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NEW MEXICO
ENVIRONMENT DEPARTMENT

ENTERED



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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 31, 2011

George J. Rael
Assistant Manager
U.S. Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Rd, MSA316
Los Alamos, NM 87544

Michael J. Graham
Associate Director Environmental Programs
Los Alamos National Security, L.L.C.
P.O. Box 1663, MS M991
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATIONS
DRILLING WORK PLAN FOR REGIONAL WELL R-66 (TEST WELL 3r)
LOS ALAMOS NATIONAL LABORATORY
EPA ID#NM0890010515
HWB-LANL-MISC-GW**

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy (DOE) and Los Alamos National Security, L.L.C.'s (collectively, the Permittees) document entitled *Drilling Work Plan for Test Well 3r (R-66)* (Plan) dated January 14, 2011 and referenced by EP2011-0008.

NMED has reviewed the Plan and hereby issues this Approval with the following modifications.

1. To ensure that contamination from the perched intermediate groundwater zones that are likely to be encountered during the drilling of R-66 does not migrate to the regional aquifer, any observed contaminated perched zones must be sealed off in a manner that is protective of the regional aquifer.
2. Collect a minimum of eight time-series groundwater samples during the surge-

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pumping stage of development of well R-66. The samples must be analyzed for total organic carbon, dissolved major ions and trace metals. These data will confirm the sufficiency of the development of R-66, characterize impacts from drilling and drilling fluids, and establish a baseline for sample quality and representativeness.

3. Complete installation of R-66 prior to plugging and abandoning Test Well 3, scheduled for plugging and abandonment by December 20, 2011, and conduct a pumping test at R-66 utilizing Test Well 3 to monitor the effects of the groundwater withdrawal. A comparison between the aquifer properties data obtained from the slug test at R-66 and data collected from the pumping test must be performed. The comparison of data between the two techniques will help determine the validity of slug-test data collected at regional aquifer wells located across the facility. The hydraulic properties data (e.g., transmissivity) derived from the pumping test also will apply to the design of the TA-21 monitoring well network. A work plan for conducting the pumping test must be submitted to NMED no later than **September 1, 2011**. The results of the pumping test and the comparison to the slug test must be included in the R-66 completion report.

Should you have any questions or comments, please contact Michael Dale at (505) 661-2673.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
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File: Reading and LANL 2011-Drilling Work Plan for Regional Well R-66 (TW-3r) LANL-MISC-GW