



**OFFICE OF SURFACE MINING RECLAMATION AND
ENFORCEMENT**

**Annual Evaluation Report
for the
Abandoned Mine Land Reclamation Program**

**Administered by the
Navajo Nation**

Evaluation Year 1999
(October 1, 1998 through September 30, 1999)

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LIST OF ACRONYMS

AER	Annual Evaluation Report
AFO	Albuquerque Field Office
AML	Abandoned Mine Lands
AML Plan	The OSM Approved, Navajo Abandoned Mine Land Plan
AMLIS	Abandoned Mine Land Inventory System
CFR	Code of Federal Regulations
DOI	U.S. Department of Interior
EA	Environmental Assessment
ECE	Engineering Cost Estimate
EY	Evaluation Year
FAM	Federal Assistance Manual
FOD	Field Office Director
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
GPS	Global Positioning System
MFC	Maximum Feasible Cost
MMD	Mining and Minerals Division
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAMLR	Navajo Abandoned Mine Land Reclamation Program
NBPL	Navajo Nation Business Preference Law
NBRD Navajo	Business Regulatory Department
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
OSM	Office of Surface Mining Reclamation and Enforcement
PAD	Problem Area Description
PFP	Public Facilities Projects
SHPO	State Historic Preservation Officer
SMCRA	Surface Mining Control and Reclamation Act
UMTRA	Navajo Uranium Mill Tailings Remedial Action Department
USFWS	U. S. Fish and Wildlife Service
WRCC	OSM Western Regional Coordination Center

PART I. INTRODUCTION

This report to the Congress of the United States is produced by the Office of Surface Mining in fulfillment of its Statutory responsibility under the Surface Mining Control and Reclamation Act of 1977 as amended (SMCRA). The purpose of the report is to evaluate and assess the performance of the Navajo Nation Abandoned Mine Lands Reclamation Program (here after referred to as NAMLR) which conducts reclamation work under SMCRA through its federally approved Program.

The report summarizes the finding and conclusions that OSM has made in ongoing “oversight” of the approved NAMLR for the one-year period beginning October 1, 1998 through September 30, 1999. In this process, noteworthy program deficiencies as well as accomplishments are highlighted as they affect important program operations and the goals and objectives of SMCRA. In addition, special topics or “principals” were evaluated which were identified in cooperation with NAMLR for detailed evaluation during this period.

The primary goal of the national Abandoned Mine Land (AML) program is to mitigate the effects of past mining by reclaiming abandoned mines, with a primary emphasis on correcting the most serious problems endangering public health, safety, general welfare, and property. The Office of Surface Mining Reclamation and Enforcement (OSM) and State/Tribal AML programs work together to achieve the goals of the national program. On behalf of the Secretary of the Department of Interior, OSM administers the Abandoned Mine Reclamation Fund. OSM awards grants from the Fund to States/Tribes to pay for their administrative and reclamation costs. In addition, OSM works cooperatively with the States/Tribes to monitor the progress and quality of their Programs.

The intent of the evaluation process and this report is to convey to the Congress of the United States the effectiveness and capability of the subject agency to perform its responsibilities under SMCRA and in accordance with its approved Abandoned Mine Land Plan, on behalf of the Federal government and the Office of Surface Mining. In addition, it is intended to contribute to improving operations by offering advice and council to the respective State or Indian Program being evaluated. Finally, it is intended to convey to Congress the extent of reclamation work that is being completed relative to the total inventory of known abandoned mine reclamation work that remains to be done as well as the empirical costs associated with completing this reclamation work. Directive AML-22 generally describes how OSM evaluates State AML reclamation Programs to ensure that the provisions of SMCRA and the implementing regulations are met when NAMLR implements its approved AML Plan. These evaluations are referred to as “enhancement and performance reviews.” The review Principles (topics) are jointly selected by OSM and NAMLR each year based upon previous years findings and ongoing work planned for the current year.

Oversight Evaluation Period :

This year’s evaluation period extends from October 1, 1998 through September 30, 1999. In conducting its review of selected principles during this evaluation period, OSM looked at both the results of recent on-the-ground reclamation and also older reclamation in order to evaluate the long-

term stability of reclamation that is being achieved. OSM conducted on-site field tours in cooperation with NAMLRL during EY-1999 to view and document ongoing reclamation work as well as older reclamation work and maintenance at some reclaimed sites.

In addition, OSM looked at projects in the pre-construction (planning) phase for compliance with the National Environmental Policy Act (NEPA). OSM reviewed Environmental Analyses for compliance with the NEPA and issued Findings of No Significant Impact (FONSI's) as appropriate. A review of NAMLRL office files was conducted on August 16th for the purpose of gathering information regarding contract awards. OSM requested the information needed of a NAMLRL staff member, who cooperated by furnishing all the requested information.

PART II. GENERAL

The Navajo Nation consists of mostly arid desert to semi-arid land on plains such as Monument Valley and the Painted Desert and some mountainous areas. It extends into the states of Arizona, New Mexico and Utah at the four corners area and covers approximately 27,000 square miles or about 16 million acres. The Navajo Nation is the largest Indian Tribe (Nation) in the United States.

The NAMLRL is part of the Navajo Nation's Division of Natural Resources. It was established in 1988 by resolution of the Navajo Nation Council. It consists of a central administration office in Window Rock, Arizona (Navajo Nation Inn Office Complex, Suite 125, Highway 264) and two field offices, one located in Shiprock, New Mexico (1 Uranium Boulevard) and the other in Tuba City, Arizona (Navajo Trail Mall, Main street). The Department Director, oversees and manages the Navajo Nation Uranium Mill Tailings Remedial Action (UMTRA) Program as well as the Navajo Abandoned Mine Lands (Navajo AML) Program. Program administration is handled out of the Window Rock, Arizona office. Field Offices in Tuba City, Arizona and Shiprock, New Mexico handle most of the field work including working with contractors on construction projects.

History of Coal Reclamation :

Prior to SMCRA some mine reclamation work was performed on Navajo Nation land. During the 1960's some emergency AML reclamation was conducted by the Bureau of Indian Affairs (BIA), including extinguishing several coal fires and other Priority 1 hazards.

In addition, after the SMCRA was passed in 1977 but prior to the approval of the Navajo Nation's AML Program additional mine reclamation work was done. Between 1981 and 1987 the Navajo Nation Coal Mining Commission and OSM reclaimed twenty-five (25) Priority 1 coal sites costing \$1,133,300.00 in emergency and \$917,500.00 in non-emergency funds.

Public Law 100-71 authorized the Crow, Hopi and Navajo Nation to obtain an Abandoned Mine Land Reclamation Program without prior approval of a Surface Mining Regulatory Program as ordinarily required by Section 405 of SMCRA. The Secretary of the Department of the Interior (Secretary) approved the Navajo Nation's Abandoned Mine Reclamation Plan on May 16, 1988.

Approximately six (6) years later, the Secretary concurred with the Navajo Nation Abandoned Mine Reclamation Program's "certification of completion" that all known abandoned coal mines had been reclaimed.

By receiving certification that all known high priority coal reclamation had been either completed or funded, NAMLR began using Abandoned Mine Land (AML) funds for non-coal reclamation purposes. However, consistent with SMCRA, when new AML high priority coal sites are discovered, NAMLR will continue to add the sites to its inventory and to schedule them for project development (NEPA compliance and engineering design), funding and reclamation. There have been a few priority 1 and 2 coal sites which were identified after NAMLR had certified completion. Those sites were always given priority by NAMRD and were contemporaneously reclaimed. All known remaining priority 1 and 2 coal related hazards in the Abandoned Mine Land Inventory System (AMLIS database) were reclaimed by the end of 1996.

Upon certification of completion of all known priority 1 and 2 abandoned coal mine sites, the Navajo Nation elected to begin reclamation of hazards associated with abandoned uranium / vanadium mines which were developed during the war era and subsequently abandoned. OSM considers this to be commendable decision on the part of the Navajo Nation because these sites pose a considerable health hazard to humans and to wildlife as well as an environmental hazard. Historically, abandoned uranium mines have constituted a significant areal disturbance scattered over the Navajo Nation lands. Reclamation work done by Navajo AMLR has dramatically reduced the acreage of disturbance and associated hazards that once existed on the Navajo Nation. Although OSM has occasionally requested changes, overall the work has been performed based upon the relative priority of the hazard. However, during planning consideration is also given to cost effectiveness in that sometimes lower priority hazards are addressed in conjunction with higher priority projects in order to take advantage of having heavy equipment in the vicinity. This approach makes the use of the funds more cost effective overall.

As of the end of last evaluation year (September of 1997) NAMLR had effectively addressed and reclaimed 65 coal sites and 441 AML non-coal (uranium) sites which together impacted about 1,692 acres of land. The total cost of this reclamation work was \$14.3 million, \$3.1 Million for coal and \$11.2 Million for non-coal.

This year an additional 39 non-coal (uranium) sites and 1 coal site were reclaimed. So, it can be stated again this year that all inventoried coal sites (100%) and over 50% of all inventoried non-coal sites have been reclaimed. The non-coal reclamation projects done this year included reclamation of 108 portals, 15 vertical shafts, 21 acres of dangerous piles and embankments, two (2) hazardous structures were removed, two (2) acres of subsidence, 13 acres of bench and 0.5 acre of industrial waste and 28 acres of haul road were removed, and over 6,100 linear feet of dangerous highwall was reclaimed. NAMLR is planning to reclaim most of the coal and non-coal AML sites in its inventory by 2004. However, all newly found AML sites funded after fiscal year 2000 will be completed by 2004.

This work will include closure of abandoned mines, minimizing hazards due to unstable openings and highwalls, revegetation and drainage improvements by burying radioactive wastes, enhancing natural grazing lands, providing local jobs to stimulate the local economy, and overall returning the mined areas to their pre-mine condition.

Upon completion of most AML sites, NAMLR intends to commence using AML funds for “public facilities projects” on the Navajo Nation. The AML Plan will be amended to provide the authority to do “public facility / utility projects.”

Reclamation of Uranium Mines :

To date, NAMLR has inventoried over 1,100 abandoned mine sites on the Navajo Nation. In addition, this year and next year, NAMLR is doing an extensive inventory of both priority 3 type hazards (consisting mainly of hard to access mine features and radioactive mine waste piles) and maintenance work needed at past reclamation projects (consisting of in-house coal reclamation projects and projects completed under contract with a two year warranty).

Abandoned uranium mines are concentrated in five AML districts: Cameron, Monument Valley, Blue Gap, Shiprock and Eastern Agency. Hazards associated with low level radiation at these sites is especially dangerous because the radiation hazard cannot be seen or otherwise detected without the aid of specialized equipment, so radiation exposure or contamination is not readily apparent. Hazards associated with abandoned uranium mines also include open portals, adits, vertical openings, incline shafts, radioactive waste piles, radioactive dust, and dangerous highwalls & embankments.

Although the overall health and environmental impacts associated with abandoned uranium mine sites is difficult to quantify or assess, the Navajo Nation experiences a high incidence of cancer which many believe to be attributable to radiation exposure. Though natural (non-mine related) outcrops of radioactive materials exist on Navajo land, the actual Uranium workings, where high quality ore was extracted and scattered about in mine waste piles, exhibits a much higher radiation level. The higher radiation or lengthy exposure, can pose a significant threat to human health and safety, wildlife, and livestock. In addition, storm water or runoff that comes in contact with this material picks up contaminants. Runoff water is often collected by local ranchers for use in watering livestock because it is one of the few sources of water available.

Because of the dangers associated with reclamation of Uranium mines, safety is a major concern. A health physicist on staff with NAMLR stringently monitors site conditions and worker exposure levels (using thermo-luminescent dosimetry badge and frisking instruments) to protect the health and safety of employees during site characterization and construction. Workers from both NAMLR and contractors must wear protective gear and masks to protect them from exposure to radiation hazards.

Safety is stressed by NAMLR because of the relative remoteness of the work areas, and the long distances involved to reach emergency facilities, and the nature of the radioactive materials being

handled. NAMLR has a good safety record. In addition, contract specifications for all projects contain safety requirements and technical qualifications into their contract specifications for all contractor's employees who work on abandoned uranium sites.

Reclamation Process:

Typical site evaluation and design of the projects involve characterization of the radioactive level of materials at the site. Generally, a buffer zone of clean material is placed at the bottom of the waste disposal area, then the hottest materials are placed on the top of the buffer zone material and the less radioactive materials are sequentially placed over them. Topsoil or non-radioactive materials from the surrounding area are used as cover material. All radioactive-waste disposal areas are strategically located away from surface and ground water in order to prevent contamination to the local hydrology.

In general, sites are seeded and re-vegetated, however, in extremely dry areas such as the Cameron area, spending AML money on revegetation is not practical or cost effective. NAMLR conducts vegetation surveys and selects a suitable native seed mix for revegetation. On most sites, the final land surface is roughed up as much as possible to provide a coarse scarification that serves to trap seeds naturally and provides conditions to entrap what little water becomes available from precipitation to encourage germination of windblown seeds.

For wildlife, NAMLR salvages rocks and boulders for placement in the final topography in order to provide shelter and niches for wildlife. NAMLR respects and protects species listed on the Federal threatened and endangered species lists and in addition has a separate listing of its own for certain protected species of plants and animals of religious and / or medicinal significance.

Aside from the reclamation procedures specific to the handling and isolation of radioactive materials the construction and reclamation procedures and methods are no different from those used elsewhere in the United States. Pits are backfilled and sloped to enhance drainage and prevent erosion, portals are backfilled and bulkheads usually of concrete block are put into place and secured to the entry walls and they are covered with natural materials especially with large boulders to prevent access and tampering. Drainage is diverted with berms and ditches as necessary to prevent erosion and contact with toxic materials. In areas where wind or water erosion is a factor, mulch is used to stabilize the topsoil. Slopes are blended in with the surrounding topography and roughly scarified. Where the topsoil is sand dune material and wind erosion is a major concern, chemical soil stabilization is implemented along with the revegetation seed mix. Because many of the AML sites are near or adjacent to scenic vistas and parks, NAMLR often tries to blend the reclaimed topography and soil color with the surrounding landscape and to hide bulkheads with natural material if possible. NAMLR typically includes barriers such as boulders and roughly scarified terrain into their design specifications in order to prevent or restrict pedestrian and vehicular access to reclaimed sites where associated hazards existed.

Collectively, these special approaches to reclamation design that are being implemented by NAMLR encourage local employment, stimulation of the local economy and tourism.

Navajo AML Reclamation Fund :

a. Income:

There are currently eight (8) active coal mining operations on Navajo Nation lands. Collectively, 84 thousand acres are under permit by these mines, 30 thousand acres of which are currently disturbed. Approximately 441.1 million tons of coal has been produced from Navajo lands since SMCRA was enacted. During EY-99 alone, 17.2 million tons of coal was mined on Navajo Nation lands which resulted in \$6,791,861.00 dollars in reclamation fees being deposited into the Navajo AML fund.

From the time AML fees were first collected in 1977 to September 1999, approximately \$151 Million in AML fees have been collected from mining on Navajo Nation lands. Under SMCRA, the Navajo Nation is entitled to fifty percent (50%) of the money deposited into the Navajo AML fund or \$75.5 million to date. Each year, based upon a mathematical formula, Congress appropriates money from the National AML fund to the various State and Tribal AML fund.

As of the end of this evaluation period, Congress has to date appropriated a total of \$51,258,949.00 to the Navajo AML fund and the Navajo Nation has a balance of just under \$25,777,196.00 remaining in its share of the AML fund to draw from.

b. Grants and Expenditures:

In 1999 Congress appropriated \$2,606,767.00 to the Navajo AML Fund. Such annual appropriations accumulate in the State or Tribal fund until that program requests to draw from their fund by submitting an annual grant application. As mentioned above, as of September 30, 1999, there was a balance of \$25,777,197.00 in the Navajo AML fund to draw from, the rest was distributed to NAMLRL over the years when OSM awarded Administrative and Construction Grants to NAMLRL.

Annual grant applications contain two parts, an Administration sub-account for administration of the AML program and a Construction sub-account for construction of AML projects. The Administration sub-accounts are awarded for a one year term and the construction sub-accounts are awarded for a three year term. Because some costs included in the administration sub-account do not go toward administration but actually cover costs directly attributable to projects such as development of engineering designs & specifications, project planning and work involved with complying with NEPA, it is not meaningful to compare administration costs figures with project construction costs figures to measure program efficiency.

In December, 1997, NAMLRL requested that it be allowed to switch to the simplified grant process that many States with AML Programs are using. The simplified process allows construction grant monies to be awarded annually in a lump sum amount to cover construction costs for projects worked on over a three year period rather than making a separate award tied to each reclamation project. NAMLRL has been using this simplified grants process since January 1998.

A recent printout of NAMLR grant awards and expenditures from the Advanced Budget / Accounting Control Information System (ABACIS) shows that all construction grants whose three year term expired in 1998 are closed out and therefore have a zero (\$0.00) balance. If there was a remaining balance in those accounts it would be de-obligated during the close out process and revert back to the Navajo Nation AML Fund.

The following table contains information regarding each active grant during the evaluation period. In addition, amendment 2 to grant 807810 is also listed to show additional funding for EY-2000.

- ACTIVE GRANTS -

Grant Number	Administration	Construction	Total
GR 697810	(Includes: Coal Mine Mesa, Carrizo-1)		
Initial Award	\$ 588,676.44	\$ 1,545,433.00	\$ 2,134,109.44
Term of Award	04/96 - 03/97	04/96 - 03/00	
Avail. Balance \$	0.00	\$ 29,046.00	\$ 29,046.00
GR 707810	(Includes: Eastern Agency, Black Mesa 2, Cove-2, Cameron 5)		
Initial Award	\$ 869,137.00	\$ 3,266,172.00	\$ 4,135,309.00
Term of Award	04/97 - 03/98	04/97 - 03/00	
Avail. Balance \$	201,547.00*	\$ 2,227,330.00	\$ 2,428,877.00
GR 807810	(Includes: Oak Spring 4, Tse-Tah, Beclabito 3, Cove 3, Monument Valley 4, Scenic Vista, Cameron 4, Black Jack - Coop. with New Mexico Program and Several Priority 3 Projects)		
Initial Award	\$ 799,311.00	\$ 8,462,875.00	\$ 9,262,186.00
Term of Award	04/98 - 03/99	04/98 - 03/01	
Amend. 1	\$ 459,606.00	\$ 547,793.00	\$ 1,007,399.00
Term of Award	(9 Months**)	12/31/01	
Spent in EY-99	\$ 1,085,000.00	\$ 1,077,496.00	\$ 2,162,496.00
Avail. Balance (for EY-2000)	\$ 173,917.00*	\$ 7,933,172.00	\$ 8,107,089.00
Amend. 2	\$ 622,673.00	\$ 1,067,267.00	\$ 1,689,940.00
Term of Award	CY-2000	01/2000 thru 12/31/2002	

* This amount will be de-obligated and revert back to the Navajo AML fund.

** In February 1999, OSM amended the grant to award an additional nine months of funding rather than twelve months in order to allow NAMLR to change its funding cycle to a calendar year cycle.

By the end of the EY-99, OSM had awarded a total of \$10,269,585.00 to NAMLR (\$1,258,917.00 for program administration and \$9,010,668.00 for project construction under grant GR807810).

The remaining balance under Program administration is \$173,917.00 which will be de-obligated and revert back to the Navajo AML general fund.

The remaining balance under each grant in the table above are listed in bold. Because the awards are tied to specific time frames, each of these balances has a different deadline associated with it for expending the money. However, at the end of the EY-99, a total of \$10,189,548.00 remained from existing funding and an additional \$1,067,267.00 was awarded for CY-2000 making a grand total of \$11,256,815 available to NAMLR for construction work during EY-2000.

This is a lot of money to spend. NAMLR has had difficulties in getting projects to the construction phase mostly due to delays with getting NEPA clearances and the contract procurement process. However, once contracts are awarded, construction usually goes smoothly and on schedule. NAMLR has committed to completing most funded reclamation projects by the end of CY-2001.

Project Construction :

During this evaluation period, the following AML reclamation projects were either under construction or under some phase of project development:

- < Carrizo 1 Project (Beclabito-2, Oak Spring-3, and Sweetwater-1)
- < Cove 2
- < Scenic Vista Project (Coal Mine Mesa, Halchita, and Montezuma Creek)
- < Eastern Agency Project (Coal: Canoncito, Hogback, and Chinde Wash;
Non-Coal: Foutz-2, and Foutz-3, Section 3)
- < Cameron 4 Project
- < Cameron 5 Project
- < Black Mesa 2 Project
- < Black Mesa 3 Project (not yet funded)
- < Beclabito 3
- < Carrizo 2 Project (Beclabito-3, Tse-Tah-3, Oak Spring-4)
- < Monument Valley 4
- < Cove 3
- < Cove 4 (not yet funded)
- < Eastern Agency Project
- < Priority 3 Inventory

In a cooperative effort, NAMLR also entered into a Memorandum of Understanding with the State of New Mexico's AML Program for the reclamation of the Black Jack Mine which is on Indian "allotted lands" in Smith Lake, New Mexico. NAMLR will provide technical assistance and the State of New Mexico will be responsible for the reclamation activities and the funding. [See photograph labeled Black Jack Mine.]

The total cost of safeguarding and reclaiming all known (inventoried) remaining unfunded uranium AML projects is estimated to cost approximately \$5 million, however, some additional inventory / field reconnaissance work is scheduled to be completed in EY-2000. These project sites scheduled for inventory are mainly all priority 3 sites. NAMLR originally anticipated having most reclamation work completed by the end of year 2000, however, this has been recently readjusted to 2001. In addition, OSM's newly proposed definition of Indian lands could enlarge the jurisdictional area of NAMLR. The effect of the change could be that additional AML problem areas and responsibilities could be added to the Navajo Nation's AML inventory. Additional fees from active coal mining could also flow to the Navajo Nation.

Finally, NAMLR may conduct a Surface Water Impact Study related to AML sites. This study was originally started by the Environmental Protection Agency. When most of the mine reclamation work is done, NAMLR intends begin funding Priority 4 Public Facilities / Utilities Projects.

OSM visited the following project sites in order to evaluate and assess the quality of reclamation being achieved by the Program during the evaluation period:

- Carrizo-1 Project (includes Sweetwater-1, Oaksprings-3)
- Scenic Vista Project (includes Halchita, Montezuma Creek, Coal Mine Mesa)
- Cove-2
- Eastern Agency Project (visited but not in construction phase yet)

PART III. ACCOMPLISHMENTS

NAMLR continues to strive to develop state of the art capability in its technical expertise and computer capability as well as to continually work toward acquiring modern equipment and facilities suitable for the Program. NAMLR continues to project having most AML projects in the inventory reclaimed by the end of 2001. A lot of projects are on the drawing board for EY-2000 and should be ready for construction by the summer of 2000.

NAMLR invests significant time and resources into its inventory, prioritization of that inventory workload, project characterization especially its pre & post reclamation radiation level grid surveying, obtaining project clearances (NEPA, Army Corp. of Engineers & Cultural / Historic), project design engineering (value engineering), project scheduling, project construction (on-site monitoring of construction work and contractor compliance with contract specifications), implementation of a

radiation safety Program for NAMLR staff and contractors and ongoing efforts for the development of a safety program for internal operations and first aid.

Organizational Structure:

NAMLR has 30 Full Time Equivalent positions (FTE's). Seven FTE's work in the Window Rock Office, the remaining 23 FTE's work in the two field offices, 5 of which are in the project coordination section and 18 are in the engineering section. This year two positions were converted to Office Managers positions so that the two field offices will be better supervised and for better coordination of work, etc. After accounting for cost sharing with the UMTRA Program (for those positions whose time is divided between the two Programs), OSM actually funds the equivalent of 26.8 FTE's of the total 30 FTE's in NAMLR. There were several vacancies during EY-1999. A biologist position was filled in 1999. Most of the vacancies will be filled in EY-2000.

Technological Advancements / Accomplishments :

NAMLR field office in Shiprock was connected to Local Area Network & Wide Area Network in EY-1998. OSM currently has E-mail communication capability between OSM, Window Rock, and Shiprock office, however, the Window Rock Office and the Shiprock Office are not yet able to communicate electronically. Steps are being taken to tie into the network at the Navajo Nation Title-IV office. This should be completed in early 2000. Once completed, Internet access and e-mail communication will be established with all three of NAMLR offices and with OSM. The network communications will greatly facilitate internal operations of NAMLR as well as interaction and reporting with OSM.

1999 National Reclamation Award:

This year NAMLR received the National Abandoned Mine Land Award, OSM's top reclamation award for outstanding on the ground reclamation at its Monument Valley 2 AML Reclamation Project. In this project, NAMLR reclaimed a large radioactive open pit with 30 portals, 7 vertical shafts and about 65 acres of radioactive mine waste. This site presented a danger to local residents, to livestock and to wildlife. Following reclamation, the site is now free of sources of water pollution, soil erosion, sedimentation and radioactive mine waste.

PART IV. RESULTS OF ENHANCEMENT AND PERFORMANCE REVIEWS

The work plan for 1999 included three principles or evaluation topics. As with other States in OSM's Western Region, some of these principles required several performance measures (areas of interest) to determine how each principle would be evaluated. Principal Number 1 and 2 below were evaluated last year and again this year but with a different area of emphasis.

Principle Number 1 - Programs should be responsive to public concerns.

It was agreed that this principal would be evaluated by focusing on all public relations activities conducted by NAMLR. This included documentation of public meetings, inquiries, public awareness efforts such as outreach to schools and chapter houses.

NAMLR achieved an excellent performance rating in this area last year and again this evaluation year by providing for public participation in accordance with its approved plan. During the current evaluation period, Navajo Nation government and local officials were contacted during the planning process for all projects reviewed. NAMLR offices and staff were again found to be accessible to the public. In 1996, NAMLR added a Public Information Officer position to the Window Rock Administration Office. The position is dedicated 50% to AML administration, 30% to Project Development and 20% to the Navajo UMTRA Program (non-AML Program work). This position has enhanced the ability of NAMLR to respond to public concerns and to seek public input for AML activities. NAMLR is responsive to the public by providing outreach in the following ways:

- < NAMLR attend various public meetings including chapter houses, schools, environmental health, conferences etc.
- < NAMLR contacted local land owners and others for information on animals, and mine history and regarding their AML inventory of sites.
- < NAMLR produced leaflets and brochures on the dangers of abandoned mines and encourage people to stay away from them.
- < NAMLR seeks out public and landowner input into their priorities for reclamation.
- < NAMLR routinely briefs the Navajo Division of Natural Resources, Office of the President and Vice President, Navajo Nation Council, and legislative oversight committees including the Intergovernmental Relations Committee, Budget & Finance Committee, and the Resources Committee. The briefings are to provide updates and accomplishments on the Program.
- < NAMLR publishes reports about their Program's purpose, funding, goals, accomplishments and priorities.
- < NAMLR has an active campaign to educate the public about the hazards associated with abandoned mines and with radioactive materials.

- < NAMLR routinely attends and is represented at AML conferences and meetings and pertinent construction shows to promote communication and promote state of the art reclamation work.
- < NAMLR has even been called on to measure radiation levels in nearby property and in residential areas.
- < NAMLR is planning to seek public input and input from the Resources Committee and the Navajo Nation Council regarding potential Public Facilities Projects (PFP's) and the priorities associated with those potential projects.
- < Attended conferences; distributed AML safety-related videotapes for public viewing and distributing brochures (pamphlets) and other materials to promote public safety and awareness to hazards associated with abandoned mines, and radio / television announcements in the local area.
- < NAMLR's public relations officer in 1998 began to focus public outreach more on education in high schools, middle schools and elementary schools with regard to the hazards associated with mines and the methods of reclamation of such hazards.

Principle Number 2 - Abandoned Mine Land Reclamation is to be achieved in a “timely” and “cost effective manner.”

The evaluation team decided to continue its review of this principle because:

- a) There is a need to improve the timeliness of getting projects through the NEPA process and into the construction phase;
- b) OSM has had an ongoing concern with NAMLRL regarding the lack of adequate “competition” in the bidding process which uses Navajo preference and negotiation rights for priority-1 Navajo contractors.

It was not known last year exactly what the extent of these concerns were or if a performance plan would be necessary to resolve them.

This principle was expected to show if :

1. NAMLRL is addressing National Environmental Policy Act (NEPA) requirements timely and cost effectively in its project development and planning activities such as preparation of Environmental Assessment (EA’s) and project designs (contract specifications).
2. Contracts are awarded in a timely manner and within the “Engineers Cost Estimate” or “Maximum Feasible Cost Estimate” (MFC or ECE, hereafter referred to as simply the ECE) calculated by the engineer.
3. Projects are reclaimed on schedule in accordance with the time frames specified in the contract specifications.
4. Projects are designed and constructed in a way that reduces the need for maintenance, promotes landscape stability and is consistent with adjacent land uses.

OSM evaluated this principal by: a) reviewing project files and grant performance & close out reports in order to gather information on reclamation schedules, NEPA compliance and maintenance work; b) reviewing contract files for documentation of the ECE used in the contracting process as well as the scope of work and unit costs. The final dollar amounts of the contracts awarded during the evaluation period was contrasted with the ECE and the grant application; and, c) inspecting a five year old or older reclamation site at random to determine if reclamation is maintenance free or in stable condition.

1. Reclamation Schedules / NEPA Compliance :

Regardless of existing NEPA obstacles, NAMLRL has projected getting most AML projects done by the end of 2004. This topic was consistently discussed this year during quarterly meetings. Although obtaining biological clearances required by NEPA continues to be a time consuming endeavor, NAMLRL has been working hard to address this problem and has been working closely with the USFWS, OSM and Navajo Fish and Wildlife to develop ways of improving the NEPA process.

NAMLRL is planning to contract out the Biological Surveys. In addition, NAMLRL is working in partnership with State, Federal agencies and Bat Conservancy International to protect bat populations

when possible. Bats that exist in coal mines are protected by sealing the portals with bat grates. Several radioactive uranium mines on the reservation are also inhabited by bats. NAMLR does not consider radioactive mines to be suitable habitat, so they cannot be sealed with bat grates. A bat exclusion procedure is being utilized to dissuade bats inhabitation in uranium mines and to any get existing inhabitants to leave prior to closure.

NAMLR researched ways of displacing the bat populations from Uranium mines. It is constructing chicken wire coverings over the mine openings in order to persuade bats to relocate prior to reclamation work. This procedure has proven to be effective in a few field trials. The bats leave within a few days and find alternative habitat elsewhere. This is a noteworthy accomplishment for NAMLR which previously was only moderately concerned with bats and their habitat. There are expected to be about 100 such sites that may require this protective measure prior to closure.

NAMLR hired a biologist this year. This has turned out to have greatly improved the Program's capabilities with regard to NEPA compliance work and Environmental Surveys and Assessments. Filling the biologist position has resulted in some innovative ideas and is improving relations necessary to work with external entities in order to complete biological surveys and secure clearances. He also researched the methods of displacing the bats from Uranium mines. There is a large workload with regard to Biological studies and surveys necessary to move projects through the NEPA clearance process. Recently, there have been sightings of Mexican Spotted Owls on a couple of sites which must be addressed. There are plans to get the NAMLR biologists certified to do surveys of additional protected species.

OSM selected at random the Contract Document for the Scenic Vista Project to review. The review determined that the contract document contained a detailed drawings and technical specifications as well as other pertinent information detailing the reclamation work to be completed. The contract documents and specifications are extremely detailed and cover engineering specifications, bonds, safety, special conditions, schedules, contingency clauses, warranty of workmanship and materials, payments and numerous other items. The table of contents in the Contract Document for the Scenic Vista Project lists 56 separate topics. The document is neatly prepared and bound and the maps and diagrams are clean and easy to read, overall this is an excellent document. **NAMLR has achieved excellence in its ability to develop cost effective project designs (engineering designs) and contract specifications, to effectively remove identified hazards and achieve long term stability.**

Based on the above information, **reclamation projects overall are being conducted in a timely manner once construction begins. Although there are some time delays associated with getting reclamation work completed, these are mainly a result of difficulties associated with getting NEPA clearances and with the bidding process.** NEPA procedures are being worked on by NAMLR as previously mentioned by improved communication with Navajo Fish and Wildlife Department and US Fish and Wildlife Service as well as by NAMLR's hiring a Biologist to interact

with these groups and to handle environmental concerns in getting NEPA clearances and in doing any consultation work. Some contracts were awarded without going to a second round of bidding in order to save the additional time it would take to go through a second round of bidding which may be as much as two or three months.

To streamline the cultural resource clearance process, NAMLRL is contemplating an MOA with the Navajo Historic Preservation Department to solve some of the NEPA delays. Effective June 17th, 1999, it is possible to get the clearance easily when:

- 1) there is no historic property within the reclamation area;
- 2) historic property is present but there will be “no effect” on the property; or
- 3) historic property is present but there will be “no adverse effect” on the property.

For mine sites that are 50 years or older, there will only an ethnographic interview needs to be done unless the same general area was studied before.

With regard to clearances for fish and wildlife, biological studies have been expedited after the Navajo AML Program hired a Biologist. The biologist intends to also get certified to do certain other specific biological species studies so that NAMLRL will not have to use outside consultants to do this work (Certification is required for studies, etc., for certain T&E species under the Endangered Species Act. The biologist must therefore be knowledgeable about things like breeding behavior, habits, habitat requirements, etc.). This position will also benefit the AML Program next year because the Navajo Fish and Wildlife Department is reducing its staff. In addition, although past policy has been not to enter mine workings, due to the potential for animals to be present, NAMLRL may now need to explore “coal workings” before closure. The US Fish and Wildlife Service will continue to do its review.

With these changes, the NEPA process has been streamlined and should not pose as big of a problem as it has in the past. In fact, the NEPA process has been going more smoothly since May 1999.

Chapter Resolutions were difficult to obtain but are no longer required. Only land user consent is required so this speeds up the process considerably. Out of consideration, NAMLRL still asks for Chapter Resolutions even though they are no longer required, however, if the resolutions are not received NAMLRL goes forward with the project.

The US Army Corp of Engineers is no longer a problem (401 & 404 permits) since NAMLRL has developed a good rapport with them. If the impacted US water area is less than 0.33 acre then no permit is required. Also, it has been established that these permits not needed for maintenance projects or for crossing dry washes.

There are supposed to be four crews, two for land/radiological surveying work and drafting and two for construction monitoring. The NAMLRL is supposed to have 30 FTE's, however, because of high

turnover and difficulty in finding qualified technicians, the Program is operating with much less staff. Presently, there are 4 technician vacancies. In addition, the Supervisory Reclamation Specialist III and the Public Relations Officer are no longer with the AML Program leaving two vacancies. The Program has operated much of this field season with only 22 of the 30 FTE's funded, or about seven or eight employees short staffed. This is thought to have contributed to some of the delays in planning & designing work as well as actual construction of projects. There has also been some turnover in Administrative Support staff which has impacted the Program. (from NAMLR quarterly report).

OSM-WRCC provided training to NAMLR staff in AutoCAD and GPS surveying. This has speeded up the surveying and drafting work. This Evaluation Year, these surveys have been done in substantially less time than was previously required. In fact, NAMLR will be seeking an additional 7 or 8 thousand dollars in funds for another total station and G.P.S. unit in next year's grant application. This equipment is needed for use in land surveying, mine features inventory, and for measuring volumes of mine waste, channel lengths, areas, and borrow area volumes.

For the last several projects, it only took OSM a couple of days to review and prepare a FONSI and Authorization to Proceed letter once the Environmental Assessment was submitted to OSM. OSM is trying to assist NAMLR in getting projects to construction quickly.

a. Current Projects:

Carrizo-1 Project : (Sweetwater-1, Cove-2, and Oak Springs-3)

This project grouped three AML problem areas into one project. Delays with completing NEPA work were experienced due to delays and mis-coordination while dealing with the by US Fish and Wildlife Service, Advisory Council on Historic Preservation, etc.

Cove-2 Project :

Although the NEPA work was done on time for this project, it had to be separated out from the Carrizo-1 project before the project could be bid out, because there was snow on the ground at Cove-2 until April this year. Thus, delays were due to weather conditions.

Cove-3 Project :

The NEPA process has been delayed because of the presence of Mexican Spotted Owls.

Eastern Agency Project :

Delays were caused at this project by : 1) multi-agency land ownership problems; 2) jurisdictional problems; and 3) because of the presence of bats which requires designs for bat gates.

Scenic Vista Project : (Coal Mine Mesa, Halchita, Montezuma Creek)

The presence of snakes at Coal Mine Mesa, combined with the religious significance of snakes to the Navajos and Hopis, caused delays for this project since the project is located in the

Navajo-Hopi land disputed area. Again, these delays were beyond the control of Navajo AML.

The NEPA process for the rest of the funded projects, i.e., Black Mesa 2, Tse-Tah 3, Beclabito 3, Cove 3, Oak Springs 4, Monument Valley 4, Cameron 4, and Cameron 5 are progressing smoothly and expected to be completed in year 2001.

b. Future Projects :

Eastern Agency :

This project has received the Finding Of No Significant Impact from OSM. There are concerns related to the presence of bats.

Cameron 4 :

This project is expected to be ready for bidding in the spring of 2000.

Cameron 5 :

This project is expected to be ready for construction but the term of the grant will need to be extended because the grant expires on March 31, 2000.

Black Mesa-2 :

This project is also expected to be ready for bidding in early fall and will also need a time extension for grant purpose since the grant expires on March 31, 2000. There are concerns regarding wetlands, so wetland permits are needed. It consists of 7 or 8 sites in the Blue Gap area.

2. Contracting Process and Associated Costs :

In 1997, OSM met with NAMLR and Navajo Business Regulatory wherein OSM expressed concern that the bidding process being used may not be providing the necessary level of competition required for Federal Funds (i.e., AML funds). Consequently, during this evaluation year, OSM decided to gather additional information on the NAMLR's current contract awards.

NAMLR uses the Simplified Grants Process which means that projects are not funded by OSM on a project by project basis. Consequently, OSM only reviews the NEPA documentation and does not review ECEs when projects are funded. In practice, OSM typically relies on the ECE in order to determine whether contract awards for service contracts (project construction contracts) are realistic for any given market place. This information is usually all that is available to OSM to determine that the cost for the work being performed is not excessive.

For this EY-1999 evaluation, OSM reviewed the files for three contracts that were bid out and awarded during the evaluation period and asked the engineer several questions regarding these contracts. The three contracts awarded were the Carrizo-1 project, the Cove-2 project, and the Scenic Vista project. OSM requested the ECE estimate for each of the three contracts awarded.

OSM did not review the calculations or unit costs for items comprising the ECE. The review found that fewer construction contractors seemed to be submitting bids as compared to past years.

OSM reviewed contract information to evaluate the Program's cost efficiency for construction projects. Like any other project cost, costs that exceed the ECE for a project must also be necessary, reasonable and justified. The NAMLR informed OSM that the ECE is sometimes revised for the following reasons: 1) project costs did not include mobilization / demobilization costs due to the remote location of AML sites; 2) discovery and addition of newly found AML sites to the project; and 3) Cost of Living adjustments and contingency were not included in the approved budget estimates.

In 1999, OSM looked into the concern of awards exceeding the ECE. The evaluation raised the question of whether the Navajo AML contracting process was achieving efficiency in contracting. OSM's initial findings indicate that the contract awards exceeded the ECE on 2 out of 3 occasions. OSM met with NAMLR to discuss these oversight findings and the NAMLR indicated that they have the authority to negotiate within a certain range of the ECE, particularly if the ECE did not include certain cost considerations.

NAMLR also took action to modify and streamline its bidding process by developing a protocol titled "Protocol for Bid Procurement Process." The protocol was developed to enable NAMLR to automatically reject bids that were 25% above or below the ECE on the basis that they are unresponsive bidders. Although this was helpful, the bidding process is still somewhat time consuming.

OSM is supportive of a process that makes maximum use of open and free competition to ensure that contracts are awarded at the most economically affordable price. OSM is also respectful of the Navajo Nation's sovereignty and of the Navajo Nation's interest in addressing its employment surplus (high unemployment rate) and local economy. Because the Navajo Nation and NAMLR are obliged to ensure that AML funds are expended with due consideration to the best interests of the Navajo Nation, a general awareness of the cost associated with contracts (cost effectiveness) is also of mutual interest not only to OSM but also to both the Navajo Nation and the Navajo AML Program.

3. Stability of Reclamation :

Inspection of the Tse Tah-2 Reclamation Project completed in 1994 showed good stability and excellent vegetative cover. The site is on a steeply sloping hillside, yet there was virtually no visible signs of erosion and good vegetative cover. Drainage berms remained intact and functioned to correctly divert drainage to the sides and away from the reclamation cover. This proved effective in preventing the need for any maintenance. The access road was barely visible due to the good vegetative cover, making the site difficult to locate.

Although OSM was not able to look at more maintenance sites this evaluation period, NAMLR reports that it will be doing a comprehensive inspection of past reclamation in EY-2000. The Program

reports knowing about the need to address some small cracks at the Moonlight Mine and some minor erosion problems at Cameron 1 and Cameron 2. Cove-1 Project needed some maintenance work (subsidence at some of the openings which were originally closed by drilling and blasting - a method no longer used by NAMLRL for this reason) which was included in the scope of the Cove-2 project. The Hogback portion of the Eastern Agency Project is experiencing the same thing but is now inhabited by bats and will require bat grates for closures. Coal Mine Mesa was originally a coal project completed by OSM that experienced subsidence which NAMLRL is currently reclaiming.

This topic may be selected again for evaluation in EY-2000 or later.

Principal number 3 - Programs should have systems in place to ensure accountability and responsibility for spending AML funds and a process to assure that such systems are working.

This principle was reviewed last year but the performance measures evaluated focused on internal controls (systems) developed by NAMLR to ensure that procedures for grants and other activities are properly followed. These internal controls (systems) include, but are not be limited to accounting records, contracting and procurement records, payroll records, inventory records; and, project records. No problems were noted in last year's review.

This year the performance measure was a review of financial progress and closeout reports submitted by NAMLR during EY-1999 for compliance with OSM's Federal Assistance Manual. The review was conducted throughout the evaluation period. Documents reviewed were financial progress and closeout reports for three grants: GR697810, GR707810, and GR807810.

The OSM Federal Assistance Manual (FAM) at chapter 5-60A requires financial progress reports, form OSM-49, be submitted 90 days after the end of the reporting period. The OSM-49 forms submitted by the Navajo Nation for the three grants reviewed were submitted within the 90 day reporting period, and the Navajo Nation is in full compliance with the FAM. Additionally, the FAM requires that the reports be reviewed for mathematical accuracy. The reviewer routinely checks the OSM-49 forms for accuracy upon receipt in the Field Office, and prior to submitting the form to the OSM Denver Division of Financial Management. Reviews conducted by the Senior Grants Financial Specialist indicated that no mathematical errors were found for the three grants reviewed. These documents are maintained in the Official Grant Files located in the Albuquerque Field Office. The review confirmed that NAMLR is in full compliance with the Federal Assistance Manual Chapter 5-60-A.

Because no problems were noted in this review, no corrective actions are being recommended by OSM and this principal is considered to be successfully performed by NAMLR. (It should be noted that the evaluation for this principle does not negate the pending and continuing issue regarding ECE's and contract procurement as discussed above.)

PART V. ACCOMPLISHMENTS AND INVENTORY REPORTS

To date, NAMLR has inventoried over 1,100 abandoned mine sites on the Navajo Nation. As of September of 1999, NAMLR has addressed and reclaimed over 480 AML non-coal (uranium) sites and 66 coal sites which cumulatively impacted about 1,954 acres of land. The cost of this reclamation work was \$18.3 million. All known coal sites and over 50% of all non-coal sites have been reclaimed.

The “coal” reclamation projects included reclamation of 85 portals, seven vertical shafts, five acres of dangerous slide areas, three hazardous structures were removed, one acres of subsidence, and over 1,040 linear feet of dangerous highwall.

The total non-coal reclamation work included reclamation of 309 portals, 86 vertical shafts, 47,261 linear feet of dangerous highwalls, 156 acres of mine waste, 4.5 acres of industrial and residential waste and three dangerous impoundments. This work accounts for approximately \$14 million worth of construction work.

In the 12 month period from October 1, 1998 through September 31, 1999 NAMLR reclaimed 108 portals, 15 vertical shafts, 21 acres of dangerous piles and embankments, two (2) hazardous structures were removed, two (2) acres of subsidence, 13 acres of bench and 0.5 acre if industrial waste and 28 acres of haul road were removed, and over 6,100 linear feet of dangerous highwall was reclaimed.



Carrizo-1 Access Control Checkpoint. Signs require a hard hat and restrict eating, drinking, and smoking to provide protection from ingesting radioactive particles.

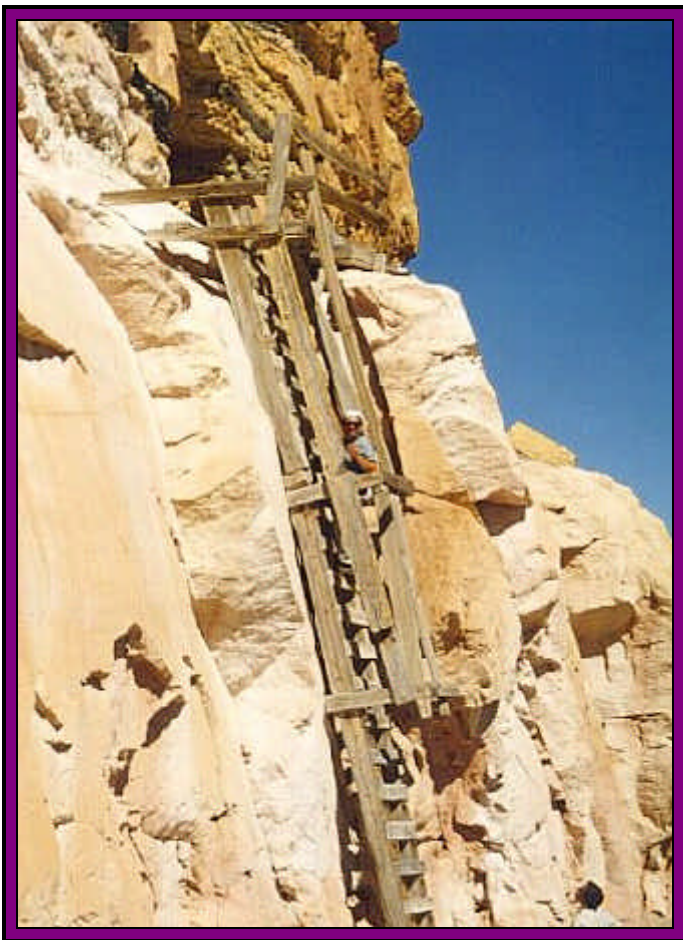


Portal being sealed with concrete block & rebar at Carrizo-1.



Navajo AMLR
Program &
New Mexico AML
Staff working in
Cooperation on the
Black Jack Project.

(The project is on
Navajo occupied
land but is a State
funded project.)



Crown Point Area. Photograph shows a
30 ft. wooden ladder that provides
the original access to the coal portal.

(The Mine is located above a narrow
bench which is on the side of a cliff.

The entire cliff is about 200 to
300 ft. high. Numerous mine portals on
the Navajo reservation are dangerous to
reclaim due to their being situated on the
sides of steep rocky cliffs.)



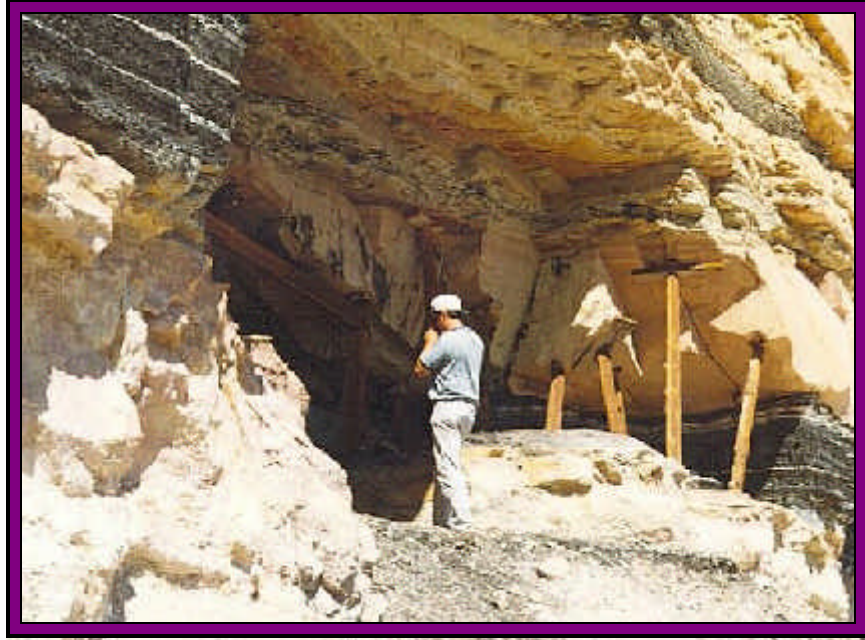
This photo depicts the reclamation of a backfilled portal in a mountainous area. Large rock are strategically placed to prevent or discourage vehicular access.



Extremely rough grading intentional left in the final reclamation to prevent or discourage vehicular access and to provide micro-niches to trap natural seeds from native vegetation and to hold water. This has proven to be a cost effective method of promoting natural revegetation in this desert environment.



Example of revegetated area on a steep slope in desert environment. This area was seeded, however, much of the vegetation here included natural invasion. Reclamation is stable & approximately 5 years old.



Example of open portal commonly encountered in cliffs on the Navajo Reservation.
This particular coal mine shows an entry along a coal outcrop of a steep cliff.
Access and coal haulage was from atop the cliff probably by means of pack mules.



Mine waste material at the base of a cliff, portal is on cliff face high above.