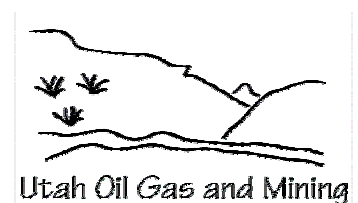
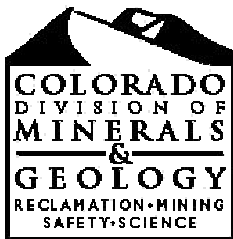


**ANNUAL SUMMARY EVALUATION REPORT**  
of the  
**COLORADO – UTAH ABANDONED MINE LAND REVIEW TEAM**  
for the  
**COLORADO INACTIVE MINE RECLAMATION PROGRAM**  
for  
**EVALUATION YEAR 2004**  
(July 1, 2003, through June 30, 2004)



October 6, 2004

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## ACRONYMS

AML	Abandoned Mine Land
AMLIS	Abandoned Mine Land Inventory System
AMR	Abandoned Mine Reclamation
BLM	Bureau of Land Management (of the U.S. Dept. of the Interior)
CIMRP	Colorado Inactive Mine Reclamation Program
DFD	Denver Field Division (of the Office of Surface Mining)
DNR	Colorado Department of Natural Resources
DOGMA	Utah Division of Oil, Gas and Mining
EPA	United States Environmental Protection Agency
MSHA	Mine Safety and Health Administration (of the U.S. Dept. of Labor)
NAAMLPP	National Association of Abandoned Mine Land Programs
OSM	Office of Surface Mining (of the U.S. Dept. of the Interior)
SMCRA	Surface Mining Control and Reclamation Act of 1977, as amended
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	Forest Service (of the U.S. Dept. of Agriculture)

## **I. Introduction**

Title IV of the Surface Mining Control and Reclamation Act of 1977 (SMCRA or “the Act”) established the Abandoned Mine Reclamation Fund. The Fund’s primary purpose is to pay for mitigation of past mining effects. The Office of Surface Mining Reclamation and Enforcement (OSM) administers the Fund on behalf of the Secretary of the Interior. OSM awards grants to States and Tribes from the Fund to reclaim abandoned mines and pay their administration costs. SMCRA puts the highest priority on correcting the most serious abandoned mine land (AML) problems that endanger public health, safety, general welfare, and property. OSM and State and Tribal AML programs work together to achieve the goals of the national program. OSM also works cooperatively with the States and Tribes to monitor their AML programs.

Directive AML-22 generally describes how OSM evaluates State and Tribal AML reclamation programs in “enhancement and performance reviews.” A team of State and Federal personnel, called the Colorado-Utah AML Review Team, has been completing these reviews of the Colorado Inactive Mine Reclamation Program (CIMRP) and the Utah Abandoned Mine Reclamation (AMR) Program since it was first formed in January 1996. Our team includes representatives of CIMRP, the Utah AMR Program, and OSM’s Denver Field Division (DFD). Team members during the 2004 evaluation period included: Frank Atencio, Grants Management Specialist, OSM-DFD; Dave Bucknam, former CIMRP Supervisor; Mark Mesch, Administrator, Utah AMR Program; and Ron Sassaman, Environmental Protection Specialist, OSM-DFD. Mr. Jeff Graves, Environmental Protection Specialist, CIMRP, helped us locate reclaimed features of one sample project for our 1(a) evaluation, described in Part IV.A. below.

This report summarizes our review and evaluation of the Colorado Inactive Mine Reclamation Program for the 2004 evaluation year, which included the period of July 1, 2003, through June 30, 2004.

## **II. General Information on the Colorado Program**

On June 11, 1982, the Secretary of the Interior approved Colorado’s AML reclamation plan (“State reclamation plan”) under Title IV of SMCRA. That approval allows Colorado to reclaim abandoned mines in the State in non-emergency AML projects. CIMRP is part of the Division of Minerals and Geology (DMG) in the Department of Natural Resources (DNR). It administers Colorado’s AML program under its approved plan. In May 2004, Loretta Pineda replaced Dave Bucknam as CIMRP Supervisor. The Denver Field Division of OSM’s Western Regional Coordinating Center works with CIMRP to fund and approve AML projects in Colorado and to evaluate AML reclamation and other aspects of the Program.

Section 405(f) of SMCRA authorizes State and Tribal AML programs to apply to OSM each year for a grant to support their programs and reclaim specific projects. OSM awards grants to CIMRP based on the calendar year. CIMRP’s grants include money to pay the Program’s administrative and construction costs. Administration funding applies

to a single year following the grant award date and construction funding is available for three years after that date. Because the *evaluation* year (on which this report is based) included the period of July 1, 2003, through June 30, 2004, CIMRP's grants spanned parts of the 2003 and 2004 evaluation years.

OSM awarded \$3,038,000 to CIMRP in the 2003 grant. The grant funded 14 positions and other program administration costs. It also funded reclamation of seven coal and thirteen noncoal projects and project maintenance.

CIMRP's 2004 grant totaled \$2,300,000. It also funded administration and construction costs. Administration funding included support for 14 full-time equivalents. The construction component funded five coal and ten noncoal projects and project maintenance. In September 2003, OSM extended for another year a grant awarded to CIMRP in 2002 for \$60,000 to construct a soil seal over a coal outcrop fire on public land in western Colorado. The State completed that outcrop fire project shortly after the end of the evaluation year in early July 2004. At that time, OSM amended the grant again at Colorado's request to apply remaining funds to another coal outcrop fire project in Mesa Verde National Park.

Colorado has an approved Mine Subsidence Protection Program. CIMRP oversees administration of the program by an insurance brokerage firm. A total of 821 active members were enrolled in the insurance program at the end of June 2004, a decrease of 17 members since June 30, 2003. Just over 90 percent of those members live in the Colorado Springs area and almost 8.3 percent reside in the area of the Boulder/Weld coal field. Another 1.2 percent of the program's members live in the Rocky Mountain foothills and the remaining 0.3 percent lives on the Western Slope. Members filed six claims during the period of July 1, 2003, through June 30, 2004. Three of those claims were closed as of June 30, 2004. Investigations concluded that abandoned mine-related subsidence did not cause the damage involved in those three claims. The remaining three claims were still open as of June 30, 2004, and were awaiting more detailed investigations.

Colorado does not have an OSM-approved emergency coal reclamation program.

Appendices 1 and 2 show Colorado's AML noncoal and coal reclamation accomplishments and remaining reclamation needs based on data from the Abandoned Mine Land Inventory System (AMLIS).

### **III. Noteworthy Accomplishments**

CIMRP continued its outreach efforts in the 2004 evaluation period to increase public awareness of abandoned mine land hazards. The Programs' outreach activities included:

- Participating in the Colorado DNR's efficiency study to review missions, goals, and objectives in meetings with DNR stakeholders (July through October 2003);

- Distributing copies of the new ***Stay Out and Stay Alive*** video/CD that CIMRP, the BLM, and the Utah Division of Oil, Gas and Mining produced. CIMRP was honored for its contribution to the video/CD production (July 2003 to present);
- Staffing an exhibit at the Colorado State Fair in Pueblo (August 2003);
- Sponsoring a mining exhibit at the Taste of Colorado, a public event featuring various cultural and culinary exhibits (September 2003);
- Sponsoring an appreciation dinner for the Women in Mining Industry Association (November 2003);
- Providing educational reviews for the Colorado School of Mines' EPICS program (January through May 2004);
- Partnering with the Colorado Foundation for Agriculture to produce and publish the second Colorado Reader, an educational publication about mining, reclamation, and AML safety awareness for fourth grade elementary school children (February 2004);
- Sponsoring the annual conference of the Colorado Mining Association and staffing an exhibit (February 2004);
- Sponsoring the Colorado Preservation, Inc., conference, including an exhibit (February 2004);
- Participating in a DNR legislative reception (February 2004);
- Being an exhibitor at the Colorado State University's High Altitude Revegetation seminar (March 2004);
- Participating in the Mesa County Safety fair as an exhibitor (March 2004);
- Sponsoring the Colorado State University's science fair and judging entries (April 2004);
- Giving a presentation to environmental science students of the Colorado College in Colorado Springs (April 2004);
- Giving educational presentations to elementary school students at the Grand Junction Rendezvous (May 9, 2004);
- Providing a speaker for the Northwest Colorado Coal Conference (May 2004); and
- Participating in the Total Concept of Mining teachers' education class sponsored by the Colorado Mining Association's Education Foundation (June 2004).

The author of Reclaiming Western Landscapes, a professor of landscape architecture with the University of Colorado at Denver, acknowledged CIMRP for the Program's considerable help with researching material for the book.

CIMRP continued to partner with other agencies to leverage its SMCRA funding for AML reclamation or to address AML problems not eligible for SMCRA funding. Other agencies funded some of the Program's projects in their entirety while funding some or all of its construction costs for others. CIMRP partnered with the U.S. Department of Agriculture, Forest Service (USFS), the U.S. Department of the Interior, Bureau of Land Management (BLM), the U.S. Environmental Protection Agency (EPA), the Colorado Department of Public Health and Environment's (CDPHE) Water Quality Control Division, several watershed associations, and others. CDPHE recognized DMG's successful work on non-point source projects in its "10 Years of Success" publication.

The Program also continued to protect bats, other wildlife, and habitat by planning and constructing specialized mine closures. Of the 66 mine closures we observed as part of the 1(a) evaluation (summarized in Part IV.A. below), CIMRP safeguarded 12 with bat-friendly closures that incidentally protect other wildlife and habitat as well. Those closures included 11 steel grates with a bat slots and one steel grate with a bat ladder. The photo at right shows one of the specialized closures included in our evaluation. CIMRP's reclamation safeguarded a total of 24 mine openings with bat-friendly closures during the 2004 evaluation period. The Program's cooperative agreements with the Colorado Division of Wildlife (DOW) resulted in completing 307 bat surveys at abandoned mines. Those surveys largely were the result of fifty-one volunteers donating 2,636 hours in the 2004 period to the DOW-DMG Bats/Inactive Mines Project to help survey abandoned mines for bats.



Steel grate closure with bat slot in vertical opening #112 of the Turret project

#### IV. Results of Enhancement and Performance Reviews

In a meeting on August 8, 2003, we updated the current "Colorado-Utah AML Review Team Performance Agreement" to describe the principles of excellence and performance measures that we planned to review in the 2004 evaluation year. We finalized the updated agreement on August 25, 2004.

Principles of excellence and performance measures emphasize on-the-ground or end-results as much as possible. Each general principle of excellence has one or more specific performance measure(s). Performance measures describe: Why we selected that topic; what the review population and sample sizes will be; how we will conduct the review and report the results; and our schedule for completing the review. The principle of excellence and the specific performance measure we chose for our 2004 evaluation of the Colorado Inactive Mine Reclamation Program are:

*Principle of Excellence 1:* The State's on-the-ground reclamation is successful.

- *Performance Measure (a):* Does reclamation meet the goals of the project?

Results of our 2004 evaluation are described below in Part IV.A. Our evaluation included field visits to three noncoal projects and reviews of CIMRP's project closeout reports and specifications, grant applications, and AMLIS data. We described our evaluation results in much greater detail in an enhancement and performance review report for the 1(a) performance measure. That report is on file in OSM's Denver Field Division and is the factual basis of this report's summary of our evaluation of performance measure 1(a).



A. Summary Evaluation of Performance Measure 1(a)

We concluded that the priority 1 Dakota Hill, Orphan Girl, and Turret noncoal projects met their respective goals overall. Those goals included abating hazards, complying with provisions resulting from interagency consultation, and improving site conditions compared to pre-reclamation conditions. Two closures needed maintenance, one should be monitored for future maintenance, and a new hazardous opening developed in one project area since CIMRP completed reclamation. The criterion for selecting sample projects was that they had to have been completed between January 2000 and late July 2003. CIMRP completed all three projects in 2002.

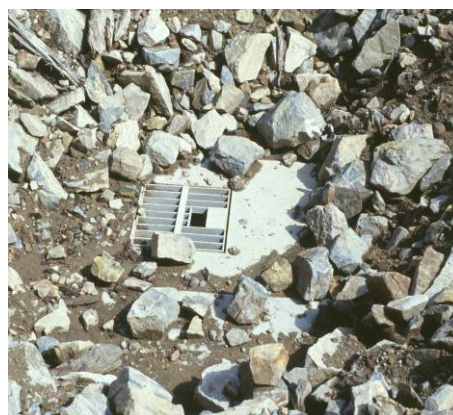
Our evaluation was an empirical comparison of CIMRP's reclamation to its project specifications and project closeout reports. We focused on whether the State's work continued to abate the original hazards while also determining if projects complied with conditions resulting from interagency consultation (if evident) and improved overall site



Steel grate closure on vertical opening # 7 in the Orphan Girl project

conditions compared to pre-reclamation conditions. We noted problems when we found them. In general, we agreed that projects met their goals if abatement measures were intact and functional and no other problems were evident. Project specifications include: General goals from the grant; prescribed construction methods CIMRP developed to address site specific hazard abatement and other reclamation needs; and any requirements that resulted from the interagency consultation CIMRP completed to help OSM comply with the National Environmental Policy Act (NEPA) and other laws.

In most cases we found that CIMRP reclaimed or safeguarded the features we observed as planned in its specifications. CIMRP modified its original plans to accommodate differing site conditions in only two cases we observed. CIMRP abated hazards and improved site conditions by following its specifications or adapting proven alternative methods. Its construction methods are designed to abate health and safety hazards associated with abandoned mines while improving site conditions overall.



Concrete panels with locking access door on vertical opening DH-20 of the Dakota Hill project

We viewed abatement of hazards associated with 18 portals and 48 vertical openings (including vertical shafts and stopes). The sample projects safeguarded mine openings on public and private land. Many of the safeguarded mine openings are located in historic mining districts that are experiencing increased home and road construction and outdoor

recreation. We encountered evidence of visitation throughout the areas we visited. Methods CIMRP used to safeguard the vertical openings included equipment and hand backfills, pre-cast concrete panels, polyurethane foam used alone and in conjunction with backfilling, steel grates with and without bat slots and/or access doors, and fencing. CIMRP constructed the portal closures with equipment and hand backfills, native stone bulkheads with and without locking access doors or steel grates, and steel grates with bat slots and one bat ladder.

Of the 66 safeguarded mine openings we viewed, we saw only one backfill/concrete panel closure in a stope that was no longer intact and functional (1.5 percent). Another



Damage to concrete panel closure in stope DH-14 of the Dakota Hill project, requiring maintenance

backfilled stope closure settled about six feet (1.5 percent), and a third showed minor settling. Both settled closures were still intact, however. Overall, 97 percent of the reclaimed features we visited continued to abate the original hazards. Moisture from the deep snow pack of the 2002-2003 Winter probably caused or contributed to the failure of the backfill/concrete panel closure (see the photo at left) and to the settling of the other two backfill closures we saw in the Dakota Hill and Turret projects. Also, a vertical opening recently formed adjacent to an intact closure in the Orphan Girl project. We recommended CIMRP perform maintenance on the Dakota Hill closure problems and safeguard the new vertical

opening in the Orphan Girl project area. We also recommended CIMRP monitor the minor settling that occurred in the Turret project closure.

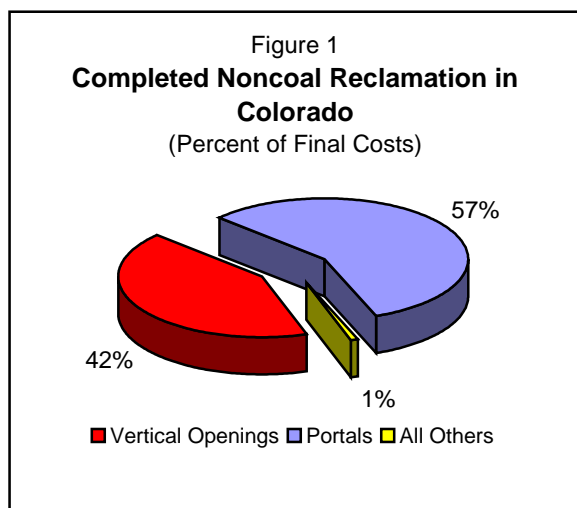
CIMRP continues to protect wildlife habitat and cultural resources in Colorado by following provisions resulting from its interagency consultation. The Turret project closures we viewed included one vertical opening and seven portals closed with steel grates that included bat slots. Also, CIMRP closed one portal in the Turret project with a steel grate and bat ladder. Such closures protect bat habitat and prevent access by people. Typically, Colorado's approach to safeguarding abandoned noncoal mines addresses only the mine openings and avoids impacting associated structures because the structures often are historically important. In part, the State Historic Preservation Officer based her findings of no effect and her concurrence with reclamation of the Dakota Hill and Orphan Girl projects on CIMRP's planned avoidance of associated structures during construction. A number of the noncoal mine closures we visited for this evaluation were located near structures that CIMRP left undisturbed. In general, DMG partners with local communities to preserve historic mining structures and promote the State's mining heritage to tourists. We found no apparent cases where CIMRP did not comply with conditions of interagency consultation.



## V. Accomplishments and Inventory Reports

Title IV of SMCRA stresses reclamation of abandoned coal mine-related problems because a fee that active mines pay per ton of coal produced generates the AMR Fund. CIMRP continued to address abandoned coal mine problems in 12 coal projects funded in its 2003 and 2004 grants. Nevertheless, noncoal projects dominate CIMRP's recent reclamation because abandoned noncoal mines currently pose the most serious hazards to public health and safety in Colorado.

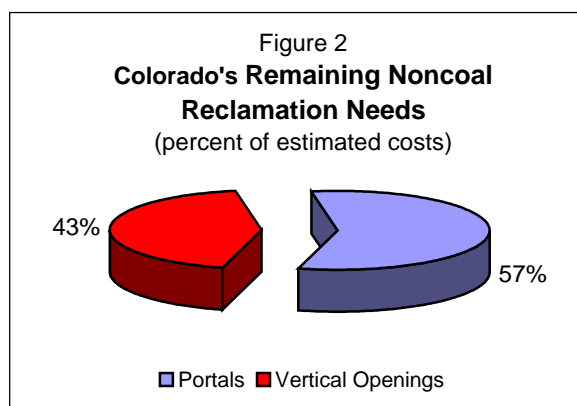
OSM funded CIMRP to reclaim 185 noncoal projects since 1985. Of those projects, 161 are complete and one was cancelled. As shown in Appendix 1, CIMRP's completed



noncoal reclamation abated hazards associated with dangerous highwalls, hazardous equipment and facilities, mine waste, portals, subsidence, and vertical openings at a cost of over \$33.3 million. Based on AMLIS data, CIMRP safeguarded at least 5,174 noncoal portals and vertical openings by the end of the 2004 evaluation period. That number is an increase of 294 over data reported by the end of the 2003 evaluation year and 759 since the 2002 evaluation. Figure 1 (left) shows the relative final cost of each type of noncoal problem Colorado reclaimed. CIMRP has been revising its data in AMLIS to more accurately

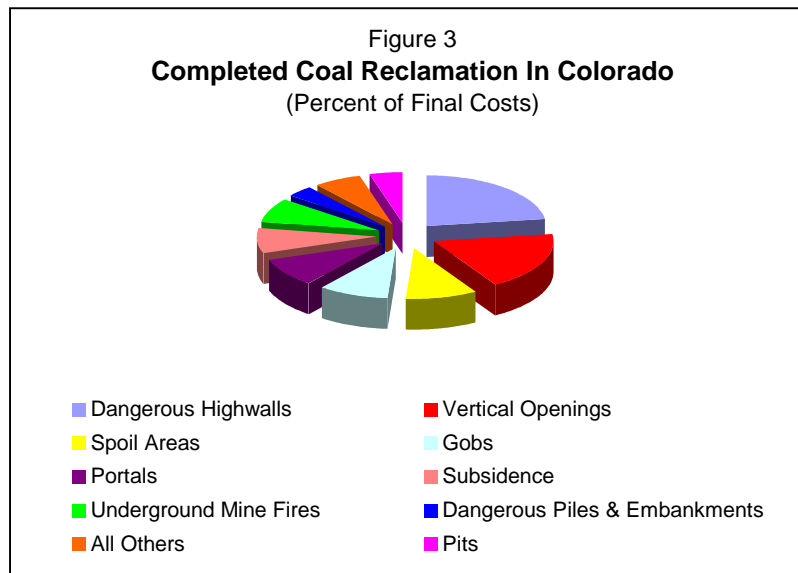
show its noncoal reclamation accomplishments. The increased number of reclaimed portals and vertical shafts and the cost of that work noted above reflect a combination of Colorado's accomplishments and costs for the 2004 period and data for earlier projects.

Portals and vertical openings pose the most serious noncoal hazards in the State and make up 100 percent of the estimated cost to abate remaining noncoal problems reflected in AMLIS. Figure 2 (right) illustrates the percentages that portals and vertical openings comprise of Colorado's estimated unfunded noncoal reclamation costs relative to each other. It is important to note that AMLIS data shown in Appendix 1 are not a complete list of Colorado's unreclaimed abandoned noncoal mine hazards or their estimated reclamation costs. CIMRP also has been updating AMLIS to better show the extent of Colorado's remaining noncoal problems. As a result, the number of unfunded portals and vertical openings shown in Appendix 1 increased by 2,884 and 4,390, respectively, over numbers shown at the end of the 2003 period. Also, the estimated



cost of safeguarding those portals and vertical openings increased by 430 percent and 284 percent, respectively, over the previous period, and now totals more than \$55.5 million.

Colorado continued to abate abandoned coal mine problems notwithstanding its emphasis on abating priority 1 noncoal problems. Coal-related reclamation accomplishments CIMRP entered into AMLIS during the 2004 period include: Twelve acres of dangerous piles and embankments; eight acres of industrial and residential waste; 33 portals; 46.5 acres of pits; 12.5 acres of underground mine fires; and 13 vertical openings. OSM funded the State to reclaim 170 coal projects since the Secretary approved its program effective June 11, 1982. By the end of the 2004 evaluation period, CIMRP completed 159 of those projects and cancelled five. Abating nine types of AML problems required about 93.6 percent of the \$13.05 million cost of reclaiming coal projects. Those problem types include: Dangerous highwalls (22.7%); vertical openings (18.7%); spoil areas (9.9%); portals (9.3%); gobs (9.3%); underground mine fires (7.9%); subsidence (7.9%); pits (4.4%); and dangerous piles and embankments (3.5%).



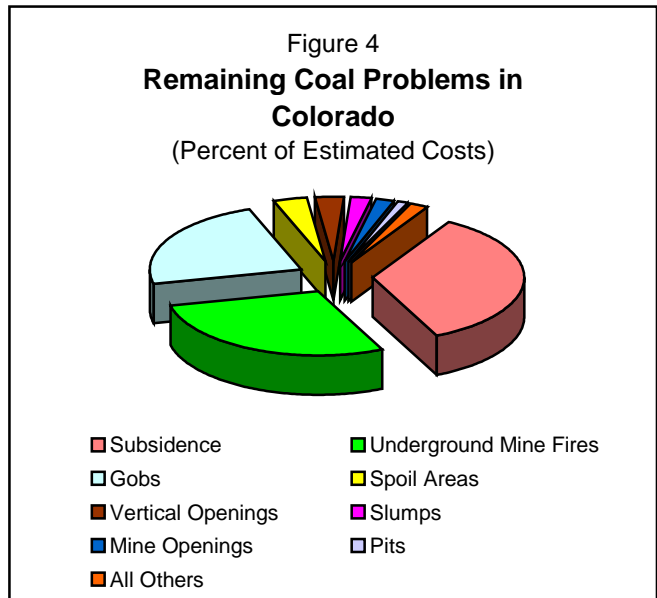
mine fires (7.9%); subsidence (7.9%); pits (4.4%); and dangerous piles and embankments (3.5%). Ten other problem types comprise the remaining 6.4 percent of CIMRP's completed coal reclamation. Figure 3 (left) illustrates CIMRP's coal reclamation accomplishments. Appendix 2 details the abandoned coal problems that Colorado reclaimed since its program began and how much that reclamation cost to date.

AMLIS shows over \$37.87 million in unfunded coal problems remain in Colorado. This is a decrease of \$13,000 since the end of the 2003 period and \$168,000 since the 2002 evaluation year. About 89.4 percent of the estimated cost of reclaiming those coal problems is associated with priority 2 subsidence (34.7%), priority 2 underground mine fires (28.4%), priority 3 gob (23%); and priority 1 vertical openings (3.3%). All seven coal projects funded in the State's 2003 grant involve underground mine fires. Of the five coal projects funded in Colorado's 2004 grant, two involve underground mine fires and a third funded completion of a State-wide investigation of underground mine fires. CIMRP expects to publish a report of its underground mine fire investigation in Fall 2004. As Appendix 2 shows, Colorado funded over \$3.9 million in coal reclamation that is not yet complete, the bulk of which is planned to address underground mine fires.

Subsidence is more problematic. Colorado has a history of subsidence-related problems, particularly along the Front Range of the Rocky Mountains. AMLIS data are more a reflection of the State's concern for subsidence to occur based on the history of occurrence as opposed to the presence of manifested subsidence problems. OSM's history of completing several emergency projects to abate coal mine subsidence problems along the Front Range lends credence to Colorado's concern. CIMRP and OSM hope to determine if potential subsidence can be addressed to prevent the occurrence of future problems in the most subsidence-prone Front Range areas.

As noted previously, CIMRP is reviewing its data in AMLIS to more accurately show its reclamation accomplishments and identify where reclamation still needs to be done. Part of this effort will look at data for the unfunded priority 1 vertical openings referenced above. It also will review data for other high priority coal problem types including dangerous highwalls, portals, hazardous equipment and facilities, dangerous piles and embankments, industrial and residential waste, and surface burning.

Of the remaining unfunded coal problems shown in AMLIS for Colorado, gob is by far the largest at 23 percent, followed by slumps (2.1%), mine openings (1.9%), and pits (1.2%). These problem types involve priority three environmental hazards where the need for abatement is important but somewhat less urgent. Eleven other problem types make up the remaining 6.6 percent of the estimated unfunded cost of coal reclamation. Figure 4 (right) further illustrates the scope of Colorado's remaining abandoned coal mine problems.



Appendix 1

Colorado Inactive Mine Reclamation Program  
**Non-Coal Reclamation Accomplishments and Remaining Reclamation Needs\***

Problem Type and Description	Unfunded		Funded		Completed		Total	
	Units	Costs	Units	Costs	Units	Costs	Units	Costs
Dangerous Highwalls	0	0	0	0	150 feet	\$2,498	150 feet	\$2,498
Gobs	0	0	0	0	3 acres	\$78,250	3 acres	\$78,250
Hazardous Equipment & Facilities	0	0	0	0	3 (count)	\$214,669	3 (count)	\$214,669
Industrial/Residential Waste	0	0	1 acre	\$20,000	0	0	1 acre	\$20,000
Portals	3,962 (count)	\$23,947,690	209 (count)	\$872,400	2,083 (count)	\$19,048,021	6,037 (count)	\$42,822,290
Pits	0	0	0	0	2 acres	\$12,000	2 acres	\$12,000
Subsidence	0	0	1 acre	\$3,000	2 acres	\$10,000	3 acres	\$13,000
Vertical Openings	7,136 (count)	\$31,605,753	288 (count)	\$867,648	3,091 (count)	\$13,942,665	10,311 (count)	\$45,392,200
<b>COLORADO TOTAL COSTS</b>		<b>\$55,553,443</b>		<b>\$1,763,048</b>		<b>\$33,308,103</b>		<b>\$88,554,907</b>

\* This table is based on a Problem Type Unit and Cost Summary Report from the Abandoned Mine Land Inventory System as of 7/8/2004. AMLIS does not include a complete inventory of Colorado's unfunded noncoal problems.

## Appendix 2

### Colorado Inactive Mine Reclamation Program Coal Reclamation Accomplishments and Remaining Reclamation Needs\*

Problem Type and Description	Unfunded		Funded		Completed		Total	
	Units	Costs	Units	Costs	Units	Costs	Units	Costs
Bench	58 acres	\$201,500	0	0	3 acres	\$31,044	61 acres	\$232,544
Dangerous Highwalls	1,030 feet	\$30,000	0	0	51,992 feet	\$2,955,885	53,022 feet	\$2,985,885
Dangerous Piles & Embankments	0	0	0	0	40.5 acres	\$459,432	40.5 acres	\$459,432
Equipment & Facilities	73 (count)	\$108,000	0	0	7 (count)	\$14,657	80 (count)	\$122,657
Gobs	568.3 acres	\$8,719,954	31 acres	\$218,253	158.6 acres	\$1,210,367	757.9 acres	\$10,148,574
Highwall	1,100 feet	\$82,500	0	0	2,027.5 feet	\$46,387	3,127.5 feet	\$128,887
Hazardous Equipment & Facilities	1(count)	\$2,000	0	0	1(count)	\$1	2 (count)	\$2,001
Haul Road	4 acres	\$13,000	0	0	0	0	4 acres	\$13,000
Industrial / Residential Waste	3 acres	\$13,000	8 acres	\$84,000	16 acres	\$379,904	27 acres	\$476,904
Mine Openings	298 (count)	\$720,000	3 (count)	\$3,206	18 (count)	\$62,592	328 (count)	\$785,798
Other	28.0	\$104,000	0	0	5.0	\$48,916	33.0	\$152,916
Portals	32 (count)	\$136,060	29 (count)	\$93,746	540(count)	\$1,216,512	594 (count)	\$1,427,078
Pits	98 acres	\$441,900	0	0	129.4 acres	\$569,424	227.4 acres	\$1,011,324
Polluted Water: Agric. & Industrial	0	0	1 (count)	\$50,000	3 (count)	\$19,699	4 (count)	\$69,699
Subsidence	179.6 acres	\$13,130,000	1 acre	\$2,000	45.4 acres	\$1,029,140	225 acres	\$14,159,140
Spoil Area	398.6 acres	\$1,347,595	2 acres	\$25,000	829 acres	\$1,286,756	1,227.6 acres	\$2,634,351
Surface Burning	1acre	\$5,000	5 acres	\$70,000	35 acres	\$235,621	41 acres	\$310,621
Slump	25 acres	\$804,000	0	0	0	0	25 acres	\$804,000
Underground Mine Fire	176.5 acres	\$10,750,000	72 acres	\$3,297,000	169 acres	\$1,034,108	414.5 acres	\$14,921,108
Vertical Openings	118 (count)	\$1,239,967	27 (count)	\$124,995	291 (count)	\$2,442,782	428 (count)	\$3,740,854
Water Problems	39 gal/min	\$23,000	1 gal/min	\$25,000	1 gal/min	\$6,000	41 gal/min	\$54,000
<b>COLORADO TOTAL COSTS</b>		<b>\$37,871,476</b>		<b>\$3,993,200</b>		<b>\$13,049,227</b>		<b>\$54,640,773</b>

\* This table is based on a Problem Type Unit and Cost Summary Report from the Abandoned Mine Land Inventory System as of 7/8/2004

NOTE: Completed cost of \$1 means that problem type's reclamation was incidental to reclamation of another problem type.