

Los Alamos Environmental Restoration
Emergency Facility

LOS ALAMOS

LOS ALAMOS NATIONAL LABORATORY

ER Record I.D.# 28637

ENVIRONMENTAL RESTORATION
Records Processing Facility
ER Record Index Form

DATE RECEIVED: 9/24/93 PROCESSOR: zpa

PAGE COUNT: 16

Quick Index: Complete all fields; indicate if not applicable or appropriate; please write legibly.

DOCUMENT TO: Mr. Joseph Vozella ORGANIZATION: DOE
 ORIGINATOR NAME: Allen Friedman ORGANIZATION: ADO
 SYMBOL: ADO/93-751-U DOCUMENT DATE: 9/16/93
 SUBJECT/TITLE: Notice of Deficiency (NOD) for Operable
 Unit (OU) 129 Resource Conservation & Recovery
 Act (RCRA) Work Plan

RECORD TYPE (Circle relevant type for primary record; type of attachments should be selected on Keywords List):

- | | | | | |
|-------------------------|---------------|----------------|------------------------|------------------|
| Analytical Data | Excerpt | Map | Procedure | Summary |
| Article | FAX | Memo | Purchase Request | Table |
| Chain-of-Custody | Figure | Microform | Receipt Acknowledgment | Telephone Record |
| Chart | Form | Notebook | Report | TOC |
| Computer Output | Interview | Outline | Review | Transcription |
| Contract | <u>Letter</u> | Personal Notes | Sow | Video |
| Controlled Distribution | List | Photo | Study | Work Plan |
| Drawing | Logbook | Plan | | Other _____ |

RECORD CATEGORY: P
(P for Programmatic or R for Reference)

RECORD PACKAGE: _____

FILE FOLDER: _____

RECORD FILMED (Y/N): y

RECORD LOCATION: _____
(Indicate location of record if not filmed.)

Complete all fields; indicate if not applicable or appropriate; please write legibly. Use ER Record Index Form Attachment Sheet if needed.

ATTACHMENTS FILMED (Y/N): y
(Were attachments to this record filmed?)

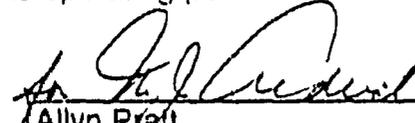
LOCATION: _____
(Indicate location of attachments if not filmed.)

30977

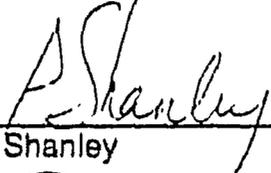


CERTIFICATION

The attached document, "Notice of Deficiency (NOD) for Operable Unit (OU) 1129 Resource Conservation & Recovery Act (RCRA) Work Plan", is true and accurate to the best of our knowledge. The document has been through internal reviews. The document and verification form are being submitted to the Environmental Protection Agency as part of the requirements under the Hazardous and Solid Waste Amendments operating permit.

Preparer: 
Allyn Pratt
Operable Unit Project Leader for OU 1129

Date: 2 SEP 93

EM-8
Representative: 
Pat Shanley

Date: 9/2/93

ER Program Office
Representative: 
Jim Aldrich
Programmatic Project Leader

Date: 2 SEP 93

Los Alamos

NATIONAL LABORATORY

Operable Unit 1129
EES-13, Allyn Pratt, J521
Los Alamos, New Mexico 87545
(505) 667-4308
FAX 505-667-1904

Date: August 20, 1993
Refile to: EES-13-ER-08-93-009

Barbara Driscoll
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

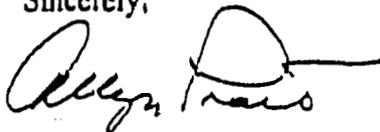
Dear Ms. Driscoll:

Thank you for reviewing the *Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan for Operable Unit (OU) 1129* and spending the time to discuss your comments with me and my technical team. Attached is our final response to your notice of deficiencies (NODs) with changes made as we agreed.

As you requested, OU 1129 has revised its responses or provided additional background materials associated with the following NODs: General Comments 2, 3c, and 3d, and Specific Comments 12, 17, and 20.

If you should have any further comments or questions, please call me at (505) 667-4308.

Sincerely,



Allyn R. Pratt
OU Project Leader for OU 1129

AP:al

Attachments: Attachment A: *Final Project Report TA-35 Los Alamos Power Reactor Experiment No. II (LAPRE II) Decommissioning Project*, LA-12464, February 1993
Attachment B: "Quarterly Report for January through March 1993," EES-13-ER-04-93-040
Attachment C: "Corrected Tables for Quarterly Report for January through March 1993," EES-13-ER-05-93-055
Attachment D: *Radioactive Liquid Waste Lines Removal Project at Los Alamos (1981-1986)*, LA-10821-MS, September 1986

Cy w/o att.:

Jim Aldrich, EES-1, D462
Curt Thomson, LATA, M321
Rick Hutton, SAIC, J521
Ted Taylor, DOE/LAAO, A316

Records Processing Facility, EM-13, M707
EES-13 ER file, J521
OU 1129 file, M321

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

GENERAL COMMENTS:

1. **Los Alamos National Laboratory (LANL) shall provide information on which miscellaneous analytes will be analyzed and which methods will be used for the analysis.**

All of the sampling and analysis plans (SAPs) that require analysis for miscellaneous analytes will be revised to state the specific analysis to be conducted. The methods listed in the *LANL Quality Program Plan for Environmental Restoration Activities*, Table IX.1, LA-UR-91-1844, June 1991, will be used and mentioned in the appropriate SAPs and corresponding tables. The revised SAPs will be forwarded to EPA on September 30, 1993 with other *RFI Work Plan for OU 1129* pages affected by EPA NODs.

2. **All the solid waste management units (SWMUs) discussed in Chapter 3 should be addressed either by sampling plans in Chapter 7 or by the no further action (NFA) recommendations in Chapter 6. LANL needs to submit the sampling information for the SWMUs as soon as possible.**

All SWMUs discussed in Chapter 3, except SWMU No. 35-017, are either recommended for NFA in Table 6-1 (as amended) or appear in a SAP in Chapter 7 (as amended). An addendum to the original *RFI Work Plan for OU 1129* was sent to DOE/LAAO on or about March 24, 1993 for review and approval. This addendum will add 71 SWMUs and 9 COCs to Chapters 6 and 7 of the *Work Plan*. This addendum covers all other SWMUs not in the original *RFI Work Plan for OU 1129*.

SWMU No. 35-017 (a non-HSWA SWMU) was specifically not included in the original *RFI Work Plan for OU 1129* pending the removal of the LAPRE II reactor and receipt of the final decontamination and decommissioning (D&D) report. OU 1129 has now received *Final Project Report TA-35 Los Alamos Power Reactor Experiment No. II (LAPRE II) Decommissioning Project*, LA-12464, February 1993 (Attachment A). On the basis of the results in the D&D report, SWMU No. 35-017 is recommended for NFA and will be added to Table 6-1.

3. **Chapter 6, SWMUs Recommended for No Further Action:**
 - a. **SWMU No. 5-003, Calibration Chamber. LANL shall test the bricks for TCLP. EPA recommends that LANL remove the bricks and recycle them using their Lead Decontamination trailer, if necessary.**

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

A reconnaissance sampling plan will be written for SWMU No. 5-003 and included in Aggregate A Phase I investigations. This plan will call for the use of geophysical methods (electromagnetics, gravimetrics, and magnetics) to help delineate the exact location of the old calibration chamber. Based on the results of this initial survey data and cost estimates for removal versus more characterization, LANL may decide to remove the lead bricks. The environmental conditions necessary to solubilize and mobilize lead at the site are not present, so they pose no immediate concern to human health or the environment. The purpose of the lead bricks was to shield instruments being calibrated from background levels of radiation. Historical records indicate that no other source term of RCRA concern was ever present in the chamber. OU 1129 does not think that it is necessary to test the bricks for TCLP because all evidence indicates they are made of lead and doing a leaching procedure on the bricks will not provide new information.

- b. **SWMU No. 35-002. Additional information needs to be submitted concerning this SWMU. What were the hazardous constituents of concern? Who at EPA concurred on the D&D effort and soil sampling plan? Was a plan submitted to EPA for approval? When will the results of the completed project be submitted to EPA?**

Additional information concerning this SWMU can be found in the SAP, *Plan for Environmental Sampling-Removal of Los Alamos Power Reactor Experiment No. 2 (LAPRE II) Reactor Vessel and Fuel Reservoir*, March 28, 1991. This SAP was produced for the D&D of LAPRE II. Following this D&D effort, LANL published *Final Project Report TA-35 Los Alamos Power Reactor Experiment No. II (LAPRE II) Decommissioning Project*, LA-12464, February 1993 (Attachment A). On the basis of the D&D report, LA-12464, Section 2.2, the lead in the bricks is the only RCRA COC. The bricks were removed and stored under EPA and state regulations. OU 1129 has researched EPA's involvement in the SAP and D&D effort and has not confirmed its concurrence; therefore, the third sentence, "The decontamination and decommissioning..." will be deleted from the description/justification block for SWMU No. 35-002 in Table 6-1. Information in the RFI Work Plan for OU 1129, Chapter 3 concerning this SWMU will be updated to reflect the information in LA-12464.

- c. **SWMU No. 42-004, Canyon Disposal. Sampling locations and information should be submitted to EPA for review prior to a decision being made on this unit.**

In 1978, TA-42, the Incinerator Site, underwent D&D activities. The final report, *The Decommissioning of the TA-42 Plutonium Contaminated Incinerator Facility*, LA-9077-MS, was released in November 1981. In 1991, LANL's Environmental Protection Group (EM-8) conducted a reconnaissance sampling survey. In July 1992 after DOE/LAAO verbally notified EPA, OU 1129 conducted a VCA to facilitate construction validation of the Nuclear Safeguards Technology Laboratory. The *Revised Sampling and Analysis Plan for OU 1129 Aggregate J*, LA-UR-92-2120, was written in July 1992. The sampling data has been reported in the OU 1129 "Quarterly Report for January through March 1993," EES-13-ER-04-93-040 (Attachment B), and "Corrected Tables for Quarterly Report for January through March 1993," EES-13-ER-05-93-055 (Attachment C). OU 1129 will report the TA-42 data in the phase report for this area. On the basis of the D&D effort, the reconnaissance survey, and the OU 1129 sampling, this site is a candidate for recommending NFA at the present time.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

- d. SWMU Nos. 48-004(a through c), Sumps and Tanks. Any decision related to these units will be deferred until D&D has been completed. When is D&D scheduled to occur for this building? LANL has not determined whether a release has occurred from these units.

Building TA-48-1 is the primary structure for the Isotope and Nuclear Chemistry Division and LANL has no current plans for near-term D&D. SWMU Nos. 48-004(a through c) are considered to be under operational control. There is no longer a source term and no mechanism for release to the environment. Archival information documents no spills or releases within the building. A SWMU can be considered for NFA if site design, conditions, or operational controls preclude any release from the SWMU that would pose a threat to human health or the environment. SWMU Nos. 48-004(a through c) are recommended for NFA. Table 6-1 will be revised to clarify this information.

- e. SWMU No. 52-003(b), Industrial Waste Lines. More information needs to be submitted, including sampling data and depth of sampling prior to a decision on this unit.

LANL published *Decommissioning of the UHTREX Reactor Facility*, LA-12356, August 1992, after the UHTREX Reactor and associated industrial waste lines were completely decommissioned in September 1990. The report includes sampling depths and data in Section 5.0, Post-Decommissioning Radiological Survey Procedures and Results. Memorandum HSE8-88-603, "Results of Screening Analyses of Soil Material Collected from Industrial Waste Line 66 Connecting TA-52 to TA-50," October 12, 1988; and memorandum HS-3-FSA:91-206, "TA-52 Facilities Decommissioned in UHTREX D&D Project: Remove from SWMU and RFIS Lists," October 30, 1991, discuss D&D activities at this site. Information concerning this SWMU in the *RFI Work Plan for OU 1129* will be updated to reflect the information in LA-12356.

- f. All other SWMUs for which NFA was requested, and that are not currently in the HSWA permit, do not need to be added to the permit. For SWMUs currently in the permit for which an NFA decision is required, LANL must submit a Class III permit modification prior to removal of those SWMUs from the permit.

LANL will submit a Class III permit modification as necessary; OU 1129 will coordinate the list of approved non-HSWA permit NFA SWMUs with the ER Program office to ensure that they are not added to the permit.

SPECIFIC COMMENTS

1. SWMU Nos. 52-002(a through g), page 3-114. Text on page 3-115 identifies SWMU No. 52-002(e) as now being SWMU No. 63-001(a) while Table 1-1, Current Listing of Operable Unit 1129 SWMUs and AOCs as of 1990 lists SWMU No. 52-002(k) as being SWMU No. 63-001(a and b). Please clarify the SWMU numbers and text.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

According to unit information and maps in the 1988 and 1990 SWMU reports, an active, 1,000-gal. septic tank, TA-52-49, designated as SWMU No. 52-002(f), and the associated seepage pit, TA-52-50, designated as SWMU No. 52-002(g), in the 1988 SWMU Report were combined and became SWMU No. 52-002(e) in the 1990 SWMU Report. SWMU No. 52-002(e) is the same as SWMU No. 63-001(a) because the western portion of TA-52 and associated structures became TA-63 in 1989. The text on pages 3-114 and 3-134 is correct.

According to unit information and maps in the 1988 SWMU Report, an active, 920-gal. septic tank, TA-52-154, and associated seepage pit, TA-0-462, were designated as SWMU No. 52-002(k). According to unit information and maps in the 1990 SWMU Report, septic tank TA-52-154 became part of TA-63 in 1989, and SWMU No. 52-002(k) was redesignated as SWMU No. 63-001(b). The text on pages 3-134 and 3-136 is correct.

Table 1-1 of the *RFI Work Plan for OU 1129* will be changed to reflect this information more clearly.

2. 5.1, Summary of OU 1129 Technical Approach, page 5-2. As part of the technical approach, one of the listed approaches indicates that "SWMUs are recommended for CMS when the analytical sample mean exceeds action levels for individual components." Under the proposed Subpart S Regulations, when concentrations of hazardous constituents in ground water, surface water, soils or air exceed an action level, and there is reason to believe that such hazardous constituents have been released from a SWMU at the facility, EPA may require a corrective measure study (CMS). The use of a sample mean for determination of a CMS is not acceptable. This comment also applies to Section 5.2.7, Decision Point 4, on page 5-9. In addition, EPA risk assessment guidance calls for calculating the 95 percent upper-confidence limit (UCL) on the arithmetic mean of site contamination rather than the 90 percent confidence interval used by LANL.

Referenced sections will be changed to reflect that these decisions will be based on the 95 percent UCL for comparison of a contaminant's concentration to its screening action level (SAL). Those SWMUs at which this criterion is met may be recommended for either VCA or a focused CMS. This statement is based on the assumption that the LANL Installation Work Plan, Appendix K (when published), will adopt this strategy for data analysis, and that the EPA Region 6 guidance will in fact be to use the 95 percent UCL (per proposed Subpart S section 264.511(a)(7)).

The last bullet, second sentence, under Section 5.1 will be changed to read, "SWMUs are recommended for CMS when the 95 percent upper confidence limit (95% UCL) on the arithmetic mean concentration of an individual site contaminant exceeds the screening action level (SAL) for that contaminant, or when"

The first bullet under Section 5.2.7 will be changed to read as follows, "the 95% UCL on the arithmetic mean concentration of an individual site contaminant does not exceed the SAL for that contaminant, and."

3. 7.5.2 Phase I Field Activities Investigation, SWMU Aggregate A, page 7-17.
 - a. Soil samples should be analyzed for metals as well as radioactive components, as indicated in Section 7.5.3.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

The total list of RCRA metals will be added to the list of analytes.

- b. **SWMU No. 4-002, the canyon side disposal area, which is sampled at several intervals, should have at least one borehole through the debris material, as continuous bulldozing of material may have covered contaminated material. High explosive (HE) spot testing should also be conducted if possible.**

The sampling locations indicated in the SAP are examples only and depend entirely on the outcome of initial geophysical surveying. OU 1129 believes that the SAP as written represents a conservative and professionally safe and sound approach to this investigation. However, additional text will be added to Section 7.5.2 to indicate that an aerial gamma survey is planned for the summer of 1993 and that the results will be used to locate potential residual radioactive material for future sampling. Additional text will also explain the types of instruments to be used and the expected results of the survey. Because of the documented presence of large metal debris such as steel girders, rebar, and metal containers and gas cylinders in the detritus of the disposal area, additional reconnaissance information from geophysical methods will be used to choose an appropriate discrete sampling method. The revised SAP will show that spot testing for HE will be conducted where reconnaissance suggests that HE is most likely to be present in the vicinity of the old firing pits.

4. **7.6 SWMU Aggregate B, Phase I, page 7-20.**

- a. **Samples should be analyzed for metals as is indicated in Section 7.6.3. Analysis for metal was left out of Section 7.6.2.**

The total list of RCRA metals will be added to the list of analytes.

- b. **Additional sampling should be conducted for SWMU No. 5-002, Canyon side Disposal, as this SWMU is subject to additional erosion due to location on the canyon side. LANL shall submit an additional work plan for both SWMU Nos. 4-002 and 5-002.**

Text will be added to the appropriate SAPs to indicate that additional downslope surface geophysical surveying and surface sampling for the specified contaminants will be conducted. Attention will be given to the possible need for engineered slope/erosion control if surveys indicate the need to prevent possible debris migration.

5. **SWMU No. 5-004, Septic Tank, Subsurface Investigation, page 7-30.**

- a. **This borehole should be field screened for volatile organic compounds (VOCs) and samples should be analyzed for VOCs.** -

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

The septic tank was abandoned more than 34 years ago, and the tank and pipe were removed, which aerated the soil, 33 years ago. Therefore, OU 1129 has no reason to believe that any of the VOCs would still be present in this area. Samples from this site will be analyzed for semivolatiles organic compounds (SVOCs) because if organics were present in this septic system, there is a possibility that SVOCs could still be present.

OU 1129 will change all SAPs to reflect that for SWMUs with potential VOC source terms older than 10 years, all collected core and auger material will be screened with the appropriate organic vapor analyzer, flame ionization detector, or photoionization detector field instrument for VOCs. If VOCs are indicated, then a discrete sample will be collected and analyzed for VOCs. Otherwise, routine VOC analysis will be conducted for SWMUs with more recent VOC source terms.

- b. It is unclear from the text the number of samples which will be collected if no radioactivity is encountered. Table 7-2 shows that two samples will be collected, one each at the 5-10 ft depth and the 10-15 ft depth. The tables should be consistent with the text.

SWMU No. 5-004, Septic Tank, Subsurface Investigation, page 7-30, third paragraph, will be revised to state, "The borings will be drilled to a minimum depth of 15 ft. Drilling will stop when screening with field instruments determines that two consecutive 5-ft core intervals do not exceed background for radiation. Coring will begin at a depth of 5 ft to avoid sampling soils above the level of the septic tank. A 5-ft-long split-barrel core sampler will be used to collect soil/rock cores in 5-ft intervals. Upon core retrieval, the entire length of the core will be screened for radiation (Section 7.7.3, Sample Screening and Analysis). One sample for each required analytical method (Table 7-2) will be collected in each 5-ft section of core with the highest observed radioactivity, or in sections that show staining or other anomalies. If no above-background radioactivity is detected in a particular 5-ft interval, the sample will be collected from a random core interval. The total depth of the hole and the exact depth of each sample collected will be documented in the field."

- c. There is no reason to believe that hazardous constituents are collocated with the radioactive constituents for this liquid discharge area. A sample from each 5-ft section of core should be analyzed for VOCs, SVOCs, and metals.

A sample from each 5-ft section of core will be analyzed for gross-alpha, -beta, and -gamma, metals by ICPEES, SVOCs, and using gamma spectrometry and alpha spectroscopy. These samples will not be analyzed for VOCs; see response for comment 5a for further explanation.

- d. What are the miscellaneous analytes being analyzed, and what are the analytical methods being used?

Miscellaneous analytes will not be analyzed during the subsurface investigation of SWMU No. 5-004 as shown on Table 7-2, the text on page 7-30 is in error, and OU 1129 will correct it.

6. SWMU No. 5-004, Septic Tank, Surface Investigation, page 7-30.

- a. What miscellaneous analytes are being analyzed, and what are the methods used in analysis?

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

The miscellaneous analytes that will be analyzed for are HEs: HMX, RDX, NB, 1,3-DNB, 1,3,5-TNB, 2,4-DNT, 2,6-DNT, 2,4,6-TNT, and TETRYL. The method used to analyze all of these HEs will be USATHAMA (U.S. Army Toxic and Hazardous Materials Agency) by High Performance Liquid. OU 1129 will revise the *RFI Work Plan for OU 1129* to clarify miscellaneous analytes.

b. **At what depth will surface samples be collected?**

Surface samples will be taken from the top 0 to 6 in.; OU 1129 will revise the *RFI Work Plan for OU 1129* accordingly.

7. **SWMU No. 5-005(a), French Drain, Subsurface Investigation, page 7-31. At least 10 percent of the samples should be analyzed for VOCs.**

The French drain was abandoned more than 30 years ago and removed in 1985; on the basis of published research on VOC environmental behavior, there is no reason to believe that any of the VOCs would still be present in this area. Samples from this site will be analyzed for SVOCs because if organics were present in this French drain system, they could still be detected.

8. **SWMU No. 5-005(a), Surface Investigation, page 7-31. At what depth will samples be collected?**

Surface samples will be taken from the top 0 to 6 in.; OU 1129 will revise the *RFI Work Plan for OU 1129* accordingly.

9. **SWMU Nos. 35-003(a, b, c, and n), Surface and Subsurface Investigations, page 7-35.**

- a. **Boreholes should be located based on best judgment rather than randomly from a grid. If the pit and tanks were removed in 1991, it should have been determined at that time whether there was any leakage. If this removal has not been conducted, then boreholes should be placed next to the pits where the connection with the inflow and outflow lines occurs. Additional boreholes may be required for the pit. Can the pit be inspected for leaks? Did overflows occur?**

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

Scheduling changes within LANL D&D operations since this *RFI Work Plan for OU 1129* was written have invalidated the assumptions used in creating the SAP for SWMU Nos. 35-003(a,b,c, and n). The phase separator pit and associated lines and tanks have not been removed; they will likely be removed in either FY94 or 95. The LANL D&D Program is now part of the ER Program and will be conducted in cooperation with other ER activities. OU 1129 will now have an opportunity to ensure that any sampling during D&D complements the objectives of the *RFI Work Plan for OU 1129*.

OU 1129 requests that a formal SAP for these SWMUs be delayed and done in concert with D&D planning. Concerns of the reviewer can be addressed at that time. Because this area is fully under institutional control and environmental surveillance data indicate no immediate concerns to human health or the environment, deferring the SAP until D&D planning will allow for a much more cost-effective and thorough SAP to be developed.

LANL will notify EPA as a soon as a SAP is developed is complete for these SWMUs; this SAP will be an addendum to the *RFI Work Plan for OU 1129*. Status will be updated in each quarterly report.

- b. It is unclear when comparing the text with Table 7-3 which intervals will be sampled. Text indicates samples will definitely be collected within the top two feet and at the bottom five foot interval. Text then indicates samples will be collected at two areas determined by random generation, at the interval with the highest contamination from radioactive field screening, and if no radioactive contamination is found then at the section's midpoint. Sampling locations need to be clarified and match the Table.

See response for specific comment 9a.

10. SWMUs Nos. 35-003(a-q), Wastewater Treatment Plant, page 3-38. What is the construction of the phase separator pit? Was this an open pit, and did it overflow?

As-built drawings of the phase separator pit provided construction information. The phase separator pit was not an open pit, and there is no documented evidence of the pit ever overflowing. Also, see response for specific comment 9a.

11. SWMUs Nos. 35-003(d, l, and q), Surface and Subsurface Investigations, page 7-42. The history of this area and the previous D&D work should be utilized in developing the sampling plan for these SWMUs rather than using a grid and random boreholes. Boreholes should be located preferentially in areas where spills occurred if these are known.

Operational history and D&D information were exhaustively reviewed in preparing the SAP. Because of the lack of reliable detailed spatial information, the present sampling plan represents the best professional judgment of appropriate sampling strategies.

In the area which underwent D&D, contaminated soil was removed to a depth of around 20 ft. The first borehole sample should be collected around the interval where the backfill meets original soil or tuff. Samples should then be collected on 10- to 15 -ft intervals down to 50 ft, and then at total depth unless field screening (radioactive and VOCs) or visual inspection indicates contamination below 50 ft. Boreholes B-11 and B-12 should remain as located for outfalls from lines 71 and 95.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

All historical information was used in developing the SAPs for this area. The previous spills at these SWMUs were recorded, but their exact locations were not documented. The grid and random sample points technique is often used for locating COC plumes of unknown direction but with a documented source. The source of the fill material is not documented. There is also a potential for additional contamination of the surface fill area from up-gradient rain-wash over potentially contaminated soil.

The possibility for transport to depth exists because the area is dominated by vertical to near-vertical fractures, and modeling indicates that COCs could reach the depths described in the SAP. The post-D&D activities around the site, as well as the surface drainage patterns in the area, make it prudent to sample at the surface. Additional sample points in these boreholes will be added to the SAP to cover the interval in which the backfill intersects the tuff. All other sample points will be left as is, which is consistent with the overall Phase I technical approach.

12. SWMU Nos. 35-003(e, f, g, m, and o), Surface and Subsurface Investigation, page 7-44. Was contamination found when SWMU Nos. 35-003(e, f, g, and o) were removed? More information from the previous D&D (page 3-75) should be provided and this information should be used to create a sampling plan. Boreholes should be located based on best professional judgment where previous spills may have occurred. The area designated as SWMU No. 35-003(m) should be sampled to a depth of 30 ft, or until field screening indicates no contamination, whichever is deeper. Sampling should begin below fill material or at fill/tuff interface.

Although most of the structures associated with the Wastewater Treatment Plant have been decontaminated and decommissioned, gross-beta activity ranging from 100 pCi/g to 5,000 pCi/g remained at depths of 5 ft and deeper. D&D activities were not focused on removal of SWMUs, but on removal of facilities; no SWMUs were removed during D&D. The SWMU designations were overlaid on the site subsequent to D&D based on suspected and documented residual contamination. Contamination is present in the local soils, tuffs, and associated fractures. The report *Radioactive Liquid Waste Lines Removal Project at Los Alamos (1981-1986)*, LA-10821-MS, September 1986 (Attachment D), describes the removal of waste lines, associated structures, and the remaining contamination. The SWMU No. 35-003(m) investigation will require a borehole to a depth of 30 ft (Table 7-5, B-3). Field screening will be used, but this portion of the investigation is to determine the nature and not the extent of contamination. Sampling boreholes beyond 30 ft is unlikely to provide additional information on the nature of COCs at the site. There is no documentation that clean fill was used at the sites for backfill nor how much fill was brought in during D&D. OU 1129 is planning to sample according to the proposed SAP.

13. Statement on page 7-45. The statement beneath Table 7-5 is contradictory to the table. The table indicates that all samples will be analyzed for all the COCs while the statement indicates that 10 percent of the samples will be analyzed for COCs. All the samples collected from the boreholes should be analyzed for VOCs, metals, PCBs, and SVOCs. A reduction in analysis may be requested from EPA after initial results are reviewed.

The text under Table 7-5 is misplaced and does not belong with the discussion of Aggregate D and Table 7-5. The text correctly belongs in Section 7.10.1 on page 7-58 of the *RFI Work Plan for OU 1129*. OU 1129 does not contemplate a reduction in analysis for the sampling in Aggregate D, Table 7-5. The *RFI Work Plan for OU 1129* revision will put the text in its proper location.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

14. SWMU No. 35-003(r), Surface and Subsurface Investigation, page 7-46. Text indicates that "To complement the samples taken at the prescribed intervals, samples will be collected from any sections indicating contamination from field screening techniques." Will these additional samples be analyzed for all potential contaminants? Samples which indicate contamination should be analyzed preferentially.

Additional samples will be analyzed for all of the same potential contaminants that the samples at prescribed intervals will be analyzed for (Table 7-7). OU 1129 will revise the *RFI Work Plan for OU 1129* accordingly.

15. SWMU Nos. 35-009(a through d), Subsurface Investigations, page 7-60. Text on this page indicates that the initial 10 percent of sample locations from each SWMU will be analyzed for Level III VOCs, SVOCs, metals, and radioactive contamination, and then analysis may be reduced based on results. Table 7-9 and Section 7.10.3 indicate that all samples will be analyzed for Level III VOCs, SVOCs, metals, and radioactive constituents. LANL shall clarify what analysis will be conducted.

The phrase "Initial 10% of" will be deleted from the sentence. All samples will be analyzed according to Table 7-9.

16. 7.12 SWMU Aggregate H, Phase I, page 7-71. Text on page 3-70 indicates that nonradioactive hazardous material may have been emitted from the stack; although this cannot be verified. What are the possible nonradioactive COCs? If this SWMU No. 35-014(a) only has a radioactive component, then it should not be listed as a SWMU.

The text on page 3-70 will be revised to reflect that a review of documented stack emissions list no nonradioactive effluents. Although SWMU No. 35-014(a) is a radiological concern only, it is also a listed HSWA SWMU. OU 1129 has chosen to investigate the PCB spills of SWMU No. 35-014(b) along with SWMU No. 35-014(a) for operational efficiency reasons. Analytical requirements listed in Table 7-11 are still valid.

17. 7.14 SWMU Aggregate J, Phase I, page 7-82. SWMU No. 42-001(a through c), and 42-003 are not listed in the HSWA Module VIII.

These SWMUs are not on the HSWA list. However, in July 1992 after DOE/LAAO verbally notified EPA, OU 1129 conducted a VCA to facilitate construction validation of the Nuclear Safeguards Technology Laboratory. The revised SAP for TA-42 incorporated a set of reconnaissance sampling data for RCRA contaminants that LANL Group EM-8 collected in 1991. The reconnaissance sampling data were not available when the original *RFI Work Plan for OU 1129* was written. The revised SAP for TA-42 (as implemented in July 1992) will be included in the revised *RFI Work Plan for OU 1129*. The data from the TA-42 investigation last year has been reported in the OU 1129 "Quarterly Report for January through March 1993," EES-13-ER-04-93-040 (Attachment B), and "Corrected Tables for Quarterly Report for January through March 1993," EES-13-ER-05-93-055 (Attachment C). The outfall SWMUs in TA-42 will be investigated as part of TA-55 fieldwork. See response to general comment 3c.

18. SWMU Nos. 42-001(a) and 42-002 (a), Subsurface Investigation, page 7-87.

EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for RCRA Facility Investigation (RFI) Work Plan for OU 1129

- a. Table 7-13 indicates that analysis will be conducted for constituents other than radioactive constituents, while text indicates that sample analysis will be limited to radiological constituents. LANL should clarify what analysis will be conducted. Table 7-13 should be corrected to indicate actual analysis planned for all SWMUs in TA-42.

See response for specific comment 17.

- b. Was there leakage from the influent line to the septic system? If so, then borehole B-4 should have the same analysis as boreholes B-12 and others, for the septic tank system.

See response for specific comment 17.

19. SWMU No. 42-003, Subsurface Investigations, page 7-95. Were metals previously analyzed at this SWMU? Text on page 7-95 indicates that SVOCs were previously encountered, and text on page 3-82 indicates that possible contaminants included solvents, acids, and greases. For these reasons, a percentage (20%) of the samples collected should be analyzed for metals and SVOCs.

See response for specific comment 17.

20. 7.15 SWMU Aggregate K, Phase I, page 7-99. SWMU No. 48-001 is not listed in the HSWA Module VIII.

The text will be changed to reflect that SWMU No. 48-001 is not listed in the HSWA Module. Sampling activities for TA-48 SWMUs are currently scheduled for July 1993. Initial data will be reported in the LANL ER Program FY94 January through March Quarterly Report.

21. 7.16.3 Sample Screening and Analysis, page 7-112. LANL might consider using an x-ray fluorescence for screening metals.

X-ray fluorescence will be used for screening metals in this aggregate and any other aggregate for which metal analysis have been identified. OU 1129 used x-ray fluorescence during the investigations at TA-42 in July 1992 with very good results.