



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us



RON CURRY
Secretary

SARAH COTTRELL
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 29, 2010

George J. Rael
Environmental Operations Manager
Los Alamos Site Office
Department of Energy
3747 West Jemez Road, MS A316
Los Alamos, NM 87544

Michael Graham
Associate Director Environmental Programs
Los Alamos National Security, L.L.C.
P.O. Box 1663, MS 991
Los Alamos, NM 87545

**RE: NOTICE OF DISAPPROVAL
PHASE III INVESTIGATION WORK PLAN FOR MATERIAL DISPOSAL
AREA C, SOLID WASTE MANAGEMENT UNIT 50-009, AT
TECHNICAL AREA 50
LOS ALAMOS NATIONAL LABORATORY (LANL),
EPA ID #NM0890010515
HWB-LANL-10-015**

Dear Messrs. Rael and Graham:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security, L.L.C.'s (collectively, the Permittees) *Phase III Investigation Work Plan for Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50* (Work Plan), dated February 2010 and referenced by LA-UR-10-0613/EP2010-0059. NMED has reviewed the Work Plan hereby issues this Notice of Disapproval (NOD).

33344



Specific Comments

1) Section 2.3.3, Groundwater Monitoring, page 6, paragraph 2:

Permittees' Statement: "Antimony was detected at 6.88 µg/L in an unfiltered sample, slightly above the U.S. Environmental Protection Agency (EPA) drinking water maximum contaminant level (MCL) of 6 µg/L. This analytical result was qualified as estimated as a result of laboratory contamination."

NMED Comment: The Permittees must provide a detailed explanation of why the analytical result for antimony was qualified as estimated as a result of laboratory contamination.

2) Section 4.2, Installation of Vapor-Monitoring Wells, page 12, paragraph 1:

Permittees' Statement: "Rather than use field sampling to determine borehole depth, the Laboratory proposes extending each new borehole to the bottom of the Guaje Pumice Bed (approximately 650 ft bgs) without collecting pore-gas samples during drilling."

NMED Comment: The Permittees are not required to conduct field-screening during drilling of the new vapor-monitoring wells; however, NMED reminds the Permittees that if vapor sampling indicates that extent is not defined in each of the new vapor-monitoring wells, the Permittees must have to conduct additional phases of investigation.

3) Section 4.2.2, Well Configuration, page 13, paragraph 2:

Permittees' Statement: "At each new location, a new borehole will be advanced to the bottom of the Guaje Pumice Bed (approximately 650 ft bgs) within 25 ft of the existing vapor-monitoring wells. Four sampling ports will be installed at depths of 500, 550, 600, and 650 ft bgs. The upper three screens will be installed in the Otowi Member and the lower screen in the Guaje Pumice Bed."

NMED Comment: Based on Section 3.1, *Stratigraphic Units*, the Guaje Pumice Bed is approximately 35 feet (ft) thick. If this is the case, the Permittees proposed port depth of 650-ft will miss the Guaje Pumice Bed entirely. The Permittees must extend each of the four new vapor-monitoring wells so that there are three ports installed in the Otowi Formation, one port in the Guaje Pumice Bed, and an additional port at least 10-ft into the Tschicoma Formation.

4) Section 5.1, Pore-Gas Sample Collection, page 16, paragraph 2:

Permittees' Statement: "Before samples are collected, the screened interval and sample collection system will be purged in accordance with SOP-06.31."

NMED Comment: The Permittees must describe the proposed method, purge times, and flow rates for each borehole.

5) Appendix C, Evaluation of the Locations of the Existing and newly Proposed Monitoring Wells for Detecting Potential Contamination in the Regional Aquifer from Material Disposal Area C, pages C-1 through C-12:

The Permittees shall install one of the two regional aquifer wells at location MW-4 as identified on Figure C-3.0-2 of Appendix C. The other well shall be drilled equal distance between proposed wells MW-2 and MW-3 and 200 feet to the east as depicted on the same figure. This location will provide better downgradient detection monitoring, assuming the TCE plume continues to migrate vertically with diffusion to the southeast. The approximate 900 feet distance between the regional aquifer and the 40,000 to 50,000 ug/M³ TCE isopleth (as depicted in Figures C-2.0-1 and C.20-2) and the complexities of the sub-Bandelier Tuff strata suggest the potential for the plume to reach the regional aquifer further to the southeast or outside the proposed line of regional wells MW-2 through MW-G. As a contingency, the Permittees must use water-level data collected at the first well (location of MW-4) to re-evaluate the surface of the regional water table and groundwater flow direction beneath MDA C. Based on the new water-level data and any other pertinent information derived from installation of the first well, the Permittees may propose to change the location of the second well. Any changes are subject to NMED review and approval.

The Permittees must address all comments in this letter in a revised Work Plan. The Permittees must submit the response and the revised Work Plan to NMED no later than **April 30, 2010**. All submittals (including maps) must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Order.

Messrs. Rael and Graham
March 29, 2010
Page 4

Please contact Kathryn Roberts at (505) 476-6041 should you have any questions.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
K. Roberts, NMED HWB
S. Yanicak, NMED DOE OB, MS M894
T. Skibitski, NMED DOE OB
L. King, EPA 6PD-N
S. Fuller, EP-CAP, MS M992
D. McInroy, EP-CAP, MS M992
J. English, MS M992
C. Rodriguez, DOE-LASO, MS A316
File: '10 LANL, TA-50 (SWMU 50-009)