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

Ron ICA
Barbara
FILE

Susan
Teri

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CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Mr. Theodore J. Taylor
Program Manager
Department of Energy
Los Alamos Area Office
Los Alamos, NM 87544

**Re: RFI Report for PRS 3-010(a) in Technical Area 3
Los Alamos National Laboratory Nm0890010515**

Dear Mr. Taylor:

The Environmental Protection Agency (EPA) has reviewed the Resource Conservation and Recovery Act Facility Investigation (RFI) Report for Potential Release Site (PRS) 3-010(a) in Technical Area (TA) 3 and found it to be deficient.

Enclosed is a list of deficiencies for which Los Alamos National Laboratory has ninety (90) days to respond.

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

Sincerely,

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

Enclosure

cc: Mr. Benito Garcia
New Mexico Environment Department
Mr. Jorg Jansen
Los Alamos National Laboratory, MS M992

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**List of Deficiencies
RFI Report for SWMU 3-010(a)
Los Alamos National Laboratory**

General Comment:

1. LANL shall present a synopsis of the sampling that was approved at the site prior to a discussion of the results of sampling in all future reports. For example: A maximum of six boreholes are to be drilled based on the following information. These boreholes were to be drilled to a depth of x feet with samples collected every x feet and analyzed for the following constituents. This information assists the reader who does not then have to waste time locating the sampling plan and verifying what sampling was to occur at the site. In addition, it is a check for LANL to ensure that sampling was conducted as approved. Deviations from the approved sampling plan should be indicated and explained.

Specific Comments:

2.3.4 Existence and Significance of Seep, p. 9 -

The seep identified in the bottom of the drainage down gradient from SWMU 3-010(a) was first observed and noted by New Mexico Environment Department, DOE Oversight Bureau staff. The existence of this seep may be a result of water leaking via fracture flow from the perched aquifer located near SWMU 3-010(a). The conclusion LANL has reached regarding the origin of this seep in the first paragraph of this section cannot be substantiated without further investigation. Therefore, LANL should indicate that this is one possible explanation for the seep along with the above possibility.

2.3.5 Hydrologic Model for SWMU 3-010(a), p. 12 -

- a. LANL should rewrite text in this section to indicate the following information. The statement, "the presence of a major perched zone is unlikely" is questionable considering the fact that structural (fracture zones, faults, etc.) and rock properties may change laterally and vertically in this area. Physical evidence that supports the significance of the perched zone at SWMU 3-010(a) is the fact that a seep/spring discharges from the tuff approximately 3,000 feet due east at an elevation of approximately 7,320 feet. The referenced zone continuously discharges approximately 30 gallons per minute (gpm) or 43,200 gallons per day (gpd).

Perched zones within in the tuff have been shown to be hydrologically complex, and assumptions concerning these zones are questionable until aquifer characterization is performed.

- b. Additional observations by the NMED DOE Oversight Bureau indicate that flow along the tuff/alluvium interface may not be occurring. NMED staff observed exposed tuff along the road in the bottom of the channel below the SWMU, and water was not flowing at the interface between the alluvium and the tuff. However, the seep/spring downgradient from the SWMU was flowing at approximately 2 gpm.
 - c. LANL should provide a map indicating the location of borehole SHB-2 in relation to this site along with any borehole information.
3. **3.2.1.2 Statistical Comparison to Background, p. 23 -**
- a. A statistical comparison to background should be conducted using the most current, revised background data. It is unclear whether enough data exists for a comparison of sediment data to background concentrations.
 - b. The recalculated values for UTLs should also be used in the revised report.
4. **3.2.1.3 Comparison to Screening Action Levels, p. 25 -**
- LANL and EPA have agreed to screening action levels (SALs) generated by EPA Region 9, therefore, comparisons to SALs should be conducted by comparison to this list.
5. **3.2.2 Ecotoxicological Screening Assessment Approach, p. 25 -**
- The method proposed for screening of chemicals of concern for ecological receptors has been reviewed and found to be inappropriate based on toxicological assumptions made. A summary of the EPA Region 6 method for determining ecotoxicological screening quotient (ESQs) is attached.
6. **4.3.1 Ecotoxicological Screening Assessment, p. 30 -**
- Risk due to background for ecological receptors should be calculated or use by the facility manager in assessing the total site risk and establishing clean-up levels for chemicals of concern. Also, it would be more appropriate to

conduct ecological risk assessments on a habitat specific basis, and not on a SWMU specific basis.

7. Figure 4-2, p. 33 -

Either a yes or no option is missing from the logic flow chart for the question "Site considered a residential or urban or industrial area?"

8. 4.3.2 Background Comparison, Figure 4-3 -

The location of the samples collected next to the excavation presents misleading information, in that these samples were collected between 30 and 50 feet away from the excavation and at the same elevation as the top of the area excavated. What was the purpose of these samples? Are they being used as background samples? These points cannot be used as confirmation of any cleanup activities at the site.

9. 4.3.3 SAL Comparison, p. 37 -

- a. The citation used that states the SAL for TPH is based on migration potential of BTEX and assumes that the site is within 50 feet of useable water is from New Mexico UST regulations, and is not appropriate here. Also, on page one of this document it states that "following the 1992 sampling, LANL and the New Mexico Environment Department (NMED) Surface Water Quality Bureau of the Water Quality Control Commission entered into an agreement to remove all TPH-contaminated soils to a concentration of 100 ppm." TPH remaining after lift 3 is significantly above 100 ppm. This issue needs to be addressed.
- b. LANL must prove that the source of the TPH is mineral oil. This has not been demonstrated. TPH should be carried through to the risk assessment.

10. 4.5.1 Soil-Vapor Probe Survey, p. 46 -

The NMED DOE Oversight Bureau staff indicate that the majority of soil-vapor data were obtained using a PID with 10.6 eV bulb. This bulb may not be capable of detecting the major solvent constituents that are of concern such as 1,1 DCA, 1,2 DCA, 1,1,1 TCA, and carbon tetrachloride. LANL shall provide an explanation as to why this problem was not discussed in this report along with a discussion of this problem and its possible effects on the sampling outcome.

11. 4.5.2.1 and 4.5.2.2 Borehole Locations and Monitor Well Construction and Sampling, p. 51 -

Boreholes do not appear to correlate very well with the soil vapor survey. Soil vapor sampling point 03-2641 shows a PID reading of 976, and this is the southernmost soil vapor sampling point. The borehole locations do not appear to bound the area of contamination.

12. 4.5.2.3 Subsurface Sampling Approach, p. 54 -

LANL needs to provide more information on why drilling termination criteria was altered in the field. Text indicates that the criteria was changed but not why the criteria was changed.

13. Table 4-13, p. 61 -

LANL shall explain why the uncertainty value for TPH is so high in Table 4-13.

14. 4.6.1.1 Phase II Water Samples, p. 61 -

- a. The usefulness of comparing VOC values obtained from ground water samples with respect to drinking water standards, SALs, etc is questionable due to the inadequacy of the ground water sampling procedures. The ground water samples collected do indicate that there is contamination in a perched upper aquifer which the SWMU may have or continue to be contributing to. RCRA evaluated contamination to the uppermost aquifer.
- b. Page 62 - Freon-113 is a synonym of 1,1,2-Trichloro-1,2,2-trifluoroethane and a SAL value of 59,000 $\mu\text{g/L}$ can be used.

15. 4.6.3.5 Exposure Equations and Input Parameters, p. 83 -

The inhalation rates for both exposure scenarios seem overly conservative and it is unclear why EPA default parameters were not used. The exposure frequency for the trail user also seems overly conservative. LANL and EPA should discuss this issue and agree upon reality based default values.

16. 4.6.4.2 Toxicity Criteria for Carcinogenic Risks, p. 85 -

New proposed guidelines for carcinogen risk assessment have been published in the federal register (September, 1995) and may be used by LANL. The new procedures use the actual slope of the dose-response relationship instead of the upper

95% confidence interval of the slope, or allow development of a non-linear relationship, or the use of a threshold value, which ever is most appropriate for the chemical of concern. The new guidance was developed to reduce the conservatism of risk assessment and predict actual risk posed by a chemical.

17. 5.0 Conclusions and Recommendations, p. 89 -

The VCA appears to have reduced the threat to human health. It does not appear that the phase II investigation has bounded the area of contamination. Additional investigation is required to determine the impact on the perched aquifer zone and to bound the area of the plume. In addition, ecological risk concerns will need to be addressed for this site. EPA will make a final decision on this site when all issues have been addressed.