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**Independent Review of Chromium Groundwater Contamination
Fails to Make Final Cleanup Recommendation
*After 20 Years Los Alamos Lab Still Doesn't Know Size of Plume
At Present Rate Cleanup Will Take More Than a Century***

Santa Fe, NM – On December 30, 2024, in the middle of the holiday season, the Los Alamos National Laboratory (LANL) posted the report *Independent Review of the Chromium Interim Measures Remediation System* to its largely unknown Legacy Cleanup Electronic Public Reading Room. This report attempts to address the Lab's extensive contamination of the region's deep groundwater aquifer by a large plume of hexavalent chromium, whose potentially serious human health effects (including cancer) was the subject of the popular movie *Erin Brockovich*.

LANL's chromium contamination plume is at least one mile long, a half mile wide and 100 feet thick.¹ It is commonly regarded as the Lab's most serious environmental threat. One drinking water supply well for Los Alamos County has been shut down because of the plume. Lab maps of the contamination depict it as abruptly stopping at the border of San Ildefonso Pueblo, which is highly unlikely.

The bottom line of the newly released chromium report is:

“...at this time the plume is not sufficiently characterized to design a final remedy... data gaps and uncertainties need to be addressed before committing to an alternative or final remedy.”

This is a full two decades after the chromium plume was first reported.

As late as the late 1990s the Lab was falsely claiming that groundwater contamination was impossible because underlying volcanic tuff is “impermeable.”² This ignored the obvious fact that the Parajito Plateau is seismically fractured, providing ready pathways for contaminant migration to deep groundwater. By 2005 even LANL acknowledged that continuing increasing contamination of the regional aquifer is inevitable.³ Some 300,000 northern New Mexicans rely upon the aquifer for safe drinking water.

¹ <https://www.energy.gov/sites/default/files/2023-09/Chromium%20Plume%20Fact%20Sheet.pdf>

² “Perched water bodies are formed by water infiltrating from canyon alluvium into underlying volcanics until it reaches an impermeable layer that prevents further downward movement...”
Environmental Surveillance At Los Alamos During 1979,
<http://www.osti.gov/bridge/servlets/purl/5476030-8c7bbL/>

“Personnel from the Laboratory's Environmental Restoration Project have found preliminary indications of low levels of tritium in two perched groundwater zones - saturated areas that are segregated from the main aquifer by impermeable geologic formations - in Los Alamos Canyon.”
<http://www.lanl.gov/orgs/pa/News/121197text.html>, Dec. 11, 1997

³ “Future contamination at additional locations is expected over a period of decades to centuries as more of the contaminant inventory reaches the water table.” LANL's Hydrogeological Studies of

Since chromium contamination was first reported in 2004, the Lab's nuclear weapons budget has doubled to \$4 billion (now 79% of LANL's ~\$5 billion annual budget). However, cleanup has remained basically flat at ~\$275 million (5.5% of the Lab's total budget).⁴

According to the independent Government Accountability Office, expected completion of Lab cleanup has been repeatedly pushed back, most recently to 2043 with an estimated cost of \$7 billion.⁵ But even this is a false cleanup with the Lab planning to "cap and cover" some 800,000 cubic yards of radioactive and toxic wastes, leaving them permanently buried in unlined pits and shafts as a perpetual threat to groundwater. As the Lab has become more and more a nuclear weapons production site for plutonium "pit" bomb cores, it remains woefully ignorant over the extent and depth of the contamination it has caused to the regional groundwater aquifer. At the same time, LANL continues to downplay widespread plutonium contamination in soil, water and plants.⁶

In 2004, samples from a new monitoring well exceeded New Mexico's groundwater standard of 50 micrograms of chromium per liter of water. Accordingly, the Lab submitted an "interim measures report" to the New Mexico Environment Department, required under the Resource Conservation and Recovery Act to provide for temporary actions to help reduce ongoing health risks before a final remedy is selected.

From 1956 to 1972, water containing potassium dichromate was used to prevent corrosion in plant cooling towers. This water released as much as 160,000 pounds of potassium dichromate into the headwaters of Sandia Canyon.⁷ Over a 3-year period ending in November 2022, more than 400 million gallons of groundwater was extracted and treated. But the recently released chromium report states that only approximately 680 pounds of chromium was actually removed.⁸ At this rate it will take more than a century to treat and remediate the chromium plume.

While failing to recommend a final remedy, the new chromium report does argue that extraction and treatment of groundwater should be continued. However, in order to speed up cleanup as part of any final remedy, Nuclear Watch New Mexico argues for pumping or trucking the treated groundwater uphill to flush out the chromium contamination at its source. In addition, more

the Parajito Plateau (1998-2004), 2005, p. 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>

⁴ See LANL budget graph at <https://nukewatch.org/wp-content/uploads/2024/05/FY25-LANL-Lab-Table-Chart-5-6-24.pdf>

⁵ *DOE Needs to Address Weaknesses in Program and Contractor Management at Los Alamos*, Government Accountability Office, July 2023, <https://www.gao.gov/assets/gao-23-105665.pdf>

⁶ See *Super weapons grade 239+240Pu as a contaminant of concern in sediment, soil, water and vegetation: Acid Canyon and Los Alamos Canyon, New Mexico*, Dr. Michael Ketterer, August 13, 2024, <https://nukewatch.org/wp-content/uploads/2024/08/Ketterer-AcidCanyon-13Aug2024.pdf>

⁷ *Compendium of Technical Reports Conducted Under the Work Plan for Chromium Plume Center Characterization*, LANL 2018, https://epr.lanl.gov/?utf8=√&search_field=all&q=Compendium+of+Technical+Reports+Conducted+Under+the+Work+Plan+for+Chromium+Plume

⁸ *Independent Review of the Chromium Interim Measures Remediation System in Mortandad Canyon Los Alamos, New Mexico. December 2024*, pdf Pg. 25, https://ext.em-la.doe.gov/GovFTPFiles/api/GetFiles/GetFile?fileName=EMID-703545_Final_IRT_Report_123024.pdf (22.3 MB)

monitoring wells should be installed to finally determine the true depth and breadth of the chromium contamination that threatens northern New Mexico's largest supply of drinking water.

Jay Coghlan, Director of Nuclear Watch New Mexico, commented: "LANL's expanding nuclear weapons programs are a two-fold threat. First, they fuel the new nuclear arms race that threatens all of humanity. At the same time, they rob funding from vitally needed cleanup that would permanently protect our irreplaceable groundwater. As is commonly said in northern New Mexico, "Aqua es Vida!" Nuclear weapons can destroy both."

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The *Independent Review of the Chromium Interim Measures Remediation System in Mortandad Canyon Los Alamos, New Mexico. December 2024* is available at https://ext.em-la.doe.gov/GovFTPFiles/api/GetFiles/GetFile?fileName=EMID-703545_Final_IRT_Report_123024.pdf (22.3 MB)

This press release is available at <https://nukewatch.org/press-release-on-new-chromium-plume-report>