Response to the "Approval with Modifications for the Investigation Report for Material Disposal Area A at Technical Area 21, Solid Waste Management Unit 21-014, Los Alamos National Laboratory, EPA ID #NM0890010515, HWB-LANL-06-023," Dated February 12, 2007

INTRODUCTION

This submittal is the response by Los Alamos National Laboratory (LANL or the Laboratory) to the "Approval with Modifications for the Investigation Report for Material Disposal Area A at Technical Area 21, Solid Waste Management Unit 21-014, Los Alamos National Laboratory, EPA ID #NM0890010515, HWB-LANL-06-023," issued by the New Mexico Environment Department (NMED) Hazardous Waste Bureau on February 12, 2007, and received by LANL on February 15, 2007 (NMED 2007, 095047). The investigation report was submitted by LANL to NMED on November 9, 2006 (LANL 2006, 095046).

To facilitate review of this response, NMED's comments are included verbatim. LANL's responses follow each NMED comment. Where revision to the investigation report document text is provided, changes are noted in bold font.

This response contains data on radioactive materials, including source, special nuclear, and by-product material. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to NMED in accordance with U.S. Department of Energy (DOE) policy.

COMMENTS

1. Section 5.2, Screening Levels and Cleanup Goals, page 27:

NMED Comment

1. This section discusses the Permittees' use of the industrial, construction worker, and recreational scenarios for the human health screening assessments. However, the Permittees did not discuss their use of the residential scenario as is presented in Appendix I (Risk Assessment). The Permittees must revise this section to include the residential scenario.

LANL Response

1. The residential scenario is not included in section 5.2 because it is not a decision scenario. Material Disposal Area (MDA) A is evaluated for the residential scenario in Appendix I because Section XI.E.8 of the March 1, 2005, Compliance Order on Consent (Consent Order) states that residential land use shall be included even if it is not the current and reasonably foreseeable future land use. Section 5.2 is revised to indicate that the residential scenario was evaluated and refers to Appendix I for the results of this risk screening assessment. The revised investigation report text is as follows:

5.2 Screening Levels and Cleanup Goals

The human-health risk screening assessments presented in Appendix I were performed in accordance with NMED and EPA Region 6 guidance (NMED 2006, 92513; EPA 2005, 91002).

Industrial, construction worker, and recreational scenarios were evaluated **(the residential scenario was evaluated for informational purposes only and the results are presented in Appendix I)**. Where NMED SSLs were not available for a chemical, the EPA Region 6 screening levels were used (adjusted to a risk level of 10^{-5} for carcinogens) (EPA 2005, 91002). Recreational SSLs were obtained from Laboratory guidance (LANL 2005, 87800).

Dose-based SALs have been developed by the Laboratory for the industrial, construction, and recreational **(as well as residential)** scenarios (LANL 2005, 88493). The radionuclide SALs used in this assessment were calculated by using the radioactive residual materials (RESRAD) computer model, version 6.21. If it is determined that cleanup activities are required, then SSLs or SALs will be used as soil cleanup levels unless determined to be technically impracticable.

2. Section 7.1.1.1, DP Canyon Slope, page 31:

Permittees' Statement

2. *"The vertical and lateral extent of americium-241, plutonium-238, and plutonium-239 are defined in the surface and shallow subsurface. Americium-241, plutonium-238, and plutonium-239 concentrations decreased with depth at all sampling locations (except location 21-26493 for plutonium-238 and plutonium-239). Plutonium-238 and plutonium-239 were detected in the 1.5-2 ft sample at location 21-26493 along the eastern drainage adjacent to MDA A. Samples from locations 21-24776 and 21-24778 collected as part of the investigation as MDA U farther to the east did not detect plutonium-238 and plutonium-239 from surface to 120 ft bgs."*

NMED Comment

2. *Locations 21-24776 and 21-24778 at MDA U are too far away from MDA A to be useful in characterization of MDA A. The subsurface has not been characterized for plutonium-239 at location 21-26493. The residential scenario used for the human health risk assessment suggests that the Permittees should have collected data at least 10 feet below ground surface. Because this was not done, the Permittees must resample at this location to at least 10 feet below ground surface or designate this area to be excluded as part of any future land use change because of unknown risk or dose.*

LANL Response

2. The results for plutonium-238 and plutonium-239 were erroneously reported for sampling location 21-26493 in section 7.1.1.1 and on Plate 4. Radionuclide results for location 21-26493 were correctly presented in Appendix G, Table 6.3-5, and Appendix H, Table H-2.2-16. Uranium-234, uranium-235, and uranium-238 were the only detected radionuclides at this sampling location and each was below its applicable background value (LANL 1998, 059730). Therefore, no radionuclides should be reported in text or figure for this sampling location. Revisions include the removal of the data box for sampling location 21-26493 from Plate 4 and replacing the fourth paragraph of section 7.1.1.1 with the following text:

The vertical and lateral extent of americium-241, plutonium-238, and plutonium-239 are defined in the surface and shallow subsurface. Americium-241, plutonium-238, and plutonium-239 concentrations decreased with depth at all sampling locations. The maximum plutonium-239 activity (16.6 pCi/g) was in the 0–0.5-ft sample from the DP Canyon slope (location 21-26486). Maximum americium-241 concentrations

(0.827 pCi/g and 0.856 pCi/g) were detected at locations 21-26488 and 21-26489. Concentrations for all three radionuclides decreased down the slope towards the bottom of DP Canyon.

3. Section 7.1.2, Pore Gas, page 32:

NMED Comment

3. The tritium activity detected at location 21-26593 (1,092,486 pCi/L at 35 feet) is the highest detected tritium in any soil gas samples collected during the recent investigations at other MDAs at TA-21. The concentrations in the surrounding boreholes at MDA A are elevated, although not as high. Such concentrations at this depth may indicate deeper contamination via fractures. Increasing tritium concentrations with depth suggest the likelihood of preferential pathways for downward transport of contaminants beneath the site that may result in more rapid contaminant transport toward the regional water table. The Permittees must therefore return to location 21-26593 to define the extent of tritium and vapor-phase VOC contamination. The Permittees must collect pore gas samples beginning at 35 feet below ground surface. Pore gas samples must be collected at 20-foot intervals and screened for VOCs and tritium. Concentrations below half the calculated air/water partitioning limits, based on tap water screening levels, WQCC standards, or EPA MCLs can be used as an indicator that total depth has been reached in the boring.

In the approved work plan, the Permittees state that "[i]f VOCs are detected in the vapor samples following drilling, a vapor-monitoring plan will be submitted to NMED as described in §IV.C.2.c.vi of the Consent Order." The Permittees have not addressed the deviation from this requirement. Following the additional pore-gas sampling at location 21-26593, the Permittees must show that the levels of vapor-phase VOCs will not impact groundwater, and discuss the need for a vapor-monitoring plan.

LANL Response

3. To provide a more comprehensive evaluation of tritium pore gas at location 21-26593 (BH-8), LANL will extend the depth of this borehole through the Quaternary Unit 2 of the Tshirege Member of Bandelier Tuff (Qbt2) contact, estimated to be at 110 ft below ground surface (bgs), to a total depth of 115 ft bgs. The evaluation will include collection of tritium pore gas samples from 15 ft bgs to 115 ft bgs (one sample per 20-ft depth interval). Pore-gas samples will not be field-screened for tritium during drilling because of the lack of suitable field-screening methods.

   All detections of volatile organic compounds (VOCs) in pore-gas samples at MDA A were less than half the calculated air-water partitioning limits, suggesting minimal potential impacts to groundwater. To confirm these results and determine whether a long-term vapor monitoring plan is needed as specified in Section IV.C.2.c.iv of the Consent Order, a second round of vapor-phase VOCs and tritium pore-gas samples will be collected from previously sampled depths from four locations: 21-26485 (BH-3), 21-26481 (BH-5), 21-26596 (BH-11), and 21-26588 (BH-12). In addition, VOC pore-gas samples will be collected from location 21-26593 (BH-8) during the tritium pore-gas sampling described above. This plan for an additional round of pore-gas sampling satisfies the requirement of the work plan. After the evaluation of the new pore-gas sampling results, including potential impacts to groundwater, LANL will make a recommendation in a status report regarding the need for a long-term vapor monitoring plan.

4. Figure 7.3.1, Human Health Risk Screening, page 34:

NMED Comment

4. This section does not include the summary of risks associated with the residential scenario, although this scenario was evaluated in the human health risk assessment (Appendix I). NMED understands that the residential scenario is not a decision scenario for the determination of further investigation or corrective action. This scenario was, nevertheless, evaluated to determine the need for land use restrictions. In addition, a conclusion is made that there is no potential for unacceptable dose or risk to human health for the decision scenarios, and a recommendation for further investigation or corrective action is not warranted. Because the residential scenario exceeds the NMED target risk level of 10^{-5} due to the presence of tetrachlorodibenzodioxin [2,3,7,8-], land use restrictions are required for the site or the site must be remediated to residential levels. This section should include the residential scenario to accurately reflect the results of the risk assessment presented in Appendix I, and to justify the need for land use restrictions.

LANL Response

4. For clarification, it is understood that the comment refers to section 7.3.1, page 34.

   The residential scenario was not evaluated to justify the need for land-use restrictions. The residential scenario was evaluated because Section XI.E.8 of the Consent Order requires it to be evaluated even if it is not the current and reasonably foreseeable future land use. The justification for land use or other restrictions is based on the decision scenarios (industrial and recreational); the use of these scenarios for determining the status of the site automatically results in controls in accordance with the Consent Order. According to Section XI.C.10 (Conclusions) of the Consent Order, this section shall provide the results of the comparison with applicable cleanup and screening levels, which does not include the residential risk screening. Therefore, the results of the residential risk screening assessment are not provided in this section. However, the text in this section is revised to include a reference to Appendix I for the results of the residential risk screening, as noted below.

   7.3.1 Human Health Risk Screening

   A human health screening assessment was conducted to determine if COPCs in soil and tuff at MDA A and the DP Canyon slope pose a potential unacceptable risk to receptors. Based on the current and reasonably foreseeable future land uses, the industrial scenario was designated as the decision scenario for MDA A, and the recreational scenario was designated as the decision scenario for the DP Canyon slope **(the residential scenario was evaluated at MDA A for informational purposes only and the results are presented in Appendix I)**.

5. Table H-2.2-16, Summary of Radionuclides Detected or Detected Above Background/Fallout Values for the MDA A Mesa Top, page H-112:

NMED Comment

5. This table does not include the data for sampling location 21-26493. The Permittees must revise the table accordingly.

LANL Response

5. As noted in the response to Comment 2, Table H-2.2-16 is correct as submitted. Sampling location 21-26493 is not included in this table because all radionuclide detections were below background values.

6. Section I-3.2, Current and Reasonably Foreseeable Future Land Use, page I-6:

NMED Comment

6. The fourth paragraph of this section indicates that the residential scenario is evaluated for informational purposes only. The Permittees do not clearly describe what purpose this information serves. Similar statements are made throughout Appendix I. The reason a residential scenario is included as a future land use is to determine the need for land use controls or other type of institutional control, in the event land use were to change from current uses. The Permittees must provide a rationale as to why the residential scenario was evaluated.

LANL Response

6. The current text of of Appendix I, section I-3.2, states that the residential scenario is evaluated for informational purposes only and does not need to be revised. The residential scenario is provided because Section XI.E.8 of the Consent Order requires it be included even if it is not the current and reasonably foreseeable future land use. The residential scenario is not included to determine the need for land-use controls or other types of institutional controls. The need for controls is inherent in using other scenarios (industrial and recreational) to determine site status.

7. Section I-3.3, Human Health Receptors and Exposure Pathways, page I-7:

NMED Comment

7. The last paragraph of this section indicates that exposure pathways for pore gas are incomplete. This conclusion lacks a sound basis. According to Table I-3.5-2, Results of Pore Gas Screening Based on Maximum Detected Concentrations, a number of VOCs were detected in pore gas, suggesting that vapor intrusion from the subsurface into a future building could be a potentially complete exposure pathway. U.S. EPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Soil Vapor Intrusion Guidance) EPA 530-F-02-052, OSWER, Washington, D. C. provides default shallow soil gas (5 feet or less below ground surface) and deep soil gas (greater than 5 feet bgs) screening levels that are protective of indoor air. The screening values for a 1 x 10^{-5} risk and a hazard index (HI) of 1.0 should be used. In addition, this guidance references the use of a spreadsheet model, such as the Johnson and Ettinger model, which can also be used. The Permittees must provide additional lines of evidence for determining that the pore gas data are not applicable to the risk assessment as a source for indirect exposure via inhalation. Otherwise, the data should be used in a screening evaluation of this pathway.

LANL Response

7. The exposure pathway for pore gas is incomplete because no buildings are present at or near the site. The risk screening evaluates only current or reasonably foreseeable future land use conditions and associated risks so that a decision can be made regarding the status of the site. Land-use

controls currently in place at LANL would require that residual contamination remaining at the site be considered in determining whether a structure could be constructed at the site.

In addition, the U.S. Environmental Protection Agency's (EPA's) draft guidance (EPA 2002, 094114) for evaluating subsurface vapor intrusion specifically states on page 2 that the approaches are primarily designed to ensure protection in residential settings. The possible adjustment for other land uses, in this case industrial, is discussed on page 3 of the document. The draft guidance indicates on page 3 that the Occupational Safety and Health Administration (OSHA) generally takes the lead in addressing occupational exposures. The document further states that workers generally understand the workplace regulations (and monitoring, as needed) that already apply and are provided for their protection. In general, therefore, EPA does not expect this guidance to be used for settings that are primarily occupational.

8. Section I-4.3, Interpretation, page I-17:

NMED Comment

8. The second paragraph in this section indicates that the total estimated excess cancer risk for the residential land use is approximately 3 x 10^{-5} which is above the NMED target level of 10^{-5} due to the presence of tetrachlorodibenzodioxin [2,3,7,8-]. The exceedance of the NMED target level justifies the need for land use or institutional controls in the event that the site was to change from the current industrial land use. The Permittees must clarify that the residential risks are presented to justify the need for land use or institutional controls.

LANL Response

8. No revision to the text is necessary because the residential risks are not presented to justify the need for land use restrictions or institutional controls. No decision is made based on the results of the residential risk screening because it is not the current or reasonably foreseeable future land use. The need for land use or other institutional controls is inherent in using the industrial or recreational scenarios as decision scenarios.

9. Section I-5.4.7, COPECs Contributing to PAUF-Adjusted HIs Greater than 1, page I-22:

NMED Comment

9. The second paragraph indicates that the ecological screening assessment utilized the 95% upper confidence level of the mean (UCL95) even if the UCL95 was higher than the maximum concentration. Standard risk assessment practice is to use the lower of the UCL95 or maximum concentration, if adequate samples have been collected to estimate a population mean (Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites, Office of Solid Waste and Emergency Response, U.S. EPA, OSWER 9285.6-10, December 2002). The approach taken was more conservative. However, in future risk assessments, the maximum should be used if the UCL95 is predicted to be higher than the maximum when adequate numbers of samples are collected to estimate a population mean.

LANL Response

9. In calculating 95% upper confidence limits (UCLs), LANL follows the rule that if the 95% UCL exceeds the maximum concentration of the dataset, the maximum concentration is used as the

exposure point concentration for that COPC in the risk screening assessments. As depicted in Appendix I, Table I-2.3-5, the maximum concentration for bis(2-ethylhexyl)phthalate is 0.85 mg/kg, which is a nondetect, and exceeds the calculated 95% UCL (0.235 mg/kg). However, as stated in section I-5.4.7, the maximum ***detected*** concentration of bis(2-ethylhexyl)phthalate (0.102 mg/kg) does not exceed the 95% UCL. Similarly, the maximum concentration for Aroclor-1254 (0.215 mg/kg), which is a nondetect, exceeds the calculated 95% UCL (0.0938 mg/kg). But, as stated in Appendix I, section I-5.4.7, the maximum ***detected*** concentration of Aroclor-1254 (0.031 mg/kg) does not exceed the 95% UCL. The text in section H-5.4.7 referred to in NMED's comment is related to the maximum detected concentrations, which are less than the respective 95% UCLs, and not the maximum concentration in the datasets, which were nondetected values. No revision to the text is necessary.

10. Section I-6.1, Human Health, pages I-24 and I-25:

NMED Comment

10. This section summarizes the results of the human health screening risk assessment and states that the total estimated excess cancer risks were below the NMED target level of 10^{-5} for industrial and construction worker exposures at MDA A and for recreational exposure on the DP Canyon slope. However, this section does not include the results from the residential risk evaluation which were above the NMED target level of 10^{-5} due to tetrachlorodibenzodioxin [2,3,7,8-]. As stated in a previous comment, the exceedance of the NMED target level for residential exposure justifies the need for land use or institutional controls in the event that the site is no longer under Laboratory control. The Permittees must include a brief discussion on the results of the residential risk results which support the need for land use restrictions for this area.

LANL Response

10. The results of the industrial, construction worker, and recreational risk screening assessments are presented because they are decision scenarios, while the residential scenario is not included because it is provided for informational purposes in accordance with the Consent Order. It is not needed to justify land-use or institutional controls. This need is inherent in the use of the other scenarios as the basis for decisions. Further, if the land were to be transferred from Laboratory control, the Consent Order only allows transfer for uses consistent with the cleanup level. Therefore, the land could not be transferred for residential use without additional cleanups. The text is revised to include the results of the residential screening assessments for completeness, as noted below.

I-6.1 Human Health

The total estimated excess cancer risks were below the NMED target level of 10^{-5} (NMED 2006, 92513) for industrial and construction worker exposures at MDA A (8×10^{-6} and 5×10^{-6}, respectively) and for recreational exposure on the DP Canyon slope (2×10^{-7}). **The total estimated excess cancer risks for the residential scenario are approximately 3×10^{-5} (MDA A) and 3×10^{-7} (DP Canyon slope).**

The noncarcinogenic EPCs are less than their respective industrial SSLs, with an HI of 0.02, which is less than NMED's target level of an HI of 1.0 (NMED 2006, 92513). The HI for the construction worker is approximately 3.0 (primarily as a result of manganese). The EPC for manganese is similar to soil and tuff background concentrations and the HI without manganese is approximately 0.2. The HI for the recreational scenario on the DP Canyon slope is 0.04, which is less than NMED's target level of an HI of 1.0 (NMED 2006, 92513). **The HIs are approximately**

0.4 and 0.9 for the residential scenario at MDA A and on the DP Canyon slope, respectively.

The total dose for the industrial scenario is 0.3 mrem/yr and the total dose for the construction worker is 1.5 mrem/yr, both below DOE's target dose of 15 mrem/yr (DOE 2000, 67153). The total dose for the recreational scenario on the DP Canyon slope is approximately 0.7 mrem/yr, which is also below the DOE's target dose of 15 mrem/yr. **The residential doses are approximately 2 mrem/yr (MDA A) and 6 mrem/yr (DP Canyon slope).**

In addition to the dose comparisons, radionuclide EPCs were used to estimate the potential cancer risk using EPA radionuclide PRGs for an outdoor worker (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls) for the industrial and construction worker scenarios at MDA A **and for a hypothetical resident at MDA A and the DP Canyon slope**. The estimated cancer risk from radionuclides under the industrial scenario is approximately 3×10^{-7}, and the estimated cancer risk from radionuclides under the construction worker scenario (using industrial PRGs because EPA does not have PRGs for construction worker) is approximately 10^{-6}. **The estimated cancer risks from radionuclides under the residential scenario are approximately 4×10^{-6} for MDA A and 6×10^{-6} for the DP Canyon slope.** The estimated cancer risk for a recreational user on the DP Canyon slope is approximately 2×10^{-7} based on a conversion using RESRAD 6.21.

Based on the risk screening assessments, no potential for unacceptable risk/dose to human health exists for the decision scenarios (industrial for MDA A and recreational for the DP Canyon slope).

11. Figure I-3.0-1, Human Health Conceptual Site Model, page I-29:

NMED Comment

11. The soil pore gas data indicate detections of a number of volatile organic compounds (VOCs). However, the conceptual side model does not address the presence of vapors in the subsurface as a potential source contributing to the vapor intrusion exposure pathway. The Permittees must revise the figure to include inhalation exposure from subsurface vapors and revise the text to include rationale for including/excluding this pathway from further analyses.

LANL Response

11. Appendix I, section I-3.3, is revised to expand the rationale for excluding the exposure pathway for pore gas. Unlike the residential free-release scenario, the exposure pathway for pore gas in an industrial scenario where end-use conditions are controlled is incomplete because no buildings are present at the site (see response to comment 7). The risk screening is intended to evaluate current or reasonably foreseeable future land use conditions and associated risks so that a decision can be made regarding the status of the site. The current and reasonably foreseeable future land use of MDA A is for it to remain industrial, with restricted access and controls on future construction activities.

I-3.3 Human Health Receptors and Exposure Pathways

Two exposure areas were evaluated for the human health risk assessments: MDA A (within and around the fenced area on the mesa top) and the DP Canyon slope to the north of MDA A. The

human health risk assessment for MDA A included industrial, construction worker, and residential (informational purposes only) exposures. A 0- to 1-ft depth interval was used to assess human health risk under the industrial scenario. A 0- to 10-ft depth interval was used to assess human health risk under the residential and construction worker scenarios.

For the slope leading into DP Canyon, the recreational and residential (informational purposes only) scenarios were evaluated. A 0- to 1 ft depth interval was used to assess potential human health risk under the recreational scenario, and a 0- to 2-ft depth interval (the deepest samples collected) was used to assess the potential human health risk under the residential scenario.

The primary exposure pathway for human receptors is surface soil and subsurface soil/tuff that may be brought to the surface through on-site activities. Migration of contamination to groundwater through the vadose zone is unlikely given the depth to groundwater (1265 ft bgs) at the site. Human receptors may be exposed through direct contact with soil or suspended particulates by ingestion, inhalation, dermal contact, and external irradiation pathways. **Exposure pathways for pore gas are incomplete because no buildings are present at the site. The current and reasonably foreseeable future land use for MDA A is for it to remain industrial, with access restricted by a fence.** Direct contact exposure pathways from subsurface contamination to human receptors are complete for the construction worker and resident. The exposure pathways are the same as those for surface soil. Sources, exposure pathways, and receptors are shown in the CSM (Figure I-3.0-1).

SCHEDULE

The additional drilling and sampling is anticipated in July 2007. The status report would be submitted in approximately November 2007. LANL will provide NMED with a 15-day notification ahead of the additional field work.

REFERENCES

The following list includes all documents cited in this response. Parenthetical information following each reference provides the author(s), publication date, and ER ID number. This information is also included in text citations. ER ID numbers are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau; the DOE-Los Alamos Site Office; the EPA, Region 6; and the Directorate. The set was developed to insure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

EPA (U.S. Environmental Protection Agency), November 2002. "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Soil Vapor Intrusion Guidance)," Environmental Protection Agency document EPA 530-F-02-052, Office of Solid Waste and Emergency Response, Washington, D.C. (EPA 2002, 094114).

LANL (Los Alamos National Laboratory), September 1998. "Inorganic and Radionuclide Background Data for Soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory," draft, Los Alamos National Laboratory document LA-UR-98-4847, Los Alamos, New Mexico. (LANL 1998, 059730)

LANL (Los Alamos National Laboratory), March 2006. “Investigation Report for Material Disposal Area L, Solid Waste Management Unit 54-006, at Technical Area 54, Revision 1,” Los Alamos National Laboratory document LA-UR-06-1564, Los Alamos, New Mexico. (LANL 2006, 091888)

LANL (Los Alamos National Laboratory), November 9, 2006. “Investigation Report for Material Disposal Area A, Solid Waste Management Unit 21-014, at Technical Area 21,” Los Alamos National Laboratory document LA-UR-06-7902, Los Alamos, New Mexico. (LANL 2006, 095046)

NMED (New Mexico Environment Department), February 12, 2007. “Approval with Modifications for the Investigation Report for Solid Waste Management Unit 21-014, Material Disposal Area A, at Technical Area 21, Los Alamos National Laboratory, EPA ID #NM0890010515, HWB-LANL-06-023, New Mexico Environment Department notice from J.P. Bearzi (Chief, NMED-HWB) to D. Gregory (Federal Project Director, DOE-LASO) and D. McInroy (Remediation Services Deputy Project Director, LANL), Santa Fe, New Mexico. (NMED 2007, 095047)