ERID-207370

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0212
DESTINATION TEL #	89554280
DESTINATION ID	
ST. TIME	10/25 14:55
TIME USE	00'58
PAGES SENT	5
RESULT	OK

called & verified receipt of fax! Saundra 10/25/11

Los Alamos National Laboratory
Environmental Programs
Area Fax: (505) 667-5801

Deliverables Compliance Team

FAX

TO:	Brian Snyder	FR:	Saundra Martinez
FAX #	955-4280	PH:	665-6771
# PAGES:	4 total pages including cover sheet	DATE:	October 25, 2011

RE: LANL Sitewide Monitoring Program Drinking Water Results, Santa Fe Buckman Water Supply Wells

Comments:

If you have any questions, please contact me.
The original with the CD is in the mail.

Thank you.
Saundra

Note for Saundra/Vanessa: Call to confirm receipt of fax 955-4201.

Los Alamos
NATIONAL LABORATORY
EST. 1943
Environmental Programs
P.O. Box 1663, MS M991
Los Alamos, New Mexico 87545
(505) 606-2337/FAX (505) 665-1812

National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-4255/FAX (505) 606-2132

Date: OCT 2 5 2011
Refer To: EP2011-0350

Mr. Brian Snyder, Water Division Director
Acting Public Utilities Division Director
Sangre de Cristo Water Division
City of Santa Fe
801 West San Mateo
P.O. Box 909
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:

This report, prepared by Los Alamos National Laboratory (the Laboratory), provides the analytical results from the May 17, 2011, sampling of the City of Santa Fe Buckman Water Supply Wells Nos. 1, 6, and 8. All results were below the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) with the exception of the following:

- Arsenic was measured in an unfiltered sample from Buckman Well No. 1 at a concentration of 11.0 µg/L; the MCL for arsenic in drinking water is 10 µg/L. Arsenic occurs naturally in this water. For this well, sample concentrations since 2002 range between 9 µg/l and 15 µg/L.
- Gross alpha was measured in two unfiltered samples from Buckman Well No. 8 at an activity of 16.2 pCi/L in the primary sample and 14.4 pCi/L in a field duplicate; the EPA MCL for gross-alpha activity is 15 pCi/L (excluding uranium and radon, but including radium-226). These reported gross-alpha values are not corrected for uranium in this case, which is present at a concentration of 20.3 µg/L, compared with the 30 µg/L MCL. The high gross alpha activity is because of the high naturally occurring uranium concentration.

Routine monitoring of select Buckman water supply wells is conducted in accordance with the April 22, 2010, sampling and analysis plan cooperatively developed between the Laboratory and City of Santa Fe staff. Under this plan, Buckman Wells Nos. 1, 6, and 8 will be sampled quarterly by the Laboratory: twice per year for radionuclides, general inorganics, metals, and organics; and two additional times per year for tritium.

The attached CD also contains the following items: (1) analytical laboratory data packages; and (2) 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.

Radionuclides:

- **Americium-241, Cesium-137, Neptunium-237, Plutonium-238, Plutonium-239/240, and Strontium-90**: All results were nondetect.

- **Gross Alpha:** The gross-alpha activities at Buckman Wells Nos. 1, 6, and 8 were 11.2 pCi/L, 6.44 pCi/L, and (in primary and field duplicate samples) 16.2 pCi/L and 14.4 pCi/L, respectively. The EPA MCL for gross alpha in drinking water is 15 pCi/L.

- **Gross Beta:** Gross-beta activities at Buckman Wells Nos. 1, 6, and 8 were 4.26 pCi/L, 4.38 pCi/L, and (in primary and field duplicate samples) 6.03 pCi/L and 6.21 pCi/L, respectively. All results were below the EPA screening level for gross beta in drinking water of 50 pCi/L.

- **Combined Radium-226 and Radium-228:** The combined radium-226 and radium-228 activities at Buckman Wells Nos. 1, 6, and 8 ranged from nondetect to a maximum value of 0.85 pCi/L. 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:** Tritium results were all nondetect. This compares with tritium results from the March 14, 2011, sampling, which included tritium detections at two wells. The Laboratory is working with American Radiation Services to reevaluate their earlier reported results, which were affected by calculation errors. When this reevaluation is complete, the Laboratory will communicate the findings to you.

- **Uranium:** Uranium concentrations at Buckman Wells Nos. 1, 6, and 8 were 16.6 µg/L, 5.22 µg/L, and (in primary and field duplicate samples) 20.3 µg/L and 20.6 µg/L, respectively. All results were below the EPA MCL of 30 µg/L for uranium in drinking water.

General Inorganics:

- **Perchlorate:** The unfiltered perchlorate concentrations at Buckman Wells Nos. 1, 6, and 8 were 0.285 µg/L, 0.401 µg/L, and (in primary and field duplicate samples) 0.26 µg/L and 0.268 µg/L, respectively. 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:** Cyanide, fluoride, nitrate+nitrite (as nitrogen) concentrations at all locations were below the EPA primary drinking water standards.

Metals:

- **Arsenic:** The unfiltered arsenic concentrations at Buckman Wells Nos. 1, 6, and 8 were 11.0 µg/L, 3.5 µg/L, and (in primary and field duplicate samples) 7.49 µg/L and 7.15 µg/L, respectively. The reported value from Buckman Well No. 1 exceeds the EPA MCL of 10 µg/L for arsenic in drinking water. Arsenic concentrations at Buckman Well No. 1 have ranged from approximately 9 µg/L to approximately 15 µg/L between 2002 and 2010.

- **Chromium:** The filtered and unfiltered chromium concentrations at Buckman Wells Nos. 1, 6, and 8 ranged between 2.66 µg/L and 8.81 µg/L, below the EPA MCL of 100 µg/L and the New Mexico groundwater standard of 50 µg/L. All results were estimated, as they are between the method detection limit of 2 µg/L and practical quantitation limit of 10 µg/L.

Organics:

- **High Explosives (HE):** No HE compounds were detected.
- **Polychlorinated Biphenyls (PCBs):** No PCBs were detected.
- **Volatile Organic Compounds (VOCs):** No VOCs were detected in samples or in field trip blanks.

In summary, all results presented in this report are below EPA MCLs and New Mexico groundwater standards with the exception of arsenic at Buckman Well No. 1. The gross-alpha result at Buckman Well No. 8 does not exceed the MCL; the high gross alpha result is because of uranium.

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,

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

Sincerely,

George J. Rael, Assistant Manager
Environmental Projects Office
Los Alamos Site Office

MG/GR/CD/SP/DR:vt

Enclosure: CD with the following items:
(1) Analytical laboratory data packages
(2) Excel file of analytical data and glossaries of terms, laboratory qualifier codes, secondary validation codes, and secondary validation reason codes (LA-UR-11-11764)

Cy: (Letter and CD and/or DVD only)
Claudia Borchert, City of Santa Fe, 801 West San Mateo, Santa Fe, NM 87505
Michael Gonzales, City of Santa Fe, 801 West San Mateo, Santa Fe, NM 87505
John Kieling, NMED-HWB, 2905 Rodeo Park Drive East, Building 1, Santa Fe, NM 87505
Margaret Ryan, NMED-DWB, P.O. Box 5469, Santa Fe, NM 87502
Neil Weber, San Ildefonso Pueblo
Woody Woodworth, DOE-LASO, MS A316
Gene Turner, DOE-LASO, MS A316
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-DOE-OB, MS M894
Hai Shen, DOE-LASO, MS A316
Steve Paris, EP-CAP, MS M992
Suzanne Coyne, IRM-DCS, MS M992
William Alexander, EP-BPS, MS M992
Public Reading Room, MS M992 (hard copy)
RPF, MS M707

Cy: (w/o enc.)
Tom Skibitski, NMED-OB, Santa Fe, NM (date-stamped letter emailed)
Annette Russell, DOE-LASO, MS A316 (date-stamped letter emailed)
Michael B. Mallory, PADOPS, A102 (date-stamped letter emailed)
James C. Cantwell, ADESHQ, MS K491 (date-stamped letter emailed)
Mike Saladen, ENV-RCRA, MS K490 (date-stamped letter emailed)
Danny Katzman, EP-ET, MS M992 (date-stamped letter emailed)
David B. Rogers, EP-EI, MS M992 (date-stamped letter emailed)
Steve Paris, EP-CAP, MS M992 (date-stamped letter emailed)
Craig Douglass, EP-CAP, MS M992 (date-stamped letter emailed)
Dave McInroy, EP-CAP, MS M992 (date-stamped letter emailed)
Michael J. Graham, ADEP, MS M991 (date-stamped letter emailed)