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**U. S. Department of Energy**  
 Los Alamos Area Office, MS A316  
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*Stu*



Date: November 5, 1997  
 Refer to: EM/ER:97-436

Mr. Benito Garcia  
 NMED-HRMB  
 P.O. Box 26110  
 Santa Fe, NM 87502

**SUBJECT: RESPONSE TO THE NOD FOR THE RFI REPORT FOR PRSs 0-028(a,b) IN TA-0 (FORMER OU 1071)**

Dear Mr. Garcia:

Enclosed is a copy of the Los Alamos National Laboratory's response to the New Mexico Environment Department's Notice of Deficiency (NOD) concerning the Resource Conservation and Recovery Act Facility Investigation Report for Potential Release Sites 0-028(a,b) in Technical Area 0. A certification form signed by the appropriate officials is also enclosed. The enclosed response repeats each comment from the NOD verbatim for convenience in reviewing.

Please contact Gary McMath at (505) 665-4969 or Bonnie Koch at (505) 665-7202, if you have any questions regarding the response.

Sincerely,

Julie A. Canepa, Program Manager  
 LANL/ER Project

Sincerely,

Theodore J. Taylor, Program Manager  
 DOE/LAO

JC/TT/rfr

- Enclosures: (1) Response to the NOD for RFI Report for PRSs 0-028(a,b) in TA-0 (Former OU 1071)  
 (2) Certification



*1/10/97*

*TV*

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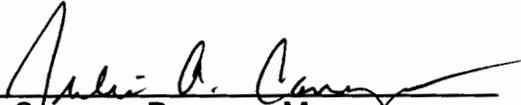
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## CERTIFICATION

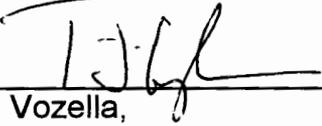
I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: Response to the NOD for RFI Report for PRSs 0-028(a,b) in TA-0 (Former OU 1071)

Name:  Date: 11/6/97  
Julie A. Canepa, Program Manager  
Environmental Restoration Project  
Los Alamos National Laboratory

or

Tom Baca, Program Director  
Environmental Management  
Los Alamos National Laboratory

Name:  Date: 11/6/97  
Joseph Vozella,  
Acting Assistant Area Manager of  
Environmental Projects  
Environment, Safety, and Health Branch  
DOE-Los Alamos Area Office

or

Theodore J. Taylor, Program Manager  
Environmental Restoration Program  
DOE-Los Alamos Area Office

**RESPONSE TO NOTICE OF DEFICIENCY  
PRS 0-028(a,b) RCRA FACILITY INVESTIGATION REPORT  
JULY 19, 1996**

**INTRODUCTION**

This document responds to a letter titled, "Response to NOD for RFI for Potential Release Site 0-028(a,b) Report Dated July 19, 1996 for Los Alamos National Laboratory LA-UR-96-2421," from the New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) to the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project. To facilitate review of this response, NMED's comments are included verbatim. The comments are divided into general and specific categories as presented in the letter. LANL's responses follow each NMED comment.

**GENERAL COMMENTS**

**NMED Comment**

- 1. Only one soil sample was collected from core holes 00-04754, -04764, and -04765 because the depth to the soil/tuff interface was very shallow. However, contaminants have been known to migrate into the tuff by means of fracture flow. Therefore, to ensure that migration of contaminants beyond the soil/tuff interface has not occurred, LANL shall sample the above-mentioned core hole locations to a depth of 3 feet below ground surface.**

**LANL Response**

As stated in the Operable Unit (OU) 1071 Work Plan, the deepest proposed sample interval was to be the soil/tuff interface. This strategy was proposed by LANL and approved by the Environmental Protection Agency (EPA) because water and contaminants are not expected to significantly migrate beyond that interface (due to the high-permeability contrast). Typically tuff has a lower permeability that will retard any further migration of fluids from overlaying soils. Additionally, most contaminants that are being transported by water preferentially sorb into organic matter present in the soil rather than migrate into tuff. This includes both radioactive and volatile organic compounds. Therefore, the highest concentrations of any contaminant, if present, would be expected to occur at or above the soil/tuff contact.

The intent of the OU 1071 Work Plan was to confirm or deny the presence of contamination at potential release site (PRS) 0-028(a,b). The soil overlaying the tuff at this site is very clay rich. Fractures in the tuff near the surface are typically filled with clay materials and organic detritus. This would retard, not enhance, the movement of contaminants from overlaying soils through fractures. Because the soil/tuff interface was sampled in these coreholes (00-04754, 00-04764, and 00-04765) and significant migration via fractures is unlikely, the intent of the OU 1071 Work Plan was met. In addition, LANL believes extent has also been defined.

The concentrations of organic contaminants detected in coreholes 00-04754, 00-04764, and 00-04765 were low and were evaluated in the screening assessment presented in the RFI report. These constituents are less than 1/10 of the screening action levels (SALs) and were determined not to be present in concentrations that would pose an unacceptable risk under the most conservative assumption of future residential land use.

It is also unlikely that high levels of contaminants, particularly volatile organic compounds, would have been passed through from the waste water treatment process in the liquid effluent. The potential sources for contaminants were limited in comparison to the total volume of waste water treated. This would result in systematic applications of low concentrations and not one large concentrated plume. Because of the expected sorption of contaminants into clays, both on the surface and in fractures, and the soil tuff interface permeability barrier, sampling confined to the intervals specified in the approved work plan is appropriate. The sampling was performed where the contaminants were expected to be concentrated and not dispersed from the passing of a concentrated plume. It is more likely that recent operations, such as pesticide and herbicide applications and irrigation through PVC piping, have resulted in the very low levels of organic contaminants found at this site.

The cause for concern was stated by NMED to be ". . . contaminants have been known to migrate into the tuff by means of fracture flow." This concern is proposed by NMED to be addressed by additional sampling to a depth of three feet. However, if fracture flow is the basis for concern, it is unclear to LANL how further sampling to a depth of three feet would address this concern. It is not clear as to why an additional three feet of coring would necessarily transect a fracture. Finally, a decision regarding further sampling at this site will be deferred until negotiations between NMED and LANL are concluded.