Communities for Clean Water

A Northern New Mexico Network

Chromium Contamination in Drinking Water for Los Alamos County:

In December 2005, Los Alamos National Laboratory (LANL) submitted documents to the New Mexico Environment Department (NMED) reporting high levels of chromium in a LANL well. The well was drilled to detect contamination in the regional aquifer. The January 2004 chromium findings were 270 parts per billion (ppb), but have increased over a two-year period to 405 ppb. In 1992, federal regulation of chromium went into effect. The New Mexico Drinking Water Standard (NM DWS) is 50 ppb. The Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) standard is 100 ppb. LANL neglected to report the findings to NMED for almost two years.

What is Chromium?

Chromium is a hard lustrous, silvery white metal. It occurs in nature and is found in plants and soils. Chromium is naturally present at low-levels in groundwater. Chromium is also found in the atmosphere as a result of emissions from chemical manufacturing and combustion of coal, oil and natural gas. In industry, chromium is used to harden steel, form metal alloys and manufacture stainless steel. It is also used in metal plating and to prevent corrosion.

There are two forms of chromium that are important at LANL: trivalent and hexavalent. Trivalent chromium is known to positively contribute to health. Hexavalent chromium is toxic and a major concern to public health. Hexavalent chromium was the controversial toxin in the Hollywood production, *Erin Brockovich*. Generally, chromium levels found in groundwater above 50 ppb are hexavalent chromium.

Why Is This Important To You?

Los Alamos County residents rely on the regional aquifer for all of their drinking water. At this time, LANL does not know the true extent of the chromium plume or the form of the chromium.. The public is concerned about the quality of the water they are drinking.

Exposure:

Humans may be exposed to hexavalent chromium in drinking water.

Health Effects:

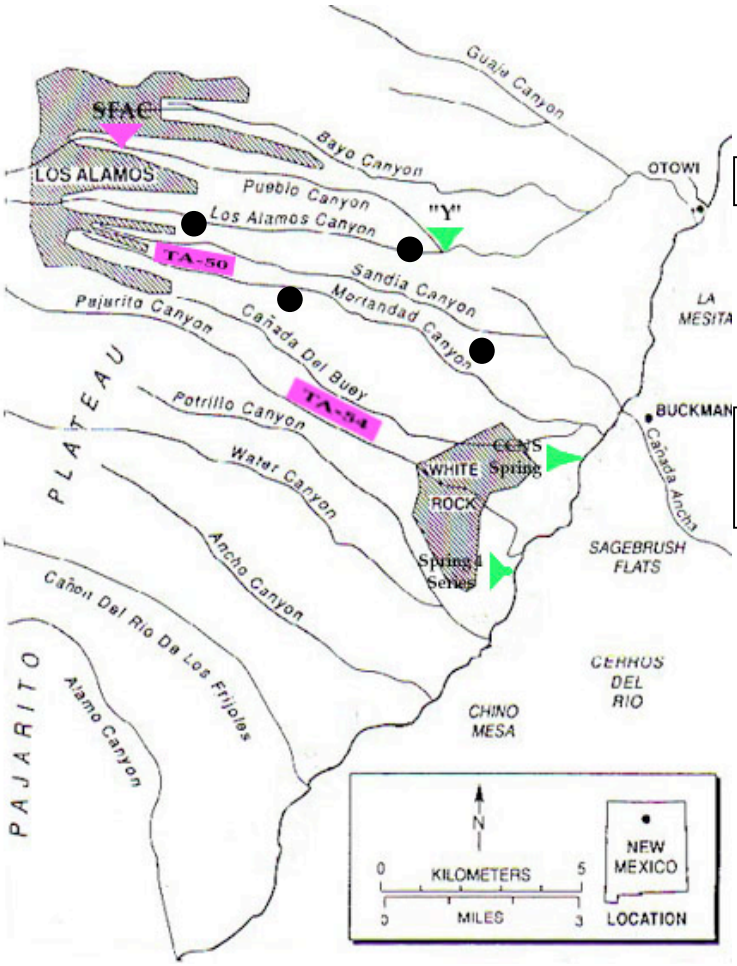
Hexavalent chromium is dangerous to your health. The EPA has found chromium to be toxic, even from brief exposure. Exposure to hexavalent chromium may be irritable to the gastrointestinal tract, skin and lungs, cause carcinoma of the lung and perforation of the nasal septum. Long-term exposure to chromium above the NM DWS and MCL has the potential to cause the following human health effects: damage to kidney, liver, circulatory and nerve tissues, including skin irritation.

Source:
Environmental Protection Agency (EPA): http://www.epa.gov/OGWDW/contaminants/dw_contamfs/chromium.html

Chromium Contamination in LANL Canyons and Wells:

Abiquiu Reservoir

Española



Rio Grande

40% of Santa Fe's drinking water comes from the Buckman Wellfield.

Santa Fe

Cochiti Reservoir

- **Chromium:** is found in the atmosphere as a result of emissions from chemical manufacturing and combustion of coal, oil and natural gas. In industry, chromium is used to harden steel, form metal alloys and manufacture stainless steel. Humans may be exposed to hexavalent chromium in drinking water. Hexavalent chromium is dangerous to your health. Exposure to hexavalent chromium may be irritable to the gastrointestinal tract, skin and lungs, cause carcinoma of the lung and perforation of the nasal septum. Long-term exposure to chromium has the potential to cause the following human health effects: damage to kidney, liver, circulatory and nerve tissues, including skin irritation.