Homestake Mining Company Superfund Site Update

Five Miles North of Milan, Cibola County, New Mexico
March 2026

This Fact Sheet will tell you about:

- Upcoming Community Meeting
- Current Superfund Activities
- Operational Change in Remediation
- Where to Get More Information

EPA HOSTING OPEN HOUSE AND COMMUNITY MEETING

U.S. Environmental Protection Agency (EPA) Region 6 will hold an open house and community meeting on the Homestake Mining Company Superfund Site. These events will be held at the Village of Milan Family Fun Room.

Date: Tuesday, March 3, 2026
Open House: 5:00 pm to 6:00 pm
Presentation: 6:00 pm to 8:00 pm

Location: 405-A Airport Road
Village of Milan, New Mexico

During the open house and community meeting, EPA will share information about the current Superfund activities at the site. EPA and New Mexico Environment (NMED) staff will be available

The U.S. Environmental Protection Agency (EPA), with support from the New Mexico Environment Department (NMED), is overseeing activities being performed by the Homestake Mining Company (Homestake) under a settlement agreement with EPA, dated June 2020, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (known as the "Superfund" law). The settlement agreement is for Homestake to perform an evaluation of cleanup options that will achieve a Superfund-quality remedy that is protective of human health and the environment. This evaluation is referred to as a Feasibility Study (FS).

The settlement agreement is also for Homestake to evaluate if it is technically impracticable to clean up groundwater to drinking water quality from an engineering perspective. The technical impracticability (TI) evaluation includes field activities to study potential aquifer conditions that may be hindering the cleanup effort if present at the site. Once the TI evaluation and FS are completed, they will be used to support the selection of a Superfund remedy by EPA in a future Record of Decision (ROD).

SUPERFUND FIELD ACTIVITIES

BACK DIFFUSION STUDY

Phase I of the back diffusion study began on September 7, 2023, and concluded in June 2024. Homestake submitted the Phase I report for EPA comments and approval in August 2024. Phase II work began in February 2025 and just concluded in September 2025.

The Phase II work included the following:

- Drilling and collection of undisturbed soil cores along 7 transects across the site (see location of boreholes in Figure 1). Photo 1 shows the drilling rig in operation at boring location DT2B3.
- Collection of groundwater samples from separate and distinct intervals of the aquifer (discrete levels) using a Waterloo Profiler sampling tool. Photos 2-4 show the discrete level sampling on top of Large Tailing Pile, the Waterloo Profiler Rig and sample collection by field personnel.
- Multi-level groundwater profiling in specially constructed wells called Flexible Liner Underground Technologies (FLUTe) wells.
- Borehole geophysics
- Column testing of soil cores in the laboratory. Photo 5 shows soil cores in glass tubes prepped for column testing.

Homestake will submit a combined Phase I and Phase 2 Technical Memorandum to EPA for review and approval in early 2026.

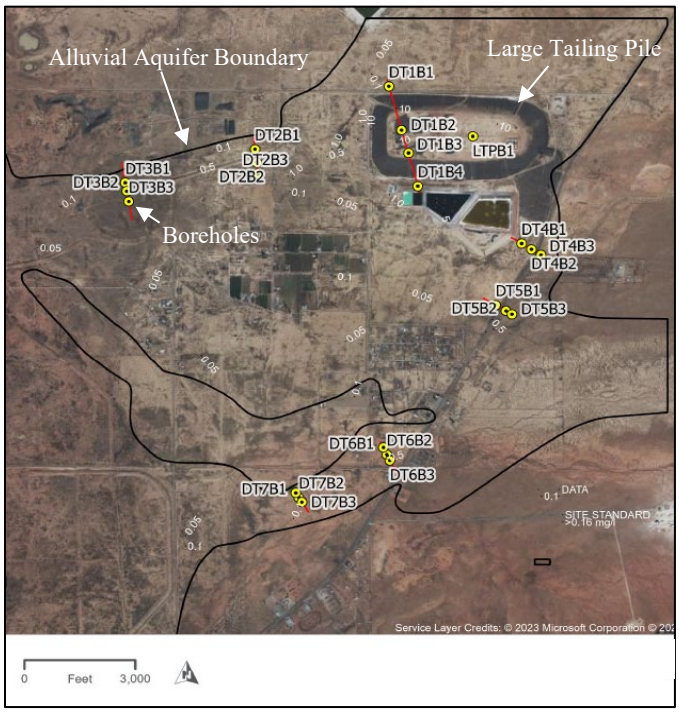

Figure 1: Phase 2 Back Diffusion Borehole Locations

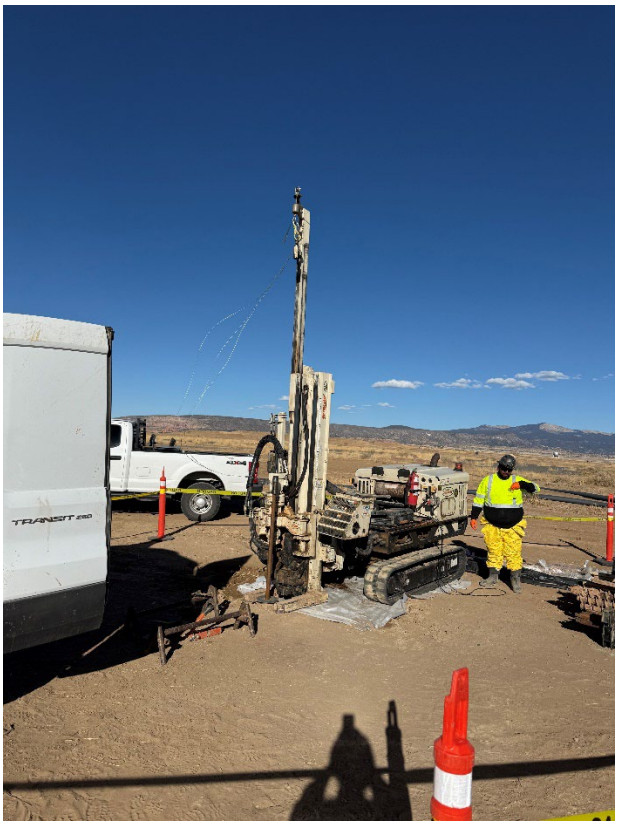

Photo 2: Drill Rig on top of Large Tailings Pile

Photo 1: Drilling Rig in Operation at DT1 borehole location

Photo 3: Waterloo Profiler Rig

Photo 4: Field Personnel Collecting Discrete Level Groundwater Sample using the Waterloo Profiler

Photo 5: Soil cores from the 7 transects getting prepped in the lab for column testing

The information collected in Phases I, and II, will help EPA and NMED determine if back diffusion is occurring at the site and at a rate that may limit the ability to successfully clean up groundwater.

WHAT IS BACK DIFFUSION

Back diffusion is a condition where contaminants that are bound up in fine-grained clay layers are slowly released back into adjacent coarser-grained layers of sand and gravel, where groundwater flows more easily and can be affected by pumping operations designed to clean up the aquifers. The continual slow release of the bound-up contaminants in the clays to the more flowing zones of groundwater causes a rebound (increase) of contaminant levels in the flowing zones. This condition can extend the length of time to complete a groundwater cleanup for decades or even centuries. An illustration of the back diffusion process is shown in Figure 2.

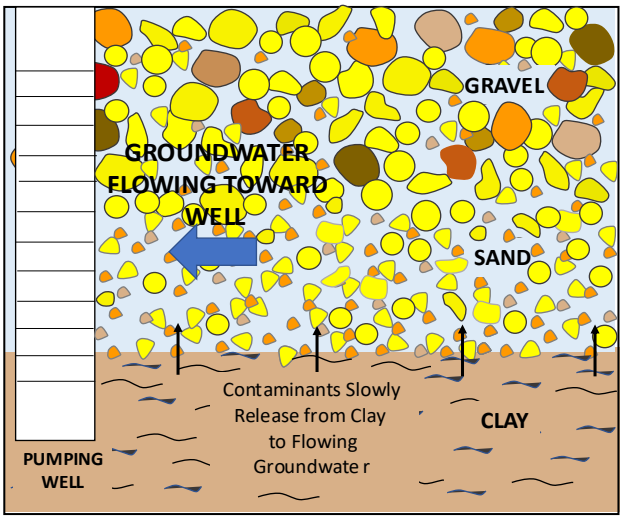

Figure 2: Back Diffusion Illustration

OTHER SUPERFUND ACTIVITIES

FEASIBILITY STUDY

The FS is being performed by Homestake and consists of two phases of activities. The initial phase is to develop a range of cleanup alternatives and then evaluate or screen the alternatives with respect to the following three Superfund evaluation criteria: effectiveness, implementability, and relative cost. Alternatives are developed by assembling combinations of technologies that address contamination. It includes developing cleanup objectives and goals and identifying requirements (such as federal drinking water standards for groundwater aquifers) that must be achieved by the alternatives. Homestake has screened several technologies as part of the initial phase of the FS, including containment, extraction (pumping), and treatment technologies. This work is documented in a technical memorandum, dated June 2025, that is currently being revised. Once approved, it will be available to the public for

review. The second phase of the FS is to perform a detailed analysis of the retained alternatives to determine which best meets Superfund criteria for a remedy. This analysis is ongoing and should be completed in 2026.

As part of the FS, Homestake is also evaluating whether the aquifers can naturally attenuate the contamination (called monitored natural attenuation or MNA). MNA is included as a component of several alternatives being evaluated.

REASSESSMENT OF EPA'S ESTIMATED RISK FROM EXPOSURE TO RADON IN AMBIENT AIR

In March 2025, EPA completed a reassessment of estimated risks to residents and subsidence farmers from exposure to radon and its decay products in ambient air, which are sourced from the Large Tailing Pile, to verify the results of EPA's 2014 baseline human health risk assessment. The conclusions from this reassessment confirmed the findings in the 2014 risk assessment and did not provide any additional new conclusion. This report is available on the EPA Site Profile Page for the Homestake Site.

BACKGROUND INFORMATION

The site includes Homestake's former uranium process mill area and tailing disposal site complex, known as the Homestake facility, and groundwater contaminated from tailing seepage. The site also includes 394 acres of land owned by Homestake that were historically used for irrigation of disposed contaminated groundwater; these parcels of land are referred to as the land treatment areas. The uranium mill was operated between 1958 and 1990. The mill was decommissioned and demolished between 1992 and 1995. Prior to and following mill decommissioning, Homestake removed soil contaminated by windblown tailing material, ore storage, and processing. Groundwater contamination was first discovered at the site by the New Mexico Department of Health, in 1960. EPA placed the site on the National Priorities List (NPL) of Superfund sites in 1983, primarily due to groundwater contamination.

Currently, the site is undergoing reclamation, groundwater corrective action, environmental monitoring, and closure activities in accordance with the NRC License and the Uranium Mill Tailing Radiation Control Act (UMTRCA). Components of the groundwater corrective action include a water treatment plant, groundwater injection and collection wells, toe drains, infiltration trenches, collection and evaporation ponds, support facilities, groundwater monitoring wells, and air monitoring stations.

The site is regulated by NMED through Groundwater Discharge Permit DP-200 pursuant to the requirements of the New Mexico Water Quality Act.

The site is subject to the requirements of the Superfund law. To date, EPA has not selected a Superfund remedy for groundwater or the Homestake facility and land treatment areas. In 2013, Homestake initiated an evaluation of the cleanup activities conducted at the site under UMTRCA and the NRC License to determine if they were consistent with Superfund and related regulations known as the National Contingency Plan (NCP). It was determined that such activities could be considered consistent with the NCP if they substantially complied with the requirements of the NCP and resulted in a Superfund-quality cleanup. The requirements set forth in the NCP for achieving a Superfund-quality cleanup include the performance of a remedial investigation (RI) and FS, selection of a remedy to be documented in a ROD, and formal public involvement through EPA's decision-making process. The RI was completed and documented in a Final RI Report, dated June 2020. An Addendum to the Final RI Report, dated May 2023, updated the baseline human health risk assessment for the Homestake facility and land treatment areas.

WHERE TO GET ADDITIONAL INFORMATION

Contact Information:

Sai Appaji
Remedial Project Manager
U.S. EPA Region 6
Tel: 214.665.2704
Appaji.sairam@epa.gov

Michael Morrison
Community Involvement Coordinator
U.S. EPA Region 6
Tel: 214.665.2264
morrison.michael@epa.gov

Corey Dimond
Ground Water Quality Bureau
New Mexico Environment Department
Cell: 505.795.4216
Corey.dimond@env.nm.gov

Site Repository
New Mexico State University at Grants
Campus Library
1500 Third Street
Grants, NM 87020
505.287.6639

All news media inquiries should be directed to the EPA Region 6 Press Office at 214.665.2200 or 214.665.2261.

On the Web:
Site-related Superfund documents and other information are available at www.epa.gov/superfund/homestake-mining.

Call U.S. EPA at 1.800.533.3508 to receive a Spanish translation of this fact sheet.

Para recibir una traducción en español de esta hoja de datos, comunicarse con la Agencia de Protección del Medio Ambiente de los EEUU (la EPA) al número de teléfono 1.800.533.3508 (llamada gratis).