



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

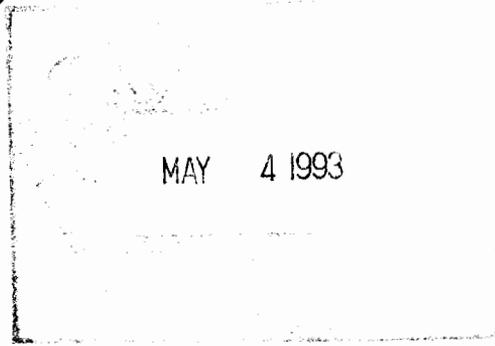
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

*Discuss Barbara  
with [unclear]*

*EPA 2-1-1993*

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jerry L. Bellows  
Area Manager  
Department of Energy  
Los Alamos Area Office  
Los Alamos, New Mexico 87544



Re: RFI Work Plan for OU 1148  
Notice of Deficiency  
Los Alamos National Laboratory  
NM0890010515

Dear Mr. Bellows:

The Environmental Protection Agency (EPA) has completed a review of the RCRA Facility Investigation (RFI) Work Plan for the Operable Unit 1148 (OU 1148), and has found the work plan to be deficient. Enclosed is a list of deficiencies which you have 30 days from receipt of this letter to address.

The format used in this work plan was more repetitious than that used in some others. In addition, Appendix A which is a Voluntary Corrective Action Plan for MDA L was not reviewed, as EPA has been informed that a revised plan will be submitted. Should you have any questions, please contact Barbara Driscoll of my staff at (214) 655-7441.

Sincerely,

*Guanita Reiter*  
Guanita Reiter, Acting Chief  
RCRA Permits Branch

Enclosure

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Al Tiedman, LANL



TC

## List of Deficiencies

### General Comments

1. The work plan repeatedly applies the concept that Phase I will be used to determine whether contaminants of concern (COCs) exceed health risk-based criteria. The actual goal of an RFI work plan is to provide the rationale necessary to determine if a release has occurred to the environment. If a release has occurred, then the rationale necessary to determine the complete horizontal and vertical extent of contamination must be presented.
2. All portions of the work plan which address Phase II sampling will need additional sampling information if Phase II becomes necessary.
3. The RFI work plan does not address monitoring well sampling of wells already installed in the area of OU 1148. LANL shall provide the monitor well sampling schedule and constituents analyzed.

### Specific Comments

1. **Table ES-2, Baseline Schedule and Budget for OU 1148 RFI, p. ES-12** - This table indicates that RFI field work will be completed November 13, 1998, and an RFI Final Report will not be completed until October 30, 2000. LANL shall submit a draft final RFI Report within eight months of receipt of analytical data.
2. **Table 1.4-2, Criteria for a Recommendation of NFA or DA at Decision Point 1, p. 1-32** -

The table provides very liberal criteria which are used for a no further action (NFA) recommendation. For example:

- a. Statement #1 : The site was never the location of hazardous-or radioactive-waste generation, treatment, storage or disposal. If the intent of this statement is that a unit did not receive regulated hazardous waste, then NFA is appropriate. If a unit handled solid waste, and there has been a release from the unit, then a RFI is required. The statement should be clarified or deleted.
- b. Statement #3: The SWMU was constructed after November 18, 1987 and has operated under a permit. Does the permit contain corrective action provisions? The rationale for this statement must be provided.
- c. Statement #5: Currently available data indicate that the SWMU has undergone characterization or cleanup, and that COC's are not present in concentrations that exceed health risk-based levels. The extent and maximum concentration of contamination must be determined and all available data supplied with the NFA request.

3. **1.4.2.8 Decision Point 4 p. 1-35** - The third sentence of the first paragraph reads, " A recommendation of NFA at this point in the decision process will be justified for a SWMU if the mean sample concentration for any listed COC does not exceed the risk-based action level for that COC.". The use of a mean sample concentration is not appropriate for a NFA decision. The maximum concentration should be compared with action levels as defined in Subpart S.

4. **3.9.3.4 Characterization of Groundwater, p. 3-40** - The work plan states: " The samples will be collected using a method to prevent aeration and will be sealed in an air tight glass bottle". This is not an adequate description for sample collection. The work plan must provide the specific detail necessary to collect groundwater samples. What method will be used to analyze the samples?

5. **Table 3.9-3 p. 3-41** - The analytical methods being used should also be listed.

6. **5.1.3.1.1 Source Characterization, p. 5-11** - The work plan states, "If Phase I sampling indicates contaminants are moving beyond the point of institutional control, additional source characterization may be included as part of the Phase II sampling program". The phrase "beyond institutional control" must be defined and clarified. If a release has occurred to the environment from a SWMU, then it must be fully characterized.

7. **Table 5.1-9, p. 5-25** - The QC samples should be specified. The format used in Table 5.1-7 should be used in this Table and other subsequent tables that specify sample collection.

8. **5.1.4.2.5 Sampling Activity, p. 5-28** - Neither this section nor Section 2.0 of Appendix B as indicated in the text, detail the depth of sample collection. This information should be stated either in the text or in Appendix B. In addition, how will the sample location be determined within each random grid chosen (i.e. center of the grid)?

Since the purpose of the RFI Phase I sampling is to determine if a release has occurred, LANL shall also use judgmental sampling of catchment areas and collection points in the streambed. This comment also applies to the following sections and, a response is required for each section:

5.2.4.2.5 Sampling Activity, p. 5-81  
5.3.4.2.5 Sampling Activity, p. 5-141  
5.5.5.2.5 Sampling Activity, p. 5-231

9. **5.1.4.3.5.1 Boreholes at MDA J, p. 5-36** -

a. LANL shall add two additional vertical boreholes, similar to

the one described in this section (vertical borehole B2), one between pits 2 and 3, and one next to shafts 1 and 2.

b. Soil samples should be collected where field screening indicates possible contamination, in addition to a sample being collected every 10 or 20 feet depending on which type of borehole (angled or vertical) is being sampled.

**10. 5.1.4.4.2 Sampling and Analysis Approach, p. 5-39 -** The following comment applies to all the air sampling proposed in this OU: Additional information needs to be provided on the EMFLUX sample cartridges. Passive dosimeters generally do not provide high quality data due to uncertain flow rates of air across or through the dosimeter. We strongly recommend the use of flux chambers or similar techniques to accurately quantify releases of VOCs from the facility.

**11. Figure 5.1.-7 Passive air sampling locations at MDA L, p. 5-43** The sampling height above ground level should be included in this figure and in the following figures: Figure 5.3.9 MDA L, Figure 5.4-12, Figure 5.4-13, Figure 5.4-14, and Figure 5.4-15.

**12. 5.1.4.4.5 Sampling Activity, p. 5-44 -** In paragraph three of this section, it is unclear how the periods of maximum vertical gas movement will be determined; therefore, more information needs to be provided.

EPA methods are preferred for all air sampling. An additional reference for use in air sampling is: EPA (U.S. Environmental Protection Agency), June 1988, "A Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA/600/4-89-017, June, 1988.

**13. 5.2.4.3.5.1 Boreholes at MDA H, p. 5-87 -** Samples should be collected on ten-foot intervals down to a depth of ten feet below the bottom of the shafts. Below that depth they may be collected on twenty-foot intervals. The borings should be located close to the existing shafts. Boring number LSH-92-01 should be moved closer to the shafts (within the fenced area), not sixty feet away.

**14. 5.3.4.3.5.1 Boreholes at MDA L, p. 5-149 -**

a. One of the rationales for sampling activity was to delineate the horizontal and vertical extent of the organic vapor plumes and any residual soil or rock contamination. Three of the proposed vertical boreholes will be extended to 300 feet, and other eight boreholes will be extended to approximately 100 feet. In order to fully delineate the vertical extent of the plume, all boreholes should be advanced until no radiological contaminants or VOCs are detected by field screening techniques, as indicated in the last sentence of paragraph two.

b. All boreholes shall be sampled on ten-foot intervals down to a depth of ten feet below the bottom of the unit. Below that depth they may be collected on twenty foot intervals.

**15. 5.4.4.2.4 Rationale for Sampling Activity, p. 5-231** - Are there any additional surface water runoff channels on the north side of Area G which could also be sampled?

**16. 5.4.4.3.5.1 Boreholes at MDA G, p. 5-142** - Five sample boreholes in an area this large is insufficient to determine if a release has occurred. Additional borings are necessary.

a. At a minimum the 14 high priority pits should have a boring on each side. Samples should be collected on five-foot intervals down to a depth of ten feet below the bottom of the cells. Below that depth they may be collected on ten-foot intervals. Samples should be analyzed for Appendix VIII constituents.

b. Additional boreholes shall also be located in the shaft fields. Two additional boreholes should be located on the west side of the shaft field containing shafts 1-135. Two boreholes should also be placed next to shafts C1-C13. Samples should be collected on ten-foot intervals down to a depth of ten feet below the bottom of the shafts. Below that depth samples may be collected on twenty-foot intervals. Samples should be analyzed for Appendix VIII constituents.

c. A better map(s) should be provided showing the numbers for each disposal shaft.

**17. 5.4.4.4.5 Sampling Activity, p. 5-247** - Provide more details about how the remaining soil gas samples will be collected from the new boreholes, and the remaining two existing boreholes for which sampling intervals are not included. This should include information as to how a sampling interval will be determined, and are there a minimum number of samples to be collected per borehole.

**18. Annex I** - the schedule information does not really provide timeframes for sampling individual MDA's. Did the boreholes for MDA L get drilled in 1992? Provide scheduling information (approximate month/year) for each MDA phase I sampling.

**19. No Further Action Units** - As part of the ongoing RCRA Facility Assessment (RFA) conducted by LANL, the following Solid Waste Management Units (SWMUs) do not appear to require an RFI; therefore the permit does not need to be modified to include them:

**54-008 Septic tanks** - These active units did not manage hazardous waste.

**54-015(g) Lead casks** - The containerized casks were overpacked and returned to MDA G for storage as mixed wastes. They have been removed from MDA L.

**54-015(i) Forklift Battery** - The battery was containerized before storage at MDA L, and overpacked before storage at MDA G.

**54-001(f) Empty drum storage** - This drum storage area never handled any hazardous waste or hazardous waste constituents.

**54-007(b) Septic Tank** - Septic tank for sanitary sewage, scheduled for removal.

**54-010 Supply wash water tank** - This tank was not part of the waste stream.

**54-021 Six empty storage tanks** - These tanks have been removed under a RCRA closure plan.

**54-002 PCB transformer spill** - Cleanup of this site has been implemented.

**54-002(a,b) Environmental research caissons** - The research caissons never managed hazardous waste or hazardous waste constituents.

**AOC C-51-001 Former storage area for clean, drummed soil** - This storage area never managed hazardous waste or hazardous waste constituents.

**54-016(a) Nondestructive Testing Facility Sump** - This waste management unit was constructed after November 18, 1987. No releases have occurred from this unit.

**AOC C-51-002 Former location of explosives magazines** - The structures have been removed.

20. A Class III permit modification will be required prior to removal of the following units from the HSWA permit:

**54-001(c) Bermed Storage Pad** - Never managed any hazardous waste or hazardous waste constituents, and has been removed from MDA L. SWMU no longer exists.

**54-013(a) Truck washing pit** - This pit was never constructed.

**54-015(h) Drum storage area** - This is listed as **54-003(b)** in the HSWA permit. This waste management unit was constructed after November, 1987. No releases have occurred from this unit.