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PETER MAGGIORE  
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ENTERED

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

October 5, 2001

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

**SUBJECT: SUPPLEMENTAL INFORMATION REQUEST FOR THE RFI REPORT  
FOR MDA H AT TA 54, DATED MAY 2001  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID # NM0890010515  
HWB-LANL-01-001**

Dear Dr. Browne and Mr. Taylor:

The Hazardous Waste Bureau (HWB) of the New Mexico Environment Department (NMED) has reviewed Los Alamos National Laboratory's RCRA Facility Investigation Report (RFI) for Material Disposal Area (MDA) H at Technical Area 54, dated May 2001 and referenced by LA-UR-01-1208 (ER2000699). The document addresses solid waste management unit 54-004. HWB requests supplemental information as detailed in the attachment.



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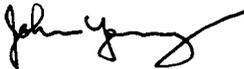
HSWA LANL 1148/54

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Dr. Browne and Mr. Taylor  
October 5, 2001  
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LANL should respond to the supplemental information request within thirty (30) days of the receipt of this letter. If you have any questions, please contact me at (505) 428-2538 or Eliza Frank at (505) 428-2539.

Sincerely,



John Young  
LANL Corrective Action Project Leader  
Permits Management Program

JRY:eaf

attachment

cc w/ attachment:

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

**REDACTED**

## ATTACHMENT

This document addresses solid waste management unit 54-004 in the RFI Report for Material Disposal Area H at Technical Area 54 dated May 2001.

### General Comments:

1. In the CMS Report, LANL should include information it has compiled for each shaft on the amount and type of wastes disposed and the corresponding depths.
2. Statements such as “the data are considered adequate for this assessment and representative of the contamination present at MDA H,” page 5, have been made throughout the RFI which contradict the data gaps identified in Section 5, Conclusions and Recommendations.

### Specific Comments:

3. **Section 1.4, Technical Approach, page 4**

LANL Statement: Additional efforts included collecting data, revising the site conceptual model based on new data, and estimating potential risk to human and ecological receptors from present day to 2044.

HWB Comment: Provide a brief explanation for the significance of this date.

4. **Figure 2.2-1, Locations of inactive disposal shafts, RFI boreholes, and channel sediment sample locations at MDA H, page 6 and Figures 2.3-3 and 2.3-4 [Detected concentrations], pages 23 and 24**

HWB Comment: The sediment sample locations on the above figures are not consistent with their depiction in Figure 2.3-2, page 18. LANL should provide sample numbers on Figure 2.3-2. Also, provide an explanation why Figure 2.3-2 presents less of the drainage basin area than depicted in previous RFI drafts.

5. **Table 2.2-1, Summary of Wastes Disposed of at MDA H Shafts, page 9**

HWB Comment: Provide corrected superscripts for the table. Provide an explanation for why the 15 pounds of lithium hydride that were disposed of in shaft 9, as reported in the RFI work plan, are not included in this table. Provide time frames for when each shaft was excavated prior to its period of use.

6. **Table 2.2-2, Estimated Amounts of Constituents in the Inventory at MDA H, page 11**

HWB Comment: Verify that lithium tritide was never disposed of at MDA H. Explain briefly what plutonium-238 is. Regarding the *Tritium* paragraph on page 11, clarify the basis for LANL's confidence that all the tritium disposed of in steel canisters was a vapor or gas, but not in liquid form.

**7. Section 2.3.1.1, Tritium Measurements [Previous Field Investigations], page 12**

HWB Comment: Discuss why shaft 8 data collected in 1969 to obtain background for tritium is not representative of background values since the adjacent shaft (4) received tritium-contaminated wastes earlier.

**8. Tables 2.3-1, 1969 Tritium Sampling Results for MDA H and Table 2.3-2, 1973 Tritium Soil and Flora Sampling Results for MDA H, page 13**

HWB Comment: Provide complete data packages for the 1969 and 1973 investigations. It is difficult to draw any conclusions from the information provided in the RFI except that there was a release of tritium that resulted in soil contamination and plant uptake. Review of the data will help determine the quality and usability of the data. The Aeby reference, 1799, in the TA 54 Reference Set is incomplete; it is missing the 'accompanying chart' mentioned in the memo. The plant study reference, 7669, also is not provided in either the RFI Report or Reference Set. Include sample location maps with the tables provided.

**9. Section 2.3.1.2, VOC Flux Measurements, page 14**

HWB Comment: A brief statement is needed to clarify that flux data are not summarized or presented in this RFI because the data were inconclusive and/or were not used to make decisions for the RFI.

**10. Section 2.3.3, RFI Fieldwork, page 16 and Table 2.3-3, Summary of Work Plan Specifications, Fieldwork, and Rationales for Deviations, page 17**

HWB Comment: LANL should include the spring 2001 fieldwork in the RFI Addendum, not in this document. Change Table 2.3-3 to reflect that no pore gas samples were collected in 1994-5 and provide rationale for the deviation from the work plan, i.e. VOC samples were not collected based on LANL's review of historic waste disposal practices.

**11. Section 2.3.3.2, Core Sampling, page 16 and Table 2.3-4, Summary Information of RFI Boreholes at MDA H, page 19**

HWB Comment: Discuss impacts of drilling methods on VOC and tritium sample results, i.e., air drilling may have biased the sample results. A more thorough description of drilling activities at 54-1023 is needed. Clarify why drilling activities spanned 7 months. In Appendix H, the 54-1023 borehole log only reflects drilling from 6/23/95 to

6/28/95. Provide the depths of the borehole in 1995 and 1996. Explain why no samples were collected or field screening conducted between 85 to 185 feet (page H-5). Describe the backfill material used to fill in boreholes 54-1024, 54-1025 and 54-1026.

**12. Table 2.3-8, Frequency of Detected Radionuclides in Tuff Samples, page 30**

HWB Comment: Delete the word sediment from the background or fallout value column since the sample results were compared to tuff values.

**13. Table 2.3-9, Detected Tritium in Tuff Samples, page 31 and Figure 2.3-6, Detected concentrations of tritium in borehole samples at MDA H, page 32**

HWB Comment: For borehole 54-1023 sample 0554-95-0288, explain the discrepancy between the value reported in the table and figure (34, 409 pCi/mL) and Appendix D (38, 409 pCi/mL). Explain why the sample results for borehole 54-1024, sample numbers 0554-95-0325, -0327, -0329, -0331, -0333, and -0337 were dropped from the table and figure and are now presented with a U qualifier in Appendix D, page D-159. These data are different from what was presented in the electronic data and the draft RFI report and would change the conclusions made about the extent of contamination at MDA H. If data qualifiers are changed, an explanation should be provided and all relevant documents should be provided.

**14. Table 2.3-10, Frequency of Detected Organic Chemicals in the Tuff Samples, page 33**

HWB Comment: Provide rationale for using a range of values for the EQL. Explain how the numbers were derived and why it changed from what was reported in the previous RFI.

**15. Section 3.1.1, Surface Media Contamination, page 38**

LANL Statement: No surface release or residual contamination was evident or documented for MDA H, which is consistent with the operational history and scale of activities at the site.

HWB Comment: This statement is contradictory in light of previous investigations suggesting plant uptake has occurred (comment #8). Explain what additional surface sampling or screening was conducted to support this statement. Discuss the significance of plant contamination and its relation to transport pathways (plant contamination indicative of surface contamination or subsurface release to surface).

**16. Section 3.1.2 continued, Nature and Extent of Organic Chemicals in Tuff, page 41 and Figure 3.1-1, Tritium concentrations in borehole tuff samples, page 40**

LANL Statement: However, the detected concentrations were below the EQL, so further sampling is not warranted.

HWB Comment: The lack of sufficient organics data is identified as a data gap later in the report in Section 5, Conclusions and Recommendations, page 53. The information provided does not take into account the effects on the data from sample collection methods, air drilling methods, loss of circulation during drilling at borehole 54-1026, the lack of sample collection between 90-260 feet at borehole 54-1023 (also comment #11), and that only 3 of the 24 pore gas samples specified in the work plan were collected for laboratory analysis.

**17. Section 4.1, Summary [of Site Assessments], page 42 and Section 4.4, Groundwater Assessment, page 53**

LANL Statement: A groundwater assessment was not conducted as part of the RFI because sampling indicates that subsurface contamination from MDA H does not currently impact groundwater.

HWB Comment: HWB does not concur, not enough data has been collected to date to support this statement. A more accurate statement would be that a groundwater investigation at MDA H has currently been deferred while a more comprehensive investigation of groundwater at TA 54 gets underway.

**18. Section 4.2.1, Human Health, page 44 and 45**

HWB Comment: Clarify why two different values for the tritium screening action level (SAL), i.e., 880 and 260 pCi/g, are presented. Provide an appendix with specifics on how the SALs for radionuclides were calculated.

**19. Section 4.2.2 Ecological Screening Evaluation, page 48**

HWB Comment: LANL should consider the data from flora samples collected in 1973 (see comment #8). The data indicated a release of tritium and uptake by the plants. HWB recognizes that the data is almost thirty years old and tritium has undergone more than two half-lives, but it could be used to project the existing body burden and to determine the toxicological effects on receptors as a possible worse-case scenario.