

**2004 Abandoned Mine Land Reclamation Awards
Nomination Cover Sheet**

Name: Beclabito AML Reclamation Projects
(Coal, Non-Coal and Public Facilities Projects)

Location: Beclabito, New Mexico/Arizona

Nomination submitted by:

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Project Start Date: October 1989
Project Completion Date: February 2004
Contract Costs: \$1,415,900
Contractor: Navajo Abandoned Mine Lands Reclamation Program
Lansing Construction & Triad Western Contractors
Silver State Construction Company, Inc.
Arviso Construction Company

Nomination submittal Date: March 19, 2004

NAVAJO NATION AND HISTORY

The Navajo Nation is located within the three (3) southwestern states of Arizona, New Mexico, and Utah, within what is known as the four corners area. The Navajo Nation encompasses approximately 25,000 square miles and has an overall population exceeding 250,000 people. The Navajo Nation also is comprised of 110 local chapters (community run agencies/districts). Mining activities within the Navajo Nation date back to the 1800's. The different types of minerals within our land include Coal, Uranium, Copper, and Sand & Gravel. Utilizing the benefits and provisions defined within the Surface Mining Control and Reclamation Act (SMCRA) of 1977, the Navajo Nation has been effectively addressing the Abandon Mine Lands (AML) problems that have scared our lands.

The Beclabito AML area is located within the northeastern part of Arizona and the northwestern part of New Mexico, straddling the Arizona/New Mexico Stateline. Truly one of the most scenic locations within the Navajo Nation, the area is easily accessible to the public and local citizens since State highway 64 runs directly through the area. The area offers a variety of very scenic landmarks from the relatively flat areas of Shiprock and the Beclabito Dome, to the high elevations of the Carrizo Mountains. The geologic formations also contribute to the colorful aspects such as red sandstones to white/gray granites. Numerous activities take place such as the community schools and local businesses to outdoor recreation such as hiking, hunting, camping, wood hauling, photography and research opportunities.

Mining activities within the area ranged from the early coal mines in the late 1800's well into the 1900's for domestic homes and the government run Bureau of Indian Affairs boarding schools. Then upon the war efforts of the early 1940's, uranium and vanadium became valuable minerals, thus the interest of these deposits became of high demand. Uranium and vanadium mining occurred during the 1950's to early 1970's. Uranium mining within the Navajo Nation has left a long-lasting physical and emotional impact on the people and environment. Copper minerals were also discovered during the early exploratory projects, thus became economical during the 1960's. Sand & Gravel has been utilized since the mid 1900's as a road base for transportation expansion and networks.

PROJECT BACKGROUND

The overall Beclabito area has been inventoried with over 95 AML sites, both coal and non-coal. Mining occurred from the 1800's to the 1970's. Large volumes of earth have been disturbed by the past mining activities. Numerous physical and environmental problems have been left behind as abandon mine lands. The elevation within Beclabito ranges from 5,300 to 8,000 feet above sea level. The geologic structures consist of clay, shale, sandstone, and granite of the upper Jurassic and lower/upper Cretaceous Age.

Reclamation efforts have abided by the stipulations of SMCRA, in which the high priority Coal projects were initially addressed in the 1980's, then upon the Navajo Nation's coal certification in 1994, Non-coal high priority projects were addressed. Under the stipulations of SMCRA, the

Navajo Nation has also implemented the Public Facilities Projects (PFP) per Section 411, as of 2002. Thus NAMLRP has initiated PFP to impacted chapters from past mining activities.

Reclamation activities in Beclabito began in 1989 on the coal mines and progressed into the non-coal mines from 1993 to 2004, as well as the PFP during 2004. Some of the difficulties in planning and coordinating these projects included compliance with the prioritization scheme of SMCRA, planning of multiple projects, safety factors, our in-house Health Physics Monitoring Plan, NEPA restrictions ranging from strict archaeological requirements to biological restrictions, water restrictions due to the on-going drought situation, the short construction timeframe during the summer/fall months and multiple funding/oversight/reporting on PFP projects.

PROJECT IMPLEMENTATION

The Coal project was initiated in 1989 that address over 1 acre of spoil piles and an associated mine opening. The coal outcrop within the vicinity is relatively shallow, but the outcrops are located within the natural drainage canyons of the surrounding low mesas. Access into the areas was within the Mancos Shale, which became very slippery during inclement weather. With modern equipment and strict technical specifications, the limited working areas were overcome to address the immediate mine openings and associated spoil piles to a natural environment.

The non-coal projects consist of Uranium, Copper and Sand & Gravel. The projects were completed in a series of 4 phases, addressing different groupings of Priority 1, 2 and 3 projects and combining them with other AML sites strategically located nearby. NEPA issues played a major role in sequencing the construction activities. Besides concerns for raptors, one project had archaeological considerations that were eligible for the National Registry. Thus a very detailed scope-of-work and monitoring were required. With proper coordination, this project was successfully completed by manual labor. While the natural terrain of the Coal project was located within a shale material, the non-coal projects were located within clay/sandstone geology. Access to some of these sites were very rough from the sandstone/granite rock and very slippery from the clay soils on others. With the mountainous terrain, some of the open portals were also located within high elevations. Upon cost evaluations, it was determined that upgrading in these rocky areas was not efficient, thus access of supplies and materials utilized mules and horses. Polyurethane Foam (PUF) was the preferred closure method on these Priority 2 portals. With efficient heavy equipment, numerous volumes of mine waste was properly backfilled into the associated mine features, thus reducing the environmental impacts and long-term degradation, especially on the uranium mines. Navajo AML has had the opportunity to develop and fine tune our in-house Health Physics Monitoring Plan for dealing with the radiological concerns of the uranium mines.

Navajo AML implemented the Public Facilities Projects in 2002. Upon the selection of 19 proposals the first year, the Beclabito Head Start Building started construction in November of 2003 and was completed in February 2004. With matching funds from three (3) other sources (State of New Mexico and Arizona and the Navajo Nation's General funds), this building was constructed at a cost of approximately \$676,000. Navajo AML's contribution was \$200,000. The facility is approximately 4,600 square feet and will house classrooms, activity space,

kitchen, storage, outside pantry, and a new sewer system. This facility will now serve the community of Beclabito where the children had to be home schooled because the original building was condemned and dismantled.

RESULTS

In the traditional beliefs of Navajos and other Native Americans, there is always a closure to life and the environment. With this in mind, Navajo AML has successfully implemented the stipulations and conditions of SMCRA in addressing the high priority mine problems and ultimately benefiting the community by the Public Facility Project. Where the best reclamation techniques are usually not visible to the general public, the Public Facility Project is a showcase of the benefits of the Abandon Mine Lands Program.

Navajo AML has eliminated numerous dangerous mine features and there associated environmental/aesthetic problems while returning the natural environment to a more natural setting that will be useful for the public, livestock and wildlife. Beclabito Head Start will be an educational tool to educate the grandchildren of past miners about the environment both locally and nationally.

Navajo AML acknowledges the coordinative efforts of all our dedicated staff, the community, local/tribal/state/federal agencies in our efforts to benefit the community according to SMCRA. With the easy access of the area, numerous obstacles had to be overcome during the planning, development, and construction phases. Coordination, safety, NEPA concerns, dangerous terrains, weather constraints, notifications, and construction management practices had to be handled during all the projects. Navajo AML always abided by the Navajo Nation laws, thus jobs and the economy benefited from these AML funds since they stayed within the local economy. Navajo AML staff have benefited vastly from the experience they have gained in administering all these projects.

While there will continue to be interest in the natural occurring minerals within this vast area and some environmental problems will continue to exist from the natural outcrops and inaccessible mine waste, the purpose of SMCRA has been fully realized within this community. Coal mining will continue to exist within the Navajo Nation by the large strip mining operations. But the legacy of the old abandon mines now will be documented via the Contract Documents and Public Facility Project. These projects were successfully completed, safely, on time, and within estimated budgets.