Presentation

• Navajo Nation and Policies
• Navajo AML Reclamation
  • Public Facilities Projects
  • Navajo UMTRA Program
• Future
• Partnerships
NAVAJO NATION

Window Rock, Arizona

Executive Branch

Judicial Branch

Legislative Branch
Navajo Nation and AML Offices

Navajo Nation - 25,000 sq. miles - Over 3 States
3 Offices
- Window Rock
- Shiprock
- Tuba City
Total of 20 Employees
DIVISION of NATURAL RESOURCES (12)
Frederick H. White, Executive Director
Vangie C. Thomas, Deputy Director

- Abandoned Mine Land Reclamation/UMTRA
- Agriculture Department
- Archaeology Department
- Department of Water Resources
- Fish & Wildlife Department
- Forestry Department
- Historic Preservation Department
- Minerals Department
- Museum Department
- Navajo Land Department
- Parks & Recreation Department
- Resources Enforcement Department
SMCRA

- In 1977, Congress passed the Surface Mining Control and Reclamation Act (SMCRA) of 1977, Public Law 95-87 to help regulate the Coal Industry and set up an Abandoned Mine Lands (AML) reclamation fund.

- 2 programs were created when signed into law on August 3, 1977: one for regulating active coal mines (Title V) and the second for reclaiming abandoned mine lands (Title IV).

- Agency responsible for administration is the Office of Surface Mining (OSM), Department of the Interior (DOI).
SMCRA

- The Abandoned Mine Land (AML) fund was established to pay for cleanup of abandoned mine lands (AML), emphasis is on Coal. This fund is a tax on Active coal mines.

- Lands and waters eligible for reclamation under this authority are Tribal Trust Lands which were mined or affected by mining and abandoned or left in an inadequate reclamation status prior to August 3, 1977 and for which there is no continuing reclamation responsibilities under Federal, State and Tribal laws.
NAMLRP Background

- Surface Mining Control and Reclamation Act of 1977 (SMCRA) and subsequent Amendments
- 1988 – Program was initiated. Inventory, Prioritization, and Reclamation. Prior to AML - OSM & Coal commission did coal
- 1989 – Started non-coal Reclamation (P1), Coal always an priority
- 1994 – Coal Certification, coal completion → Certified Tribe
- 2000 – Public Facilities Projects (PFP)
- 2004 – Complete P1, P2, and P3 (non-coal)
- 2004 – Maintenance and New Techniques, Research
- 2006 – SMCRA amendments, changed AML approach
- 2006 – 2014: Federal Administration Proposed Cuts to “Certified” States and Tribes
National Association of Abandoned Mine Lands Reclamation Programs (NAAMLRP)
Navajo AML Reclamation Program
Photos: Coal, Uranium, Copper, and S&G
Mining - Surface /Underground?  
(Engineering and Geology)

- Mining methods, stability, engineering, accessibility, dangers, properties, reclamation techniques and cost.

- Surface Mine Features - Open Pit (PI1), Rimstrip (BE), trench (BE)
- Underground Mine - Portal (P), Vertical Shaft (VO2), and Incline Shaft (VO1)
- Excess Mine Waste (DPE)
- Minerals/Coal
- Clay/Silt
Example of AML Problems – Surface and Underground.
High Priority Mining Problems:

Open pit w/standing Water. Uranium mines -used for livestock & swimming

Open pit used for Illegal trash dumping
Dangerous openings:

Lures public to enter to explore, exposes them to radiation and unsafe conditions.
Radiation exposure of livestock associated with illness of past Miners, from the food chain effects.
Mining Problems:

Underground workings prone to subsidences and unstable.
Abandoned Mine Waste

(Coal)

Contaminates drainages, can become coal fires, aesthetic problems.
Abandoned Mine Waste

(Non-Coal)*
Public Relations:

Common Questions:

• What kind of Public Relations is required?
• How do you address Uranium Mines?
• Are there any special considerations?
• Comprehensive Public Relations effort involves:
  – Our Staff
  – Land Users
  – Community/Public
  – Chapter Officials
  – Other interested parties
HEALTH PHYSICS:

• Employee Protection
• What are we protecting ourselves from?
• Personnel and Training?
• What kind of field equipment is required?
• Field Applications?
• In-house Program
MONITORING PERSONNEL EXPOSURE

- **Dosimetry device** are worn by personnel to monitor and document dose received from external radiation source. Most commonly used is the thermo luminescent dosimeter (tld) badge. The device shall be properly stored in a controlled area when not in use for quality assurance and control purpose.

- **Bioassay sampling** is required from all personnel to assist in monitoring for internal exposure. One initial and one exit sample will required from all workers. Random quarterly samples will be collected from individuals that have the highest potential exposure.
Health Physics and Radiological Equipment

- Health Physics Monitoring and Construction Plan
- Health Physics Training for all field crew
- In-house guidelines for radiometric levels
- Staff knowledgeable through training and background with
- Maps for technical designs

- Construction Monitoring of Equipment and Personnel
- Training to in-house personnel and other entities
- History of Uranium mining - very important aspect of our Program
Uranium Ore (NORM)

- Class A material - geologic material that is near natural background levels.

- Class B material - geologic material that exhibits radiometric levels above natural background, but below 25 pCi/gm of surface contamination or 50 uR/hr of true exposure.

- Class C material - geologic material that has radiometric levels above 25 pCi/gm of surface contamination and 50 uR/hr of true exposure levels.
Reclamation Techniques

Surface and Underground Mines
Reclamation
Flow Chart

AML Site: Inventoried or New

*Field Evaluation - Value Engineer

**Prioritization

Engineering Designs

National Environmental Policy Act Requirements

Contract Documents/Technical Spec.

Construction

Close-outs

Start to Finish: up to 2 years
Radiological Data/Map
Dust Suppression/Engineering Controls

Mine Waste

Class A
Class A Cover

Placement

Contoured
Polyurethane Foam
Polyurethane Foam Closure
Benefits: Wildlife habiant is restored
Benefits: Contributes to local economy thru Contracting out projects.

NOTE: Variable Terrain
Benefits: Land is restored
Benefits: Produced Quality Navajo Nation Workforce
Coal Reclamation Projects

- Total of 44 Coal Projects initiated.
- 260 Coal sites reclaimed.
- Total cost approximately $3 million.

Non-Coal Projects (Uranium, Copper)

- Total of 1,085 non-coal AML sites inventoried
- 273 non-coal reclamation projects initiated
- Overall: 944 AML sites have been reclaimed as of March 2004; 90% of the total inventoried AML sites.
- Cost for 944 AML sites at approximately 23 million dollars.

*Continue to evaluate, for eligibility, any new AML sites that are reported.*
Summary

- The objectives of SMCRA have been fulfilled in respect to protecting the general public, livestock, wildlife and the environment.
- Land has been restored to a more natural setting.
- The dangerous features associated with past mining have been eliminated.
- Land is more beneficial for livestock, wildlife, and recreational purposes.
- Work generated from the AML projects have been going back to the Navajo Nation economy, Navajo Contractors and Navajo work-force.
“Is that enough?”
AML Reclamation/future

- Long-term stewardship - GIS
- Maintenance & Monitoring
- Pilot Projects
- New Technology
- Partnerships/Funding
- POLITICS .... ?

- Research, Learning, Education and Open Minds
Hum . . .
Mother Nature/Stability
Erosion

Stabilization
Example of Inaccessible mine waste
• Geomorphic Contouring

• Low-Impact Development (LID)

• Rain gardens, Bioretention, French drains, Mulch – rock/organic, traditional . . .
Lesson's Learned:
Research, Partnerships, Capacity Building, Funding, Communication – message.
What Next?

- Staff Experience
- Partnerships
- Funding
NAMLRP Staff and Expertise

• In-house Expertise with the following Staff: Engineers, Technicians, Computer Scientist, Health Physicist, Business Administration, Accountants, Secretaries, Public Relations, etc.
  – Engineering
    • Value Engineering, Land Surveys, Computer Applications, Designs, Cost Estimating, etc.
  – Health Physics
    • In-house Monitoring Plan, Reclamation Guidelines
  – Environmental
    • NEPA compliance, Environmental Assessments, Army Corp and U.S. EPA compliance, etc.
  – Contract Compliance and Procurement
• Contracting Requirements
  – Archaeological
  – Biological
Partnerships

• Basis for our Partnerships stemmed from our Abandoned Mine Lands (AML) work and carried over to the Abandoned Uranium Mines (AUM) and Public Facilities Projects (PFP) Partnerships. Partners involved the following:

  • Navajo and U.S. Environmental Protection Agency (EPA)
  • U.S. Army Corp of Engineers (US ACE)
  • U.S. Department of Energy (DOE)
  • National Association of Abandoned Mine Lands Programs (NAAMLP)
  • Southwestern AML Partnership Group
  • Navajo DES, CIO, NTUA, NHA, IHS, CHID, BIA
  • Federal, State, Tribal, Communities, and outside Entities
Policies

• Surface Mining Control and Reclamation Act of 1977 (SMCRA) and subsequent Amendments.

• Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – *Navajo Nation (2008)* and Federal

• Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA)

• Water Resources Development Act (WRDA); Remediation of Abandoned Mine Sites (RAMS)

• *Navajo Nation* – *Moratorium on Uranium activities*

• Others
Welcome to the 30th Annual NAAMLP Conference
"From Four Corners to All Corners: Connecting for Reclamation"

National Association of Abandon Mine Lands (NAAMLP)
Conferences and Presentations
AML funding Issues

- Certified states & Tribes continues to be listed for funding cut
- Navajo AML continues to consult with their leaders, and emphasize “lack of consultation” for the federal gov’t
- We drafted letters and sent to Congressional Delegates.
- Planning congressional visit to Washington, DC.
Navajo AML Staff

DNR Executive Director:
Mr. Fredrick H. White

NAMLRP Dept. Manager:
Ms. Madeline Roanhorse
Navajo Abandoned Mine Lands Reclamation Program
(NAMLRP)

Tuba City Program Manager  Window Rock AML Director  Shiprock Program Manager
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