

Navajo Abandoned Uranium Mines Cleanup Work



June 15, 2016

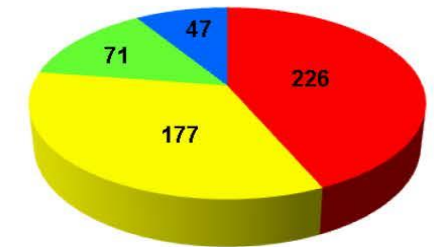
Five-Year Plan Accomplishments

- Agencies invested more than \$100M, including \$50M by EPA. Potentially Responsible Parties spent an additional \$17M.
- EPA remediated 47 homes, conducted field screening of 520 mines, and performed stabilization or cleanup work at 9 mines.
- IHS and EPA provided safe drinking water to 3,013 families.
- EPA brought enforcement against 10 responsible parties for mine assessment and cleanup.
- EPA awarded about \$1M each year to the Navajo Superfund Program

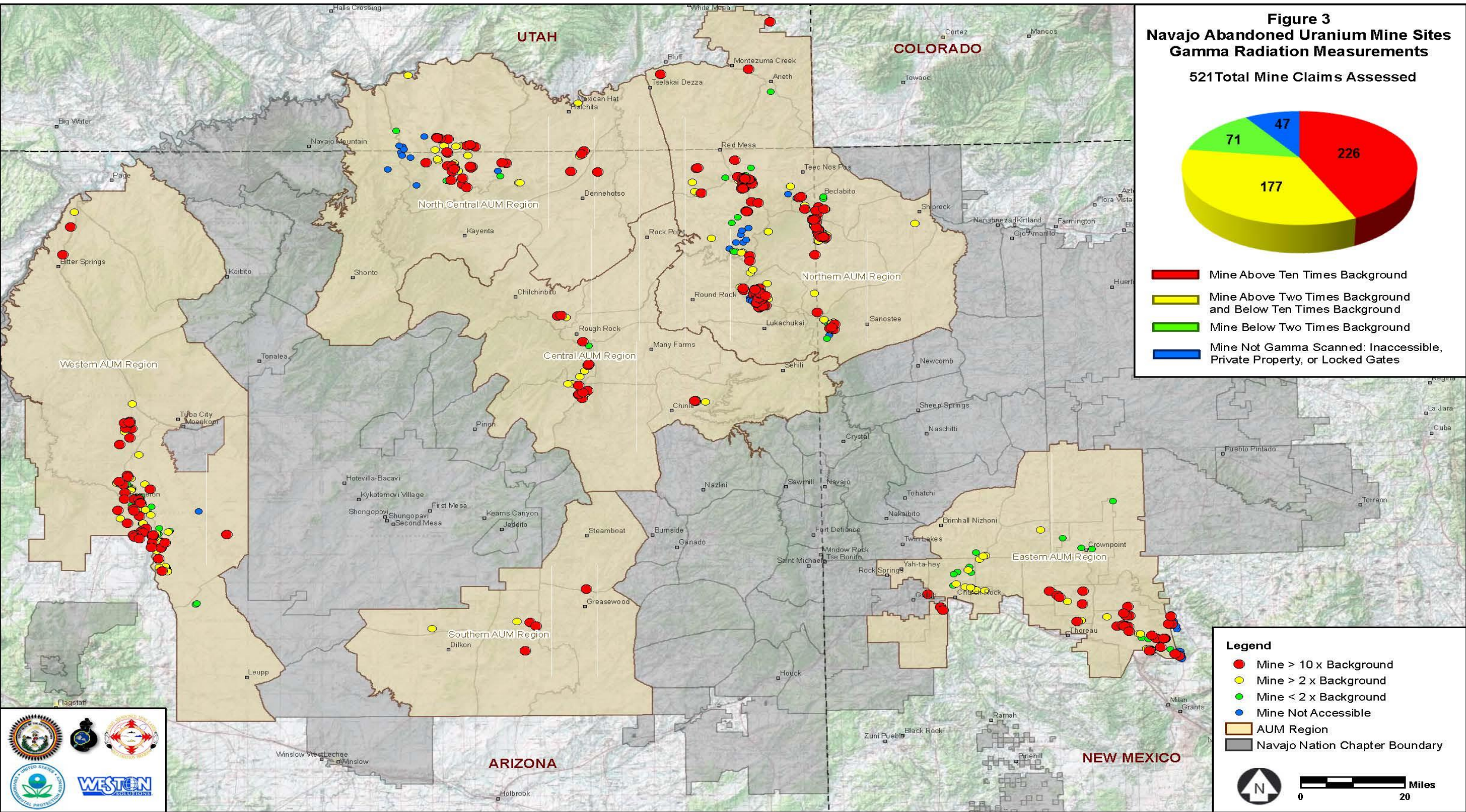


Figure 3
Navajo Abandoned Uranium Mine Sites
Gamma Radiation Measurements

521 Total Mine Claims Assessed



- Mine Above Ten Times Background
- Mine Above Two Times Background and Below Ten Times Background
- Mine Below Two Times Background
- Mine Not Gamma Scanned: Inaccessible, Private Property, or Locked Gates



- Legend**
- Mine > 10 x Background
 - Mine > 2 x Background
 - Mine < 2 x Background
 - Mine Not Accessible
 - AUM Region
 - Navajo Nation Chapter Boundary



Assess and Cleanup Contaminated Structures

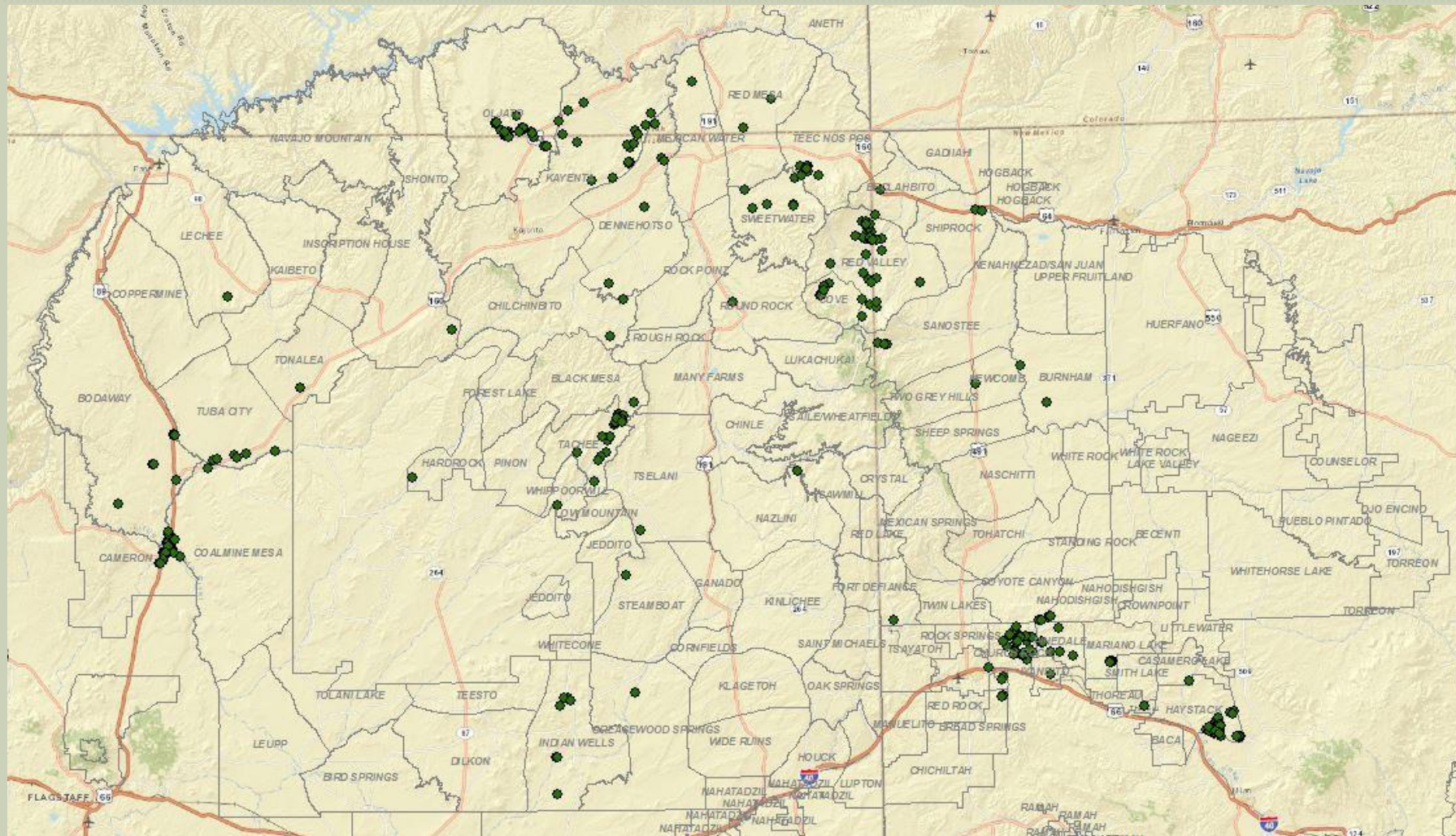
Number	Status
1,103	Structures assessed by NNEPA and USEPA (including 423 home sites)
47	Structures destroyed
60	Yards cleaned up
29	Homes rebuilt
16	Payments issued



Home made from uranium containing materials

1,103 Contaminated Structures Assessed

Criteria: Structures within ¼ mile of mine, and those reported to possibly contain mine waste materials



IHS and EPA Provided Piped Water to Homes Near Mines

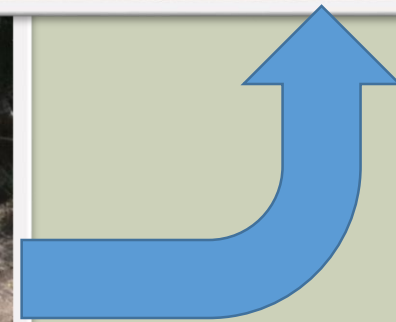
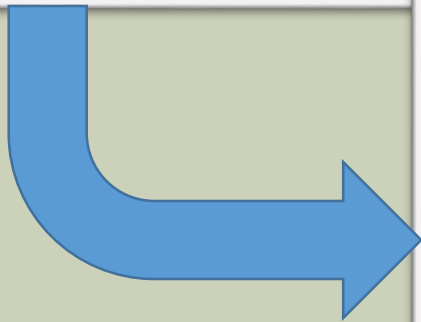
Scope of Work	Homes Served with Piped Water	Millions
2008-2012 piped water provided to homes within 10 miles of water sources with uranium	1,825	\$27
2013-2015 piped water provided to homes in the 6 AUM regions	1,188	\$31
Total	3,013	\$58

Shadow Mountain Waterline Extension

IHS-funded project provides piped water to 29 homes in Cameron Chapter
Constructed by NECA



Mine Cleanup Actions: Ruby No. 2 Vent Closure Smith Lake Chapter



Mine Cleanup Actions: Sections 32 / 33

Casamero Lake and Baca/Prewitt Chapters



Mine Cleanup Actions: Northeast Church Rock Mine Eastern Agency



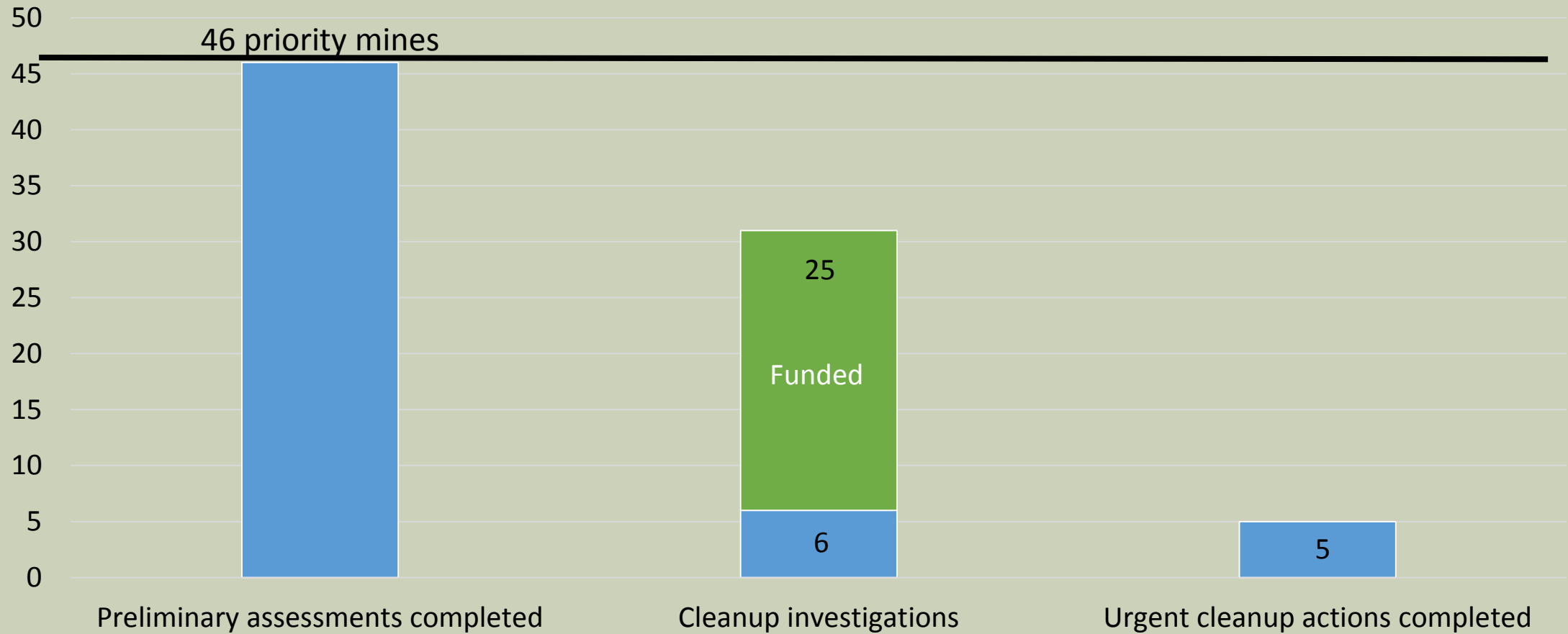
Mine Cleanup Actions: Quivira Eastern Agency



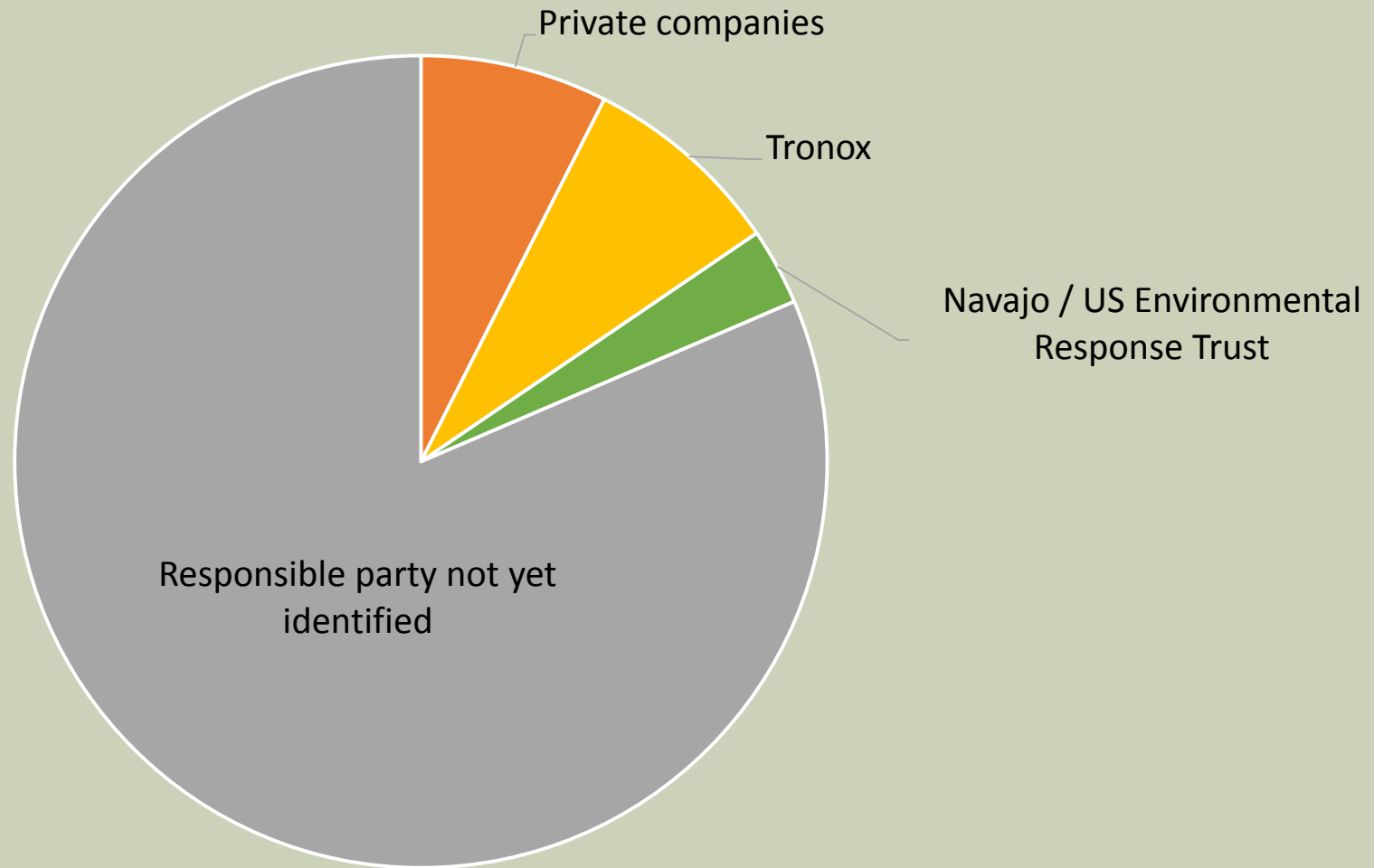
Mine Cleanup Actions: Skyline Oljato Chapter



Work Completed at 46 Priority Mines



Funds allocated to begin the cleanup process at 97 of the 523 Navajo AUMs



New Five-Year Plan, 2014-2018

Continue existing work

- Increase water infrastructure in mining areas
- Remediate contaminated structures
- Clean up Northeast Church Rock mine
- Clean up Tuba City Dump
- Treat groundwater at mill sites
- Conduct health studies
- Enforcement against responsible parties

New Work

- Focus on priority mines located near homes and water bodies
- Investigate and cleanup ~50 Tronox mines
- Expand interagency outreach
- Provide Navajo workforce development and training



2014 Tronox Settlement for Kerr McGee Mines

- USEPA, Navajo Nation and many other parties filed a lawsuit against Kerr-McGee Corporation and subsidiaries of Anadarko Petroleum Corporation.
- USEPA filed claims for pollution caused by Kerr-McGee at more than 50 abandoned uranium mines.
- Navajo Nation filed a claim for pollution at the Shiprock Mill Site.
- In 2014 the United States entered into a historic legal settlement that provides almost \$1 billion for USEPA claims and approximately \$45 million for Navajo Nation claims.
- USEPA funds may only be used to investigate and clean up Kerr-McGee mines, which are primarily located in the Lukachukai Mountains of Arizona and in the Ambrosia Lake area of New Mexico.
- Navajo Nation received a settlement of approximately \$45 million for the Shiprock Mill site claim. These funds were deposited in the Navajo Nation's Superfund account.

Proposed Additions to the Five-Year Plan

1. Sample streams, wells, and springs for contamination in the Cove Watershed and San Mateo Creek Basin, and take response actions if needed to protect human health
2. Conduct cleanup investigations and take response actions as needed to protect human health
3. Propose a cleanup alternative for the Quivira mines
4. Communicate and coordinate with communities
5. Provide job opportunities for Navajo communities
6. Increase transparency by developing a data management system accessible to communities

Cove Watershed Sampling



Jobs for Navajo Workers and Businesses



Community Housing and Infrastructure Development workers built this home to replace a contaminated home

Jobs for Navajo Workers

Project / Activity	Navajo Workers Hired	Job Duties
Navajo Nation EPA	4	Environmental Program Supervisor, Sr. Environmental Specialist, Geographic Information System Analyst, Sr., and Office Specialist
Community Housing & Infrastructure Development (CHID)	21	2 projects managers, 1 inspector, 2 construction supervisors, senior plumber, electrician, office specialists, and 13 carpenters
Cove Tronox Mines	6	Botanist, geologist, cultural resources consultant, community liaison
Cove Watershed Sampling	7	2 Diné College interns, 2 Navajo Technical University interns, 1 New Mexico State University intern, 1 Eastern New Mexico University intern, and 1 Diné College faculty member
Cove Wash Surface Water Sampling	16	13 Diné College interns and 3 Diné College faculty members
Northeast Church Rock Mine	14	Native American on-site field workers
Community Outreach	3	Professional services to retain access
Ruby Mines	1	Field technician
El Paso Natural Gas Mines	1	Professional services to obtain access
Various	21	Institute of Tribal Environmental Professionals interns
Navajo Nation AML		Cooperating agreement pending
Cove Chapter		Cooperative agreement pending
Total	94	

Jobs for Navajo Businesses

Company	Services
Dinetahdoo Cultural Resources	Performed Cultural Resource surveys approximately 20 times
Iina Ba Inc.	Performed land surveys for bridge design and 4 new homes
Bitsue-Chavez Construction Co.	Installed 9 signs and 7 fences at El Paso Natural Gas mines
Community Housing & Infrastructure Development (CHID)	Replaced contaminated homes with \$3.1 million EPA grant
Southwest Tradition Log Homes Inc.	Constructed traditional log homes
Various Navajo interpreters	Provided Navajo interpretation for meetings with residents
Navajo Engineering and Construction Authority	Constructed water infrastructure projects

Outreach to Navajo Businesses

Date	Event	Location	Participants
9/16/2015	Industry Days	Central New Mexico Workforce Training Center, Albuquerque, NM	8 Navajo businesses
9/17/2015	Industry Days	Quality Inn Navajo Nation Capital, Window Rock, AZ	17 Navajo businesses as well as representatives from: Navajo Technical University, National Center for American Indian Procurement Technical Assistance Center, Navajo Nation Division of Economic Development, American Indian Chamber Education Fund and members of the Navajo Nation Council.
4/11-14/2016	Navajo Nation Economic Summit	Twin Arrows	

Anticipated Contracting Events

Date	Event
August 2016	Release of Navajo Area Uranium Mines- Response, Assessment and Evaluation Services (RAES) Request for Proposals (RFP)
August 2016	Release of Remediation/Construction Contract Request for Information (RFI)
(2 weeks after RFP & RFI Release)	Industry Days