



Department of Energy
 Field Office, Albuquerque
 Los Alamos Area Office
 Los Alamos, New Mexico 87544

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Mr. William Honker, Chief
 RCRA Permits Branch
 U. S. Environmental Protection Agency
 Region 6
 1445 Ross Ave., Suite 1200
 Dallas, TX 75202-2733



Dear Mr. Honker:

The Department of Energy has reviewed the Notice of Deficiency on the Resource Conservation and Recovery Act Facility Investigation Work Plan for Operable Unit 1144. Enclosed is our response to the comments.

If you have any questions on the response, please contact Steve Slaten of my staff at (505) 665-5050.

Sincerely,

Joseph C. Vozella, Acting Chief
 Environment, Safety, and Health
 Branch

Enclosure

- cc w/o enclosure:
- B. Swanton, AIP, LANL,
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 - J. Shipley, EE-AETO, LANL,
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CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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 Titles:

Response to Notice of Deficiency for Operable Unit 1144

Name:



Date:

3/5/93

Allen J. Tiedman
Associate Director for Operations
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Name:



Date:

3/5/93

Joseph Vozella, Chief
Environment, Safety, and Health Branch
Los Alamos Area Office - DOE

**Response to List of Deficiencies
RFI Work Plan OU 1144**

General Comments

1. Revised Milestones

The attached schedule is expected to supersede the schedule given in the Executive Summary, Figure EXEC-5 p. xiii. Baseline changes are expected to be made in the near future.

The RFI field work, including data validation is expected to be completed in December 1997 and the RFI report will be completed within eight months of this date.

2. Analytical Tables

The tables will be moved to the back of each chapter.

3. Revised Appendix C

The SOPs listed below and referenced in Appendix C of the work plan can be found in the Environmental Restoration Standard Operating Procedures, Volumes I and II.

SOP-01.05	Field Quality Control Samples.
SOP-06.01	Purging of Wells for Representative Sampling of Groundwater.
SOP-06.02	Field Analytical Measurements of Groundwater.
SOP-06.09	Spade and Scoop Method for Collection of Soil Samples.
SOP-06.11	Stainless Steel Surface Soil Sampler.
SOP-06.10	Hand Auger and Thin-Wall Tube Sampler.
SOP-06.13	Surface Water Sampling.

The following SOPs are in preparation.

SOP in preparation	Hollow-Stem Auger.
SOP in preparation	Rotary Drilling.
SOP in preparation	Cable Tool Drilling.
SOP in preparation	Sampling for Removable Alpha Contamination.
SOP in preparation	Total Alpha Surface Contamination Measurements.
SOP in preparation	Measurement of Gamma Radiation Using a Sodium Iodide (NaI) Detector.
SOP in preparation	Health and Safety Monitoring of Organic Vapors with a Flame Ionization Detector.
SOP in preparation	Health and Safety Monitoring of Combustible Gas Levels.

SOP in preparation	Screening Soil Samples for Alpha Emitters.
SOP in preparation	Use of Gamma Spectrometry Systems as a Screen for Gamma Ray-Emitting Radionuclides in Soil Samples.
SOP in preparation	Portable Gas Chromatography for Field Screening of Volatile Organic Compounds.

Work will not be performed in any instance if the SOP (or an equivalent procedure is not in place). The two-volume set of LANL's Environmental Restoration Standard Operating Procedures was sent to the EPA on February 22, 1993.

4. (addendum to section 8.9, paragraph 1)

The HDT firing pit area is still in use only as a training area for the Emergency Management and Response Team; it is not used as a disposal area of any kind (as per phone conversation on 2/93 with Frank Pierce, the Office Director of EM&R).

Specific Comments

1. The action level for Be in soils listed in Table 5.1-1, page 5-3 comes from Appendix J, Table J-1 of the IWP, Revision 2 (see attached).

The background level for Be is based on reported background levels given by Ferenbaugh et al. 1990 (LA-11941-MS) for an area which is geologically similar to TA-49. This is the best available data until the Baseline Studies are completed and tabulated. See table 2 in the report LA-11941-MS entitled "Sigma Mesa: Background Elemental Concentrations in Soil and Vegetation, 1979".

2. The QA/QC samples listed in this table are consistent with LANL's SOP "Field Quality Control Samples" (SOP-01.05, page 7) and the guidance given in the ER Generic QA Project Plan (LANL-ER-QAPjP, R0), Section 5.1.1, Page 5-2.

3a. (Addendum to section 6.2.5.2)

Soil samples will be collected at the beginning and end of each 10-ft section of pipe using the Spade and Scoop Method (SOP-06.09).

3b. (Addendum to section 6.2.5.1 paragraph 3)

All samples analyzed in the analytical laboratory will also be analyzed for SVOCs using method SW 8240.

4. (addendum to section 6.2.5.3)

Shallow boreholes will be done by Hollow-Stem Auger method (SOP, in preparation). Samples will be collected on the surface and at three foot intervals to a depth of about 9 feet. Gross alpha, beta, and gamma spectrometry measurements and determination of SVOC content will be conducted for all samples using the field mobile laboratory. If these results indicate contamination, the boreholes will be extended at three foot intervals until no contamination is detected. One-half of all samples collected plus all samples for which contamination is detected (using the mobile laboratory) will be sent to an analytical laboratory for Level III analysis for isotopic plutonium, total uranium, RCRA metals, and SVOCs.

5. (replacement for section 6.2.5.4)

Surface soil samples will be collected using the Spade and Scoop Method (SOP-06.09) in the location of the former radiochemical storage box. Five soil sampling locations will be placed at random within the area of the former storage box. The surface soil samples taken at these random locations will be composited. A six-ft vertical borehole will be augered at the location of the former storage box, using the Hollow-Stem Auger method (SOP, in preparation), see Figure 6.2-5. Composited surface soil samples and two 3-ft sections from the borehole will be analyzed as follows. Gross alpha, beta, and gamma spectrometry measurements and determination of SVOC content will be conducted for all samples using the field mobile laboratory. If these results indicate contamination, the borehole will be extended at three foot intervals until no contamination is detected and a finer sampling grid for additional surface soil samples and vertical boreholes will be established. One-half of all samples collected plus all samples for which contamination is detected (using the mobile laboratory) will be sent to an analytical laboratory for Level III analysis for isotopic plutonium, total uranium, RCRA metals, and SVOCs.

6. (addendum to section 6.2.5.5)

Coreholes will be drilled using the Hollow-Stem Auger method (SOP, in preparation) and analyzed using the HE spot test (Baytos 1991, 0741). This field spot-test is performed with a portable kit containing three reagents, a UV lamp, and all other necessary tools for testing at the field. The test involves wiping the suspect area with a filter paper and adding a drop of each of the three reagents on different parts of the sample to observe color change which indicates the presence of explosives or other nitro compounds. A UV light enhances color for RDX/HMX explosives. See attached paper by Baytos for details of the test.

7. (correction to Table 6.3-1)

QA samples required for borehole samples are: two rinsate blanks, two field duplicates, and two field blanks (as per LANL's procedure on "Field Quality Control Samples", SOP-01.05, page 7). See attached revised Table 6.3-1.

8. (correction of Table 6.3-2)

Units for Pu 239/240 and Pu 238 have been added to this table. See the attached revised Table 6.3.2.

9. (addendum to section 6.3.4.1)

Surface sampling will be done by the Spade and Scoop Method (SOP-06.09).

Sampling of the boreholes will be at five foot intervals starting at the surface and ending at the bottom of the borehole which is fifteen feet in depth.

10. a-e. (replacement for section 6.3.4.2 - Small Landfills)

The small landfills will be located by Ground Penetrating Radar (GPR). If this technique cannot detect the locations of the landfills, LANL will propose a NFA since there is no evidence that the landfills ever existed (as the Work Plan points out). If the landfills can be located by GPR, 10-ft boreholes will be drilled using the Hollow Stem Auger Method (SOP, in preparation) in each suspected landfill near anomalies detected by GPR. Samples will be taken every two feet in the boreholes starting at the surface and ending at the bottom of the borehole. Surface samples using the Spade and Scoop Method (SOP-06.09) will be taken in the surface area directly over the landfills (as determined by GPR) and bracketing the boreholes. Gross alpha, beta, and gamma spectrometry measurements and determination of SVOC content will be conducted for all samples using the field mobile laboratory. If these results indicate contamination, the boreholes will be extended at two foot intervals until no contamination is detected. One-half of all samples collected plus all samples for which contamination is detected (using the mobile laboratory) will be sent to an analytical laboratory for Level III analysis for isotopic plutonium, total uranium, RCRA metals, and SVOCs.

11. (addendum to section 6.3.4.4)

Surface soil samples will be taken using the Spade and Scoop Method (SOP-06.09). Samples will be screened for gross alpha, beta and gamma contamination. Level III analyses will consist of total uranium, isotopic plutonium, gamma spectroscopy and RCRA metals.

12. (Correction to section 6.4.5.1, last paragraph)

The last paragraph in this section should be replaced with the following paragraph. The following Level III analyses will be performed for all 16 surface soil samples collected (25% of the 64 sample locations shown in Figure 6.4-4): isotopic plutonium, total uranium, and RCRA metals.

13. (addendum to section 6.4.5.2)

Boreholes will be drilled and sampled using the Hollow-Stem Auger method (SOP, in preparation). Samples will be taken every two feet in the borehole and screened for gross alpha, beta and gamma contamination. Level III analysis will be performed for total uranium, isotopic plutonium, gamma spectroscopy and RCRA metals.

14. (correction to table 6.4-1)

Number of Borehole Samples: 10

Rinsate blank: 1

Field duplicate: 1

Field blank: 1

See the attached revised table 6.4-1.

15. Clarification to Table E-4:

The location of the drainlines is unknown as described in the text in section 6.4.5.3. The drainlines will be located by Ground Penetrating Radar, the drainlines will be removed, and the soils around the line will be field screened for gross gamma, beta, and alpha activity. A soil sample will be collected at the beginning and end of each 10-foot section of drainline, using the Spade and Scoop Method (SOP 06.09); the soil samples will be analyzed as delineated in Table E-4. The revised table E-4 which will be placed at the back of Chapter 6 will not specify the depth of the interval since the location of the drainlines is unknown.

16. (addendum to 6.5.5, paragraph 2)

Samples will be taken using the Spade and Scoop Method (SOP-06.09).

17. (addendum to table 7.1-2(a))

Lateral Borehole QA Samples

Rinsate blank: 3

Field duplicate: 3

Field Blank: 3

See the attached revised Table 7.1-2(a).

18. (addendum to section 7.5.1, paragraph 3)

The Quality Council of the Environmental Restoration Program at LANL identified the lack of action levels to define "hot spots" as a deficiency of the program. A task force was formed to define "hot spots" and the report of this task force will be issued in the near future. Site-specific Health and Safety Plans for each sampling event will provide information on appropriate action levels for areas of relatively higher concentrations.

19. (addendum to section 7.5.4)

Three samples will be collected from each of the two transects perpendicular to the drainage downgradient from sediment Station A-3 using the Spade and Scoop Method (SOP-06.09).

20. (addendum to section 7.6.3)

Solid samples will be taken by obtaining a short core (1-2 ft.) from the bottom of the corehole by methods described in the Drilling and Coring Sampling Plan. This sampling plan will be added as a supplement to this work plan and submitted for approval 30 calendar days prior to initiation of drilling.

21. a. (addendum section 7.6.4.1, paragraph 2)

Coring of the 150 ft. core holes will be done by methods listed in the Drilling and Coring Sampling Plan which will be provided as a supplement to this work plan and submitted for approval 30 calendar days prior to initiation of drilling. Extension of one of the 150 ft. core holes to 700 ft is scheduled for Phase I activity depending on sampling results.

b. (addendum section 7.6.4.3, paragraph 1)

This was a typographical error in the work plan. The characterization of these boreholes is described in Subsection 7.6.4.1 of the work plan.

22. (addendum section 7.6.5)

Boreholes will be drilled using the Hollow-Stem Auger method (SOP, in preparation). All SOPs referenced in this work plan are or will become part of the Environmental Restoration Standard Operating Procedures (Volumes 1 and 2).

23. (addendum section 7.6.6)

Lateral boreholes will be done by methods listed in the Drilling and Coring Sampling Plan (which will be a supplement to this work plan).