

7/18/00
To: ATP, Judith & John P and also please send to Greg Lewis

fax # 827-1545

Jack Vogel

Pam



CONTACT: James Rickman, 505-665-9203, elvis@lanl.gov

00-000

PERCHLORATE DETECTED IN WATER-SUPPLY WELL

LOS ALAMOS, N.M., July 19, 2000 — Hydrologists from the U.S. Department of Energy's Los Alamos National Laboratory have detected minute concentrations of perchlorate in a well that supplies drinking water to the community of Los Alamos.

The chemical was detected in concentrations of around 2 to 3 parts per billion in water samples collected from the Otowi-1 water-supply well, located in lower Pueblo Canyon. Otowi-1 has been used since 1998.

Perchlorate is a non-radioactive chemical compound that contains a chlorine atom bound to four oxygen atoms. Perchlorate is used in a variety of industrial processes. At the Laboratory, perchlorate is a byproduct of the perchloric acid used in nuclear chemistry research. Industrial perchlorate uses include solid fuels for rockets, high explosives and fireworks, a component of air-bag inflators, and in electroplating, leather tanning and rubber manufacturing.

The chemical was first detected in late June during regular sampling that is part of the Laboratory's water-quality-assurance activities. Follow up sampling confirmed its presence. Perchlorate has not been found in any other water-supply wells.

Test results from independent analytical laboratories corroborated the Laboratory's analytical results: perchlorate concentrations in the Otowi-1 well ranged from 2 parts per billion to 3.5 parts per billion in four separate samples taken between June 21 and July 6.

The U.S. Environmental Protection Agency has not established a drinking water standard for perchlorate. The state of California, which has perchlorate contamination in drinking water supplies in some areas, has established a perchlorate water-supply action level for concentrations greater than 18 parts per billion. The state of New Mexico has not established an action level or regulatory standards for perchlorate.

-more-



7500

PERCHLORATE DETECTED IN WATER SUPPLY WELL

PAGE 2:

The Laboratory began testing for perchlorate as part of its program to monitor Los Alamos drinking water in December 1997 after the California Department of Health Services identified perchlorate as a contaminant of concern. Although potential health effects stemming from perchlorate contamination are not well understood, the chemical does present a health concern because of its ability to affect the human thyroid gland. EPA and other agencies are conducting studies to better understand risks associated with perchlorate contamination.

Because the concentrations detected in the Otowi-1 well are so near analytical detection limits for the chemical, there is some question about whether perchlorate concentrations will be seen in future samples or whether the detections were due to a sampling anomaly. Nevertheless, Laboratory hydrologists are treating the detections as real.

"The detections are constant enough and in a large enough set of samples that these data are of concern and certainly warrant further surveillance activities," said David Rogers, a hydrologist with the Laboratory's Water Quality Group. "The Laboratory will continue its regular monitoring of water supply wells and other test wells for perchlorate and other chemicals."

The chemical had not been detected in any water-supply wells prior to the June detection. However, concentrations of the chemical had been detected in concentrations of 12 parts per billion in a perched groundwater zone located 646 feet below Mortandad Canyon. The perched zone lies some 250 feet above the regional aquifer. The test well is located about 2.5 miles southwest of the Otowi-1 well

In addition, Los Alamos hydrologists obtained shallow groundwater perchlorate data from Mortandad Canyon samples that were split with EPA during an EPA sampling visit to Los Alamos last December. Los Alamos' analysis of the samples indicated perchlorate concentrations ranging from 80 to 220 parts per billion. The EPA's sampling results also indicated the presence of perchlorate in shallow-groundwater-monitoring wells ranging from one to 40 feet below the surface. The top of the regional aquifer in Mortandad Canyon is about 900 feet below the surface.

-more-

PERCHLORATE DETECTED IN WATER SUPPLY WELL

PAGE 3:

Because Otowi-1 water-supply well is located miles from Mortandad Canyon, the source of the perchlorate contamination is unknown. In the past, the Laboratory has detected very low concentrations of tritium and nitrate in Otowi-1, lending credence to hydrology models that suggest that surface water contaminants can reach the regional aquifer over time.

A possible Laboratory source for the contamination could be legacy waste that had been discharged into Acid Canyon from the Laboratory's TA-45 treatment plant, which operated from 1944 to 1964 and was decommissioned in 1966 and 1967. Los Alamos County's Wastewater Treatment Plant also is located upstream from Otowi-1 and is a potential source of earlier nitrate detections. Future tests may help hydrologists ultimately determine the perchlorate source.

Officials from the Laboratory's Water Quality and Hydrology Group have notified personnel with the New Mexico Environment Department, Los Alamos County and nearby pueblos of the detections.

Los Alamos National Laboratory is operated by the University of California for the U.S. Department of Energy.

-30-