

Date: June 22, 2005

Refer To: ER2005-0393

Mr. James Bearzi  
NMED-Hazardous Waste Bureau  
2905 Rodeo Park Drive East  
Building 1  
Santa Fe, NM 87505-6303

**SUBJECT: SUPPLEMENTAL RESPONSE TO THE NOTICE OF DISAPPROVAL  
FOR THE INVESTIGATION WORK PLAN FOR SOLID WASTE  
MANAGEMENT UNIT 21-017(a)-99, MATERIAL DISPOSAL AREA U,  
AT TECHNICAL AREA 21**



Dear Mr. Bearzi:

Los Alamos National Laboratory (LANL) received the New Mexico Environment Department's (NMED) Notice of Disapproval (NOD) of the "Investigation Work Plan for Material Disposal Area U, Solid Waste Management Unit 21-017(a)-99, at Technical Area 21," on February 4, 2005, and responded to the NOD in a letter with an attachment dated March 5, 2005. The approval with modifications for this work plan was received from NMED on March 21, 2005. Recently, it was discovered that one of the NOD comments was inadvertently omitted from LANL's response. The omitted comment, NMED specific comment Number 4, Item 9, states,

Section IX.B.2.d, Soil Rock, and Sediment Sample Field Screening of the proposed Consent Order states that "The primary screening methods to be used shall include: 1) visual examination; 2) headspace vapor screening for VOCs; 3) metals screening using X-ray fluorescence (XRF). Additional screening for site- or release-specific characteristics such as pH, HE, or for other specific compounds using field test kits shall be conducted where appropriate." The permittees do not include a justification as to why XRF is not included in the field screening methods. The Permittees must include XRF in their field screening procedures.

LANL is not proposing the use of X-ray fluorescence (XRF) for field screening of metals at Material Disposal Area (MDA) U because it will not provide usable results for guiding drilling activities at the site. Most of the metals historically detected in MDA U samples are within the range of twice background, particularly in the subsurface. The best detection limits achievable by XRF are typically significantly higher than the concentrations of metals historically detected at MDA U. Exceptions to this include copper, zinc, and lead, the maximum concentrations of which are within the same order

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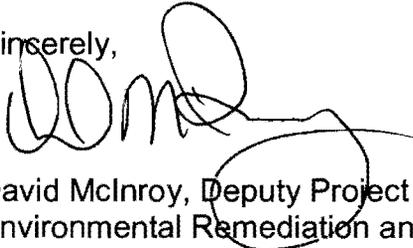
of magnitude as the optimal detection limits afforded by field XRF analysis. The vertical extent of these metals has already been established using fixed laboratory analytical data. No inorganic chemicals have been detected above background values at the total depth (75 ft below ground surface [bgs]) of historical boreholes. The deepest detection of a metal at MDA U (mercury, 0.16 mg/kg at approximately 57 ft bgs) is more than two orders of magnitude below the best XRF detection limit. Therefore, XRF results are not expected to be useful in determining borehole depth during the upcoming drilling activities at MDA U.

In addition, recent experience with XRF field analysis at MDA L has shown a poor correlation between the XRF results and fixed-laboratory analytical results, making XRF unusable for determining the depth of boreholes in real-time.

Visual inspection and volatile organic compound (VOC) head-space screening will be used to help guide drilling activities at MDA U. The historical presence of VOCs in pore-gas samples from the total depth of boreholes at MDA U makes VOC head-space screening the most useful field tool for directing the depth of drilling.

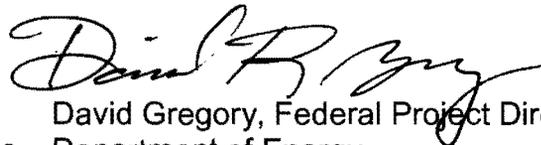
If you have any questions regarding this response, please contact Becky Coel-Roback at 505-665-5011 or Woody Woodworth at 505-665-5820.

Sincerely,



David McInroy, Deputy Project Director  
Environmental Remediation and Surveillance  
Los Alamos National Laboratory

Sincerely,



David Gregory, Federal Project Director  
Department of Energy  
Los Alamos Site Operations

BCR/jk

Cy:

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