



SMITH LAKE AND MARIANO LAKE CHAPTER MINE SITES
COMMUNITY INVOLVEMENT PLAN

INTRODUCTION

The Navajo Nation was the site of widespread uranium mining from 1944 to 1986. While uranium mining no longer occurs within the Navajo Nation, the legacy of uranium contamination remains. More than 500 abandoned uranium mine (AUM) claims, as well as some homes and drinking water sources with elevated levels of radiation, are spread throughout the Navajo Nation. There are eight closed uranium mine sites in the Navajo Nation's Smith Lake and Mariano Lake Chapters. USEPA currently has agreements with mining companies to have them address the contamination at seven of the eight mines. These mines are Ruby #1, Ruby #3, Mac #1, Mac #2, Black Jack #1, Black Jack #2 and the Old Gulf Mine (also known as the Mariano Lake Mine). The last mine, Reynolds Mine, has no record of ore production.

These eight mines most impact people living nearby in the Smith Lake and Mariano Lake Chapters. Therefore, the Community Involvement Plan (CIP) focuses on these groups of residents, chapter officials and other interested parties. For more information, please contact NNEPA's Superfund program at (928) 871- 6859.

USEPA Region 9 – headquartered in San Francisco, California – is responsible for working on Navajo abandoned uranium mine cleanup activities on the Navajo Nation.

Under the Federal Superfund program, USEPA works with the Navajo Nation Environmental Protection Agency (NNEPA) to oversee uranium mine assessments and cleanups on the Navajo Nation.

This Smith Lake Chapter and Mariano Lake Chapter CIP outlines USEPA Region 9 outreach activities to address community concerns and meet the following goals:

- Provide community members with accurate, timely and understandable information about USEPA's AUM activities that reflects their communication preferences and culture.
- Coordinate with community members and tribal leaders to make sure USEPA understands community concerns and considers community goals in its decision-making process.
- Work with consideration of Dine Fundamental Law and Navajo traditional ways of life.

To put this plan together, USEPA and NNEPA interviewed community members, chapter officials and other stakeholders in the area in June and July 2016. Interview findings combined with information from USEPA experiences in the community guided the development of the CIP.

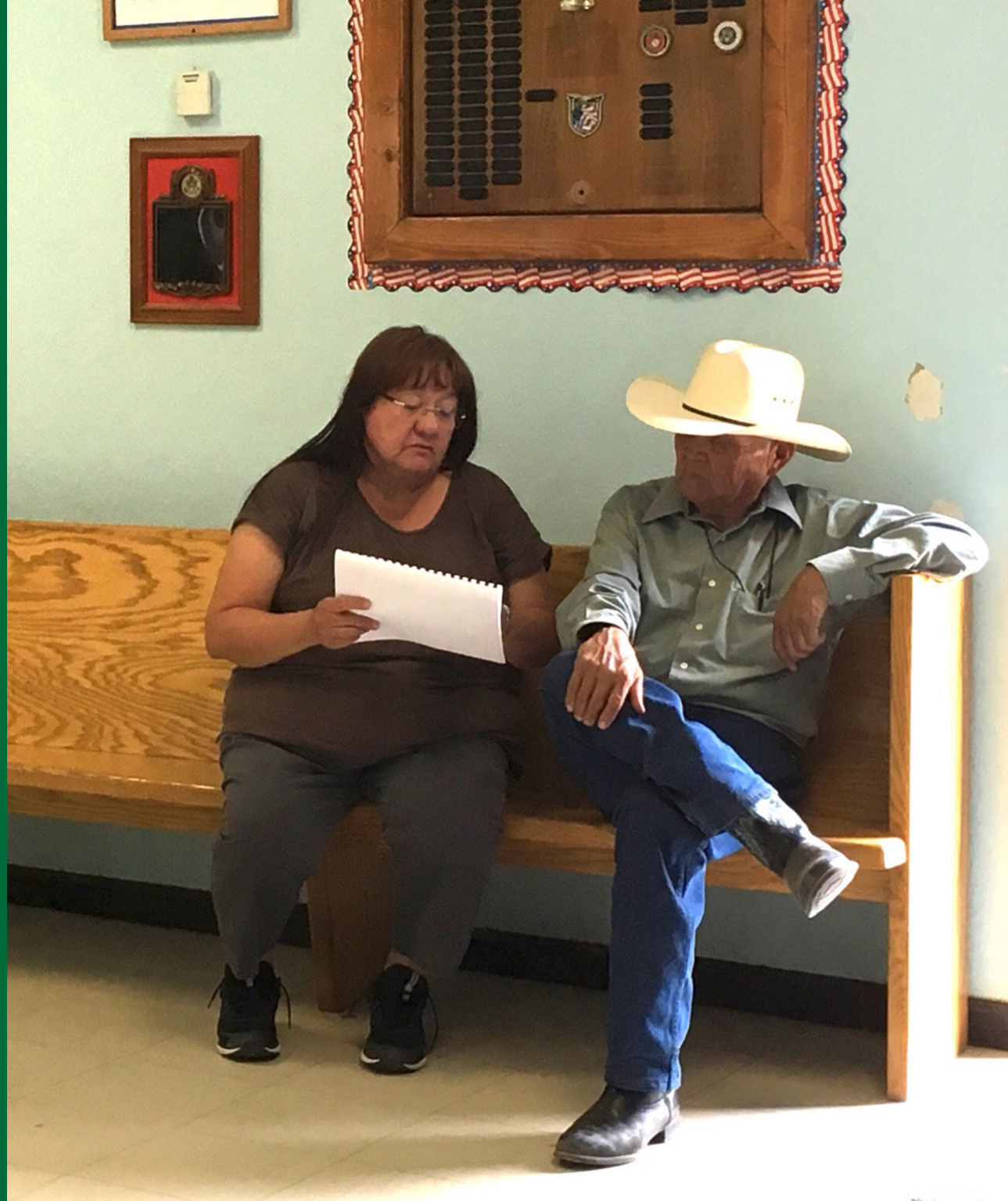
USEPA's Technical Assistance Services for Communities (TASC) program assisted USEPA Region 9 during the interview process. USEPA has been working with the Smith Lake and Mariano Lake to respond to their needs with support from the TASC program where appropriate.




AUM: Abandoned
uranium mine

The Community Involvement Plan (CIP)


The Community Involvement Plan (CIP) is the foundation of the U.S. Environmental Protection Agency's (USEPA's) Superfund community involvement and outreach program. This CIP is a living document to assist communication between community members and USEPA. In addition, it outlines opportunities for individual participation and meaningful information sharing regarding USEPA's activities at abandoned uranium mines in the Smith Lake and Mariano Lake Chapters of the Navajo Nation. This CIP is also a tool for the public to use to make sure USEPA is responsive to their needs and concerns.



 USEPA discusses information on sites in the area with community member.

Cover image: Scenic view with abandoned mine in the foreground.



 Scenic view from
Mariano Lakes Chapter
House.

COMMUNITY INVOLVEMENT PLAN ORGANIZATION

INTRODUCTION

This section introduces the sites and the Community Involvement Plan.

2

THE COMMUNITY

This section provides a brief community profile and shares issues and concerns raised during the community interviews.

8

THE COMMUNITY INVOLVEMENT ACTION PLAN

This section explains USEPA's plan for communicating and engaging with the communities and stakeholders. It also outlines opportunities for community members to provide input during USEPA's decision-making process.

16

KEY CONTACTS

SUMMARY

APPENDICES

The appendices include information about:

- Site Descriptions
- USEPA Superfund Process at the Navajo Nation
- Glossary
- List of Acronyms
- Uranium and Radiation Resource List

23





— THE — COMMUNITY

 Traditional hogan at Mariano Lake Chapter House.

THE COMMUNITY

COMMUNITY PROFILE

The Smith Lake and Mariano Lake chapters are located east of Gallup, New Mexico. These communities are part of the Eastern Agency of the Navajo Nation.

Many community members in the region graze sheep, cattle and horses near their homesites. Most of the land in the region is used for grazing, and on a limited basis for farming. Various plants in the region are also used for medicinal and traditional purposes. The region features an arid landscape that includes rolling hills, juniper and piñon forests, open flatlands, rocky canyons and mesas.

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). In these sectors, most of the jobs are in nearby Gallup, New Mexico, with many people commuting into town for work. The unemployment rate for the Navajo Nation is substantially higher than the national average.¹

¹ Navajo Nation Division of Economic Development. *2009-2010 Comprehensive Economic Development Strategy of the Navajo Nation.*

Demographics

About 950 predominantly Navajo people live in the Smith Lake Chapter and about 820 predominantly Navajo people live in the Mariano Lake Chapter.

The languages spoken in the area are primarily Navajo and English. According to the 2009-2013 American Community Survey, more than half of community members in the Smith Lake Chapter (51 percent) and the Mariano Lake Chapter (66 percent) speak a language other than English at home. About half of community members in the Smith Lake Chapter (49 percent) and more than three quarters of community members in

the Mariano Lake Chapter (86 percent) report speaking English “less than very well.”²

COMMUNITY CONCERNS AND PREFERENCES

To better understand the community, its culture, and concerns, USEPA and NNEPA interviewed community members, local officials and stakeholders in the Smith Lake and Mariano Lake Chapters.

² Navajo Nation Division of Economic Development. *2006-2010 American Communities Survey.*



 Dirt road leading to abandoned mining area in Smith Lake Chapter.

- All interviewees had knowledge of the abandoned uranium mines in the area, however, many were unfamiliar with USEPA's role in the area. Many community members shared stories about family members that worked in the mines, grazed livestock nearby, and drank from and washed in water sources located near mines. The community's livestock and area wildlife rely on these waters as well.
- All interviewees shared the concern that the mine cleanups should be thorough, protective, lasting and timely. While community members expressed frustration at the delay in federal government involvement in the cleanup, most welcomed USEPA's current efforts in the area.
- Some concerns described during the interviews are within the scope of USEPA's work on abandoned uranium mines and can be addressed by USEPA by working with the community and tribal leaders directly. For concerns raised outside of USEPA's scope, USEPA will collaborate with other federal, tribal and community organizations.

Community concerns and preferences are grouped into the following categories:

1. Health Concerns
2. Abandoned Uranium Mine Cleanup Concerns
3. Future Land Use Preferences
4. Air and Water Concerns
5. Communication and Information Preferences

Health Concerns

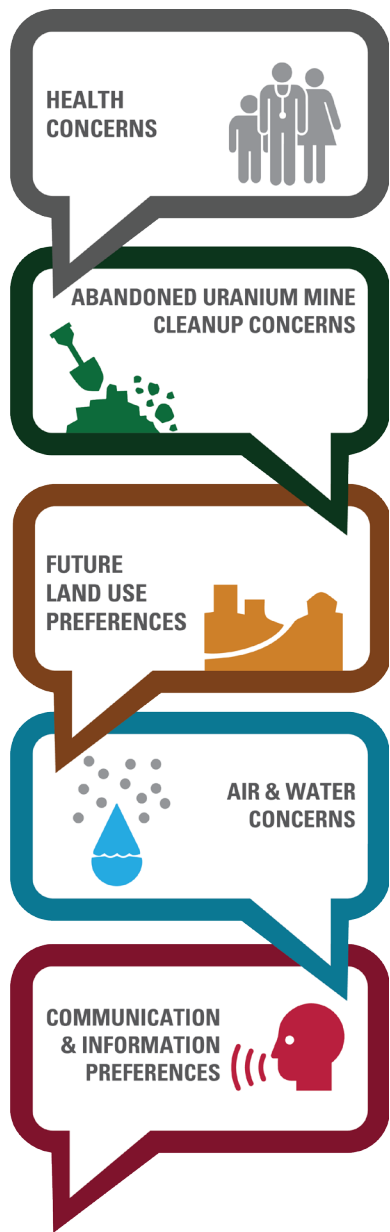
Many community members and local officials asked for information about how to reduce their contact with uranium and sought to better understand the risks of everyday activities. Many community members and local officials asked about the health effects of dust blowing from the mines. They were also concerned about livestock grazing in mine areas and drinking from contaminated water sources, and risks to human health from consuming these animals. Some asked for information about the screening of local homes for radon and radiation. Many interviewees were concerned about the effects of drinking water or farming with uranium-contaminated water.

Community members also shared stories about their own illnesses or illnesses of their



 Sign leading to Old Gulf Mine.

loved ones. Some requested information on the differences between radon effects, uranium effects and radiation effects. Many community members and local officials indicated that recent fact sheets USEPA produced on radiation and uranium and mine cleanup fact sheets have been helpful. They requested additional information and more frequent updates on site-related health information. Interviewees discussed health effects, such as cancer, lung and breathing problems, kidney issues and skin rashes. They also expressed interest in understanding which health conditions may be related to radon, uranium and radiation exposure. For more information on who to contact for these and other topics, see the Uranium and Radiation Resource List in the Appendix.



 Community concerns and preferences.

Abandoned Uranium Mine Cleanup Concerns

Many interviewees discussed their concerns about community involvement in the cleanup process. Community members and local officials requested that chapter officials and committees, affected families, and the general population receive timely updates. Many community members expressed concern about whether USEPA would consider their input in the decision-making process. Community members and local officials also asked for clarification on the roles of various agencies and organizations, and noted the need for more education about USEPA's cleanup process.

Community members and local officials worry about the extent of cleanup at all of the mines in both chapters. In addition, they are worried about windblown mine dust, water contamination and well safety, radon, water movement from former pond/lagoon areas, livestock loss, sinkholes and erosion, abandoned exploration/drilling pipes as a potential contaminant pathway, and vegetation and grazing impacts. Community members expressed concern about the potential transportation of hazardous materials through the communities as part of cleanup activities. Interviewees also shared concerns about long-term monitoring of the cleanup and the

availability of funding for the entire project. Some were concerned about the need for relocation of families during mine cleanup.

Finally, community members and local officials indicated a need for mapping, signage and education so that people – and especially children – can understand and avoid the location of mines and mine wastes in the area.

Future Land Use Preferences

Many interviewees emphasized the need to ensure that the mines and community areas are safe for people to live in, work and gather.

Community members and local officials also shared their thoughts about future land use of mine areas. Some questioned whether the land will ever be safe for humans or livestock. Many expressed their preference that the land be returned safely to farming and grazing use. People emphasized the need to plant native trees and vegetation as part of restoration and reclamation activities. Most agreed that the land should not simply be fenced off and restricted from use by current and future residents. Finally, some interviewees were concerned that the areas would be developed for mining again in the future.



 Scanning for radiation near the Old Gulf Mine.

Air and Water Concerns

Interviewees emphasized that water quality and access to clean water were among the most important environmental issues in both chapters. Many community members and local officials believe that water sources have been contaminated by abandoned uranium mines. Some asked about whether uranium contamination would prevent use of the water for local farming or by livestock. People 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, which runs off from mines 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, and where air monitors would be located.

Communication and Information Preferences

Many community members shared their preferences for communication and receiving information. Most agreed USEPA should be transparent about its work and strive to include all community members. Community members want USEPA to keep chapter officials updated on all work and also share information directly with community members.

Most community members and local officials recommended that USEPA share information primarily in written form, and include many pictures and maps indicating the location of abandoned uranium mines as well as contaminated water sources. They stressed that information should be simple and easy to understand. Most recommended sharing written information with community members through regular mailings. Written materials should be provided in English and Navajo. Community members also emphasized the importance of in-person meetings. They requested that USEPA host meetings on past reclamation activities, sampling and cleanup planning to date, and upcoming activities at the eight mine sites.

Suggestions included stand-alone meetings at chapter houses or other community locations.

Additionally, community members and local officials were concerned about hard-to-reach groups, such as people in ill health, people living in remote locations, and people without the time or resources to attend meetings. Most recommended regularly mailed updates as well as radio announcements for remote community members and in-person visits to reach people in ill health and people who are unable to attend meetings. Several interviewees emphasized the importance of in-person, door-to-door contact with community members. Many also requested that information be readily available, both online and locally.






 USEPA Community Involvement Coordinator Priscilla Tom discusses past mining activity while looking over an USEPA fact sheet with community member.





THE COMMUNITY INVOLVEMENT ACTION PLAN

 USEPA and NNEPA view abandoned mining area
in distance.

THE COMMUNITY INVOLVEMENT ACTION PLAN

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

Information on timing is included with each outreach tool to help community members understand when USEPA will conduct outreach activities and the type of activities to expect. Community members can also contact USEPA's Community Involvement Coordinator with questions about future outreach activities.

USEPA understands that many residents, and especially elders, are Navajo language speakers. To facilitate the inclusion and participation of all community members, USEPA will have an interpreter or tribal representative present during information meetings, open houses and door-to-door outreach. USEPA typically conducts outreach with a NNEPA representative present

Community members can discuss concerns with USEPA whenever a representative is in the area, or contact the USEPA Community Involvement Coordinator by phone, email, or mail at any time.

as well. Interviewees recommended that USEPA develop printed materials in English and Navajo.

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

USEPA 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 USEPA's cleanup decision-making process. Community members can provide input at any time by contacting USEPA's Community Involvement Coordinator.

Written Communication

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

USEPA will provide written communications through fact sheets and flyers. The fact sheets will address the community concerns identified during the interviews. USEPA will make sure contact lists are up to date and include interested residents in the area. Community members on USEPA's contact list will receive information such as USEPA fact sheets or postcard meeting invitations. To be added to USEPA's contact list, please contact USEPA Community Involvement Coordinator Priscilla Tom at (505) 240-0093.



USEPA discusses information on sites in the area with community member at Mariano Lake Chapter House.

TOOLS FOR SHARING INFORMATION & FOR USEPA TO LEARN FROM THE COMMUNITY










								
Fact sheets	Email updates	Door-to-door outreach	Special events	Coordination with other agencies	Job training programs	USEPA presentations	USEPA informational gatherings	Community group meetings
▼	▼	▼	▼	▼	▼	▼	▼	▼
TO DESCRIBE NEW WORK, CONDITIONS OR AS REQUESTED	TWICE A YEAR OR MORE OFTEN AS NEEDED	WHEN FIELD ACTIVITIES MIGHT IMPACT SPECIFIC HOUSEHOLDS OR AS NEEDED	ONCE A YEAR	ONGOING	TO DESCRIBE NEW WORK, CONDITIONS OR AS REQUESTED	WHEN MAJOR WORK IS PLANNED, WHEN A NEW RESPONSIBLE COMPANY IS IDENTIFIED, AS NEEDED AND AS REQUESTED	TO DESCRIBE NEW WORK, CONDITIONS OR AS REQUESTED DEPENDING ON UPCOMING WORK AND COMMUNITY CONCERNS THAT NEED IN DEPTH DISCUSSION	TO DESCRIBE NEW WORK, CONDITIONS OR AS REQUESTED DEPENDING ON UPCOMING WORK AND COMMUNITY CONCERNS THAT NEED IN DEPTH DISCUSSION

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

USEPA has shared the following materials with community members in the Smith Lake and Mariano Lake Chapters:

Health Fact Sheets

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

Agencies to Contact with Questions Fact Sheet

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

Site-specific Fact Sheets

USEPA has created a fact sheet providing background and current status information on mines in the area. This fact sheet was shared with local officials and community members.

These materials are available on the USEPA web page listed below.

USEPA Websites

Regular updates on USEPA's website will provide cleanup information and important documents. Information will be available online at:

<https://www.epa.gov/navajo-nation-uranium-cleanup/eastern-abandoned-uranium-mine-region>



Contact the USEPA Community Involvement Coordinator to be added to the mailing list.

Information Repositories

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

As a part of the Superfund process, USEPA is required to maintain a set of documents and information locally, where the public can easily access printed and digital copies. This is called the “Information Repository.” Information repositories contain copies of technical or planning documents, fact sheets, results of previous meetings and other information. USEPA and NNEPA currently have information repositories at the three libraries listed:

Octavia Fellin Public Library
115 West Hill Avenue
Gallup, NM 87301
(505) 863-1291

*University of New Mexico - Gallup
Zollinger Library*
705 Gurley Avenue
Gallup, NM 87301
(505) 863-7531

Office of Navajo Nation Library
Highway 264 Loop Road
Window Rock, AZ 86515
(928) 871-6376

USEPA could also work with the Smith Lake and Mariano Lake Chapters to create repositories at the chapter houses.

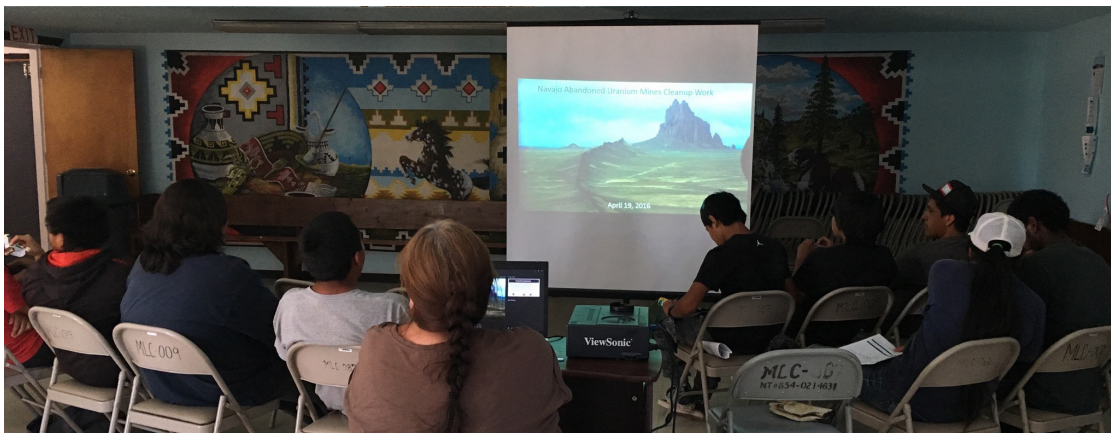
Door-to-door Outreach

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

Newspaper and Radio Communication

USEPA will use the following media channels for outreach in the Smith Lake and Mariano Lake Chapters:

Newspaper Communication
Navajo Times
Gallup Independent



Presentation for summer work program attendees on USEPA involvement on Navajo Nation.



 Old mining building at Black Jack #2.

Information repositories

- Check out the repository or visit the website
- Contact the USEPA Community Involvement Coordinator if your school or group would like to host an additional repository location

Radio Communication

KGAK 1330 AM
KHAC 880 AM
KTNN 660 AM
KXTC 99.9 FM
KYAT 94.5 FM
KYVA 103.7 FM

Uranium Awareness Outreach Campaign

USEPA has been working with ATSDR to increase awareness among Navajo people about uranium issues on the Navajo Nation.

USEPA, ATSDR and the Indian Health Service (IHS) developed a series of posters for 10 geographic regions of the Navajo Nation. These posters feature a map showing locations of abandoned uranium mines, contaminated water sources, regulated watering points and other landmarks. The posters also include information about warning signs, reducing contact with uranium on the Navajo Nation and maintaining

good health. Some of these materials were provided to area residents during CIP interviews.

IHS and Community Health Representatives (CHRs) distributed these posters to IHS Health Clinics and chapters across the Navajo Nation. To prepare for this outreach, USEPA, ATSDR and IHS trained the CHRs on the information provided in the posters. USEPA will continue to distribute the posters during future meetings and by request. USEPA will also continue to coordinate with ATSDR, IHS and the CHRs on uranium awareness outreach.

Presentations

Many interviewees suggested that USEPA present information about local uranium issues at the Chapter Houses. Other community locations mentioned include senior centers and schools.

Many interviewees recommended USEPA also host informational gatherings, especially when

more time is needed for deep engagement with community members. Examples for these types of meetings include discussion about signs and fences, cleanup options for mines, large amounts of work planned for an area, or particular community concerns that need to be discussed in depth.

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

Meetings and Open Houses – larger community meetings that may include USEPA presentations, poster sessions, and time for community members to ask questions and share feedback.

Small Venue Meetings and Focus Groups – smaller, more informal gatherings focusing on a particular geographic region, interested group or extended family, providing opportunities for community members to share their thoughts and concerns with USEPA representatives.



 Uranium Mining Reclamation Area sign.

Key Contacts

U.S. Environmental Protection Agency Region 9

Mark Ripperda

Remedial Project Manager
75 Hawthorne St., SFD-6-2
San Francisco, CA 94105
(415) 301-1684
ripperda.mark@epa.gov

Jacob Phipps

Remedial Project Manager
75 Hawthorne St., SFD-6-2
San Francisco, CA 94105
(415) 972-3019
(415) 654-2512
phipps.jacob@epa.gov

Priscilla Tom

Community Involvement Coordinator
75 Hawthorne St., SFD-6-3
San Francisco, CA 94105
(415) 972-3377
(505) 240-0093
tom.priscilla@epa.gov

Navajo Nation Environmental Protection Agency

Freida White

Navajo EPA, Box 2946
Window Rock, AZ 86515
(800) 314-1846
(928) 871-6859
freidawhite@navajo-nsn.gov



Your input is important. Please provide input at any time by contacting the USEPA Community Involvement Coordinator.

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

USEPA will send meeting notices for these gatherings via the email list and by contacting community partners and other outlets as appropriate.

Typically, USEPA staff will make presentations at chapter houses when major work is planned in an area or to increase awareness about upcoming USEPA activities.

USEPA 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 particular presentation can contact USEPA's Community Involvement Coordinator.

Special Events

The Eastern Navajo Nation Fair & Rodeo, held annually in mid-July, provides an opportunity to meet informally with local residents. local communities prior to the commencement of work.

Working with Navajo Nation Tribal Government

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

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

Technical Assistance Services for Communities

Contact the USEPA Community Involvement Coordinator if you are interested in learning about technical assistance services that USEPA can provide to the communities.

Coordination with Other Agencies and Organizations

As part of the new Five-Year Plan (2014-2018), federal agencies are creating community outreach networks to coordinate federal efforts across the Navajo Nation. In addition, USEPA is working to strengthen ties with other federal, tribal and community organizations across the Eastern AUM Region. USEPA will also provide information to community members about the roles of different organizations and events hosted by various groups in the area.

USEPA will continue to strengthen relationships with:

- The Navajo Nation Environmental Protection Agency (NNEPA)
- The Navajo Nation Abandoned Mine Lands Program (NNAML)
- The Indian Health Service Community Uranium Exposure-Journey to Healing (CUE-JTH) program
- The Indian Health Service Radiation Exposure Screening and Education Program (RESEP)

Summary

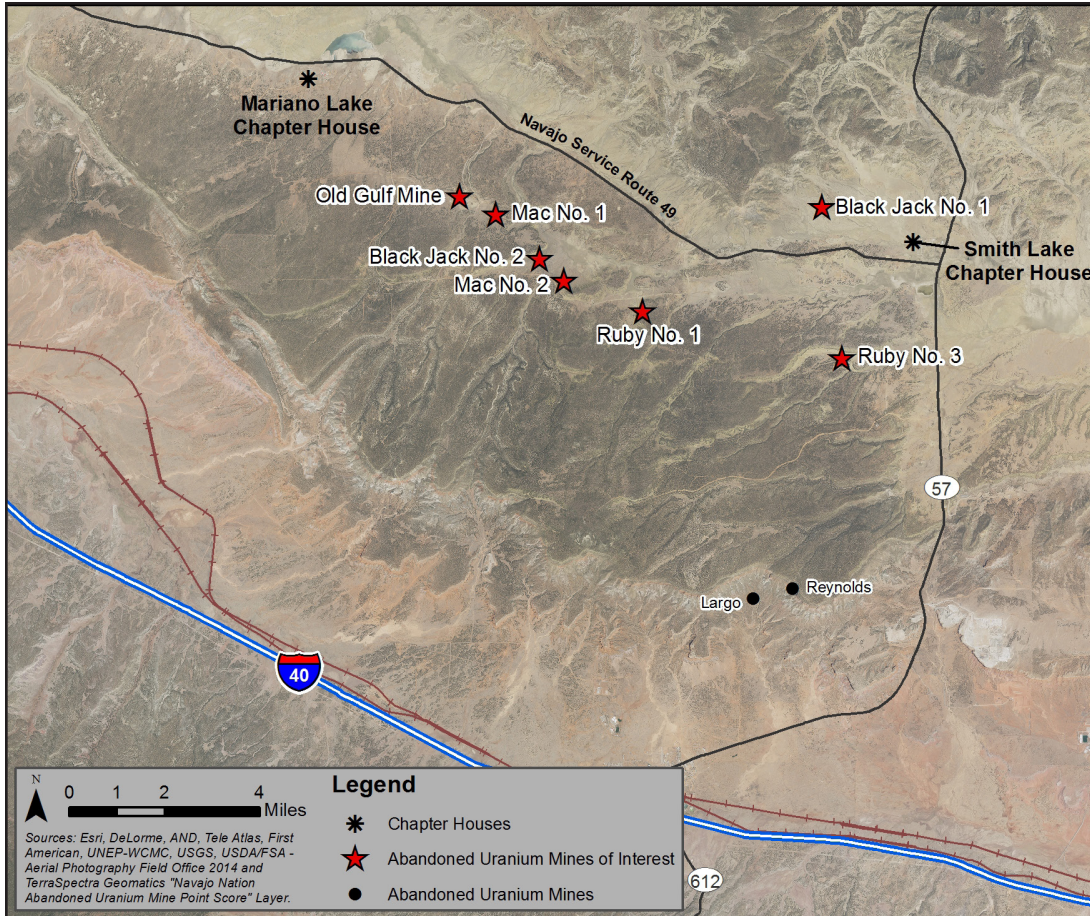
USEPA and NNEPA interviewed community members, local officials and other stakeholders in the Smith Lake and Mariano Lake Chapters in June and July 2016. USEPA used information from these interviews to learn about community concerns and prepare this CIP. USEPA would like to thank interviewees and the communities for their time, patience and willingness to share their stories and concerns.

USEPA recognizes that receiving input and feedback from community members is crucial to the success of uranium cleanup on the Navajo Nation. USEPA 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 USEPA's Community Involvement Coordinator or any staff listed in the Key Contacts.

- Navajo Birth Cohort Study staff, especially the Clinical Cohort Liaisons (CCLs) and Community Health Environmental Research Staff (CHERS)
- Navajo Nation Department of Health CHRs
- Federal Five-Year Plan Partners, including the Bureau of Indian Affairs (BIA), IHS, ATSDR, the Nuclear Regulatory Commission (NRC), and the U.S. Department of Energy (DOE)
- Research universities, including the University of New Mexico (UNM) and Northern Arizona University (NAU)
- Community Land Use Planning Committees
- Chapter officials and other elected representatives
- Others as suggested by community members and local officials

APPENDICES

SITE DESCRIPTIONS



Smith Lake and Mariano Lake Chapter Mine Sites site map.

- Reynolds Mine (Smith Lake Chapter):* This was also known as the June Mine. USEPA could find no records of any ore production from this mine. USEPA contractors visited the site in 2008 and found evidence of two closed adits, but very little waste rock. Gamma scans for radiation showed slightly high levels, about twice what is naturally found, but otherwise no signs of mining development. Please contact USEPA or NNEPA if you have any additional information regarding this mine.
- Ruby Mines #1 and #3 (Smith Lake Chapter):* Western Nuclear produced about 700,000 tons of uranium ore from these mines between 1967 and 1982. Operations consisted of two mineshafts leading to the underground mine workings, a series of vent holes and support facilities. The surface area of the two mine claims is about 40 acres. Western Nuclear completed the site investigation in 2014. Most mining waste and contamination is in the primary waste piles at the sites. Some mine waste has been carried by water or wind to areas next to the mines. Nearby homesites have not been affected. Western Nuclear also closed mine adits and several vent holes during the investigation. The next step at the mines is an Engineering Evaluation and Cost Analysis (EE/CA), which will be conducted by Western Nuclear. It will look at several possible alternatives for addressing the mine waste.

USEPA SUPERFUND PROCESS ON THE NAVAJO NATION

USEPA is addressing abandoned uranium mines on the Navajo Nation through the USEPA Superfund Program, in partnership with NNEPA's Superfund Program. This section provides an outline of the Superfund Process on the Navajo Nation.

USEPA is initially focusing on addressing priority mines. These mines have high levels of radiation and are near homes or water resources. Priority mines are identified in the AUM Five-Year Plan, available online at <https://www3.epa.gov/region9/superfund/navajo-nation/index.html>.

USEPA can move forward with mine assessment and cleanup by identifying a responsible company to fund the cleanup or by using federal funding. Once USEPA identifies a responsible company, USEPA can negotiate a legal agreement or order the company to assess mines and evaluate cleanup options. Any work completed by responsible companies requires USEPA approval and oversight in coordination with NNEPA.

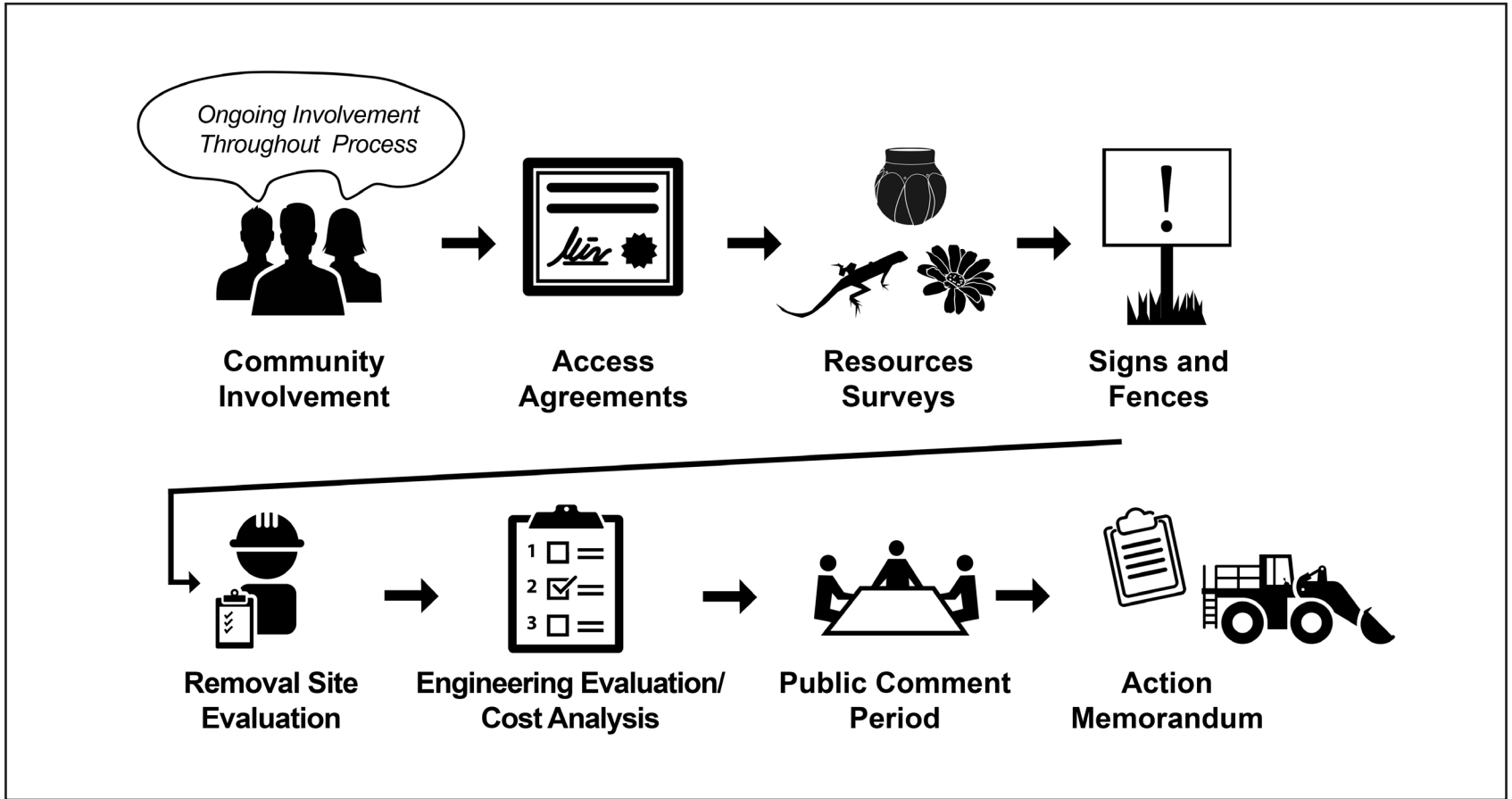
USEPA or the responsible company must get access approvals from the Navajo Nation and other parties such as homesite lease holders, grazing permit holders and allottees as appropriate before beginning work. After gaining access approvals, USEPA or the responsible company completes a cultural resources survey, and USEPA must consult with the Navajo Historic Preservation

- USEPA, NNEPA and Western Nuclear will work with the community during the analysis.
 - *Old Gulf Mine (Mariano Lake Chapter)*: The former Gulf Mineral Resources Company – which has since merged with Chevron – produced about 505,000 tons of uranium ore at the mine between 1977 and 1982. The mine claim area includes 18 acres around the old mine shaft and another 12 acres used for settling ponds. To date, Chevron has repaired fences around the mine areas. The company also paved the perimeter road with chip seal to control dust and completed the site investigation. Contamination is primarily located within the fence line. Some contamination is in the area east of the mine and along parts of the Old Gulf Mine Road. The next step at the mine will be to conduct an EE/CA, which will be conducted by Chevron. The EE/CA study will look at several possible ways to address the mine waste. USEPA, NNEPA and Chevron will work with the community during this analysis.
 - *Mac #1 and Mac #2 and Black Jack #1 and #2 Mines (Smith Lake and Mariano Lake Chapters)* Homestake Mining Company Homestake operated all four mines in partnership with several other mining companies.
 - » Mac #1 produced about 92,000 tons of uranium ore between 1968 and 1971. The mine claim area covers about 33 acres.
 - » Mac #2 produced about 31,000 tons of uranium ore between 1968 and 1970. The mine claim area covers about 6.5 acres.
 - » Black Jack #1 produced about 1.4 million tons of uranium ore between 1959 and 1967. The mine claim area covers about 25 acres.
 - » Black Jack #2 produced about 250,000 tons of uranium ore between 1960 and 1964. The mine claim area covers about 14 acres.
- Homestake began investigations at the mines in 2015. They stopped due to access issues on allotment lands. Homestake plans to finish the investigations and close any open holes or vent holes at the four mines in 2016. After that, Homestake will conduct an EE/CA.

For a detailed review of USEPA's cleanup process, please see "USEPA Superfund Process on the Navajo Nation."

For more information on the mines in the Smith Lake Chapter and the Mariano Lake Chapter, visit:

- <https://www.epa.gov/navajo-nation-uranium-cleanup/eastern-abandoned-uranium-mine-region>



 Superfund process on Navajo Nation.



 Taking soil samples from under old settling ponds at Ruby #3.

Department Director on cultural resources that might be affected by assessment or cleanup work. Additionally, a biological survey may be needed, and USEPA 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 fish and wildlife.

After getting the necessary approvals, USEPA or the responsible company may begin placing signs and/or fences at mines, depending on community input as well as the mine's location and level of radiation. A detailed assessment of contamination follows. The assessment is outlined in a document called a Removal Site Evaluation (RSE). Next, an evaluation of cleanup

options takes place. Evaluation findings are summarized in an Engineering Evaluation/Cost Analysis (EE/CA).

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

USEPA 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, USEPA 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 – USEPA'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 – Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Engineering Evaluation/Cost Analysis (EE/CA) – An analysis of cleanup alternatives for removal actions requiring more than six months' planning time. USEPA selects one of the

alternatives outlined in the EE/CA in the Action Memorandum.

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 and irrigation water, there is growing concern over contamination from leaching agricultural or industrial pollutants.

Information Repository – An information repository is a record storage area at or near a Superfund site that contains reports, documents, and fact sheets 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.

Removal Action – Short-term immediate actions that address releases of hazardous substances that require expedited responses.

Superfund – The program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) that funds and carries out USEPA’s emergency and long-term removal and remedial activities

Uranium – A heavy, naturally radioactive, metallic element that is used to produce nuclear power and weapons.

ACRONYMS AND ABBREVIATIONS

ATSDR Agency for Toxic Substances and Disease Registry
AUM Abandoned Uranium Mine
BCS Birth Cohort Study
BIA Bureau of Indian Affairs
CDC Centers for Disease Control and Prevention
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CHERS Community Health Environmental Research Staff
CHR Community Health Representative
CIP Community Involvement Plan
CUE-JTH Community Uranium Exposure-Journey to Healing Program
DOE (USDOE) United States Department of Energy
EE/CA Engineering Evaluation/Cost Analysis
IHS (NAIHS) Navajo Area Indian Health Service
NAU Northern Arizona University
NDOH Navajo Department of Health
NDWR Navajo Department of Water Resources

NNAML Navajo Nation Abandoned Mine Lands
NNEPA Navajo Nation Environmental Protection Agency
NRC (USNRC) United States Nuclear Regulatory Commission
NTUA Navajo Tribal Utility Authority
RECA Radiation Exposure Compensation Act
RESEP Radiation Exposure Screening and Education Program
SARA Superfund Amendments and Reauthorization Act
TASC Technical Assistance Services for Communities
UMTRA Uranium Mill Tailings Remedial Action Program
UNM University of New Mexico
USEPA United States Environmental Protection Agency

URANIUM AND RADIATION RESOURCE LIST

Uranium and Radiation on the Navajo Nation Resource List 2017

Topic	Agency, Program, and Location	Telephone Number
Mines and structures		
Cleanup of chemical and radiological hazards at abandoned uranium mines (AUM)	U.S. Environmental Protection Agency (EPA), Region 9 Superfund Program, San Francisco, California Navajo Nation EPA (NNEPA), Navajo Superfund Program, Window Rock, Arizona	(800) 231-3075 (505) 240-0093 Eastern region (480) 250-0990 Central region (928) 215-9402 Northern region (415) 972-3068 Western region (800) 314-1846
Contaminated structures	NNEPA, Navajo Superfund Program, Window Rock, Arizona	(800) 314-1846
Actions to reduce physical hazards at AUMs	Navajo Abandoned Mine Lands (AML) Reclamation Uranium Mill Tailings Remedial Action (UMTRA) Department	(928) 871-6982 Window Rock (505) 368-1220 Shiprock (928) 283-3188 Tuba City
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)	U.S. Department of Energy Office of Legacy Management (LM), Grand Junction, Colorado	(970) 248-6621 Mexican Hat manager (970) 248-6018 Shiprock manager (970) 248-6073 Tuba City manager
Former processing site—LTS&M	LM, Grand Junction, Colorado	(970) 248-6621 Monument Valley manager
Technical oversight, community outreach	Navajo AML Reclamation UMTRA Department, Window Rock, Arizona	(505) 860-7279
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) 871-6786
Uranium medical screening and monitoring program	Navajo Area Indian Health Service (NAIHS), Northern Navajo Medical Center, Community Uranium Exposure—Journey to Healing, Shiprock, New Mexico	(505) 368-7391 or (505) 368-7402
Navajo Birth Cohort Study	University of New Mexico, Albuquerque, New Mexico Agency for Toxic Substances and Disease Registry (ATSDR) Division of Toxicology and Human Health Effects, Atlanta, Georgia	(877) 545-6775 (770) 488-3684
Downwinders radiation exposure compensation claim	NIAHS, 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
Uranium workers radiation exposure compensation claim	NAIHS, Northern Navajo Medical Center, RESEP, Shiprock, New Mexico NDOH, Office of Navajo Uranium Workers, Shiprock, New Mexico	(505) 368-7054 (505) 368-1260



 Examining core samples taken from the Ruby Mines.

URANIUM AND RADIATION RESOURCE LIST, CONTINUED

Topic	Program and Agency	Telephone Number
Water		
Water hauling practices from safe drinking water sources	NNEPA, Public Water Systems Supervision Program, Window Rock, Arizona	(928) 871-7755 http://www.navajopublicwater.org/
Locations of regulated watering 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." Also available online at: http://www.ntua.com/ccr14.html
Surface water and groundwater quality	NNEPA, Water Quality Program	(928) 871-7185 Fort Defiance, Chinle (505) 368-1037 Northern, Eastern (928) 890-7599 Western
Operation and maintenance of livestock water sources	Navajo Department of Water Resources (NDWR), Technical, Construction, and Operations Branch	Contact a district office
Locations of unregulated sources, livestock wells, windmills, earthen dams	(505) 368-1062 Shiprock	(505) 908-2740 To'hajiilee (928) 674-2210 Chinle (505) 786-2396 Crownpoint (928) 657-8094 Dilkon (928) 729-4003 Fort Defiance (928) 755-5971 Ganado (928) 686-3289 Leupp (505) 655-5402 Pueblo Pintada (505) 368-1146 Shiprock (928) 656-3674 Teec Nos Pos (928) 283-3170 Tuba City (505) 778-5337 Vanderwagon
Tuba City Dumpsite		
Project lead	BIA, Western Regional Office, Phoenix, Arizona	(602) 379-3723
BIA coordination	BIA, Division of Environmental and Cultural Resources, Washington, DC	(703) 390-6482
BIA community outreach	BIA, Navajo Regional Office, Gallup, New Mexico	(505) 863-8285
Hopi Tribal water	The Hopi Tribe, Water Resources Program, Kykotsmovi, Arizona	(928) 734-3712
Remedial investigation and feasibility study oversight	EPA, Region 9 Superfund Program, San Francisco, California	(800) 231-3075
Navajo Nation Solid Waste Act	NNEPA, Resource Conservation and Recovery Program, Window Rock, Arizona	(928) 871-7816



Photo of open vent hole at Ruby 1 taken in 2013.

Smith Lake and Mariano Lake Chapter
Mine Sites

Community Involvement Plan
2017

