

ERID-249071

*** ACTIVITY REPORT ***

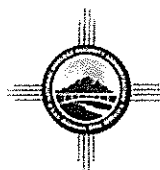
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08/27 12:19	85059554280	0003	TRANSMIT	0	NG 00'00
08/27 12:20	89554280	0004	TRANSMIT ECM	5	OK 00'57

UT 8/27



Environmental Programs

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Date: **AUG 27 2013**

Refer To: EP2013-0190

Nicholas Schiavo, Water Division Director
Sangre de Cristo Water Division
City of Santa Fe
801 West San Mateo
Santa Fe, New Mexico 87504

**Subject: Los Alamos National Laboratory Sitewide Monitoring Program Drinking Water
Results for the City of Santa Fe Buckman Water Supply Wells**

Dear Mr. Snyder:

Routine monitoring of select Buckman water supply wells is conducted in accordance with the June 7, 2013, sampling and analysis plan cooperatively developed between Los Alamos National Laboratory (the Laboratory) and City of Santa Fe staff. Under this plan, the Laboratory will sample Buckman Wells Nos. 1, 6, and 8 quarterly: twice per year for radionuclides, general inorganics, metals, and organics; with two additional sampling events per year for tritium.

This report, prepared by the Laboratory, provides the analytical results from the June 13, 2013, sampling of the City of Santa Fe Buckman Water Supply Wells Nos. 1, 6, and 8. Samples were analyzed for radionuclides, general inorganics, metals, and organics.

All results were below the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), except for the following:

- Gross-alpha activity was measured in a filtered sample from Buckman Well No. 8 at an activity of 18 pCi/L; the EPA MCL for gross-alpha activity is 15 pCi/L (excluding uranium and radon but including radium-226). This gross-alpha value is not corrected for uranium and radon. The high gross-alpha activity is the result of high naturally occurring uranium concentration. Uranium is present in samples from Buckman Well No. 8 at a concentration of 18.1 µg/L, below the 30 µg/L EPA MCL for uranium. Previous gross-alpha results in Buckman Well No. 8 since 2002 range from 8.8 pCi/L to 21.6 pCi/L.
- Arsenic was measured in a filtered sample from Buckman Well No. 1 at a concentration of 11.7 µg/L; the EPA MCL for arsenic in drinking water is 10 µg/L. Arsenic occurs naturally in this water. The arsenic concentrations found in this well since 2002 range from 9.03 µg/L to 17.6 µg/L.

The attached CD contains an Excel file of the analytical results with a glossary of laboratory qualifier codes, secondary validation codes, and secondary validation reason codes. The analytical results are as follows.

Radiochemistry:

- **Americium-241, Cesium-137, Cobalt-60, Neptunium-237, Plutonium-238, Plutonium-239/240, Potassium-40, Sodium-22, and Strontium-90:** All results were nondetect.
- **Gross Alpha:** The gross-alpha activity in samples ranged from 8.87 pCi/L to 18 pCi/L. One result was above the 15 pCi/L EPA MCL for gross alpha in drinking water (excluding uranium and radon but including radium-226). These reported gross-alpha values are not corrected for uranium and radon.
- **Gross Beta:** The gross-beta activity in samples ranged from 6.34 pCi/L to 8.21 pCi/L. All results were below the EPA screening level of 50 pCi/L for gross beta in drinking water.
- **Gross Gamma:** All gross-gamma results were nondetect. Gross gamma is a screening measurement with no regulatory screening level.
- **Combined Radium-226 and Radium-228:** All individual (and combined) radium-226 and radium-228 results were nondetect. The results at all locations were below the EPA MCL of 5 pCi/L for combined radium-226 and radium-228 in drinking water.
- **Tritium:** All tritium results were nondetect. The average minimum detectable activity for the measurements was 1.35 pCi/L. The results at all locations were below the EPA MCL of 20,000 pCi/L for tritium in drinking water.
- **Uranium:** The uranium concentration in samples ranged from 5.4 µg/L to 18.1 µg/L. The results at all locations were below the EPA MCL of 30 µg/L for uranium in drinking water.
- **Uranium-234, Uranium-235/236, Uranium-238:** All these isotopes were detected in all samples and reflect presence of natural uranium.

General Inorganics:

- **Perchlorate:** The perchlorate concentration in samples ranged from 0.263 µg/L to 0.383 µg/L. 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.
- **Cyanide, Fluoride, and Nitrate+Nitrite:** The cyanide, fluoride, and nitrate+nitrite (as nitrogen) concentrations at all locations were below the EPA primary drinking water standards.

Metals:

- **Arsenic:** The arsenic concentration in samples ranged from 5.71 µg/L to 11.7 µg/L. One result was above the 10 µg/L EPA MCL for arsenic in drinking water.
- **Chromium:** The filtered chromium concentration in samples ranged from nondetect to 3.94 µg/L, below the EPA MCL of 100 µg/L and the New Mexico groundwater standard of 50 µg/L. Two results were nondetect, and the third result was estimated because it was between the 2 µg/L method detection limit and 10 µg/L practical quantitation limit.

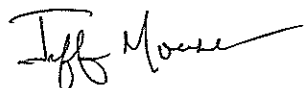
Organics:

- **High Explosives (HE):** No HE compounds were detected.
- **Polychlorinated Biphenyls (PCBs):** No PCBs were detected.
- **Volatile Organic Compounds (VOCs):** No VOCs were detected.
- **Semivolatile Organic Compounds (SVOCs):** One SVOC, diethylphthalate, was detected in Buckman Well No. 6 at a concentration of 22.8 µg/L. All SVOC samples were analyzed twice by the analytical laboratory, and diethylphthalate was found in only one of two analyses at Buckman Well No. 6. This plasticizer compound is commonly detected; its presence may be the result of cross-contamination by materials used during sampling or analysis. There is no EPA MCL for diethylphthalate; the EPA Regional Screening Level for tap water is 11,000 µg/L.

In summary, all results presented in this report are below EPA MCLs and New Mexico groundwater standards, with the exception of gross-alpha activity at Buckman Well No. 8 and arsenic at Buckman Well No. 1.

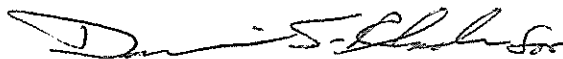
If you have questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Woody Woodworth at (505) 665-5820 (lance.woodworth@nnsa.doe.gov).

Sincerely,



Jeff Mousseau, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,



Peter Maggiore, Assistant Manager
Environmental Projects Office
Los Alamos Field Office

JM/PM/CD/SP/DR:sm

Attachment: CD with the following items – Excel file of the analytical results and glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes (LA-UR-13-26654)

Cy: (w/att.)

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