

Protecting those most vulnerable from the Hexavalent Chromium Plume of Contamination

Background information

From 1956 to 1972, Los Alamos National Laboratory, (LANL), routinely dumped water from cooling towers into the headwaters of Sandia Canyon, which flows to the Rio Grande. Because the water was first pumped through the pipes of an old power plant, it was contaminated by significant amounts of hexavalent chromium, a highly toxic chemical which is added to alloy steel to prevent corrosion.

Chromium is naturally occurring at low levels. Trivalent chromium is essential to health. Hexavalent chromium is dangerous to health. At higher concentrations, hexavalent chromium is a suspected carcinogen and can damage DNA, the liver and kidneys. This cancer causing chemical was the inspiration for the 2000 movie “Erin Brockovich”.

The hexavalent chromium contaminated water moved down Sandia Canyon and then disappeared into the complex groundwater system below LANL. In January 2004, LANL discovered elevated levels of hexavalent chromium in the regional drinking water aquifer below Mortandad Canyon, but did not report its findings to the New Mexico Environment Department as required by law until December 2005 – two years later.

The danger to our communities

This underground hexavalent chromium plume is threatening drinking wells, a major aquifer supplying drinking water to the region, and the San Ildefonso Pueblo’s tribal land.

Nuclear Watch New Mexico, which noted the high levels of hexavalent chromium in 2005, called the plume a serious threat to New Mexico’s water resource. By 2014, the plume of hexavalent chromium, about 1,000 feet below ground in the regional aquifer, was measured at a mile long, a half-mile wide, and 100 feet thick.

The state groundwater standard for hexavalent chromium is 50 parts per billion and the Environmental Protection Agency’s drinking water limit is 100 ppb. At five of the six LANL injection wells, chromium was found at roughly the expected levels for the plume’s edge – 50 to 100 pbb (the plume’s center, officials said in 2015, had been measured at 1,000 pbb).

One well, just outside the plume boundary, samples taken July 17, 2017 showed about 250 ppb, five times the state groundwater standard and more than twice the EPA drinking water standard.

Most of the wells on the outside perimeter of the Los Alamos plume, with the exception of the well identified as “CrIN-6”, have a chromium level ranging between 4 and 11 parts per billion. However, within the plume, levels are significantly higher. One well inside the plume had more than 1,000 parts per billion of chromium in 2013, and as of July 2018, it still had alarmingly high levels, detected at 793 micrograms per liter.

Scott Kovac, director of operations and research for Nuclear Watch said the high levels of chromium indicate the plume may be growing more rapidly than LANL anticipated and may result in higher costs, as well as a longer timeframe, to clean up the widespread pollution.

Cleaning up the toxic plume or making the situation worse?

The Los Alamos National Laboratory approved an interim plan to keep the plume from spreading onto San Ildefonso Pueblo. LANL’s plan is to extract contaminated water from the plume, treat it using a method called “ion exchange” and then inject it back underground as a clean-water barrier to control the plume’s migration, essentially extracting, treating and reinjecting.

Officials from the Department of Energy’s Environmental Management, Los Alamos Field Office told Los Alamos County officials during a Jan. 9, 2018 meeting that data shows the plume is moving horizontally, but not vertically toward the aquifer, and added “But, we don’t know exactly where it, (the chromium plume boundary) is”.

A win in our effort to protect those most vulnerable

In 2015, the New Mexico Environment Department issued a permit allowing Los Alamos National Laboratory to discharge up to 350,000 gallons a day of treated water associated with pumping tests, well development and groundwater remediation.

Expressing concerns that discharging the treated water could end up pushing the chromium plume closer to drinking water wells, Communities for Clean Water, a coalition of environmental groups, repeatedly sought a public hearing and the New Mexico Environment Department repeatedly denied those requests for a public hearing.

With representation from the New Mexico Environmental Law Center, the Communities for Clean Water coalition took the matter to the Courts. In December of 2017, the state Court of Appeal sided with Communities for Clean Water, finding there was no evidence to support an earlier decision by the New Mexico Environment Department to deny requests for a hearing.

You can Join Us

A public hearing addressing the cleanup of this chromium contamination will be held by the New Mexico Environment Department. Hearing details:

Public Hearing on Chromium Mitigation Permit

Date: November 7th, 2018.

Location: Los Alamos Magistrate Court (2500 Trinity Drive, Los Alamos)

Time: 9am