

Tritium measured in the Santa Fe Buckman drinking water wells in RACER.

Well No.	Sample Date	tritium in picocuries/liter	*uncertainty in picocuries/liter
- Buckman 1	Aug 24 2010 10:07AM	detected at 3.92739	0.89404
- Buckman 6	Mar 14 2011 8:07AM	detected at 3.57616	0.98983
- Buckman 8	Aug 24 2010 10:25AM	detected at 3.48037	0.79825
- Buckman 1	Jun 8 2010 10:30AM	**N.D. at less than -2.93756	0.73439
- Buckman 6	Jun 8 2010 10:00AM	N.D. at less than -3.35265	0.83018
- Buckman 8	Jun 22 2010 9:50AM	N.D. at less than 2.26703	0.79825
- Buckman 1	Aug 25 2009 9:50AM	N.D. at less than -0.03193	0.28737
- Buckman 6	Aug 25 2009 10:10AM	N.D. at less than 0.03193	0.28737
- Buckman 8	Aug 25 2009 9:40AM	N.D. at less than 0.06386	0.28737
- Buckman 1	Mar 4 2009 10:10AM	N.D. at less than 0.03193	0.28737
- Buckman 6	Mar 4 2009 9:40AM	N.D. at less than -0.19158	0.28737
- Buckman 8	Mar 4 2009 10:40AM	N.D. at less than 0.19158	0.28737
- Buckman 1	Jun 8 2005 1:55PM	N.D. at less than 0.12772	0.28737
- Buckman 1	Jun 8 2005 1:55PM	N.D. at less than 59.9	57.5
- Buckman 8	Jun 8 2005 2:40PM	N.D. at less than 0.25544	0.28737
- Buckman 8	Jun 8 2005 2:40PM	N.D. at less than 40.1	57.9

*uncertainty is a measure of the precision of the analytical method. The data show that three analytical methods were used. For example, water samples were analyzed with both a high precision and a low precision analytical method for the samples collected on June 8, 2005. The detection of tritium in the most recent samples is probably because of a switch in analytical methods as indicated by the change in uncertainty from 0.2837 pCi/L to values ranging from 0.73439 to 0.98983 pCi/L.

The best available analytical method should be used for the analysis of tritium in water samples collected from the Buckman wells to remove the uncertain detections which cause alarm with the public that the water is contaminated. Accurate measurement of tritium is very important because tritium is an early warning of plumes of groundwater contamination from LANL.

The analyses in the most recent samples with the lower precision analytical method range from not detected at less than -3.35265 pCi/L to detected at 3.92739 pCi/L.

**N.D. means not detected