

BUREAU OF BUSINESS & ECONOMIC RESEARCH

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UNM BBER Uranium Mine Remediation Study

- 1. Importance of the Study
- 2. Gathering Information
- 3. Analysis/Deliverables
- 4. Study Progress
- 5. Timeline and Goals
- 6. Potential Future Actions
- 7. Summary



Importance of the Study

- There are over 500 abandoned uranium mines on or near Navajo lands.
- Within the State of New Mexico, 259 uranium mining sites have been identified by the New Mexico Mining and Minerals Division; 137 with no evidence of reclamation efforts.
- The EPA and other government agencies have been working to generate funds to address uranium mine remediation, including more than \$1 billion in a recent settlement with Tronox (Kerr-McGee) for approximately 55 mines on or near Navajo lands.

To date, only a small share of the remediation money has been spent – there is an opportunity to ensure that cleanup operations benefit local communities.

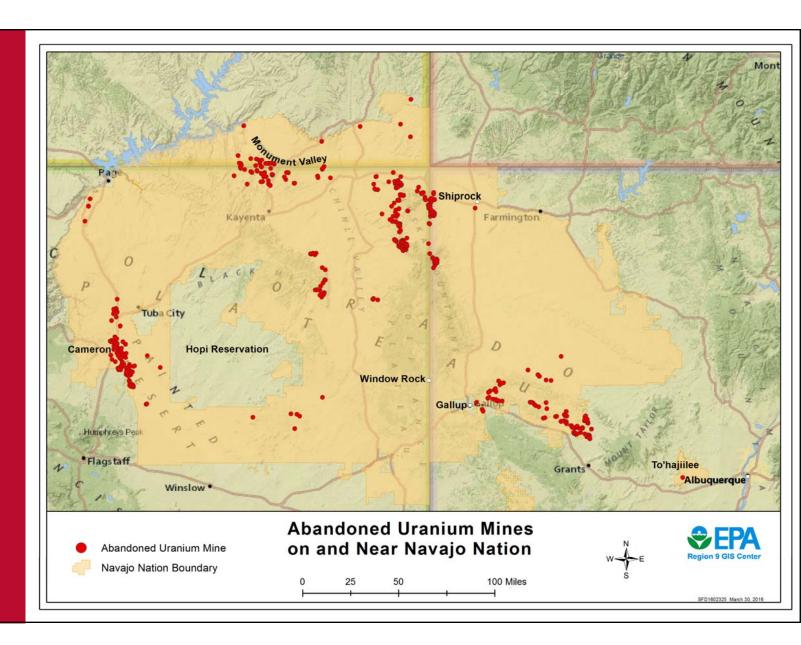


Importance of the Study

This is a generational project, potentially offering significant economic opportunities to affected populations in New Mexico.

The purpose of the BBER study is to develop strategies that maximize local economic opportunities.





Gathering Information

- Engineering Evaluation/Cost Analysis (EE/CA) for uranium mine and mill sites
- Removal Site Evaluation (RSE) reports for uranium mine sites
- Post-cleanup documents from various State and Federal agencies
- Interviews with key stakeholders, such as community organizations, and governmental organizations
- Workforce and occupational data
- Discussions with colleges, businesses, and unions regarding existing and potential workforce development and placement





Gathering Information: Contacts

See the Appendix

Appendix: UNM-BBER Uranium Mine Remediation Study Confacts List Government Organizations Laguna Pueblo Environmental and Natural Resources Oepartment EPA Region 6 NM Bureau of Geology and Natural Resources NM Mining and Minerals Division NM Environment Department NM Land Commissioner
 NM Office of the Natural Resource Trustee New Mexics Water Science Center (USGS) Navajo Nation Abandoned Mine Lands Navajo Nation EPA Pueblo of Acorna Environment Department USFS New Mexico, Arizona, Utah Community Organizations Conservation Voters New Mexico Diné Uranium Mine Remediation Advisory Commission Multicultural Alliance for a Safer Environment New Mexico Environmental Law Center Post-71 Uranium Workers Committee Post-11 Gradium Workers Committee
 Southwest Research and Information Center Central New Mexico Community College Educational Institutions Diné Coîlege
 Navajo Technical University New Mexico EPSCON.

New Mexico Tech Institute of Mining and Technology

Northern Arizona University Institute for Tribal Environmental Professionals. Voluntin Anzona University Institute for I ribal Environmental Professional
 San Juan College
 University of New Mexico Engineering
 University of New Mexico METALS Superfund Research Program Center Center for Indian Country Development – Minneapolis Federal Reserve Board
 Charles for Indian Country Development – Minneapolis Federal Reserve Board Economic Development Organizations Gallup Economic Development Organizations Native Community Development Enancial Institutions Network Northwest New Mexico Council of Governments.

Labor Unions Laborers' International Union of North America United Mine Warkers of America Business and Industry Arrow Indian Contractors Bitco Corporation Clawson Excavating Diné Construction Diné 7ah Doo Cultural Resources Management, LLC Duran Bokich Enterprise, LLC Dwyer Engineering Ecology and Environment, Inc. Ellis Erosion Control Systems Elia Erosioni Contros dystemis
 Energy Fuels (formerly Strathmore Resources US) Engineering/Remediation Resources Group Enviro-Systems of Utah, LLC ETD Incorporated Helio Resources, Ltd. Intera Geoscience and Engineering Solutions Legarza Exploration Legarza Exploration
Navajo Engineering and Construction Authority
Navarro Rosearch and Engineering Oxbow Environmental Engineering Rio Algom/BHP

Rio Grande Resources Runyan Construction

SC&A Tetra Tech General Electric - United Nuclear Corporation Western Water & Land Western vvauer a Lano Weshvater Resources (formerly Uranium Resources) Woodard & Curran (formerly TREC, Inc.)



Analysis/Deliverables

- 1. Economic Impact Analysis
- 2. Workforce Gap Analysis
 - Skills requirements
 - Current capacity
 - Workforce opportunities
- 3. Identification of further economic opportunities related to cleanup



Timeline and Goals

November 2019 Identification of Uranium Mines with Potential Cleanup

Dollars in New Mexico

December 2019 Preliminary Description of Workforce Skills Requirements

and Constraints

January 2020 Preliminary Economic Impact Analysis

March 2020 Workforce Gap Analysis

June 2020 Final Report to the Indian Affairs Committee



Study Progress

July 2019

- Began initial contacts with community organizations and the EPA
- Conducted an inventory of uranium mines within the state of New Mexico, focusing on management, cleanup status, and mine features
- Attended 40th annual Uranium Tailings Spill Commemoration in the Red Water Pond Road Community
- Began contacting local and federal government organizations
- Initiated conversations with various educational institutions about training programs
- Collected and inventoried cost documents regarding past uranium mine cleanup efforts



Study Progress

Aug 2019

- Visited NM Energy, Minerals, and Natural Resources Division to exchange information and gather documentation
- Collected and inventoried documents specifying job tasks needed to engage in assessing and remediation a uranium mine site

Sept 2019

- Created a template to turn federal cost estimate cleanup data into an analyzable format
- Began Economic Impact Analysis

Oct 2019

- Initiated conversations with businesses for greater insight into workforce skills requirements and capacity to compete for federal contracts
- Meeting scheduled 10/04 with the Diné Uranium Mine Remediation Advisory Commission



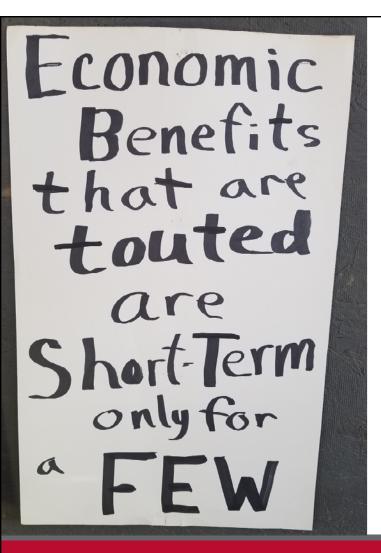
Potential Future Actions

In our discussions with stakeholders, the following needs for future action have been identified:

- Further development of workforce training
- Working with businesses to establish placement and retention programs for New Mexico workers
- The creation of an information clearinghouse, ensuring Federal, Native, State, and local organizations can better coordinate cleanup efforts
- New technologies/insights for uranium mine remediation and how they may be better applied in New Mexico and elsewhere – uranium mine remediation is not a localized issue
- The cost of continued health impacts of uranium mine exposure, both to workers and to nearby communities

State action can help to ensure that New Mexico and Native communities benefit economically from the cleanup of uranium mines.

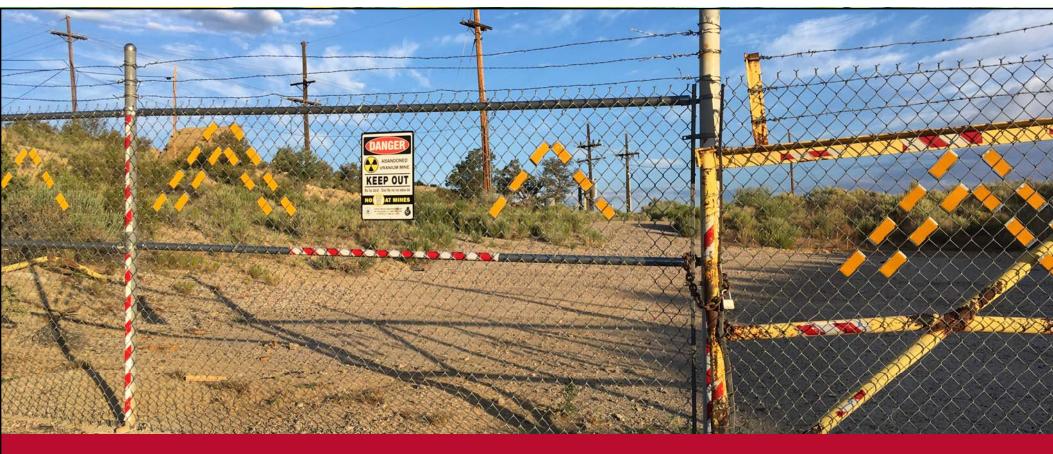




Summary

- Beyond Federal, State, and Native governments, communities affected by abandoned uranium mines are working to implement environmental and social solutions to problems associated with the uranium mining legacy; these voices should be prioritized in decision-making about remediation efforts.
- There has been significant economic as well as environmental harm associated with uranium mining, therefore the remedies need to be both economic and environmental.
- This study focuses on the workforce development and placement to ensure that impacted communities in New Mexico benefit economically from uranium mine remediation.





Thank you!

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