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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

October 29, 2009

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 M992  
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATION OF COMPLETION REPORT FOR  
REGIONAL AQUIFER WELL R-44  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID #NM0890010515  
HWB-LANL-09-022**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the Los Alamos National Security, L.L.C. and U.S. Department of Energy (the Permittees) document entitled *Completion Report for Regional Aquifer Well R-44* (Report) dated May 2009 and referenced by EP2009-0254. The Report was submitted within the time period specified in Section IV.A.3.e.iv of the Order on Consent dated March 1, 2005, and contains the required summary well installation and aquifer testing data. NMED hereby approves the Report, with modifications to address the following comments and concerns.

- 1) **Sections 7.2 and 8.3:** The report does not specify whether the stainless steel used in the construction of the well casing and the sampling system was passivated or unpassivated. Future completion reports shall contain information on the surface treatment (e.g., passivation, electropolishing), or the lack thereof, for all stainless steel components that come in contact with groundwater, including, but not limited to, well screen, casing, submersible pumps, and discharge piping.
- 2) **Section 7.2:** The fieldwork was suspended during the Laboratory holiday shut-down and both screened intervals were in communication with each other for 13 days. Future well construction activities for multi-screened wells shall be scheduled and conducted in the manner that minimizes cross-flow between screens at any time.

- 3) **Figure 8.3-1a:** Section X.C.6 of the Consent Order specifies that the protective casing shall extend below the frost line, and requires a weep hole to be drilled into the protective casing just above the top of the concrete surface pad. The as-built diagram for well R-44 shows the protective casing ending at the bottom of the concrete surface pad, and does not show a weep hole. During completion of future wells, the Permittees shall install the protective casings in accordance with Section X.C.6 of the Consent Order and shall document the details of surface completion in the as-built diagrams. In addition, the Permittees shall drill ¼-inch diameter weep holes in the protective casings of all wells that were installed under the Consent Order that are lacking weep holes. A mixture of course sand and pea gravel, or other similar material, shall be placed in the annular space between the well casing and the protective casing to above the weep hole to prevent insect entry.
- 4) **Appendix A, pages A-15 to A-17:** The lithologic symbol Tifp for Miocene pumiceous sediments is incorrect – the proper symbol is Tjfp. In addition, the Abbreviations page is missing explanations for the symbols Tjfp and Tcar. The Permittees must correct this error in future reports.
- 5) **Figure C-8.0-4:** The figure caption is incorrect. The proper caption should read “Well R-44 screen 1 trial 2 drawdown”.
- 6) **Appendix B:** During well development, the Permittees used a carbon steel discharge pipe, which resulted in significantly elevated concentrations of iron and manganese in the filtered groundwater samples. During development and performance testing of future wells, if groundwater samples are collected, the Permittees shall refrain from using piping made of carbon steel or other materials that could affect the representativeness of the samples.
- 7) **Appendix C:** Leaky threaded joints in the discharge pipe made early drawdown data unusable for determining aquifer properties. The Permittees shall assure that, during future aquifer tests, the discharge pipe is properly assembled and not leaking. Teflon tape, O-rings, or other sealing materials shall be used, if necessary, to prevent leakage from threaded pipe joints.

No revision of the Report is necessary.

Should you have any questions or comments, please contact Jerzy Kulis at (505) 476-6039.

Sincerely,



James P. Bearzi

Chief

Hazardous Waste Bureau

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BRZ:jk

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file: Reading and LANL Groundwater General, R-44 Completion Report

