

TA-33

APR 16 1996

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

Re: Notice of Deficiency for RFI Report TA-33  
Los Alamos National Laboratory (NM0890010515)

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed Los Alamos National Laboratory's (LANL) RFI Report for Technical Area 33, dated September 29, 1995, and found it to be deficient. Enclosed is a list of deficiencies which need to be addressed by LANL. EPA recommends allowing sixty days for a response to the deficiencies.

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

Sincerely,

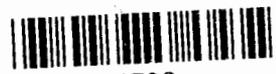
David W. Neleigh, Chief  
New Mexico and Federal  
Facilities Section

Enclosure

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*K. Owen*  
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**List of Deficiencies**  
**RFI Report for Technical Area 33**  
**Los Alamos National Laboratory**

This RFI Report dated September 29, 1995 includes information on the following SWMUs: 33-003(a and b), 33-004(a and k), 33-007(c), 33-008(a and b), 33-009, 33-011(d), 33-013, 33-016, 33-017, \*C-33-001 and \*C-33-002. Phase II sampling plans are included for the following SWMUs: 33-009, 33-011(d), 33-013, and 33-017.

**\* non-HSWA SWMU**

**General Comments:**

1. RFI Reports should include information concerning the sampling that was conducted, such as, where samples were located, depth of sampling, field screening results. The reviewer should not have to refer to multiple documents to find the information needed.
2. LANL shall submit a schedule detailing when field work will occur on Phase II for these units, and when an RFI report will be submitted.
3. All results should be reevaluated based on revised calculations of the upper tolerance limits at the 95 confidence level of the 95 percentile. Changes in conclusions or recommendations should be submitted.
4. It would be much easier for the reviewer if the Phase II sampling plans directly followed the information presented for the individual SWMUs. In addition, LANL continues to not present all the analytical data which is used as the basis for decision making. Each report should contain a list of constituents which are analyzed under each method along with the detection limits for that method.

**Specific Comments:**

1. **3.1.5 Quality Assessment Samples, p. 14:** Why does the LANL organics laboratory not report tentatively identified compounds (TICs)? LANL shall provide a better explanation or justification for the statement "It is more likely that the TICs represent background levels of organic compounds".
2. **3.2.1 Background Comparison, p. 16:** While RFI Report LA-UR-95-882 provides a detailed analysis of background data for TA-33, it would be appropriate for LANL to include a synopsis of how many data points were used, their location along with a figure, and the depths and types of materials sampled in each report that this information is used.

3. **4.1.1 Previous investigation, p. 21:** The discussion of this SWMU 33-003(a) would make more sense to be included with a discussion of SWMU 33-003(b). LANL shall provide a detailed description of the previous investigation conducted by Roy F. Weston in 1989 including: sampling intervals, sampling techniques, and analysis conducted.
4. **4.1.3.3 Risk Assessment, p. 24:** LANL needs to provide a copy of engineer drawing ENG-C 426 for this site.

**SWMU 33-004(a)**

5. **4.2.3.1 Comparison to Background/SALs, Seepage Pits, p. 28:** LANL shall include information related to the intervals which were sampled. Why were the boreholes not drilled down gradient from the seepage pits? What was the depth of each seepage pit?
6. **Table 4-5, p. 30:** It is preferable to list sample points and analysis by sample point rather than by contaminant. The manner in which information is presented in these tables makes it difficult to correlate sample information to figures, and determine areas which may be a problem.
7. **4.2.3.2 Data Interpretation, p. 32:** LANL's interpretation of the source of PAHs is not substantiated, especially when the system received laboratory waste from 1951.
8. **4.2.3.3 Risk Assessment, p. 32:** It is unclear why a risk assessment was not conducted at this site. LANL should evaluate if there is a present concern based on the release of material in the drainfield. If the risk assessment demonstrates that there is no current problem then it would be more reasonable to defer this site until decommissioning.
9. **4.2.4 Conclusions and Recommendation, p. 34:** This system is active and therefore it appears that there should be some piping associated with the system. The piping is not indicated on any of the figures; however this information should be included. LANL shall revise their figures or submit additional figures indicating piping. The piping will need to be investigated for leaks. In addition, the tank should be fixed so that it no longer leaks.

**SWMU 33-007(c)**

10. **4.3.4 Conclusions and Recommendations, p. 38:** Figure 4-3 indicates that only one catcher box was sampled. Where the other boxes sampled? If not then LANL should also sample the other boxes.

**SWMU 33-009**

11. **4.4.3.2.1 Computations for PCBs at Area 6, p. 42:** It is unclear why LANL has calculated the means and 95% upper confidence limits for polychlorinated biphenyls (PCBs) at this sites. LANL should also evaluate aerial photos of this site to assist in determining where capacitors may have been stored.

**Appendix B**

12. **Page B-2:** Paragraph one indicates that a samples from the boreholes will be collected at the surface (0-6in.?) and from 12 to 18 in., but paragraph two discusses samples collected in the 18 to 24 in. depth. These statements contradict each other. LANL shall clarify the depth of sample collection.
13. **Page B-2, Paragraph Three:** A minimum of 10% of samples being sent for confirmatory laboratory analysis is not adequate in view of the fact that the immunoassay kit being used (see Appendix C in the report) has a less than 20% probability of determining if a sample is less than or equal to 1 mg/kg. The action level for PCBs is 1 mg/kg, and therefore this screening technique is not adequate. Under the Toxic Substance Control Act field screening techniques are not considered adequate for verification of cleanup or verification that a release has not occurred. LANL should analyze all samples using SW 846 methodology. This applies to all samples collected for this site (SWMU 33-009).
14. **Slope Below:** The next sampling interval below the surface should be from 12 to 18 inches rather than 18 to 24 inches.
15. Samples in drainage (2174 and 2173) also indicated PCBs above 1 mg/kg. As part of phase II sampling, LANL should also identify locations within this area of drainage for additional sample collection.

**SWMU 33-011(d)**

16. **4.5.3.2 Data Interpretation, p. 46:** Was beryllium detected in any of the samples analyzed?
17. **Appendix B, Sampling Summary, p. B-7:** LANL should collect a sample between 6 to 12 inches below the pavement rather than at 2.6 feet below the pavement.

**SWMU 33-013**

**18. Appendix B, Phase II Objectives, p. B-9:**

**a.** Paragraph 2 indicates that LANL will be using a laser-induced breakdown spectroscopy (LIBS) instrument for biasing samples. Does LANL have a written and approved standard operating procedure for this instrument? This SOP should be provided to EPA and NMED. This method of field screening has not yet been approved or reviewed to be accurate. LANL should also provide documentation which substantiates the detection limits indicated for the LIBS.

**b. Page B-10, Paragraph Two:** An additional sample should also be collected from the approximate location of sample AAA2036 where tritium was indicated at high levels previously. In addition, sampling results collected in the first phase were at the 0-6 inch depth below the asphalt, and LANL now proposes for the initial sample beneath the asphalt to be at the two foot depth. LANL should collect samples at the 0-6 inch depth below the asphalt with additional samples collected at the 12-18 inch depth based on field screening.

**c. Page B-12, Laboratory Analysis:** The Phase II Objectives indicates that volatile organic (VOC) analysis will be performed for subsurface samples. For any samples collected at 12-18 inches or deeper, VOC analysis should be performed.

**SWMU 33-016**

**19. 4.7 SWMU 33-016, p. 53:** Text here and in the Voluntary Corrective Action Plan Completion Report do not coincide. The VCA indicates that HE by-products, PAHs, and SVOCs were found above health-based levels in the sump sludge while information in this report indicate only SVOCs were found. Also, a final copy of the voluntary corrective action has not been received by EPA as indicated in text on page 57.

Is the piping still in place, and has it been checked for leakage?

**SWMU 33-017**

**20.** Results of the 82 samples reportedly taken at SWMU 33-017 are not provided for review in this document. This document does not reference where this data may be found. The data, which may have been provided in another LANL document, should be reviewed before approval of this RFI.

**21.** The document states (page 71) that risk calculations, including the worker scenario, are provided in Appendix D.

However, Appendix D only provides risk calculations for the residential child scenario. Risk calculations for worker and residential adult should be provided as well.

22. Page 59. **Grid Samples.** The report states that inorganic anomalies in grid samples are listed in Table 4-16. Some of the sample analyses listed in Table 4-16 are carried forward into Table 4-20 while other analyses are not. Why were the lead results of samples AAA2053 and AAA2054 included in Table 4-20 while samples AAA2067, AAA2082, AAA2097 and AAA2105 not included?
23. Page 60. **Table 4-16.** Sample AAA2067 has elevated levels of arsenic (sample, 13.8 mg/Kg; background, 8.12 mg/Kg), lead (sample, 902 mg/Kg; background, 22.3 mg/Kg) and zinc (sample, 217 mg/Kg; background, 51.5 mg/Kg). Why does LANL refer to these results as anomalies (page 5)? Has this sample location been evaluated as a potential hot spot?
24. Page 60. **Table 4-16.** The LANL UTLs for arsenic, chromium, nickel, lead, uranium and zinc are not the same as those listed in the draft LANL Natural Background document.
25. Page 60. **Table 4-16.** LANL does not provide a screening action level (SAL) for arsenic. Region 9 has PRGs for cancer and non-cancer risk. The cancer residential soil value is 3.2E-1 mg/Kg. The cancer industrial soil value is 2.0 mg/Kg. The non-cancer residential soil value is 2.2E+1 mg/Kg.
26. Page 64. **Table 4-18.** The sample results for lead are not included in the lead results listed in Table 4-20.
27. Page 66. **Table 4-20.** The table inadvertently lists the SAL for lead as 1,600 mg/Kg in one of the columns.
28. Page 66. **Table 4-20.** The LANL UTLs for inorganics listed here again are not the same as those listed in the draft LANL Natural Background document.
29. Page 71. **Ecotoxicological Screening Assessment.** The subsection on ecotoxicological screening does not provide any details on the review that was conducted. LANL may wish to refer to recent comments provided to LANL draft ecological risk assessment methodology provided by Mr. Jeff Yurk and evaluate this SWMU following the establishment of simplified ecozones.
30. Page D-2. **Risk Calculation for Lead.** A number of the samples from the SWMU 33-017 area which were determined to have lead concentrations above the LANL UTL for lead were not included in the lead risk calculation (AAA2055, AAA2067, AAA2082, AAA2091, AAA2097, AAA2105, AAA2195).

Sample AAA2067 measured 902 mg Pb/Kg. Perhaps these samples were considered too far from the vehicle maintenance area to be included in the risk analysis. However, the report provided no explanation for their exclusion from risk calculation. Most lead concentrations were well below 400 mg/Kg, EPA's residential action level for soil, and inclusion of samples listed above probably won't affect the result considerably.

31. It is unclear why additional sampling is being conducted at this SWMU. The problem with PAHs appears to primarily be associated with outfalls for SWMU 33-004(i).
32. **Appendix B, p. B-13:** Text indicates that low levels of PCBs were found in two of the three samples analyzed for PCBs. LANL should provide the levels of PCBs found, as well as the sampling locations where PCBs were analyzed. The location of the transformer should be noted on Figure B-4. LANL does not present enough information for an appropriate evaluation of the proposed sampling plan, and needs to present all the data. Also see comment #13 above which also applies to this site.

**SWMU 33-003(b)**

33. **5.1.5.1 Phase I Sampling Objectives, p. 78:** Is LANL required to conduct TCLP analyses when the contaminant of concern is a PCB?
34. **Sampling Techniques, Borehole samples, p.79:** LANL needs to provide a better description concerning sampling depths of the proposed boreholes.

**SWMU 33-004(k)**

35. **Sampling Summaries, p. 89:** LANL should include figures which indicate the sampling grids to be used.
36. **Laboratory Analysis, p. 89:** VOC analysis should also be conducted for all samples, and appropriate drilling techniques should be used to ensure adequate collection of potential VOCs.

**C-33-001 and C-33-002**

37. **5.4.1. Objectives, p. 90:** Were the transformers which were removed in 1992 sampled for PCB content, and if yes then what were the results.
38. **C-33-001, p. 91:** The last sentence in this paragraph indicates that PCBs were identified as TICs. Is this related to sampling at 33-017 or C-33-001?