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State of New Mexico **ENVIRONMENT DEPARTMENT** *SNL 2004*

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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

October 22, 2004

Patty Wagner
Manager
Sandia Site Office/NNSA
U.S. Department of Energy
P.O. Box 5400, MS 0184
Albuquerque, NM 87185-5400

Peter B. Davies
Director, Geoscience and Environment
Center (6100)
Sandia National Laboratories
P.O. Box 5800, MS 0701
Albuquerque, NM 87185-0701

**RE: APPROVAL WITH MODIFICATIONS: CORRECTIVE MEASURES
EVALUATION WORK PLAN FOR TIJERAS ARROYO GROUNDWATER,
JULY 2004
SANDIA NATIONAL LABORATORIES NM5890110518
HWB-SNL-04-036**

Dear Ms. Wagner and Mr. Davies:

The New Mexico Environment Department (NMED) has received the U.S. Department of Energy (DOE)/Sandia National Laboratories' (collectively the "Permittees") corrective measures evaluation (CME) work plan for the above referenced site. The NMED has reviewed and approves the work plan for implementation, subject to the following modifications.

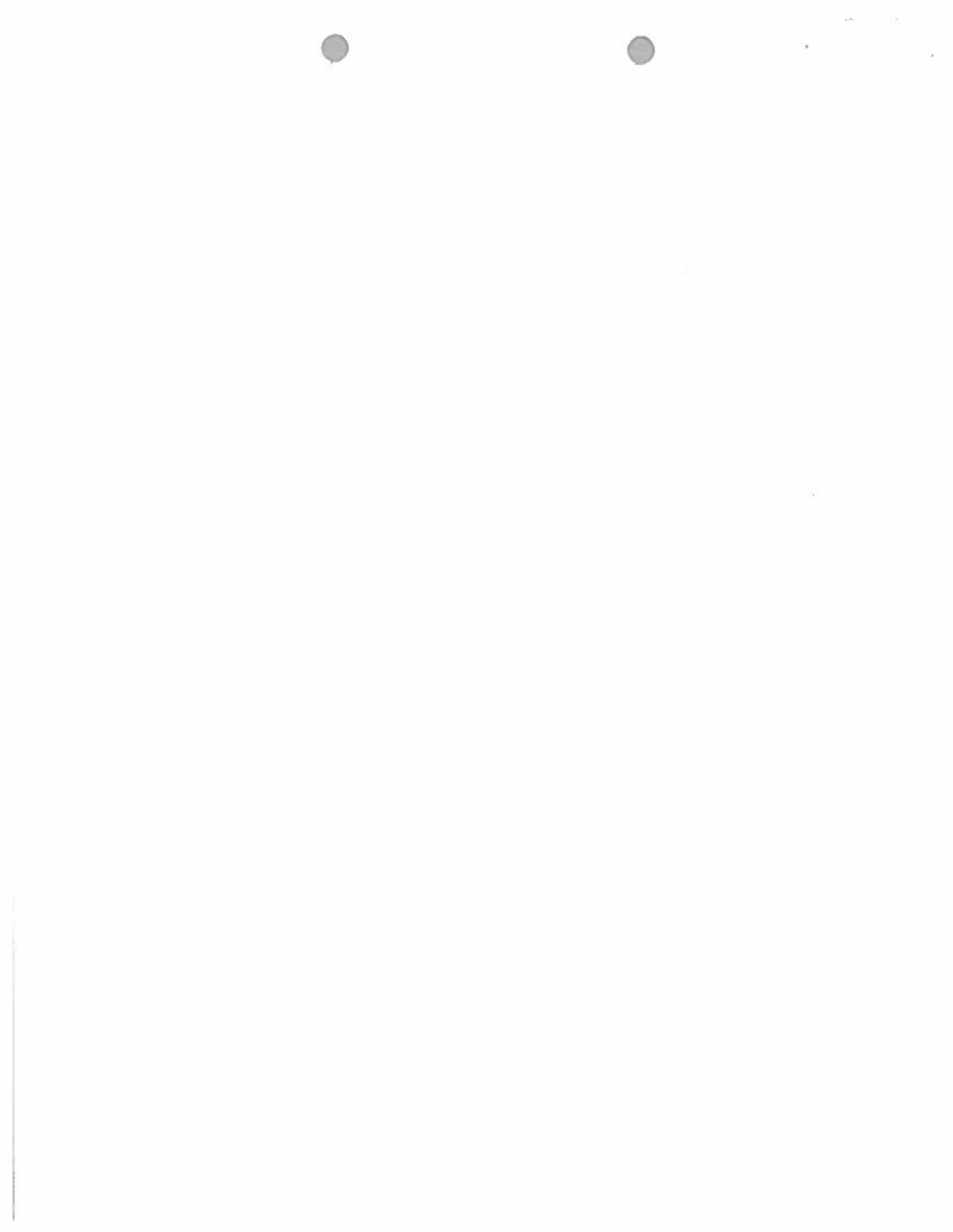
1. The Permittees shall provide to NMED a resume for each person assigned to the CME Implementation Team, Technical Support Personnel, and Technical Peer Review Panel. The resumes shall summarize the qualifications of each individual assigned to conduct the CME.
2. Section 1.3.2 and Section 1.4.2 - SWMU 227 should be added to the list of sites for potential TCE sources based on the reasoning presented in item 3 below. A brief description of the historical use and previous investigations of this SWMU shall be provided.



3. Section 1.4.3 Contaminant Transport Through the Vadose Zone, page 25, 2nd and 3rd paragraphs - NMED does not agree with the Permittees statement that vapor phase the mass of TCE to which is contributing to the aquifer beneath SWMU 227 is minimal. This section states that the highest TCE vapor concentrations observed is 9,500 parts per billion volume (ppbv) in the deepest sampling port located 40 to 60 feet above the perched water table, and that this concentration would be in equilibrium with a ground water concentration of 5 ug/l. It then states that TCE ground water concentrations of <0.5 ug/l was observed in monitoring well TA2-W-19 during the March/April 2002 sampling event.

However, more recent TCE concentrations measured in water samples from this well in July 2003 through February 2004 range from 3.77 ug/l to 4.54 ug/l, which correlate well with the predicted value of 5 ug/l TCE in ground water. In addition, data from monitoring well TA2-W-19, located approximately 500 feet down gradient of SWMU 227, and data from the vapor-monitoring well, suggest that higher ground-water concentrations may exist at the source area and/or that no significant degradation or attenuation of TCE is occurring. This suggests that TCE vapor in the vadose zone beneath SWMU 227 is a potential source for contamination in the perched groundwater that has been detected at monitoring well TA2-W-19. Thus, statements made in the third paragraph regarding TCE as not being considered a continuing source have no basis. The Permittees shall rewrite the subject 2nd paragraph to incorporate the information discussed above. The Permittees shall delete the 3rd paragraph.

4. The subject CME is proposed to address TCE and nitrate contamination in the ground water within the designated area. Corrective action for individual SWMUs and soil contamination shall be addressed separately, as may be needed to protect human health and the environment.
5. Based on the current understanding of site conditions and the site conceptual model, NMED agrees that the TCE contamination associated with the WYO-4 well in the western portion of the Permittees' Area of Responsibility (AOR), and the nitrate contamination associated with regional aquifer well TJA-4 in the southeast corner of the AOR appear not to be the Permittees' responsibility. These two areas of ground-water contamination may be the responsibility of Kirtland Air Force Base. NMED also agrees based on current information that TCE and nitrate appear to be the only contaminants of concern (COCs). However, NMED reminds the Permittees that the Tijeras Arroyo Groundwater Investigation has not been completed, and that the Permittees are thus making assumptions on the nature and extent of contamination in the Tijeras Arroyo area. Following completion of the Tijeras Arroyo Groundwater



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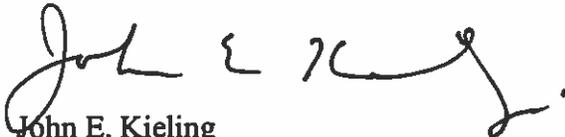
Investigation, if the NMED finds evidence of additional COCs or determines that the Permittees are responsible for contamination occurring in the ground water at the above referenced wells, the CME will need to address these issues. Characterization of the groundwater in the Tijeras Arroyo must also be considered complete and adequate by the NMED before the NMED can deem complete the results of any CME.

In regards to the initial technology screening results, Section 3.4.1.2, and associated Tables 3-2 and 3-3, the NMED does not agree with the Permittees' determination that air sparging would not achieve cleanup standards for the volatile organic compounds at this site. However, NMED does agree that air sparging is not a suitable technology for addressing the nitrate contamination and that this technology would therefore be eliminated based on this criterion.

The information requested in comments 1 and 2 and revisions to the section of the work plan discussed in item 3 above shall be provided to NMED within 45 days of receipt of this letter.

If you have any questions, please contact Steve Jetter of my staff at (505) 845-5932.

Sincerely,



John E. Kieling
Manager
Permits Management Program

JEK:sj

cc: J. Bearzi, NMED HWB
W. Moats, NMED HWB
S. Jetter, NMED HWB
J. Estrada, DOE/NNSA/SSO, MS 0184
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File: Reading and SNL, MNA Project

