



Shiprock, New Mexico, Disposal Site

COMMUNITY INVOLVEMENT PLAN



U.S. DEPARTMENT OF ENERGY OFFICE OF LEGACY MANAGEMENT

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SECTION 1: OVERVIEW

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) developed this *Community Involvement Plan* (CIP) to facilitate communication and encourage community involvement within Navajo Nation communities surrounding the Shiprock, New Mexico, Disposal Site. LM will use the community involvement activities outlined in this plan to ensure that community members are informed and provided opportunities to be involved.

LM plans to support public awareness of the Shiprock site through the following activities:

- Inform the public about current and planned activities related to the site.
- Educate the public about site activities.
- Present information to correct misperceptions about the site.
- Provide public access to site information, reports, and other documents.
- Promote the LM tribal webpage as a source of information.
- Coordinate with Shiprock Chapter House to create a display that provides history of the Shiprock disposal cell and promotes information sharing.

LM will foster communication with Shiprock site stakeholders by:

- Participating in regular meetings with stakeholders.
- Sharing information.
- Remaining open to all input and suggestions.

Multiple information sources were used to develop this plan, including community interviews, site files, and community meeting records.

SECTION 2: SITE OVERVIEW

2.1: HISTORY

Kerr-McGee and its successor, Vanadium Corporation of America, operated the former uranium and vanadium ore processing facility at the Shiprock site within the Navajo Nation in the northwest corner of New Mexico, approximately 28 miles west of Farmington. Kerr-McGee built the mill and operated the facility from 1954 until 1963. Vanadium Corporation of America purchased the mill and operated it until it closed in 1968. The milling operations created process-related wastes and radioactive tailings, a predominantly sandy material. The mill, ore storage area, raffinate ponds (ponds that contain spent liquids from the milling process), and tailings piles occupied approximately 230 acres leased from the Navajo Nation. In 1983, DOE and the Navajo Nation entered into an agreement for site cleanup. By September 1986, all tailings and associated materials (including contaminated materials from off-site vicinity properties) were encapsulated in the disposal cell built on top of the existing tailings piles.

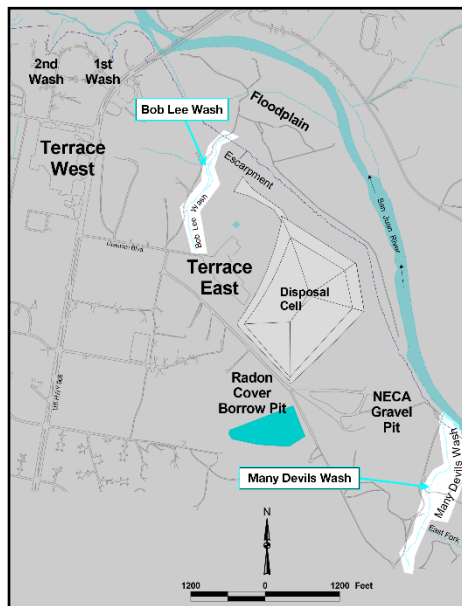
REGULATORY SETTING

Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA) in 1978 (Public Law 95-604). As a result, DOE remediated 22 inactive uranium ore processing sites under the Uranium Mill Tailings Remedial Action (UMTRA) Project and in accordance with standards promulgated by the U.S. Environmental Protection Agency (EPA) in Title 40 *Code of Federal Regulations* (CFR), Part 192. The radioactive materials were encapsulated in U.S. Nuclear Regulatory Commission (NRC)-approved disposal cells. The NRC general license for UMTRCA Title I sites is established in 10 CFR 40.27. The Shiprock disposal site was included under the general license in 1996.



Historical Photo of the Shiprock Mill circa 1954

2.2: SITE DESCRIPTION AND LOCATION



Location of the Shiprock Disposal Site and the Surrounding Bodies of Water: Many Devils Wash, Bob Lee Wash, and the San Juan River

The Shiprock site is within the Navajo Nation in the northwest corner of New Mexico. Land near the site is used for grazing. Adjacent land is used for farming (both dry and irrigated) and rural residential purposes. The San Juan River is the main source of water in the area, and it is used for domestic, industrial, and agricultural purposes. Nearby residences receive water from the Navajo Tribal Utility Authority.

The disposal cell is an asymmetrical pentagon with a maximum side length of 1,800 feet and a minimum side length of 800 feet. The cell occupies approximately 77 acres of the 105-acre site. A posted wire fence surrounds the cell. The cover of the Shiprock disposal cell is a multicomponent system designed to encapsulate and protect the contaminated materials. The disposal cell cover comprises: 1) a low-permeability radon barrier (first layer placed over compacted tailings) consisting of compacted sandy silty soils, 2) a layer of granular bedding material placed as a capillary break, and 3) a rock (riprap) erosion-protection layer. The use of these cover materials promotes rapid runoff of precipitation to minimize leachate. Rock-lined drainage ditches divert storm water runoff around and away from the disposal cell to a rock-lined energy dissipation area.

The disposal cell and adjacent former mill site are on a terrace that is trisected by two minor drainages, Bob Lee Wash and Many Devils Wash. At the northeast edge of the terrace, a steep escarpment — approximately 50 to 60 feet high — forms the boundary between the San Juan River floodplain and the terrace area. The horizontal distance from the disposal cell to the San Juan River is about 600 feet.

Groundwater in the terrace area is thought to be a result of human activities. Past milling operations and irrigation in the terrace area are believed to have contributed most of the water in the terrace groundwater system. The floodplain alluvial aquifer is north of the disposal cell in the floodplain area between the San Juan River and the base of the escarpment. In 1961, a test hole was drilled on the terrace about a half-mile northwest of the disposal cell area. This hole, drilled to a depth of 1,850 feet, was not capped. Artesian flow from this hole (now known as site Well 0648) has continued since 1961. It is currently flowing at a rate of about 64 gallons per minute across the terrace into Bob Lee Wash, which drains to the floodplain and eventually to the San Juan River. Inflow from Well 0648 supplies more than half of the groundwater volume in the floodplain. The floodplain aquifer also receives inflow from the San Juan River and from the terrace groundwater system.

Past milling operations have left contaminants in the terrace groundwater system and in the floodplain alluvial aquifer. Contaminated groundwater from the terrace has infiltrated the upper few feet of the underlying, weathered Mancos Shale bedrock and has migrated into the alluvial aquifer on the floodplain. Terrace groundwater has also surfaced in several places as seeps at the edge of the escarpment and in Bob Lee Wash. The contaminants of concern are ammonia, manganese, nitrate, selenium, strontium, sulfate, and uranium.



SECTION 3: COMMUNITY BACKGROUND

3.1: COMMUNITY PROFILE

The community of Shiprock is located within the Navajo Nation and is governed by a local Navajo Nation Government Chapter House. According to the U.S. Census Bureau's *2012-2016 American Community Survey 5-Year Estimates*, Shiprock is the second largest tribal community within the Navajo Nation, with a population of 8,135 people. In addition, the 2010 Census reported 2,343 households in Shiprock. Of these households:

- 16.2% are one-person households.
- 19.2% are two-person households.
- 17.8% are three-person households.
- 17.6% are four-person households.
- 16.1% are five-person households.
- 6.3% are six-person households.
- 6.8% are seven-or-more-person households.

Racial makeup is:

- 96.4% Native American.
- 1.9% Caucasian.
- 1.3% Asian or Pacific Islander.
- 0.3% Black or African American.

Age distribution of the population shows:

- 32.9% under the age of 18.
- 28% from 25 to 44.
- 22.7% from 45 to 64.
- 8.5% are 65 or older.
- 7.8% from 18 to 24.
- The median age is 29.9.

Shiprock's median household income is \$36,417, and the median income for a family is \$41,344. Males have a median income of \$31,122 versus \$28,622 for females. The per-capita income for the census-designated area is \$14,102. Approximately 33.2% of families and 33.7% of the population were below the poverty line, including 48.1% of those under the age of 18 and 20% of those 65 and older.



Educational institutions in Shiprock include:

- Shiprock High School.
- Northwest High School (grades seven to 12).
- Career Prep High School.
- Tse Bit Ai Middle School.
- Mesa Elementary School.
- Nizhoni Elementary School.
- Eva B. Stokely Elementary School.
- Atsá Biyáázh Community School.
- Diné College.
- San Juan College.
- Navajo Technical College.

Education attainment (for a total population of 4,819, ages 25 and over)

- 328 are less than grade nine.
- 361 are grades nine to 12 (no diploma).
- 1,650 are high school graduates (includes equivalency).
- 1,096 have some college.
- 746 have an associate degree.
- 418 have a bachelor's degree.
- 220 have a graduate or professional degree.

3.2: COMMUNITY INVOLVEMENT

By September 1986, all surface remediation, including disposal of residual radioactive material and debris, was completed in compliance with EPA cleanup standards and regulations. LM's involvement with the communities continues today with participation in technical meetings, open houses, and other outreach events. It is mission critical for LM to work and collaborate with affected communities to ensure their health and the environment are protected. In-person meetings are opportunities for LM to gather with stakeholders to discuss and address their concerns relating to ongoing groundwater remediation activities, technical studies conducted on behalf of tribal agencies, and any potential community impacts.

Under a cooperative agreement, LM works with the Navajo Abandoned Mine Lands (AML)/UMTRA Department to conduct long-term surveillance and maintenance at the four Navajo Nation sites to ensure community and environmental safety.² LM also works with a variety of departments within the Navajo Nation government to help identify and protect cultural resources. LM and its contractors work directly with the Navajo AML/UMTRA public information officer to coordinate outreach at the four Navajo Nation sites.

¹ Sources for Community Profile: American FactFinder and 2012-2016 American Community Survey 5-Year Estimates (U.S. Census Bureau).

² In addition to the Shiprock site, the other Navajo Nation sites include: Mexican Hat, Utah, Disposal Site; Monument Valley, Arizona, Processing Site; and Tuba City, Arizona, Disposal Site.



In 2007, Congress directed DOE and other federal agencies — including EPA, NRC, Bureau of Indian Affairs, U.S. Department of Health and Human Services, and the Centers for Disease Control and Prevention — to work collaboratively to address the legacy of uranium mining and processing on the Navajo Nation. The federal agencies developed the 2008-2012 Five-Year Plan, which was the first coordinated effort by the federal government to address uranium contamination on the Navajo Nation. A second Five-Year Plan was completed in 2014 and included a major objective to “Support community outreach and information sharing.” A Ten-Year Plan is scheduled to be finalized in fall 2020.

One of the directives of the Five-Year Plan was to develop a Community Outreach Network, a tribal intergovernmental relations group (composed of LM, Hopi, and Navajo counterparts) to elevate community outreach and engagement with the Hopi and Navajo communities. The group was designed to share tribal information and to understand the lines of communication between all tribal and government entities.

In June 2016, LM and its contractor, Navarro Research and Engineering Inc., opened an outreach office in Window Rock, Arizona, and hired a Community Outreach Network coordinator. The Window Rock outreach office provides a place for the public to learn about LM and the sites on the Navajo Nation, the Navajo Nation Five-Year Plan, and the work being conducted to address uranium issues within the Navajo Nation. The coordinator provides community outreach and coordination assistance to LM, Community Outreach Network members, tribal and federal partners and Navajo Nation leadership.



Shiprock Residents Asking Questions During an Evaporative Pond Scoping Meeting in September 2019



3.3: OUTREACH EVENTS

In recent years, LM has attended, participated, or led the following outreach events:

2014

- December 5-6: Discovery Festival, Farmington, New Mexico.
- December 12-14: Monument Valley, Utah, Balloon Festival.

2015

- February 18: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange.
- March 24-26: Navajo Land Summit II, Twin Arrows, Arizona.
- May 1-2: Shiprock, New Mexico, Marathon.
- May 26: Developing Productive Tribal Government and Community Relations Training.
- May 28-29: San Juan Mining and Reclamation Conference (presentation), Telluride Mountain Village, Colorado.
- June 3-4: Traditional Law and Cultural Awareness Training, Grand Junction, Colorado.
- June 24: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange.
- July 2: Tuba City, Arizona, Chapter House (planning meeting (presented to Chapter officials).
- September 23-25: LM Tribal Summit.
- September 27-30: National Association of Abandoned Mine Land Programs Conference, Santa Fe, New Mexico.
- October 15: EPA Senior Leadership Meeting at Navajo Nation President's Office Window Rock, Arizona.
- October 15-18: Western Navajo Nation Fair, Tuba City, Arizona.
- October 16-17: Discovery Festival, San Juan, New Mexico.
- October 27: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange.
- October 28: Navajo Five-Year Plan Outreach Network Meeting.
- November 2: Oljato, Utah, Chapter House planning meeting (presented to Chapter officials).
- December 6: Shiprock, New Mexico, Regular Chapter House meeting (presented to the public).
- December 4-6: Monument Valley, Utah, Balloon Festival.

2016

- February 17: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange.
- February 18: Tuba City, Arizona, technical presentations.
- March 9-12: National Environmental Justice Conference and Training Program, Washington, D.C.
- March 19: Western Agency Chapter Meeting.
- March 29-31: Navajo Division of Natural Resources Summit, Flagstaff, Arizona.
- April 5: Tuba City, Arizona, site tour for regulators and agency officials.



- April 6: Tuba City, Arizona, public open house and scoping meeting.
- April 7: Mexican Hat, Utah; and Monument Valley, Arizona, site tours for regulators and agency officials.
- April 8: Navajo Five-Year Plan Outreach Network meeting, Monument Valley, Utah.
- April 9: Public open house at Monument Valley, Utah.
- August 24: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange.
- August 30-September 1: Citizen Participation Training.
- September 6-11: 70th Annual Navajo Nation Fair, Window Rock, Arizona.
- September 27-October 2: Northern Navajo Nation Fair, Shiprock, New Mexico.
- October 7-8: Discovery Festival, San Juan, New Mexico.
- October 13-16: Western Navajo Nation Fair, Tuba City, Arizona.
- October 17-21: Radiation 101 Training.
- October 21: Tuba City, Arizona, Open House and Public Site Tour.
- November 15-16: LM, Navajo, and Hopi, Quarterly Meeting and Technical Exchange.
- November 17-19: Monument Valley, Utah, Balloon Festival.
- December 9: Shiprock, New Mexico, Christmas Parade of Lights.

2017

- January 24 and 26: Presented with Navajo Nation AML/UMTRA at Diné College Campuses in Tsaile, Arizona and Shiprock, New Mexico.
- January 25: Window Rock, Arizona Open House with Navajo Nation Council Delegates.
- February 27: Governance Conference, Albuquerque, New Mexico.
- February 27: Health Education and Human Services Committee Meeting, Window Rock, Arizona.
- March 1: LM, Navajo, and Hopi Quarterly Meeting and Technical Exchange, Flagstaff, Arizona.
- March 24: Navajo Five-Year Plan Outreach Network Meeting, Window Rock, Arizona; Shiprock, New Mexico.
- March 25: Shiprock, New Mexico, fun run and site tour.
- April 11: Eastern Agency Abandoned Uranium Mines (AUMs) open house, Gallup, New Mexico.
- April 12: Navajo Utah Commission Presentation, Mexican Water, Utah.
- April 15: Tuba City, Arizona, Site Tour for Shonto Middle School Students.
- April 27-28: Tuba City, Arizona, Site Tour for Tuba City Middle School students.
- May 1: Navajo Utah Commission Presentation, Window Rock, Arizona.
- May 8-12: LM Director Navajo Nation UMTRCA Site Visits in Arizona, Colorado, New Mexico, and Utah.
- July 24-26: LM, Navajo, and Hopi Quarterly Meeting, Grand Junction, Colorado.
- July 20-22: Youth Day at the Boys and Girls Club and Parade, Crownpoint, New Mexico
- September 5-10: 71st Annual Navajo Nation Fair, Window Rock, Arizona.



- September 21-23: American Indian Science and Engineering Society Conference, Denver, Colorado.
- October 5-10: Northern Navajo Nation Fair, Shiprock, New Mexico.
- October 12-15: Western Navajo Nation Fair, Tuba City, Arizona.
- October 18-19: Tuba City, Arizona/Moenkopi Open House and Site Tour.
- November 7-8: LM, Navajo, and Hopi Quarterly Meeting, Shiprock, New Mexico.
- November 15-17: Navajo Nation Division of Natural Resources Summit, Flagstaff, Arizona.
- November 17-18: Monument Valley Balloon Festival, Monument Valley, Utah.
- December 4: Keshmish Tree Lighting Ceremony, Window Rock, Arizona.

2018

- January 3: Oljato, Utah, Chapter House planning meeting (presented to Chapter officials).
- January 7: Oljato, Utah Regular Chapter House meeting (presented to the public).
- January 8: Kayenta, Arizona, Kayenta Township meeting (presented to the Commission and public).
- January 25: Diné Uranium Remediation Advisory Commission (DURAC) Meeting, Tse Bonito, New Mexico.
- January 30: Coconino County Supervisor meeting, Flagstaff, Arizona.
- February 5: Dennehotso, Arizona, Chapter House planning meeting (presented to Chapter officials).
- February 10: Navajo YES Lower Colorado Marathon AML/UMTRA Outreach, Cameron, Arizona.
- February 11: Dennehotso, Arizona, Regular Chapter House meeting (presented to public).
- March 7-8: LM, Navajo, Hopi Quarterly Meeting and Technical Exchange, Tuba City, Kykotsmovi, Arizona.
- March 14: STEM-sation Day Outreach, Shiprock High School, Shiprock, New Mexico.
- March 17: Restoring Ke' Conference 2018, Shiprock Youth Center, Shiprock, New Mexico.
- March 29: DURAC Meeting, Cove, Arizona.
- April 5: STEM-sation Day Outreach, Greyhills Academy High School, Tuba City, Arizona.
- April 8: Oljato, Utah Regular Chapter House meeting (presented to the public).
- April 14-15: Mexican Hat and Monument Valley, Utah, Community Information Meetings.
- April 25: Diné College 50th Anniversary STEM Fest, Diné College, Tsaille, Arizona.
- April 25-27: National Environmental Justice Conference, Washington, D.C.
- May 4: Shiprock, New Mexico, Marathon.
- May 8-10: Navajo AML/UMTRA OSM Coal Field Communications Training, Window Rock, Arizona.
- May 24: DURAC Meeting, Blue Gap Chapter House, Blue Gap, Arizona.
- May 30: Uranium Town Hall Meeting with AZ Congressman Tom O'Halleran, Cameron, Arizona.
- May 31: 150th Year of Treaty of 1868 Health Fair Event, Tse Bonito, Arizona.
- June 20-22: Navajo EPA Conference, Flagstaff, Arizona.
- June 26-27: LM, Navajo, Hopi Quarterly Meeting and Technical Exchange, Flagstaff, Arizona.



- June 28: DURAC Meeting, Mariano Lake, New Mexico.
- July 10-11: Community Outreach group meeting and open house, Window Rock, Arizona.
- July 19-21: Eastern Navajo Nation Fair Kids Day/Fair/Parade, Crownpoint, New Mexico.
- July 26: DURAC Meeting, White Cone, Arizona.
- September 3-9: Navajo Nation Fair, Window Rock, Arizona.
- October 5-8: Northern Navajo Nation Fair, Shiprock, New Mexico.
- October 11-14: Western Navajo Nation Fair, Tuba City, Arizona.

2019

- January 24: STEM-sation Event, Pinon High School, Pinon, Arizona.
- January 24: DURAC Meeting at Sanders Chapter in Sanders, Arizona.
- March 8: Tuba City Site Tour with Chris Yazzie and U. of Arizona students, Tuba City, Arizona.
- March 19: Scoping Meeting for Church Rock Uranium Mine, Gallup, New Mexico.
- March 27: DURAC Tour of Ambrosia Lake, Ambrosia Lake, New Mexico.
- March 28: STEM-sation Event, Window Rock High School, Fort Defiance, Arizona.
- March 28: DURAC Meeting at Navajo Technical University, Crownpoint, New Mexico.
- April 10: STEM-sation Event at Thoreau High School, Thoreau, New Mexico.
- April 17: Wingate High School Career Fair, Fort Wingate, New Mexico.
- April 22: Nuclear Nation Film Fest, Gallup, New Mexico.
- April 24-25: Dine' College Annual STEM Fest, Tsaile, Arizona.
- April 26: STEM-sation Event, Ganado High School, Ganado, Arizona.
- May 3-4: Shiprock Marathon Outreach, Shiprock, New Mexico.
- May 15: Tuba City Site Tour for DURAC members, Tuba City, Arizona.
- May 16: DURAC Meeting in Tuba City, Arizona.
- June 7: STEM-sation Event, Shiprock High School, Shiprock, New Mexico.
- June 7: Water Purification Unit and Info Demo w/Chris Yazzie, Dine' College, Tsaile, Arizona.
- June 13: Laguna Summer Youth Presentation w/LM, Laguna, New Mexico.
- June 19-21: Navajo Nation Division of Natural Resources Conference, Twin Arrows Navajo Casino Resort, Flagstaff, Arizona.
- June 22: Community Outreach Network Uranium 101 Workshop, Mariano Lake Chapter House, Mariano Lake, New Mexico.
- July 10: Community Outreach Network Uranium 101 Workshop, Cove Chapter House, Cove, New Mexico.
- July 13: 40th Annual Uranium Tailings Spill Commemoration, Churchrock, New Mexico.
- July 1: DURAC Meeting at Chilchinbeto Chapter, Chilchinbeto, Arizona.
- July 25: Eastern Navajo Fair "Youth Day" Outreach, Crownpoint, New Mexico.



- July 27: Eastern Navajo Fair Parade/Fair, Crownpoint, New Mexico.
- August 22: 1st DOE Shiprock Environmental Assessment – Evaporative Pond, Shiprock, New Mexico.
- Sept. 5: Navajo Nation Fair “Kids Day” Outreach, Window Rock, Arizona.
- Sept. 6-7: Navajo Nation Fair Parade/Fair, Window Rock, Arizona.
- Sept 11: Informal Meeting with Shiprock Stakeholders and AML staff regarding the Shiprock Environmental Assessment.
- Sept 19: DURAC Meeting in Aneth, Utah.
- Sept. 21: 2nd DOE Shiprock Environmental Assessment-Evaporative Pond, Shiprock, New Mexico.
- Sept. 27: Cameron Community Days, Cameron, Arizona.
- Oct. 3-5: Northern Navajo Nation Fair, Shiprock, New Mexico.
- Oct.10-12: National AISES Conference, Milwaukee, Wisconsin.
- Oct. 10-13: Western Navajo Fair, Tuba City, Arizona.
- Nov. 16: Monument Valley Marathon, Monument Valley, Utah.
- Nov. 21: DURAC Meeting in Kayenta, Arizona.
- Nov. 26-28: Dine’ College STEM Fest, Tsaile, Arizona.
- Dec. 7: Shiprock Christmas Parade of Lights, Shiprock, New Mexico.
- Dec. 21: Cove Chapter Christmas Dinner and Parade, Cove, New Mexico.

2020

- Jan. 9: District 12 Grazing Committee Meeting, Shiprock Chapter House, Shiprock, New Mexico.
- Jan. 20: Community Education Forum: Impacts of Uranium Mining, Sports Complex, Window Rock, Arizona.
- Jan. 23: DURAC Meeting in Shiprock, NM at the Shiprock Chapter House.
- Jan. 23: STEM-sation Outreach Event at Tohatchi High School in Tohatchi, New Mexico.
- Feb. 20: STEM-sation Outreach Event at Sanders High School in Sanders, Arizona.
- Dec. 7th: Virtual STEM-sation event at Navajo Preparatory School, Farmington, NM

*Navajo Nation Outreach Activities beginning in March were cancelled due to COVID-19 pandemic



3.4: OUTREACH MATERIALS

LM provides informational materials at outreach events, including:

- Site fact sheets.
 - Mexican Hat, Utah, Disposal Site.
 - Monument Valley, Utah, Processing Site.
 - Shiprock, New Mexico, Disposal Site.
 - Tuba City, Arizona, Disposal Site.
 - Tuba City Uranium Ore Deposit Formation in the Tuba City, Arizona, Area Fact Sheet.
 - Window Rock, Arizona, Navajo Nation Community Outreach Network Office Fact Sheet (draft).
- Community information sheets.
 - Mexican Hat, Utah, Disposal Site.
 - Monument Valley, Utah, Processing Site.
 - Shiprock, New Mexico, Disposal Site.
 - Tuba City, Arizona, Disposal Site.
- Energy Ant coloring book.
- Gamma Goat coloring book.
- Women of the Manhattan Project coloring book.
- Historical Women in STEM 2017 coloring book.
- LM overview brochure.
- LM Sites on Navajo Nation Land brochure.
- LM Strategic Plan brochure.
- Uranium and Radiation on the Navajo Nation Agency Resource List.
- LM video detailing the work conducted on the Navajo Nation.
- Window Rock, Arizona, Outreach Office Map.
- Working with the Navajo Nation fact sheet.
- Uranium and Radiation on the Navajo Nation Resource List.
- LM children's brochure.
- Community Outreach Network.
 - Uranium and Radiation on the Navajo Nation Resource List.
 - Information Sheet.



SECTION 4: COMMUNITY CONCERNS

Through a series of informal interviews, discussions, community meetings, and open houses, tribal community members and officials (tribal programs staff and Navajo Chapter representatives) from the Navajo Nation expressed the following concerns related to the Shiprock site:

- Uranium contamination in groundwater making its way to the San Juan River.
- Uranium-contaminated groundwater at the site affecting the tribal community's drinking water.
- Uranium-contaminated groundwater at the site affecting livestock wells located near the site.
- Disposal cell emitting dangerous levels of radiation.
- Complete removal of the disposal cell.
- Site contributing to cancer within the tribal communities.
- Radioactive dust blowing off the site and into the communities.
- Former housing near the site being contaminated.
- Weekday-evening meetings are a challenge to attend.

4.1: RESPONSE TO COMMUNITY CONCERNS

LM has conducted the following community-involvement activities directly responding to community concerns:

- **May 1-2, 2015:** Shiprock, New Mexico Marathon.
- **December 6, 2015:** Shiprock, New Mexico, Regular Chapter House Meeting (presented to the public).
- **September 27-October 2, 2016:** Northern Navajo Nation Fair, Shiprock, New Mexico.
- **January 24 and 26, 2017:** presentations with Navajo Nation AML/UMTRA at Diné College Campuses in Tsaile, Arizona, and Shiprock, New Mexico.
- **March 25, 2017:** Shiprock, New Mexico, fun run and site tour.
- **October 5-10, 2017:** Northern Navajo Nation Fair, Shiprock, New Mexico: Information provided included information sheets detailing cleanup activities at the Shiprock site related to groundwater, sampling, monitoring, and disposal cell design. DOE technical staff Mark Kautsky was present to answer community questions and concerns. Staff from the Navajo AML/UMTRA Department was present to provide information on their coordination with LM and their work to address AUMs within the Navajo Nation. Staff from the Birth Cohort Study was present to provide information on their findings related to the health impacts of uranium.
- **November 7-8, 2017:** LM, Navajo, and Hopi Quarterly Meeting, Shiprock, New Mexico: LM staff, representatives from the Navajo AML/UMTRA Department, the director of the Hopi Tribe Department of Natural Resources, and Shiprock Chapter President Chili Yazzie were present for this meeting.
- **March 14, 2018:** STEM-sation Day Outreach, Shiprock High School, Shiprock, New Mexico: Materials provided to the community included site fact sheets detailing remediation activities related to groundwater, sampling, monitoring, and disposal cell design. Contractor technical staff was present to demonstrate a groundwater demonstration model and hands-on groundwater sampling.
- **March 17, 2018:** Restoring K'e Conference 2018, Shiprock Youth Center, Shiprock, New Mexico.



- **May 4, 2018:** Shiprock, New Mexico, Marathon: Materials provided to the community included site fact sheets detailing remediation activities related to groundwater, sampling, monitoring, and disposal cell design.
- **May 3-4, 2019:** Shiprock, New Mexico, Marathon: Materials provided to the community included site fact sheets detailing remediation activities related to groundwater, sampling, monitoring, and disposal cell design.
- **June 7, 2019:** STEM-sation Event, Shiprock High School, Shiprock, New Mexico: Materials provided to the community included site fact sheets detailing remediation activities related to groundwater, sampling, monitoring, and disposal cell design. Contractor technical staff was present to demonstrate a groundwater demonstration model and hands-on groundwater sampling.
- **August 22, 2019:** 1st DOE Shiprock Environmental Assessment – Evaporative Pond, Shiprock, New Mexico: LM and LM Support (LMS) technical staff were on hand to answer questions regarding the Shiprock Disposal Cell. A presentation was given, along with handouts and large poster boards created to explain the process. Comment cards, a designated email and phone line were dedicated to receiving feedback from the community on the project.
- **Sept 11, 2019:** Informal meeting with Shiprock stakeholders and AML staff, Shiprock, New Mexico: LM and LMS technical staff were present for an informal meeting with a small group of stakeholders to discuss the Shiprock evaporation pond project. Handouts about the EA process were provided, and a tour was given of the Shiprock disposal cell.
- **Sept. 21, 2019:** 2nd DOE Shiprock Environmental Assessment – Evaporative Pond, Shiprock, New Mexico: LM and LMS technical staff were on hand to answer questions regarding the Shiprock disposal cell. A presentation was given, along with handouts and large poster boards created to explain the process. Comment cards and a designated email and phone line were dedicated to receiving feedback from the community on the project.
- **Oct. 3-5, 2019:** Northern Navajo Nation Fair, Shiprock, NM, Materials provided to the community included site fact sheets detailing remediation activities related to groundwater, sampling, monitoring, and disposal cell design.
- **April 16, 2020:** National Lab Network Collaboration Meetings: representatives from LM, LMS, the National Lab Network, AML, EPA, and NRC, as well as and Shiprock Chapter House officials were invited to attend and participate in a series of eight weekly meetings to evaluate, develop, and deploy recommendations to reduce risks. A separate stakeholder subgroup was set up to develop recommendations to deploy outreach initiatives in the community.

At each of these community involvement events, information was shared with the community about the status of the groundwater contamination plume, the construction of the disposal cell, and efforts to remove uranium from the groundwater. The LM site manager and staff provided information on the location and characteristics of the contamination plume and assurance that contamination levels reaching the San Juan River are not hazardous or dangerous to human health or the environment. Additional information was provided to inform tribal communities about the design and construction of the disposal cell that mitigates radiation exposure.

4.2: SUMMARY OF COMMUNICATION NEEDS

Community members have said their communication needs should be addressed through meeting notices provided at the Shiprock Chapter House, published in local newspapers, and aired on Navajo AM/FM radio stations (respectively, KTNN and KNDN) if applicable. Tribal community members also expressed their desire to: 1) host public events held on non-payday weekends when community members are more likely to attend meetings, and 2) present and receive community feedback at Chapter planning meetings and Chapter meetings.



SECTION 5: COMMUNITY INVOLVEMENT STRATEGY

The goal of this strategy is to facilitate communication between community members and LM, while also providing opportunities for meaningful and active involvement by the Navajo people in Shiprock site activities. The strategy is based on feedback from community involvement interviews, previous community meetings, and comments received from local officials.

5.1: COMMUNITY INVOLVEMENT ACTIVITIES

1. Information on current and proposed site activities

Activity 1A: Present information at Shiprock Chapter meetings.

Objective:	Present information regarding site activities.
Method:	LM representatives will offer to present an update at Shiprock Chapter meetings. Tools may include presentations, site information fact sheets, and the LM website address for detailed site information.
Timing:	Quarterly or as requested by stakeholders

Activity 1B: Conduct open houses and site tours.

Objective:	LM site manager and staff will provide in-depth information to community members about site activities and the scientific and engineering rationale for these activities.
Method:	Host semiannual open houses at community meeting locations (e.g., Chapter House, local high school). Conduct mid-morning site tours that will include maps detailing cell location, extraction and monitoring well placements, the evaporation pond, the contamination plume, and construction graphics (cell, pond, and wells).
Timing:	Annually or as requested by stakeholders

2. Timely outreach and information on community meetings, site open houses, and site tours.

Activity 2A: Post flyers in public locations about upcoming community meetings, open houses, and site tours.

Objective:	Post information about community meetings, open houses, and site tours.
Method:	Post meeting information at the Shiprock Chapter House public information board, local businesses, and government offices (tribal, state, and federal).
Timing:	As needed

Activity 2B: Advertise on local radio stations, tribal newspapers, and newsletters.

Objective:	Provide public service announcements on community meetings, quarterly updates, open houses, and site tours as needed.
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Method:	Place ads in the Navajo Times and run ads on KGAK (Gallup), KNDN (Farmington), and KTNN (Window Rock) with information announcing upcoming community meetings, quarterly updates, open houses, and site tours. Establish a site point-of-contact for follow-up purposes as needed.
Timing:	Fifteen days and five days prior to site meetings, open houses, and site tours
<i>Activity 2C: Mail informational post cards.</i>	
Objective:	Mail informational postcards detailing upcoming community meetings, quarterly updates, open houses, and site tours.
Method:	Collect physical mail and email addresses from community members during community meetings, quarterly updates, open houses, and site tours for distributing information announcing similar upcoming events.
Timing:	Fifteen days prior to planned community meetings, quarterly updates, open houses, and site tours.

3. Make times and dates for open houses and site tours more accessible for members of the community.

Activity 3A: Work with community leadership and community members to determine optimal date, time, and location for community meetings, open houses, and site tours.

Objective:	Determine the best time frame to conduct community meetings, open houses, and site tours.
Method:	Poll community leaders and community members during Chapter meetings (engage with Chapter House coordinator to schedule) and outreach events to determine the best time frame for conducting community meetings, open houses, and site tours. Coordinate times with scheduled events and gatherings in the community. Explore developing regular hours at the site to provide tours to the public.
Timing:	Conducted during Chapter House quarterly updates, informal polling within the community

4. Address community concerns that contaminated groundwater plume will reach the San Juan River and the community water system.

Activity 4A: Provide information on contaminated groundwater plume location and movement history.

Objective:	Inform community about the site's groundwater contamination, plume movement history, and the site's hydrology and geology.
Method:	LM site manager and technical staff presentations at community meetings, quarterly updates, open houses, and site tours. Give presentations illustrating the location and depth of the contamination, plume movement history, site hydrology, and geology.
Timing:	Annually as needed based on request by the community.

**5. Address community concerns that radioactive waste is contributing to cancer in the community.**

Activity 5A: Provide joint information and presentations from Agency for Toxic Substances and Disease Registry, Indian Health Service (IHS), and LM on cancer, indeterminate causes for cancer, and site cleanup and monitoring activities reducing community's exposure to radioactive waste.

Objective:	Inform community of indeterminate causes of cancer. Provide information on site activities that reduce the community's exposure to radioactive waste. Foster informational community dialogue (involving multiple federal and tribal agencies) and programs on community concern. Identify health resources available to community members. The information can explain the lack of exposure pathways and the low-level nature of the tailings wastes if they are encountered. The key is increasing awareness and understanding of actual risks and how to personally mitigate or avoid them (i.e., don't access restricted water, use livestock water for drinking, stay out of mines, report suspicious areas to Navajo EPA or other agencies, etc.).
Method:	This discussion may be included in community meetings, Ten-Year Plan agencies' meetings, quarterly updates, open houses, and site tours. It may also be conducted at a community meeting designed to specifically address this community concern.
Timing:	Ongoing

6. Address recommendation that all outreach materials need to have a cultural connection to community for better interpretation and understanding.

Activity 6A: Provide expertise to the site leads and managers on culturally appropriate outreach materials regarding the four former uranium processing sites.

Objective:	Inform community about the site's groundwater contamination, plume movement history, and the site's hydrology and geology in all outreach materials, while also being culturally sensitive to community interpretation.
Method:	This discussion may be exchanged between all site leads and managers for the four former uranium processing sites, community members, tribal officials, and the Navajo Nation Community Outreach Network Office located in Window Rock, Arizona.
Timing:	Ongoing



5.2: COMMUNITY INVOLVEMENT ACTIVITIES TIME FRAME SUMMARY

Activity	Time Frame
Chapter House update meetings	Quarterly or as requested by stakeholders
Open houses and site tours	Annually or as requested by stakeholders
Announcements of meetings, open houses, and site tours	Distributed and published 15 days and five days prior to activity date(s)
Meetings to address community concerns related to cancer	To be determined based on cooperation and partnership with other federal agencies that directly support topics related to cancer



APPENDIX A: LM REGIONAL CONTACTS

Site Manager	Mark Kautsky U.S. Department of Energy Office of Legacy Management 2597 Legacy Way Grand Junction, CO 81503 (970) 248-6018
Public Participation Specialist	Shawn Montgomery U.S. Department of Energy Office of Legacy Management 2597 Legacy Way Grand Junction, CO 81503 (970) 248-7666
Public Affairs Lead	Jennifer Grossheim Harris Legacy Management Support Contractor 2597 Legacy Way Grand Junction, CO 81503 (970) 248-6248
Community Outreach Network Coordinator	- VACANT - Legacy Management Support Contractor 47552-D State Highway 264 Window Rock, Arizona 86515 (928) 810-2101
Public Affairs Specialist	Alex Chambers Legacy Management Support Contractor 47552-D State Highway 264 Window Rock, Arizona 86515 (928) 810-2101
Site Lead	Anthony Farinacci Legacy Management Support Contractor 2597 Legacy Way Grand Junction, CO 81503 (970) 462-2725



APPENDIX B: LOCAL OFFICIALS

Navajo Nation President	Jonathan Nez, Navajo Nation Office of the President P.O. Box 7440 Window Rock, AZ 86515 (928) 871-7000
Navajo Nation Vice President	Myron Lizer, Navajo Nation Office of the President P.O. Box 7440 Window Rock, AZ 86515 (928) 871-7000
Navajo Council Delegate	Eugenia Charles-Newton, Council Delegate Navajo Nation Council P.O. Box 3390 Window Rock, AZ 86515 (928) 871-7160
Shiprock Chapter President	Nevina Kinlahcheeny P.O. Box 3810 Shiprock, NM 87420 (505) 368-1081
Shiprock Chapter Vice President	Debra A Yazzie P.O. Box 3810 Shiprock, NM 87420 (505) 368-1081
Navajo AML Reclamation/ UMTRA Department	Rose Grey, Acting Department Manager P.O. Box 1875 Window Rock, AZ 86515 (928) 871-6982
Navajo AML Reclamation/ UMTRA Department	Shine Salt, Public Information Officer P.O. Box 1875 (928) 871-7594 office (602) 680-9763 cell
Navajo Nation EPA	Valinda Shirley, Executive Director P.O. Box 339 Window Rock, AZ 86515 (928) 871-7692
Diné Uranium Remediation Advisory Commission (DURAC)	Nona Baheshone P.O. Box 7440 Window Rock, AZ 86515 (928) 871-7186



APPENDIX C: ELECTED STATE OFFICIALS

Governor of New Mexico	Michelle Lujan Grisham, Office of the Governor 490 Old Santa Fe Trail-Room 400 Santa Fe, NM 87501 (505) 476-2200
State Senator	Ben Ray Lujan 800 Municipal Dr. Farmington, NM 87401 (505) 324-1005 phone (505) 324-1026 fax
State Representative	Rodney Montoya, District 1 400 Gold Ave. SW Suite 680 Albuquerque, NM 87102 (505) 346-6781
County Supervisor	(Vacant)



APPENDIX D: ELECTED FEDERAL OFFICIALS

Senator	Martin Heinrich 303 Hart Office Building Washington, D.C. 20510 (202) 228-1404
Representative	Leger Fernandez (need contact infomation)



APPENDIX E: ENVIRONMENTAL AND ACTIVE CITIZENS GROUPS

Southwest Research and Information Center	105 Stanford SE P.O. Box 4524 Albuquerque, NM 87106 (505) 262-1862
Forgotten People CDC	P.O. Box 1289 Tuba City, AZ 86045 (928) 640-6110
Diné C.A.R.E. (Citizens Against Ruining our Environment)	10A Town Plaza, Suite 138 Durango, CO 81301 (970) 759-1908
Sacred Water Speaks (To’Nizhoni Ani)	P.O. Box 657 Kykotsmovi, AZ 86039 (505) 228-7085
Black Mesa Water Coalition	408 E. Route 66 Flagstaff, AZ 86002 (928) 213-5909
Haul No!	www.haulno.org stopcanyonmine@gmail.com
Dine’ No Nukes	Leonna Morgan contact@dinenukes.org radmonitoringproject@gmail.com



APPENDIX F: MEDIA CONTACTS

Navajo Times	P.O. Box 370 Window Rock, AZ 86515 (928) 871-1130
Farmington Daily Times	203 W. Main St. Farmington, NM 87401 (505) 325-4545
Associated Press	Felicia Fonseca, Reporter
KTNN	Public Service Announcements (928) 871-3553 Webmaster@ktnnonline.com
KWYK/KNDN	Public Service Announcements 1515 W. Main St. Farmington, NM 87401 (505) 325-1996



APPENDIX G: MEETING LOCATIONS

Shiprock Chapter House
P.O. Box 3810
Shiprock, NM 87420
(505) 368-1081

Shiprock High School
P.O. Box 3578
Shiprock, NM 87420
(505) 368-5161

Farmington Civic Center
200 W. Arrington
Farmington, New Mexico 87401
(505) 599-3331

Dine' College
1228 Yucca Drive
Shiprock, New Mexico 87420
(505-368-3500) ext 3500



APPENDIX H: OTHER LOCAL RESOURCES

Shiprock AML Reclamation Program
Rose Grey, Program Manager
P.O. Box 3605
Shiprock, NM 87420
1-800-215-6226