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Date: March 27, 1997
Refer to: EM/ER:97-075R



Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: RESUBMITTAL OF THE RESPONSE TO THE NOD FOR TA-33, PRS 33-008(c) SAP (FORMER OPERABLE UNIT 1122)

Dear Mr. Garcia:

Enclosed is a copy of the Los Alamos National Laboratory's response to the New Mexico Environmental Department's Notice of Deficiency (NOD) concerning Technical Area 33, Potential Release Site 33-008(c) Sampling and Analysis Plan.

After the initial mailing, we discovered that the introduction paragraph had been deleted. Unfortunately, this deletion made several of the NOD responses incomprehensible. Therefore, please discard the earlier version (EM/ER:97-075).

Sincerely,

Jorg Jansen, Program Manager
Environmental Restoration Project

JJ/ss

- Enclosures: (1) Response to NOD for TA-33, PRS 33-008(c) SAP
(2) Certification

115WALANL, FU-3/04/1122/TA-33

TL



Cy (w/ encs.):

D. Griswold, AL-ERD, MS A906
J. Harry, EES-5, MS M992
R. Michelotti, CST-18, MS E525
N. Naraine, DOE-HQ, EM-453
D. Neleigh, EPA, R.6, 6PD-N (2 copies)
C. Rodriguez, CIO/ER, MS M769
T. Taylor, LAAO, MS A316
J. White, ESH-19, MS K498
EM/ER File (CT #C235), MS M992
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CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: Response to the NOD for TA-33, PRS 33-008(c) Sampling and Analysis Plan

Name:  Date: 3-19-97
Jorg Jansen, Program Manager
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or

Tom Baca, Program Director
Environmental Management
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Name:  Date: 3/19/97
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**RESPONSE TO NOTICE OF DEFICIENCY
FOR TECHNICAL AREA 33, POTENTIAL RELEASE SITE 33-008(c)
SAMPLING ANALYSIS PLAN**

INTRODUCTION

Phase I sampling and analysis was performed in September 1996 at potential release site (PRS) 33-008(c). This PRS was included as part of the final Phase I-Phase II sampling campaign to be conducted at TA-33. The action provided significant cost savings because it was performed while the crews were mobilized at the site.

Results of sampling and analysis at PRS 33-008(c) indicated that contamination by mercury, copper, and lead exceeds screening action levels by an order of magnitude in several samples. Sampling in the drainage below the PRS indicates that these contaminants are not moving. The PRS is scheduled for a voluntary corrective action (VCA) in FY 1999. As a best management practice, however, straw bales have been placed in the drainage to prevent contaminant migration.

SITE-SPECIFIC COMMENTS:

NMED COMMENT

Page 3, last paragraph; in phrase "sample AAA2086 from a point 50 ft southwest of drainage," Should this state "southeast" instead of "southwest"? (Best Professional Judgment (BPJ))

LANL RESPONSE

You are correct; "southwest" is incorrect. A better description would have been, "50 ft southeast of the culvert."

NMED COMMENT

Page 4, Figure 1: Please explain:

- i) Two types of expressions (closed circle and open circle) were used to show potential borehole locations. What is the difference between them?

LANL RESPONSE

Closed circles indicate potential borehole locations and open circles indicate potential surface sediment sample locations, as signified in the figure's legend.

NMED COMMENT

- ii) Are the potential borehole locations different from the actual sample locations? Explain the difference.

LANL RESPONSE

Yes. Actual sample locations were expected to be different from the conceptual locations shown on the figures. As stated in Paragraph 1 of Section 2.2 on page 5, "...locations of these boreholes will be biased by geophysical survey results toward fill

areas containing buried debris."

NMED COMMENT

- iii) The physical locations of buried area and trench areas showed in Figure 1 and showed in Figures 1 and 2 of Appendix A do not seem to match. Please explain and identify the corresponding areas in these figures in Appendix A.

LANL RESPONSE

Figure 1 of the sampling and analysis plan is a surface contour map. Figures 1 and 2 of the geophysical survey show the strength of electromagnetic fields over a smaller area. For your convenience, we have aligned Figure 1 from the plan and Figure 1 from the geophysical survey side by side on one page in the same orientation (Attachment A). Please note the difference in scale of the two figures. NOTE: Attachment A shows portions of Figure 1 from the sampling and analysis plan and Figure 1 from the geophysical survey. The two areas of interest are shown in the same orientation, with north at the top of the page.

NMED COMMENT

- iv) According to the figure, there are total 12 potential sample locations; however, on Page 5, Section 2.2, it states, "Samples will be collected from a minimum of four boreholes located within the disposal areas. Why does the number of sample locations reduces from 12 to four. (BPJ)

LANL RESPONSE

Please note the plural "disposal areas." The sampling plan would have been more clear had it stated, "Samples will be collected from a minimum of four boreholes located within the primary disposal area and four boreholes located in the area southeast of the culvert. In addition, four surface samples will be collected from the drainage, for a total of 12 sampling locations."

NMED COMMENT

On Page 5, last paragraph, the plan specifies "a minimum of 4 boreholes located within the disposal areas." On Page 9, second paragraph and last paragraph, the plan specifies a minimum of 4 boreholes in each the primary disposal area and the area south of the culvert. A minimum of 4 boreholes in **each area** is necessary and the Page 5 reference should be clarified.

Further, 2 of the 4 boreholes in the primary disposal area shall be located to sample the bottom of the ravine as it existed prior to placement of the fill. (BPJ)

LANL RESPONSE

Please see Response 2(iv) above. Four boreholes were drilled in the primary fill area. Four borehole locations were identified in the area southeast of the culvert. However, only three surface samples were collected because the area was so near bedrock and field screening by x-ray fluorescence did not reveal elevated concentrations of inorganics. This modification did not affect the VCA decision even though no contamination was found in the area. Only surface samples were collected from the

drainage channel, which is near bedrock. During this sampling campaign, 23 soil samples were collected from 13 locations at PRS 33-008(c).

The culvert occupies the bottom of the ravine. No samples were taken underneath the culvert. One sample was collected inside the culvert. A surface sample was collected in the bottom of the ravine immediately below the exit of the culvert. Possible contamination under the culvert will be addressed by the VCA.

NMED COMMENT

Page 9, 3rd paragraph: Since SVOCs could stay in the soil longer than VOCs, the borehole cores screening shall include SVOC besides radioactivity and VOCs, as specified in Table 2.2-1. (BPJ)

LANL RESPONSE

At present, there are no field screening methods for SVOCs. (Such methods certainly would be valuable.) All samples were analyzed for SVOCs at commercial, licensed laboratories.

NMED COMMENT

Clarify the meaning of terms "soil" and "fill". In some places it appears terms are interchangeable. In other usages, it seems fill may refer to covered waste; e.g., on page 5, statement is made that samples will include soil and fill. (BPJ)

LANL RESPONSE

The term *fill* is intended to indicate soil that was moved from another site to level the ground over the culvert. The PRS is considered composed of fill rather than of native soil. Delineating fill from soil is an important aspect of the plan.

The term *soil* refers to native, undisturbed earth surrounding the PRS.

We believe we used these terms in the proper context in the sampling and analysis plan, with the exceptions of boilerplate statements in Section 1.0 concerning sample transport and in Sections 2.0 and 3.3 concerning laboratory analyses.

APPENDIX A: GEOPHYSICAL INVESTIGATION

NMED COMMENT

What information is contoured on Appendix A, Figures 1 and 2? What are the Units? (BPJ)

LANL RESPONSE

The figures in Appendix A show the results of geophysical surveys. The contour lines and black areas indicate the strength of electrical or conductance fields generated by metallic objects, such as the culvert and fence posts. White holes within the black areas are an artifact produced when the signals are so intense that the detectors cannot process the data; these white areas represent solid metal. The techniques are

described on page 7 of Appendix A.

Units are millivolts (Fig. 1) and milliSiemens per meter (Fig. 2), as indicated in the title at the top of the each figure. A milliSiemen is a unit of conductance.

NMED COMMENT

Maps attached to Appendix A need directional orientation. (BPJ)

LANL RESPONSE

On both figures, direction is indicated by the axis legends *Southing Distance* for the x-axis, *Easting Distance* for the y-axis. North is to the left in the direction of the negative southing values. Please note that Attachment A aligns Figure 1 of the geophysical survey to Figure 1 of the sampling plan such that north is toward the top of the page.

NMED COMMENT

Page 4: 5th paragraph: "...outline on Figure 2 (TDMD Data)," Should Figure 2 be Figure 1? (BPJ)

LANL RESPONSE

You are correct.

NMED COMMENT

Page 5, Section 2.4: Although TDMD and EM data indicated no buried objects or debris are expected to occur below the trenches, the bottom of the trenches might deposit hazardous chemicals. Therefore, soil samples from 2-ft below the bottom of the trench area must be included in the sampling and analysis plan to characterize the possible presence of COPCs. (BPJ)

LANL RESPONSE

There is no trench, as was indicated by the geophysical data and as was confirmed by spade work done by the field crew. The feature is a shallow drainage ditch on the mesa surface. One surface sample was taken at the lower end of the ditch. No contamination was detected.

