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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 11, 1997

Mr. G. Thomas Todd, Area Manager
Los Alamos Area Office
Department of Energy
528 35th Street
Los Alamos, New Mexico 87544

RE: Notice of Deficiency and Request for Workplan Modification
RCRA Facility Investigation Report
Technical Area 15
Los Alamos National Laboratory
NM0890010515

Dear Mr. Todd:

The Hazardous and Radioactive Materials Bureau (HRMB) of the New Mexico Environment Department has conducted an extensive review of the RCRA Facility Investigation (RFI) Report for Technical Area 15 dated May 1996 and referenced by EM/ER:96-278 and found it to be deficient. Attachment A details the requested Workplan modifications and Attachments B and C list the deficiencies identified during the review of this document. LANL must address both the Workplan modifications (Attachment A) and the deficiencies (Attachments B and C) within thirty (30) days of the receipt of this letter.

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Should you have any questions regarding this letter, please contact me or Mr. John Kieling, HRMB's LANL Facility Manager, at (505) 827-1558.

Sincerely,

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

BJG:kth

attachments

cc: T. Davis, NMED HRMB
R. Dinwiddie, NMED HRMB
T. Glatzmaier, LANL DDEES/ER, MS M992
K. Hill, NMED HRMB
J. Jansen, LANL ER, MS A316
M. Johansen, DOE LAAO, MS A316
M. Leavitt, NMED GWQB
D. McInroy, LANL EM/ER, MS M992
D. Neleigh, EPA, 6PD-N
J. Parker, NMED DOE OB
S. Pierce, NMED SWQB
G. Saums, NMED SWQB
T. Taylor, DOE LAAO, MS A316
S. Yanicak, NMED DOE OB, MS J993
File: HSWA LANL 2/1086/15
Track: LANL, doc date, na, DOE/LANL, HRMB/kth, re, file
Reading File

ATTACHMENT A - REQUEST FOR WORKPLAN MODIFICATION
RCRA Facility Investigation Report
Technical Area 15
May 1996

1. LANL must obtain a representative number of samples to characterize the nature and extent of contamination at the PRS. One or two samples per PRS [e.g., 15-005(c) and 15-010(a)] are, in most cases, insufficient to support a NFA proposal.

2. LANL shall obtain confirmatory samples at all PRSs where the HE spot test was used to determine the presence or absence of HE.

ATTACHMENT B - SUMMARY OF CONCLUSIONS
RCRA Facility Investigation Report
Technical Area 15
May 1996

PRS	LANL'S PROPOSED ACTION	DOES HRMB CONCUR?	HRMB'S RATIONALE
15-001	Deferred	No	Documentation of prior approval of deferred action required
15-002	NFA	No	Response to PRS-specific comments in Attachment B required
15-004(g)[1]	IA	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
15-004(h)	Deferred	No	Documentation of prior approval of deferred action required
15-005(b)	NFA	No	Response to PRS-specific comments in Attachment B required
15-005(c)	NFA	No	Response to PRS-specific comments in Attachment B required
15-006(c)	EC	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
15-006(d)	NFA	No	Response to PRS-specific comments in Attachment B required
15-007(a)	NFA	No	Response to PRS-specific comments in Attachment B required
15-008(c)	IA	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
15-008(g)	NFA	No	Response to PRS-specific comments in Attachment B required
15-009(a)	Deferred	No	Documentation of prior approval of deferred action required
15-009(f)	NFA	No	Interim Action recommended based on analytical results
15-009(i)	Deferred	No	Documentation of prior approval of deferred action required
15-009(k)	NFA	No	Interim action recommended based on analytical results
15-010(a)	Phase II	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
15-010(b)	NFA	No	Deviations from approved Workplan; additional sampling required
15-010(c)	NFA	No	Response to PRS-specific comments in Attachment B required
15-011(a)	NFA	No	Response to PRS-specific comments in Attachment B required
15-011(b)	NFA	No	PRS proposed for NFA based on Criteria #5[2] ; however, issues set forth in General Comments 7 and 8 must be evaluated. See Specific Comments.

[1] Bold italicized text indicates PRSs with potential Surface Water Quality Bureau concerns.

[2] NFA Criteria as defined in the Environmental Restoration Document of Understanding, Annex B dated February 1, 1996, Revision 0.

PRS	LANL'S PROPOSED ACTION	DOES HRMB CONCUR?	HRMB'S RATIONALE
15-011(c)	NFA	No	PRS proposed for NFA based on Criteria #5 ; however, issues set forth in General Comments 7 and 8 must be evaluated. See Specific Comments.
15-012(a)	NFA	Yes	PRS meets NFA Criteria #1
15-014(a)	NFA	No	PRS proposed for NFA based on Criteria #5 ; however, issues set forth in General Comments 7 and 8 must be evaluated. See Specific Comments.
15-014(b)	NFA	No	Hazard Index > 1; conduct risk assessment
15-014(d)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(e)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(g)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(h)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(i)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(j)	NFA	No	Additional information/sampling required
15-014(k)	NFA	No	Response to PRS-specific comments in Attachment C required
15-014(l)	NFA	No	Response to PRS-specific comments in Attachment C required
C-15-001	Phase I continued	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
C-15-005	NFA	No	Response to PRS-specific comments in Attachment C required
C-15-006	NFA	No	Response to PRS-specific comments in Attachment C required
C-15-007	Deferred	No	Documentation of prior approval of deferred action required
C-15-010	Phase II	No	Additional information required to determine if proposed action is appropriate (information not provided within RFI report)
C-15-011	NFA	No	Response to PRS-specific comments in Attachment C required

ATTACHMENT C - NOTICE OF DEFICIENCY COMMENTS
RCRA Facility Investigation Report
Technical Area 15
May 1996

GENERAL COMMENTS

Approach/Conceptual Model

1. LANL must determine the source and extent of contamination for those Potential Release Sites (PRSs) whose analytical results exceeded background and Screening Action Levels (SALs). Under State and Federal regulations, LANL has the responsibility to investigate further to ensure that the rate, nature and extent of contamination has been determined.

   The following is a summary of those PRSs with identified concerns which were investigated under this RCRA Facility Investigation (RFI):

COPCs >SALs	15-004(g), 15-008(c), 15-014(b), C-15-010
COPCs<SALs; MCE≥1	15-014(b), 15-009(f), 15-009(k)
COPCs<SALs; Normalized COPC values>0.1	15-002, 15-006(d), 15-007(a), 15-010(a), 15-011(b), 15-014(g), 15-014(j)

   PRS 15-014(b), which has contaminants of Potential Concern (COPCs) greater than SALS, is inappropriately proposed for no further action (NFA). PRSs 15-009(f) and 15-009(k), which have COPCs less than SALs but a Multiple Chemical Evaluation (MCE) greater than 1, are inappropriately proposed for NFA. In addition, all the PRSs with COPCs less than SALs but with normalized values greater than 0.1 should be carried forward to a baseline risk assessment.

2. LANL shall not significantly revise the scope of work performed after the approval of the RFI Workplan without obtaining approval from the Administrative Authority (AA). At PRSs 15-009(f and k) and 15-010(b), LANL deviated from the approved RFI Workplan by reducing the number of samples obtained for analyses. Homogeneity of septic tank liquids and sludges cannot be assumed (see PRS 0-30(g) [catholic church septic tank]). LANL shall perform the sampling as agreed upon in the approved RFI Workplan.

3. LANL shall base its SALs on US Environmental Protection Agency (USEPA) Region IX residential Potential Remediation Goals (PRGs). LANL may, in addition to performing the MCE based on residential risk, present an evaluation of risk based on projected future land use. In response to this Notice of Deficiency (NOD) comment, LANL shall submit a table of revised SALs, SALs applied in the RFI report, and discuss any resulting differences which may affect the decisions made within this RFI Report.

4. For those SALs absent from the USEPA Region IX PRGs, LANL shall calculate the SAL using toxicity data obtained from USEPA Region III risk-based concentration tables or the latest Integrated Risk Information System/Health Effects Summary Tables (IRIS/HEAST) data using USEPA Region IX default values applicable to the projected future land use.
5. LANL must perform a baseline risk assessment (BRA) for those PRS where one or more COPCs exceed a SAL. These evaluations must also include those COPCs which did not exceed SALs, but had normalized values that exceeded 0.1. The PRSs which must be further evaluated include the following: 15-009(f), 15-009(k), and 15-014(b).
6. LANL shall carry forward to a BRA all COPCs whose concentrations exceed SALs, but are less than the background concentration.
7. LANL shall consider the cumulative risk posed to human health and the environment from multiple, nearby PRSs. Many sites within Technical Area (TA) 15 present carcinogenic, noncarcinogenic, or radiological risks which, in total, may present an unacceptable human health or ecological risk.
8. The use of tolerance intervals is an alternate approach to the analysis of variance in determining the presence of statistically significant contamination. A tolerance interval is constructed from data obtained from (uncontaminated) background soil locations. The concentrations from the site investigations are then compared with the tolerance interval. If the site constituent concentrations fall outside the tolerance interval, statistically significant contamination is evinced. Tolerance intervals may be used for determining statistically significant contaminant concentrations; however, the following criteria must be met and documented:
   - The presence of homogeneous soil types must be verified. The use of Upper Tolerance Limits (UTLs) is appropriate for sites that overlie extensive homogeneous geologic deposits (e.g., thick homogeneous lacustrine clays) that do not naturally display geochemical variations.
   - The tolerance interval must be calculated using an adequate data set (minimum of 8 data points).
   - Calculated UTLs must be compared to human health and ecological screening values to determine their relevance.
   - For adequate review, the Administrative Authority (AA) must be provided the entire data set (including non-detectable concentrations) used to perform the statistical analysis and the type of statistical analysis performed.
   - For adequate review, the AA must be provided all background data points.
   - Variability within each data set must be defined (i.e., minimum and maximum constituent concentrations, average constituent concentration value and the standard deviation).
   - A normality test must be applied to the data set prior to the derivation of an UTL.

- The data set must be inspected for outliers (i.e., unusually high or low values) and their identity and source (such as analytical laboratory transcription errors) should be documented.

If these criteria are met, LANL must recalculate UTLs based on the 95 percent confidence level of the 95th percentile of distribution [USEPA, 1989, *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance*, NTIS PB89-151047]. If these criteria cannot be met, LANL must calculate the background concentration based on the 95 percent upper confidence level of the arithmetic average concentration.

9. LANL shall assess ecological risk prior to recommending NFA for a PRS.
10. LANL shall revise and resubmit the Phase II Sampling and Analysis Plans (SAP) for PRSs C-15-010 and 15-010(a). The information presented within the Phase II SAP is not adequate to determine the effectiveness of the proposed sampling.
11. On several occasions, LANL makes reference to the NFA criteria. LANL shall include an explanation of these criteria and provide reference to the Environmental Restoration Document of Understanding.
12. Section 3.3 implies that screening of other radionuclides occurred; however, samples from many PRSs [e.g. 15-014(g)] were analyzed for uranium only. Please clarify the methodology used.

<u>Supporting Documentation</u>

1. LANL shall provide the following pertinent information in an addendum to the RFI Report: a tabulated summary of field screening instrumentation readings, calibration records, and detection limits, auger logs, boring logs, and log books.
2. LANL shall provide a map indicating all springs, wells, and seeps within the same canyon system(s) or within a 1-mile radius of the PRSs being investigated within the RFI Report.
3. For PRSs that are underground storage tanks, LANL shall contact the Underground Storage Tank (UST) Bureau to obtain a certified closure statement or documentation indicating that the UST is exempt from the State UST regulations.

<u>Reporting of Sampling and Analyses Results and Activities</u>

1. LANL shall submit a table detailing the variances from the approved RFI Workplan (on a PRS-by-PRS basis) and their rationale.
2. LANL shall provide a checkplot and table summarizing the all sampling locations and analytical results for the site-wide and the site-specific (if any) background studies.

3. LANL shall provide a checkplot presenting a compilation of all the sampling locations (including site-specific background sampling locations).
4. LANL shall provide a statistical summary of all contaminant concentrations greater than background and greater than SALs.
5. For each PRS, LANL shall provide a table summarizing the date(s) of the sampling event(s), number of samples obtained, types of analyses conducted, analytical methods utilized, date(s) of analyses, and type of laboratory that performed the analyses (fixed/mobile, on-site/off-site, etc.).
6. LANL shall provide the number or percentage of media samples from each PRS that were analyzed by a fixed laboratory and indicate whether the laboratory was off-site or on-site. The AA requires 20% of the samples collected for fixed laboratory analysis be analyzed by an off-site laboratory.
7. LANL shall not use field instrumentation to determine the types of analyses to be conducted at investigations aimed at determining the presence or absence of contamination. When field instrumentation is used for screening, LANL shall provide assurances (such as detection limits and calibration records) that appropriate Quality Assurance/Quality Control (QA/QC) criteria were adhered to. In addition, LANL must obtain confirmatory samples when using field screening to determine the presence or absence of contamination.
8. LANL must conduct Toxicity Characteristic Leachate Procedure (TCLP) analyses for waste characterization and present the results in the RFI report when offsite disposal of wastes is proposed. [*Programmatic Issues from NODs* dated January 16, 1995]
9. LANL shall provide documentation indicating that appropriate (rate and frequency of) QA/QC samples were obtained and analyzed per USEPA guidance. To substantiate that the appropriate QA/QC samples were obtained, a discussion of the QA/QC samples obtained and analyzed must be presented along with a description of QA/QC problems encountered. [*Programmatic Issues from NODs* dated January 16, 1995]

SPECIFIC COMMENTS

<u>Report Format</u>

1. Appendices
   (a) LANL shall provide a summary of all analytical data in Appendix A including non-detectable concentrations.
   (b) In Appendix D (page D-1), concentrations of lead and uranium (132,000 and 45,000 ppm, respectively) are eliminated from the data set as outliers. LANL shall provide an explanation of the criteria it used to eliminate these data from the data set.
   (c) LANL shall provide axis labels for the graphs in Appendix E.

PRS Types

1. Septic Systems
   (a) Hazardous constituents were identified above background concentrations in the shallow subsurface near septic or settling tanks. LANL shall conduct further investigations at those PRSs to determine the integrity of the tank and drain lines.
   (b) Hazardous constituents were identified above background in the septic settling or holding tanks at PRSs 15-009(f and k). HRMB recommends that LANL perform interim measures at these PRSs to mitigate potential releases to the environment.
   (c) LANL shall ensure that seals have been emplaced such that flow into and out of all inactive septic tank PRSs has been eliminated. Each inactive septic tank should be removed or, at a minimum, be backfilled with a solid, non-porous material (such as flow crete). However, any action other than removal of the tank and associated lines may not be considered in the future as a final disposition of the PRS.
2. Firing Sites
   (a) LANL shall not use the High Explosive (HE) spot test to determine the presence or absence of HE. LANL may only use the HE spot test to bias Phase I sampling locations [letters from W. Honker to T. Taylor dated April 19, and June 19, 1995].
3. Outfalls
   (a) In order to address Water Quality Control Commission concerns, LANL shall plug outfall piping at the origin and remove all associated piping.

Potential Release Sites

1. 15-001 Storage Area
   (a) LANL shall obtain approval to defer the investigation of a PRS prior to the performance of the RFI which was originally intended to investigate it. LANL shall provide documentation that this PRS received deferral approval by the AA prior to the implementation of the RFI Workplan.
2. 15-002 Pit
   (a) The RFI Report is a stand-alone document. LANL shall present the information referenced from the RFI Workplan in the RFI Report (Section 5.12.1).
   (b) LANL shall clarify the dimensions of the bermed area (Section 5.12.2).
   (c) LANL shall explain the rationale for not analyzing samples obtained from a "...HE burn area..." (Section 5.12.1) for HE.
   (d) LANL shall clarify the number of samples obtained at this PRS; the number of samples found in the two paragraphs of Section 5.12.4.3 conflict.
   (e) LANL shall provide the PRS-specific calculations and concentrations used to determine that the distribution of the uranium concentrations were not statistically different from background (Section 5.12.5)
   (f) LANL shall revise Figure 5.12.4.3-1 such that it more clearly indicates the sampling locations.

(g) LANL shall revise the sample identification numbers on either the "Sample ID" column of Table 5.12.5-1 or Figure 5.12.4.3-1 to directly correlate with one another. For example, sample 0215-95-0205 (as indicated in the table) cannot be found (as such) on the figure (sample 15-2560 205).

(h) LANL shall show the calculations used to determine the normalized concentrations in Table 5.12.7.1-1. Perhaps LANL could revise the table to include additional columns and a legend showing the formula used.

3. *15-004(g) Inactive Firing Site*
   (a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.
4. *15-004(h) Inactive Firing Site*
   (a) LANL shall obtain approval to defer the investigation of a PRS prior to the performance of the RFI which was originally intended to investigate it. LANL shall provide documentation that this PRS received deferral approval by the AA prior to the implementation of the RFI Workplan.
5. *15-005(b) Container Storage Area*
   (a) LANL shall explain the rationale for not analyzing samples obtained from an "...active container storage area for HE..." (Section 5.30) for HE.
   (b) LANL utilized the HE spot test at two different locations 2 inches distant. One result was positive and the other result was negative. The HE spot test is a screening tool used to bias sampling; however, LANL chose to obtain a sample for analyses from the location with the negative result. LANL shall clarify its choice of sampling locations.
   (c) LANL shall indicate where the surface sample (0215-95-0181) was analyzed, the method used, and the analytical results for this sample.
   (d) LANL shall obtain confirmatory samples to adequately document the presence or absence of HE. See Specific Comments: PRS Types 2(a).
6. *15-005(c) Container Storage Area*
   (a) LANL shall explain the rationale for not analyzing samples obtained from an "...active container storage area for HE..." for HE.
   (b) LANL shall obtain confirmatory samples to adequately document the presence or absence of HE. See Specific Comments: PRS Types 2(a).
7. *15-006(c) Inactive Firing Site*
   (a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.
8. *15-006(d) Inactive Firing Site*
   (a) LANL shall explain the rationale for submitting only 24 out of 54 samples obtained to an offsite laboratory for analyses (Table 5.36.4.3-1) and clarify how the actions taken were in accordance with the RFI Workplan.
   (b) LANL shall provide additional discussions and accompanying figures to explain the distribution of contaminants in the surface and subsurface (Section 5.36.4.3).

(c) LANL shall show the calculations used to determine the normalized concentrations in Table 5.36.7.1-1. As an improvement to the report, LANL could revise the table to include additional columns for the calculations and a legend for the formula(s) used.

(d) LANL shall clarify the collection rate and frequency of QA/QC samples such as duplicates. It appears that only one field duplicate was obtained for 24 samples.

9. *15-007(a) Landfill*

(a) The RFI Report is a stand-alone document. LANL shall present the information referenced from the RFI Workplan in the RFI Report (Section 5.13.1).

(b) LANL shall explain the function of R-Site and detail its associated COPCs (Section 5.13.1).

(c) LANL shall tabulate the results of the field screening including instrument detection limits and calibration readings (Section 5.13.4). See General Comments: Reporting of Sampling and Analyses Results and Activities 7.

(d) LANL shall clarify how radiological screening was used to determine samples for offsite laboratory submittal based on metals content (Section 5.13.4.2).

(e) LANL shall explain the rationale for submitting only 9 out of the 22 samples collected to an offsite laboratory for analyses (Section 5.13.4.3 and Table 5.13.4.3-1); and how this was this in accordance with the RFI Workplan.

(f) LANL shall revise Figure 5.13.4.3-1 to indicate the location of the roads as discussed in Section 5.13.2.

(g) LANL shall revise the sample identification numbers on either the "Sample ID" column of Table 5.13.5-1 or Figure 5.13.4.3-1 to directly correlate with one another.

(h) LANL shall provide sample identification numbers and analyte concentrations in text discussions. For example, in Section 5.13.5 Radionuclides: "Uranium [sample identification number(s)] was detected at a concentration above its background UTL..."

(i) LANL shall clarify if acetone is considered to be a COPC for this PRS: Section 5.13.6 indicates that acetone was not retained as a COPC, but Section 5.13.8 indicates that it is considered for ecological assessment.

10. *15-008(c) Surface Disposal*

(a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.

11. *15-008(g) Surface Disposal*

(a) The RFI Report is a stand-alone document. LANL shall present the information referenced from the RFI Workplan in the RFI Report (Section 5.37.1).

(b) LANL shall provide additional information pertaining to the quantity and dimension(s) of the sand bags and the surface area which they cover (Section 5.37).

(c) LANL does not provide adequate information for evaluating this PRS. LANL shall present all of the information available regarding this PRS within the RFI Report.

12. *15-009(a) Active Septic System*

(a) LANL shall obtain approval to defer the investigation of a PRS prior to the performance of the RFI which was originally intended to investigate it. LANL shall provide documentation that this PRS received deferral approval by the AA prior to the implementation of the RFI Workplan.

13. 15-009(f) Active Septic System

(a) The AA recommends that LANL perform an Interim Action to remove contaminated sludge from this PRS.

(b) LANL shall present the information referenced from the RFI Workplan in the RFI Report (Section 5.28.1).

(c) LANL shall not reduce the scope of the RFI Workplan without consent from the AA (Section 5.28.4.3). See General Comments: Approach/Conceptual Model 2.

(d) LANL shall remove the following statement from p. 5-67 of the text: "In addition, the exposure pathway for the septic tank contents is ingestion of water, which is extremely conservative and unlikely under any circumstance." Section 5.28.7.1

(e) LANL shall evaluate the bias of the estimated (J'd) analytical data and provide a summary of the evaluation in response to these comments.

14. 15-009(i) Active Septic System

(a) LANL shall obtain approval to defer the investigation of a PRS prior to the performance of the RFI which was originally intended to investigate it. LANL shall provide documentation that this PRS received deferral approval by the AA prior to the implementation of the RFI Workplan.

15. *15-009(k) Active Septic System*

(a) Based on a Hazard Index (HI) approaching 1 (0.9753) and the characteristics of identified contaminants, the AA recommends that LANL conduct an Interim Action to remove contaminated sludge from this PRS.

(b) LANL shall present the information referenced from the RFI Workplan in the RFI Report (Section 5.29.1).

(c) LANL shall not reduce the scope of the RFI Workplan without explicit written consent of the AA (Section 5.29.4.3). See General Comments: Approach/Conceptual Model 2.

(d) LANL shall clarify when the metals aliquot was sampled and analyzed (Section 5.29.4.3).

16. *15-010(a) Inactive Septic System*

(a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.

(b) LANL shall clarify if the top or bottom of the tank was approximately 4 feet below grade (Section 5.32.2).

(c) LANL shall clarify why samples were obtained at depths of 83 and 84 inches when the tank was located 4 feet (48 inches) below grade (Table 5.32.4.3-1).

(d) Since the sludges from this septic system exceeded the SAL for mercury, LANL shall either conduct an interim action to remove the tanks contents or perform a BRA for mercury and include those COPCs that exceeded a normalized value of 0.1 (chromium and lead). See General Comments: Approach/Conceptual Model 1.

(e) LANL shall clarify the relationship between the USATHMA high-performance liquid chromatography (Section 5.32.11.4) and the SW-846 Method 8330.

17. *15-010(b) Inactive Septic System*

(a) LANL shall not reduce the scope of the RFI Workplan without explicit written consent of the AA (Section 5.33.4.3). Obtaining one sample from the heterogeneous sludges of a septic tank is unacceptable. See General Comments: Approach/Conceptual Model 2.

(b) LANL shall revise Figure 5.33.4.3-1 or submit an additional figure which details the location of the inactive septic tank.

(c) LANL shall explain the rationale behind sampling at the surface (0-6 inches) and shallow subsurface (20-24 inches) when the bottom of the inactive septic tank is located 5 feet (60 inches) below grade (Section 5.33.2).

18. *15-010(c) Inactive Septic System*

(a) LANL shall provide documentation in the RFI Report demonstrating that this PRS was never utilized for the management of RCRA solid or hazardous wastes and/or constituents, or CERCLA hazardous substances.

19. *15-011(a) Sump*

(a) LANL shall provide documentation for the number of trenches and dimension(s) of the trench(es). The discussion would be much improved by the inclusion of photo documentation.

20. *15-011(b) Sump*[3]

(a) LANL shall consider this PRS in evaluating the cumulative risk posed to human health and the environment from multiple, nearby PRSs. See General Comment: Approach/Conceptual Model 7.

(b) LANL shall re-evaluate the UTLs used to compare the analytical results per General Comment: Approach/Conceptual Model 8.

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[3] HRMB performed a MCE for the grouping of PRSs within The Hollow [15-011(b and c), and 15-014(g, l, and j)]. The calculated MCE (defined by the highest concentrations of copper, lead, mercury, zinc, antimony, and silver found at The Hollow divided by their corresponding SALs) failed to exceed unity.

21. *15-011(c) Sump*
    (a) LANL shall consider this PRS in evaluating the cumulative risk posed to human health and the environment from multiple, nearby PRSs. See General Comment: Approach/Conceptual Model 7.
    (b) LANL shall re-evaluate the UTLs used to compare the analytical results per General Comment: Approach/Conceptual Model 8.
22. *15-012(a) Operational Release*
23. *15-014(a) Outfall*
    (a) EPA administers the National Pollutant Discharge Elimination System not the Non Pollutant Discharge Elimination System as stated in Section 5.26.1. LANL shall revise the text accordingly.
    (b) LANL shall consider this PRS in evaluating the cumulative risk posed to human health and the environment from multiple, nearby PRSs. See General Comment: Approach/Conceptual Model 7.
    (c) LANL shall re-evaluate the UTLs used to compare the analytical results per General Comment: Approach/Conceptual Model 8.
24. *15-014(b) Outfall* (obliterated)
    (a) Since the MCE calculation for this PRS exceeded unity, LANL shall propose a method by which the COPCs at this PRS will be addressed.
25. *15-014(d) Outfall*
    (a) LANL shall provide documentation in the RFI Report demonstrating that this PRS was never utilized for the management of RCRA solid or hazardous wastes and/or constituents, or CERCLA hazardous substances.
26. *15-014(e) Outfall*
    (a) Although this PRS is a permitted outfall (presumably under the NPDES program), it is not exempt from investigation under the HSWA Module of the RCRA permit. The NPDES program does not have provisions for Corrective Action or requirements for the remediation of contaminated areas. LANL shall investigate all PRSs known or suspected to have managed RCRA solid or hazardous wastes and/or constituents, or CERCLA hazardous substances.
27. *15-014(g) Outfall*
    (a) LANL shall provide within the text the results of the HE spot test & DX-2 conducted at this PRS. See General Comments: Supporting Documentation 1.
    (b) LANL shall clarify how sampling could have been conducted in accordance with the RFI Workplan as described in Section 5.22.4.3. The response to the NOD (Taylor to Honker dated August 30, 1994) indicated that a surficial and three foot-depth sample would be obtained from the same location at the outfall. LANL shall also explain why only surficial samples were obtained.
    (c) LANL shall revise the text in order to complete the second paragraph in Section 5.22.6.

28. *15-014(h) Outfall*
    (a) LANL shall revise Table 5.34.4.3-1 to include a column for "distance from actual outfall" and revise Figure 5.34.4.3-1 or provide an additional figure which more accurately demonstrates the locations of the samples relative to each of the three, labeled outfalls.
    (b) LANL shall explain why samples 0215-95-0191 through -0194 were not submitted for offsite laboratory analyses (Table 5.34.4.3-1); and explain how this in accordance with the RFI Workplan.
    (c) LANL shall provide the PRS-specific calculations and concentrations used to determine that the distribution of the lead concentrations were not statistically different from background (i.e., Gehan, Quantile, and Slippage tests).
    (d) The RFI Workplan indicates that samples will be obtained and analyzed from each of the outfall locations; however, samples from locations 15-2380 and -2381 were not submitted for offsite laboratory analyses. LANL shall explain this deviation from the approved RFI Workplan.
29. *15-014(i) Outfall*
    (a) LANL shall explain why HE was analyzed for (Section 5.20.4.3) when it was not considered a COPC (Section 5.20.2) or positively identified using the HE spot test.
30. *15-014(j) Outfall*
    (a) The following sentence excerpted from 5.21.4.3 misleads the reader into thinking that all samples, including surficial soil samples, were analyzed for Volatile Organic Compounds (VOCs): "The samples were analyzed for TAL metals, uranium, VOCs, and SVOCs." LANL shall revise this sentence to indicate that surface soil samples were not analyzed for VOCs.
    (b) One of the VOC duplicate samples exceeded holding times. LANL shall clarify which sample (sample number) exceeded holding times and provide the analytical results.
    (c) In Section 4.9.2, the report states that "...the sample was properly stored (cooled at 4 C and preserved to a pH of 2)..." LANL shall reference the Standard Operating Procedure (SOP) requiring that organic analytical samples be preserved to a pH of 2 and provide the appropriate pertinent pages of that SOP as a response to this comment.
31. *15-014(k) Outfall*
    (a) The statement, "Any contaminants transported from the site would have been detected in the 15-011(c) investigation, but none were found," is inaccurate. Several COPCs greater than background, but less than SALs, were identified.
32. *15-014(i) Outfall*
    (a) LANL shall provide documentation in the RFI Report demonstrating that this PRS was never utilized for the management of RCRA solid or hazardous wastes and/or constituents, or CERCLA Hazardous substances.

33. *C-15-001 Soil Pile*
    (a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.
34. *C-15-005 Building TA-15-1*
    (a) LANL shall provide a more thorough discussion of the thorium contamination and substantiate remedial activities that took place at TA-15-1.
    (b) LANL shall explain why only 3 out of the 4 samples prescribed in the RFI Workplan were obtained and submitted for offsite laboratory analyses (Table 5.14.4.3-1).
    (c) LANL shall clarify why samples were obtained from depth intervals of 0 to 6 and 18 to 24 inches (Table 5.14.4.3-1).
    (d) LANL shall explain why the SAL for manganese is not provided (Table 5.14.5-1).
    (e) LANL shall revise the assessment of risk (Section 5.14.7.2) to include the evaluation of risk based on a residential land use scenario. See General Comments: Approach/Conceptual Model 3.
35. *C-15-006 Building TA-15-7*
    (a) LANL shall explain why only 1 of the 4 samples prescribed in the RFI Workplan were obtained and submitted for offsite laboratory analyses (Table 5.15.4.3-1).
    (b) LANL shall provide documentation supporting the remediation of the mercury contamination at Building TA-15-7 (Section 5.15.3).
    (c) LANL shall revise the text to indicate which of the two samples obtained were sent to an offsite laboratory for analyses (Section 5.15.4.3).
36. *C-15-007 Oil Stain* (investigation pending removal of overlying temporary building)
    (a) LANL shall obtain approval to defer the investigation of a PRS prior to the performance of the RFI which was originally intended to investigate it. LANL shall provide documentation that this PRS received deferral approval by the AA prior to the implementation of the RFI Workplan.
37. *C-15-010 Former UST*
    (a) LANL shall provide the rationale (including analytical data, when available) for the further action recommendation at this PRS within the RFI Report.
    (b) LANL shall explain why SALs for benzo(g, h, i)perylene; 2-methylnaphthalene; and phenanthrene are not available (Table 5.25.7.1).
    (c) LANL shall revise the assessment of risk (Section 5.25.7.2) to include the evaluation of risk based on a residential land use scenario.
    (d) LANL shall present the information referred from the RFI Workplan in the RFI Report (Section 5.25.11.1). See General Comments: Improvements for Future RFI Reports 4.
    (e) [Sampling and Analysis Plan] Total Petroleum Hydrocarbons (TPH) and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) are not RCRA-

related analyses. LANL should explain the need to conduct TPH analyses as shown in Table 5.25.11.4-1.

(f) LANL shall clarify why samples were obtained at a depth of 18 to 24 inches below ground surface at this PRS.

(g) [Sampling and Analysis Plan] LANL shall investigate the potential presence of piping entering or exiting the tank (Section 5.25.11.3).

(h) [Sampling and Analysis Plan] Table 5.25.11.4-1 does not clearly indicate the units of the numbers presented in each of the columns. It is assumed that these numbers indicate the number of samples to be obtained. See General Comments: Improvements for Future RFI Reports 3.

(i) [Sampling and Analysis Plan] LANL shall expound upon the "...required field data..." (Section 5.25.11.6) by listing its components. (Sampling and Analysis Plan)

(j) [Sampling and Analysis Plan] LANL shall explain what the "EP Project" is in Section 5.25.11.6.

(k) LANL shall provide a summary of field screening results within the text of the RFI Report.

38. *C-15-011 Former UST*

(a) LANL shall clarify what type of fuel, and therefore, what associated COPCs, were stored in the tank (Section 5.7).

(b) LANL shall provide documentation substantiating that the tank was removed as stated in 1987 and if the removal met the New Mexico Environment Department's Underground Storage Tank Bureau's remediation requirements (5.7.1).

(c) LANL shall clarify the locations of the samples in reference to the tank's location (distance and depth) and provide the analytical data, including QA/QC samples (Section 5.7.4.3).

(d) LANL shall revise Figure 5.7.4.3-1 to provide sufficient detail and scale to determine the locations of the samples and to demonstrate the adequacy of the sampling.

(e) LANL shall tabulate the results of the field screening including instrument detection limits and calibration readings (Section 5.7.4.2). See General Comments: Reporting of Sampling and Analyses Results and Activities 7.

(f) LANL shall discuss the presence or absence of groundwater monitoring in the PRS's vicinity and any available analytical results (Section 5.7.3).