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**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

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RON CURRY  
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Deputy Secretary

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

February 11, 2008

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

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Laboratory  
P.O. Box 1663, Mail Stop A992  
Los Alamos, NM 87545

**RE: APPROVAL WITH DIRECTION  
EVALUATION OF THE SUITABILITY OF WELLS NEAR TECHNICAL AREA  
16 FOR MONITORING CONTAMINANT RELEASES FROM CONSOLIDATED  
UNIT 16-021(C)-99, REVISION 1  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID #NM0890010515  
HWB-LANL-GROUNDWATER-MISC**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy and Los Alamos National Security, LLC (collectively, the Permittees) document entitled *Evaluation of the Suitability of Wells Near Technical Area 16 for Monitoring Contaminant Releases from Consolidated Unit 16-021(c)-99, Revision 1* (hereafter, the Report) dated September 2007 and referenced by LA-UR-07-6433/EP2007-0562. NMED has reviewed the Report and hereby issues this Approval with the following direction.

Borehole CdV-16-3(i) has been advanced into the regional groundwater table in Tschicoma dacites. To convert this borehole to a regional groundwater monitoring well, the Permittees must advance this borehole deeper to identify a productive zone that may represent the potential flow path for contaminant transport within the regional aquifer. The recent successes in drilling R-35 and R-36 by the Permittees suggest that drilling without the assistance of drilling fluids (except



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potable water) is technically feasible. The Permittees must therefore extend this existing borehole without use of any organic drilling fluids to eliminate the potential influence of residual introduced fluids on the quality of groundwater samples.

Based on the analysis in this Report, and experiences obtained from rehabilitation of other regional groundwater monitoring wells by the Permittees, it appears that rehabilitation of CdV-R-37-2 Screen 2 is unlikely to meaningfully improve the quality of water samples collected from this screened interval since Screen 2 intersects the regional groundwater table in Tschicoma dacites and has a low yield. In addition, removal of the Westbay sampling system before rehabilitation will risk damage to deeper sampling ports, potentially cause cross-contamination between different zones and would delay collection of samples from Screens 3 and 4, which provide data that support the Corrective Measures Evaluation for regional groundwater near Technical Area (TA)-16.

The Permittees are conducting further modeling evaluations to determine whether Screen 2 of CdV-R-37-2 provides useful data for detecting contaminant releases from TA-16. The preliminary data indicate that Screen 2 less likely detect a contamination resulting from releases from TA-16 than Screen 3. This is because Screen 3 is located in the upper most productive zone and may represent the flow path for contaminant migration in the regional aquifer. To further support this scenario of contaminant transport in the regional aquifer, the Permittees must report the additional modeling results as an addendum to the Report. If exclusion of Screen 2 of CdV-R-37-2 as part of the monitoring well network does not result in a detection efficiency below 95%, the Permittees may not need to rehabilitate Screen 2 of CdV-R-37-2.

The Permittees must incorporate the above comments and develop a work plan that describes the details of the drilling (and rehabilitation) activities proposed in Section 6.0 of the Report. The work plan must include a schedule to complete each activity. The Permittees must submit the work plan to NMED no later than March 15, 2008. Should you have any questions or comments, please contact Hai Shen of my staff at (505) 476-6039.

Sincerely,



James P. Bearzi

Chief

Hazardous Waste Bureau

JPB:hs

cc: D. Cobrain, NMED HWB  
J. Young, NMED HWB  
K. Roberts, NMED HWB

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file: Reading and LANL General (Groundwater, TA-16)