



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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MAY 13 1997



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

Re: TA-1 RFI Report, NOD comments on Aggregates C and D, Los Alamos National Laboratory (LANL), EPA I.D. NM0890010515

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has reviewed LANL's RFI Report for TA-1, Aggregates C and D, dated March 18, 1996, and has determined the Report to be deficient. Enclosed are a list of deficiencies for your review.

Should you have any questions, please feel free to contact Mr. Rich Mayer at (214) 665-7442.

Sincerely,

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

Enclosure

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NOD Comments on Aggregates C and D

Page i; Executive Summary, Third paragraph: In this paragraph LANL mentions one of the chemicals of concern in TA-1 is solvents; however, there was no field screening for volatiles and no samples were analyzed in the laboratory. Please explain. BPJ.

General Comment #1: LANL makes background comparisons to sample soil concentrations without providing screening action level (SAL) comparisons. In tables throughout this report, LANL substitutes "NA" for the arsenic and beryllium SAL with legends identifying "NA" as "not available." SALs for arsenic and beryllium are available. LANL agreed to evaluate risk and carry forward COPCs where the sample concentrations of a COPC exceeded the screening action level (SAL) but were less than the background level. Eleven soil samples at Aggregate C detected beryllium at concentrations greater than both the SAL (1.3 mg/kg) and the reported UTL (1.95 mg/kg). Also, please note that the report was not reviewed with regards to risk associated with radionuclides.

Comparing soil concentrations to background is acceptable as long as risk due to background based on a SAL is provided. LANL should revise the RFI report to include risk due to background from those constituents which present such risk (e.g., beryllium, arsenic) in the risk characterization. This is in keeping with the understanding established at meetings between EPA and LANL held in Dallas, Texas, on September 18-19, 1995. This information is important to the risk management decision when establishing cleanup levels for Chemicals of Potential Concern (COPC's). Clean up decisions may be influenced by the existing risk from background concentrations. BPJ.

General Comment: In the approved workplan there is a statement that indicates that LANL will take soil samples down to 4 feet; however, it appears that the deepest soil sample taken went to only 12 inches. Please clarify. BPJ.

General Comment: Although there are several tables in the RFI Report containing laboratory analytical results, the way the information is presented is very awkward to review and some analytical information is missing. For each aggregate, please include the following:

A table which includes all laboratory analytical results, not just the results that are above SALs or background levels. The table should include the sampling interval (depth), the analytical method, the detection limit, the UTLs, background concentrations for applicable constituents, and the SALs. BPJ.

General Comment: EPA will require deeper sampling at the following sample ID locations to determine the vertical extent of

contamination: AAA1574 (lead 186 ppm); AAA1577 (lead 50 ppm); AAA1583 (63.4 ppm); AAA1579 (lead 49 ppm); AAA1580 (lead 45 ppm); AAA1640 (lead 45 ppm); AAA0716 (3 SVOCs); AAA0717 (5 SVOCs); AAA0718 (5 SVOCs); AAA0720 (4 SVOCs); AAA0721 (3 SVOCs); and, AAA0730 (2 SVOCs). BPJ.

General Comment: LANL needs to get approval of their ecological risk assessment methodology from NMED. As of May 1997, EPA risk assessors still had several concerns about LANL's ecological risk assessment approach. Until LANL gets approval from NMED on this issue, no further action approvals will be limited to sites in which the investigation results reveal no contaminants above background levels. BPJ.

General Comment: The following citations were inconsistent with the references provided in the References Section:

- 1 - The Environmental Restoration Project 1995, 1173 citation on pg 84 was not listed in the References section (see also pg 102).
- 2 - The Kennedy 1948 citation (pg 85) was not listed in the References section.
- 3 - The LANL 1995, 1249 citation on pg 85 was not listed in the References section. BPJ.

General Comment: In the revised RFI Report, please include the soil descriptions for each soil sample, which should include any noted visual or olfactory contamination and any PID/FID readings taken. BPJ.

Page 10; Biological Surveys: Has LANL's environmental surveillance group taken tissue samples from plants or animals in the drainageways associated with TA-1? Is there any planned for the future? BPJ.

Page 18; Section 4.1.1: When discussing the various problems associated with each analytical request, please include the sample numbers so that EPA can locate the sample results in the appropriate tables. This comment pertains to all paragraphs under Sections 4.1.1 and 4.1.2, 4.2. and 4.2.2 1 which discuss QA/QC problems associated with a particular analytical request. BPJ.

Page 18; 3rd paragraph: Were the two samples analyzed by the ICPMS method duplicates or samples taken near the same location? Also, were there only two samples analyzed by the ICPMS method or were there more? BPJ.

Page 27; Surface Disposal Area: In the report LANL mentions that the site could not be found after two attempts, but was found from the investigation notebook and polaroid photos. LANL mentions that solid waste items found do not support a SWMU designation and none of the items contain hazardous constituents. Please justify this conclusion. Also, LANL mentions that no investigation was performed because no SWMU was found. Please explain how items found on the surface are not evidence that this

was the SWMU that LANL's 1988 CEARP survey identified. BPJ.

Page 38; Section 5.1.4.2: Please include in the revised workplan a map which identifies the approximate location of the two outfall areas and the bench areas that were sampled. BPJ.

Page 39; Aggregate C Hillside Area: The last paragraph on this page states that "because two samples exceeded the heavy metal SALs for antimony, beryllium and thallium...five locations from Hillside 140 were resampled." However, none of the samples were analyzed for beryllium. In addition, samples taken during two separate sampling activities conducted the following year (8/19/93 & 8/23/93; see page 40) from the same area (Hillside 140) were sampled for heavy metals without including beryllium. This appears inconsistent. Please provide an explanation why beryllium was not analyzed for after previous samples reported concentrations above the SAL. BPJ.

Page 40; Section 5.1.4.3. Single-Stage Storm Water Samplers: Water samples were collected from Hillside 140 and sampled for metals (mercury, lead, chromium, and antimony). These samples were collected during three separate sampling activities during 1993. Since concentrations of beryllium which exceeded the SAL were analyzed for in 1992, why didn't LANL analyze the water samples for beryllium?

Please provide an explanation why the storm water samples were not analyzed for beryllium after previous soil samples from the same area reported concentrations above the SAL. BPJ.

Page 44; Error in paragraph on Selenium: Statement should refer to the value of 1.7 mg/kg as the "reported background value." Please modify. BPJ.

Page 45; Table 5.1.5-1: See general comment 1. BPJ.

Page 61: Please see the paragraph on Benzo(k)fluoranthene at the bottom of this page. Not all of the sample concentrations reported in this paragraph are greater than the SAL (6.1 mg/kg) as stated. Please modify. BPJ.

Page 67; Storm Water: Please include all the surface water sampling results, even the results that are below SALs. Please include in a table the analytical method used, the detection limit and the SAL's. This reviewer assumes that there is no background surface water data for the drainages sampled. BPJ.

Page 67; Discussion on PAHs and Risk Assessment: LANL provides rationale for no further evaluation of PAHs beyond the screening assessment for Aggregate C of TA 1. LANL states that the presence of these chemicals is not likely to be associated with historical operations and that concentrations are likely the result of anthropogenic sources (e.g., asphalt roads). However, it appears that the highest PAH concentrations are concentrated

around septic tank 135 and not randomly located in drainage areas off asphalt parking lots. Also, building FP served as a foundry for nonferrous metals and, depending on the foundry activities there, PAHs may be the result of historical operations. Therefore, the source of PAHs associated with this location should be carried forward and risk associated with exposure to this location assessed. It may then be determined, through risk management decisions, that no further action is required. LANL should keep the PAHs associated with septic tank 135 in the risk process through a more thorough human health exposure and risk assessment. BPJ.

Page 68; 3rd Paragraph: If total chromium is sampled, then EPA's risk assessment procedures require that you assume 100% of the chromium detected is hexavalent. You do not drop it as a the chemical of concern. BPJ.

Page 83; Conclusions and Recommendations - Aggregate C: LANL states that the source of the PAHs is from storm water runoff from adjacent asphalt roadways. Analysis of the sampling results suggests that the highest PAH concentrations in soil samples are associated with septic tank 135. BPJ.

Page 88; 2nd paragraph: When does LANL plan to sample these contaminated areas? BPJ.

Page 90; 1st paragraph: Please provide a map which indicates the approximate location of the outfall areas. BPJ.

Page 93; Table 5.2.5-1: EPA will require deeper sampling at the following samples to determine the vertical extent of contamination: AAA0740; AAA1636; and AAA1637. BPJ.

Page 93; Table 5.2.5-1: See general comment 1. BPJ.

Page 101; Conclusions and Recommendations: EPA disagrees with the no further action recommendation at this point. Deeper sampling as recommended above is needed to characterize the vertical extent of contamination at some points. Also, a surface water/sediment monitoring program may be needed to evaluate the water quality of the canyons for some time period. BPJ.

Page B-1; Table B-1: Under the comments column, there are several statements which read "QC results are not available, large uncertainties in data;". Please explain what is meant by this statement. BPJ.