

EASTERN ABANDONED URANIUM MINE (AUM) REGION

Number of abandoned uranium mines in the Eastern AUM Region: 86
 Of these 86 mines, funds are available to begin the cleanup process at 22 mines

Eastern AUM Region includes the following Chapters:

Smith Lake, Standing Rock, Mariano Lake, Coyote Canyon, Baca/Prewitt, Casamero Lake, Nahodishgish, and Church Rock

PRIORITY MINES AND SETTLEMENTS

USEPA, in partnership with Navajo Nation EPA (NNEPA), has identified the 523 AUMs on Navajo Nation. Of these 523 AUMs, 46 mines were identified as “priority mines” based on radiation levels, proximity to homes, and potential for water contamination.

Funds are available to begin the assessment and cleanup process at 22 mines, approximately 26% of the mines in the Eastern AUM Region, including 11 of the 13 priority mines. USEPA continues to look for companies responsible to assess and clean up the remaining mines in this region.



Arrow Indian Contractors, a USEPA contractor, removes 10,000 cubic yards of contaminated soil at the Quivira mine site.

Table 1: Summary of the Eastern AUM Region identifying the name of the potentially responsible party or trust responsible for mine cleanups, the number of mines, and the status in the Superfund process.

See section below “Legal Agreements and AUM Cleanup Activities” for more information on the settlements.

Name of Potentially Responsible Party or Settlement	Number of Mines*	Superfund Process Status
Western Nuclear, Inc.	• Two mines (one of which is a priority mine)	• Engineering Evaluation/Cost Analysis will be presented to the public in 2021
Homestake Mining Company	• Four mines (two of which are priority mines)	• Draft Engineering Evaluation/Cost Analysis will be presented to the public in 2021
BNSF Railway Company	• Three mines (two of which are priority mines)	• Time-critical removal action in progress
Chevron USA, Inc.	• One priority mine	• Engineering Evaluation/Cost Analysis will be presented to the public in 2021
United Nuclear Corporation	• One priority mine	• Completed design submitted to NRC as part of the UNC Mill Site license amendment request in 2018
Tronox	• Eight mines (one of which is a priority mine)	• Removal Site Evaluations have been completed at four mines and the field work at the remaining mines were completed in 2018
Phase 1 Trust (limited to mine assessments) Phase 2 PO Mine Trust (limited to mine cleanups, as needed)	• Three priority mines	• Removal Site Evaluation reports were completed in 2018
Total	22 mines (11 of which are priority mines)	

*One mine claim can include more than one site.

Legal Agreements and AUM Cleanup Activities

Western Nuclear, Inc. (Ruby Mines)

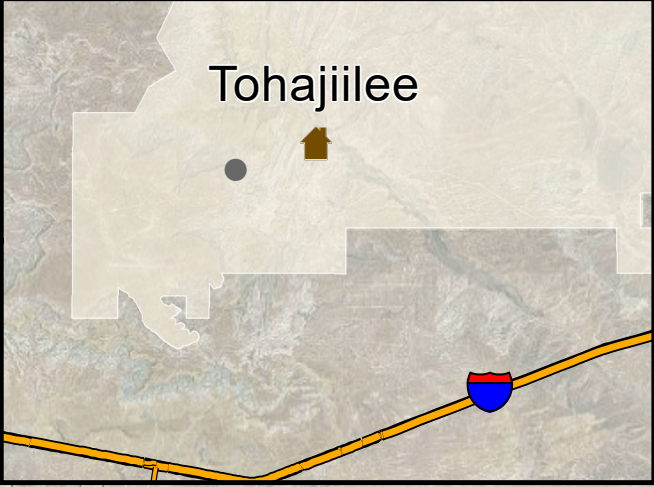
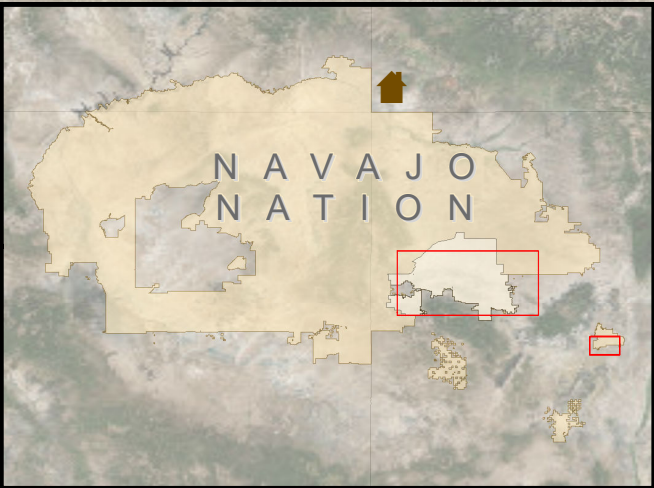
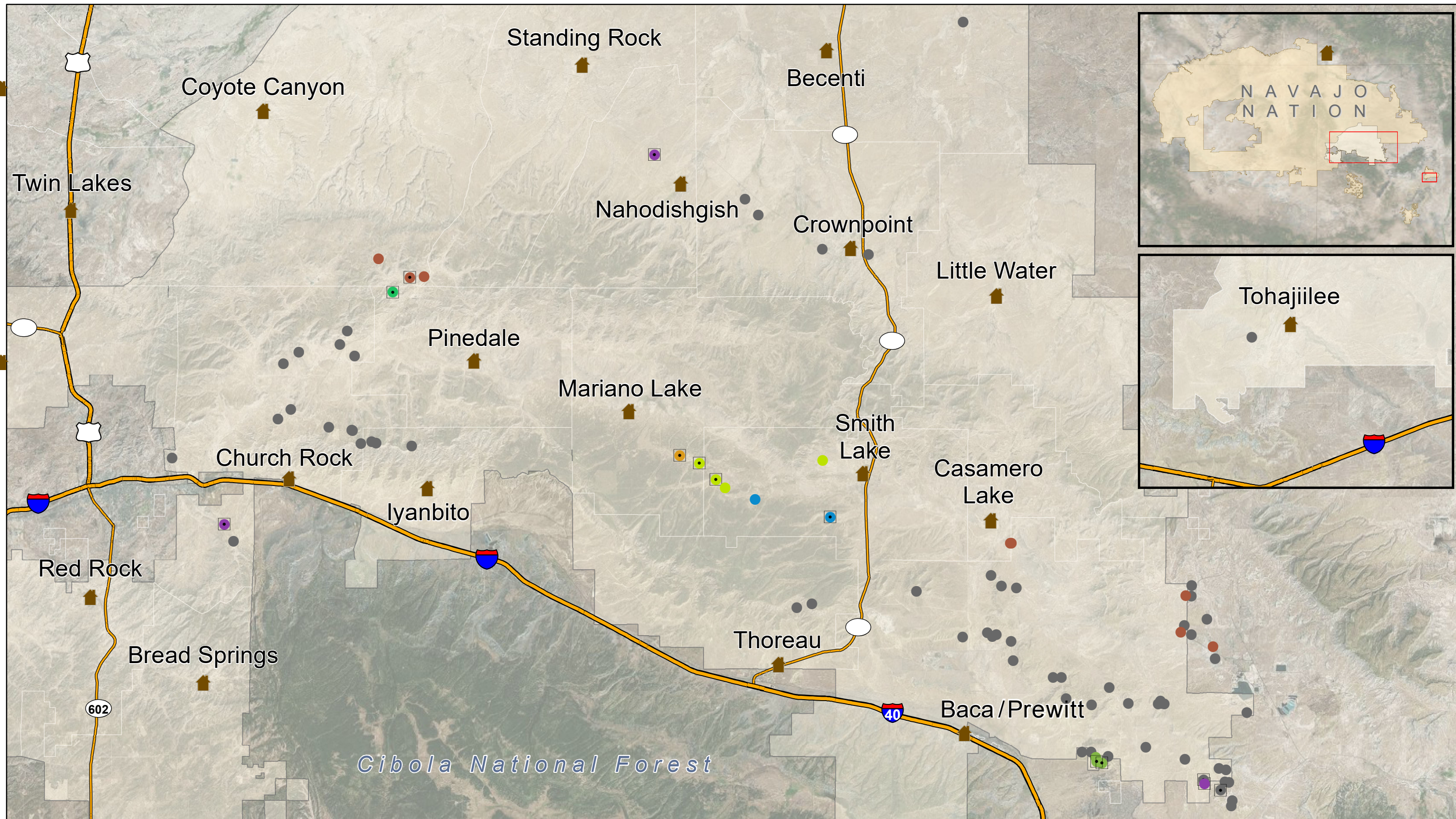
The two Ruby Mines have a combined total of approximately 200,000 cubic yards of mine waste containing radium and uranium at levels that could pose a health risk. In 2015, Western Nuclear, Inc., the potentially responsible party, completed a Removal Site Evaluation report that provided information needed to determine the extent of contamination at these mines. In 2016, Western Nuclear, Inc. entered into a settlement agreement with USEPA to perform an Engineering Evaluation/Cost Analysis (EE/CA) to evaluate potential options to clean up the mine sites. In 2021, USEPA will present the cleanup options being evaluated in the EE/CA to the community.

Homestake Mining Company (Mac and Black Jack Mines)

The four mine sites have a combined total of approximately 400,000 cubic yards of mine waste. In 2014, Homestake Mining Company entered into a settlement agreement with USEPA to assess four abandoned uranium mines, two of which are priority mines. In 2018, the Removal Site Evaluation reports on the four mines was completed. Homestake has also drafted an EE/CA to evaluate the potential options to clean up the mine sites. In 2021, USEPA will present the cleanup options being evaluated in the EE/CA to the community.

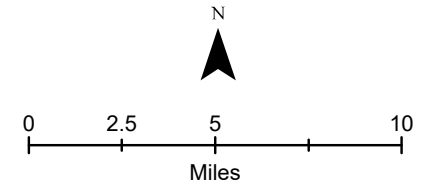
BNSF

In 2015, USEPA released a Removal Site Assessment report that described the different levels of contamination at the site. In 2017, BNSF entered into an administrative on consent to perform interim removal activities designed to protect human health and the environment



Navajo Nation - Eastern Abandoned Uranium Mine Region

- Phase 1 Trust Mines
- Homestake Mines
- BNSF Mines
- 🏠 Chapter Houses
- Tronox Mines
- Chevron Mine
- All Other Mines
- Priority Mines
- United Nuclear Corp. Mine
- Western Nuclear Mines



will be complete in 2019. Following the interim removal activities, USEPA will be working with the potentially responsible parties on developing an EE/CA to determine the risk at the site and evaluate all alternatives to clean up the site.

Chevron USA, Inc. (Mariano Lake Mine)

In 2013, Chevron USA, Inc. completed a Removal Site Evaluation which determined that there is approximately 250,000 cubic yards of mine waste. In 2017, Chevron entered into a settlement agreement with USEPA to perform an EE/CA report to evaluate potential options to clean up the mine sites. In 2021, USEPA will present the cleanup options evaluated in the EE/CA to the community.

United Nuclear Corporation (Northeast Church Rock Mine)

To date, USEPA has overseen removal of approximately 150,000 cubic yards of contaminated soil at Northeast Church Rock Mine (NECR). UNC/General Electric (UNC/GE) completed the design for the larger mine site cleanup under a settlement agreement with USEPA. USEPA, with input from NNEPA, New Mexico Environmental Department, the U.S. Department of Energy, the Nuclear Regulatory Commission, and a representative from the local community assisted by USEPA's Technical Assistance Services for Communities contractor, oversaw the design for the NECR site cleanup and disposal facility at the United Nuclear Corporation Mill Site. In 2018, UNC/GE submitted a request for a license amendment (which includes the completed design) to the Nuclear Regulatory Commission.

PHASE 1 TRUST

In 2015, the Navajo Nation and the United States entered into a \$13.2 million settlement called the Phase 1 Settlement. The Phase 1 Settlement included one trust account, the Phase 1 Trust, managed by an independent trustee with USEPA and NNEPA oversight. This settlement provided funding to assess 16 priority mines on the Navajo Nation, including three mines in the Eastern AUM Region: Eunice Becenti, Standing Rock, and Section 26. The work was completed in 2018 and the results, included in Removal Site Evaluation reports, were shared with the community.

PHASE 2 TRUST

In 2016, the Navajo Nation and the United States entered into an additional legal settlement called the Phase 2 Settlement. The Phase 2 Settlement includes two trust accounts: the Phase 2 Removal Site Evaluation (RSE) Trust and the Phase 2 Priority Orphan (PO) Trust. The Phase 2 trusts are managed by an independent trustee, Derrith Watchman-Moore, with USEPA and NNEPA oversight. The Phase 2 RSE Trust provides funds to assess 30 mines on the Navajo Nation and conduct

two water studies. The Phase 2 PO Trust will fund the cleanup the 16 mines assessed under the Phase 1 Trust, as needed, including the three in the Eastern AUM Region: Eunice Becenti, Standing Rock, and Section 26.

Tronox Settlement

In 2014, the United States entered into a historic legal settlement providing almost \$1 billion to investigate and cleanup approximately 50 abandoned uranium mines on or near the Navajo Nation operated by Kerr-McGee Corporation and its successor, Tronox. There are eight of these mines in the Eastern AUM Region.

TRONOX (QUIVIRA MINES)

The investigations at the Quivira mines were completed in 2012. Also in 2012, approximately 17,000 cubic yards of contaminated soil was excavated from along a road in the community and placed on the main mine site and covered with clean soil for temporary storage pending selection of a final remedy for the site. An additional 10,000 cubic yards of contaminated soil was excavated from around five ventilation shafts near the community in 2017 and also stored on the main mine site. The cover on the mine site was repaired in 2012 and again in 2017. USEPA is currently analyzing options to address the waste pile and will share these options, which will be documented in an Engineering Evaluation/Cost Analysis report, with the community in 2021.

TRONOX EASTERN AUM

There are five other Tronox abandoned uranium mines in the Eastern AUM Region. A Removal Site Evaluation report has been completed at one of these mines and field work for the other four mines were completed in 2018. A removal action at one of the mines was completed which included moving 30,000 cubic yards of uranium mine waste. USEPA also installed erosion controls and fenced the area.

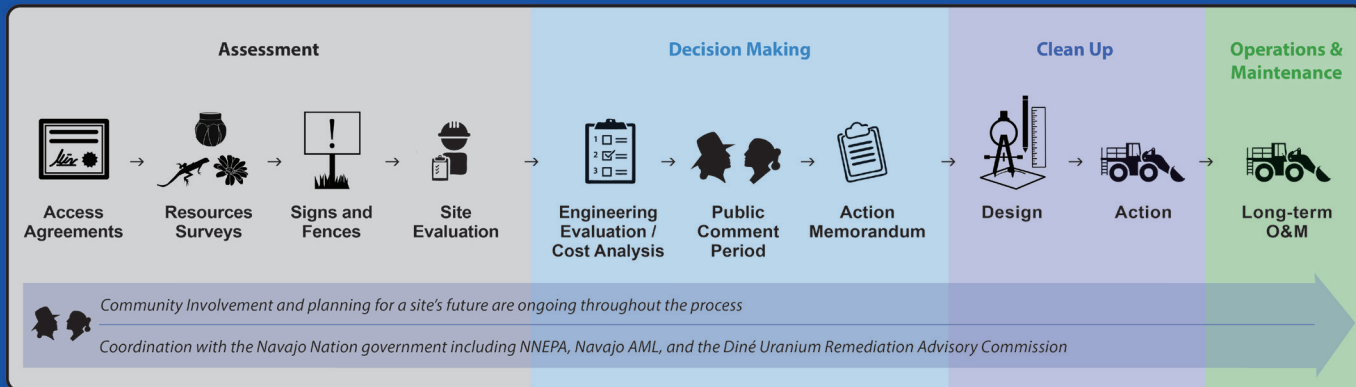
Reduce Your Contact with Uranium and Radiation



Steps to keep yourself safe:

- Stay away from abandoned mines and mills
- Find out if your home is a contaminated structure
- Use regulated water for human needs
- Never use unregulated water for human needs—even if it looks ok
- Use good water hauling practices to keep your water clean
- Get regular cancer screenings, like pap tests, mammograms, colonoscopies, and other cancer screenings

Superfund Process on the Navajo Nation



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USEPA Eastern Abandoned Uranium Mine webpage: www.epa.gov/navajo-nation-uranium-cleanup/eastern-abandoned-uranium-mine-region