



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

May 26, 1998



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please forward to
LANL/DOE by 6/20/98
on request to EPA
by same date w/
radio rule - forwards
5/29/98*

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

RE: Review of the LANL RFI Report and SAPs for PRSs in TA 35,
EPA I.D. No. NM0890010515

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has completed a technical review of the three documents listed below from the Los Alamos National Laboratory (LANL), dated December 5, 1997.

- The RCRA Facility Investigation (RFI) Report for PRS Nos. 35-003(d, e, f, g, l, m, o, q, and r), and 35-016(g and h).
- The Sampling and Analysis Plan (SAP) for PRS Nos. 35-003(d, e, f, g, l, m, o, q, and r).
- SAP for PRS Nos. 35-016(g and h).

The EPA has found parts of the documents to be deficient and enclosed is a list of deficiencies. 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
David W. Neleigh, Chief
New Mexico/Federal Facilities
Section

Enclosure



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LIST OF DEFICIENCIES
LANL RFI REPORT FOR PRSs in TA 35

The information included in this document is composed of three individual reports dated June 1996.

- The RFI Report for PRS Nos. 35-003(*d, e, f, g, l, m, o, q, and r*), and 35-016(*g and h*)
- The Sampling and Analysis Plan (SAP) for PRS Nos. 35-003(*d, e, f, g, l, m, o, q, and r*)
- The Sampling and Analysis Plan for PRS Nos. 35-016(*g and h*)

Site Specific Comments

1. Page 3-3; Table 3.1.2-3: Data qualifier descriptions are given for future explanation and reference. The definition for qualifier "U" states that "(the)reported value is the sample quantitation limit or detection limit". LANL should specify which of these limits is the one of concern, since quantitation limits for analyses can be 3 to 5 times greater than the detection limit for the same compound. (**Best Professional Judgement, (BPJ)**)
2. Page 4-2; Section 4.1 - Inorganic Analyses (lines 1 through 3): In cases where soil samples were analyzed for trace metals by SW-846 methods, was this always due to lack of X-Ray Fluorescence (XRF) data? Please clarify the criteria for analysis selection. (**BPJ**)

SAP for PRS Nos. 35-003(*d, e, f, g, l, m, o, q, and r*)

3. Page 5-24, 1st line of Section 5.1.10.2: It stated, "Sampling for PRS 35-003(*d, e, f, g, m, o, q, and r*).". It should include PRS 35-003(*l*). (**BPJ**)
4. Page 5-25, Section 5.1.10.2.1: In the second paragraph, LANL states, "In each borehole, one sample will be collected from the backfill material above the backfill/tuff interface..." However, this sample is not included in "the three proposed samples from each borehole" defined in the next paragraph started with "The first sample will be collected at the backfill/tuff interface." LANL should clarify whether this is another sample. (**BPJ**)
5. Page 5-25, last paragraph: LANL states, "The second sample is designed to be collected from the interval below the interface." Also, "If no elevated radiation measurements are

made in a borehole, then this sample will be collected at about the 20-ft depth in the boreholes near..." LANL should be aware that this sample must be collected below the interface, if the soil at 20-ft depth is still above the interface, LANL must go deeper. **(BPJ)**

6. Page 5-29, Table 5.1.10-1: Please explain whether the analytical suite for "Organic Constituents" means SVOC or VOC or both. **(BPJ)**
7. Page 5-38, Section 5.1.10.2.6: The comment regards samples at Location ID Nos. 35-2214 and 35-2028. Phase I soil sample results indicated that several organic chemicals are found, at the depth of 0 - 1 ft, above their respective SALs. Instead of sampling the locations again at "0 - 0.5" ft, LANL should sample the vicinity of these two locations at intervals of 0-1, 2-3, and 3-4 ft. **(BPJ)**

PRS Nos. 35-003 (d, l, and q)

8. Page 5-54, 1st paragraph: It states that after the structures of the tank farm were removed in 1985, the site was backfilled with up to 20 ft of clean fill material. LANL should specify where the backfilled area is located. Did the area cover the whole building including drain lines and septic tanks, or cover only selected hot spots of radionuclides? **(BPJ)**
9. Page 5-55, 1st paragraph: It states that field screening of the tank site found that up to 356 pCi/g gross-beta activity from Sr⁹⁰ and Y⁹⁰ was left in the soil at depth of 18 to 20 ft below the ground surface. How deep is the tank and the tuff at the site? LANL should state whether any RCRA regulated COPCs were found. **(BPJ)**
10. Page 5-56, Section 5.2.4-2: According to the approved workplan (See pages 5-2 and 7-43), LANL should collect one sample (B-7) located at the borderline of PRS 35-003(l) and one sample (B-11) at the canyon rim. Please explain what happened? **(BPJ)**
11. Page 5-56, Section 5.2.4-2, 4th bullet: It states, "One surface sample (Location ID No. 35-2009) was relocated to the outfall of the daylight diversion channel at PRS No. 35-003(r)." However, the sample location of 35-2009 is currently inside the PRS 35-003(d). Please show the daylight diversion channel in Figures 5.1-1 and 5.2.4-1. **(BPJ)**
12. Page 58: Please explain why neither sample was collected

from PRSs 35-003(l) and 35-003(q) during the Phase I investigation, nor are samples planned to be collected in the Phase II investigation. LANL must demonstrate that no contaminants exist in these two sites to justify a No Further Action recommendation. **(BPJ)**

13. Page 5-60, Section 5.2 - Background Comparisons: The first paragraph details that forty-eight samples were analyzed in the mobile laboratory, while only four samples were analyzed in the fixed-site laboratory. It is acknowledged earlier in this report (Section 4.2 - Organic Analyses) that "The mobile laboratory methods generally used less effective extraction methods and abbreviated QC procedures to save time and costs". Analytical methods may have been compromised with such a heavy use of mobile laboratory analysis. Please provide justification for this choice of laboratory use (i.e. if the benefit of time and cost savings was greater than the risk of mobile laboratory and fixed-site laboratory results differing). **(BPJ)**

PRS No. 35-003(r)

14. Page 5-75, 2nd paragraph: It states that borehole (Location ID No. 35-2028) was drilled to a depth of 299 ft rather than 650 ft; however, in Section 5.3.4.3, it states, "On borehole (Location ID No. 35-2028) was drilled to a depth of 229 ft." LANL shall clarify which number is right. **(BPJ)**
15. Page 90: TABLE 5.3.7.2: The SAL for chromium should be 210 mg/kg instead of 2.10 mg/kg. **(BPJ)**
16. Page 5-91, Section 5.3.7.2.1: The report stated that chromium was identified as COPC in the screening assessment, and additional data are required to determine the nature and extent of contamination at this PRS. However, LANL did not propose any sampling activity to delineate chromium in the Phase II investigation. Please explain. **(BPJ)**

PRS No. 35-016(g)

17. Page 5-95, TABLE 5.4.4-1: The Summary of Samples Taken should include the SVOCs analysis, which is required by the final addendum to the RFI Workplan for OU 1129. (See page 7-165) **(BPJ)**
18. Page 5-97, TABLE 5.4.5-1: Please identify which Chromium (Cr^{+3} or Cr^{+6}) is listed in the Table because their SALs are different. Since Cr^{+6} was used in the non-contact cooling water as a corrosion inhibitor, LANL should analyze them separately. **(BPJ)**

19. Page 5-97, 1st paragraph: It states, "However, the mobile laboratory facility reported the presence of saturated hydrocarbons (approximately 6 mg/kg) and numerous unknown organic compounds at Location ID No. 35-2156." LANL should include this site in the Phase II investigation. **(BPJ)**

PRS No. 35-016(h)

20. Page 5-113, TABLE 5.5.4-1: The Summary of Samples should include the SVOCs analysis which was required by the final addendum to the RFI Workplan for OU 1129. (See page 165) **(BPJ)**

Sampling and Analysis Plan for PRS Nos. 35-016 (g and h)

21. Page 5-102, TABLE 5.4.10-1: LANL shall analyze and quantify Cr^{+3} and Cr^{+6} (or Cr^{+6} and Cr total) separately and determine the nature and extent of the contamination. Otherwise, it will repeat the same mistake as LANL did in Phase I investigation. **(BPJ)**
22. Page 5-99, 3rd paragraph, Section 5.4.10.1: It states, "Engineering controls to prevent the migration of surficial or buried contamination from the drainage of PRS No. 35-016(g)..." In view of the Sampling Summary, except one location ID No. 35-2391, all samples are collected at depths either at 0-0.5 ft or at 0-1 ft. Please specify what is the depth of the drainage below the ground surface and where it is located. LANL should collect deeper samples to examine contamination buried at the site.

Does LANL plan to conduct a Phase III SAP campaign based on the results of the Phase II? LANL should conduct a thorough campaign this time by taking additional samples from those locations at depths of 0-1, 2-3, and 4-5 ft. The information could be used for a future remedial decision if the contamination does exist. The cost should be relatively low compared to conducting another sampling campaign. **(BPJ)**

23. Page 102, last paragraph: It states, "A shallow hole will be drilled in the tuff, and the sample will be collected from the 0 to 1-ft interval." Please explain whether the "0 to 1-ft interval" is above or below the tuff. **(BPJ)**
24. Page 5-101, Section 5.4.10.2.2: LANL should discuss QA/QC sampling? **(BPJ)**
25. Page 105, last paragraph: It states, "Selected soil samples will be analyzed for hexavalent chromium using EPA SW-846 or standard methods. An extract will be prepared according to the toxicity characteristic leaching procedure (TCLP), SW-

1311. The TCLP extract will then be analyzed for hexavalent chromium using either the chelation-extraction/flame atomic absorption method (SW-7197)..."

To clarify the above paragraph from possible confusion, the extract shall be prepared according to Extraction Procedure (EP). LANL shall not use TCLP to measure the concentration of hexavalent chromium. Besides, LANL should take a split sample to measure either total chromium, or trivalent chromium. **(BPJ)**