

Extra Value Reclamation in North Dakota

Reclamation at the Dakota Star Abandoned Mine Land (AML) Site, about 75 miles northwest of Bismarck, provided a twofold benefit to the residents of Mercer County. This project, designed and implemented by the North Dakota Public Service Commission's Abandoned Mine Lands Division, eliminated a dangerous final pit highwall and provided the Mercer County Regional Landfill with approximately 30 years additional landfill capacity.

The Dakota Star Mine, located about four miles north of Hazen, North Dakota, was operated by Truax-Traer Coal Company and its successor, Consolidation Coal Company from 1945 to 1966. It was a strip mine that covered approximately 1800 acres and produced over seven million tons of lignite coal.

When the mine was abandoned, several hazardous mine-related features remained. The Dakota Star Problem Area was assigned an AML priority ranking of 33 based on its potential danger to the public health, safety, general welfare and property. The forty-acre site of the 1995 Dakota Star (2) Project consisted of a steep final pit highwall and dragline-cast spoil piles. This dangerous highwall was about one-half mile long and had a nearly vertical drop of 40-100 feet. There was a vehicular trail within a few feet of the highwall and the pit had been used for illegal dumping of refuse. The highwall was about 150 feet from a paved road and about 300 feet from an occupied farmstead.

The surface owner, Mercer County Regional Landfill, requested that the reclamation design for the site be consistent with its intended use for the area as a landfill. The basic reclamation plan was to take material from adjacent spoil piles to partially backfill the pit and to reduce the slope of the highwall. The pit bottom was filled with about 15-20 feet of spoil material, so that the landfill would be above the water table, and it was graded to drain southward. At the south end of the pit, a dam and evaporation pond were constructed. The evaporation pond was constructed approximately eight feet higher than the low point of the disposal pit, so that water will flow southward to the dam and then be pumped into the evaporation pond. This was done to ensure that the wastewater will be well above the water table and thereby avoid groundwater contamination. A system of diversions were constructed around the reclaimed site to keep runoff from adjacent areas out of the disposal pit. The dirtwork contractor for this project was Orrin A. Holen Construction, Inc., of McClusky, ND. Construction began on June 7 and was completed August 4, 1995. Slightly over 300,000 cubic yards of dirt were moved at a cost of about \$144,000.

This project required the cooperative efforts of the AML Division, the contractor, the State Health Department, Mercer County, and adjacent landowners. It eliminated another hazard associated with past mining activities and saved Mercer County the development costs for a new landfill cell. It truly was an example of Extra Value Reclamation.

October 13, 1995

Mr. Wayne Van Buren
Arkansas Department of Pollution Control and Ecology
1220 West 2nd Street
Russellville, AR 72801

Dear Mr. Van Buren:

Attached is an article for submittal to AML News. This article discusses an AML Project we conducted in the summer of 1995. If you have any questions or need more information, please contact me.

Sincerely,

William E. Dodd
Environmental Scientist
Abandoned Mine Lands Division