TA-08

Mailed 4/5/94

LANL/ER/OU 1157

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Joseph C. Vozella, Chief
Environment, Health and Safety Branch
Department of Energy
Los Alamos Area Office
Los Alamos, New Mexico 87544

Re: Notice of Deficiency, Operable Unit 1157
Los Alamos National Laboratory, NM0890010515

Dear Mr. Vozella:

The Environmental Protection Agency (EPA) has reviewed the Resource Conservation and Recovery Act (RCRA) Facility Investigation Work Plan for Operable Unit 1157, and found it to be deficient. Enclosed is a list of deficiencies for which a response is required to the specific comments within forty-five (45) days from receipt of this letter.

Should you have any questions, please contact Barbara Driscoll at (214) 655-7441.

Sincerely,

William K. Honker, Chief
RCRA Permits Branch (6H-P)

cc: Benito Garcia, NMED
Dave McInroy, LANL EM-13

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LANL RFI Comments for OU 1157

General Comments:

1. The RFI Workplan for OU 1157 is very difficult to follow. It appears to EPA that Chapters 5 and 6 could be combined with portions of Chapter 4 to make the Workplan easier to follow. Combining these chapters so that the history of each unit or aggregate of units is followed by the sampling plan eases review greatly.

2. Several places in the Workplan LANL mentions that the sampling procedures for hand-held instruments for field screening of VOCs is in preparation. This information should have been completed when this Workplan was submitted to EPA. The revised workplan must contain this information or reference the appropriate Standard Operating Procedure.

3. LANL needs to justify in the revised Workplan, in the appropriate chapter(s), why the piping that transports the waste from a particular SWMU to the outfalls are not leaking or have not leaked, and why they are not being sampled. LANL also needs to include a narrative describing various details of the piping; such as material composition, age of piping, how piping is connected, approximate volume of waste transported and any previous pipe leak tests performed.

4. Throughout the Workplan, LANL is under the impression that if they found contamination and it is above background, but is under the screening action levels, then no further action is needed, even though the full extent of contamination has not been demonstrated. This is not correct. LANL must find the full extent of contamination and must demonstrate that there is a "clean zone" beneath the contamination. For example, if a soil sample shows PCB contamination exists from 0-2'(and is above background but below screening action levels), but was found to be "clean" from 2-5', then LANL could demonstrate that the contamination has been delineated vertically. If the contamination in the 0-2' interval is below health based numbers for a specified use (such as industrial setting), then LANL could justify a no further action remedy.

In addition, at many SWMUs, LANL is not taking soil samples deep enough vertically to justify a no further action determination. For example, at outfall areas, 6 inch deep soil samples may not reach sediments from the past which have been buried by younger deposited sediments. Also, volatile organics may not show up surface samples and may show up in deeper intervals. This concern is also appropriate at other SWMUs contained in the Workplan.

5. LANL shall include in the RFI Workplan a schedule that includes the starting date for the geophysical surveys and Phase I sampling

for OU 1157 SWMUs and the date the Phase I Report is due to EPA. The schedule should include which SWMUs will be sampled in each year.

6. Page 6-3, 2nd paragraph: LANL shall identify in the revised workplan all outfalls that discharged waste prior to receiving an NPDES permit.

7. In reference to the proposal to integrate RCRA closure and corrective action requirements it is recommended that this specific issue be formally addressed to NMED. RCRA closure requirements may differ from corrective action requirements under the HSWA portion of the RCRA permit.

8. Page 6-14: It is unclear whether the 2 discrete samples taken at this site will be composited or not. Text indicates that the soils will be homogenized. Only discrete samples should be collected. This comment also applies to any other section where homogenization of samples is indicated. LANL shall clarify this language in the revised work plan.

9. EPA does not necessarily agree with the no further action (NFA) criteria in Chapter 7, even though many of the units requested for NFA are approved because they do not need further investigation. For example if an outfall is now permitted under NPDES does not preclude examination under RCRA if the outfall operated prior to being permitted. The NPDES permit does not ensure cleanup of past activities. LANL shall establish NFA criteria which can be applied across the facility at every Operable Unit. This will ensure consistency in evaluating these sites. EPA and NMED shall approve the established NFA criteria, and this may be a separate response from this NOD response. An initial draft will be due to EPA within 45 days of receipt of this NOD.

10. The following sites do not need to be added to the HSWA portion of the RCRA permit.

8-008(a)-Transformer Storage Area
8-008(c)- " " "
8-000(b)- " " "
8-000(d)- " " "
8-009(b)- Outfall serving Building TA-8-70
8-010(a)- Waste Container Storage Area
8-010(b)- " " " "
8-010(c)- " " " "
8-001(a)- Off-Gas System
8-001(b)- " " "
8-011(a)-Decommissioned UST, TA-60
8-011(b)-Decommissioned UST, TA-61
9-010(c)-Waste Can Shelter
9-011(a)-Waste Container Storage Area at TA-9-21
9-008(a)-Lagoon

9-015-Electrical Control Manhole
69-002(a)-Septic Tank for TA-69-9
69-002(b)-Septic Tank serving Bldg. TA-69-10
C-8-001-The Gun Bldg.
C-8-002-The Gun Bldg.
C-8-003-Bldg. TA-8-6
C-8-004-Former Ranch House
C-8-005-Guest House
C-8-006-Guest House
C-8-007-Bunk House
C-8-008-Ranch Barn
C-8-009-Ranch Barn
C-8-011-Storage Bldg., TA-8-7
C-8-012-Carpenter Shop
C-8-013-Office Bldg. for TA-8-9
C-8-015-HE Magazine
C-8-016-HE Magazine
C-8-017-Storage Vault
C-8-018-Storage/Laboratory, TA-65
C-8-019-Storage/Laboratory, TA-8-30
C-8-020-Mistaken Burial Site
C-9-002 Trimming Bldgs.
C-9-003-Pump House
C-9-004-Oven Bldg., TA-9-19
C-9-005-X-unit Chamber
C-9-006-Bldgs. TA-9-6, 11, and 16
C-9-007-Bldgs. AE-7 & 8
C-9-008-UST, same unit as PRS 9-016
C-9-009-Oil stains

11. LANL may request a Class III permit modification for the following sites:

8-003(b)-Inactive Septic Tank
8-003(c)-Inactive Septic Tank
8-006(b)- Material Disposal Area (duplicate of 8-006(a)
9-003(c)-Electrical Control Manhole serving TA-9-14
9-003(f)-Settling Tank serving Bldg. TA-9-51
9-005(b)-Inactive Septic Tank, Bldgs. TA-9-21, 28 & 29
9-005(c)-Inactive Septic Tank, Bldgs. TA-9-21, 33, 34, 37, and 38
9-005(e)-Inactive Septic Tank, Bldgs. TA-9-41, 42, 43, 45, & 46
9-005(f)-Inactive Septic Tank, Bldg. TA-9-48
9-005(g)-Inactive Septic Tank, Bldg. TA-9-109
9-005(h)-Inactive Septic Tank, Bldg. TA-9-110
9-007-Basket Pit

Specific Comments:

1. 4.1.4 Decision Point 4, p. 4-10 -

a. Text refers to background levels for contaminants of concern (COC). Has LANL established background levels for COC's at OU

1157? If established, LANL shall include all information on background levels in the revised work plan.

b. The discussion on threshold values is confusing. Text indicates that "A threshold level may be exceeded if one or more screening action level(s) are exceeded..., or if the cumulative effects of multiple contaminants exceed acceptable limits as defined in Appendix J of the IWP. Is the threshold level equivalent of the screening action level (SAL)? This term has not been used in the other work plans reviewed to date. Should sampling at a SWMU reveal contaminants at levels above background then the extent of the release needs to be defined prior to any comparison to SALs.

2. 5.5.3 Data Needs and Data Quality Objectives, p.5-64 - Under Boundaries, bullet 6, pertaining to bulk soils, the vertical boundary of 1 foot may not be sufficient to characterize COC's in disturbed soil (backfill) because the soil is probably not homogeneous. Each of these sites will be evaluated on a case-by-case basis and EPA may require additional sampling.

3. PRS 8-004 (d)- Drain

Page 6-7; 2nd paragraph: LANL states in this paragraph that there is no evidence that a release has occurred through the sewer system. Is LANL talking about the old piping or the new interceptor system? Please clarify. Also, LANL shall include in the revised workplan what testing/soil sampling they have to verify that the old piping has not leaked and please include a description of the old sewer piping.

Page 6-7; second paragraph: Please include in the revised workplan a paragraph describing what LANL will do if the chip or wipe samples which are field screened unexpectedly indicate volatile contamination.

6-8; second paragraph: LANL must meet PQL detection levels for the chip or swipe samples. Detection levels equal to the screening action level is unacceptable.

4. PRS 8-009(c)-Floor Drain Outfall

Page 6-12; 1st paragraph: Please clarify in the workplan whether the 1 pint PCB spill is the only hazardous constituents that were ever transported through the floor drain in its entire time of use.

Page 6-12: Sampling Activity: If visual or olfactory contamination is evident in a specific section of the 6 inch sample then that zone should be sampled and not homogenized with the other soil. Also, LANL should take samples at deeper intervals, to verify that vertical contamination has been delineated and that surface contamination has not migrated downward, and that sediments from

the past have not been buried by younger deposited sediments.

5. PRS 8-009(d)-Process Waste Water Outfall

Page 6-15; Analysis of Results: If the bottommost sample still contains PCB's above background levels, then LANL must take deeper samples, regardless of the screening action level for PCB's.

Page 6-15; 3rd paragraph: Please include in the revised workplan what hazardous constituent or other parameters are sampled at the outfall.

Page 6-15; last paragraph: Please justify why the piping that goes from the building to the discharge point is not being investigated for a possible release.

Page 6-15: 3rd paragraph: Please include in the revised workplan a paragraph describing what LANL will do if field screened samples unexpectedly indicate volatile contamination.

Page 6-16: Please include in the revised workplan all hazardous constituents that could have been in the photo-processing wastes for this unit. EPA may require more constituents to be analyzed in the soil samples.

Page 6-16: Sampling Activity: If visual or olfactory contamination is evident in a specific section of the 6 inch sample, then that zone should be sampled and not homogenized with the other soil. Mixing of soil samples are not allowed if volatile organics are present. Also, LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated, and that sediments from the past have not been buried by younger deposited sediments.

Page 6-16: Analysis of Results: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

6. PRS 8-0009(e)-Process Waste Water Outfall

Page 6-17: Sampling and Analysis Strategy: Please include in the revised workplan all hazardous constituents in the photo-processing wastes for this unit. EPA may require more constituents to be analyzed.

Page 6-18; 2nd paragraph: Please include in the revised workplan what hazardous constituents or other parameters which are sampled at the permitted outfall. Also, include some historical sampling results.

Page 6-18; 2nd paragraph: Please include in the revised workplan a paragraph describing what LANL will do if field screened samples

unexpectedly indicate volatile contamination.

Page 6-18: Sampling Activity: If visual or olfactory contamination is evident in a specific section of the 6 inch sample, then that zone should be sampled and not homogenized with the other soil. Also, LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated, and that sediments from the past have not been buried by younger deposited sediments.

Page 6-18; 3rd paragraph: Please justify why the piping that goes from the building to the discharge point is not being investigated for a possible release.

7. PRS 8-009(f)-Process Waste Water Outfall

Page 6-20: Please justify why the piping that goes from the building to the discharge point is not being investigated for a possible release.

Page 6-19: Analysis of Results: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

Page 6-19: Sample and Analysis plan: Please include in the revised workplan all hazardous constituents in the fluorescent penetration waste stream.

Page 6-20; Sampling Activity: If visual or olfactory contamination is evident in a specific section of the 6 inch sample then that zone should be sampled and not homogenized with the other soil. Also, LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated, and that sediments from the past have not been buried by younger deposited sediments.

Page 6-21; Analysis of results: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

8. PRS 8-002-Experimental Firing Site

Page 6-23; Sampling Strategy: Please include in the revised workplan all hazardous constituents possible at the Gun Firing site.

Page 6-28; 1st paragraph: LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated. If the most vertical sample indicates contamination above background, then deeper samples will need to be taken.

9. PRS 8-0006(a), MDA Q

Page 6-33; Sampling and Analysis for MDA Q: Please justify in the revised RFI Workplan why sampling of the deeper waste is not occurring. If wastes are buried deeper in this unit, as the last paragraph on this page describes, then deeper sampling will be required by EPA.

Page 6-33; 2nd paragraph: If the most vertical sample indicates contamination above background, then deeper samples will need to be taken.

Page 6-37; Phase II sampling: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

10. PRSs 8-004(a), (b) and (c) - Building Drains

Page 6-41; 3rd paragraph: EPA disagrees with waiting to sample SWMUs 8-004(a), 8004(b), and 8-004(c). These SWMU's need to be sampled before the D&D process. Please include sampling requirements in the revised RFI workplan.

11. PRS 8-003(a)-Septic Tank

Page 6-47; 2nd paragraph: Where the piping connects to and from the septic tank are also points where a release might occur from this SWMU.

Page 6-47; last sentence: Please justify why the piping that goes from the building to the septic tank and from the septic tank to the discharge point is not being investigated for a possible release.

12. PRS 8-009(a)-Outfall

Page 6-48; Selection of Sampling Sites: Also, LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated, and that outfall sediments from the past have not been buried by younger deposited sediments.

Page 6-51; last paragraph: If the bottommost sample taken still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

13. PRS 8-005-Waste Storage Vessel

Page 6-53; 1st paragraph: LANL states that soil samples will be taken underneath the vessel if evidence of a release is found. LANL shall clarify what constitutes evidence of a release.

Page 6-53; last paragraph: If visual or olfactory contamination is

evident in a specific section of the 6 inch sample, then that zone should be sampled and not homogenized with the other soil. Also, LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated

Page 6-54; 1st paragraph: Mixing of soil samples are not allowed if volatile organics are present.

Page 6-54; Selection of Sampling Sites: LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated.

Page 6-56; 2nd paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

14. PRS 9-009-Lagoon and Sand Filters

Page 6-59; 5th paragraph: LANL mentions that PRS 9-009 may have received hazardous materials such as Strontium-90. What are the other hazardous materials that this SWMU may have received? LANL shall clarify this statement in the revised workplan.

Page 6-61; 2nd paragraph: Please justify why the piping that goes from the building to the septic tank and from the septic tank to the discharge point is not being investigated for a possible release.

Page 6-61: 3rd paragraph: Mixing of soil samples are not allowed if volatile organics are present. Also, the workplan doesn't mention what constituents will be analyzed from soil/waste samples if field screening and radioactive screening indicate contamination.

Page 6-64; The workplan doesn't mention what constituents will be analyzed from soil/sludge samples for Phase II if Sr is found in Phase I.

15. PRSs 9-010(a), (b) and (c)-Storage Racks

Page 6-67: last paragraph: If the bottommost sample taken still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels. LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated.

16. PRS 9-011(b)-Storage Area

Page 6-69; 1st paragraph: Please clarify in the revised workplan what LANL means by the statement if HE contamination is found, then soil removal will occur. Does this mean that any detectable concentration of a HE found in the soil will initiate removal?

Page 6-71; 2nd paragraph: If the bottommost sample taken still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

17. PRSs 9-003(a), (b), (d), and (e)

Page 6-80; 3rd paragraph: LANL should take samples at least four to five feet vertically from the original bottoms of the settling tanks.

Page 6-80; 1st paragraph: LANL should have aerial photographs which may further help in locating this SWMU.

Page 6-86; If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

18. PRS 9-008(b)-Oxidation Pond

Page 6-91; 1st paragraph: EPA will require that one sample be taken in the stream bed during Phase I. Please include this in the revised Workplan.

Page 6-91; 3rd paragraph: Please explain more about the tile field. Why are samples being taken so far from the tile field? Also, it appears that at least two more borings could be taken in the tile field. One of these boreholes should be closer to the approximate location of the removed septic tank 9-005(a). Furthermore, it appears that a backhoe trench may be more successful in finding a release along the tile and the septic tank.

Page 6-91; 4th paragraph: It appears that a backhoe trench may be more successful in finding a release from the removed septic tank. Also, LANL doesn't mention what soil intervals will be sampled. Please include this in a revised workplan for tank and tile field.

Page 6-93; last paragraph: If the bottom sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

19. PRSs 9-003(g), (h), and (i)-Sumps and Drains

Page 6-94; 1st paragraph: EPA is still concerned about the soil remaining beneath the sumps and pipelines. It is more likely that there are areas contaminated from underneath these SWMU's. Please justify why these areas are not being sampled.

20. PRS 9-012-Waste Pit

Page 6-99; last paragraph: Besides the 1 foot sample, what additional interval in the 5 foot borehole will be sampled?

Page 6-100; 3rd paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

21. PRSs 9-001(a) and (b)-Firing Pads

Page 6-108; 1st paragraph: If contaminants are found in the surface, then deeper samples will need to be taken.

22. PRS 9-001(c)-Recovery Pit

Page 6-109; last paragraph: Which intervals of the soil will be sampled?

23. PRS 9-002-Burn Pit

Page 6-113: 2nd paragraph: Soil samples should be taken to at least 4-5 feet below the bottom of the unit.

Page 6-113; last paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

24. PRS 9-014-Firing Site

Page 6-115; 3rd paragraph: It appears to EPA that more samples should be located within a 10 foot radius of the slab. Please justify in the revised workplan.

Page 6-116: third paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

25. PRS 9-013-Material Disposal Area M

Page 6-128; last paragraph: Please justify why LANL believes that all the waste materials are only on the surface and are not buried.

Page 6-133; Figure 6-16: EPA believes that two soil samples should be taken in MDA M in the SW area of the waste concentration. Please explain/justify why sampling was omitted in this area.

Page 6-135; 2nd paragraph: LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated.

Page 6-137; last paragraph: Mixing of soil samples are not allowed if volatile organics are present.

Page 6-138; fourth paragraph: If hazardous materials are found, they should be taken to a controlled area at the Lab, not left on the surface.

Page 6-140 Sampling and Analysis Approach for Springs and Creek: An additional surface water and surface soil sample should be taken at the confluence of Starmer Gulch and Pajarito Canyon.

26. PRS 69-001-Two Mile Incinerator Pond

Page 6-149; 2nd paragraph: LANL should take samples at deeper intervals (4-5 feet), to verify that vertical contamination has been delineated. Also, EPA believes that an additional sample needs to be taken in the center of the pond.

27. AOC C-8-010- Drum Storage Area

Page 6-155; 2nd paragraph: EPA considers this site a SWMU and it should be placed into the HSWA permit.

Page 6-156; 3rd paragraph: Samples must be taken deeper than 24 inches in order to make this a legitimate investigation.

Page 6-158; 3rd paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

28. AOC C-9-001-Outfall from Chemical Storage Bldg.

Page 6-159: EPA considers this site a SWMU and it should be placed into the HSWA permit.

Page 6-161; 1st paragraph: Does liquids from the drainpipes come from floor drains where chemicals are stored? Please explain in the revised workplan.

Page 6-162; 1st paragraph: If the bottommost sample still contains contaminants above background levels, then LANL must take deeper samples, regardless of the screening action levels.

29. Units Requested for No Further Action:

Page 7-7; PRS 8-007: Please explain in the revised workplan the date the outfall first was used and the date the outfall was permitted by EPA. Also, include previous monitoring results from this outfall. Furthermore, please include a narrative describing the piping that goes from the drain to the outfall and why this piping is not a potential release site.

Page 7-32; PRS 9-016: LANL shall provide verification that this tank has been removed.

Page 7-51; C-9-010 Burning pit: LANL shall provide the archival information referenced for EPA review.

Page 7-51; C-9-011 Burn Area: LANL shall provide the archival

information referenced for EPA review.