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Los Alamos National Laboratory  
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# FAX

TO: Brian Snyder

FR: Sandra Martinez

FAX # 955-4280

PH: 665-6771

# PAGES: 6 total pages including cover sheet

DATE: April 15, 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.  
Sandra*

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



Associate Director for  
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Los Alamos, New Mexico 87545  
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Date: APR 15 2011  
Refer To: EP2011-0168

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 November 10, 2010, 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, Buckman Wells Nos. 1, 6, and 8 will be sampled quarterly by the Laboratory: 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 the 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. Analytical results are discussed below and presented in Table 1.0.

- Tritium results from the sampling of Buckman Wells Nos. 1, 6, and 8 on November 10, 2010, were as follows.

➤ Buckman Well No. 1:	3.45 pCi/L
➤ Buckman Well No. 6:	3.32 pCi/L
➤ Buckman Well No. 8:	3.26 pCi/L


While tritium measurements from the two laboratories differ in sensitivity, all the data confirm tritium levels are far below the 20,000 pCi/L EPA MCL.

**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 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

MG/CD/SP/BB:sm

Attachment: 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-11-10275)

Cy: (w/att.)

Claudia Borchert, City of Santa Fe, 801 West San Mateo, Santa Fe, NM 87505  
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Steve Paris, EP-CAP, MS M992  
Suzanne Coyne, IRM-DCS, MS M992  
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Cy: (w/o att.)

Tom Skibitski, NMED-OB, Santa Fe, NM (date-stamped letter emailed)  
Annette Russell, DOE-LASO, MS A316 (date-stamped letter emailed)  
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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)  
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	Units	Std Uncertainty (1s)	Std Mda	Lab Qual Code	Concat Flag Code	Fld Qc Type Code	Lab Code	Sample Id
Buckman 1	11/10/2010	H-3	Tritium	Generic:Low_Level_Tritium	UF	3.45	pCi/L	0.93	2.40				ARSL	Buckman1-11-1944
Buckman 6	11/10/2010	H-3	Tritium	Generic:Low_Level_Tritium	UF	3.32	pCi/L	0.89	2.30				ARSL	Buckman06-11-1970
Buckman 8	11/10/2010	H-3	Tritium	Generic:Low_Level_Tritium	UF	3.26	pCi/L	0.86	2.27				ARSL	Buckman08-11-2042

Table 2.0  
 Buckman Wells Nos. 1, 6, and 8  
 Field Parameters

Location Name	Start Date	Analyte	Analyte Desc	Fld Prep Code	Result	Units	Lab Code	Sample Id
Buckman 1	11/10/2010	DO	Dissolved Oxygen	UF	6.69	mg/L	FLD	Buckman1-11-1944
Buckman 1	11/10/2010	ORP	Oxidation Reduction Potential	UF	308.1	mV	FLD	Buckman1-11-1944
Buckman 1	11/10/2010	SPEC_CONDC	Specific Conductance	UF	435	uS/cm	FLD	Buckman1-11-1944
Buckman 1	11/10/2010	TEMP	Temperature	UF	18.03	deg C	FLD	Buckman1-11-1944
Buckman 1	11/10/2010	TURB	Turbidity	UF	0.37	NTU	FLD	Buckman1-11-1944
Buckman 1	11/10/2010	pH	pH	UF	7.99	SU	FLD	Buckman1-11-1944
Buckman 6	11/10/2010	DO	Dissolved Oxygen	UF	5.86	mg/L	FLD	Buckman06-11-1970
Buckman 6	11/10/2010	ORP	Oxidation Reduction Potential	UF	486.3	mV	FLD	Buckman06-11-1970
Buckman 6	11/10/2010	SPEC_CONDC	Specific Conductance	UF	638	uS/cm	FLD	Buckman06-11-1970
Buckman 6	11/10/2010	TEMP	Temperature	UF	20.15	deg C	FLD	Buckman06-11-1970
Buckman 6	11/10/2010	TURB	Turbidity	UF	2.13	NTU	FLD	Buckman06-11-1970
Buckman 6	11/10/2010	pH	pH	UF	6.58	SU	FLD	Buckman06-11-1970
Buckman 8	11/10/2010	DO	Dissolved Oxygen	UF	5.6	mg/L	FLD	Buckman08-11-2042
Buckman 8	11/10/2010	ORP	Oxidation Reduction Potential	UF	350.3	mV	FLD	Buckman08-11-2042
Buckman 8	11/10/2010	SPEC_CONDC	Specific Conductance	UF	560	uS/cm	FLD	Buckman08-11-2042
Buckman 8	11/10/2010	TEMP	Temperature	UF	22.82	deg C	FLD	Buckman08-11-2042
Buckman 8	11/10/2010	TURB	Turbidity	UF	3.73	NTU	FLD	Buckman08-11-2042
Buckman 8	11/10/2010	pH	pH	UF	7.21	SU	FLD	Buckman08-11-2042