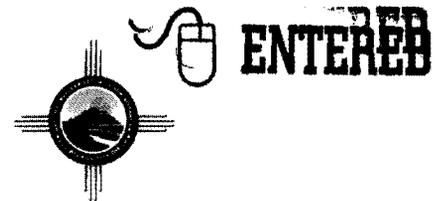




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TA16



National Nuclear Security Administration
 Los Alamos Site Office, MS A316
 Environmental Restoration Program
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Date: July 6, 2009
Refer To: EP2009-0312

James P. Bearzi, Bureau Chief
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6303

Subject: Update on Borehole CdV-16-3(i) (Well R-48) and Request for Variance on Approved Work Plan

Dear Mr. Bearzi:

This letter is notification to the New Mexico Environment Department (NMED) of the initial attempt to deepen borehole CdV-16-3(i) and presents the Los Alamos National Laboratory's (the Laboratory's) request for a variance from the NMED-approved work plan. If deepening of the borehole is successful and a well is completed, the well will be named R-48.

Borehole CdV-16-3(i) was originally drilled in fiscal year 2004 to a total depth of 1405 ft. The borehole did not encounter a productive interval within the regional aquifer and was maintained as a capped borehole. Agreements have since been made with NMED pursuant to the Technical Area 16 (TA-16) 260 Outfall monitoring well network evaluation report to deepen the borehole for completion as a regional aquifer well as part of the ongoing investigations for the TA-16 site. On March 28, 2008, NMED sent a letter of approval with modifications to the Laboratory's work plan for drilling wells CdV-16-3(i) (now planned as R-48) and CdV-R-15-1. The work plan proposed deepening the CdV-16-3(i) borehole using a combination of casing-advance and open-hole air-rotary methods.

Work to deepen the existing borehole began on June 3, 2009, with an attempt to run a 10-in.-diameter casing "dummy" to the bottom of the hole. The "dummy" could not pass deeper than 928 ft below ground surface, suggesting a borehole deviation was present. A gyroscopic survey was then run to the bottom of the borehole to confirm the deviation. Since advancing casing size of sufficient diameter (10 in.) to complete the well was not possible because of the deviation, an attempt was made to advance the borehole using open-hole drilling methods. The drillers advanced the borehole approximately 5 ft and made several unsuccessful attempts to clear the cuttings using only air and water. To avoid the possibility of getting the downhole tools stuck and damaging the borehole, the Laboratory directed the drillers to move off the hole while a path forward is discussed with NMED. Currently, the borehole is capped, and the site is secured.



The Laboratory proposes making another attempt to advance the borehole. To facilitate the likelihood of success, the Laboratory requests approval to use drilling additives, specifically AQF-2, a foaming agent, and EZ-MUD GOLD (a granular form of EZ-MUD, a polymer used to stiffen the foam). Together, these additives will improve the likelihood of successfully deepening this borehole by improving borehole stability and cuttings removal. To mitigate potential effects on the groundwater chemistry, immediate and aggressive well development will be implemented. Indicator parameters such as total organic carbon, turbidity, and field parameters will be measured daily to evaluate the status of development.

The NMED-approved work plan also states drilling to extend the borehole will occur in 100-ft increments, not to exceed 300 total ft, in an attempt to identify a productive groundwater interval. The desire to drill in 100-ft increments was to ensure that use of drilling additives would stop at least 100 ft above a potential screened interval. However, if this approach is approved and additives are used, drilling in predetermined 100-ft increments will no longer be necessary. The Laboratory proposes to stop drilling after sufficient depth is achieved beneath a producing zone to set a well.

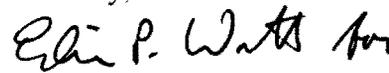
Assuming that NMED approves the use of drilling additives by late July 2009 and the well can be completed as proposed in the drilling work plan, the Laboratory should be able to meet the NMED-approved completion date of October 1, 2009. If field conditions cause additional delays, NMED will be contacted to discuss possible impacts to schedule. If the borehole cannot be completed as a monitoring well at this location, NMED will be notified to reassess the objectives for groundwater monitoring at the location of this borehole.

If you have any questions, please contact Danny Katzman at (505) 667-6333 (katzman@lanl.gov) or Ed Worth at (505) 606-0398 (eworth@doeal.gov).

Sincerely,


Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,


David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

MG/DG/PH/DK:sm

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Tom Skibitski, NMED-OB, Santa Fe, NM
Keyana DeAguero, DOE-LASO (date-stamped letter emailed)
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RPF, MS M707
IRM-RMMSO, MS A150 (date-stamped letter emailed)