

## COVE WASH WATERSHED ASSESSMENT

The Cove Wash watershed is approximately 47-square miles in area and includes 42 AUMs, 24 of which are Tronox mines, within the Lukachukai Mountains. Year-round water is found in peaks and canyons above 7,000 feet elevation, where springs and seeps emerge. Developed springs and wells are also part of the watershed. Diné College participated in sampling which determined that the watershed has elevated uranium

concentrations in surface and ground water around and below the historically mined areas.

## COVE AIR STUDY

The Cove Air Study was restarted in May 2021, and data from the air monitors are being collected weekly. Quarterly reports summarizing the data will be provided and shared with the community. The monitoring event was completed in June 2022.

## Legal Agreements and AUM Cleanup Activities

### PHASE 1 SETTLEMENT

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 established an environmental response trust, the Phase 1 Trust, that was managed by an independent trustee, with USEPA and NNEPA oversight. Under the Phase 1 Settlement the United States provided funds to assess 16 priority mines on the Navajo Nation, including six in the Northern AUM Region: Oak124/Oak125, Alongo Mines, NA-0904, NA-0928, Barton 3, and Tsosie 1. The assessment work at the 16 mines was completed in 2018. A Removal Site Evaluation report, which provides information needed to determine the extent of contamination at each mine, was developed for each site.

### PHASE 2 SETTLEMENT

In 2016, the Navajo Nation and the United States entered into a legal settlement called the Phase 2 Settlement. The Phase 2 Settlement established a trust account that is managed by Derrith Watchman-Moore, an independent trustee, under USEPA and NNEPA oversight. As of February 14, 2022, the Expanded Trust Agreement was signed into place, which replaces the Phase 2 Settlement and provides funding for the cleanup process at the Phase 1 sites as needed. The Expanded Trust Agreement provides funds to assess an additional six mines in the Northern AUM Region, 13 mine sites in the Central AUM Region, 11 mine sites in the Western AUM Region, and conduct two water studies, one of which is located at a mine in the Tse Tah area (near Teecnospos and Tolikan Chapters).

### CYPRUS AMAX / WESTERN NUCLEAR SETTLEMENT

In 2017, the United States and the Navajo Nation entered into a historic settlement agreement with Cyprus Amax Minerals Company and Western Nuclear, Inc., two companies owned by Freeport-McMoRan. The settlement funds the assessment and cleanup of 94 abandoned uranium mines on the Navajo Nation, including 82 mines in the Northern AUM Region. This settlement addresses almost 20% of the abandoned uranium mines on the Navajo Nation. The mines are located in the following chapters: Cove, Red Valley, Shiprock, Teecnospos, Tolikan (Northern AUM Region); Dennehotso, Kayenta, Mexican Water, Oljato (North Central AUM Region); Chilchinbeto (Central AUM Region); and Smith Lake (Eastern AUM Region).

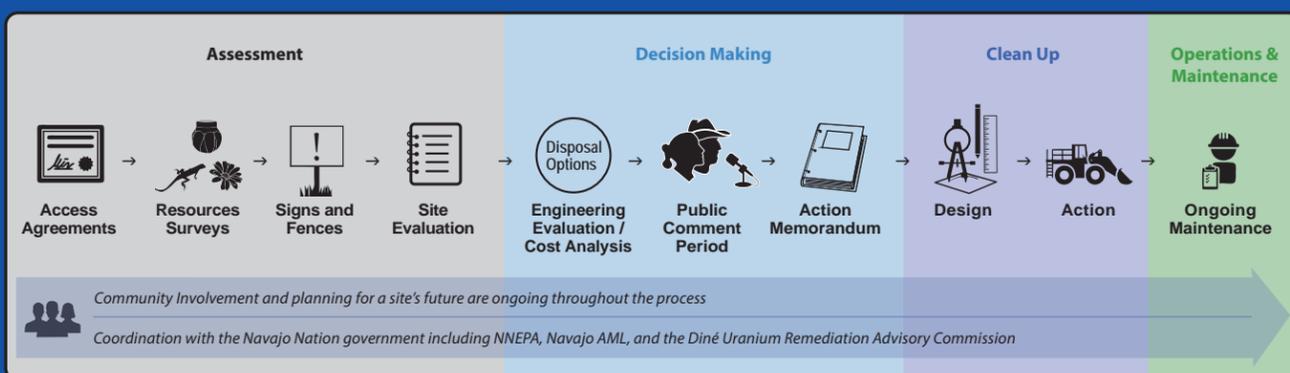
## Reduce Your Contact with Uranium and Radiation



### 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



## For More Information

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USEPA Navajo Abandoned Uranium Mine website: [www.epa.gov/navajo-nation-uranium-cleanup](http://www.epa.gov/navajo-nation-uranium-cleanup)



# NAVAJO NATION

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## NORTHERN ABANDONED URANIUM MINE (AUM) REGION

Number of abandoned uranium mines in the Northern AUM Region: 229

Of these 229 mines, funds are available to begin the cleanup process at 127 mines

Northern AUM Region includes the following chapters: Aneth, Beclabito, Cove, Lukachukai, Red Mesa, Red Valley, Round Rock, Sanostee, Shiprock, Teecnospos, and Tolikan

### PRIORITY MINES AND SETTLEMENTS

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

Funds are available to begin the cleanup process at 127 mines, approximately 55 percent of the mines in the Northern AUM Region, including all 17 priority mines. USEPA continues to look for companies responsible to assess and clean up the remaining mines in this region.



USEPA constructed erosion controls at the Mesa II mine to prevent mine waste from entering the Cove watershed. Before erosion control (left), and after erosion control (right).

**Table 1:** Summary of the Northern 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 settlement and trusts listed here.

Name of Potentially Responsible Party or Settlement	Number of Mines*	Superfund Process Status
Tronox Settlement	• 33 mines (three of which are priority mines)	• Removal Site Evaluations completed in 2019 for 33 mines • Engineering Evaluation / Cost Analysis drafted in 2021 for Tronox sites
Phase 1 Trust (limited to mine assessment) Phase 2 Trust	• 12 mines (six of which are priority mines, and one which was selected for a water study)	• Removal Site Evaluations completed for six mines • Removal Site Evaluations and water study in progress for six mines and one water study
Cyprus Amax Minerals Company (Cyprus Amax) and Western Nuclear, Inc. (Western Nuclear)	• 82 mines (eight of which are priority mines)	• Removal Site Evaluations in progress for 29 mines
<b>Total</b>	<b>127 mines (17 of which are priority mines)</b>	

\*One mine claim can include more than one site.

## Tronox Settlement

In 2014, the United States entered into a historic legal settlement that provides almost \$1 billion to investigate and clean up approximately 50 AUMs on or near the Navajo Nation that were operated by Kerr-McGee Corporation and its successor, Tronox. Thirty-two mines are in the Cove/Lukachukai/Round Rock area and two mines are in the Tse Tah area in the Northern AUM Region.

### REMOVAL SITE EVALUATIONS

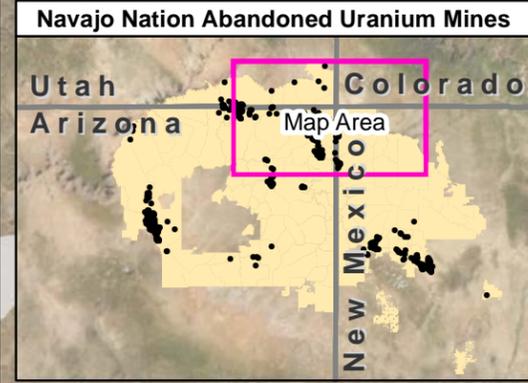
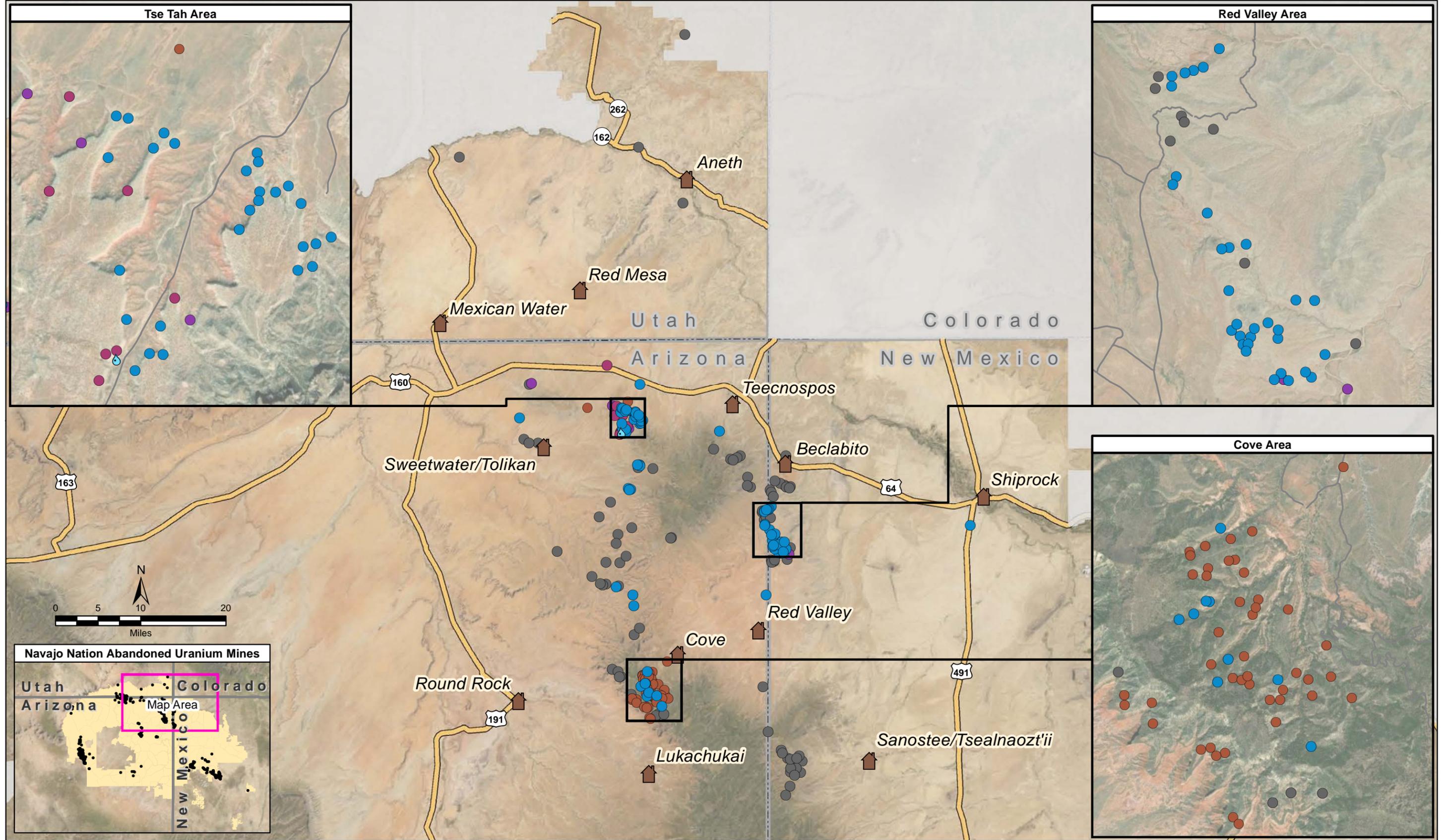
In 2018-2019, USEPA conducted Removal Site Evaluations at 33 mines and nearby areas. This work involved radiation measurements and collecting laboratory samples. The results will be used in Engineering Evaluation/Cost Analysis (EE/CA) documents to help decide how the sites are cleaned up.

### ENGINEERING EVALUATION/COST ANALYSIS

Drafts of the EE/CAs for the 34 Tronox AUMs were completed by December 2021. These drafts did not include a recommended alternative. Drafts including a recommended alternative are expected to be completed in 2023.

### TRONOX ALLOCATION STRATEGY

From 2020 to 2022, Region 6, Region 9, and Office of Mountain Deserts and Plains formulated an Allocation Strategy for the ~\$900 million Tronox settlement. In March 2022, approximately a third of the funds, \$305 million, was allocated to Region 6 for the 20 AUMs in New Mexico and approximately two thirds of the funds, \$620 million, remains for the 34 NAUMs in Cove and Tse Tah.



- Mines**
- Cyprus Amax
  - Phase 1 Trust
  - Phase 2 Trust
  - Tronox
  - Currently Unfunded
  - Phase 2 Trust Water Study

Abandoned Uranium Mines and Current Settlements  
**Navajo Nation Northern AUM Sites**

- 🏠 Chapter House
- 🛣 Highway
- 🛤 Road
- 🇺🇸 US State

