Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

DATE: August 13, 1993
IN REPLY REFER TO: EM-DO:93-903
MAIL STOP: MS J591
TELEPHONE: 667-3778

Mr. Ted Taylor
Program Manager
Department of Energy
MS A316
Los Alamos Area Office
Los Alamos, NM 87544

RE: MODIFICATIONS TO OPERABLE UNIT (OU) 1122 WORK PLAN

Dear Mr. Taylor:

We have reviewed the Environmental Protection Agency's (EPA's) approval letter and modification request package for the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan for OU 1122. A response to the modifications required by EPA is enclosed. Mr. Court Fesmire of your office has reviewed the response package and agrees with our assessment. The EPA has requested this response no later than August 16, 1993. We have also enclosed a draft letter for the Department of Energy response to EPA.

Should you have any questions, feel free to contact Dave McInroy of the Laboratory's Environmental Restoration Program Office. He can be reached at 667-0819.

Sincerely,

Roger W. Ferenbaugh

for Tom Gunderson
Division Leader
Environmental Management

TG/vvm

Enclosure: Draft letter to Mr. William Honker

4713

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MODIFICATIONS REQUIRED FOR OU 1122 RFI WORK PLAN
August 1993

1. The final report should be submitted within eight months of receipt of analytical data and completion of all field work.

Response: The final RFI report will be submitted to EPA within eight months of receipt of all RFI-generated analytical data.

2. 3.2.2.7 SWMU 33-011(d) Storage Area TA-33-20, p. 3-24 - How were materials stored (i.e. in drums)?

Response: W-3 former deputy group leader, Harlow Russ, indicates that the materials consisted of spent parts collected after tests and held for salvage or classified disposal. The materials stored outside TA-33-20 were not drummed or otherwise contained. They were stored exposed to the environment on unprotected asphalt (Hoard 1993, 02-068).

3. 3.2.4.3 Subsurface Data, p. 3-29 - Submit a list of the contaminants for which analysis was conducted.

Response: Analyses were conducted for volatile and semivolatile organic compounds, metals, gamma-emitters, uranium, tritium, plutonium, PCBs, and high explosives (LANL 1989, 02-020).

4. For all Surface investigations: Elaborate on the sentences indicating that data will be summarized by estimating spatial trends and local average concentrations as a function of distance of the sources.

See Attachment A.

5. 3.5.4 Review of Existing Data, p. 3-72 - More information needs to be provided on the Roy F. Weston 1989 sampling of the two chambers in MDA-D. This information should include a map indicating the location of the boreholes, depths of sampling intervals, and tabulated results of the sampling and analysis.

See Attachment B

6. 4.1.4 Sampling and Analysis strategies, p. 4-3 and 4-7 - For any sample collected the sample maximum should be compared with action levels.

Response: Replace paragraph 5, page 4-5 with the following: In all cases RFI Phase I concludes with a decision point, leading to baseline risk assessment, to voluntary corrective action, to a corrective measures study, or to no further action. In most cases, this decision requires a comparison between site observations and screening action levels (SALs). To identify contaminants of concern (COCs), maximum concentrations for each analyte and each site will be compared to SALs as defined in the current IWP. No further action will be proposed if no COCs are identified.

7. 4.2.6 Subsurface Sampling at MDA-K, p 4-28 - For each of the three cores drilled, a sample should be collected every 10 feet to a depth of 30 feet, and these samples should be analyzed for organics and metals. Sampling below 30 feet may continue as indicated in the work plan.

Response: Detailed DQOs were developed for deep drilling at MDA-K. These and the sampling schedule have been modified to include sampling for VOCs, SVOCs, and metals every 10 ft of the top 30 ft for each borehole.

8. For all septic systems subsurface sampling: The sample collected next to the tank from the bottom of the tank should also be analyzed for VOAs.

Response: All subsurface septic system sampling will be analyzed for VOCs. For those tanks sampled in the 1993 field season, additional samples will be taken specifically for VOCs.

9. 4.4.4 MDA-E, p. 4-38 - The sampling and analysis already conducted did not cover all the potential constituents in the pits at MDA-E. LANL shall drill two extra boreholes close to pits and sample for beryllium and explosives every 10 feet to a depth of 40 feet.

Response: Sampling at MDA-E will include analyses for HE and metals, including beryllium, every 10 ft to depths of 40 ft in a minimum of two boreholes. It is recognized that MDA-E requires long-range decisions that could not be adequately explored in the RFI time frame. Disposition of MDA-E is currently undergoing formal decision analysis procedures; sampling strategies will depend on the results of the study. Sampling will be conducted after the decision analysis is complete and the decisions agreed upon by affected parties, including EPA.

REFERENCES

Hoard, D., July 26, 1993. "Conversation with Harlow Russ concerning TA-33-20, " Los Alamos National Laboratory memorandum CLS-ER/RM 93-72 to file from Dorothy Hoard (CLS-1), Los Alamos, New Mexico (Hoard 1993, 02-068)

LANL (Los Alamos National Laboratory), September 1989. "Raw Data Report: Task 2, Preliminary Draft (Revision 0), Roy F. Weston, Inc., Albuquerque, New Mexico. (LANL 1989, 02-020)

Attachment A: Modifications Required for OU 1122 Work Plan

EPA COMMENT #4 ON SURFACE INVESTIGATIONS

3.2.6.2 Surface Investigations: Subheading 3) Addendum

The area-wide surface investigation at Main Site and adjacent Area 6 is designed to address residual contamination due to airborne releases of tritium from the stack of the High Pressure Tritium Facility (TA-33-86) and of fine particulates from the ventilation systems of machine shops (TA-33-39 and TA-33-113) and cutoff building (TA-33-40). It is anticipated that material from these releases could have been dispersed, primarily in the direction of the prevailing daytime winds, throughout Main Site. If the potential contaminants of concern associated with these sources are observed in samples collected under the area-wide (grid) sampling plan, the design of that plan will further allow estimation of:

- important components of variance: variability among field duplicates (samples separated by less than two feet) and among "neighbors" (samples separated by a fraction of the grid spacing);
- area-wide spatial trends;
- average concentrations within localized areas (of a size to be determined by the exposure unit associated with the risk assessment scenario to be agreed upon) with a precision that can not currently be estimated because there is no existing information on the magnitude of the components of variance mentioned above.

Specifically, the following hypotheses will be statistically testable using these data:

- Positive spatial correlation among neighboring observations is sufficiently strong that the data may be used to estimate local concentrations within areas as small as 0.25 acre with a precision of ±50%. (The numbers will be changed to reflect risk-based requirement. That is, the size of the areas of interest depends on the exposure unit to be used for risk assessment, and the precision desired depends on the decision certainty required by the investigator and other stakeholders. If areas of the size of interest under the proposed exposure scenarios cannot be estimated with satisfactory precision, and if it appears that a decision on whether or not to remediate the site will hinge on such estimation, then additional data may be required.)
- The distribution of contamination at the site is controlled by the prevailing daytime winds.

Depending on the results of these two tests, it may also be possible to test a hypothesis of the form:

- For no exposure unit that could be placed within Main Site does the risk associated with residual contamination, calculated using a scenario to be agreed upon, exceed the target risk level.

3.4.6.3 Surface Investigations: Subheading 3) Addendum

The area-wide surface investigation at South Site is designed to address residual contamination from the implosion tests carried out at the South Site firing site [SWMU 33-006(a)]. Shrapnel from these tests is still widely observed across South Site, and the existing data suggest that low level radioactive material is distributed in a radial pattern near the former firing point. If the potential contaminants of concern associated with these tests are observed in samples collected under the area-wide (grid) sampling plan, the design of that plan will further allow the estimation of variance components, area-wide spatial trends, and average concentrations within localized areas, as discussed in connection with the grid sampling plan proposed at Main Site (Subsection 3.2.6.2). Specific hypotheses that may be entertained concerning surface contamination at South Site are identical to those formulated in Subsection 3.2.6.2, although it is possible that the exposure scenario of interest for South Site will be different from that considered at Main Site.

East Site and National Radio Astronomy Observatory (NRAO) have some large-surface SWMUs. Grid sampling is proposed at those SWMUs, but the extent of the data collected will not support such extensive hypothesis testing. Only screening assessments are proposed for these sites (and at Area 6, except insofar as there is a little extension of the Main Site grid into Area 6). The data will not be sufficient to do more than identify contaminants of concern, if any.

Katherine Campbell, A-1
July 24, 1993

ATTACHMENT B: Modifications Required for OU 1122 RFI Work Plan

EPA COMMENT #5 ON DATA FOR MDA-D

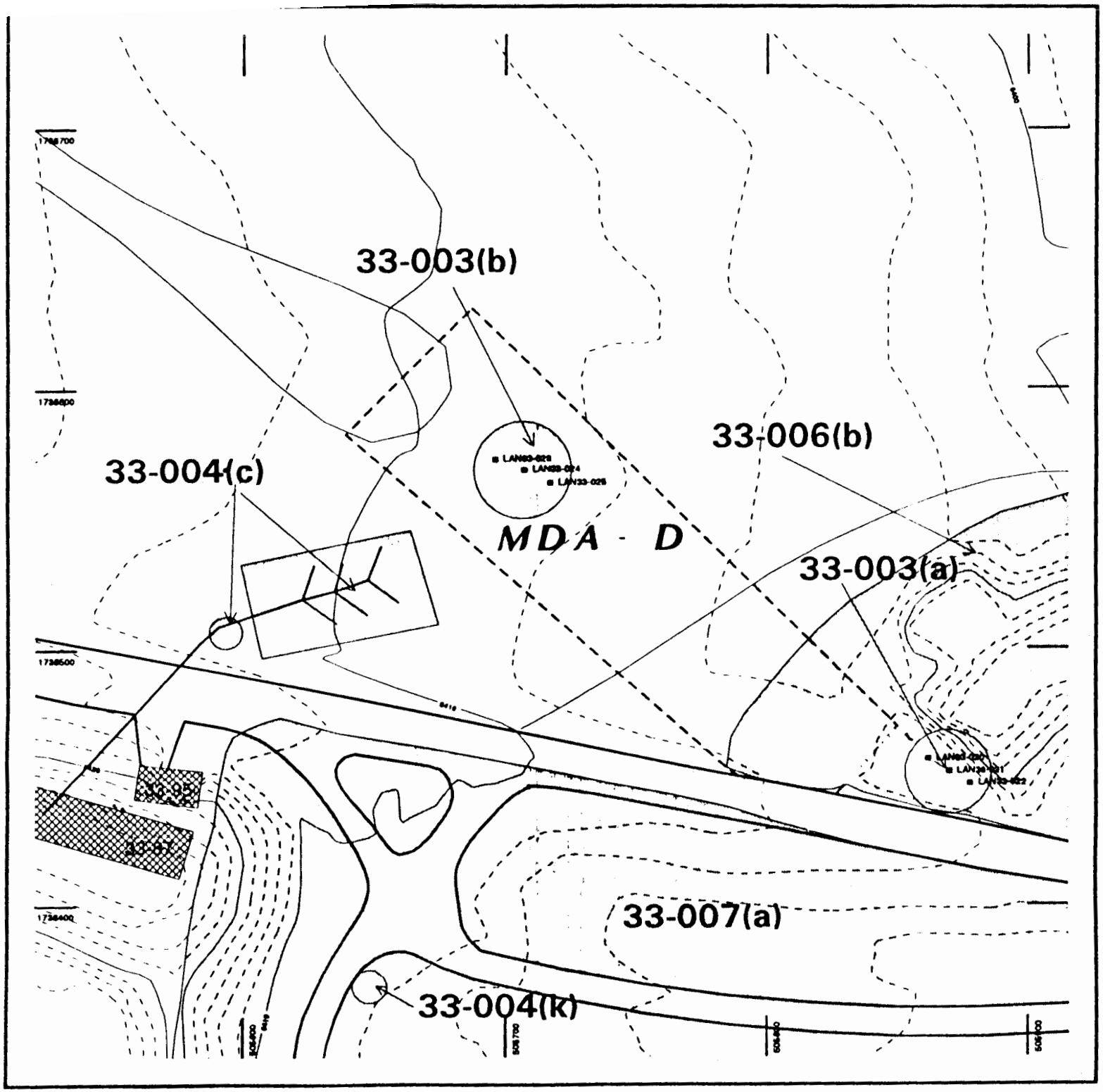
Exhibit 1 is a map of MDA-D showing topographic features and the locations of the Weston 1989 boreholes

Exhibit 2 contains results of analyses of samples from borehole cores. Tables indicate depth at which samples were taken, analytes, and analyte concentrations, as well as relevant explanatory information.

Table 1 summarizes information presented in the Weston tables, including SWMU, description of borehole path, depth of sample, and analyses performed for each depth increment.

TABLE 1
SUMMARY OF WESTON 1989 SAMPLING EFFORT AT MDA-D

BOREHOLE/SWMU	PATH DESCRIPTION	DEPTH	ANALYSES PERFORMED
LAN33-0020	Surface to concrete floor	13-18 ft	Metals, HE
33-003(a)	of elevator shaft	38-43 ft	Radionuclides
		43-46 ft	Metals, radionuclides, HE
LAN33-0021	Surface to chamber roof	23-28 ft	Metals, radionuclides, HE
33-003(a)			
LAN33-0022	Surface to tuff below floor	28-33 ft	Metals, volatiles, radionuclides, HE
33-003(a)	level, exterior of shaft	33-35 ft	Radionuclides
		35-40 ft	Radionuclides
		44-49 ft	Metals, volatiles, Radionuclides, HE
LAN33-0023	Surface to concrete floor	33-38 ft	Metals, radionuclides, HE
33-003(b)	of elevator shaft	38-43 ft	Metals, volatiles, radionuclides, HE
		43-48 ft	Metals, radionuclides, HE
LAN33-0024	Surface to chamber roof	18-23 ft	Metals, radionuclides, HE
33-003(b)		23-28 ft	Metals, radionuclides, HE
LAN33-0025	Surface to tuff below floor	23-28 ft	Volatiles
33-003(b)	level, exterior of shaft	38-43 ft	Metals, radionuclides, HE
		43-48 ft	Metals, radionuclides, HE
		53-58 ft	Volatiles



TA-33 EAST SITE

- Contours, 2 foot
- Contours, 10 foot
- MDA
- Roads, Dirt
- Roads, Paved
- Sewer
- PRS
- Structure
- Borehole

0 26.5 53 79.5
FEET

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Earth and Environmental Sciences

FIMAD
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Map Coordinates in New Mexico State Plane Feet
Grid interval, in feet 100

Produced by: Marcia Jones
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