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Saundra

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**Deliverables  
Compliance Team**

# FAX

TO: Pete Padilla

FR: Saundra Martinez

FAX # 662-8005

PH: 665-6771

# PAGES: 6 total pages including cover sheet

DATE: July 9, 2010

RE: LANL Sitewide Monitoring Program Drinking Water Results for the LAC Water Supply Wells

*Comments:*

*Paper copy with CD is in the mail.*

*If you have any questions, please contact me.*



*Environmental Programs*

P.O. Box 1663, MS M991

Los Alamos, New Mexico 87545

(505) 606-2337/Fax (505) 665-1812

*Date:* JUL 09 2010

*Refer To:* EP2010-0317

Mr. Pete Padilla  
Environmental Compliance Officer  
Department of Public Utilities  
County of Los Alamos  
P.O. Drawer 1030  
Los Alamos, NM 87544

**Subject: Los Alamos National Laboratory Sitewide Monitoring Program Drinking Water Results for the Los Alamos County Water Supply Wells**

Dear Mr. Padilla:

This report, prepared by Los Alamos National Laboratory (the Laboratory), provides the analytical results from the March 22 and April 2, 2010, sampling and analysis of Los Alamos County Water Supply Wells O-1, O-4, PM-1, PM-3, PM-4, and PM-5. Water supply well PM-2 was out of service at the time of sampling. In addition, tritium results from the November 17, 2009, sampling of water supply wells O-1, O-4, PM-1, PM-3, and PM-5 have been included in this report. All results were below the U.S. Environmental Protection Agency (EPA) primary and secondary drinking water standards, with the exception of the following:

- pH was measured at water supply well O-1 at 8.67 SU. The National Secondary Drinking Water Regulations have established a guideline for pH in drinking water of 6.5–8.5 SU.

Quarterly monitoring of Los Alamos County's (the County's) water supply wells is conducted in accordance with the March 23, 2010, sampling and analysis plan. Under this plan, all County water supply wells will be sampled annually for full-suite analysis (radionuclides, general inorganics, metals, and organics). In addition, selected wells are sampled quarterly for specific contaminants of concern: chromium, perchlorate, diesel range organics (DRO), tritium, volatile organic compounds (VOCs), nitrate+nitrite, molybdenum, and high explosives. Below is a detailed discussion of the analytical results from the first quarter 2010 sampling event.

The attached CD also contains the following items: (1) General Engineering Laboratories, Inc. (GEL) and University of Miami Tritium Laboratory (UMTL) data package; and (2) an Excel file of the analytical results with a glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes. The analytical results are as follows.

**Tritium:** Analytical results from sampling water supply wells O-1, O-4, PM-1, PM-3, PM-4, and PM-5 for low-level tritium are presented in Table 1.0. Tritium activities at all locations were nondetect (U flag), with the exception of the following:

- Tritium was detected in the November 17, 2009, sample from well O-1 at 16.92 pCi/L. This value is consistent with previous results from O-1 and was below the EPA MCL of 20,000 pCi/L for tritium in drinking water.

**General Inorganics:** The analytical results from sampling at water supply wells O-1, O-4, PM-1, PM-3, PM-4, and PM-5 for general inorganics are summarized in Table 2.0.

- **Perchlorate:** Perchlorate concentrations at all locations ranged between 0.37 µg/L and 0.45 µg/L at all wells, with the exception of O-1. The perchlorate concentration at O-1 was 1.25 µg/L; this value is consistent with previous measurements taken from this location.

Currently, neither the federal government nor the State of New Mexico has established a drinking water standard for perchlorate. On January 8, 2009, EPA issued an interim health advisory of 15 µg/L for perchlorate in drinking water, replacing the existing preliminary remediation goal of 24.5 µg/L.

- **Nitrate+Nitrite (as Nitrogen):** The nitrate+nitrite (as N) concentration at both PM-4 and PM-5 was 0.37 mg/L, well below the EPA MCL of 10 mg/L.

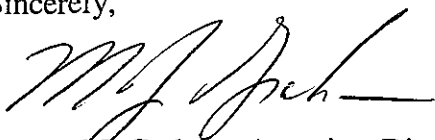
**Metals:** The analytical results from sampling at water supply wells O-4, PM-1, PM-3, PM-4, and PM-5 for metals are summarized in Table 3.0.

- **Molybdenum:** The unfiltered molybdenum concentration at O-4 was 1.2 µg/L; there is no EPA MCL for molybdenum in drinking water. The New Mexico groundwater standard for molybdenum is 1000 µg/L (20.6.2.3103 New Mexico Administrative Code [NMAC]).
- **Chromium:** Filtered chromium concentrations at O-4, PM-1, PM-3, PM-4, and PM-5 ranged between nondetect and 3.6 µg/L, well below the EPA MCL of 100 µg/L and the New Mexico groundwater standard of 50 µg/L (20.6.2.3103 NMAC).

In summary, all results presented in this report are below EPA MCLs and New Mexico groundwater standards, with the exception of pH at water supply well O-1.

If you would like additional information regarding this report, please contact Bob Beers at (505) 667-7969 (bbeers@lanl.gov).

Sincerely,



Michael J. Graham, Associate Director  
Environmental Programs  
Los Alamos National Laboratory