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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

September 22, 1999

Dr. John Browne, Director  
Los Alamos National Laboratory  
P. O. Box 1663, Mail Stop A100  
Los Alamos, New Mexico 87545

Mr. Theodore Taylor, Project Manager  
Los Alamos Area Office  
Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, New Mexico 87544

**RE: Supplemental Information Request  
18-003 (a-h) Voluntary Corrective Measure Plan  
Los Alamos National Laboratory  
NM0890010515**

Dear Dr. Browne and Mr. Taylor:

The RCRA Permits Management Program (RPMP) of the New Mexico Environment Department's Hazardous and Radioactive Materials Bureau has reviewed the 18-003 (a-h) Voluntary Corrective Measure Plan (LAUR-99-1167) dated March 17, 1999 and referenced by EM/ER:99-058, and requests supplemental information as detailed in the attachment.

LANL must respond to the request for supplemental information within sixty (60) days of the receipt of this letter. Should you have any questions regarding this letter, please contact me at (505) 827-1558 x1012.

Sincerely,

John E. Kielling  
LANL Project Leader  
RCRA Permits Management Program

JEK:eaf



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TL

Dr. Browne and Mr. Taylor  
Supplemental Information Request  
18-003(a-h) Voluntary Corrective Measure Plan  
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attachment

cc w/ attachment:

J. Bearzi, NMED HRMB  
R. Dinwiddie, NMED HRMB  
E. Frank, NMED HRMB  
P. Young, NMED HRMB  
J. Davis, NMED SWQB  
M. Leavitt, NMED GWQB  
J. Parker, NMED DOE OB  
S. Yanicak, NMED DOE OB, MS J993  
D. Neleigh, EPA 6PD-N  
J. Vozella, DOE LAAO, MS A316  
J. Canepa, LANL EM/ER, MS M992  
M. Kirsch, LANL EM/ER, MS M992  
D. McInroy, LANL EM/ER, MS M992  
File: Reading and HSWA LANL 2/1093/18

## ATTACHMENT

The potential release sites presented in this document include 18-003(a-h).

### General Comments:

1. The VCM plan generally addresses identifying and characterizing areas for soil remediation in the vicinity of septic tanks and drain fields. It states that "a project best management practice is to remove inactive septic tank systems that occupy canyon-bottom settings in order to mitigate potential environmental issues that may remain if not managed. Exceptions to this practice may occur if the system is inaccessible (due to facility operations) or if removal is unwarranted from a risk perspective" (Executive Summary, page vi). At TA 18, HRMB strongly recommends the removal of all inactive septic systems including the tanks and associated drain lines, when feasible, rather than grouting them or leaving them in place. LANL should clearly state their intent and present a clear plan of action (or decision tree) regarding remediation decisions (see specific comment #15). Regardless of any risk assessment evaluation, the best management practice should be implemented, resulting in the prompt removal of septic tanks located in areas with shallow ground water. LANL should elaborate further on any complications they anticipate that will prevent the prompt removal of the tanks. It seems most productive to focus on removing the septic systems and conducting confirmatory sampling to address nature and extent issues. Digging and trenching equipment can be used to conduct the removal and sampling activities simultaneously. If PRS accessibility and analytical data turn-around-times are of concern, LANL should consider the use of a mobile laboratory, specifically for organics analyses, which will expedite field activities. If the situation arises where it is not feasible to remove a tank or piping, then HRMB should be notified to allow for on-site confirmation of the circumstances. LANL should provide its rationale for remediation decisions to allow HRMB to determine the most appropriate course of action is being taken.
2. Each PRS consists of the entire septic system (inlet and outlet piping, drain field, tank, etc.); however, this VCM plan addresses portions of the systems separately. When feasible, removal of the entire system is recommended. The VCM should address a final remedy for the entire PRS.

3. All figures and tables that present the results of the background comparison to previous data should be consistent unless an explanation is noted for the discrepancies (see specific comment #11).
4. LANL should present an evaluation of risk based on a residential exposure scenario as well as on the most likely exposure scenario (industrial land use).

### Specific Comments

1. Section 1.1, page 1. "These systems received sanitary sewage and wash water from industrial drains and sinks. PRs 18-003(a, b, c, d, e, and f) are permanently inactive." Briefly describe how the connecting lines, inlets and outlets were closed (i.e., the drains were rerouted or permanently sealed with grout).
2. Section 1.1.3, Rationale for Proposed Remedial Action, page 4. "Documented results from field activities and confirmatory rinsate sampling results show no sludge remains in the tanks." Clarify which tanks are implied and reference documents or actions upon which this statement is based. The information provided in this VCM plan does not imply that this statement is applicable to 18-003(f and h). Previous data *suggests* that sludge is not present in tanks b, c, d and possibly g and h, although the latter remain active.
3. Section 1.1.4, Alluvial Groundwater Assessment, page 4. "To date, sampling results show no elevated contaminant concentrations directly attributable to any of the septic system PRs." Reference the data and reports which support this conclusion. The lack of timely and adequate investigations may make such a conclusion impracticable.
4. Section 2.0, Previous Site Characterization, page 6. "Inorganic and radionuclide constituent data were compared with the BVs in Ryt, et al. (1998) and organic constituent data were retained for further analysis only if the sample was deemed to be a detected concentration..." Clarify for what further analysis the organic data was retained (i.e., comparison to screening action levels (SALs), risk assessment, etc.). LANL should provide the detection limits for the organic data. A comparison to background values is useful, however, in the final report it will be necessary to provide a comparison to SALs as well.
5. Section 2.1.2, Previous Field Investigations, page 6. "The pipe section and its contents were submitted for laboratory analysis." In the final report, reiterate when the event

occurred and clarify what the sample analysis showed, identify the sample numbers and locations, etc., and reference which document contains that information.

6. Figure 2-1, page 7 and Figure 3-1, page 30. The location for monitoring well 7 is unclear on these Figures. Its location is described in Section 2.1.2, page 6, but it is not designated with a symbol (although it appears to be in the vicinity of sample location identity number 18-1135). Clarify the correct location for this well.
7. LANL should clarify inconsistencies between the presentation of data results in Figures 2-1 and 2-4 ("Sample ID - listed are analytes > background") and Figures 2-2, 2-3, 2-5 and 3-1 through 3-5 ("Sample ID - listed are COPCs or COPECs (COPECs > 1 ESL or > background when ESL < background)"). The latter is not consistent with the methodology described in Section 2.0, page 6. Define ESL, if applicable. To remain consistent with the other figures and the text in Section 2.7.3, Figure 2-6 should list the analytes detected at levels greater than background as presented in Table 2-7.
8. LANL should clarify: Table 2-1, page 9; Table 2-2, page 11; Table 2-3, page 15; Table 2-4, page 18; Table 2-5, page 20; Table 2-6, page 23; Table 2-7, page 25; and Table 2-8, page 26. These tables present the analytes detected above background values in surface or subsurface soil. Clarify sample intervals described as 0-60, 0-180, 60-120, 114-138 and 216-240 inches. Composite samples are not adequate for nature and extent characterization. Clarify the rationale for summing uranium 235 and 236. Clarify why the uranium values are included in the radionuclides section, but the inorganic background value is cited. Provide the rationale for footnote 2 of the tables, "Total thallium, thorium, and uranium values are included under radionuclides."
9. Table 2-2, page 10. Under Radionuclides, Location ID 18-1115 was sampled at 0-12 inches. In Rytí et al., however, for plutonium-238 in soil the background value applies only to samples collected from 0-6 inches. Provide rationale in the final report for any deviations from the background values used for comparison.
10. Section 2.6.2, Previous Field Investigations, page 21. "Sampling included the tank contents (dry sludge and sand), soils around the inlet and outlet lines, and subsurface locations inside and downgradient from the drain field." The text states that a sample(s) was collected around the inlet line, however, Figure 2-5 shows no sample location in the vicinity of the inlet line. LANL should resolve the discrepancy between the text and this figure.

11. Section 2.6.3, Results of Field Investigation at PRS 18-003(f), page 21. "Using the methodology described in Section 2.0...results of the background comparison are presented in Table 2-6 and Figure 2-5." Figure 2-5 is inconsistent with the information provided in Table 2-6. In Figure 2-5, location identification number 18-1253, sample numbers AAB4662 and AAB4663 do not list that uranium was detected at levels above background, although it is listed in Table 2-6. For location number 18-1254, sample number AAB4666 trichlorofluoromethane was detected, and for sample number AAB4668 trichlorofluoromethane and uranium were detected at levels above background. For location number 18-1255, sample number AAB4677 total chromium was detected at a level above background. All figures and tables should be consistent unless an explanation is noted for the discrepancies (see general comment #3).
12. Section 2.9, Basis for Cleanup Levels, page 26, paragraph 1. "Because these structures have been cleaned, they pose minimal potential risk to human health and the environment." A statement this definitive seems premature. Reference the evidence upon which this conclusion is based.
13. Section 2.9, Basis for Cleanup Levels, page 26, paragraph 2. "Cleanup levels for each PRS that are protective of human health will be based on an industrial land-use scenario." Although these PRSs are located in heavily secured areas on US Department of Energy (DOE) property and their only anticipated future land use is LANL operations, it is still necessary to present the residential land use scenario in the final report (see general comment #4). "The scoping process and the screening ERA will be prepared in accordance with the ecological risk assessment guidance..." Presumably these results will be presented in the final report. Clarify when this assessment will be prepared, what document it will appear in and how these results will effect the outcome of this VCM.
14. Section 2.9, Basis for Cleanup Levels, page 26, paragraph 3. "Although the tanks are structurally intact and do not appear to present a health threat, removal of these structures is preferred to prevent the release of COPCs that may remain in the structures." HRMB agrees that these septic systems should be removed. The entire PRS should be addressed simultaneously; the piping and lines should be removed (see general comments #1 and 2).
15. Section 3.0, Proposed Remedial Actions, page 27, bullet 2. "Whether or not video inspection is successful, samples will be collected from soils adjacent to and beneath the pipe at key locations along the drain line and from the pipe interior at a local cross trench." LANL should describe what is meant by "key" locations or refer to where this information is provided-within the plan. How do these samples relate to the sample location descriptions presented in Table 3-1 and Figures 3-1 and 3-6? Do they only relate

- to the drain field sample locations? Are no samples proposed to be collected from the areas around the inlet and outlet piping unless video-inspection is impossible or inconclusive? The statement above becomes more confusing in light of the comment made on page 36 (Section 3.1.3, Supplemental Soil Sampling Plan): "In the unlikely event that unforeseen circumstances preclude the use of the video-inspection equipment, supplemental sampling will replace the video-inspection and sampling approach." In addition, provide a clear criteria for actions and decisions to be made based on the video-surveying results. HRMB recommends a combined removal and sampling event which may minimize the need for video-inspection of the piping (see general comment #1).
16. Section 3.1.3, Supplemental Sampling, page 36. Clarify the description of "supplemental sampling." Regardless of video-survey results, which may not adequately detect line breaches, sufficient sampling must occur in the vicinity of the entire septic system for adequate delineation of nature and extent, particularly for a no further action determination.
  17. Figure 3-2, page 31. LANL should have sample locations in the vicinity of the tank.
  18. Figure 3-3, page 32. Explain the rationale for the proximity of 4 of the proposed samples to previous sample locations.
  19. Figure 3-4, page 33. LANL should have sample locations in the vicinity of the tank, along the inlet piping and at the "former outfall (removed)". This figure does not suggest that there is any sample data available in these areas.
  20. Figure 3-5, page 34. Provide the rationale for why no samples will be collected in the area along the inlet piping.
  21. Figure 3-6, page 35. Provide the rationale for why no samples will be collected in the area along the inlet piping for tanks g and h. Section 2.7.2, page 21 describes a former outfall (1944-1969) and TA 18 lagoons (1969-1992) into which g (and presumably h) discharged. Will these areas be investigated as part of this VCM or are they separate PRs? Describe where they were located in relation to tanks g and h. Describe what investigation (past or proposed) addresses the outfall and lagoons.
  22. Section 3. There are discrepancies between the number and location of samples described in Table 3-1 and Figures 3-1 through 3-6. Please clarify which representation is most accurate or explain the discrepancies. [For tank b, Table 3-1 states that one sample location for the outlet line is 5 feet below tank b, but Figure 3-1 shows it at 50

feet. The table describes 7 drain field sample locations, Figure 3-1 shows 8 locations. For tank c, the description for the drain field samples differ between Table 3-1 and Figure 3-2. For tank e, Table 3-1 does not list the proposed samples at the outfall shown in Figure 3-4.]

23. Table 3-1, page 37 describes the full suite analysis as consisting of "SVOCs, VOCs, target analyte list metals, radionuclides." Describe more specifically what analyses will be performed (i.e., isotopic uranium, total uranium). In addition for tank 18-003(c), Table 4-1, page 42 and Table 5-1, page 43 mention polychlorinated biphenyls (PCBs). Why are PCBs only suspected at this location? Explain why PCBs are not part of the full suite of analyses being performed on all samples.
24. Section 3.3.2, Restoration of PRS 18-003(b), page 36. "These sections then will be placed in B-25s for disposal." Define the term B-25s.
25. Sections 3.3.7, Restoration of PRS 18-003(g) and 3.3.8, Restoration of PRS 18-003(h), pages 39 - 40. These PRSs consist of active septic tanks that receive wastes as they pass through to the Sanitary Wastewater System Consolidation (SWSC) lines (rather than being directly plumbed). These active PRSs will remain on the permit regardless of whether the Environmental Restoration Project or the facility manager are responsible for their operation and/or decommissioning. Unless the SWSC lines are directly connected to the sewer lines to bypass the septic tanks it is not likely that this VCM can sufficiently address these PRSs to result in a no further action determination.
26. Section 4.0, Confirmatory Sampling, page 41, paragraph 1. "The grouted tank structures at PRSs 18-003 (a and e) will be left in place; therefore no confirmatory sampling is anticipated for those areas." Since the grouting of these tanks occurred in the past, their removal is not required. However, this VCM plan should address a final remedy for these PRSs. LANL should present adequate data in the final report to address nature and extent around the entire septic system. Also, in this section, LANL proposes to collect 2 samples in each tank excavation area; one at the base of the excavation and one deeper sample immediately above the water table. Provide a description of where samples will be taken if the base of the tank and excavation is located within the water table. A contingency plan may need to include the collection of water samples at the base of excavation areas.
27. Table 4-1, Confirmatory Sampling Locations and Analytical Suites, PRSs 18-003(b, c, and d), page 42. Under a combined removal and sampling event, the confirmatory sampling and supplemental sampling presented in Table 3-1, page 37 could be combined.



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The pre- and post-excavation sample locations around the inlet and outlet junctions are useful. In addition, as the piping is removed, confirmatory samples at other junctions, elbows, breaks, etc., are recommended. The proposed sampling should provide adequate delineation of nature and extent, particularly for a no further action determination.

28. Section 6.0, Estimated Time to Complete Action and Uncertainties, Page 45. Clarify where the source for backfill dirt is. In the instance that video-surveying is not possible, "a contingency sampling plan will be initiated along the pipelines to achieve essentially the same level of confidence." Define the criteria for this level of confidence.