



State Environment Department Begins to Rein in Work On LANL's Chromium Plume Given Major Differences With DOE

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At a February 9, 2023 public community forum hosted by the Department of Energy's Environmental Management Los Alamos Office, there were strong indications that the New Mexico Environment Department (NMED) is convinced that DOE's plans to remediate the chromium groundwater contamination plume under Los Alamos National Laboratory (LANL) is not working. Kimberly Lebak, program manager for N3B, the LANL cleanup contractor, described how it is finalizing the 2023 milestones under the Consent Order that governs cleanup, despite the fact that the NMED Groundwater Bureau has requested that DOE stop injecting treated water by April 1, 2023. DOE and NMED are not seeing eye-to-eye concerning the "Interim Measure" that N3B is using to contain the chromium plume.

The two agencies disagree on the Interim Measure, originally designed to prevent chromium from migrating across the San Ildefonso Pueblo border while DOE tries to figure out a final remedy. Michael Mikolanis, manager of the DOE Environmental Management Los Alamos Field Office, joined Lebak to reiterate N3B's claims that the chromium plume has receded from the San Ildefonso Pueblo border because of injections of treated groundwater. But NMED sees it differently. Environment officials see increasing chromium trends at the San Ildefonso border, and they believe the chromium is being pushed to the east and deeper into the aquifer by the Interim Measure injections. N3B may have to shut down Interim Measure injections to prevent further damage to the aquifer.

Mikolanis further explained that he is stuck between proceeding with the Interim Measure work that would drive the chromium deeper into the aquifer. Or they can stop and allow the chromium to cross the San Ildefonso Pueblo boundary.

The NMED environmental specialist in charge of the LANL work explained that when the Interim Measure was first proposed there were few monitoring wells. Far more is now known. NMED believes that DOE doesn't have hydraulic control of the plume and that injecting clean water into the plume just pushes the chromium around. The NMED official continued that computer models of chromium migration in groundwater can be manipulated, and stated that whereas one standard computer model is almost universally used, LANL uses its own customized computer modeling program. When asked why LANL does not use the industry standard, Mikolanis replied that it's because of time and money. He stated that it would cost DOE \$10 million to switch over to the standard model.

To repeat, NMED believes that LANL's Interim Measure pushes chromium to the east and deeper into the aquifer. When the injection wells were first drilled, they were located within the plume's footprint. NMED now wants injection of treated water outside the plume, but the plume's boundary has yet to be fully understood. NMED is also waiting for DOE to complete more regional monitoring wells that have already been approved for a better understanding of the plume's boundary.

To illustrate the scale of the problem, N3B has repeatedly estimated that 160,000 pounds of chromium were released up until 1972. At the community forum DOE estimated that up to 10% of the released chromium amount is now in the aquifer (i.e. ~16,000 pounds). When asked, “Where’s the rest of the chromium? Where’s the other 90%?” Mikolanis demurred and said that he would have to get back on that question.

Scott Kovac, Nuclear Watch New Mexico Operations Director, commented, “It’s been nearly 20 years since the chromium plume was discovered, yet DOE is still struggling with cleanup. It’s past time that this dangerous contamination is remediated at the source. Treated groundwater should be used to flush out the remaining chromium so that it can be decisively dealt with instead of with only marginally effective “pump and treat” for a few centuries. This should be funded as a top priority so that New Mexicans’ precious water resources are permanently protected, instead of the booming nuclear weapons programs at the Lab that will cause yet more contamination and environmental risk.”

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Background

The Lab used chromium to clean cooling towers until 1972. The groundwater chromium plume, discovered in 2004, is approximately 3 miles downhill and one canyon over from the head of Sandia Canyon, where the chromium was originally released. A recent report indicates that only 296.6 pounds of chromium were removed from 169,991,100 gallons of treated groundwater since the fourth quarter of 2016.

Adverse health effects caused by hexavalent chromium include asthma, eye irritation and damage, perforated eardrums, respiratory irritation, kidney damage, liver damage, pulmonary congestion and edema, upper abdominal pain, nose irritation and damage, respiratory cancer, skin irritation, and erosion and discoloration of the teeth. (<https://www.osha.gov/hexavalent-chromium/health-effects>) Hexavalent chromium was the contaminant of concern in the popular film *Erin Brockovich*.

As late as the late 1990’s LANL claimed that groundwater contamination was impossible. More Lab contaminants will inevitably migrate to groundwater over time. As LANL’s 2005 *Hydrogeological Studies of the Parajito Plateau* put it, “Future contamination at additional locations is expected over a period of decades to centuries as more of the contaminant inventory reaches the water table.” (Page 5-15, <http://www.worldcat.org/title/los-alamos-national-laboratorys-hydrogeologic-studies-of-the-pajarito-plateau-a-synthesis-of-hydrogeologic-workplan-activities-1998-2004/oclc/316318363>)

Accordingly, Nuclear Watch New Mexico believes that comprehensive cleanup is urgently needed instead of the cheap “cap and cover” of more than 200,000 cubic yards of radioactive and toxic wastes that DOE and the Lab plan. Comprehensive cleanup would permanently protect precious groundwater while providing hundreds of long-term, high-paying jobs.

This press release is available at

<https://nukewatch.org/press-release-item/nmed-stops-chromium-work/>