



OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

ANNUAL EVALUATION SUMMARY REPORT

FOR THE

ABANDONED MINE LANDS PROGRAM



NORTH DAKOTA

EVALUATION YEAR 2005

(July 1, 2004 to June 30, 2005)

September 28, 2005

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ABANDONED MINE LANDS 2005 ANNUAL REPORT FOR NORTH DAKOTA

PART I. INTRODUCTION

The North Dakota Abandoned Mine Land Reclamation (AMLR) program continues to operate under the guidelines of the Surface Mining Control and Reclamation Act (SMCRA), the approved State Reclamation Plan, the Federal Assistance Manual, and associated rules, regulations and policy decisions. The State AMLR program is administered by the Abandoned Mine Land Division (AMLD) of the Public Service Commission (PSC). The State was granted primacy in 1981 and they administer an excellent AMLR program in full compliance with their approved AMLR Plan. Oversight of the state reclamation program is conducted by the Casper Field Office (CFO) of the Office of Surface Mining (OSM), and the topics for this report were selected in concert with the State. This evaluation is based on OSM Directive AML-22 and covers the period of July 1, 2004 to June 30, 2005.

North Dakota is a minimum program state that receives only \$1.5 million dollars each year to accomplish the necessary reclamation of hazardous abandoned mines. With this limited funding, the AMLD must complete reclamation work in an efficient and cost effective method to stretch their fiscal capabilities as far as possible. All of the project design work is completed in house by staff personnel, and the actual reclamation work is contracted out to private construction firms. The minimum funding does not allow for completion of the majority of the projects in one construction season, so larger projects must be phased over a period of years to achieve adequate reclamation (see **Chart #3**). Several projects are presently ready for immediate construction if additional funding were to become available. These are listed on **Chart #1**.

The AMLD initiates reclamation activities each spring as soon as weather conditions allow. Many of the rural sites are accessible only by dirt and gravel roads, which must be allowed to dry sufficiently before heavy equipment can travel on them. Work may start as much as two months earlier on sites that are located near the paved road system, and it continues until it is halted by the severe weather conditions usually encountered in North Dakota during the winter. Some types of work, such as drilling to locate underground voids, can be continued into the winter months. However, this is generally the time of the year when future projects are designed, and coordination necessary to get projects ready for the next construction season takes place. All of the reclamation completed in North Dakota to date has been on abandoned coal mines, and no non-coal work is planned. The State estimates that it will take at least ten to fifteen years to reclaim the coal problems now listed on their inventory with the present minimum program funding level (see **Chart #2**).

The CFO continues to enjoy an excellent working relationship with the staff of the North Dakota AMLD. Their personnel are experienced, knowledgeable and dedicated to the goals of the program. The AMLD also maintains a good relationship with the other State and Federal agencies that must be contacted during the course of preparing projects for reclamation.

One AMLR grant was awarded to the State during this evaluation period and it became active on March 1, 2005. The grant was approved well within OSM's performance period requirement of 60 days. No problems or issues exist in the North Dakota AMLR program.

The following is a list of acronyms used in this report:

SMCRA	Surface Mining Control and Reclamation Act
AMLIS	Abandoned Mine Land Inventory System
AMLR	Abandoned Mine Land Reclamation
AMLD	Abandoned Mine Land Division
PSC	Public Service Commission
OSM	Office of Surface Mining
CFO	Casper Field Office
AML	Abandoned Mine Land

PART II. NOTEWORTHY ACCOMPLISHMENTS

The AMLD staff continues to be a major contributor of technical articles in the newsletter of the National Association of Abandoned Mine Land Programs. New and innovative reclamation techniques are presented for the benefit of the entire association in most issues of the newsletter. In addition, the staff contributes technical papers at many of the national conferences and workshops. All of the papers presented at the various conferences have been placed on the North Dakota AMLD website to make them available for use on a permanent basis by other reclamation programs and the general public.

PART III. POST RECLAMATION MAINTENANCE

The North Dakota AMLD post reclamation monitoring schedule calls for each project to be closely monitored for a period of three years after it is completed. However, the most heavily undermined parts of the State do not have significant rock strata to support the soil over the abandoned underground mines. Large, deep subsidence holes often appear overnight, and history shows that once they are filled additional slumping will probably occur at some point. Also, once a subsidence event appears, others usually follow in a short time in the same general area. The AMLD has adopted a policy of checking all known subsidence prone areas every time any of the staff are in the area, to keep better control of any hazards that exist, and to better correct recurring problems on sites that have been reclaimed. The monitoring process is assisted by the good relationship and close contact the AMLD has with the landowners. The staff is often notified of new subsidence events the same day that they occur on private land. Only the subsidence events that are hazardous to livestock or humans are presently being reclaimed.

During the evaluation year, eighty dangerous sinkholes caused by collapse of abandoned underground coal mines were filled at fourteen properties. The minimum program funding does not allow for all the subsidence holes to be filled at this time. Hopefully, the AML program will be continued, and funding increased, so that the subsidence problems that are posing safety hazards and taking large amounts of crop and pasture land out of use in parts of North Dakota can be addressed. The following picture is a view of a subsidence hole that recently appeared in pasture land adjacent to a crop of sunflowers.

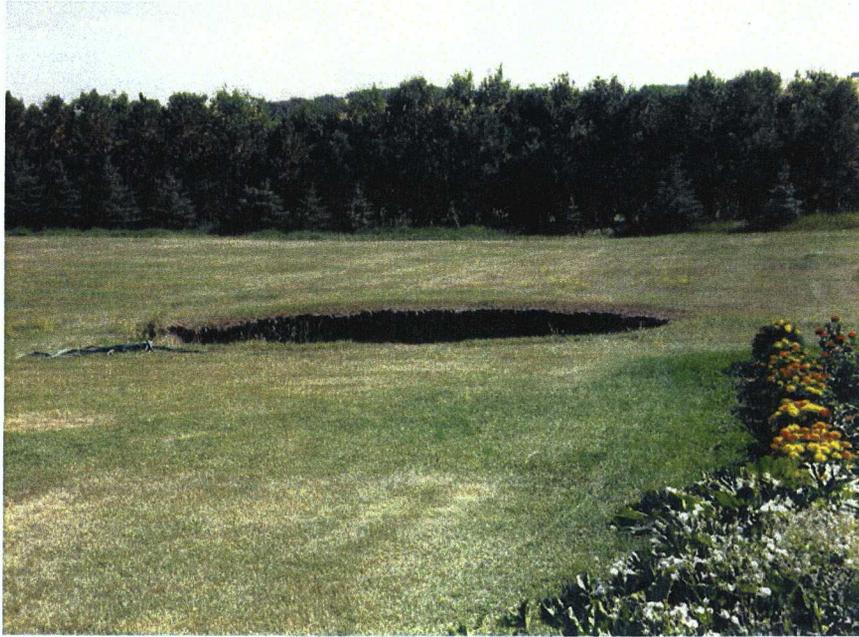


PART IV. ON SITE EVALUATION OF PROJECTS

Because the reporting period ends the June 30th, on site evaluation of reclamation projects were done in July, 2004. Ten project areas were visited; Wilton A, B, C, C1, and E, South New Salem, Zenith, Custer Mine, Ehlis Mine, Bellfield, Lucky Strike Mine, Phase VIII Beulah/Zap Project and Drilling in the Burlington area. A trip report containing the specific information for each site was prepared and is on file at the Casper Field office. Some photos of these sites are attached to the end of this report.

The State is in the eighth year of a potential fifteen year project to grout underground voids in the Beulah/Zap area of North Dakota. This is a heavily undermined area, and some of the earliest abandoned mine reclamation was completed here. This project consisted of grouting voids under heavily used roadways, commercial structures and private residences. The drilling projects to locate the voids were usually completed during the winter months when other reclamation work was not possible. Once the voids were located and cased, they were grouted during the summer construction season. This project undoubtedly prevented severe damage to the structures and roadways, and allowed local residents and visitors to use the area with a higher degree of safety.

Historically, North Dakota has done an excellent job of reclaiming the hazards of past mining. Projects that have been completed for two years or more are identical to the surrounding terrain and impossible to identify unless they are pointed out by someone who was familiar with the site prior to reclamation. The following are before and after photos of a subsidence hole that appeared in the back yard of a residence where children live.



Subsidence hole in residence's back yard where young children play, prior to reclamation.



"

Subsidence hole after reclamation in August of 2004.

PART V. AMLIS INVENTORY MAINTENANCE

The AMLD considers inventory maintenance a high priority and does an excellent job performing this task. The small staff of the AMLD spends the entire summer in the field

supervising the reclamation of abandoned mine sites, so information regarding completed sites is not compiled and entered into the AMLIS until weather conditions prohibit the continuation of outside work. However, new sites are entered into the system as soon as they are discovered.

PART VI. FISCAL AND ADMINISTRATIVE CONTROLS

CFO conducted financial oversight during the evaluation period and reviewed drawdowns, timeliness of grant applications and reports, program income, travel, accounting, audits and property inventories. The drawdown analysis was conducted for the existing AML grant, and thirteen of the twenty-seven draws of funds were reviewed. The correct amount was drawn each time and all AML drawdowns followed appropriate expenditures on AML reclamation projects. Required grant reports are being submitted in a timely manner and all program income earned under the grant is being reported correctly and applied back to the grant. Under current A-133 guidelines the North Dakota AML program does not meet the dollar criteria to qualify for a standard audit. The North Dakota State auditors recently performed a risk analysis as required by A-133 and an audit was not deemed to be necessary.

Travel policies and procedures were reviewed and travel vouchers were sampled to ensure that the AMLD is following State rules. The travel records of one of the four AMLD personnel were reviewed for the past year to determine if travel and financial reimbursement were properly authorized and completed. In addition, the salary and benefits from both existing grants were examined to see that only individuals conducting Title IV work were being paid from AML grant funds. No discrepancies were noted in any of the above reviews. The AMLD continues to report and transfer property correctly in each grant. A property inventory was conducted in 2005, that met Common Rule requirements.

PART VII. EMERGENCY PROGRAM

North Dakota administers their own emergency program. Information regarding a possible emergency project is sent to the CFO and an approval or disapproval for the expenditure of emergency funding is usually returned to the State that same day. Abatement of the emergency situation is usually complete within a week of the approval of funds expenditure. One emergency project was completed during this reporting period.

PART VIII. COAL OUTCROP FIRE PROGRAM

The AMLD conducted its second coal outcrop fire suppression project during the winter of 2005. The objective was to extinguish coal seam outcrop fires actively burning on U.S. Forest Service lands in the southwestern part of North Dakota. An estimated 20 outcrop fires have been discovered that were ignited as a result of a 1999 grass fire that burned approximately 70,000 acres of valuable grassland, fences, power poles, ranch buildings and one home in only 14 hours in a large grassland area near the Montana border. A primary concern is the possibility of additional grass fires being ignited as the overburden above the smoldering coal fires begins the natural progression of cracking and collapsing. This allows oxygen to get to the smoldering coal and causes flames that may breach the surface. Since the 1999 fire, at least four subsequent grass fires have been attributed to the burning coal seams. Underground lignite coal fires have been documented to burn for decades in North Dakota if left unattended.

Because of limited funding available for coal outcrop fire suppression, suppression activities were conducted on only eight of the highest priority fires. Burning material was completely excavated and enclosed in burial trenches isolated from the coal source. In some instances intercept trenches were reconstructed to isolate burning material from any combustible material. The work was completed in one month, and subsequent site inspections indicate that all burning materials have been successfully extinguished. The AMLD intends to submit another outcrop fire grant application when additional funding becomes available.

PART IX. PUBLIC AND INTERAGENCY PARTICIPATION

The AMLD goes to great lengths to develop and maintain a good working relationship with all the State and Federal agencies it works with. This carries over into the relationship with local agencies and groups, and to the landowners who have AML sites on their land. When a project must be completed in phases, the necessary clearances and permits are obtained for the whole project during the initial phase. Planning for reclamation construction is also done for the entire project at this time. This saves a lot of staff time for the AMLD and the other agencies involved, and the private landowner can be given a schedule of when his property will be in use by the reclamation contractor. Habitat enhancement for wildlife and waterfowl is incorporated into each project where it is feasible, and the retention of surface water for landowners is a high priority. The AMLD has worked closely with the Game and Fish Department and Ducks Unlimited in the design of impoundments and establishing seed mixtures for revegetation. They have also recorded a significant amount of the mining history of the State to be provided to educational facilities, and to mitigate the loss of important cultural resources during the reclamation process.

The following photographs have been attached to this report to further demonstrate the degree of hazardous conditions encountered in various areas of the State, and the excellent reclamation accomplished by the AMLD to eliminate the hazards.

North Dakota AML Pictures



South New Salem Project, old shovel left after mining.



Custer Mine Project, during reclamation in 1997.



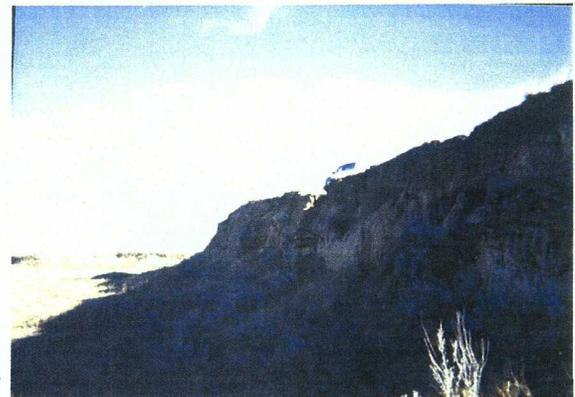
Beulah/Zap Project, batch plant being disassembled and moved to the Burlington Project.



Custer Mine Project, after reclamation in 2004.



Bowbells Project- reclaimed highwall behind the wetland.



Belfield Project- road along top edge of dangerous highwall

**CHART #1
NORTH DAKOTA
CONSTRUCTION READY PROJECTS**

Project	Cost	Economic Impact*	Environmental Benefits
Lehigh Projects Phase IX-XI	\$1,000,000	Income: \$2.0 Employment: 82	Subsidence Prevention Public Safety
Beulah/Zap Phase X through XV	\$1,500,000	Income: \$3.6 Employment: 123	Subsidence Prevention Public Safety
Maintenance, Drilling Appraisals, etc.	\$100,000	Income: \$1.0 Employment: 8	Reclamation Preparation
Wilton Project	\$350,000	Income: \$1.0 Employment: 29	Subsidence Prevention Public Safety
Williston Project Phase I through IV	\$2,000,000	Income: \$5.2 Employment: 180	Subsidence Prevention Public Safety
Garrison Project Phase V through VII	\$600,000	Income: \$1.0 Employment: 49	Subsidence Prevention Public Safety
Columbus Project Phase VII-XI	\$1,500,000	Income: \$3.6 Employment: 123	Dangerous Highwall Rec. Public Safety
Scranton-Bowman Reeder	\$600,000	Income: \$1.0 Employment: 49	Subsidence Prevention Public Safety
TOTAL	\$7,650,000	Income: \$18.4 Employment: 643	Restoration of Land Public Safety

*Income expressed in millions of dollars

Employment expressed in number of persons employed as a result of the expenditure

**CHART #2
NORTH DAKOTA
ACRES AND HAZARDS**

Hazard ¹	July 1, 2004 Status ²	FY 2005 Additions ³	Reclaimed in FY2005 ⁴	July 1, 2005 Status ⁵
CS Clogged Stream	None	None	None	None
CSL Clogged Stream Lands	None	None	None	None
DH Dangerous Highwalls	106,325	None	7,750 Lin. Ft.	98,575
DI Dangerous Impound.	None	None	None	None
DPE Dangerous Piles and Embankments	30 acres	None	30 acres	None
DS Dangerous Slides	None	None	None	None
GHE Gas and Hazardous Equipment	None	None	None	None
UMF Underground Mine Fire	None	None	None	None
HEF Hazardous Equipment and Facilities	6	None	1	5
HWB Hazardous Water Body	25	None	None	25
IRW Industrial/Residential Waste	17 acres	None	1 acre	16 acres
P Portals	10	None	None	10
PWAI Polluted Water, Agr. and Industrial	5	None	4	1
PWHC Polluted water, Hu. Cons.	1	None	None	1
S Subsidence	2,093	1,104	15	3,182
SB Surface Burning	None	10 acres	10 acres	None
VO Vertical Opening	125	None	30	95
SA Spoil Areas	110 acres	None	None	110 acres
BE Bench	None	None	None	None
PI Pits	None	None	None	None
GO Gobs	1 acre	None	None	1 acre
SL Slurry	None	None	None	None
HR Haul Roads	None	None	None	None
MO Mine Openings	None	None	None	None
SP Slump	None	None	None	None
H Highwalls	None	None	None	None
EF Equipment and Facilities	None	None	None	None
DP Industrial/Residential Waste	30 acres	None	None	30 acres
WA Water Problems	10 GPM	None	None	10 GPM

¹ AMLIS Keyword

² A "snapshot" of the status at the beginning of the year

³ PAD additions, by keyword, during the year

⁴ Reclamation accomplishments-GPRA requirement

⁵ A "snapshot" of the status at the beginning of FY06

CHART #3

NORTH DAKOTA

COMPLETED PROJECTS

July 1, 2004 to June 30, 2005

Project Name	Project Cost	Economic Impacts	Environmental Benefits
2004 Snake Road AML Pressure Grouting Project	\$240,846.40	Income: \$.6 million Employment: 20	Subsidence Prevention
2004 Beulah/Zap Phase VIII Pressure Grouting	\$250,578.60	Income: \$.6 million Employment: 21	Subsidence Prevention
2004 Garrison Phase III Pressure Grouting Project	\$217,069.70	Income: \$.5 million Employment: 18	Subsidence Prevention
2004 Columbus VI Surface Mine Project	\$162,556.00	Income: \$.4 million Employment: 13	Dangerous highwalls
2004 Belfield Project Uraniferous Mine Project	\$100,823	Income: \$.3 million Employment: 8	Highwall Reduction and Uranium Mine Reclamation
2004-05 Coal Fire Suppression Project	\$27,000.00	Income: \$.06 million Employment: 3	Coal Fire Reclamation (USFS)
2004 Maintenance Project Custer and Wilton	\$15,780.00	Income: \$.04 million Employment: 3	Water Structure Maintenance and Subsidence Reclamation
2004 Noonan Tree and Shrub Planting	\$4,960.00	Income: \$.01 million Employment: 3	Tree and Shrub Planting
2004 Maintenance Project	\$24,636.51	Income: \$.06 million Employment: 3	Subsidence Reclamation
2004 Beulah Emergency (Bison Auto)	\$245.00	Income: \$.01 million Employment: 3	Subsidence Reclamation
TOTAL	\$1,044,495.21	Income: \$2.58 million	