



NORTH CENTRAL ABANDONED URANIUM MINE REGION
Oljato, Dennehotso, Kayenta, and Shonto Chapters Mine Sites
COMMUNITY INVOLVEMENT PLAN

INTRODUCTION

The Navajo Nation was the site of widespread uranium mining from the 1940s to the 1980s. While uranium mining no longer occurs within the Navajo Nation, the legacy of uranium contamination remains. More than 500 abandoned uranium mines (AUMs) are spread throughout the Navajo Nation, some homes were built with mine waste, and some water sources have elevated levels of uranium and other contaminants. The EPA and the Navajo Nation Environmental Protection Agency (NNEPA) implement removal actions where contaminated structures and surrounding soils are found to pose a risk to residents. The Navajo Nation Abandoned Mine Lands Reclamation Program (Navajo AML) addressed the physical hazards at many AUMs by closing mine openings and burying mine waste between the 1990s and the 2000s.

The federal government continues to address the legacy of uranium contamination on the Navajo Nation. The agencies' goals are described in the Ten-Year Plan (2020-2029). This Plan builds on the work conducted in the previous two Five-Year Plans, makes adjustments based on information gained during this time, and describes the next steps in addressing the risks to human health and the environment. This Plan is available on EPA's website: www.epa.gov/navajo-nation-uranium-cleanup/federal-plans-related-documents.

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the federal Superfund law, the United States Environmental Protection Agency Region 9 (EPA) – located in San Francisco, California – is working with NNEPA and area communities to oversee uranium mine assessments and cleanups on the Navajo Nation. Funds are available for 230 AUMs on the Navajo Nation as of 2021.

Sixty-three AUMs are in the North Central AUM Region, which includes the Oljato, Dennehotso, Kayenta, and Shonto Chapters, and is part of the Navajo Nation's Western Agency. Funds are available to assess and conduct any necessary cleanup at 13 of these mines (see map on page 34).

This Community Involvement Plan (CIP) focuses on these residents, chapter officials, and other interested parties in the North Central AUM Region. While there are additional mines in these chapters that EPA and NNEPA may address in the future, the agencies are currently focusing on 13 mines in this area for which there is funding. For more information, please contact:

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The Legacy of Uranium Contamination: *Looking Back, Looking Forward*

The AUMs have created public health and environmental challenges for everyone who calls the Oljato, Dennehotso, Kayenta, and Shonto Chapters home. Contamination has affected people's lifeways for several generations.

Despite these challenges, many of the people interviewed for this CIP emphasized their lifelong love of the area, and their determination to remain in their communities. Ensuring effective and timely cleanups in the North Central AUM Region is a community-wide priority.

EPA and NNEPA are committed to working with the communities to address the legacy of uranium contamination and protect public health and the environment.



AUM: Abandoned
Uranium Mine

Role of NNEPA

The NNEPA Superfund Program (NSP) implements the Navajo CERCLA by providing oversight of AUM work on the Navajo Nation and serves as a co-regulator with EPA. The NSP advocates for communities impacted by AUMs on the Navajo Nation by working hand in hand with EPA to coordinate community outreach. The NNEPA is committed to protecting Mother Earth and Father Sky and all living beings through environmental laws and regulations by honoring traditional Diné teachings and culture.

This CIP is a guide for community members and EPA to ensure that information sharing and dialogue regarding EPA's activities in the Oljato, Dennehotso, Kayenta, and Shonto Chapters are participatory and meaningful. This document outlines specific outreach activities to address community concerns and to meet the following goals in these four chapters:

- Provide community members with accurate, timely, and understandable information about EPA's AUM activities that reflects community members' communication preferences and culture
- Provide information in the Navajo language, when needed, so all community members have an equal opportunity to participate
- Coordinate with community members and tribal leaders to make sure EPA understands community concerns and considers community goals in its decision-making process
- Work with consideration of Navajo Nation's goal to implement Diné Fundamental Law, acknowledging the Navajo traditional lifeway, traditional ecological knowledge, and the laws of nature



 Cover photo: Monument Valley silhouettes, summer rain.
This page: Winter in Monument Valley, Utah.



NAVAJO LIFEWAY: The Navajo lifeway is how Navajo live according to their connection to the land and the seasons. This traditional way of life is what tells Navajos when to plant and harvest, when to shear sheep and hunt, and when to conduct certain ceremonies, among many other activities. It is important that cleanup activities take the Navajo lifeway into account to protect plants and areas of land that are sacred.

The Community Involvement Plan (CIP)

The CIP is the foundation of EPA's Superfund Community Involvement and Outreach Program. This CIP is a living document to assist communication between community members and EPA. The document outlines opportunities for individual participation and meaningful information sharing regarding EPA's activities in the Oljato, Dennehotso, Kayenta, and Shonto Chapters. The CIP is also a tool for the public to make sure EPA is responsive to their needs and concerns.

To put this plan together, EPA interviewed community members, chapter officials, and other stakeholders in the area from March 2018 through February 2019. Interview findings, combined with information from EPA experiences in the community and additional reports, guided the development of the CIP. The interviews with community members are confidential; a summary of the responses is provided in this plan.

EPA's Technical Assistance Services for Communities (TASC) Program assisted EPA during the interview process. EPA has been working with the chapters and community members to respond to their needs with support from the TASC Program where appropriate.



We have concerns ... too many of our people here have passed. It's a very sorrowful and empty feeling. Our relatives and animals have suffered tremendously.

-- Community Member
August 2018 Interview



Left photo: The Counting Crows/Shotshop GmbH - Alamy Stock Photo.
This page: Horses crossing road in Oljato.



 Wash in Cane Valley.

COMMUNITY INVOLVEMENT PLAN ORGANIZATION

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— THE — COMMUNITY

THE COMMUNITY

COMMUNITY PROFILE

The Oljato, Dennehotso, Kayenta, and Shonto Chapters are located in a beautiful and relatively remote area in northeastern Arizona and southeastern Utah. The North Central AUM Region is part of the Navajo Nation's larger Western Agency. The region lies within Apache and Navajo Counties in Arizona, and San Juan County in Utah. The North Central AUM Region borders other Navajo Nation chapters to the east, south, and west, and non-tribal lands to the north. It covers about 2,829 square miles of the Navajo Nation.

From 1944 to 1986, uranium mines on and near the Navajo Nation yielded 30 million tons of uranium ore. The mines provided uranium for the top-secret effort to develop an atomic bomb, and for the weapons stockpile during the

arms race with the Soviet Union. Beginning in 1966, uranium ore was sold to the commercial nuclear power plant and medical industries.


The North Central AUM Region was an important center of uranium mining on the Navajo Nation. Uranium was mined in the Region in 1944 and between 1947 and 1968. Sixty-three productive uranium mines were in the region, and many of these mines also produced vanadium. Ore bodies at or near the surface were mined. After the price of uranium collapsed in the mid-1960s, the mines were abandoned, leaving behind waste rock debris consisting of radioactive low-level ore. The mines in the region are located in four chapters – the Oljato, Dennehotso, Kayenta, and Shonto Chapters. The Navajo AML performed

reclamation activities to address physical hazards at many of the mines beginning in the 1990s.

EPA and NNEPA, in cooperation with the Oljato, Dennehotso, Kayenta, and Shonto Chapters, are in the process of investigating and addressing the risk that 13 AUMs pose to these communities. EPA is conducting these activities under authorities granted in CERCLA, also known as the Superfund law.

There are 523 AUMs across Navajo Nation and there are funds available to begin work at 230 AUMs. Eleven AUMs in Oljato, Dennehotso, Kayenta, and Shonto Chapters are being addressed by settlement agreements. Three of these mines, for which there is no responsible party, were investigated by the Phase 1 Trust and will be cleaned up as necessary under the Phase 2 Settlement Agreement between the United States and the Navajo Nation. Eight funded mines in the region are being addressed under the terms of a 2017 settlement agreement with Cyprus Amax. Also, EPA is assessing the Skyline priority mine and the adjacent Utah No. 1 Lease mine. In 2011, EPA cleaned up mine waste near homes below the Skyline mine and placed the waste in an interim repository that is monitored regularly.



 U.S. EPA explaining the federal Superfund process prior to Phase 1 Trust presentation on assessment results of three area mine sites. Oljato, Utah.

It's difficult to specify one concern because past mining has a multitude of after-effects. Some places may have been temporarily covered, but what about uranium/radon vapor and contaminated dust emitted through the air?

-- Community Member
December 2018 Interview



 EPA meeting announcement.



THE SETTLEMENT AGREEMENTS: A CLOSER LOOK

- The United States and the Navajo Nation entered into two legal agreements (the Phase 1 Settlement in 2015 and the Phase 2 Settlement in 2016) that provide funds to assess and clean up 16 "priority" mines¹, assess an additional 30 mines, and conduct two water studies on the Navajo Nation. No responsible party is available to pay for the mines in these settlements.
- The 2017 settlement with Cyprus Amax and Western Nuclear, two companies owned by Freeport-McMoRan, covers 94 AUMs. These mines are located across the Navajo Nation.

¹ EPA and NNEPA identified 46 priority mines on the Navajo Nation based on radiation levels and proximity to homes or potential for water contamination.

Funded Abandoned Uranium Mines in North Central Region

Responsible Party, Trust, or Mine	Number of Mines	Superfund Process Status
Cyprus Amax Minerals Company (Cyprus Amax)	<ul style="list-style-type: none"> Eight mines (two of which are priority mines) 	<ul style="list-style-type: none"> Removal Site Evaluations in progress for two priority mines and Monument No. 2
Phase 1 Trust (limited to mine assessment)		
Phase 2 Trust (limited to mine cleanups, as needed)	<ul style="list-style-type: none"> Three priority mines 	<ul style="list-style-type: none"> Removal Site Evaluations completed in 2018
Skyline Mine and Utah No. 1 Lease Mines	<ul style="list-style-type: none"> Two mines (one of which is a priority mine) 	<ul style="list-style-type: none"> EPA performed time-critical cleanup in 2011 at Skyline mine
Total	13 mines (six of which are priority mines)	
*One mine claim can include more than one site.		

Mexican Hat Mill Site

The Mexican Hat Mill Site in Halchita, Utah is located 1.5 miles south of the San Juan River on the Navajo Nation. A mill processed uranium ore on site from 1957 to 1965. Much of the ore came from the North Central AUM Region. Milling at the site produced radioactive materials that were mixed with water and transported through pipes to two on-site tailings piles. The U.S. Department of Energy (DOE), which replaced in part the Atomic Energy Commission, completed surface remedial action at the site in 1995. Radioactive materials from the former upper tailings pile, demolished mill structures, and 11 properties nearby were placed in a disposal cell at the former lower tailings pile location. Interviews with community members identified concerns about health impacts on former mill workers. Community members also expressed concerns about soil and water quality from spills and accidents that were caused by trucks moving materials from the mines in the North Central AUM Region to the site during construction of the disposal cell.²

² U.S. Department of Energy. Mexican Hat Mill Site Fact Sheet, November 2018.

Monument No. 2 Mine

The Monument No. 2 mine was reportedly the largest uranium mine in Arizona. Between 1943 and 1968, it produced over 700,000 tons of ore. Cyprus Amax will clean up this mine under a legal agreement with EPA and NNEPA.

Monument Valley Mill

The Vanadium Corporation of America (VCA) constructed a mill approximately one mile from Monument No. 2 to process low-grade ore. DOE removed contaminated surface materials from the mill site from 1992 through 1994, and stabilized these materials in the Mexican Hat disposal cell in Halchita, Utah, approximately 15 miles north of the site and close to the San Juan River. DOE continues to conduct groundwater monitoring and remediation activities near the former mill site.

As an adolescent I worked as a laborer at VCA and later as a machine operator at the mill. Everyday I'd be covered in dust. The company did not furnish safety gear of any sort, not even ear plugs. They did not take safety measures. Dust suppression was unheard of and the company did not wet the rocks. Later, I was hired as a truck driver. I witnessed several workers die at the mine and mill site. Too many accidents. And, an old mechanic had to jump out of a runaway truck when the brakes gave out and was run over by the truck following him. Because of these accidents the company built an airstrip and there were a couple of plane accidents, too.

-- Community Member Statement



Community Overview

The Oljato, Dennehotso, Kayenta, and Shonto Chapters are home to vibrant communities with longstanding cultural ties. The area includes lands of striking beauty, ancient history and one of America's top tourist attractions, long favored by the film industry—Monument Valley. In addition to the chapter houses, community facilities include schools, shopping areas, public services, and recreation facilities, which are mostly located in Kayenta Township. The township is the only incorporated town in the Navajo Nation. Chapter residents live near the chapter houses or in more remote locations. Many residents drive long distances to reach stores and residents drive long distances to haul water.

Some community members in the area own and graze sheep, cattle, and horses near their homesites and sheep camps. Most of the land in the area is used for grazing and ranching, though to a lesser degree now than in the past due to various factors, including concerns over contamination. Various plants are also used for medicinal and traditional purposes.

Economics

According to the Navajo Nation Division of Economic Development, most jobs on the Navajo Nation are in the government and service sectors (including schools, hospitals, and hotels and motels). Additionally, many activities in the Navajo Nation economy are unreported, such as selling arts and crafts or food at vendor stalls. Regardless of whether unreported economic activities are considered in employment calculations, the actual unemployment rate for the Navajo Nation is substantially higher than the national average.³

While economic information is not collected specifically for the North Central AUM Region, the government and service employment sectors are visible in the region. Tourism is also a visible part of the economy. The four chapters feature the Monument Valley Navajo Tribal Park, the Cane Valley area, Gouldings Trading Post, the Navajo National Monument, the southern Canyon Lands, and northern Navajo sections of the Colorado Plateau province, a spectacular and rugged landscape that includes sandstone buttes, canyons, mesas, and extensive rock formations. Bringing more visitors to the area is a major interest of the chapters.

³ Navajo Nation Division of Economic Development. *Navajo Nation Comprehensive Economic Development Strategy*, April 2018.

Demographics

About 12,000 predominantly Navajo people live in the Oljato, Dennehotso, Kayenta, and Shonto Chapters.⁴

The languages spoken in the area are primarily English and Navajo. According to the 2009-2013 American Community Survey, more than three-quarters of community members (over 82 percent) in the area's four chapters speak a language other than English at home. About a quarter of community members in the area (27 percent) maintain fluent communication in their native Navajo language, particularly the elders.⁵

⁴ Navajo Nation Division of Health and Navajo Epidemiology Center. *Navajo Nation Population Profile 2010 Census*, December 2013.

⁵ Navajo Nation Division of Economic Development. *2009-2013 American Community Survey*.

COMMUNITY CONCERNS AND PREFERENCES

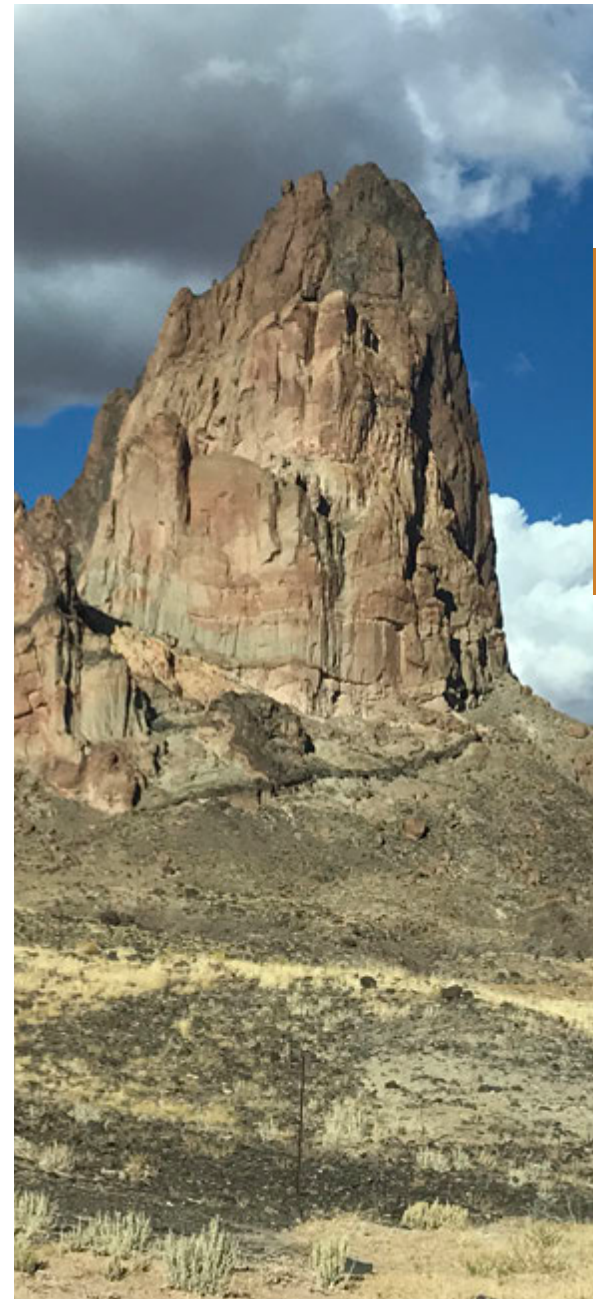
To better understand the community, its culture and concerns, EPA interviewed community members, local officials, and stakeholders in the area. All interviewees knew of nearby AUMs. Many community members shared stories about family members who worked in the mines, grazed livestock nearby, lived in camps near mine sites, and drank from and washed in local water sources. Children also played in these waters. The community's livestock and area wildlife rely on these waters as well. Interviewees also noted the use of dirt and rocks from the mines for homes, hogans, and sweat lodges in the area.

All interviewees shared the concern that the mine cleanups should be thorough, protective, lasting, and timely. While community members expressed frustration at the approach and limits of past reclamation efforts and the delay in federal government involvement in mine cleanup, most welcomed EPA's current efforts in the area. Looking forward, interviewees emphasized the importance of economic development that is safe for people and the environment.

Community concerns and preferences are outlined in this section, and EPA's community involvement action plan is outlined in the next section. The action plan explains how EPA plans to address the concerns listed here. Some concerns described during the interviews are within the scope of EPA's work on AUMs and can be addressed by EPA working with the community and local tribal leaders directly. EPA will refer concerns outside EPA's scope to other federal, tribal, and community organizations.

Community concerns and preferences are grouped into the following categories:

1. Health Concerns
2. Concerns about Cleanup of AUM and Mill Sites
3. Future Land Use Concerns
4. Air and Water Concerns
5. Communication and Information Preferences
6. Compensation Concerns



 El Capitan in Monument Valley, Utah.

Many of us showered with water from mine pits. What about the women and children who got secondary exposure through the dust from our father's clothing? At the end of each day they would come home covered in dust. Our mothers hand-washed their work clothes and the small children crawled on their fathers and/or hugged them. Is there such a thing as uranium-caused cancers passed genetically?

-- Community Member
December 2018 Interview

Health Concerns

Many community members shared stories about their illnesses or illnesses of their loved ones. Community members and local officials also expressed the following health concerns:

- Health effects of dust blowing from the mines and area mesas
- Livestock and wildlife grazing in mine areas
- Quality of water for drinking and farming
- Limitations of past reclamation efforts in the area
- Health effects such as cancers, breathing and hearing issues, skin conditions, and heart problems

Community members and local officials also requested the following information:

- How to reduce contact with uranium and better understand the risks of everyday activities
- Site-related health information
- Which health conditions may be related to uranium and radiation exposure, as well as key findings from earlier health studies in the area

Since CERCLA activities do not directly address human illnesses, the 2021 Resource List on page 42 identifies who to contact for these and other topics.



The Navajo Area Indian Health Service (IHS) provides health care to eligible American Indians through a network of hospitals and health centers. IHS also funds and develops water infrastructure projects to serve Navajo homes.



The U.S. Agency for Toxic Substances and Disease Registry (ATSDR) protects communities from harmful health effects related to exposure to natural and man-made hazardous substances. ATSDR responds to environmental health emergencies; investigates emerging environmental health threats; conducts research on the health impacts of hazardous waste sites; and builds capabilities of and provides actionable guidance to state and local health partners.



The Navajo Nation Department of Health participates in health studies and conducts medical screenings related to uranium exposures.

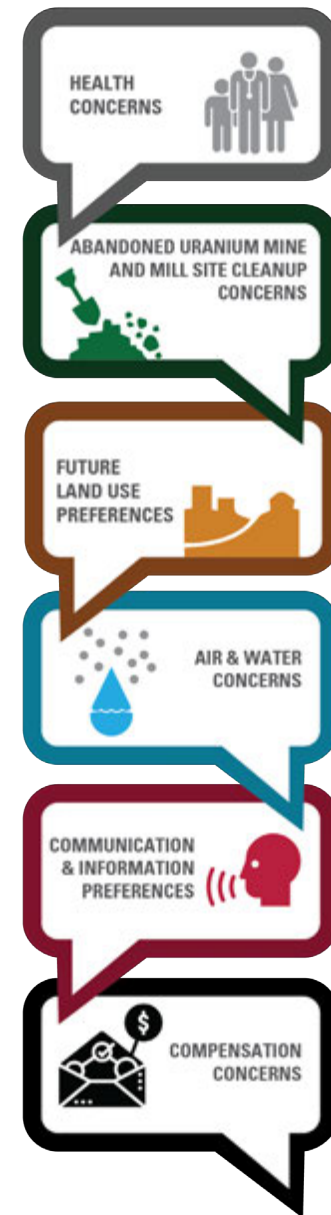
Abandoned Uranium Mine and Mill Site Cleanup Concerns

Many interviewees discussed their concerns about community involvement in the cleanup process. Community members requested that chapter officials, affected families, and the general population receive timely updates. Many community members expressed concern about whether EPA would consider their input in the decision-making process. Community members and local officials also asked for clarification on the roles of various organizations and noted the need for more outreach and education about EPA's cleanup process. People indicated that many in the community have felt ignored for a long time and requested consistent engagement with NNEPA as well as EPA.

Participants shared several concerns about the cleanup of the affected environment. Community members and local officials worry about the extent of cleanup, with a focus not just on area mines and mill sites, but also on the mesas, community areas and homes, grazing land and wildlife habitat, and the need for clean

air and water. Community members expressed concern about the limited protectiveness and effectiveness of earlier reclamation efforts by the Navajo AML, including buried waste piles.

Community members also expressed concern that cleanup would be the same as previous reclamation efforts that addressed physical hazards but did not remediate the mines according to Superfund. Interviewees also noted that many areas include sacred sites, burial areas, and ceremonial locations, and indicated that cleanup should take these cultural and historical resources into account. Interviewees also shared concerns about poor road conditions and traffic being made worse by future cleanup activities, as well as long-term monitoring of the cleanup and the availability of funding.



 Community concerns and preferences.

Future Land Use Preferences

Many interviewees emphasized the need to ensure that, in addition to the mines, community areas are safe for people to live in, work and gather for family events and cultural ceremonies. Community members and local officials requested regular and consistent communication between EPA and the community in the future.

Community members and local officials also shared their thoughts about future land use of mine areas and mesas. Some questioned whether the land will ever be safe for humans, livestock, or wildlife. Many expressed their preference that the land is returned safely to farming and grazing use and wildlife habitat. Most agreed that the land should not be simply fenced off and restricted from use by current and future residents.

Air and Water Concerns

Air and water quality and access to clean water were among the most important environmental issues in the Oljato, Dennehotso, Kayenta, and Shonto Chapters. Chapter officials and Council Delegates have asked for more water studies to understand the potential impact from the AUMs on water quality in this area as well as other areas across the Navajo Nation. Many community members believe that water sources and local wells have been contaminated by AUMs. They are also concerned about the mines' potential effects on groundwater and its future use as a drinking water source. Community members are also worried about health risks from rainwater and snowmelt that runs off from mines and mesas and toward homes and community areas. Interviewees noted that wind-blown contamination and dust are major concerns. They asked how and when air monitoring could take place.

Communication and Information Preferences

Many community members shared their preferences for communication and receiving information. Most agreed that EPA should be transparent about its work and strive to include all community members. Community members want EPA to keep chapter officials updated on all work and share information directly with community members. Community members shared a preference for in-person communication, including home visits, small-group meetings, and more comprehensive meetings at chapter houses or community centers. Community members requested the use of plain language in all written materials.


The state of the area vegetation is important to our life way. My wife and kids planted, but we aren't certain if it is safe to plant and farm. Our soil, water, air, and vegetation are probably damaged, too.

-- Community Member
August 2018 Interview

My concern is the removal method. Where will the waste be moved, how will it be done, what method and why? Those are the questions I'd like to have the agencies answer and... to fully explain to the impacted communities. Also, I'd like to know if these mined areas can be re-used in the future – land? Will our water be safe to use again?

*-- Community Member
August 2018 Interview*



 Abandoned U.S. Atomic Energy Commission truck.

Compensation Concerns

Community members are concerned about limitations in the Radiation Exposure Compensation Act (RECA). Many community members and chapter officials want to expand RECA eligibility for uranium miners and their spouses and children, as well as all people affected by the mines. EPA is not responsible for RECA compensation – that is the responsibility of the U.S. Department of Justice. For more information, contact the Navajo Nation Uranium Mine Workers program and the Navajo Nation Radiation Exposure Screening and Education Program in Shiprock, New Mexico. The uranium and radiation Resource List on page 42 identifies who to contact for uranium workers radiation exposure compensation claims.

There was never any ceremonial offering (yeel) conducted prior to opening of the earth that I am aware of. I want these ceremonies done, thinking perhaps it would help our conditions and minimize the suffering.

-- Community Member
December 2018 Interview

The uranium and mill companies destroyed our ceremonial ground. How will the federal government repair that? Ceremony is a part of our daily life... I feel we, elders, need to help so this doesn't happen again in the future... What we keep wondering, too, is... why did the U.S. government harm our land in the first place?

-- Community Member
August 2018 Interview



My brother was turned down for compensation because he said he smoked. The medical doctors thought he meant cigarettes, but it was a ceremonial smoke which is used once during specific ceremonies and these ceremonies are years and years apart. This type of misunderstanding is due to the white man not understanding our traditional ways.

*-- Community Member
December 2018 Interview*





THE COMMUNITY INVOLVEMENT ACTION PLAN

 Summer 2019 tour with Navajo AUM Team including EPA, NNEPA, Navajo AML and student interns.

THE COMMUNITY INVOLVEMENT ACTION PLAN

After interviewing community members, local officials, and stakeholders to better understand community issues and concerns, EPA prepared this community involvement action plan for the Oljato, Dennehotso, Kayenta, and Shonto Chapters.

- This action plan outlines the tools that EPA will use to share information with the community
- The action plan also outlines how EPA staff will be available to receive input from the community that will be considered in the decision-making process
- Finally, the action plan details EPA's partnership with the Navajo Nation tribal government in the development and implementation of all activities at AUM sites

Timing information is included with each outreach tool to help community members understand when EPA will conduct outreach activities and the type of activities to expect.

Community members can also contact EPA's Community Involvement Coordinator.

EPA understands that many residents, especially elders, are Navajo language speakers. To facilitate the inclusion and participation of all community members, EPA's Navajo-speaking Community Involvement Coordinator will speak in the Navajo language, as needed, during information meetings and door-to-door outreach. Interviewees recommended that EPA develop printed materials in English.

TOOLS FOR SHARING INFORMATION AND OPPORTUNITIES FOR EPA TO LEARN FROM THE COMMUNITY

EPA will use the following tools to ensure that community members have opportunities to provide meaningful input and to make sure community concerns are considered during EPA's cleanup decision-making process.

Written Communication

Most interviewees expressed a preference for receiving written communication from EPA. Additionally, community members and local officials noted that written communications are an effective tool for reaching remote residents. They stressed that written communication be short and simple, in plain language, and include as many graphics as possible.

EPA will provide written communications through factsheets and flyers, which will address the community concerns identified during the interviews. EPA will make sure contact lists are up to date and include interested residents in the area. Community members on EPA's contact list will receive information such as EPA factsheets or postcard meeting invitations. To be added to EPA's contact list, please contact the EPA Community Involvement Coordinator.

Community members can discuss concerns with EPA whenever a representative is in the area, or contact: EPA Community Involvement Coordinator Elsa Johnson (415) 947-3552 | johnson.elsa@epa.gov | 75 Hawthorne Street, SFD 6-2, San Francisco, CA 94105

Community members should also feel free to contact the Navajo EPA Superfund Program's Remedial Project Manager Tennille Denetdeel by phone at (928) 871-6859.



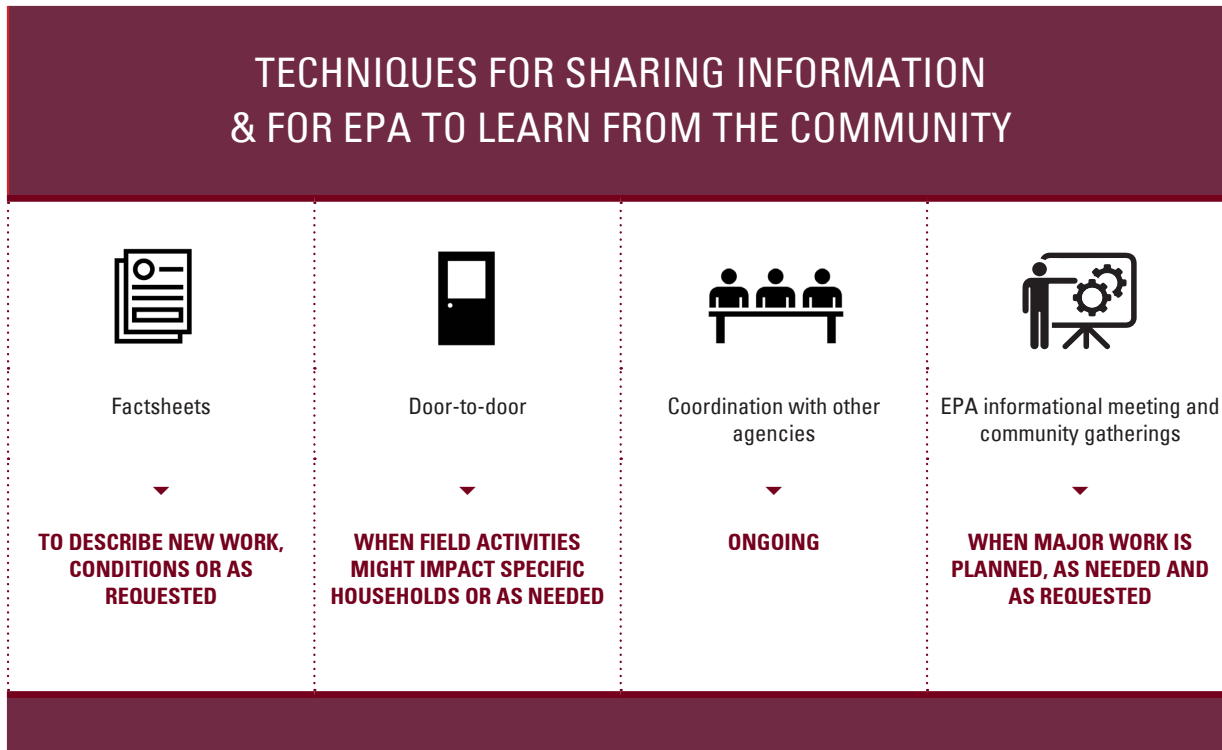


 Table describing information-sharing tools between EPA and the community.

EPA has shared the following materials with community members:

Health Factsheets

EPA worked with the Agency for Toxic Substances and Disease Registry (ATSDR) and other partner agencies to create a series of factsheets on uranium and radiation in the Navajo Nation. These factsheets discuss uranium and radiation basics, the health effects of uranium and radiation, and how to reduce contact with uranium and radiation.

Agencies to Contact with Questions Factsheet

EPA worked with partner agencies to create a factsheet to help community members determine which agency to contact for questions related to uranium or radiation on the Navajo Nation.

Site-specific Factsheets

EPA has created a factsheet for mines in the North Central AUM Region, which includes summaries of site histories, background information, mine site locations, upcoming site activities, and summaries of completed work.

EPA Websites

EPA will also provide information and important documents on this webpage: www.epa.gov/navajo-nation-uranium-cleanup.

Information Library

Several interviewees noted that information should be made available to all community members.

As a part of the Superfund process, EPA is required to maintain a set of documents and information locally, where the public can easily access printed or digital copies. This is called the “Information Library.” Information libraries contain copies of technical or planning documents, factsheets, results of previous meetings, and other similar types of information. EPA will set up an information library for the Oljato, Dennehotso, Kayenta, and Shonto Chapters.

Door-to-Door Outreach

Many community members and local officials requested that EPA share information with families that live or have grazing permits at or near mines where work will take place. For residents who are unable to attend community meetings, EPA can share information and discuss concerns through door-to-door outreach. EPA will coordinate with local officials to contact grazing permit holders, homesite leaseholders, and homebound residents near these mine areas. Interested individuals can contact EPA’s Community Involvement Coordinator to request an in-person meeting with EPA and NNEPA.

Newspaper and Radio Communication

EPA will use the following media channels for outreach:

Newspaper Communication

Navajo Times
Farmington Daily Times
Gallup Independent

Radio Communication


KTNN 660 AM: The Voice of the Navajo Nation
KNDN 960 AM Farmington

Uranium Awareness Outreach Campaign

EPA works with ATSDR to increase awareness among Navajo people about uranium issues on the Navajo Nation. EPA, the Navajo Nation, and others developed a series of posters for ten geographic regions of the Navajo Nation. These posters feature a map showing locations of AUMs, contaminated water sources, regulated watering points, and other landmarks. The posters also include information about warning signs, reducing contact with uranium, and maintaining good health. Some of these materials were provided to area residents during CIP interviews.

The Indian Health Service (IHS) and the Navajo Department of Health Community Health Representatives (CHRs) distributed these posters to IHS Health Clinics and chapters across the Navajo Nation. To prepare for this outreach, EPA, ATSDR, and IHS trained the CHRs on the information provided in the posters. EPA will continue to distribute the posters during future meetings and by request. EPA will also continue to coordinate with ATSDR, IHS, and the CHRs on uranium awareness outreach. The Radiation Exposure Compensation Act and the Navajo Uranium Mine Workers Office of Compensation programs were established to address compensation for former mine workers and downwinders. EPA invites these organizations to their meetings but does not provide worker compensation.



 Landscape and homes near Monument Valley, Utah.

Presentations

Many interviewees suggested that EPA present information about local uranium issues at the chapter houses. Many interviewees recommended that EPA also host informational gatherings, especially when more time is needed for deep engagement with community members. Examples for these types of meetings include discussions about signs and fences, investigation findings and cleanup options, settlement activities, or specific community concerns that need to be discussed in depth.

Depending on the topics to be discussed, EPA will use the following formats for these gatherings:

Small Venue Meetings and Focus Groups – smaller, more informal gatherings focused on a specific geographic region, interested group, or extended family, that provide opportunities for community members to share their thoughts and concerns with EPA and NNEPA representatives.

Workshops and Facilitated Discussions – facilitated meetings designed to answer specific questions or address specific community concerns.

EPA will strive to send out meeting notices at least one month before any gatherings via radio, print, and chapter meeting announcements, and will contact community partners and other outlets as appropriate. EPA will need to follow up with community members to identify certain days of the week and times that work well for scheduling meetings.

Typically, the EPA Community Involvement Coordinator will make an announcement at chapter houses when major work is planned in an area or to increase awareness about upcoming EPA activities. EPA will reach out to local officials and coordinate presentations with the local community at chapter houses, community association meetings, and other events. Organizations interested in a presentation should contact the EPA Community Involvement Coordinator.

Working with Navajo Nation Tribal Government

The Navajo Nation is a federally-recognized tribe with its own governmental system. EPA policy is to consult on a government-to-government basis with federally-recognized tribal governments when EPA actions and decisions may affect tribal interests.

EPA interacts with the Navajo Nation government on several levels as a part of AUM assessment and cleanup on the Navajo Nation. EPA consults directly with the Navajo Nation Office of the President and Vice President and the Navajo Nation Council for significant developments, consistent with EPA's tribal policies and guidance. Examples of formal consultation include major decisions and plans for addressing uranium contamination on the Navajo Nation. EPA collaborates with NNEPA's Superfund Program and the Navajo Nation Department of Justice on all AUM assessment and cleanup activities. Finally, EPA communicates periodically with officials such as local Navajo Nation Council Delegates and chapter officials at key times during the Superfund process.



 Biological survey at Firelight No. 6.

Key Contacts

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Window Rock, AZ 86515

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darielyazzie@navajo-nsn.gov

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Remedial Project Manager

Navajo Nation Superfund Program

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(928) 871-6859

tbbegay@navajo-nsn.gov

Coordination with Other Agencies and Organizations

The interviewees indicated the need for better coordination among organizations working on uranium issues in the area. Community members and local officials are often unsure of the missions of different organizations and find it difficult to stay updated on progress and events hosted by the various groups.

As part of the Ten-Year Plan (2020-2029) to address the legacy of uranium contamination on the Navajo Nation, federal agencies participate in a community outreach network to coordinate federal efforts across the Navajo Nation. In addition, EPA is working to strengthen ties with other federal, tribal, and community organizations in the North Central AUM Region. EPA will continue to provide information to community members about the roles of different organizations and events hosted by various groups in the area.

EPA will continue to strengthen relationships with:

- Diné Uranium Remediation Advisory Commission
- Navajo Nation Environmental Protection Agency
- Navajo Nation Superfund Program
- Navajo AML
- IHS Radiation Exposure Screening and Education Program
- Navajo Birth Cohort Study staff, especially the Clinical Cohort Liaisons and Community Health Environmental Research Staff
- Navajo Nation Department of Health Community Health Representatives
- Navajo Nation Heritage and Historic Preservation Department
- Navajo Nation Department of Fish and Wildlife
- Federal Ten-Year Plan partners, including the U.S. Bureau of Indian Affairs, IHS, ATSDR, the U.S. Centers for Disease Control and Prevention, the U.S. Nuclear Regulatory Commission, and the U.S. Department of Energy
- Research universities, including the University of New Mexico and Northern Arizona University
- Diné College and Navajo Technical University
- Community Land Use Planning Committees
- Chapter officials, local and agency grazing officials, and other elected representatives
- Others as suggested by community members and local officials



The Ten-Year Plan is available on EPA's website:

<https://www.epa.gov/navajo-nation-uranium-cleanup/abandoned-mines-cleanup-federal-plans>



Summary

EPA interviewed community members, local officials, and other stakeholders in Oljato, Dennehotso, Kayenta, and Shonto Chapters from March 2018 through February 2019. EPA used information from these interviews to learn about community concerns and prepare this CIP. EPA would like to thank interviewees and the communities for their time, patience, and willingness to share their stories and concerns.

EPA recognizes that input and feedback from community members are crucial to the success of uranium cleanup on the Navajo Nation. EPA will continue to work closely with community members and elected officials in the cleanup process, as outlined in this CIP. Additionally, community members are always welcome to provide input by contacting EPA's Community Involvement Coordinator.

APPENDICES

FUNDING TO BEGIN THE CLEANUP PROCESS AT NAVAJO AUMS

As of 2021, funds are available to begin work at 230 AUMs on the Navajo Nation. In the North Central AUM Region funds are available for 13 AUMs.

SKYLINE MINE WASTE CLEANUP

In 2011, EPA cleaned up mine waste near homes below Skyline mine. The mine was operational from 1944 to 1962 and produced 5,090 tons of ore. A total of 25,000 cubic yards of mine waste is located in an interim repository on site. The interim repository is sealed with high-density polyethylene and covered with local soil and rock. It is regularly monitored, and in 2019 the Navajo

AML constructed erosion control measures at the repository site. EPA will conduct a detailed assessment of the Skyline mine and the adjacent Utah No. 1 Lease mine.

ENVIRONMENTAL RESPONSE TRUST (PHASE 1 SETTLEMENT AND PHASE 2 SETTLEMENT)

In 2015, the Navajo Nation settled a potential lawsuit against the United States for uranium contamination at 16 “priority” AUMs across Navajo lands for which no viable responsible parties have been identified. These sites were selected because they have elevated levels of radiation and are located near homes or water sources.

The settlement established a \$13.2 million fund to be administered through the Navajo Nation AUMs Environmental Response Trust – Phase 1 to pay for the investigations. Results from investigating the 16 sites provide information for later cleanup decisions. Sadie Hoskie served as the Phase 1 Trustee, and completed assessments of the 16 priority sites, three of which are in the Oljato and Dennehotso Chapters: Mitten No. 3, Charles Keith and Harvey Blackwater No. 3 mines. On October 22, 2018, the Phase 1 Trustee Sadie Hoskie presented the assessment results to community members.

Recent Accomplishments across Navajo Nation (2008 to 2020)

- A total of 11 settlements with private companies
- Assessment field work completed at 111 mines
- Interim cleanup work at 29 mines and a transfer station
- Over 3,800 families received access to safe drinking water, in partnership with IHS
- Over 50 contaminated structures have been removed, with over 1,200 homes tested, to address potential residential exposures

Phase 1 Trust Mines (Priority Sites)

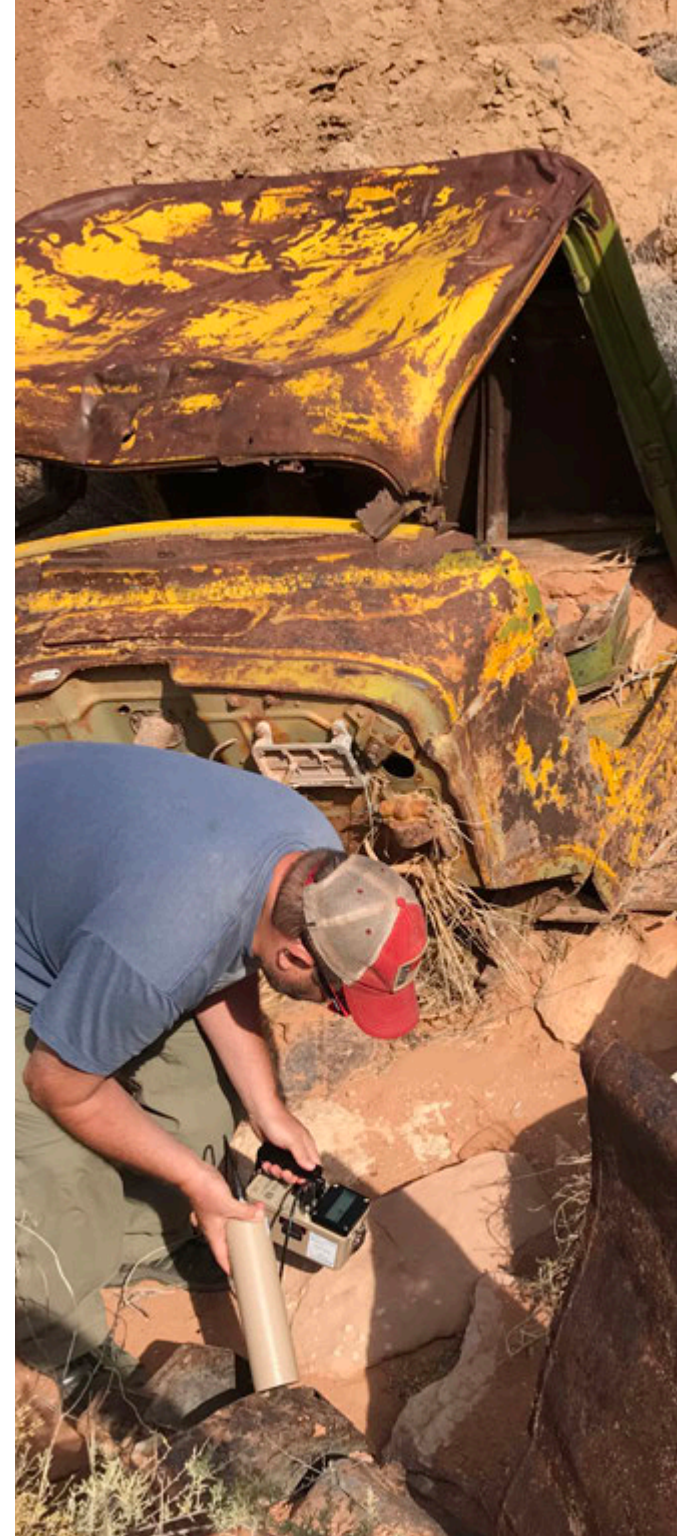
- *Mitten No. 3* is located in the Oljato Chapter and consists of a 2-acre area. The mine was identified as being operational in 1955. While operational, the mine had a total reported production volume of 10 tons.
- *Charles Keith* is located in the Oljato Chapter and consists of an 8-acre area. The mine was identified as being operational from 1954 to 1955. While operational, the mine had a total reported production volume of 59 tons.
- *Harvey Blackwater No. 3* is located in the Dennehotso Chapter and consists of a 13-acre area. The mine was identified as being operational from 1954 to 1955. While operational, the mine had a total reported production volume of 557 tons.

In October 2016, the Navajo Nation and the United States reached another settlement for these 16 sites. The agreement funds the costs of engineering evaluations, cost analyses, and cleanups at the 16 priority mines, as needed. It also funds assessments at another 30 mines and two water studies. The work will be performed by the Phase 2 Trustee Derrith Watchman-Moore, with oversight by EPA and NNEPA. In addition, the settlement provides Navajo Nation with funds for pre-assessment of natural resources damages.


CYPRUS AMAX AND WESTERN NUCLEAR SETTLEMENT AGREEMENT

In January 2017, the United States and the Navajo Nation entered into a settlement agreement with Cyprus Amax and Western Nuclear, two companies owned by Freeport-McMoRan, for the cleanup of 94 AUMs across the Navajo Nation. Under the settlement, valued at over \$600 million, Cyprus Amax and Western Nuclear will perform the work and the United States will contribute about half of the costs. Eight of these mines are in the Oljato and Dennehotso Chapters.

Cyprus Amax and Western Nuclear agreed to perform Removal Site Evaluations, Engineering Evaluations and Cost Analyses, and cleanups at the 94 mines. Removal Site Evaluation reports are currently being prepared for about 30 mines, including the Rock Door No. 1 and Firelight No. 6 mines in the Oljato Chapter, and the Monument No. 2 mine in the Dennehotso Chapter.

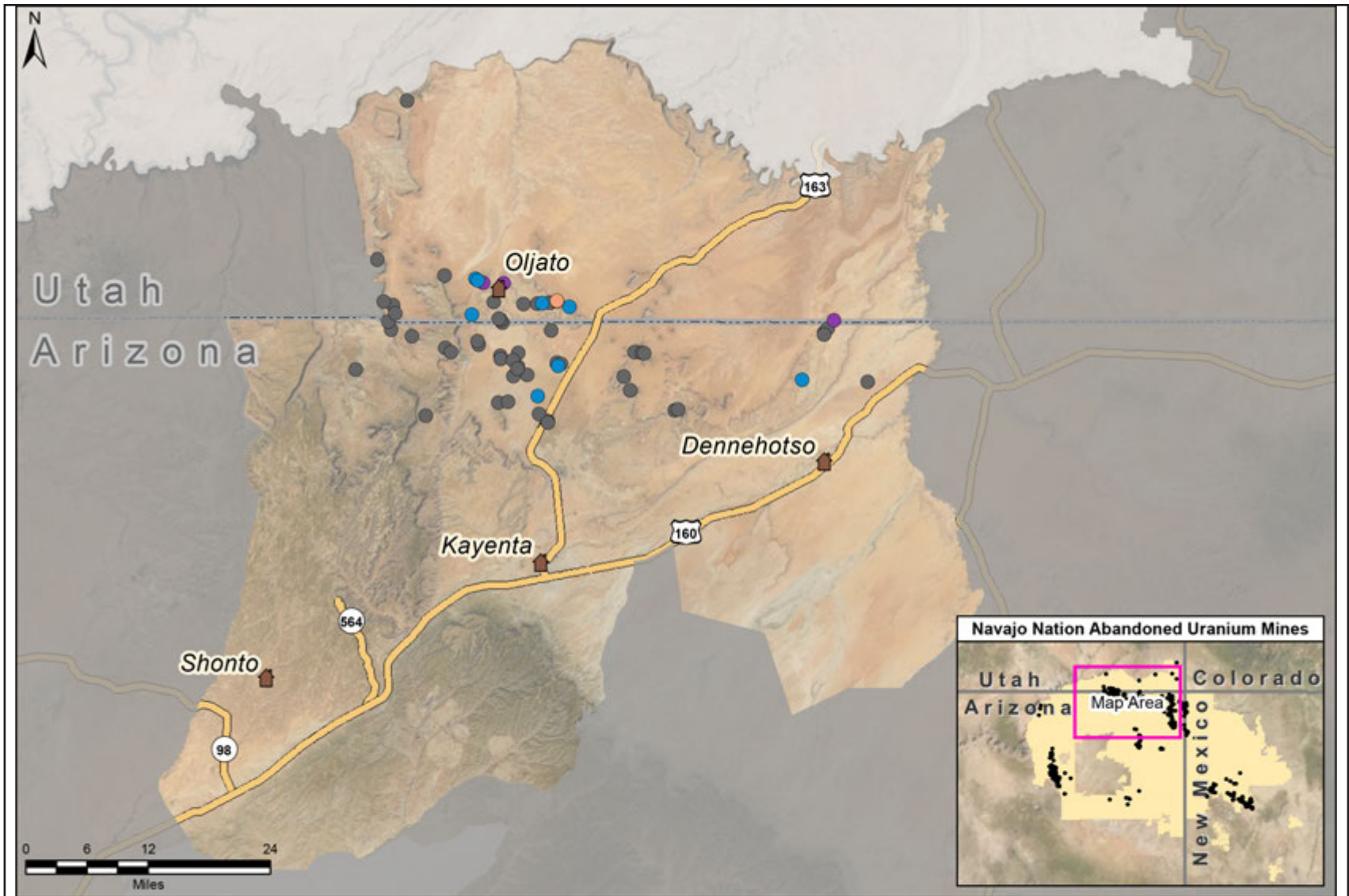




 Abandoned trucks from mining era.




Cyprus Amax Settlement Agreement Mine Sites in the Oljato and Dennehotso Chapters

- *Taylor Reid No. 1* is in the Oljato Chapter and consists of a 4-acre area. The mine was identified as being operational from 1956 to 1966. While operational, the mine had a total reported production volume of 7,850 tons.
- *C-3* is in the Oljato Chapter and consists of a 6-acre area. The mine was identified as being operational from 1957 to 1965. While operational, the mine had a total reported production volume of 5,410 tons.
- *Tom Holliday* is in the Oljato Chapter and consists of a 3-acre area. The mine was identified as being operational in 1950. While operational, the mine had a total reported production volume of 12 tons.
- *Rock Door No. 1* is in the Oljato Chapter and consists of a 5-acre area. The mine was identified as being operational from 1953 to 1954. While operational, the mine had a total reported production volume of 25 tons.
- *Monument No. 1* is in the Oljato Chapter and consists of a 9-acre area. The mine was identified as being operational from 1942 to 1953. While operational, the mine had a total reported production volume of 4,164 tons.
- *Monument No. 2* is in the Dennehotso Chapter and consists of a 177-acre area. The mine was identified as being operational from 1943 to 1968. While operational, the mine had a total reported production volume of 773,132 tons, reportedly the largest uranium mine in Arizona.
- *Monument No. 3* is in the Oljato Chapter and consists of a 2.5-acre area. The mine was identified as being operational in 1949. While operational, the mine had a total reported production volume of 6 tons.
- *Firelight No. 6* is in the Oljato Chapter and consists of a 10-acre area. The mine was identified as being operational from 1959 to 1960. While operational, the mine had a total reported production volume of 2,141 tons.

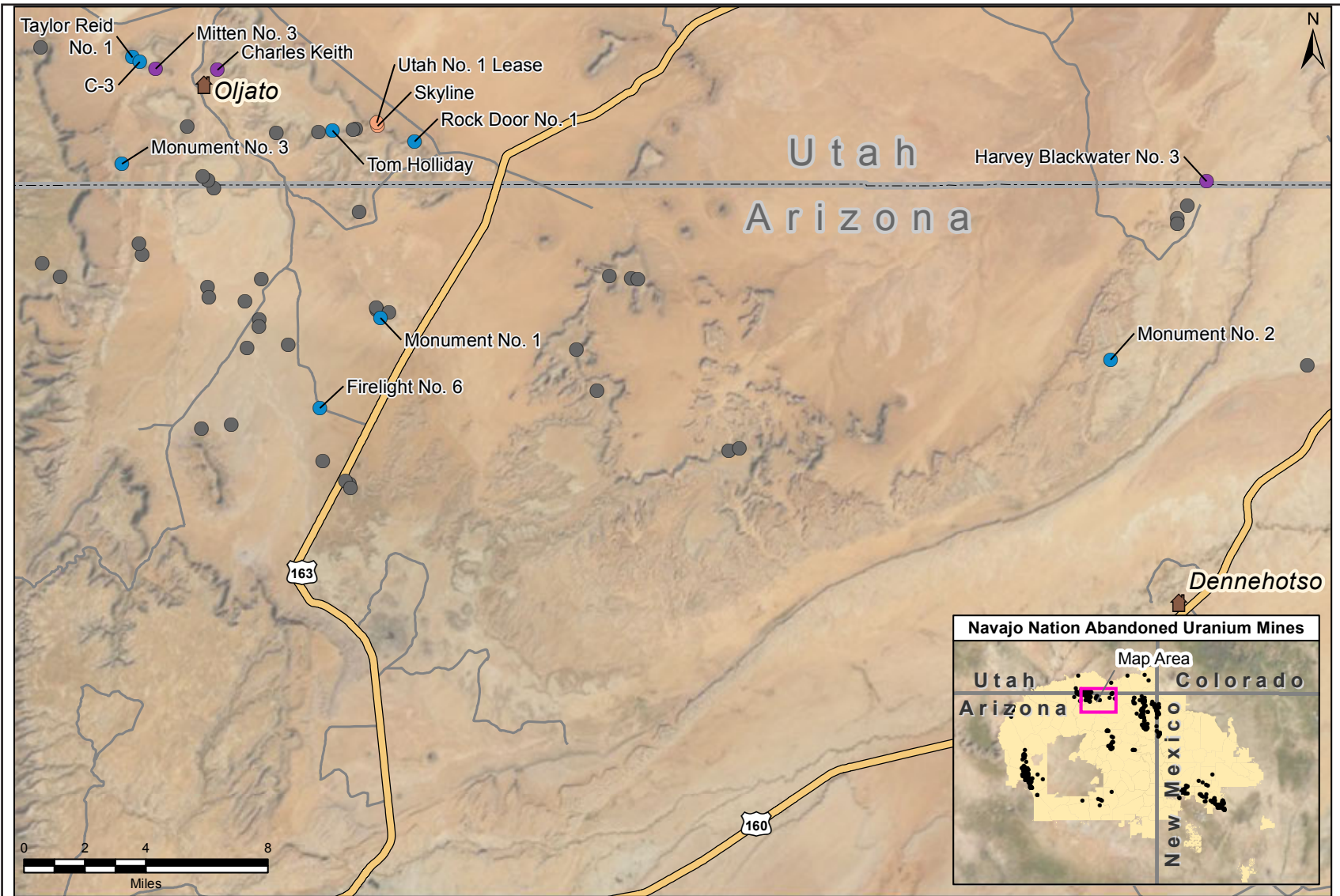


- Mines**
- Cyprus Amax
 - Phase I Trust
 - US EPA Funded
 - Currently Unfunded

Abandoned Uranium Mines and Current Settlements
Navajo Nation North Central AUM Area

-  Chapter House
-  Highway
-  US State





Taylor Reid No. 1
C-3

Mitten No. 3
Charles Keith

Utah No. 1 Lease
Skyline

Rock Door No. 1

Monument No. 3

Tom Holliday

Utah
Arizona

Harvey Blackwater No. 3

Monument No. 1

Firelight No. 6

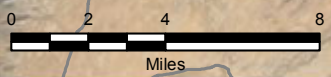
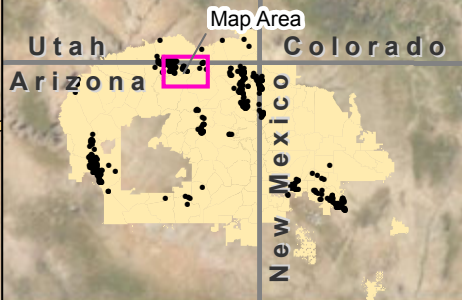
Monument No. 2

163

Dennehotso

160

Navajo Nation Abandoned Uranium Mines



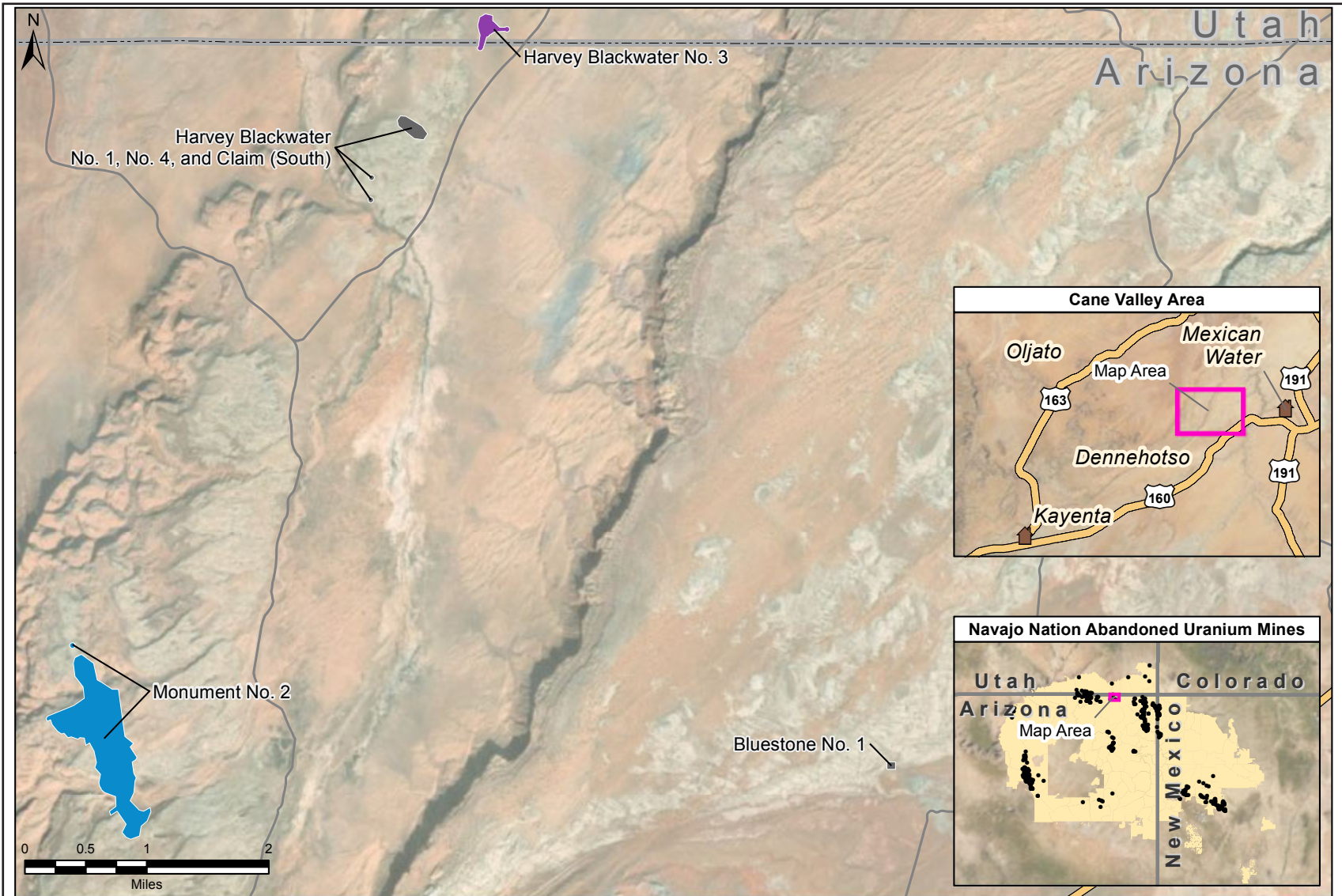
Mines

- Cyprus Amax
- Phase I Trust
- US EPA Funded
- Currently Unfunded

**Abandoned Uranium Mines and Current Settlements
Navajo Nation Utah-Arizona Border Area**

- Chapter House
- Highway
- Road
- US State



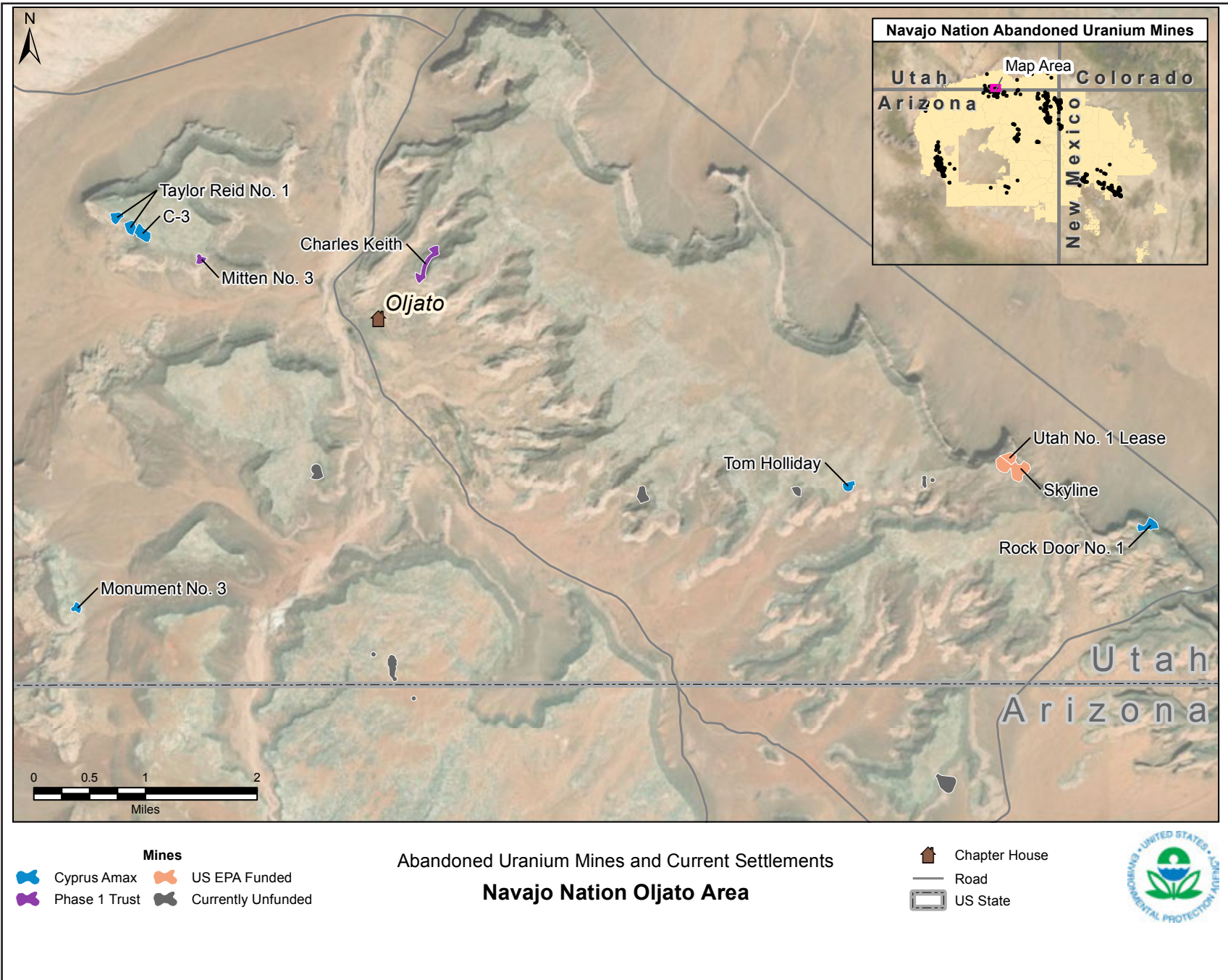


- Mines**
- Cyprus Amax
 - Phase 1 Trust
 - Currently Unfunded

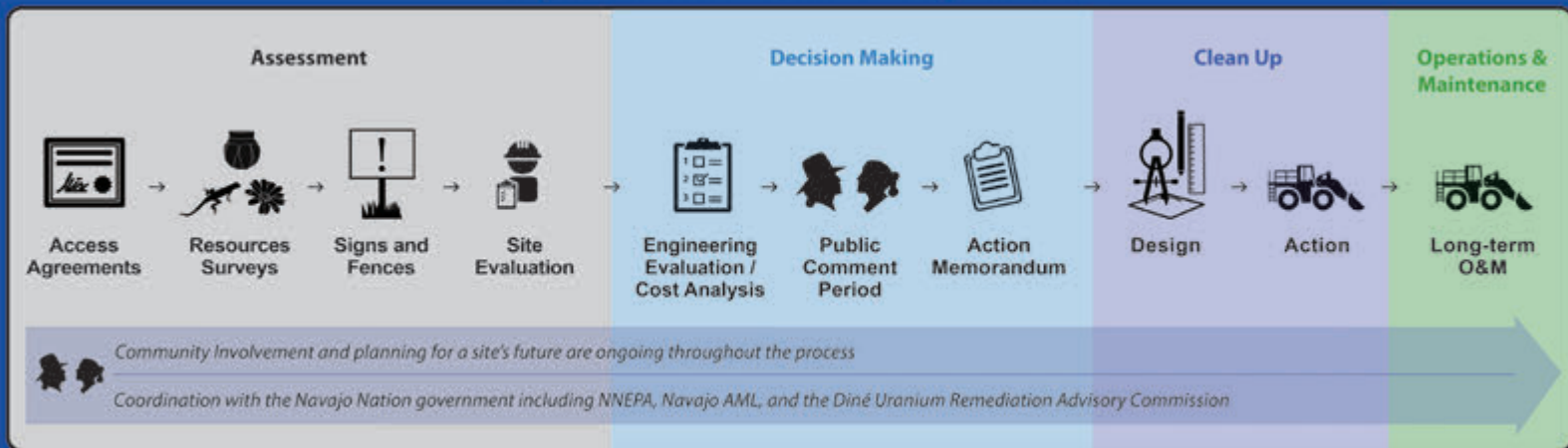
Abandoned Uranium Mines and Current Settlements
Navajo Nation Cane Valley Area

- Chapter House
- Highway
- Road
- US State





Superfund Process on the Navajo Nation



EPA'S PROCESS ON THE NAVAJO NATION

EPA is addressing AUMs on the Navajo Nation in partnership with NNEPA's Superfund Program. This section provides an outline of the Superfund process on the Navajo Nation. This outline specifically covers cleanup actions requiring more than six months' planning time; these are the most common actions on the Navajo Nation. A similar process is used for cleanup actions requiring less planning time.

EPA enters into legal agreements with responsible companies to fund the mine assessments and cleanup. EPA, in coordination with NNEPA, oversees work completed by responsible companies. EPA, the Trustee, or the responsible company must get access approvals from the Navajo Nation and seek access approvals from other parties such as homesite leaseholders, as appropriate, before

beginning work. After gaining access approvals, EPA or the responsible company completes a cultural resources survey, and EPA must consult with the Navajo Nation Heritage and Historic Preservation Department Director on cultural resources that might be affected by assessment or cleanup work. Additionally, a biological survey may be needed, and EPA may need to consult with the Navajo Nation Department of Fish and Wildlife and possibly the U.S. Fish and Wildlife Service on potential impacts to threatened or endangered species.

After getting the necessary approvals, EPA, the Trustee, or the responsible company conducts a detailed assessment of the extent of contamination at the mine site. The assessment is outlined in a document called a Removal Site Evaluation (RSE). Next, a risk assessment is done and an evaluation of cleanup options takes place. Evaluation findings are summarized in an Engineering Evaluation/Cost Analysis (EE/

CA). Also, EPA, the Trustee, or the responsible party may place signs and/or fences at mines, depending on community input as well as the mine's location and level of radiation.

EPA uses the information in the EE/CA, along with community input EPA has been receiving throughout the assessment process, to identify cleanup options. EPA presents the EE/CA and cleanup options to the community during a public meeting, which is followed by a public comment period.

EPA uses this additional feedback from the community to select a cleanup option and issues an Action Memorandum on the decision. The Action Memorandum includes a response to the public comments received at the public meeting or submitted in writing during the comment period. At this point, EPA or the responsible company can begin the design and construction of cleanup on the mine site.

GLOSSARY

Abandoned Uranium Mine (AUM) Claim

– An AUM claim is generally associated with a patented or unpatented mining claim or a lease of federal, state, tribal, or private lands. A claim may represent a single feature such as a surface or underground excavation, or it may include an area containing a complex of multiple interrelated excavations. As a result, one claim may represent multiple “mines” listed in other databases.

Action Memorandum – EPA’s primary decision document that determines the need for a removal action, authorizes the removal action, identifies the action and cleanup levels (if applicable), and explains the rationale for the removal response.

Contamination – The presence of microorganisms, chemicals, toxic substances, or wastes, at levels that make water, air, or soil unfit for intended uses.

Cyprus Amax Minerals Company – One of the two companies owned by Freeport-McMoRan performing cleanup work under the terms of the January 2017 settlement agreement for the cleanup of 94 AUMs on the Navajo Nation.

Engineering Evaluation/Cost Analysis (EE/CA) – An analysis of cleanup alternatives for removal actions requiring more than six months’ planning time. EPA selects one of the alternatives outlined in the EE/CA in the Action Memorandum.

Freeport-McMoRan – A mining company based in Phoenix, Arizona. It owns the Cyprus Amax and Western Nuclear companies that are responsible for 94 mines across the Navajo Nation.

Groundwater – The supply of fresh water found beneath the Earth’s surface, usually in aquifers, which supply wells and springs. Because groundwater is a major source of drinking water, there is growing concern over contamination.

Information Library – A record storage area at or near a Superfund site that contains reports, documents and factsheets pertaining to the site.

Radiation – Energy that travels in the form of waves or high-speed particles. One way that radiation can be released to the environment is during the decay of radioactive elements such as uranium. Harmful levels of radiation may be found at abandoned uranium mines. Other sources of radiation are generally not harmful, including radiation from sunlight, x-ray machines, and microwave ovens.

Removal Action – Actions that address releases of hazardous substances.


U.S. Superfund – The program operated under the legislative authority of CERCLA and the Superfund Amendments and Reauthorization Act that funds and carries out EPA’s emergency and long-term removal and remedial activities.

Trust/Trustee – The Navajo Nation and United States governments created a two-phase Trust to assess and clean up 16 priority uranium mines across the Navajo Nation, assess an additional 30 mines, and conduct two water studies at mines. Each Trust is a result of claims made by the Navajo Nation against the United States government for contamination from uranium mining during World War II and later. Mines were assessed through the Phase 1 Trust. Funding for cleanup will be available via the Phase 2 Trustee. Sadie Hoskie was the Trustee for the Phase 1 Trust. Derrith Watchman-Moore is the Trustee for the Phase 2 Trust.

Uranium – A heavy, naturally radioactive, metallic element used to produce nuclear power plant fuel, nuclear weapons, and nuclear medicine.

Western Nuclear – One of the two companies owned by Freeport-McMoRan performing cleanup work under the terms of the January 2017 settlement agreement for the cleanup of 94 AUMs on the Navajo Nation.



 *South side of Skyline mine, Oljato, Utah.*



 Open House in Oljato with DOE, Navajo AML, Phase 1 Trust and EPA.

2021 RESOURCE LIST

Mines and Structures

Cleanup of chemical and radiological hazards at AUMs
 U.S. Environmental Protection Agency (EPA)
 Region 9 Superfund Program,
 San Francisco, California
 (800) 231-3075

NNEPA Navajo Superfund Program,
 Window Rock, Arizona
 (800) 314-1846

Contaminated structures
 NNEPA Navajo Superfund Program,
 Window Rock, Arizona - Contaminated
 Structures Program
 (800) 314-1846

Address physical hazards to
 abandoned mine lands, i.e., copper,
 sand, and gravel pits
 Navajo AML,
 Window Rock, Arizona
 (928) 871-6982

Radon in your home, radon test kits
 NNEPA Radon Program,
 Window Rock, Arizona
 (928) 871-6790

Uranium Mill Sites

Disposal sites - long-term
 surveillance and maintenance
 (LTS&M)
 DOE, Office of Legacy Management (LM),
 Grand Junction, Colorado
 (970) 248-6621 Mexican Hat

Former processing site - LTS&M
 DOE LM, Grand Junction, Colorado
 (970) 248-6621 Monument Valley

Technical assistance, community
 outreach
 Navajo AML Uranium Mill Tailings
 Remedial Action Department,
 Window Rock, Arizona
 (928) 871-6982

Disposal sites - general licensing
 and oversight
 U.S. Nuclear Regulatory Commission
 (NRC), Washington, DC
 (301) 415-6749

Former processing site - oversight
 NRC, Washington, DC
 (301) 415-6749

Health

Preventive health information,
 uranium awareness posters
 Navajo Department of Health (NDOH),
 Community Health Representative/
 Outreach Program,
 Window Rock, Arizona
 (928) 871-6875

Uranium medical screening and
 monitoring program
 IHS, Northern Navajo Medical Center,
 Community Uranium Exposure - Journey
 to Healing, Shiprock, New Mexico
 (505) 368-7391
 (505) 368-7402

Provides local oncology care and
 provides assistance to coordinate
 care to patients, Navajo medical
 interpreters available
 Tuba City Regional Health Care
 Corporation, Specialty Care Center,
 Tuba City, Arizona
 (928) 283-2402

Navajo Birth Cohort Study
 University of New Mexico,
 Albuquerque, New Mexico
 ATSDR Division of Toxicology and Human
 Health Sciences, Atlanta, Georgia
 (877) 545-6775
 (770) 488-3684

Downwinders radiation exposure
 compensation claim assistance
 IHS, Northern Navajo Medical Center,
 Radiation Exposure Screening and
 Education Program (RESEP),
 Shiprock, New Mexico
 NDOH, Office of Navajo Uranium
 Workers, Shiprock, New Mexico
 (505) 368-7054
 (505) 368-1260

No-cost medical screening
 exams to eligible downwinders,
 downwinders radiation exposure
 compensation claim assistance
 North Country Healthcare, RESEP,
 Flagstaff, Arizona
 (928) 522-9427

Uranium workers radiation
 exposure compensation claim
 IHS, Northern Navajo Medical Center,
 RESEP, Shiprock, New Mexico
 NDOH, Office of Navajo Uranium
 Workers, Shiprock, New Mexico
 (505) 368-7054
 (505) 368-1260

Educational Programs

Environmental Risk Assessment
 Ecological Risk Assessment
 Traditional Ecological Knowledge
 Diné Environmental Institute Research
 and Outreach
 Diné College, Shiprock Campus,
 Shiprock, New Mexico
 (505) 368-3514

Water

Water hauling practices from safe
 drinking water sources
 NNEPA, Public Water Systems
 Supervision Program,
 Window Rock, Arizona
 (928) 871-7755

Locations of regulated water points
 Navajo Tribal Utility Authority (NTUA),
 Fort Defiance, Arizona
 (800) 528-5011

Water quality of NTUA piped water
 in your home, or from an NTUA
 public water system
 NTUA, Fort Defiance, Arizona
 (928) 729-6207
 Ask for "consumer confidence report"

Surface water and groundwater
 quality
 NNEPA, Water Quality Program
 (505) 368-1037

Operation and maintenance of
 livestock water sources
 Navajo Department of Water Resources,
 Technical, Construction, and Operations
 Branch
 (928) 729-4032

Locations of unregulated sources,
 livestock wells, windmills, earthen
 dams


Uranium Policy Advisory

Study the impacts of uranium
 mining and uranium processing
 on the Navajo Nation, provide
 recommendations to the Navajo
 Nation President/Vice President
 and to the Navajo Nation Council
 for policies, laws, and regulations to
 address those impacts
 Diné Uranium Remediation Advisory
 Commission (DURAC),
 Window Rock, Arizona
 (928) 871-7186

ACRONYMS AND ABBREVIATIONS

AML	Abandoned Mine Lands
ATSDR	Agency for Toxic Substances and Disease Registry
AUM	Abandoned Uranium Mine
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHR	Community Health Representative
CIP	Community Involvement Plan
DOE	United States Department of Energy
EE/CA	Engineering Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
IHS	Navajo Area Indian Health Service
LM	United States Department of Energy Office of Legacy Management
LTS&M	long-term surveillance and maintenance
NDOH	Navajo Department of Health
NNEPA	Navajo Nation Environmental Protection Agency
NRC	United States Nuclear Regulatory Commission
NSP	Navajo Superfund Program
NTUA	Navajo Tribal Utility Authority
RECA	Radiation Exposure Compensation Act
RESEP	Radiation Exposure Screening and Education Program
RSE	Removal Site Evaluation
TASC	Technical Assistance Services for Communities
UMTRA	Uranium Mill Tailings Remedial Action Program
VCA	Vanadium Corporation of America



 Geomorphic contours to control erosion at the Skyline mine interim repository designed by Navajo AML and constructed by Clawson Excavating Inc., a Navajo- and woman-owned business.

We have no place to move to get away from these mine sites. Uranium ore is still scattered around at the base of the rock mesas... We have lost countless people... Uranium has affected many, many people even children of the miners. My former husband was an underground uranium mine driller and would come home covered with clothes caked with dust. I would hand wash and scrub his work clothes using water gathered from near the mine site. Our family drank water that sometimes seeped from the mine pits because that water was cool. It is easy to attribute most of our health conditions to uranium.

*-- Community Member
March 2018 Interview*