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**Department of Energy**  
**National Nuclear Security Administration**  
**Los Alamos Site Office**  
**Los Alamos, New Mexico 87544**

EB 03 2003 4



Sandra Martin, Acting Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303

Dear Ms. Martin:

Thank you for providing comments on behalf of the New Mexico Environment Department (NMED) regarding remediation activities at Land Transfer Tract A-8 (DP Road South), as presented in the meeting we had on November 3, 2003. That meeting was held pursuant to a procedure that was specified in Section III.Y of the draft Order on Consent which was then being negotiated. As you know, negotiations have since been suspended. Section III.Y of the draft Order provided that the Department of Energy (DOE) was to provide written notice of a proposed transfer of land to NMED at least 120 days prior to the date of transfer. Appropriate representatives of DOE, NMED, and the proposed transferee were to meet within thirty days after the notice. At the November 3 meeting, pursuant to the draft agreement, representatives of NMED, DOE, and the County of Los Alamos (the County), the proposed transferee, discussed the County's intended use of the property. We also reviewed the corrective measures taken with regard to the property as detailed in the Completion Report for the Voluntary Corrective Action (VCA) at SWMUs 0-030(a), 0-030(b)-00, and 0-033(a) and AOCs 0-029(a,b,c) and 0-010(a,b) and for the IA at SWMU 21-021-99 at Los Alamos National Laboratory (LANL), which was provided to NMED when DOE gave written notice of the intended transfer.

Pursuant to the draft agreement, if NMED determined that the corrective measures implemented by DOE were not protective of human health and the environment in light of the transferee's intended use of the property, NMED was to notify DOE within sixty days of the meeting and to explain, in writing, why such measures are not protective. On January 6, 2004, sixty-four days after the meeting, NMED sent a letter to DOE stating that it had determined that "the corrective measures implemented with regard to land tract A-8 are not protective of human health and the environment," and attached a document with specific comments regarding what further action NMED believes is necessary.

Attached to this letter are DOE's responses to NMED's comments. We have not responded to NMED's comments regarding radionuclides because NMED has no



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jurisdiction over source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954. We note that NMED failed to indicate why it believes that the corrective measures taken by DOE are not protective of human health and the environment in light of the County's intended use of the property. DOE has cleaned the property to levels protective of residential use, although the County intends to use it only for commercial or industrial uses. Prior to undertaking corrective action at this property, DOE and LANL submitted to NMED a corrective action plan, which NMED approved. As explained in more detail in the attachment, all actions specified in the approved Corrective Action Plan were taken, with the exception of removing some piping. As explained fully in DOE's Response 2, this piping was not removed because of the danger it would pose to workers, and because leaving the piping in place does not constitute an unacceptable risk.

DOE believes that the corrective action taken at tract A-8 in accordance with the corrective action plan approved by NMED is fully protective of human health and the environment in light of the County's intended use of the property. We ask that you reconsider your determination in light of the attached responses. If NMED still believes that the correctives measures are not sufficient in light of the intended use, we request that you explain, in writing, the basis for that determination. I would be pleased to meet with you at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read 'T.J. Taylor', with a horizontal line above the first few letters.

Theodore J. Taylor  
Project Manager

Attachment

Sandra Martin

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cc/w attachment:

R. Erickson, Manager, LASO

D. Martinez, Deputy Manager, LASO

L. Cummings, Counsel, LASO

B. Finley, Public Affairs Manager, LASO

D. Gregory, Environmental Restoration

Project Manager, LASO

L. Trujillo, ERD, Albuquerque Service Center

K. Rea, RRES-ECO, UC-LANL, MS M887

D. McInroy, RRES-RS, UC-LANL, MS M992

A. Ferrell-Brown, Assistant County Administrator,  
Los Alamos County

P. Bacon, County Attorney, Los Alamos County

## **Attachment**

### **Response to Comments on the Land Transfer Parcel A-8 (DP Road South): SWMU 0-030(b), SWMU 0-030(m), AOC 0-010(a), and the SWMU 21-021 portion of the consolidated SWMU 21-021-99**

#### **NMED Comment 1**

NMED cannot approve the Permittees' request for No Further Action (NFA) for SWMU 0-030(b) at this time, because the extent of contamination in the leach field area has not been adequately determined. The 2002 VCA Plan states that data is needed in the leach field area at 2-5 feet for VOCs. However, only four (4) additional surface (0-0.5 feet) samples were collected. No subsurface data were provided for the leach field area, at either 2-5 feet or 5-15 feet. Samples must be collected at 2-5 feet and 5-15 feet in the leach field in order to determine the extent of contamination at the site.

The data from 0-030 (b) contain numerous radionuclide constituents that are qualified as undetected based on their results having a value of less than three times the total propagated uncertainty (3-sigma). NMED will not accept data that is qualified as undetected (U) if the qualification is based on comparing the result to 3-sigma. The radionuclide data must include the activity concentration and the associated minimum detectable concentration, even when the results are less than zero (negative). The Permittees must not censor the data based on detection limits, quantitation limits, or measurement uncertainty. NMED requires that the radionuclide analysis report the activity concentration with the corresponding MDC (minimum detectable concentration), not the total propagated uncertainty. Detection will be considered an analytical result with no qualifiers "U" (not detected above detection limit) or "UJ" (not detected above detection limit; the value is inaccurate or imprecise) as reported by the analytical laboratory, not including (i.e. not adding or subtracting) the measurement uncertainty. NMED views the use of the 3-sigma uncertainty as a means of discarding data and presenting misleading information regarding the true nature and potential presence of contaminants at a site. The additional required sampling as described above must be conducted using proper QA/QC and data validation procedures. After conducting the required additional investigation at the site, then it will be appropriate to conduct a risk screening assessment for the site.

#### **DOE Response 1**

There appears to be some confusion in the comparison of proposed sampling presented in the approved VCA Plan and the information that was reported in the VCA Completion Report. Specifically, on page 50 of the VCA Plan the rationale for omitting VOC analysis is presented along with a table that identifies the status of existing PRS data. The rationale for omitting VOC analysis from the 2002 sampling campaign is simply because the leach field area has experienced significant recontouring activities following relocation of the former trailer park. This activity has generally destroyed the continuity of the leach field, as evidenced by numerous scraps of previously buried VCP observed on the ground surface throughout the site (see Appendix D).

VOCs are not included in the proposed sampling because the surface soil would no longer contain VOCs associated with Laboratory operations; over 50 years have elapsed since there were any Laboratory activities associated with the septic system and leach field.

On page E-13 of the approved VCA Plan, the depth intervals for proposed additional sampling of the leach field area of SWMU 00-030(b) to fully define nature and extent are specified as 0-0.5 ft, not the 2-5 ft and 5-15 ft indicated in the above comment. The 2002/2003 investigation collected samples from the proposed interval to augment the existing data from the previous investigation of the site.

The analytical suites necessary for evaluation of nature and extent of contamination were also specified on page E-13 of the approved plan, and included TAL metals, SVOCs, PCB/Pesticides, and radionuclides. The VCA Report describes the execution of the additional sampling proposed on page E-13 of the approved VCA plan. The detailed evaluation of all existing site data collected in 1995, 1996, and 2002 from soil and tuff beside and beneath the septic tank and associated piping, and beneath the leach field laterals for SWMU 0-030(b), which is summarized on pages 3-45 and following of the VCA Completion Report, clearly demonstrates that nature and extent have been defined for this SWMU. The absence of recently collected surface VOC data from the highly disturbed leach field area does not affect the determination of nature and extent at this SWMU, and additional sampling is not warranted.

#### **NMED Comment 2**

NMED cannot approve the Permittees' request for No Further Action (NFA) for SWMU 0-030(m) at this time, because the extent of contamination at the site has not been adequately determined. The planned Voluntary Corrective Action essentially was not conducted. Only portions of the piping were removed and many planned samples were not collected. Safety concerns, including the discovery of several active unmarked utility lines in the excavation, precluded the collection of samples around the septic tank. The sample of the outlet pipe's contents was collected as a waste characterization sample, but was used as an investigation sample because the piping was not removed. This is not acceptable to NMED. This sample was only analyzed for TCLP metals, instead of the COPCs for the site, which include VOCs, SVOCs, PCBs, pesticides, isotopic uranium, isotopic plutonium, and gamma-emitting radionuclides. Proper investigation sample(s) must be collected and analyzed for this full suite of analytes.

The remaining piping at the site must be removed, in order to prevent exposure to any residual concentrations of COPCs within the pipe. After removal of the piping, the soil below must be visually inspected for staining or other evidence of leaks from the pipe and confirmatory samples of the soil must be collected. In addition, further investigatory samples are needed. Sampling outside the tank is essential to determine if the tank leaked laterally. As noted in the 2002 VCA Plan, trenching and sampling south of tank is also needed to determine the extent of contamination.

The data from 0-030 (m) contain numerous radionuclide constituents that are qualified as undetected based on their results having a value of less than three times the total propagated uncertainty (3-sigma). NMED will not accept data that is qualified as undetected (U) if the qualification is based on comparing the result to 3-sigma. The radionuclide data must include the activity concentration and the associated minimum detectable concentration, even when the results are less than zero (negative). The

Permittees must not censor the data based on detection limits, quantitation limits, or measurement uncertainty. NMED requires that the radionuclide analysis report the activity concentration with the corresponding MDC (minimum detectable concentration), not the total propagated uncertainty. Detection will be considered an analytical result with no qualifiers "U" (not detected above detection limit) or "UJ" (not detected above detection limit; the value is inaccurate or imprecise) as reported by the analytical laboratory, not including (i.e. not adding or subtracting) the measurement uncertainty. NMED views the use of the 3-sigma uncertainty as a means of discarding data and presenting misleading information regarding the true nature and potential presence of contaminants at a site. The additional required sampling as described above must be conducted using proper QA/QC and data validation procedures. After conducting the required additional investigation and piping removal at the site, then it will be appropriate to conduct a risk screening assessment for the site.

## **DOE Response 2**

NMED's statement that "this sample was only analyzed for TCLP metals, instead of the COPCs for the site which include VOCs, SVOCs, PCBs, pesticides, isotopic uranium, isotopic plutonium, and gamma-emitting radionuclides" is incorrect. As stated in the VCA Completion Report on page 3-10, "The sample was submitted to a fixed laboratory for analyses of VOCs, SVOCs, PCBs, pesticides, isotopic uranium, isotopic plutonium, and gamma-emitting radionuclides. Because the sample was collected as a waste characterization sample, only TCLP metals analysis was requested." The last sentence was apparently unclear should have read, "...TCLP metals analysis was requested for inorganics," with further clarification that the TCLP data were not used as characterization data as was inferred.

The contents of the piping that were removed and sampled did not indicate remnant contaminants at levels that pose an unacceptable human health risk, and was at a depth (6.5 ft bgs) that would preclude availability to ecological receptors. Therefore, there is no concern for any exposure, no matter how unlikely, to any residual contamination. The analytical results for the sample (sample RE00-02-45745) of pipe contents in question are presented on pages 3-25 (radionuclides) and 3-38 (detected organics); other pipe content results (inorganics) are intentionally not presented with the soils characterization data because these results are not appropriate for use as characterization data. This is described in the nature and extent discussion on page 3-45 of the VCA Completion Report. Therefore, removal of the remaining piping is not warranted.

All piping that could safely be removed was removed. In order to remove any remaining pipe as suggested by NMED would require extensive utility interruption to eastern Los Alamos, TA-21, DP Road businesses, etc., and would be unlikely to be approved by either Los Alamos County or LANL management, due to the interruption of services to the public and potentially significant risk to site workers. The risk evaluation based on the data collected clearly indicates that there is no unacceptable risk to human health and that the potential incremental reduction in the acceptable risk that might result from this additional pipe removal does not justify the cost, hardship to the public, and/or risk to site workers that would be involved.

The 0-030(m) septic tank was removed in 1995 along with approximately 6-8" of surrounding tuff. Confirmation sampling at the time, although limited, did not indicate contaminant migration into the underlying or surrounding tuff. Therefore, the extent of contamination around the tank is defined.

These data, the fact that the tank, the soil within the tank, and the tuff adjacent to the septic tank were all removed during the previous VCA, the lack of lateral head to drive contaminants, the results of excavation where piping was removed and confirmatory samples taken (pipe condition, absence of staining, etc), the active utility density and locating issues, all lead to the decision that the trenching, further pipe removal and associated confirmatory sampling would not significantly reduce future site risk.

### **NMED Comment 3**

NMED does not require further investigation of AOC 0-010(a) at this time and grants the Permittees' request for No Further Action (NFA) under NFA Criterion 2. However, if evidence of contamination or the existence of a disposal area/landfill is discovered at this site during future excavation, construction, or other activities, then NMED will require the Permittees to notify NMED and investigate the site. It is acknowledged that the Environmental Protection Agency concurred with the Department of Energy's NFA Criterion 2 request in October 1992.

### **DOE Response 3**

Thank you for your concurrence. This Area of Concern is administratively complete, and was included for completeness in evaluating the land transfer parcel.

### **NMED Comment 4**

NMED cannot approve the Permittees' request for No Further Action (NFA) for the SWMU 21-021 portion of the consolidated SWMU 21-021-99 at this time. Only a portion of SWMU 21-021 was investigated as part of the Interim Action, and NMED does not grant NFA requests on partial SWMUs.

The data from SWMU 21-021 contain numerous radionuclide constituents that are qualified as undetected based on their results having a value of less than three times the total propagated uncertainty (3-sigma). NMED will not accept data that is qualified as undetected (U) if the qualification is based on comparing the result to 3-sigma. The radionuclide data must include the activity concentration and the associated minimum detectable concentration, even when the results are less than zero (negative). The Permittees must not censor the data based on detection limits, quantitation limits, or measurement uncertainty. NMED requires that the radionuclide analysis report the activity concentration with the corresponding MDC (minimum detectable concentration), not the total propagated uncertainty. Detection will be considered an analytical result with no qualifiers "U" (not detected above detection limit) or "UJ" (not detected above detection limit; the value is inaccurate or imprecise) as reported by the analytical laboratory, not including (i.e. not adding or subtracting) the measurement uncertainty. NMED views the use of the 3-sigma uncertainty as a means of discarding data and presenting misleading information regarding the true nature and potential presence of contaminants at a site.

NMED cannot evaluate the data as it is currently presented. If feasible, the Permittees must re-evaluate the data and present it to NMED as described above. A revised figure presenting this data must also be prepared and submitted to NMED. If the Permittees are unable to re-evaluate this data,

then the site must either be re-sampled, and the data must be evaluated using proper data validation procedures, or the contaminated surface soil (0-6 inches deep) must be removed from the site.

Removing the contaminated surface soil is a corrective action that would alleviate future concerns regarding migration of contaminants from the site and potential exposure to receptors. Because this site includes a portion of BV Canyon, a small tributary of Los Alamos Canyon, NMED is concerned about soil erosion and migration of contaminants to Los Alamos Canyon from the site. After the Permittees have removed the soil, then confirmatory samples must be collected to ensure that the corrective action was successful. After remediation is conducted, then it will be appropriate to conduct a risk screening assessment for the site. Additionally, the data presented for this site do not conclusively show that contaminants from MDA B have not migrated to the surface soil or within the subsurface outside the boundaries of MDA B.

#### **DOE Response 4**

The permittees recognize that SWMU 21-021 and consolidated unit 21-021-99 are not complete and that NFA for the entire SWMU or consolidated unit would be inappropriate at this time. The portion of SWMU 21-021 that was investigated was included in this project as an Interim Action (IA) only, and was identified as such in the approved VCA Plan and in the VCA Completion Report. No NFA is being requested for either the entire SWMU or consolidated unit. The SWMU 21-021 IA work incorporated in this project was intended to characterize and, if necessary, remediate the portion of the SWMU scheduled to be transferred. The conclusions are only that this portion of SWMU 21-021 does not pose an unacceptable risk to human health and the environment, and as such, no additional investigation or remediation is warranted.

The 95% UCL of the mean used to determine the dose for a receptor at the DP Road sites was calculated using all data, i.e., regardless of whether the radionuclide COPC was detected or not detected, the reported value was used in the calculation (the exception to this was the negative values, which were entered as 0 in the ProUCL program). Therefore, the dose assessment is conservative and utilizing the 95% UCL would not change by reevaluating the data utilizing the data processes recommended by the Bureau. In addition, the concentrations for the radionuclides were low and would not contribute to an increase in dose or change any decisions made at these sites. Therefore, complete resampling, or removal of the surface soils to a depth of 6", as proposed by NMED, is not necessary or warranted as an approach for additional risk reduction.

There are no present or future concerns regarding migration of contaminants from the site and the potential exposure to receptors. The data presented indicate that there is no potential unacceptable risk to human or ecological receptors at this site. Therefore, soil erosion and the migration of surface soils would also not impact human health and the environment in either BV Canyon or Los Alamos Canyon. Given that the residual contamination has been present at this site for decades, the lack of any risk associated with the contamination, and the unlikely probability that contaminants would migrate en masse into the canyons, the soil removal suggested by the NMED is inappropriate and without sound technical basis.

Potential contaminant migration from MDA B was not within the scope of this project and was, therefore, not proposed for investigation in the approved VCA/IA Plan. It is unlikely that significant contaminant migration from MDA B has occurred. BV Canyon effectively provides a physical barrier to migration from MDA B onto Tract A-8 along the northeastern boundary of the tract. The short boundary between Tract A-8 and MDA B, at the western end of MDA B and south from DP Road along the utility access road, is buffered by a 50-foot wide boundary. This buffer area is sufficient to prevent migration from MDA B to the tract, and will allow for the future MDA B investigation and remediation, which will explore the migration issue more fully.