OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Annual Evaluation Report

for the

Abandoned Mine Land Reclamation Program

Administered by the

Navajo Nation

Evaluation Year 1997 and 1998

(October 1, 1996 through September 30, 1998)

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LIST OF ACRONYMS

AER Annual Evaluation Report

AFO Albuquerque Field Office

AML Abandoned Mine Lands

AMLIS Abandoned Mine Land Inventory System

AMLR Abandoned Mine Land Reclamation

AMR Abandoned Mine Reclamation

AMRA Abandoned Mine Reclamation Act

CFR Code of Federal Regulations

EA Environmental Assessment

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

MMD Mining and Minerals Division

MOA Memorandum of Agreement

MOU Memorandum of Understanding

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 Western Regional Coordinating 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), to evaluate and assess the performance of the Navajo Abandoned Mine Lands Reclamation Program which conducts reclamation work under SMCRA through its federally approved Program. The report summarizes the finding and conclusions that OSM has made in its ongoing "oversight" of the approved Navajo Nation's Abandoned Mine Land Program for the two-year period beginning October 1, 1996 through September 30, 1998. 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 and negotiated with the Navajo AMLR program for detailed evaluation during this period.

The intent of the evaluation process and this report is to convey to Congress 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 scope of the problem. In other words, 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.

Oversight Evaluation Period :

OSM and the Navajo AML Program formed the Navajo Review Team in 1996, and that team developed the 1996 work plan. That work plan was originally supposed to cover a 12 month period from January 1, 1996 through December 31, 1996. OSM shortened the evaluation period to nine (9) month by ending the evaluation period on September 30, 1996. The EY-1996 report was the last AER produced by OSM on the Navajo program. Due to OSM reorganization and changes in personnel assigned to the Navajo oversight function, the team was dismantled (defacto). However, meetings were held with the Navajo AML Program and it was jointly decided that OSM would continue to evaluate the Navajo program under the same criteria that was used in the 1996 report for the purpose of maintaining continuity in these program areas. In addition, the 1996 Annual Evaluation Report (AER) states (on page No. 2) :

"*As a result of the shortened period and insufficient resources, OSM was unable to collect some of the data that the 1996 evaluation was to be based on. This is particularly applicable to evaluating completed reclamation in the field. The team agreed to extend the 1996 AML work plan through the 1997 period in recognition of the need to collect additional data that will lead to credible conclusions by the end of December 1997*."

During 1997 OSM was short handed following the recent reduction in force. OSM decided not to produce an AER report in 1997, however, in its 1998 AER, OSM would report on all activities and accomplishments addressed by the Navajo AML Program since the 1996 AER. By doing this, there would not be a gap in the reporting process. Therefore, this AER reflects all activities and accomplishments performed by the Navajo AML Program for the two year period beginning October 1, 1996 and ending September 30, 1998.

During this two-year evaluation period, OSM focused most of its attention to on-the-ground reclamation completed in the field. This is partially due to OSM's new approach to oversight. Because of the way this aspect of the program was left open (not closed out) in the 1996 AER, OSM placed its greatest emphasis by conducting numerous on site field tours during 1998 to see and document reclamation in the post construction / fully reclaimed phase (project close outs), maintenance at these reclaimed sites, projects in the operational (during construction) phase, and projects in the pre-construction (planning) phase.

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 Navajo Abandoned Mine Lands Program (Navajo AML Program) 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 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 Priority 1 coal sites costing $1,133,300.00 in emergency and $917,500.00 in non-emergency funds.

The Secretary of the Department of 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. To date, the Navajo AML Program has inventoried over 1,100 abandoned mine sites on the Navajo Nation. As of September of 1997, the Navajo AML Program has addressed and reclaimed 441 AML non-coal (uranium) sites and 65 coal sites which cumulatively impacted about 1,692 acres of land. The cost of this reclamation work was $14.3 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 acre of subsidence, and over 1,040 linear feet of dangerous highwall.

This certification allowed the Navajo Nation to begin to use Navajo Abandoned Mine Reclamation Funds for non-coal reclamation purposes. However, consistent with SMCRA, if previously unidentified abandoned mine sites (especially any coal sites) are identified, the Navajo AML Program adds them to its inventory and to its reclamation schedule for project development, funding and reclamation. There have been a few priority 1 and 2 coal sites which were identified after Navajo AML Program had certified completion. Those sites have also all been a high priority for 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 hazards to both the human and the natural environment as a whole. Abandoned uranium mines collectively represents a large amount of acres of disturbance scattered over the Navajo Nation lands.

Reclamation of Uranium Mines :

Over 1,100 non-coal AML sites have been inventoried by the Navajo AML Program. Hazards associated with low level radioactive material is especially dangerous because the radioactivity cannot be seen or

otherwise detected by human or animal senses without the aid of equipment, so exposure or contamination is not readily apparent. These non-coal hazards also include open portals, adits, shafts, hazardous waste piles, pits and dangerous highwalls, and heavy metals / mineral contaminants.

Although the overall impact associated with these radioactive sites is difficult to quantify or access, several illnesses on the Navajo Nation, such as high incidence of cancer, are thought to be attributable to exposure to radiation. Although some natural outcrops of radioactive materials exist on Navajo Nation land, the actual Uranium workings where high quality ore was extracted and scattered about in mine waste piles, poses a much higher radiation and a very high threat to health and safety. This water is also used by local ranchers for livestock watering because although contaminated it is one of the few sources of water available. The Navajo AML Program has recognized the potential danger such sites pose to health and the environment and through their list of priorities diligently seeks to remove or minimize these hazards.

The uranium AML sites are mostly concentrated in five AML districts labeled: Cameron, Monument Valley, Blue Gap, Shiprock and Eastern Agency. As of September 30,1997, the Navajo AML Program had inventoried over 1,100 abandoned sites and reclaimed 65 coal and 441 non-coal sites for a total cost of approximately $ 3.1 million and $11.2 million respectively.

Abandoned uranium mines pose both physical and radiological hazards to the public to livestock, wildlife and to the environment. Typical hazards associated with these abandoned mine sites include dangerous highwalls and embankments, vertical openings and incline shafts, portals, radioactive waste piles, radioactive dust, and general contamination to surface waters and ground water from contact with toxic overburden material and radioactive particles. The reclamation work is performed throughout the year, and involves working in steep rocky conditions as well as on flat areas, in extreme heat, and in very remote circumstances.

Safety is a major concern in completing all reclamation work in these areas. A health physicist on staff with the Navajo AML Program 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 during construction. Workers from both the Navajo AML Program and contractors often must wear protective gear and masks to protect them from exposure to radiation hazards. In addition, for safety reasons, the Navajo AML Program purchased six (6) new vehicles in 1998 and equipped some of them with winches as an additional safety equipment to assist them in their site characterization and reclamation work. Safety is an area that the Navajo AML Program has had to place great emphasis on because of the relative remoteness of the work areas, the need for field personnel to have small crews, and the long distances involved to reach emergency facilities. The Navajo AML Program has an excellent safety record. The Navajo AML Program also incorporates safety requirements and technical qualifications

into their contract specifications for all contractor's employees who work on abandoned uranium sites. Anyone visiting the site including government officials must view a training video regarding radiation exposure.

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.

Revegetation is generally done for all sites, except in the Cameron area where due to the extremely dry conditions and intense heat associated with this site, revegetation is not practical or cost effective. The Navajo AML Program conducts vegetation surveys and selects a suitable native seed mix for revegetation. The rough / coarse scarification of the reclaimed surface serves to trap seeds and provides conditions to entrap what little water becomes available from precipitation to encourage germination.

For wildlife, the Navajo AML Program salvages rocks and boulders for placement in the final topography in order to provide shelter and niches for wildlife. Wildlife are closely tied to the religious beliefs of the Navajo people and are respected and conserved. In one case during 1998 a subsidence abatement project of a previously reclaimed coal site was postponed due to the high occurrence of reptiles using the area as habitat. The snakes are considered to have religious / sacred significance and cannot be disturbed without special blessings, handling and relocation. The Navajo AML Program 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 handling and isolation of radioactive materials the construction and reclamation procedures and methods are no different from those in place within other State programs in the West. 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. For the Monument Valley 2 project, where the topsoil was sand dune material and wind erosion was a major concern, chemical soil stabilization was implemented along with the revegetation seed mix. Many of the AML sites are near or adjacent to scenic vistas and parks, which requires an attempt to blend the reclaimed topography with the surrounding

landscape. Special attention is therefore given to the color of the topsoil material that is used.

Navajo AML Reclamation Fund :

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 20 million tons of coal is produced annually by these eight mines. This production results in approximately $7 million dollars in reclamation fees being deposited into the Navajo AML fund each year.

From the time AML fees were first collected in 1977 to September 1998, $144,207,990.00 in AML fees have been collected from mining on Navajo Nation lands. Under SMCRA, the Navajo Nation is entitled to fifty percent of the money deposited into the Navajo AML fund or $72 million to date. As of the end of this evaluation period, Congress has appropriated $47,115,962.00 of this money to date. The Navajo Nation currently has just under $25 Million in its share of the AML fund to draw from.

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: Coal 4, Coal 5, Monument Valley 1, Monument Valley 2, Monument Valley 3, Cameron 3, Oak Springs 2, Oak Springs 3, Beclabito 2, Cove 2, Tse-Tah 1 & 2, Eastern Agency, Coal Mine Mesa / Halchita, and Cameron 4 (which includes Jack Daniels).

Cooperation and communications between OSM and Navajo AML Program were mostly excellent during the evaluation period. OSM appreciates the cooperation and assistance that the Navajo AML Program exhibited during the evaluation period, especially with regard to assisting in providing information for OSM's annual reports.

PART III. ACCOMPLISHMENTS

The Navajo AML program is a mature program that is well managed. Although there has been some turnover in technical staff, there has been little turnover in management and high level field staff. The turnover in technical staff is more of a concern to Navajo AML Program than to OSM because the Navajo AML Program has to invest time into training staff that may leave once trained. OSM has a good working relationship with Navajo AML Program and the Navajo AML Program has been willing to provide OSM with information as needed and often on short notice. In addition, the Navajo AML Program has been

receptive to recommendations that OSM has made regarding program management such as to improve the level of competition in its contract bidding. The Navajo AML Program 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.

The Navajo AML Program 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 the Navajo AML Program staff and contractors and ongoing efforts for the development of a safety program for internal operations and first aid. All of these functions must be in good working order for this program to function as well as it does.

Navajo AML / UMTRA Program Organizational Structure:

The Navajo AML Program 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 structure seems to work well for the Navajo AML Program and is relatively recent. The project coordination section performs work related to project development such as NEPA compliance, contracting and management. The project engineering section is responsible for technical management functions such as developing the engineering designs and specifications for reclamation projects. After cost sharing with the UMTRA program is taken into account 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 the Navajo AML Program. Such cost splitting of staff positions is between programs is commonly seen in other among other AML Programs across the country and is not viewed as a problem by OSM.

The Navajo AML / UMTRA Department reorganized to this structure in 1998 in order to more efficiently process its NEPA and engineering workload. Although this new structure appears to be a great improvement internally, the program has still experienced problems in getting NEPA clearances. These problems were recognized by the Navajo AML Program and are being addressed in other ways. For instance, a biologist position was added to the program in order to facilitate work and communication with Navajo Fish and Wildlife and the US Fish and Wildlife Service. OSM hopes that this new structure will still provide the necessary communication between the Project Coordination section and the Engineering section.

Technological Advancements / Accomplishments :

Two years ago Navajo AML Program was not satisfied with its level of computer expertise, equipment and capability and has been systematically trying to upgrade its equipment and expertise in this area as funds are made available. Navajo AML Program requested OSM's assistance in getting a local area network and wide area network communication established between all its offices and with OSM. OSM is currently working on this request. E-mail has just recently been established between OSM and some of the staff at the office in Window Rock, Arizona. Once Internet access and e-mail communication is established with all three of the Navajo AML Program offices, this will greatly facilitate communications and exchange of information between OSM and the Navajo AML Program as well as internally for the Navajo AML Program. The Navajo AML Program field office in Tuba City was recently setup and the Shiprock office is not yet set up for Local Area Network or Wide Area Network electronic communication, however, OSM is currently working with NAMLRD on this setup.

Grants Process :

In a letter dated December 24, 1997, the Navajo AML Program requested that it be allowed to switch to a simplified grant process which other States are using. This was intended to streamline their operations by allowing grant monies to be awarded on a lump sum amount annually for construction costs of all projects within a 3-year grant cycle rather than ear-marking a specific dollar amount for each project. In addition, this would be more efficient (save time and resources) allow for a group Environmental Assessment (EA) for a number of area which would form one project. Since that time, the Navajo AML Program has been using this simplified grants process. Also, the Navajo AML Program have revised their contracting procedures to streamline the bidding procedure in an effort to improve the timeliness and competitive nature of the bidding process for AML construction contracts.

It is difficult to isolate any one program area of accomplishment as the program is functioning well and meeting reclamation objectives. In addition, the program is flexible enough to adequately respond to unique obstacles that may present themselves... be it new or unique engineering designs, consultation that must occur as a result of the presence of threatened / endangered species, or public objection to working near a potential sacred site. The Navajo AML Program has effectively dealt with all such obstacles as they presented themselves.

Based upon the evaluation of project files, the most noteworthy accomplishment is considered to be the quality of engineering designs and the on-the-ground implementation of those designs in accordance with design specifications. The engineering and field personnel demonstrate exemplary technical ability and commitment to the Navajo AML Program program and its objectives of removing the uranium health and environmental hazards. The Navajo AML Program is very knowledgeable and takes pride in the quality and timeliness of the reclamation that is achieved. In addition, there appears to be a strong commitment and

dedication among the field personnel to eradicate the uranium hazard from Navajo communities, which speaks highly for the Navajo AML Program.

PART IV. RESULTS OF ENHANCEMENT AND PERFORMANCE REVIEWS

The work plan for 1996 included four principles or topics for evaluation. In addition, areas of interest were identified for each of the four principals, that determine how each principal will be evaluated. As previously mentioned, OSM and the Navajo AML Program jointly decided to continue to use the same topics that were used in 1996 for evaluation in the 1997-1998 work plan and associated evaluation report in order to maintain continuity and to assess the program over an extended and more meaningful time frame.

Principal 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 the Navajo AML Program.

The Navajo AML Program achieved success and excellence in its public relations activities during the 1996 evaluation year by providing for public participation in accordance with its approved plan. No deficiencies were noted in this area within the 1996 evaluation report, however, the report stated that OSM was unable to review all public relations documents related to Coal Projects 4 and 5 so this should be followed up on during future oversight activities.

OSM reviewed the Coal 4 and Coal 5 project files to follow-up on the 1996 AER recommendation. These project files revealed that the Navajo AML Program consulted with the Crownpoint and Little Water Chapters. In addition, consent of entry was obtained from all land users. Completion of Coal 4 and 5 marked the completion of the last of the remaining known coal related projects. As a result, the Navajo AML Program certified that all priority 1 and 2 coal problems have been abated a few years ago.

OSM reviewed the entire list of projects (coal and non-coal) that were active during the two-year evaluation period. OSM found resolutions in the files of approval and support from local Navajo Nation Chapter Houses for all of the projects reviewed, however they were misfiled for Coal 4 and 5. However,

other documentation was found which showed that Chapter officials were fully involved in the development of Coal 4 and 5. OSM concludes that the Navajo AML Program puts a significant effort into public education and awareness, public participation, and is responsive to all public concerns.

During the current evaluation period, Navajo Nation government and local officials were contacted during the planning process for all projects reviewed. The Navajo AML Program offices and staff were again found to be accessible to the public. In 1996, the Navajo AML Program 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 further enhanced the ability of the Navajo AML Program to respond to public concerns and to seek public input for AML activities.

The Navajo AML Program is responsive to the public by providing outreach in a variety of ways. The Navajo AML Program attend various public meetings including chapter houses, schools, environmental health, conferences etc. The Navajo AML Program contacted local land owners and others for information on animals, and mine history and regarding their AML inventory of sites. The Navajo AML Program produced leaflets and brochures on the dangers of abandoned mines and encourage people to stay away from them. The Navajo AML Program seeks out public and landowner input into their priorities for reclamation. The Navajo AML Program routinely briefs the Navajo Division of Natural Resources, Office of the President and Office of the Vice President, Navajo Nation Council, including legislative oversight committees: Intergovernmental Relations Committee, Budget & Finance Committee, and the Natural Resources Committee. The briefings are to provide updates and accomplishments on the program.

The Navajo AML Program is involved in obtaining pubic input into their projects in a variety of ways and Navajo AML Program publishes reports about their programs purpose, funding, goals, accomplishments and priorities and in addition the Navajo AML Program has an active campaign to educate the public about the hazards associated with abandoned mines and with radioactive materials. The Navajo AML Program 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. The Navajo AML Program has even been called on to measure radiation levels in nearby property and in residential areas. In one case, Navajo AML Program discovered that a fireplace had been built out of radio-active rock from a nearby abandoned mine. The Navajo AML Program, without a doubt, performs a unique public service worthy of recognition. As part of its administration efforts funded in the 1998 grant, the Navajo AML Program is planning to seek pubic 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.

The Navajo AML Program also exceeded the requirements of its plan in this area by staffing a display booth at the Navajo Nation's annual fair during 1997 and 1998; attending conferences; playing and distributing 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. The Navajo AML Program engineer published three technical papers regarding reclamation topics on Navajo uranium projects. In addition, two books were published related to uranium mining history and associated impacts to the Navajo Nation. These books are titled: "If You Poison Us," and "Memories Come to Us in the Rain and the Wind." The Manager of Project Coordination contributed historical information to the first of these two publications. The Navajo AML Program's public relations officer in 1998 began to focus public outreach more on education in high schools, middle schools and elementrary schools with regard to the hazards associated with mines and the methods of reclamation of such hazards. The public relations officer is also effectively using computer equipment to develop interesting presentations and brochures. There are plans to do a documentary in Navajo on local television with regard to mine hazards and reclamation.

Principal number 2 - Program States and Tribes must conduct project planning in accordance with their approved plan.

It was agreed that this principal will be evaluated by focusing on four areas :

* NEPA compliance;

* Acquiring all necessary permits and approvals including eligibility determinations;

* Following contracting procedures approved in the AML Plan; and,

* Developing contracts and technical specifications that will maximize reclamation

success.

NEPA Clearances:

Obtaining biological clearances required by NEPA continue to be a time consuming endeavor. The Navajo AML Program is working to address this problem and held a meeting with the USFWS, OSM and Navajo Fish and Wildlife to discuss the problems encountered and to explore possible solutions. This is an ongoing effort to resolve the problem and will continue to be followed by OSM. In addition, OSM will work with Federal agencies to find ways to either streamline the process or to gather information / data and determine consultation requirements in a more efficient manner.

There are several possibilities for improving coordination between the various agencies involved to obtain clearances in a more timely fashion. This will likely be explored during the coming field season. There was general consensus among those who attended the meeting that the idea of taking everyone involved on a tour of the subject reclamation sites in the spring offers some merit by hopefully discussing issues and better scope out site evaluation and monitoring that is necessary and possibly even grouping together areas either for categorical exclusion or for processing in one large Environmental Assessment (EA).

The Navajo AML Program feels that the eco-systems on the desert terrain where many of the project sites are located are so similar that it should be possible to group several projects into one EA to limit the amount of coordination necessary. There is some validity to this position as many of the EA's continually result in the same findings and conclusions relative to species present / absent and remedial measures / consultation. There are some sites however, in which migratory birds are present and some agreement needs to be made with regard to better coordination such as timing for surveys and monitoring so that construction can occur within the short window of time available.

In the 1996 evaluation period, OSM reviewed documentation of four (4) projects in the planning phase Monument Valley 2 & 3 and Coal 4 & 5 . The 1996 evaluation report stated that the Navajo AML Program had achieved success by obtaining all necessary approvals for these projects before construction started. During this evaluation period, OSM reviewed six (6) of seven projects that were in the planning phase in 1996. These projects were: Monument Valley 3, Cameron 3 and 4, Oak Spring 3, Beclabito 2, and Sweetwater 1.

The 1997-1998 evaluation period revealed that the Navajo AML Program had achieved success by also obtaining all necessary approvals for the six projects mentioned above. These approvals were obtained well before any construction work was initiated in the field.

The 1996 evaluation reports stated that the Navajo AML Program had achieved success in this area by awarding contracts that clearly and accurately depict the goals of each reclamation project and address any mitigation measures that were identified within environmental documents and by conducting all required consultation or any necessary coordination with other State, Tribal or Federal agencies. In addition, the report recommended continuation of the review of Monument Valley 3, Cameron 3 and 4, Oak Spring 3, Beclabito 2, and Sweetwater 1 projects in future oversight. By following these projects through the planning and construction process, it is thought that an accurate evaluation of this principle (topic) would result. Review of these projects combined with the 1996 review of Monument Valley 2, Coal 4 and Coal 5 will enable OSM to determine if the Navajo AML Program's contracts and technical specifications were

instrumental in maximizing reclamation success.

The 1997-1998 evaluation of this subject involved the review of the six aforementioned project files. In each case, the Navajo AML Program achieved success by developing contracts that clearly and accurately address the hazard remediation goals and objectives. This was done by using sound engineering designs and plans that addressed environmental concerns and consultation requirements. Technical specifications within the contracts for the project reviewed were compatible with stipulations and conditions specified in or derived from consultation and agency coordination.

The review of the same six (6) project files revealed that the Navajo AML Program followed the contracting procedures in every case.

In fact, OSM's continued review of Monument Valley 2, Monument Valley 3, and Cameron 3 projects revealed that the Navajo AML Program successfully conducted reclamation of these projects in a manner that effectively abated health, safety, and environmental hazards. The post reclamation radiation surveys (radiation grid maps) for these projects demonstrated that reclamation achieved the reduction levels prescribed by the Navajo AML Program's internal guidelines for remediation of radiological hazards. In addition, the value engineering implemented by the Navajo AML Program consistently resulted in cost-effective reclamation methods and adequate contract specifications.

NAMRD achieved reclamation success in their project designs and on the ground implementation of those designs by ensuring compliance with all contract specifications. This was verified by OSM in extensive field visits to projects in the reclamation stage and post reclamation stage. OSM accompanied Navajo AML Program staff on the final inspection of the Monument Valley 2 - Phase 2, Monument Valley 3 and Cameron 3 projects, which are extensive projects that involved a large mining disturbance and which addressed numerous mine hazards. No deficiencies were identified under this principal so no corrective action is needed. The Navajo AML Program achieved excellence in this project from project design to final close out and it was apparent from the level of field modifications and cooperation achieved with the contractor to enhance the final reclamation goals and overall aesthetics, that the field staff had developed excellent relations and cooperation with the contractor on this project. No change orders were identified during the final inspection.

Use of the "partnering" concept in the contract documents is attributed as the reason that no change orders were required. This is a good indication of the close monitoring work the Navajo AML Program is doing in its daily inspection of the construction work performed by its contractors. In addition, final reclamation at

Coal 4 and 5 was viewed during a field visit. Reclamation was evaluated and contract compliance in the final reclamation was investigated. The on the ground work done matched the details contained in the contract specifications. In addition, to ensure better quality of on-the-ground construction work, the Navajo AML Program now requires a two year warranty from contractors on all completed reclamation work. OSM considers the Navajo AML Program use of partnering be an innovative approach to improving operations and has achieves excellence in this area.

Principal number 3 - On-the-ground reclamation is to be achieved in a timely, cost effective manner.

It was agreed that this principal would be evaluated by focusing on the Navajo AML Program's:

* Ability to develop cost effective project designs (engineering designs) and contract specifications, that effectively remove identified hazards and achieve long term stability.

Funding and Workload During Evaluation Period :

The Navajo AML Program applied for and received funding for $ 4,135,309 in 1997 and $9,262,180.00 in 1998. This was the largest grant awarded to date to the Navajo AML Program. During this two (2) year evaluation period, the following AML reclamation projects were either under construction or under project development.

Coal 4 Coal 5

Cameron 3 Cameron 4

Cameron 5 Coal Mine Mesa

Monument Valley 3 Monument Valley 4

Cameron 4 Cameron 5

Beclabito 3 Oakspring 4

Black Mesa 2 Cove 2

Cove 3 Eastern Agency Coal (Hogback, Canoncito)

Eastern Agency Non-Coal Carrizo (Sweetwater 1, Beclabito 2, Oakspring 3)

Tse-Tah 2 HalchitaMontezuma Creek

Tse-Tah 3 Monument Valley 2 (maintenance -surface cracks)

In a cooperative effort, the Navajo AML Program 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. The Navajo AML Program provided technical assistance and the State of New Mexico was responsible for the reclamation activities and the funding. In addition, the Navajo AML Program has initiated planning and development for conducting Public Facilities / Utilities projects. The Navajo AML Program is also planning to conduct a Surface Water Impact Study related to AML sites.

The total cost of safeguarding and reclaiming all known (inventoried) remaining unfunded uranium AML projects is estimated to cost approximately $5 million, however it is currently being studied and is not clear at this point. These project sites are all mainly all priority 3 sites. The Navajo AML Program originally anticipated having all this work completed by the end of year 2000, however, it now looks like it may take longer. The Navajo Nation then intends to use any remaining funds to do Priority 4 Public Facilities / Utilities Projects. OSM's newly proposed definition of Indian lands could enlarge the jurisdictional area of the Navajo AML Program. 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.

OSM reviewed the following six projects; Monument Valley 3, Cameron 3, Cameron 4, Oaksprings 3, Beclavito 2, and Sweetwater 1. The Navajo AML Program employs the concept of "value engineering" to achieve this principle. Value engineering consists of having technical project staff members visit the site and discuss various engineering approaches to address the problems and final reclamation techniques. This includes their individual assessment of what type(s) of equipment should be best used in the project, particularly for specific problem situations at the site. Their individual approaches are then discussed and the pros and cons of each proposed approach is considered with cost associated with the various approaches considered or kept in mind. Costing project scenarios may require doing cost calculations in the office for comparisons. Then the team arrives at what it considers the best approach by pulling together everyone's ideas and cost estimates. From this, a final engineering design plan and contract specifications are put together and ultimately a contract is let out for bid. The Navajo AML Program has found this to be an effective approach in estimating project costs. Input from various technical staff provides an opportunity to discuss reclamation alternatives at the site and has proven to be very valuable in arriving at a quality reclamation design plan that would best achieve long term stability. NAMLRD takes pride in its value engineering approach and considers it to be a foundation to award winning reclamation work.

Monument Valley 2 - Phase 2, Monument Valley 3, and Cameron 3 contract files were reviewed for timeliness and cost effectiveness. Monument Valley 2 - Phase 2 was allotted 90 days for construction beginning August 28, 1997. The project was finished in 60 days. Monument Valley 3 was also allotted 7 months for construction (December 1997 to July 1997). The project was completed early and the final inspection was April 3, 1997. Cameron 3 project was allotted approximately 7 months (October 1, 1997 to May 1, 1997) to complete the project and it was completed very close to within 7 months. The final inspection was in July 1998. The hold up was due to a proposed change order to include Coal Mine Mesa which was later canceled because of traditional and cultural concerns regarding the usage of the subsidence area as snake habitat.

Monument Valley 2 - Phase 2 was a small project compared to the other Navajo AML reclamation projects undertaken. It was advertized twice during the bidding process due to unsuccessful negotiations with Priority 1 bidders to arrive at an acceptable bid during the first round of bidding. Second round biding resulted in an acceptable bid of $428,000 which the Navajo AML Program negotiated down to $410,000. The maximum feasible cost for the project was slightly less than the negotiated price, however, it was developed over a year earlier and the Navajo AML Program chose to accept the bid rather than further delay the project. Monument Valley 3 was successfully contracted out for $541,000, however, there was a $28,000 change order developed in order to place additional topsoil over certain remaining hot spots that were discovered before the final inspection. In order to improve the reclamation work at the site, the change order for $28,000 was added.

Finally, unit costs were requested from the Navajo AML Program's engineer in order to further assess cost effectiveness at the contract level. Monument Valley 2 - Phase 2 project involved removal of 37,500 cubic yards of radioactive mine waste from a very steep slope area, there were no shafts or portals at the site. The cost for reclaiming the waste material, which included hauling a distance of 1.3 miles, was $198,750.00. This calculated to be a unit cost of $5.34 per cubic yard.

Monument Valley 3 project involved earthwork associated with reclamation of 31 mine openings (portals and shafts). The average unit cost (per portal or shaft) for reclamation of these openings in accordance with the contract specifications came out to be $5,755 per shaft or portal. The Navajo AML Program has experienced a range in costs for such structures of approximately $2,500 to $7,000. Movement (handling and placement) of 48,370 cubic yards of radioactive material and 19,000 cubic yards of topsoil at this project had a unit cost of $5.34 and $5.01 per cubic yard, respectively.

Cameron 3 project involved earthwork for removal of open pits. Approximately 1,250,500 cubic yards of material were hauled, placed and compacted at a unit cost of $1.86 per cubic yard. These unit costs are very reasonable if not low and are favorable as compared to other States.

Based upon the above information, it is clear that reclamation projects are being conducted in both a timely and cost effective manner. Time delays associated with getting reclamation work completed are more a result of difficulties in the NEPA process and the bidding process. NEPA procedures are being worked on by the Navajo AML Program as previously mentioned by improved communication with Navajo Fish and Wildlife Department and US Fish and Wildlife Service as well as by the Navajo AML Program's hiring a Biologist to interact with these groups and to handle environmental concerns in getting NEPA clearances and in doing any consultation work.

Contract Specifications and Contract Bidding:

The Navajo AML Program recently has streamlined the protocol used in the bid procurement process. The existing process was taking anywhere from 3 to 6 months to complete and the level of competition realized by the process was questioned. As early as 1997, the Navajo AML Program and OSM had begun to realize these deficiencies in the contracting process. The Navajo AML Program and OSM felt that the contracting process might too heavily favor priority-1 contractors (Navajo owned businesses located predominately on the Navajo Nation), especially with the negotiation rights that they were being afforded. The Navajo AML Program and OSM suspected that because contractors with Navajo priority preference 2, 3 and 4 as well as non-Navajo contractors were not submitting bids, that the process may be faulty if it was not very competitive and resulted in high cost or if it was slowing down the Navajo AML Program's ability to complete project construction work.

As a result, a meeting was held on September 4, 1997 wherein the Navajo AML Program invited OSM to meet with both the Navajo Business Regulatory Department and the Navajo AML Program to discuss the issue. The existing process afforded priority-1 Navajo preference bidders the right to negotiate their bids. This negotiation right was thought to discourage priority-2 and priority-3 contractors from submitting bids. If the negotiations with priority-1 bidders failed to attain a price within the maximum feasible cost, then the Navajo AML Program was allowed to go out for a second round of bidding to all contractors regardless of priority / preference, however, this was very time consuming.

As a result of the meeting with NBRD, a new protocol for the bid procurement process was recently adopted. Under the new protocol, bids are solicited from all licenced, qualified contractors regardless of Navajo preference. Bids greater than 25 percent of the Engineer's Cost Estimate (ECE) are not considered. Bids less than 25 percent of the ECE are also not considered (Navajo AMLR Program and NBRD consider

contractors whose bids are less than 25 percent of the ECE, to not be responsive bidders). Negotiations with responsive priority-1 contractors begins and the contractor negotiating to the lowest amount is awarded the contract provided that the negotiated bid is within the owner's Maximum Feasible Cost (MFC) that the Navajo AML Program is willing to spend to perform the scope of work. If the lowest responsive bidder is over the MFC, then he is given two opportunities to negotiate the price to within the non-disclosed MFC within two business days. If successful, the priority-1 bidder is awarded the contract. If unsuccessful, the next lower Priority-1 bidder is given the same opportunity. Once all "responsive" priority-1 bids are exhausted, then priority-2, 3 and 4 bids are opened with no negotiation rights and the contract is awarded to the lowest responsive bidder within the MFC. If unsuccessful at this point, then bids from non-Navajo bidders can be opened in which case, the contract is awarded to the lowest responsive bidder. If at this stage the Navajo AML Program is still unsuccessful in obtaining a qualified bidder within the MFC, the project scope may be revised or the MFC may be revised and bids are solicited once again in the local news papers.

The new protocol for the bid procurement process that was developed by the Navajo AML Program and NBRD is expected to decrease the amount of time it takes to award contracts because second round bidding will be the exception rather than the rule. In addition, priority-1 contractors now have a better incentive to submit competitive bids and to negotiate. The new protocol should realize some improvement in both time savings as well as cost savings. In addition, because the projects reviewed showed reasonable / competitive unit costs for earthwork and installation of bulkheads, it can be assumed for now that the contracting process is effective. OSM does not see any utility in pursuing this further unless unit costs should ever rise to the point that they exceed the costs associated with past reclamation work or the costs for doing reclamation work in other AML programs nation wide.

Principal number 4 - Programs should have systems in place to ensure accountability and responsibility for spending AML funds and a process to ensure that such systems are working.

It was agreed that this principal will be evaluated by focusing on the internal controls (systems) developed by the Navajo AML Program to ensure that procedures for grants and other activities are properly followed. These internal controls (systems) should include, but not be limited to:

* accounting records;

* contracting and procurement records;

* payroll records;

* inventory records; and,

* project records.

Specifically OSM's evaluation during this two year period focused on the internal controls the Navajo AML Program used in its management, control and reporting of capitalized equipment purchased by the Navajo AML Program with Federal grant funds.

The 1996 evaluation report reviewed property purchased with Federal grant funds and maintained on the OSM form 60, and specifically concentrated on equipment having a current value of over $5,000 and purchased after October 1988. Also, letter-of-credit processing was evaluated. The report stated that the Navajo Nation continues to operate on a reimbursement basis and that the person authorized to access OSM's DDX system was verified. OSM concluded that no deficiencies were noted for either of these items.

This principle was reviewed continuously throughout the evaluation period, and through documents submitted by the Navajo Nation and maintained in the Official Grant File located in the Albuquerque Field Office, Office of Surface Mining Reclamation and Control. This is a cyclical review.

The population sample is capitalized equipment with an initial acquisition cost of $5,000 or more purchased with Federal funds from the Office of Surface Mining for both the Abandoned Mine Land and Inspection and Enforcement programs. OSM's Federal Assistance Manual outlines the record keeping requirements for capitalized equipment. Specifically the grantee must submit to OSM a form entitled "Report of Government Property" (OSM-60) upon completion of the grant agreement. An inventory of all capitalized equipment (the entire population) was conducted and no discrepancies noted. In addition, this review verified that it is evident that the Navajo AML Program complied with internal controls set forth in the operating manual by the Navajo Nation's Property Management Department.

Because no problems were noted in this review or in the 1996 review, no corrective actions are being recommended by OSM and this principal is considered to be successfully performed by The Navajo AML Program and is hereby closed out (no further follow-up is necessary).

PART V. ACCOMPLISHMENTS AND INVENTORY REPORTS

To date, the Navajo AML Program has inventoried over 1,100 abandoned mine sites on the Navajo Nation. As of September of 1997, the Navajo AML Program has addressed and reclaimed 441 AML non-coal (uranium) sites and 65 coal sites which cumulatively impacted about 1,692 acres of land. The cost of this reclamation work was $14.3 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 acre of subsidence, and over 1,040 linear feet of dangerous highwall.

The non-coal reclamation work included reclamation of 201 portals, 71 vertical shafts, 41,161 linear feet of dangerous highwalls, 135 acres of mine waste, four acres of industrial and residential waste and three dangerous impoundments. This work accounts for approximately $11 million worth of construction work. In addition, in 1998, OSM approved a grant for $9.3 million to cover one year of the AML program administration and for construction work that must be spent within three years. Seven million dollars of this money is dedicated to project construction work to be completed in 1998, 1999, and 2000. In fact, the Navajo AML Program has scheduled completion of all remaining non-coal reclamation including all priority 3 radioactive waste piles by the year 2001. 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.

In the 12 month period from April 1996 to March 1997 (NAMLRD's FY-1997) it had reclaimed 6 AML projects including 105 sites and over 559 acres at a cost of $5.3

Million. Construction began in 1998 on an additional 4 projects which will include 163 sites impacting approximately 250 acres. During the 1997/1998 evaluation period the Navajo AML Program reclaimed 57 portals, 272 vertical openings, 271.2 acres of dangerous piles and embankments, one subsidence, 24,043 linear feet of dangerous high-wall, 102.25 acres of open pits, 2 acres of industrial/residential waste, 39 acres of gob, 13.43 acres of haul road, 15 acres of polluted agricultural/ industrial water, and 72 holes drilled for subsidence evaluation.

Cove Mesa 1 (photo)

Cove Mt.

Monument Valley 2

TSE TAH (Rattlesnake Mine)