

# Los Alamos National Laboratory Hexavalent Chromium Plume Fact Sheet



# **CAMPAIGN:**

Chromium Interim Measure and Characterization

### **LOCATION:**

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

# CONTAMINANT OF CONCERN:

Hexavalent chromium

# **PROJECT GOAL:**

Control migration of the hexavalent chromium plume and reduce the plume footprint, while investigating the final remedy

#### **HISTORY** -

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

#### **JUNE 2021 STATUS**

- Implementing the Interim Measure along the southern and eastern portions of the plume
- Assessing performance monitoring network in the eastern portion of the plume
- Evaluating final remediation strategies

#### BY THE NUMBERS

50 parts per billion

1 mile long x 1/2

mile wide x

100 ft. thick > 50ppb /

New Mexico chromium groundwater standard

Approximate size of the hexavalent chromium plume

900 - 1,000 feet Depth to the regional aquifer. Chromium is located within the top 100 feet of the aquifer

32

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

1/4 mile

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

0

Amount of chromium contamination in Los Alamos County drinking water wells

5 miles

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

FS03\_Chromium Plume v4 21.05.28



#### CHROMIUM INTERIM MEASURE AT A GLANCE

An interim measure is a set of actions that have a high probability of meeting environmental protection goals until a final remedy is implemented. In the case of the chromium plume, a combination of extraction of contaminated groundwater, above-ground treatment, and injection of treated water is being used to control plume migration, reduce the size of the plume, and hold it within the LANL boundary.

#### WHY IT'S NEEDED

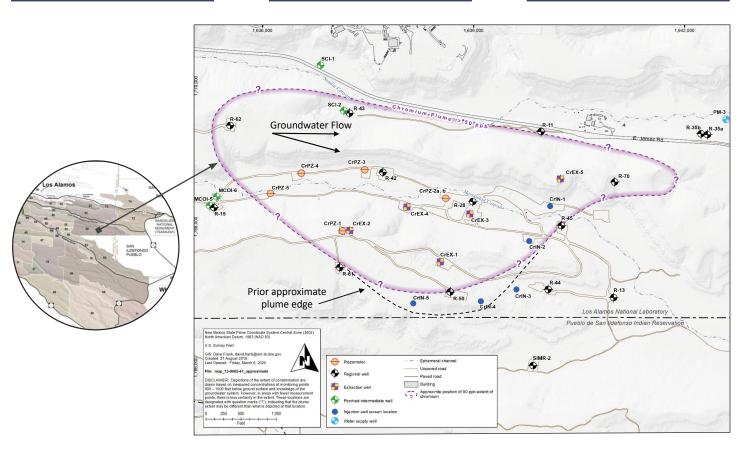
The Interim Measure, approved by the New Mexico Environment Department, is being conducted to both mitigate plume growth and reduce the size of the plume.

# **HOW IT WORKS**

Contaminated water is pumped to a central treatment facility via underground piping, treated using ion exchange, then reinjected along the down-gradient edge of the plume. This "recirculation" approach has been successful to date at reducing the footprint of the plume.

#### WHAT'S NEXT

The Interim Measure is successfully controlling potential plume migration. The methodology is expected to be integrated into the final remediation strategy. The final remedy is determined through a process with NMED that also involves public participation.



# **FINAL REMEDY**

The Interim Measure is successfully controlling potential plume migration. The methodology is expected to be integrated into the final remediation strategy. The final remedy is determined through a process with NMED that also involves public participation.

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