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√called Bryan & confirmed receipt of this fax. Saundra 8/16/2011

Los Alamos National Laboratory
Environmental Programs
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Deliverables Compliance Team

FAX

TO:	Brian Snyder	FR:	Saundra Martinez
FAX #	955-4280	PH:	665-6771
# PAGES:	4 total pages including cover sheet	DATE:	August 16, 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.

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Date: AUG 16 2011
Refer To: EP2011-0271

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 March 14, 2011, sampling of the City of Santa Fe's Buckman Wells Nos. 1, 6, and 8 for low-level tritium analysis. All results were below the U.S. Environmental Protection Agency (EPA) drinking water standard.

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, the Laboratory will sample Buckman Wells Nos. 1, 6, and 8 quarterly: twice per year for full-suite analysis (radiologicals [including tritium], general inorganics [including perchlorate], metals [including chromium], and organics); and twice per year for low-level tritium.

The attached CD contains the following items: (1) American Radiation Services (ARSL) data report; and (2) an Excel file of all analytical results (Tables 1 and 2) with a glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes. The analytical results are as follows.

Tritium: Samples from Buckman Wells Nos. 1, 6, and 8 were submitted to ARSL for low-level tritium analysis. Historically, all low-level tritium samples were submitted to the University of Miami Tritium Laboratory (UMTL) for analysis. Beginning in early 2010, however, the Laboratory's contract with UMTL expired and a new contract was awarded to ARSL. Accordingly, results from ARSL may not be directly comparable with those from UMTL because of differences in each laboratory's minimum detectable activity (MDA) and counting uncertainty. The analytical results are discussed below and presented in Table 1.0.

Low-level tritium results from ARSL are reported to the Laboratory in units of concentration called tritium units (TU). The Laboratory converts all ARSL low-level tritium results from TU to pCi/L; 1 TU is equivalent to approximately 3.22 pCi/L. Conversions are made to standardize units with the federal drink water standard of 20,000 pCi/L.

- Tritium results from the sampling of Buckman Wells Nos. 1, 6, and 8 on March 14, 2011, were as follows:

  - Buckman Well No. 1: 2.97 pCi/L
  - Buckman Well No. 6: 3.58 pCi/L
  - Buckman Well No. 8: −2.49 pCi/L

It should be noted that nondetect levels of radionuclides may be accurately reported as negative values. Before the sample is analyzed, a blank or background sample is inserted and the "background count" is measured. The "background count" is then subtracted from the total sample count, which may result in a negative value if the counts for the sample were sufficiently low. An accurate measurement of a sample requires that this background count be subtracted out.

Field Parameters: Results from the measurement of field parameters—conductivity, temperature, turbidity, dissolved oxygen, redox potential, and pH—are presented in Table 2.0. All results are compliant with the EPA Secondary Drinking Water Regulations.

In summary, all results presented in this report are below EPA drinking water standards.

If you have any questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Woody Woodworth (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/CD/SP/BB:sm

Attachments: CD with the following items:
(1) ARSL data report
(2) Excel file of Tables 1.0–2.0 and a glossary of laboratory qualification codes, secondary validation codes, and secondary validation reason codes (LA-UR-11-4467)

Cy: (w/att.)
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
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Danny Katzman, EP-ET, MS M992 (date-stamped letter emailed)
Craig Douglass, EP-CAP, MS M992 (date-stamped letter emailed)
Michael J. Graham, ADEP, MS M991 (date-stamped letter emailed)

Table 1.0
Buckman Wells Nos. 1, 6, and 8
Low-Level Tritium

Location Name	Start Date	Analyte	Analyte Desc	Anyl Meth Code	Fld Prep Code		Std Result	Unit	Std Uncertainty (1s)	Std MDA	Lab Qual Code	Concat Flag Code	Lab Code	Sample ID
Buckman 1	3/14/2011	H-3	Tritium	Generic:Low_Level_Tritium	UF		2.969	pCi/L	0.83	2.171			ARSL	Buckman1-11-5682
Buckman 6	3/14/2011	H-3	Tritium	Generic:Low_Level_Tritium	UF		3.576	pCi/L	0.99	2.618			ARSL	Buckman06-11-5683
Buckman 8	3/14/2011	H-3	Tritium	Generic:Low_Level_Tritium	UF	<	-2.491*	pCi/L	0.80	2.586	U	U	ARSL	Buckman08-11-5684

Notes: UF = Unfiltered; U = The analyte was analyzed for but not detected. *Nondetect levels of radionuclides may be accurately reported as negative values. Before the sample is analyzed, a blank or background sample is inserted, and the "background count" is measured. The "background count" is then subtracted from the total sample count, which may result in a negative value if the counts for the sample were sufficiently low. An accurate measurement of a sample requires that this background count be subtracted out.