

TA 06

ENTERED



NEW MEXICO ENVIRONMENT DEPARTMENT



Hazardous Waste Bureau

BILL RICHARDSON Governor
DIANE DENISH Lieutenant Governor

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

RON CURRY Secretary
JON GOLDSTEIN Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 21, 2008

David Gregory
Federal Project Director
Los Alamos Site Office
Department of Energy
528 35th Street, Mail Stop A316
Los Alamos, NM 87544

David McInroy
Remediation Services Deputy Project Director
Los Alamos National Laboratory
P.O. Box 1663, MS M992
Los Alamos, NM 87545

RE: NOTICE OF DISAPPROVAL
PAJARITO CANYON INVESTIGATION REPORT
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-08-035

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) Pajarito Canyon Investigation Report (Report), dated September 2008 and referenced by LA-UR-08-5852/EP2008-0450. NMED has reviewed the Report and hereby issues this Notice of Disapproval (NOD).

General Comments:

- 1. Figures D-2.2-1 through D-2.2-207 (inclusive) show that several of the groundwater and surface water samples indicate concentration increases for various constituents in calendar year 2007. Concentrations of boron, barium, nitrate plus nitrite, perchlorate, tritium and uranium-234 increased the most frequently. Increased concentrations of chlorinated volatile organic compounds (VOCs) and/or 1,4-dioxane were also detected during various early-, mid-, or late-2007 timeframes at some sampling locations. The increases vary in magnitude by sample location and constituent.



The Report does not adequately discuss the data contained in the figures, especially its importance relative to canyon media impacts. Additional discussion of these data must be provided in Section 7.2.2 of the Report. The Permittees must include discussion of how the data do or do not provide support for future decisions at various Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) located within the Pajarito Canyon watershed.

2. VOCs were not evaluated in the assessment; the stated rationale was that VOCs are not a significant pathway. Given the low detection frequencies and low concentrations of VOCs, the exclusion of VOCs appears acceptable. As noted in United States Environmental Protection Agency (USEPA) guidance for ecological risk assessments, VOCs can pose a potentially significant exposure pathway to wildlife through the inhalation of contaminated subsurface burrow air. In a recent study (*Using Artificial Burrows to Evaluate Inhalation Risks to Burrowing Mammals*, Integrated Environmental Assessment and Management Volume 4 Number 4, October 2008), artificial burrows can be used to assess burrow atmospheres to estimate risk for burrowing animals. The use of the artificial burrows was found to minimize uncertainty and was a cost effective way to collect data to assess this pathway. While VOCs are not a major concern for Pajarito Canyon, this study may be useful at other LANL sites where VOCs are a primary constituent of ecological concern. Other than considering the comment prior to developing future investigation reports for other LANL canyon watersheds, no response to the comment is required.
3. A primary concern with the human health risk assessment in the Report is that risks were evaluated for the receptor at specific locations. The conclusion of the Report is that since a person would not be exposed to contaminant levels that represent an unacceptable risk at a specific location, no additional action or controls are required. However, the Report does not address exposure to a person across multiple locations. With the exception of location TWN-1E, all risks were within acceptable levels for a residential scenario. Discussion must be added to the Report concerning whether risks would be different if exposure areas were to include a larger area than just a specific sample location.
4. For the recreational scenario, risks were determined separately for sediment and surface water. However, a recreational user could be exposed to contaminants in both sediment and surface water. While it is noted that exposure to sediment is the primary pathway of concern, cumulative risk must be assessed. The Permittees must revise the Report to include cumulative risk for the recreational scenario.
5. The Work Plans discussed in various Specific Comments below may be combined into a single Work Plan that addresses all items discussed in the Specific Comments.

Specific Comments:

1. Section 3.4, Deviations from Planned Activities, third paragraph, page 13:

Permittees' Statement: "The work plan calls for two characterization sampling rounds of the alluvial wells. The results from only one round of sampling from the seven newly installed alluvial wells are available for this report. The new alluvial wells will be sampled on a quarterly basis to provide sufficient data to support an evaluation of future monitoring needs."

NMED Comment: The Permittees must follow the monitoring schedules for the Pajarito Watershed proposed in the approved 2008 Interim Facility-Wide Groundwater Monitoring Plan (2008 IFGMP).

2. Section 5.2, Human Health Screening Levels, first paragraph, page 17:

NMED Comment: It is noted that if New Mexico soil screening levels (NMED SSLs) were not available, either EPA Region 6 media-specific screening levels (MSSLs) or EPA Region 9 preliminary remediation goals (PRGs) were applied. It is assumed that these criteria were applied as the risk assessment portion of this Report was completed prior to July 2008. Note that for future risk evaluations and future updates to this risk assessment, the new Regional Screening Levels (RSLs) supersede the previously used MSSLs and PRGs. The RSLs are available at: <http://www.epa.gov/region09/waste/sfund/prg/rs!-table.html>. Other than acknowledgement and use of the RSLs in updating this risk assessment and future risk assessments prepared by the Permittee, no specific response to this comment is required.

3. Section 5.2, Human Health Screening Levels, second paragraph, penultimate and last sentence, page 17:

Permittees' Statement: "The screening values for radionuclides in groundwater were calculated based on a target dose limit of 4 [millirem per year] mrem/yr, which is the radiation dose limit for a public drinking water supply in [Department of Energy] DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. The screening values for radionuclides in surface water were calculated based on a target dose limit of 100 mrem/yr, which is the radiation dose limit for the general public from all sources in DOE Order 5400.5, *Radiation Protection of the Public and the Environment*."

NMED Comment: The target dose limit for the general public is 100 mrem/yr. While this value is based upon DOE Order 5400.5, this order also states (Section I.4) that "...doses to individuals be within the appropriate dose limits for the individuals and that all exposures be ALARA [as low as reasonably achievable]." The Permittees must clarify that in addition to evaluation of dose, an evaluation was conducted to ensure that the principles of ALARA are also being met.

4. Section 7.2.1 Hydrologic Conceptual Model, pages 40 through 44:

NMED Comment: The Report does not include updated hydrogeologic cross sections reflecting currently available subsurface information. The Permittees must submit five west to east, and three north to south, hydrogeologic cross sections illustrating the geologic units and contacts, structures (e.g., faults), and areas of suspected or known infiltration and recharge to units beneath the canyon bottom. The cross sections must show zones of alluvial and intermediate saturation and the regional aquifer water table. COPCs detected at each sampling point within the intermediate aquifers and the regional aquifer, major-ion chemistry for each ground-water sampling point as represented by Stiff diagrams, canyon-bottom SWMUs and AOCs, and superimposition of material disposal areas (MDAs) C, H, L, and G must also be shown on the cross sections.

West to east transects must include: 1) from the topographic high of the watershed above PC Spring to R-18; 2) R-18 to R-17; 3) R-17 to TA-18; 4) TA-18 to PCAO-8; and, 5) PCAO-8 to the Rio Grande. North to south transects must include: 1) from MDA C to near the head of Threemile Canyon; 2) from MDA H to Portrillo Canyon; and, 3) from MDA G to Fence Canyon.

Additionally, the Permittees must revise the Report to include a more detailed description of the contaminant-transport and hydrochemical conceptual models with respect to the groundwater flow system. The description must include such items as contaminant behavior (e.g., water-rock interactions), mobility from the alluvial aquifer to intermediate aquifers (e.g., pathway analysis) and to the regional aquifer, dilution and dispersion, and ground-water mixing ratios. Analysis tools would include comparing major-ion and trace element chemical characteristics (e.g., Piper diagrams), compositional variability and distribution of tracers (e.g., stable isotope ratios), groundwater temperature variability, and groundwater age distributions and gradients. See also Specific Comment 31 below.

5. Section 7.2.1.2 Alluvial Groundwater, first paragraph, first sentence, page 41:

Permittees' Statement: "The shallow alluvial groundwater body in Pajarito Canyon extends from below the confluence with Twomile Canyon to approximately regional well R-23, a distance of 7 km."

NMED Comment: Though spatially restricted, alluvial ground water is present in Pajarito Canyon upstream of the Twomile Canyon confluence and extends up-canyon to the Starmer and Homestead source-water springs. The Permittees must revise the statement to more accurately reflect site conditions.

6. Section 7.2.1.5 Regional Aquifer Hydrology, first paragraph, fourth sentence, page 43:

Permittees' Statement: "Groundwater flow and contaminant transport directions in this zone generally follow the gradient of the regional water table; the flow is generally northeastward beneath the eastern section of Pajarito watershed southeastward beneath the western section of Pajarito watershed (Figure M-1)."

NMED Comment: The reference to a Figure M-1 may represent a typographical error since Appendix M of the Report does not contain a Figure M-1. With respect to contaminant transport directions, the Permittees must provide a reference for the statement. Based on the regional water-table map as presented on Figure M-2.0-1, groundwater flow direction beneath the eastern and western sections of the Pajarito Canyon watershed would be to the southeast and east, respectively, not northeastward and southeastward as referenced in the statement. Revise the statement to reflect site conditions. See also Specific Comment 31 below.

7. Section 7.2.1.5 Regional Hydrology, first paragraph, fifth sentence, page 43:

Permittees' Statement: "The ambient regional groundwater flow gradients are relatively high to the east (close to the Pajarito Fault zone) and to the west (close to the Rio Grande), varying between 0.003 and 0.01 [meters per meter] m/m."

NMED Comment: The directional terms used in the statement have been reversed. Revise the statement to reflect site conditions and provide a reference for the stated gradient range.

8. Section 7.2.1.5 Regional Hydrology, first paragraph, penultimate and last sentences, page 44:

Permittees' Statement: "The preliminary water-level data from R-37 indicate that the applied water-table map may need to be updated. The new water-level data from R-37 and other new regional monitoring wells should be applied to update the regional water-table map and characterize better the flow directions in the regional aquifer."

NMED Comment: NMED agrees that the regional map must be updated to include the new well information. These updates are required to be included in the annual update of the IFGMP due on March 31, 2009 in accordance with Section IV.A.2 of the Consent Order.

9. Section 7.2.2.2 Organic Chemicals in Water; Toluene, Acetone, and Bis(2-ethylhexyl)phthalate, first paragraph, page 51:

NMED Comment: During rehabilitation efforts at R-20, toluene was detected on ten occasions during 2006 and 2007 (see RACER database at <http://www.racernm.com/>).

During 2008, dedicated pumps were installed at screens 1 and 2 and the well was sampled on two occasions. Results for these two sampling events are not presented in the Report, but are available in the RACER database. The Permittees must provide these results along with discussion concerning the presence or absence of toluene. Since the dedicated pumps were installed, collected samples have not shown the presence of toluene. Additionally, as noted in the RACER database, toluene was detected at R-32 on December 14, 2007 and March 4, 2008. These results are not discussed in this Report section and the Permittees must provide additional discussion concerning the presence and significance of toluene at this location.

10. Section 7.2.2.3 Radionuclides in Water; Tritium in Vadose-Zone Pore Water and Perched Intermediate Zones, pages 51 - 53:

NMED Comment: The Permittees must provide discussion concerning the migration of tritium releases at MDAs C, H, L and G with respect to the presence of anthropogenic tritium at wells R-23, R-23i and R-32.

11. Section 7.2.2.3 Radionuclides in Water, Tritium in Vadose-Zone Pore Water and Perched Intermediate Zones, second paragraph, page 52:

NMED Comment: The Permittees must provide discussion concerning the source(s) of tritium detected in the vadose zone at R-17 and R-20.

12. Section 7.2.2.3 Radionuclides in Water, Tritium in the Regional Aquifer, fourth paragraph, page 53:

Permittees' Statement: "One liter or killigram of water contains 55.6 moles of water, with 6.17 moles comprising two hydrogen atoms, which are 3.72×10^{24} atoms of hydrogen."

NMED Comment: Replace "killigram" with "kilogram".

13. Section 8.1.1.2, Literature for Known Ecological Effects, pages 58 and 59:

NMED Comment: As noted in the *Pajarito Canyon Biota Investigation Work Plan* (Table D-6.0-1, COPECs by Analytical Suite), polynuclear aromatic hydrocarbons (PAHs) are identified as contaminants of potential ecological concern (COPECs) for several receptors including the American robin, plants, Montane shrew, earthworm, and deer mouse. Table D-6.0-1 indicates that PAHs are a preliminary COPEC, pending evaluation of additional data from sampling of TWN-1E. The discussion of PAHs provided in Section 7.1.2.2 (pages 30 and 31) of the Report indicates that PAHs were detected. While there is some uncertainty associated with the average concentration of PAHs due to infrequency of detection, there are suspected sources for PAHs due to site activities; PAHs must be included in the ecological assessment for appropriate

receptors. The Permittees must clarify the rationale used to determine how PAHs were or were not retained as a COPEC for the above receptors.

14. Section 8.1.1.3, Conceptual Exposure Model, pages 59 and 60:

NMED Comment: The evaluation of the surface water pathway is unclear as presented in the Report. As noted in Section 8.1.1.1 (page 56, second paragraph) "No study design COPECs were retained for the evaluation of surface water data because most aquatic COPECs...are also sediment COPECs..." However, Section 8.1.1.3 of the Report indicates that alluvial groundwater mixes with surface water and that surface water COPECs would also include alluvial groundwater COPECs. While COPECs for both surface water and sediments may be similar, various receptors are exposed to both sediment and surface water. It appears that while surface water was identified as a complete pathway, the pathway was not qualitatively assessed. Sufficient justification for exclusion of surface water has not been provided. The Permittees must revise the Report to include uptake and ingestion of surface water or provide additional justification for the exclusion of this pathway.

15. Section 8.1.2.2, Nest Box Studies, pages 61 and 62:

NMED Comment: Due to small sample sizes, egg and insect samples were only analyzed for metals. In reviewing concentrations of various contaminants in insects as provided in the *Pajarito Canyon Biota Investigation Work Plan*, it is noted that metals represent a large percentage of detected concentrations. However, polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs) were also detected in insects. With only data for metals, there is no way to assess what contaminants have the greatest impact on the nest box studies. The Permittees must discuss the uncertainty associated with the nest box studies being based solely on a qualitative analysis for metals.

16. Section 8.1.3.2, Concentrations of COPECs in Prey for the Southwestern Willow Flycatcher, pages 65 and 66:

NMED Comment: The hazard quotients (HQs) for the insect or earthworm pathway generally predicted a lower potential adverse ecological effect than the screening against the ecological screening levels (ESLs). However, as noted in Section 8.1.2.2, insect samples from the nest box studies only included the analysis of metals. Thus, the calculated HQs for insects most likely are an underestimation of actual risk because the HQs do not take into account organics in insects. The Permittees must discuss this uncertainty and how the exclusion of organic data in insects may affect subsequent evaluation of HQs.

17. Section 8.2.1, Problem Formulation, pages 77 and 78:

NMED Comment: A child recreational user was deemed not appropriate for the study area due to the steepness of many parts of the canyon and due to restricted access. However, unless controls are, or will be, in place limiting all access to a child recreational user, it is reasonable to

assume that a child could gain access to areas of Pajarito canyon. The Permittees must revise the risk assessment to include a child recreational user.

18. Section 8.2.3.1, Exposure Scenario Description, page 80:

NMED Comment: Exposure to storm water was not assessed since the frequency of exposure is not sufficient to sustain chronic exposures. Based upon a review of storm water data, significant concentrations of contaminants have been detected. The Permittees must discuss the potential for exposure to storm water and associated acute effects due to accidental or incidental ingestion and dermal exposure.

19. Section 8.2.4, Toxicity Assessment, pages 81 and 82:

NMED Comment: It is noted in the text that screening levels applied for the risk assessment were taken from sources dated 2004 to 2006 and that updates to toxicity data may have occurred. It is the responsibility of the Permittees to evaluate the appropriateness of screening levels and to assess whether updated toxicity data should be applied. Available guidance provides equations for calculating site-specific screening levels or for updating levels with new data. The Permittees must provide a discussion of the appropriateness of using screening levels in this assessment that are based on outdated toxicological data. In addition, it was noted that the differences in slope factors and reference doses were to be provided in Tables 8.2-9 and 8.2-10. The tables do not contain these comparisons. The Permittees must provide these data.

20. Section 9.0, Conclusions and Recommendations, first paragraph, last sentence, page 86:

Permittees' Statement: "However, additional monitoring of sediment, surface water, groundwater, and cavity-nesting birds and their food is recommended."

NMED Comment: NMED agrees with the appropriateness of continued monitoring and reporting of these media. In the case of groundwater, additional groundwater monitoring must be proposed in the annual updates to the IFGMP and the Pajarito Watershed Periodic Monitoring Report (PMR) are the appropriate documents in which to provide that data. The Permittees must submit a Work Plan which includes proposed sampling schedules, proposed sampling by media type, sampling methods, proposed analytical suites, and proposed means of periodically reporting data for all media types discussed above.

21. Section 9.0, Conclusions and Recommendations, fifth paragraph, last sentence, page 87:

Permittees' Statement: "However, monitoring of [chemical of potential concern] COPC concentrations transported in sediment should continue, particularly in fine-grained sediment deposited after large flood events that have the highest potential for erosion and downcanyon transport."

NMED Comment: NMED agrees with the appropriateness of continued collection and reporting of sediment sample data, including discussions of any contaminant trends. The Permittees must submit a Work Plan which includes proposed sampling schedules, sampling areas by media type, sampling methods, proposed analytical suites, and proposed means of periodically reporting the data and data trends.

22. Section 9.0 Conclusions And Recommendations, seventh paragraph, first sentence, page 87:

Permittees' Statement: "The configuration of wells in the existing monitoring network is considered sufficient to meet the groundwater-monitoring objectives for the watershed for the most part."

NMED Comment: The Permittees must install one single completion well intersecting the perched intermediate aquifer penetrated during the drilling of R-17. The aquifer is present at an approximate depth interval of 500-520 feet below ground surface. The Permittees' response must include a proposed schedule for installation, development and completion of the new well such that the well completion report is submitted to NMED on or before July 31, 2009. It is understood that the Permittees' drilling contractor will contact NMED (from the field) in the event subsurface conditions are significantly different than those described above. The Permittees shall sample the new well in accordance with the approved IFGMP.

23. Section 9.0, Conclusions and Recommendations, seventh paragraph, third through fifth sentences, pages 87 and 88:

Permittees' Statement: "However, more work is needed to test the assumption that water-supply wells, in particular PM-4, are adequately protected. This assumption is based on the conceptual site model that contaminated surface water does not infiltrate to deeper groundwater in those parts of Pajarito Canyon that are upgradient of water-supply well PM-4 (e.g., between monitoring well R-17 and water-supply well PM-2). This conceptual model should be tested by collecting additional core in the upper vadose zone near well R-17 to assess whether the reported tritium values for the R-17 corehole (Appendix H) are representative or are in error (possibly the result of sample contamination at the analytical laboratory). In addition, potential infiltration in the canyon segment between well R-17 and supply well PM-2 must be further evaluated by collecting water level data for the new alluvial wells that are installed upstream of well 18-BG-1."

NMED Comment: NMED agrees with the statements. The Permittees must submit a Work Plan which describes proposed field work and associated schedule, sampling methods, proposed analytical suites, and proposed means of reporting the collected data. See also Specific Comment 31 below.

24. Section 9.0, Conclusions and Recommendations, last paragraph, page 88:

Permittees' Statement: "The monitoring well network evaluation will be improved when the analytical data from the new monitoring wells and water-level data are obtained from wells R-37, R-38, R-39, R-40, and R-41, which are currently being installed at or adjacent to TA-54. After the wells are installed, the monitoring well network efficiency may be reevaluated if an updated water table map indicates a groundwater flow direction different from the previous analysis. Flow and transport models supporting the network evaluation will also benefit from an updated geologic model of the area based on observations made at the newly installed wells."

NMED Comment: NMED partially agrees with the statements; see Specific Comment 31 below. The Permittees must submit a Work Plan for the evaluation to include a proposed schedule(s) for completing the evaluation and proposed means of reporting the updated information.

25. Figures 7.1-16 and 7.1-17/Associated Text Descriptions, pages 127 and 128:

Permittees' Statements: "Plot of uranium-238 vs. uranium-235 concentrations in Threemile Canyon sediment samples; the red line indicates values expected in natural uranium, and values plotting below the line indicate depleted uranium." and, "Spatial variations in benzo(a)pyrene concentration between [Technical Area] TA-03 (reach TWN-1E) and TA-08 (reach AW-1) and the Rio Grande. Error bars indicate upper and lower bounds based on replacing nondetect values with either the detection limit or zero."

NMED Comment: The text descriptions for the two figures are apparently reversed. Review the figures and text descriptions throughout the Report and revise as needed to ensure the text descriptions correspond to the correct figures.

26. Appendix E, Statistics and Risk Information, Table E-2.1-1, pages E-82 and E-83:

NMED Comment: The Permittees must change the number format for target cancer risk from a date to scientific notation, reflecting a 1E-05 risk level.

27. Appendix E, Statistics and Risk Information, Table E-2.1-5, page E-85:

NMED Comment: An oral reference dose (RfD) is listed as not available (na) for chloroform and [hexahydro-1,3,5-trinitro-1,3,5-triazine] (RDX). However, the Integrated Risk Information System (IRIS) provides RfDs for both of these constituents (1.0E-02 mg/kg-day for chloroform and 3.0E-03 mg/kg-day for RDX). The Permittees must include these data in the table.

28. Appendix E, Statistics and Risk Information, Table E-2.1-5, page E-85:

NMED Comment: The table lists the oral slope factor (SF_o) for chloroform as $8.05E-2$ (mg/kg-day^{-1}) (reference IRIS). However, IRIS lists the SF_o for chloroform as $1.0E-02$ (mg/kg-day^{-1}). The Permittees must explain the SF_o applied for chloroform.

29. Section K-1.0 Upper Pajarito Canyon Springs, second paragraph, second sentence, page K-1:

Permittees' Statement: "For example, Hanlon and Anderson Springs in Twomile Canyon (elevations 2263–2281 m [7423–7482 ft]), Peter Canyon, sanitary wastewater system, and Burning Ground Springs in Cañon de Valle (elevations 2261–2268 m [7417–7440 ft]) discharge at about the same elevations and issue from the same geologic unit as those in upper Pajarito Canyon."

NMED Comment: Peter Canyon and sanitary wastewater system are not spring names that NMED recognizes. The Permittees must provide some reference for, or documentation of, the location and existence of these springs.

30. Section K.2.0 Springs In Threemile Canyon, fourth paragraph, third sentence, page K-2:

Permittees' Statement: "Therefore, the "TA-18 Spring" probably represents alluvial groundwater rather than a discrete spring discharge point."

NMED Comment: TA-18 Spring discharges from an elevation higher than the canyon-bottom alluvium, suggesting that the spring discharges from the Bandelier Tuff, not from the alluvium as stated above. One hypothesis is that the groundwater at TA-18 Spring is supplied by shallow infiltration in Pajarito Canyon followed by lateral flow to the south or southeast beneath the mesa, (e.g., along the vapor phase notch). The Permittees must revise the Report to include additional discussion concerning the source(s) of the TA-18 Spring.

31. Appendix M, Evaluation of Existing Monitoring Well Locations for the Purpose of Detecting Potential Contaminants from the Pajarito Canyon Watershed:

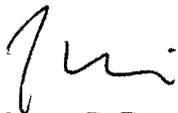
NMED Comment: NMED does not accept the use of modeling to evaluate the adequacy of the Pajarito Canyon monitoring network; rather, NMED requires data and field observations to demonstrate that the network is sufficient. Revise the Report to remove the Appendix and references to the Appendix. If the Permittees believe site data supports the concept of "breakthrough locations" as illustrated on Figure M-2.0-1, add discussion in Section 7.0 of the Report concerning data which support the concept.

Messrs. Gregory and McInroy
November 21, 2008
Page 12

The Permittees must address all comments and submit a revised Report by December 22, 2008. As part of the response letter that accompanies the revised Report, the Permittees shall include a table that details where all revisions have been made to the Report and that cross-references NMED's numbered comments. All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order. The Permittees must submit a redline-strikeout version that includes all changes and edits to the Report (electronic copy) with the response to this NOD. The Permittees must submit the Phase II IWP referenced in this NOD no later than February 27, 2009.

Please contact Daniel Comeau at (505) 476-6043, should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc:

D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
K. Roberts, NMED HWB
D. Comeau, NMED HWB
M. Dale, NMED HWB
S. Yanicak, NMED DOE OB, MS J993
T. Skibitski, NMED DOE OB
L. King, EPA 6PD-N
G. Rael, DOE LASO, MS A316
M. Graham, ENV MS J591
File: LANL Pajarito Canyon IR 2008