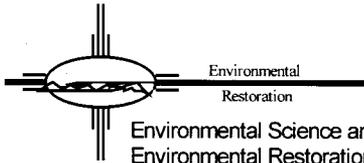


# Los Alamos National Laboratory

UNIVERSITY OF CALIFORNIA



Environmental  
Restoration  
Environmental Science and Waste Technology (E)  
Environmental Restoration, MS M992  
Los Alamos, New Mexico 87545  
505-667-0808/FAX 505-665-4747

Date: December 17, 1999  
Refer to: E/ER:99-367



Mr. John Kieling  
NMED-HRMB  
P.O. Box 26110  
Santa Fe, NM 87502

## SUBJECT: COMPLETION STRATEGY FOR WELL R-12

Dear Mr. Kieling:

The purpose of this letter is to document the phone conversations my staff had with you and John Young on December 10, 1999, concerning the completion of regional aquifer well R-12.

Borehole R-12, located in Sandia Canyon near the eastern Laboratory boundary, is currently being completed as a well for characterizing groundwater in the regional aquifer as part of the Hydrogeologic Workplan. Depth to the regional aquifer is 805 ft in this area. The well will be completed with three well screens, one in the regional aquifer and two in the perched groundwater zone from 443-foot to 520-foot depth. Westbay equipment will be installed to isolate the well screens and to provide sampling ports for the three target zones.

During the well completion operations, we were initially unsuccessful in retracting the 8 5/8-inch drill casing and deployed a bow and spear so that the casing assembly could be pulled from the bottom. We successfully broke the 8 5/8-inch casing free, but the spear experienced a mechanical failure and became lodged in the bottom of the hole. Attempts to fish the spear failed. The Dynatec drilling supervisor has determined the best way to retrieve the spear is to retract the 8 5/8-inch and 10 3/4-inch casings so that the heavy wall (11-inch drill casing) can be used to retrieve the spear and complete the borehole. Already, we have successfully removed the 8 5/8-inch and 10 3/4-inch casings.

Before tripping in the 11-inch drill system, we attempted to pull back on the 14-inch casing to ensure that it would retract freely during well construction. Unfortunately, we were unable to move the casing despite pulling from the top and bottom of the string at the same time. In fact, we pulled the casing to the point of failure before concluding that it could not be removed. Fortunately, the proposed perched zone screens and Westbay sample ports are both located below the 14-inch casing. The top of the screen for the upper port will be about 15 feet below the casing and should not be affected by leaving the casing in place. When the well is installed, we will place 5 to 7 feet of sand above the uppermost screen followed by 15 to 20 feet of bentonite. This arrangement will isolate the upper sample port from the 14-inch casing. The outer



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annulus at the bottom of the 14-inch casing was grouted with bentonite during the drilling operation.

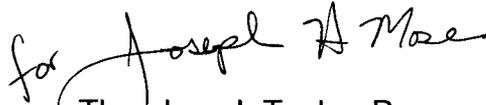
Per the conversation with you and my staff on December 10, 1999, we began implementing the strategy outlined above. We are confident that the R-12 well will produce Resource Conservation and Recovery Act compliant water samples once it is properly developed and our ability to achieve the data quality objectives of the Hydrogeologic Workplan will not be compromised. We thank the New Mexico Environment Department for their cooperation and quick response in resolving this matter.

Sincerely,



Julie A. Canepa, Program Manager  
Los Alamos National Laboratory  
Environmental Restoration

Sincerely,



Theodore J. Taylor, Program Manager  
Department of Energy  
Los Alamos Area Office

JC/AP/ev-ni

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