



# Los Alamos National Laboratory Hexavalent Chromium Plume Fact Sheet



## CAMPAIGN

*Chromium Interim Measures and Characterization*

## LOCATION

*Beneath Sandia and Mortandad canyons at Los Alamos National Laboratory (LANL)*

## CONTAMINANT OF CONCERN

*Hexavalent chromium*

## PROJECT GOAL

*Conduct IM to prevent migration of plume beyond LANL boundary, obtain data necessary to conduct Corrective Measures Evaluation (CME), and conduct CME*

## HISTORY

From 1956 to 1972, workers at a non-nuclear power plant at Los Alamos National Laboratory (LANL) periodically flushed hexavalent chromium-contaminated water from the cooling towers into Sandia Canyon. At the time, potassium dichromate was commonly used as a corrosion inhibitor. The water flowed down Sandia Canyon as surface water, penetrated the underlying rock layers and, over time, seeped into the regional aquifer beneath Sandia and Mortandad canyons. LANL stopped releasing chromium-contaminated water in 1972.

## JULY 2023 STATUS

- ✓ Interim measures turned off March 31, 2023, to comply with New Mexico Environment Department (NMED) direction.
- ✓ Evaluating final remediation strategies.

## BY THE NUMBERS

**50 parts per billion**

New Mexico standard for chromium groundwater.

**1/4 mile**

Approximate distance from the plume edge to the nearest Los Alamos County groundwater well.

**1 mile long x 1/2 mile wide x 100 ft. thick > 50ppb**

Approximate size of the hexavalent chromium plume.

**0**

Amount of chromium contamination in Los Alamos County drinking water wells.

**900 - 1,000 feet**

Depth to the regional aquifer.

**5 miles**

Distance (as measured at the surface) of the plume from the Rio Grande.

**37**

Number of monitoring, extraction and injection wells installed in and around the plume.

**~500 feet**

Approximate distance plume moved away from LANL's boundary with Pueblo de San Ildefonso.

## CHROMIUM INTERIM MEASURES AT A GLANCE

Interim Measures are used to reduce or prevent migration of site-related contaminants which, have or may result in an unacceptable human or environmental receptor risk while long-term corrective action remedies are evaluated and implemented. In the case of the hexavalent chromium plume, the chromium interim measures combine extraction of contaminated groundwater, above-ground treatment, and injection of treated water to control plume migration, reduce the size of the plume and hold it within the LANL boundary.

### WHY IT'S NEEDED

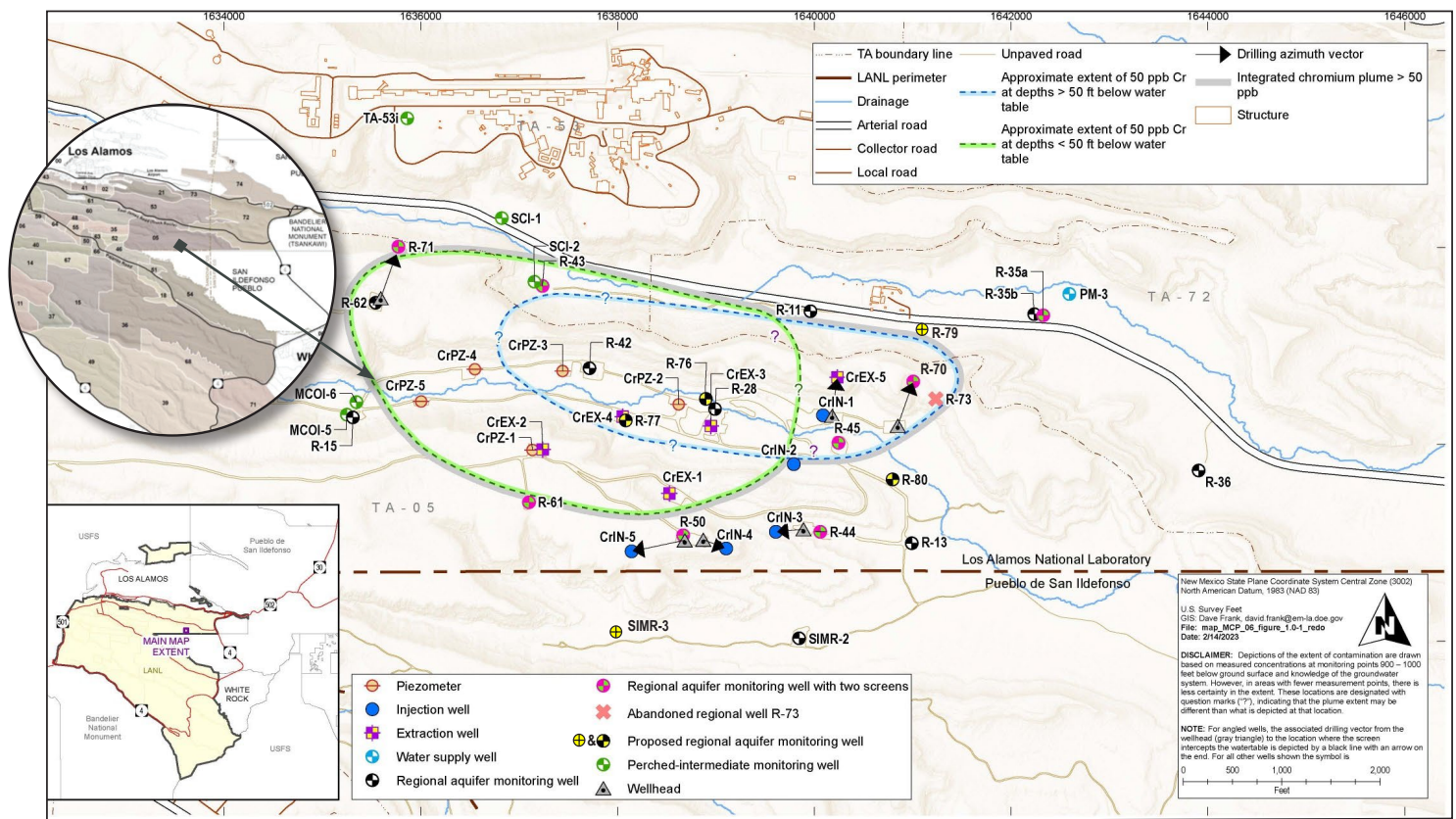
The chromium interim measures approved by NMED are being conducted to mitigate plume growth and reduce the size of the plume.

### HOW IT WORKS

Contaminated water is pumped to a central treatment facility via underground piping, treated using ion exchange and then injected along the down-gradient edge of the plume. This recirculation approach has been successful in controlling plume migration.

### WHAT'S NEXT

Technical data and analysis shows the chromium interim measures have been successful in controlling plume migration. Long-term corrective action remedies are being evaluated while additional wells are in the planning and permitting process to further define the plume.



## FINAL REMEDY

The chromium interim measures have demonstrated success in controlling potential plume migration. The chromium IM methodology is expected to be integrated into the final remediation remedy, which will be determined by NMED and requires public input.

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