that required in an RFI Report. This plan is lacking in a review of QA/QC data from the investigation, and submittal of all pertinent data as indicated below.
2. This expedited cleanup addresses human health risk, but not eco-risk which will have to be evaluated at some point in time. This site cannot be recommended for no further action until an eco-risk approach has been approved by all parties.
3. All official documents, such as final reports and certification statements should be submitted to the New Mexico Environment Department and the EPA should be copied.

Specific Comments:

1. **2.1.2 Physical Setting, p. 6:**

a. LANL indicates that the thick unsaturated zone of the volcanic tuff inhibits ground water recharge by surface water infiltration. Results of recent sampling from the springs in the area of Technical Area 16 have indicated the presence of high explosives. This indicates recharge from the surface to the uppermost aquifers if not the main aquifer. LANL should revise this sentence accordingly.

b. The text states that no wells to the main aquifer have been completed at TA-16, but does not say where the closest well is. The location of the closest well completed in the main aquifer should be provided.

c. The text states that volcanic tuff is considered to inhibit ground water infiltration. The tuff can inhibit ground water recharge, but may not prevent it. Tuff can have very high porosity and permeability, as high as sandstone. This language should be deleted unless LANL can provide information, such as vertical permeability data or hydrological studies, which support it.

2. **2.2.2 RCRA Facility Investigation, p. 8:**

a. Text in the second paragraph indicates that geomorphic mapping of the core samples was used to determine the interface between the clay horizons. This information should have been presented in this report.

b. Page 8: What is the depth to the tuff interface?

3. **2.2.3 Summary and Evaluation of RFI Analytical Results, p. 8:** LANL should be comparing the background results for the appropriate horizon from the background study to this area rather than using a soil UTL from all soil horizons.

b. **Page 10:** The PAH contamination at the outfall is described as characteristic of a single release, as opposed to repeated releases. No justification is provided for this statement. This sentence should be deleted.

c. **Page 11:** There are numerous springs in the area of this unit which would point to a perched alluvial aquifer within the area of this site. LANL should revise text accordingly.

4. **2.4.3 Cleanup Levels, p. 15:** LANL proposes a cleanup level with a target risk value of 10^{-5} for carcinogenic PAHs based on the suspected contribution of the roof drain from a large asphaltic roof. LANL should determine what the actual PAH contribution from the roof. This work is proposed in Section 3.3, Cleanup Activities.

5. **3.3 Cleanup Activities, p. 17:**

a. The text states that two soil samples were collected in February 1996 at locations guided by field screening and visual inspection. The purpose of the sampling was to check for contamination flowing down a slope outside of the drainage channel. The report should describe what type of field screening was used. Were the same screening test kits used as are being proposed for the clean-up? What were the screening results? The screening results should be compared to the analytical data, when available, and an assessment made of how well screening data correlates with laboratory data.

b. LANL indicates that soil which screens at a value of 50% of the calculated total PAH cleanup level will be removed. Since the field screening kits measure total PAH content, does this mean that anything detected over 1.5 mg/kg will be removed (Benzo[a]pyrene and Dibenzo[a,h]anthracene both have proposed cleanup values of 3 mg/kg)? Do the detection kits being proposed for use detect PAHs at less than 1ppm 100% of the time? What is the actual detection limit and limitations for the kits?

- c. Page 21:** A screening method to determine the 95% upper confidence level (UCL) for comparison with the established cleanup level for each PAH is discussed. The screening tests for the exposure units (EUs) should be done before mobilization of equipment for excavation of the known contamination areas. This will avoid delays in any required soil removal in the EUs while waiting on the laboratory results.
- 6. 3.5.2 Design, p. 23:** The text states that confirmatory soil samples will be collected only from the bottom of the excavation. This procedure will not confirm that the width of the excavation is adequate to remove all contaminated soil above action levels. Confirmatory samples should also be taken from the sides of the excavation.
- 7. 3.5.3 Design, p. 24:**
- a.** LANL should provide the calculated 95% UCLs for the means of the constituents for which cleanup levels have been determined.
- b.** Verification samples to be collected from the remediated stretches in the areas defined by exposure units (EU) should not include previously collected data. Verification samples should be collected in the remediated areas to verify that the remediation activity was complete.
- c.** If a third verification sample needs to be collected within the EU, how will it's location be determined?
- d.** LANL indicates that "Standard good laboratory practices documented by the standard data deliverable, will suffice to ensure data quality". This statement implies that LANL will not be collecting any quality assurance/quality control samples to verify sample quality. LANL should be aware that if the useability of the data is questioned then LANL will be required to resample to confirm verification analysis. LANL shall collect appropriate QA/QC samples.
- 8. 3.5.3 Implementation, p. 25:** Why is the tuff not being sampled?
- 9. 3.6 Site Restoration Plan, p. 26:** The plan does not have a provision for maintenance of the backfilled material. LANL should provide for maintenance of graded areas, including regrading as required, reseeding, etc., until revegetation has been established to prevent erosion.
- 10. 3.7 Acceptance Inspection, p. 26:** The plan states that the inspection checklist, containing specific items, criteria, and requirements to be inspected, will constitute acceptance

of remediation activities. A caveat should be added, which states that the inspection checklist will constitute acceptance, unless new information becomes available or unforeseen conditions are observed. LANL would then be required to either further investigate and/or remediate suspect areas.

11. **Costs, p. 28:** The costs for some of the plans is very high. A site-specific health and safety plan should have been developed for the original investigation which should need to be updated for the construction activities.

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MAY 16 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

**Re: Request for Changes in Due Dates for RFI Report for
Technical Area 6, 7, 8, 9, 22, 40, 58, and 62, Los Alamos
National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed a request by Los Alamos National Laboratory (LANL) to change the date of a RCRA Facility Investigation (RFI) Report at Technical Areas 6, 7, 8, 9, 22, 40, 58, and 62. EPA recommends accepting the proposed change for this RFI Report from May 31, 1996, to August 15, 1996. LANL proposes that this will insure a more complete report and additional Solid Waste Management Units (SWMUs) will be included in the report.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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MAY 2 3 1996

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Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

Re: Review of Natural Background Geochemistry and Statistical
Analysis of Selected Soil Profiles, Sediment and Bandelier
Tuff, Los Alamos, New Mexico

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed and noted the enclosed deficiencies for the document Natural Background Geochemistry and Statistical Analysis of Selected Soil Profiles, Sediment and Bandelier Tuff, Los Alamos, New Mexico. The EPA recommends that Los Alamos National Laboratory (LANL) collect site-specific background data for the three analytes which exceed screening action levels normally in the background soil when these analytes may have been used at that specific site. In addition, as noted in the enclosed General Comments, the upper tolerance limit (UTL) approach used by LANL to calculate natural background concentrations does not appear appropriate, given the data limitations. The EPA recommends LANL use an alternative approach for setting natural background levels for arsenic, beryllium and manganese.

Should you have any questions, please feel free to contact Mr. Michael Morton at (214) 665-8329 or Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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**List of Deficiencies
Background Document
Los Alamos National Laboratory**

Following are comments on this document: Natural Background Geochemistry and Statistical Analysis of Selected Soil Profiles, Sediments and Bandelier Tuff, Los Alamos, New Mexico. This report was not reviewed with regards to background concentrations established for radionuclides. Comments are best professional judgement.

General Comments:

1. The draft LANL document recommends that additional characterization (sampling) be performed on the A and C horizons. This review concurs with the document's own recommendation. There are several reasons for concurrence. First, the sample size for most analytes in the A and C horizons is small (generally < 25). Also, the A and C horizon Upper Tolerance Limits (UTLs) and the corresponding proposed LANL background soil screening values repeatedly exceed the maximum sampled analyte concentration. These exceedances are found in all three soil horizons, primarily in soil horizons A and C. Additional sampling may be geared towards the three analytes of concern (arsenic, beryllium and manganese)
2. The maximum soil concentrations of numerous analytes listed by horizons A, B, and C do not coincide with the maximum soil concentrations for the same analytes and soil horizons listed in Table 21.
3. A prerequisite of the statistical equation used to calculate LANL UTLs ($UTL_{0.95,0.95} = \text{mean} + \text{standard deviation} * k_{0.95,0.95}$) is that the analyte's data set be normally distributed. The draft report states that the majority of the analytes for which background soil screening values were determined had data that were "approximately" normally distributed either prior to or after transformation. If a data set is not normally distributed (prior to or after transformation), statistical manipulations based on the mean and standard deviation of that data set cannot be appropriately derived.
4. Proposed LANL background soil screening values exceed the screening action levels (SALs), according to the Region III algorithms, for three analytes (arsenic, beryllium and manganese). The proposed background soil screening values for arsenic and beryllium present a carcinogenic risk above the $1E-6$ risk level for both residential and industrial exposure scenarios at all three soil horizons. The proposed

arsenic background soil screening value for the B soil horizon (8.12 mg/Kg) represents a residential carcinogenic risk of $2.2E-5$ and an industrial carcinogenic risk of $2.5E-6$. The proposed beryllium background soil screening value for the B soil horizon (1.91 mg/Kg) represents a residential carcinogenic risk of $1.3E-5$ and an industrial carcinogenic risk of $1.4E-6$. The proposed soil screening value for manganese presents a non-carcinogenic hazard quotient of 2.6 for the residential scenario at all three soil horizons.

5. All three of the analytes with proposed background soil screening values in exceedance of SALs (arsenic, beryllium and manganese) show a significant difference in soil sample concentrations within subhorizons. This suggests that the data for these three analytes are variable and that soil concentrations may be site-related (as opposed to natural background).

Specific Comments:

1. Page 6. No description or legend is provided with Table 2 to define the various soil horizons listed in the last column of the table.
2. Page 28. The reported maximum soil sample concentrations listed in the "All Data" page of Table 8 do not coincide with the reported maximum soil sample concentrations on Page 53 in Table 21 for the following analytes:

Aluminum	Arsenic	Barium
Beryllium	Cadmium	Calcium
Chromium	Nickel	Potassium -TOTAL
Thorium-TOTAL	Uranium	Uranium-TOTAL

While the maximum reported for calcium (730 mg/Kg) was excluded as an outlier, according to discussions on page 46, many of the other analytes listed above had no outliers which might account for the maximum soil concentration discrepancies observed between Tables 8 and 21.

3. Page 30. This section discusses an analysis of key inorganic elements, major elements and minor elements. What defines an inorganic element as "key", "key major" or "key minor"?
4. Page 41. How is "significant" correlation defined with regards to the correlation reported between major elements and other trace elements. Although the document summarizes the correlations in Table 11, significance is not reported and the correlations are not defined. How does LANL define a significant correlation?

5. Page 51. Item "d" of Step 3 states that the UTLs calculated for normal, lognormal, or square root-transformed distributions were based on a 99th percentile and 95% confidence. Page 23 states that the UTL is determined as the 95% upper confidence limit of the 95th percentile. Which is correct? LANL previously agreed to calculate UTLs at the 95% upper confidence level of the 95th percentile.
6. Page 52. Table 20 summarizes statistical analyses of each analyte's soil sample results. Of the 30 listed analytes in Table 20, 18 analytes are reported as having data which is "approximately" normally distributed or "more" normally distributed than without data transformations. Only four analytes were normally distributed after data transformation (chromium, iron, manganese and sulfate). How does LANL define "approximately normally" distributed data? Has LANL evaluated how this exception to a required assumption for statistical determination of UTLs will compromise the UTL results?
7. Page 55. A summary of the lead soil concentrations and the calculated UTLs are omitted from Table 21.

MAY 2 4 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo St.
Santa Fe, NM 87505

**Re: Approval of Deferred Action for SWMU 3-037 (OU 1114)
Los Alamos National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed a Notice of Deficiency Response for Operable Unit 1114 dated April 12, 1995. Upon review of the information presented, it appears appropriate to defer additional sampling at Solid Waste Management Unit 3-037 until the Decontamination and Decommissioning activities have occurred.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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JUN 07 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044 Galisteo Street
Santa Fe, NM 87502

Re: NOD Response for PRS 31-001
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the Notice of Deficiency (NOD) Response dated November 28, 1995, for the RCRA Facility Investigation Report on Potential Release Site (PRS) 31-001. Currently, EPA cannot concur with a no further action recommendation for this site until the additional information outlined in the attached enclosure is addressed.

Review of the NOD Response also required review of a Voluntary Corrective Action Plan and VCA Completion Report for PRS 31-001. These additional documents did not provide sufficient information for a final decision at this site; therefore, a second NOD was determined to be appropriate.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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List of Deficiencies
RFI NOD Response 31-001
Los Alamos National Laboratory

General Comment: LANL needs to provide detailed figures or photographs of the area to be remediated with the VCA plan and the final report. The actual area remediated for this site was approximately 6 feet long, but width and depth are not provided in the report. In Figure 4 the blow up of the area shows a site approximately 1/2 inch in size. Surely, LANL can provide a more detailed figure of the actual excavation site. LANL might also provide a photograph with a scale showing the site after excavation.

Comments on: Voluntary Corrective Action Plan for Site under Field Unit 1 at TA-31, East Receiving Yard: 31-001, Septic System Outfall, June 9, 1995

1. **Table 7-1, Description of Confirmatory Sampling, p. 10:** The analysis method for metals is indicated as Toxicity Characteristic Leaching Procedure (TCLP) and also 6010 which is an Inductively Coupled Plasma Atomic Emission Spectroscopy method. The use of TCLP for confirmation sampling is not appropriate, and should be used for a hazardous waste determination. EPA notes that in the final VCA report (September 22, 1995) target analyte list metals were used rather than TCLP.
2. **Methodologies for Developing Site-Specific Preliminary Remedial Goals to Demonstrate Clean Closure, p. E-3:** For an industrial exposure scenario, LANL should backcalculate a soil concentration for carcinogens from a target cancer risk value of 10^{-6} rather than the 10^{-4} which was indicated in this document.

Comments on: Voluntary Corrective Action Completion Report, Potential Release Site 31-001, Septic System Outfall, September 22, 1995.

3. **Corrective Action, p. 23:** Text indicates that due to the extreme slope, backfilling and reseeding were considered to be ineffective. There are other means of stabilizing a slope, and this slope should have been stabilized following the excavation of the soil. LANL needs to provide a plan for stabilizing the slope or information related to how the slope was stabilized.
4. **Corrective Action, p. 23:** Text indicates that field screening did not indicate the presence of volatile organic vapors above background levels. LANL should provide the detection limits for the field screening devices used for volatile organics to support this sentence.

5. **Corrective Action, p. 23-24:** Text is confusing in regards to the number of confirmatory samples collected and the analysis conducted. Text on page 23 indicates two confirmatory samples were collected from the excavated area, and analysis was conducted for PCBs, and TAL metals. Text on page 24, indicates that three confirmatory samples were collected and analysis was only for PCBs. LANL needs to clarify the confirmation sampling and analysis which was conducted and supply all analytical results.

In addition, polycyclic aromatic hydrocarbons were found at this site above action levels, and LANL indicates that these should have been remediated with the other materials. Confirmatory sampling must be provided to substantiate this claim.

6. **Corrective Action, p. 24:** The depth and width of excavation should be provided. LANL indicates that material was removed to the tuff, but the depth is not included.

JUN 18 1996.

Mr. Benito Garcia, Chief
New Mexico Environment Department
Hazardous and Radioactive
Materials Bureau
2044A Galisteo St.
Santa Fe, New Mexico 87505

**RE: Technical Review of Los Alamos National Laboratory (LANL)
Sampling and Analysis Plan (SAP) for Potential Release Site
(PRS) 21-016(a,b,c), EPA I.D. No. NM0890010515**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has completed a technical review of LANL SAP for PRS 21-016(a,b,c), located in Technical Area 21, Los Alamos National Laboratory. The SAP is dated March 1, 1996. EPA has found the SAP to be deficient. Enclosed is a list of deficiencies for which EPA recommends that LANL be allowed sixty days to respond.

If you have any questions or need additional information, please contact Mr. Allen T. Chang of my staff at (214) 665-7541.

Sincerely yours,


David W. Neleigh, Chief
New Mexico - Federal
Facilities Section

Enclosure

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*X. Owen
6/14/96*

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LIST OF DEFICIENCIES
LOS ALAMOS NATIONAL LABORATORY (LANL)
SAMPLING AND ANALYSIS PLAN (SAP) FOR PRS 21-016(A,B,C)

1. Page 10, Section 2.1: The differences between this SAP and the one presented in the TA-21 RFI Work Plan, which was approved in 1991, are the number of boreholes to be drilled and sampled, sampling intervals, number of samples to be collected, and types of analysis to be performed. However, this SAP only discusses the number of boreholes. LANL needs to provide detailed information on all parts of the sampling. (Best Professional judgement (BPJ))
2. Page 19, Section 2.2.6: Borehole #16 is discussed as having an "initial depth of 50 ft." However, in Table B-1, the TD is listed as 150 ft. LANL shall provide the criteria for extending the depth from 50 ft. to 150 ft. (BPJ)
3. Page 21, 2nd Paragraph: LANL shall explain the meaning of the following sentences: "All fixed laboratory data should have an accuracy of ± 30 percent or better." (2nd Paragraph) and "The MCAL data (for VOCs and metals) should have an accuracy of ± 50 percent or better." (3rd Paragraph)

EPA is concerned that the data quality and data accuracy of the mobile laboratory, fixed laboratory and the MCAL. Data with such poor accuracy may not be appropriate for use in the decision-making process. LANL shall reduce the use of its mobile laboratory due to its imprecise quality assurance/quality control measures unless it can now demonstrate a better rate of accuracy. If the data quality and accuracy of those laboratories can not be improved, LANL shall have all samples analyzed by a reputable outside laboratory with better data quality. (BPJ)

4. Page 24, 5th Paragraph: The Plan states that field quality control samples will be collected in accordance with LANL Environmental Restoration (ER) Quality Assurance Project Plan (QAPP), which has not been finalized or approved. LANL shall follow the QAPP which has previously been approved until NMED approves the new QAPP. (BPJ)
5. Table B-1 indicates that a great deal of "Field Screening" data will be collected. This is in contrast to a lesser amount of field laboratory analyses and an even lesser amount of fixed laboratory analyses. LANL shall address how the field screening data will be used, and if the field screening data will be used to modify the location samples which will be sent for laboratory analyses. (BPJ)
6. LANL should drill at least one borehole in Absorption Bed 3. (BPJ)

7. Generally, flow of water and contaminants in volcanic tuffs can be dominated by fracture flow. This plan does not seem to take fracture flow into consideration. Fracture flow can result in contaminant migration and distribution that is very different from that predicted from simple vertical seepage. LANL shall detail how fracture flow will be addressed. (BPJ)

JUN 20 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

**Re: Review of Draft Expedited Cleanup Completion Reports
Los Alamos National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed three "draft" expedited cleanup completion reports provided to EPA as a courtesy by the Los Alamos National Laboratory (LANL). The EPA has several concerns related to these reports which may affect the final versions of these, as well as, other future reports. The following are a list of concerns:

1. In prior discussions with LANL, between NMED and EPA, LANL, indicated that they would have the completeness of all cleanups verified by an independent person knowledgeable in the remediation process. Any discrepancies between what should have occurred during remediation and the final remedy would be noted by this independent reviewer and "fixed" by the LANL Field Unit Leader. EPA is concerned that the "independent" person who is certifying that these cleanups are acceptable is Mr. David McInroy, who currently works for the Environmental Restoration program at LANL. This does not appear to be an independent review.
2. Complete analytical results are not in all the documents. All confirmatory results should be submitted even if they are non-detects. In particular, EPA is concerned about a comparison between a background well and a temporarily installed well at site 18-001(b). It does not appear that complete sampling data has been provided from the background well for critical constituents such as arsenic and beryllium, as well as other metals. A review of the data as it is presented indicates that a release has occurred to the shallow aquifer in Pajarito Canyon. All the data from the background well is needed in order to determine if a release has actually occurred or if these elements are higher than action levels naturally in the ground water.

✓ 84

3. The reports should detail the actual costs for the remediations. Estimated costs were presented in the expedited cleanup plans, and the completion reports should detail actual costs for the projects.

The EPA is currently preparing a draft Statement of Basis for four sites which underwent expedited cleanups in 1995, and for which a Class 3 permit modification is currently being finalized. Several of the issues listed above will need to be resolved by the New Mexico Environment Department prior to a final decision being made for these sites.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

DC
David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Barbara Driscoll
6PD-N: BDRISCOLL: BD: 6/19/96: F: \USER\BDRISCOL\NMEDEC.LTR

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H. Owen
6/19/96

JUN 27 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

Re: NOD Response for SWMUs 10-001(a-d): Second NOD
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the NOD Response dated February 16, 1996, concerning Los Alamos National Laboratory's (LANL) RFI Report for Solid Waste Management Units 10-001(a-d). In EPA's NOD dated November 28, 1995, EPA indicated that insufficient samples were collected in order for EPA to concur that there was no human health risk at the site. LANL responded that LANL had completed the work approved in the RFI Work Plan, and they would like to recommend these sites for no further action based on Phase I results.

The EPA still recommends that additional sampling must be conducted at these sites in order to make an appropriate determination, and LANL needs to submit a work plan to address these concerns discussed in the NOD. Therefore, EPA recommends that NMED should not approve this RFI Report until additional sampling has been conducted at these sites.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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K.H

JUL 01 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

Re: RFI Work Plan for Technical Area 1, SWMU 1-007(1)
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the RFI Revised Sampling and Analysis Plan for Technical Area 1, Aggregate P at Los Alamos National Laboratory. EPA recommends approval with the following modification of this work plan dated March 5, 1996. EPA recommends that prior to homogenization of the core material, the core material should be examined and only material which appears to be fill material from Building D should be homogenized.

Should you require additional information, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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6PD-N
OWEN

JUL 08 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

Re: Approval of RFI Report for Technical Area 33 (MDA K)
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed and recommends approval of Los Alamos National Laboratory's RFI Report for Technical Area 33, Material Disposal Area K, dated September 28, 1995, with the enclosed list of modifications. The approved RFI Report would consist of the original report dated September 29, 1995, the Notice of Deficiency Response dated May 2, 1996, and the enclosed list of modifications. Information submitted in response to the enclosed list of modifications or request for additional information will be reviewed and approved separately. EPA recommends allowing LANL 30 days to provide the requested information.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh
New Mexico and Federal
Facilities Section

Enclosure

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JUL 17 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

**Re: Approval of RFI Report for 14 SWMUs in TA-33
Los Alamos National Laboratory**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed and recommends approval of the Los Alamos National Laboratory RFI Report for Technical Area 33, dated January 26, 1995, with the enclosed list of modifications. The approved report would consist of the original document dated January 26, 1995, the Notice of Deficiency Response dated May 24, 1995, and the enclosed list of modifications. Information submitted in response to the enclosed list of modifications or request for additional information will be reviewed and approved separately. The EPA recommends allowing LANL 90 days for responses to information requests.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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Modifications
RFI Report for Technical Area 33
Los Alamos National Laboratory

These comments address the RFI Report for TA-33 in which the following sites were discussed: 33-004(d,g,h,i), 33-005(a,b,c), 33-007(c), 33-010(e,f), 33-011(a,e), 33-012(a) and 33-015.

1. LANL may choose to request a Class 3 permit modification for the following sites under NFA Criterion 5 (The potential release site (PRS) has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use):

33-004(d)
33-004(g)
33-004(h)
33-010(e)

2. LANL may choose to request a Class 3 permit modification for the following sites under NFA Criteria 1 (The site cannot be located or has been found not to exist, is a duplicate PRS, or is located within and therefore, investigated as part of another PRS):

- a. **33-05(a,b,c):** This site will be investigated as part of SWMU 33-011(a). In addition, all lab contamination should be reported in the Tables and should be indicated with a qualifier (b) for lab contamination. This applies to the toluene which was identified as a lab contaminant at this site. This information was requested in the Notice of Deficiency dated April 22, 1995, and was not provided in the NOD Response dated May 24, 1995.

- b. **33-004(i) - Conclusions and Recommendations, p. 71:** The low levels of PAHs found at this site were addressed with SWMU 33-017. LANL needs to include the lead found at this site with the risk assessment for lead at 33-017, as the lead is attributable to the vehicle maintenance area. If LANL revises the risk assessment accordingly, then LANL may request a Class 3 permit modification for 33-004(i) under NFA criteria 1 as agreed to in the Document of Understanding between NMED, EPA, DOE, LANL and Sandia National Laboratories.

Additional information and data is required for the following sites:

3. **33-010(f), p. 81:** LANL should evaluate aerial photographs of these sites to determine when they may have originated. Better figures and photos of the sites should be provided.

In addition, since the piles are located on the slopes of a tributary, samples should also be collected in the drainage leading from the site. Analysis should be conducted for pesticides including PCBs, in addition to inorganics, and SVOCs. LANL shall submit a modified sampling plan for this site with detailed figures indicating the location of proposed samples.

Best Professional Judgement

4. **33-011(e), p. 86:** The RFI Work Plan for OU 1122 indicates that the contents in the drums was unknown, and the only analysis conducted at the two samples collected from this area was for herbicides and one for pesticides. LANL should determine the location of the previous drums to the extent possible (maybe use aerial photos, or additional interviews of staff who were on site). Resampling should be conducted where drums were previously stored with analysis for inorganics, SVOCs, and VOCs.

LANL shall submit a modification to the workplan with addresses the samples to be collected.

Best Professional Judgement

5. **33-012(a), p. 90:** PCBs were found at a level of greater than 1 mg/kg in an area accessible to drainage. Region 6 has a general policy of remediating PCBs to 1 mg/kg in any area located near drainage. The PCBs must therefore be addressed. LANL may request in writing an exemption from sending the material to a PCB landfill from the Region 6, Toxic Substance and Control Act group.

Best Professional Judgement

6. **33-015, p. 95:** The evaluation of potential exceedance of the sum of the multiple constituent ratios (SMCR) should be based on a site-wide basis not sample-by-sample basis. That is the maximum constituent concentrations of all detected contaminants (for all combined sample datum) should be used for the calculation of this sites SMCR. Lead may be addressed separately, and the lead from this site may appropriately be addressed with the lead findings combined in the evaluation of SWMU 33-017. LANL needs to resubmit the recalculation of the SMCR with the data used. If this value is still less than one then a Class 3 permit modification may be requested for this site under NFA Criterion 5.

Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A) pp.8-12, 8-13. OSWER 9285.7-01A, December 1989.

SWMU 33-007 (c)

7. **4.11.3 Potential Release Characterization, p. 103:** LANL has collected background samples for arsenic which demonstrate the background value for this site should be at a maximum 2.0 ppm. The site-wide upper tolerance limit (UTL) and even the TA-33 calculated UTL are not appropriate for this site. The low background values at the site demonstrate that a release of arsenic has occurred at the site, and arsenic is a contaminant of potential concern.

Best Professional Judgement

8. **4.11.4 Evaluation and Recommendations, p. 104:** A complete determination for this site cannot be made until all data is reviewed; however, it would appear that the chunks of uranium found at the site will need to be removed.

Best Professional Judgement

SWMU 33-011(a)

9. **4.12.4 Evaluation and Recommendations, p. 112:** LANL may not compare the PAH levels detected at this site with the urban values presented in the Bradley et al. (Bradley, L.N.H., B.H. Magee and S.L. Allen, 1994. "Background Levels of Polycyclic Aromatic Hydrocarbons (PAH) and Selected Metals in New England Urban Soils, "in Journal of Soil Contamination, Vol 3 (4), p. 349). The risk assessment should be recalculated using all PAH data.

EPA letter to Mr. Taylor dated May 19, 1995: Evaluation of Interim Guidance for Evaluating Polycyclic Aromatic Hydrocarbons in Soil.

JUL 17 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87502

Re: Approval of RFI Report for Technical Area 39
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the NOD Response dated April 2, 1996, for RFI Report on Technical Area 39 at Los Alamos National Laboratory. EPA recommends approval of this RFI Report with modifications as completion of Phase I sampling.

The approved RFI Report shall consist of the RFI Report dated April 28, 1995, the NOD Response dated April 2, 1996, as well as the enclosed list of modifications and recommendations. Enclosed is a discussion of each site detailed in the RFI Report along with a recommendation for that site. Many of the sites will require Phase II sampling, and several of the sites are recommended to be added to the HSWA portion of the permit.

Should you require additional information, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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**Recommendations and Modifications
RFI Report for Technical Area 39
Los Alamos National Laboratory**

This RFI Report contained information on the following sites: 39-002(a-f), 39-005, 39-006(a), and 39-007(a and d). Unless otherwise noted, all comments are considered best professional judgement.

Modifications:

1. Ecological risk assessments for all sites will need to be reevaluated when an eco-zone approach has been agreed to by NMED.
2. The polychlorinated biphenyl (PCB) guidance on page 7-3 is inaccurate and does not represent the Environmental Protection Agency's position on the cleanup of PCBs. Depending on site-specific considerations, the Regional Administrator may determine that a different cleanup level is more protective than those discussed. EPA Region 6 has a policy of requiring cleanup of PCBs in any drainage areas or areas leading to surface water of 1 part per million in soil. Official notification of PCB cleanups should also be made to the Toxic Substance Control Act (TSCA) personnel.

Letter: EPA Comments on Draft LANL Guidance, Cleanup of Polychlorinated Biphenyls dated May 8, 1995, and EPA letter dated September 20, 1995, PCB Spill Cleanup Policy.

3. LANL needs to provide a schedule for work plan submittal, fieldwork and projected RFI Report dates for sites which will require additional characterization.

Following are recommendations for each site:

4. **39-002(a): Satellite Storage Area:** LANL recommends an expedited cleanup for this site. Additional sampling is needed to characterize the extent of contamination prior to finalization of a cleanup plan.
5. **39-002(b): Satellite Storage Area:** EPA does not concur with combining this site with 39-004(c) until decommissioning. PCBs were found in two samples in drainage at levels well in excess of 1 mg/kg. LANL should proceed with plans for extra characterization of this area and to remove material containing PCBs in excess of 1 ppm from the drainage and provide a plan for this cleanup. This site should be added to the HSWA portion of the RCRA permit.

6. **39-002(c): Storage Area:** Additional characterization and removal of the source of contaminants is appropriate for this site. LANL must reevaluate the multiple constituent evaluation for all PAHs which were above SALs. This site should be added to the HSWA portion of the RCRA permit.
7. **39-002(d): Storage Area:** Beryllium and Uranium were found above SALs. LANL recommends combining this site with 39-004(d) which is currently on the HSWA permit. LANL needs to specifically respond to each of the questions asked in deficiency #19. It is not acceptable to respond see the work plan. Additional characterization appears appropriate at this site and a further determination of combining this site with 39-004(d) or adding this site to the permit will be based in part on information supplied in response to the deficiency questions.
8. **39-002(e): Storage Area:** LANL needs to respond to deficiency #21. LANL has not provided additional justification for the selection of sampling locations, and additional sampling appears appropriate.
9. **39-002(f): Storage Area:** The presence of copper detected at 3200 mg/kg (Screening Action Level is 200 mg/kg) indicates that additional characterization is needed for this site. The extent of contamination needs to be defined. This site should also be added to the permit. The presence of high levels of copper may be especially significant in an ecological risk assessment.
10. **39-007(a): Storage Area:** This site underwent a voluntary corrective action for PCBs which will need to be reviewed prior to a recommendation being made for this site.
11. **39-007(d): Storage Area:** This site does not need to be added to the HSWA portion of the permit. Recommend no further action.
12. **39-006(a): Septic Tank System, Sand Filters and Outfall:** The following recommendations are made:
 - a. Additional sampling is required in the active septic tank as agreed to in the NOD Response.
 - b. LANL proposes removal of the inactive septic tank and sampling around the tank.
 - c. The PCBs found in the inactive septic tank at a depth of 6 feet were at concentrations around 4.4 ppm which indicates that contaminants may have been driven deeper than suspected by LANL. LANL need to drill some deeper

boreholes in both sand filters and collect samples starting at the 6 foot interval through the fifteen foot interval with analysis every three feet. Samples should be analyzed for metals and PCBs.

- d. While little contamination was found in the boreholes drilled outside the chemical seepage pit, LANL proposes removing the pit. LANL does not believe that the areas of maximum contamination may have been detected in sampling.
13. **39-005: High Explosives Seepage Pit:** No further action under Criterion 3: No release to the environment has occurred, nor is likely to occur in the future.

JUL 18 1996

Mr. Benito Garcia, Chief
New Mexico Environment Department
Hazardous and Radioactive
Materials Bureau
2044A Galisteo St.
Santa Fe, New Mexico 87505

RE: Technical Review of Los Alamos National Laboratory (LANL)
RFI Report for SWMU 0-039, EPA I.D. No. NM0890010515

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has completed a technical review of Los Alamos National Laboratory (LANL) RFI Report for SWMU 0-039, submitted on February 28, 1996. The EPA found the RFI Report to be deficient, and comments are enclosed.

The EPA recommends that the Class 3 permit modification to remove the SWMU from the RCRA/HSWA permit not be approved until all comments have been resolved.

If you have any questions or need additional information, please contact Mr. Allen T. Chang of my staff at (214) 665-7541.

Sincerely yours,

David Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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LOS ALAMOS NATIONAL LABORATORY (LANL)
RFI REPORT FOR PRS 0-039

NOTICE OF DEFICIENCY

1. Page 41, Table 5.1.6-1: Please explain why results of the listed chemicals, except TPH, for Sample 0100-95-0023 are all printed as <25. Is 25 a detect limit for this sample? LANL shall explain the reason the detection limit of this sample is much higher than others. (BPJ)
2. Page 43, 1st Paragraph: The Report stated 20 samples had EQLs that were higher than their respective SALs. LANL shall list these results along with their respective SALs regardless whether these chemicals are expected to be present in the site. (BPJ)
3. Page 45, Section 5.1.7.2: It states, "The reasonable maximum exposure use for this area would be for workers to walk through this area several times a day." Because the site is a local Community Center, children shall also be included in the possible exposure group. LANL shall also evaluate a residential exposure scenario. (BPJ)
4. Page 47: ED was printed 25 years for a worker and AT was explained as 25 years x 365 days/year; but in Table 5.17.2.2-2, ED was printed as 30 years and AT-nc(d) was printed as 10950, which is the product of 30 x 365. Which number is correct (25 or 30)? (BPJ)
5. Page 50, first Paragraph: It states, "It is also noted that the air concentrations estimated for the site using the EPA's Volatilization Factor Model (VFM) would fall below all of these ambient air guidelines and regulations." LANL shall list air concentration of Stoddard solvent" estimated by this model and the concentrations listed in EPA's guidelines and regulations? (BPJ)
6. Page D-2 and D-3, some PCE sample values had the superscript "c" attached, and "c" was noted in the bottom of Page D-3, as "A duplicate of this sample reported a detected value of 0.027 mg/kg PCE." LANL shall explain how the duplicate samples from different sample locations have same PCE concentrations (0.027 mg/kg) (BPJ)
7. Page D-10: The weakness of this argument is that the transport model used to estimate the depth of the PCE plume, necessarily, makes lots of assumptions, e.g., steady state flow and isotropic flow parameters, and uses a number of default values. Small change in these parameters can change the calculated depth of the PCE plume, and thus the result is not very dependable. For instance on Page D-11 changes in h_r , K , and w_b can alter the relative hydraulic conductivity values from the Brooks-Corey equation, and in turn the

steady state water flux. The movement of PCE per year could be different, thus the plume depth of PCE.

Thus the whole argument of LANL not having liability based on the discrepancy between calculated and observed plume depth is unreliable and questionable. LANL should resume the responsibility of cleaning the site. (BPJ)

JUL 23 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

**Re: Approval of RFI Report for Technical Area 45
Los Alamos National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the NOD Response dated March 1, 1996, for Los Alamos National Laboratory's (LANL) RFI Report on Technical Area 45. The EPA recommends approval of this RFI Report which includes information on the following sites: 45-001, 45-002, 45-003, 45-004 and C-41-005. Partial information for site 1-002 was also included in this report; however, no final determination may be made for this site until all information related to this industrial waste line is provided. The approved RFI Report will consist of the RFI Report dated June 26, 1995, and the Notice of Deficiency Response dated March 1, 1996.

It should be noted that a review of the NOD Response, deficiencies, and responses, indicated how important it is that all pertinent information be included in the RFI Report. Many of the responses referred to the RFI Work Plans for pertinent information which should have been included in the RFI Report. LANL needs to ensure that the RFI Reports are stand alone documents, and all information leading to decisions is included in the report. In addition, any deviations from the approved work plan should be outlined in the reports.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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OWEN

AUG 06 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

**Re: Approval of RFI Report for Technical Area 42
Los Alamos National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the Notice of Deficiency Response dated July 19, 1996, for Los Alamos National Laboratory's (LANL) RFI Report on Technical Area 42. EPA recommends approval of the RFI Report for Technical Area 42 which contains information on the following solid waste management units: 42-001(a, b and c), 42-002(a and b) and 42-003. The approved report should consist of the RFI Report received October 16, 1995, and the NOD Response dated July 19, 1996.

LANL shall also note the following EPA comment in regard to NOD Response #1: Technically, Field Unit 4 may feel that the use of TCLP metal analysis is adequate to limit the suite of RCRA constituents. However, EPA does not concur with this assessment especially when, the object of the investigation is to determine the presence and extent of hazardous constituents rather than if material is hazardous waste.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

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JUL 30 1996

Mr. Benito Garcia, Chief
Hazardous and Radioactive
Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505

**Re: Approval of RFI Report for Technical Area 36
Los Alamos National Laboratory (NM0890010515)**

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed the Notice of Deficiency Response dated February 27, 1996, for the RFI Report on Technical Area 36 dated September 28, 1995. EPA recommends approval of the RFI Report as completion of all phase I sampling activity required under the RFI Work Plan.

Enclosed are comments on the status of each solid waste management unit discussed in the RFI Report. Final determinations for each SWMU will be made upon receipt of verification of remediation or completion of additional sampling.

Should you have any questions, please feel free to contact Ms. Barbara Driscoll at (214) 665-7441.

Sincerely,

David W. Neleigh, Chief
New Mexico and Federal
Facilities Section

Enclosure

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Comments
NOD Response Revisions for RFI Report TA-36
Los Alamos National Laboratory

This RFI Report included information on the following SWMUs:
36-003(a and b), 36-005 and C-36-003.

1. **36-003(a):** Septic tank contents need to be addressed. A final determination for this site will be made following all cleanup activities.
2. **36-003(b):** Septic tank contents need to be addressed. A final determination for this site will be made following all cleanup activities.
3. **36-005:** Additional Phase I sampling appears approvable. However, Phase II sampling plans are not acceptable. If additional Phase I sampling indicates a more significant VOC problem then LANL should conduct a soil/gas survey to define the potential extent of VOC contamination. Additional sampling should be based on past investigation results and the soil/gas survey rather than collecting samples at random locations.
4. **C-36-003:**
 - a. EPA disagrees that the PAHs which failed the screening assessment may be dropped from the final contaminants of potential concern list. The presence of these chemicals seems directly related to laboratory processes, and in sample AAB1913 the concentrations of all these chemicals are elevated well above any concentrations anticipated from run-off of asphalt areas.
 - b. Phase II sampling will need to be modified to include sampling for VOCs as well as metals and PCBs. LANL currently proposes to only analyze for chromium speciation and PCBs; however this list should be expanded to include a complete metals analysis. Samples should be collected at depth at both 0-6 inches and 12-18 inches and analysis will be conducted for PCBs, VOCs, and metals at all three locations (36-3108, 36-3109, 36-3110).
 - c. LANL shall provide an explanation for collection of the samples on the crest of the canyon upgradient of sample 36-3108.
 - d. A revised risk assessment will be provided with analytical results from the Phase II sampling.