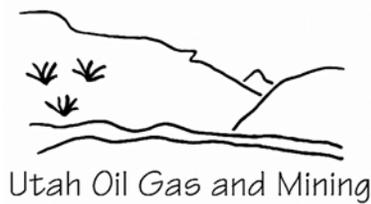


ANNUAL SUMMARY EVALUATION REPORT
of the
COLORADO – UTAH ABANDONED MINE LAND REVIEW TEAM
for the
UTAH ABANDONED MINE RECLAMATION PROGRAM
for
EVALUATION YEAR 2003

(October 1, 2002, through June 30, 2003)



October 28, 2003

TABLE OF CONTENTS

I.	Introduction.....	1
II.	General Information on the Utah Program	1
III.	Noteworthy Accomplishments	2
IV.	Results of Enhancement and Performance Reviews	3
V.	Accomplishments and Inventory Reports	8
Appendix 1		
	Coal AML Reclamation Accomplishments and Remaining Reclamation Needs.....	11
Appendix 2		
	Noncoal AML Reclamation Accomplishments and Remaining Reclamation Needs....	12

ACRONYMS

AML	Abandoned Mine Lands
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 OSM)
DOGM	Utah Division of Oil, Gas and Mining
EPA	United States Environmental Protection Agency
FAM	Federal Assistance Manual
MSHA	Mine Safety and Health Administration (of the U.S. Dept. of Labor)
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 USDA)



Native stone wall closure - Temple Mountain project



Rebar grate closure - Yellow Cat project



Block wall closure - Yellow cat project



Bat gate closure - Yellow Cat project



Coal waste pile reclamation - Old Johnson project

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 to pay their administration costs. SMCRA puts the highest priority on correcting the most serious abandoned mine land (AML) problems endangering 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 Utah Abandoned Mine Reclamation (AMR) Program and the Colorado Inactive Mine Reclamation Program (CIMRP) since it was first formed in January 1996. The team includes representatives of the Utah AMR Program, CIMRP, and OSM’s Denver Field Division (DFD). Members of the team during the 2003 evaluation period included: Frank Atencio, Grants Management Specialist, OSM-DFD; Dave Bucknam, CIMRP Supervisor; Mark Mesch, Administrator, Utah AMR Program; and Ron Sassaman, Environmental Protection Specialist, OSM-DFD.

This report summarizes our review and evaluation of the Utah AMR Program for evaluation year 2003. Originally the 2003 evaluation year coincided with the Federal fiscal year, spanning the period of October 1, 2002, through September 30, 2003. In March 2003, however, OSM changed the evaluation period to end on June 30, 2003. Shortening the evaluation year did not affect our original plans for the 2003 evaluation of Utah’s AMR Program.

II. General Information on the Utah Program

On June 3, 1983, the Secretary of the Interior approved Utah’s AML reclamation plan (“State Reclamation Plan”) under Title IV of SMCRA. That approval allows Utah to reclaim abandoned mines in the State in non-emergency AML projects. The AMR Program is part of the Division of Oil, Gas and Mining (DOG M) in Utah’s Department of Natural Resources. It administers Utah’s program for abandoned mine reclamation under its approved Plan. The Denver Field Division of OSM’s Western Regional Coordinating Center works with the AMR Program to fund and approve AML projects in Utah 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 the Utah AMR Program based on the State’s fiscal year, which is the period of July 1st of one year through June 30th of the following year. Administration

funding in Utah's grants is available for one year and construction funding is available for three years. Unlike previous years, the 2003 evaluation period fell entirely within Utah's 2003 grant year because of the new evaluation period ending date.

OSM awarded a total of \$1,573,966 to the Utah AMR Program in the 2003 grant. The 2003 grant funded eleven positions and the Program's administrative activities. It also funded the Program's engineering, design, and other planning needs for two noncoal projects.

Utah does not have OSM-approved subsidence insurance protection or emergency coal reclamation programs.

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

III. Noteworthy Accomplishments

Many of the accomplishments we acknowledge in this section involve the same work we reviewed in detail as part of our 2003 evaluation of DOGM's partnerships. We summarize our findings and conclusions from that evaluation in section IV.B of this report.

As in previous years, DOGM continued its efforts to increase public AML awareness and outreach while documenting the State's mining heritage. In 2003, it will distribute a total of 25,000 workbooks for fourth grade students to public and private schools throughout Utah. The workbooks describe Utah's mining heritage, the role mining plays in everyday life, and dangers inherent to abandoned mines. The Program continued to work with the State of Colorado and BLM to produce the AML safety video **Stay Out and Stay Alive**.

Utah's AMR Program was active in other outreach efforts as well. They included staffing a booth at the Utah Education Association meeting in October 2002 and a public meeting on the Circle Cliffs AML project in February 2003. Program staff also gave a number of presentations at various events during the evaluation period. Those events involved: The Salt Lake Exchange Club (January 2003); the Daughters of the Utah Pioneers (May 2003); the National Minerals Education Conference (June 2003); the Utah State Parks and Recreation Division (July 2003); and the Department of the Interior's 2003 Conference on the Environment. Also, the Program gave a mine safety presentation to the Women's American Institute of Mining and Engineering.

Program staff attended a number of conferences and were training instructors. Staff attended the Utah Geological Association Conference in April 2003 and a GIS conference sponsored by Environmental Systems Research Institute in May. Staff also attended the Rural Utah Summit later in August and the mid-winter meeting of the National Association of Abandoned Mine Land Programs. One staff member taught

three OSM-sponsored NEPA training classes in January, June, and August 2003 and another taught AquaChem in April.

The Program continued partnerships with a number of other agencies during this evaluation year. It worked cooperatively with the BLM, National Park Service, and the Forest Service to inventory abandoned mines on public lands they manage. It also performed contract administration and reclamation on the Cottonwood Wash watershed cleanup project in cooperation with the BLM, Forest Service, and the Utah Division of Water Quality. Finally, it completed reclamation of two projects in the Glen Canyon National Recreation Area that the National Park Service funded.

As before, we recognize DOGM's continuing efforts to protect wildlife and wildlife habitat throughout its AML reclamation. In March 2003, the Utah Chapter of the Wildlife Society awarded its Conservation Achievement Award to the AMR Program Administrator "in recognition of outstanding contributions and service for wildlife in Utah." The award further cited the Administrator's work to improve bat conservation, management and education in the State. We also note that the Program continues to protect bats and bat habitat by constructing specialized mine closures. We viewed eight bat gates as part of determining whether the Program's reclamation met project goals. That evaluation is summarized in part IV.A of this report. Further, 2003 is the last year of a four-year study the AMR Program funded, using money from the State's Endangered Species Mitigation Fund, for Southern Utah University to conduct research to determine the effects of bat gates on bats' use of abandoned mines.

IV. Results of Enhancement and Performance Reviews

In November 2002 and January 2003, we revised the "Colorado-Utah AML Review Team Performance Agreement" that we used for the previous five years' evaluations. We signed our new agreement on January 29, 2003. It will apply to each year's evaluation through the 2007 evaluation year. The performance agreement describes the team's purpose, team members' responsibilities, and three general principles of excellence that the team developed to review and evaluate the Colorado and Utah AML programs' performance. As before, we expect to update the agreement every year with current-year schedules and to describe the principles of excellence and performance measures we plan to review. We also will update the performance measures to describe any specific aspects of the programs that we plan to focus on.

We emphasized on-the-ground or end-results when we developed the principles and measures in the agreement. Each general principle of excellence has one or more specific performance measure(s). We decided which performance measures to review and evaluate in each year of the agreement. Performance measures describe the following: 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 three principles of excellence, and the specific performance measures we chose for the 2003 review of the Utah AMR Program, are described below.

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

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

Principle of Excellence 2: The State must have systems to properly manage AML funds.

- *Performance Measure (f):* Does the State partner with other organizations to increase its program's effectiveness?

Principle of Excellence 3: The State has systems to properly manage AML funds.

- *Performance Measure (a):* Is State AML program income accounted for properly?

Results of our 2003 evaluations are summarized below. Our evaluations included field visits to AML projects, interviews with AMR Program and DOGM staff, and reviews of the AMR Program's project specifications, grant applications and reports, and internal State and AMLIS inventories. We described our evaluation results in much greater detail in enhancement and performance review reports that we wrote for each performance measure. Those reports are on file in OSM's Denver Field Division. This report and the supporting enhancement and review reports describe our 2003 evaluations of performance measures 1(a), 2(f), and 3(a).

A. Summary Evaluation of Performance Measure 1(a)

Our 2003 evaluation of performance measure 1(a) determined if DOGM's reclamation met project goals. The 2003 review sample included two coal and two noncoal projects. Underground burning in steep terrain at one coal project has resisted DOGM's previous attempts to get the fire to burn out. The other coal project addressed priority 2 coal portals and priority 3 coal waste piles. It also included portal closures DOGM improved to correct problems we noted in our evaluation of long-term reclamation effectiveness in May 2000. One sample noncoal project abated priority 1 uranium and vanadium mine hazards and the second abated priority 1 abandoned uranium mine hazards. DOGM completed all four projects since May 2002.

We empirically compared DOGM's reclamation to project specifications, results of interagency consultation, and other information. Our evaluation focused on determining whether reclamation met project goals by continuing to abate original hazards, complying with conditions resulting from interagency consultation (if evident), and improving overall site conditions compared to pre-reclamation conditions. Generally, we agreed projects met their goals if abatement and reclamation measures were intact and functional and if no problems compromising those measures were apparent. We considered site conditions improved overall if hazards to public health and safety were abated and associated reclamation reduced environmental problems such as erosion

and sedimentation while promoting revegetation. We did not statistically analyze our observations.

We concluded that the projects we visited met their respective goals. We found that DOGM is monitoring the coal mine fire project to determine the effectiveness of abatement measures. DOGM met the goals of abating hazards and improving site conditions at the other three projects. To evaluate these projects, we observed hazard abatement and reclamation involving 79 portals, 26 vertical openings, six inclined openings, and 12 coal waste piles. Reclamation methods for portal closures we observed included hand backfills, equipment backfills, block walls, native stone walls, rebar grates, and bat gates. Closures in vertical openings we visited included rebar grates, a bat gate, polyurethane foam with backfill, and equipment backfills. DOGM closed the inclined openings we observed with blockwalls and equipment backfills. It also backfilled one pit we visited, which was associated with a number of openings. We noted where DOGM's reclamation used extreme surface roughening combined with seeding and mulching to improve water infiltration into soil and reduce surface runoff and erosion. As a result of those efforts, we observed emergent vegetation in several areas.

Of the 111 closures we observed, 109 (98.2 percent) were intact and functional. The two closures no longer intact were part of one noncoal project. Vandals breached both closures. The photo at right shows a vandalized portal closure that Utah originally built with an equipment backfill. We concluded that one breach created a new hazard and needs to be corrected. We also concluded that the second breach was not hazardous at the time but should be corrected when DOGM performs other corrective maintenance in the area.



Construction on the coal fire followed project specifications but it was too early to determine if the measures DOGM used will successfully abate the hazards. Abatement measures involved injecting a proprietary extinguishing agent through five drill holes into the fire to extinguish burning on contact. The Program must monitor drill hole temperatures over time before it can conclude whether or not it extinguished the fire.

Our review also concluded that DOGM protected wildlife habitat and cultural resources in the project areas we included in our evaluation. The Program incorporated provisions in its specifications that resulted from its interagency consultation on issues involving wildlife and cultural resources. We observed eight bat gates constructed in the two noncoal projects. The gates protect bat habitat while preventing access by people. The environmental assessments and specifications also noted that parts of the noncoal projects are eligible for listing on the National Register of Historic Places. Where practical, DOGM planned and built mine closures to minimize damage to structural

features and to maintain the historic character of the project areas. This was evident to us at the 32 block walls, 12 native stone walls, eight rebar grates, and eight bat gate closures we viewed.

We recommended DOGM take corrective action to repair vandalism to the two closures described above. We also recommended DOGM perform maintenance on one other closure in the same project. Finally, we recommended DOGM continue to monitor the condition of the coal fire to determine the effectiveness of the extinguishing agent it used and the need, if any, of additional abatement work.

B. Summary Evaluation of Performance Measure 2(f)

We evaluated the 2(f) performance measure to determine if the AMR Program partnered with other organizations to increase its effectiveness. Programs look for funding sources other than SMCRA's Abandoned Mine Reclamation Fund in part to maximize their efforts to protect public health, safety, and the environment. Receiving funds from other sources enables AML programs to increase the number and types of hazards they abate by making more money available overall or through cost sharing. It also enables them to address hazards on lands owned or managed by various agencies and organizations in cooperative projects that comprehensively address AML problems in designated watersheds and/or mining districts. Partnering with other organizations also enables the Program to proactively reduce AML-related accidents by increasing public awareness of AML hazards.

Our review sample included those efforts that were started, ongoing, or completed between October 1, 2000, and September 30, 2002, in which UAMRP provided or received funding or other resources in cooperation with organizations other than OSM to augment the functions funded in OSM grants.

We concluded that UAMRP partnered with a variety of organizations to increase its program's effectiveness. Our evaluation included 18 partnerships UAMRP entered into with Federal land management agencies and with "other" organizations. Federal agencies included the USDA - Forest Service (USFS) and the USDI - Bureau of Land Management (BLM) and National Park Service (NPS). We reviewed nine partnerships UAMRP had with three Federal agencies, three with each one. One partnership involves the BLM and USFS in different aspects of the same project. The Program's nine "other" partnerships were quite varied. They involved other State agencies, private foundations and interest groups, public schools, a university, private industry, the National Association of Abandoned Mine Land Programs, and a combination of organizations with other Federal or non-Federal entities.

Generally, UAMRP's partnerships with the USFS, BLM, and NPS funded AML hazard abatement and reclamation. The actual funding mechanisms varied somewhat with each agency and sometimes each partnership, as did the extent of Federal involvement in project inventory and planning. Upon completion, the three USFS partnerships will address 171 abandoned noncoal mine hazards in six Utah counties. Under one

ongoing partnership agreement with the BLM, the Program already abated AML hazards associated with 122 portals and 24 vertical openings and reseeded 124 acres in one project. The Program plans to address as many as 90 portals and 60 vertical openings elsewhere in the State under two other agreements with the BLM. Under the NPS partnerships, UAMRP closed 10 portals, addressed one hazardous structure, reclaimed 2 acres of industrial and residential waste, and will address 3 additional portals and one dangerous pile and embankment. The Program's work under one NPS partnership also involves the U.S. Environmental Protection Agency. In that partnership, UAMRP collected and analyzed 120 samples of uranium mine waste dumps. Another partnership involves lands exchanged between the NPS and the Utah State Institutional Trust Lands Administration.

The "other" partnerships we reviewed were varied but generally fell into two groups. One group can be described as informational and educational. Five of the seven partnerships in this group promoted public awareness of abandoned mine hazards. At least two and possibly more of those five also educated the public about the benefits of mining and Utah's mining history. These partnerships involve Utah's public schools, private foundations, and special interest groups, sometimes in conjunction with other State and Federal agencies. UAMRP contributed materials and/or funding to partners who, in turn, used those resources to inform and educate the public. The Program also provided expertise to develop and use those resources. These partnerships represent UAMRP's proactive approach to reducing AML-related accidents as it continues to reclaim abandoned mines.

One of the seven informational and educational partnerships we reviewed involved a study of the effects of UAMRP's bat gates on bats and bats' use of abandoned mines. UAMRP and other AML programs have been installing bat gates as specialized mine closures for several years to protect public safety, bats, and bat habitat. AML programs are increasingly aware of the need to determine if those closures are as beneficial to bats as they are intended to be. UAMRP funded a university for four years with a grant from the State's Endangered Species Mitigation Fund to do such a study. While the data collected are inconclusive, they should contribute to ongoing efforts to develop effective, bat-friendly closures that AML programs can use with confidence.

The second "group" of "other" partnerships involves a project that will reclaim hillside terraces affected by pre-SMCRA coal waste disposal within an active coal mine permit area. Private industry partners will fund construction and UAMRP will use its SMCRA funds to develop the reclamation plan and manage the contract and construction. By partnering with private industry, UAMRP will be able to reclaim this pre-law site at a greatly reduced cost to its SMCRA grant.

C. Summary Evaluation of Performance Measure 3(a)

OSM encourages all grantees to earn income as a means to defray AML Program costs. However, not all State AML programs have sources of program income, nor are they required to actively try to find sources of program income.

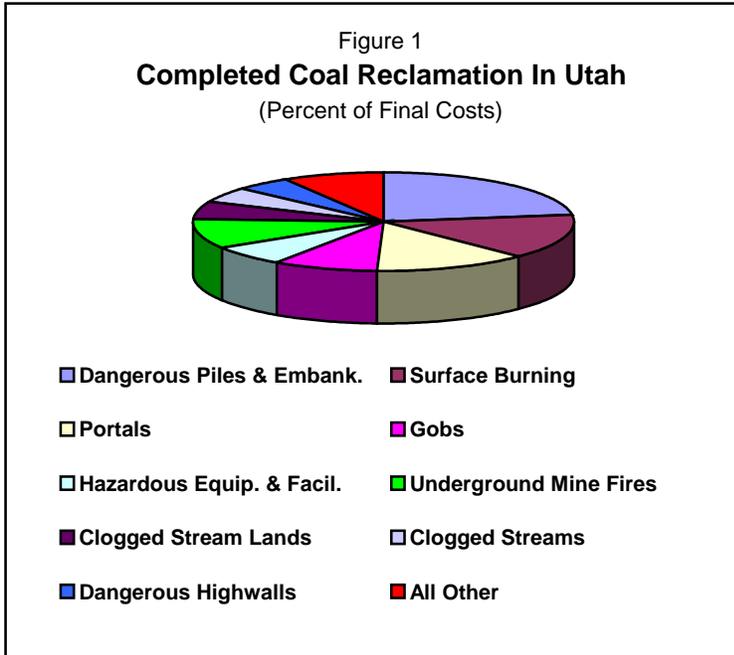
Our purpose for evaluating this performance measure had three components: We determined if UAMRP earns income generated by OSM grant-related activities; we determined if the disposition of program income was in keeping with OSM Policy; and we determined if UAMRP properly maintains adequate financial records of program income receipts and the disposition of program income. The review sample included all financial records of program income resulting from AML grant supported activities for fiscal years 2000, 2001, and 2002 and their sources of income as described by OSM's Federal Assistance Manual (FAM). We met with DOGM staff who have administrative record keeping responsibilities for AML program income. In addition, we reviewed DOGM's grant files for the past three years to determine how much program income was earned.

Our review found that Utah's AMR Program does generate some program income. UAMRP earned a minimal amount of program income in two of the three fiscal years we reviewed mainly through document printing fees. Most print duplication fees are charged when a member of the public, coal industry, or other government entity requests construction project plans, AML bidding information, or copies of administrative rules and other documents for which a duplicating fee is charged. The authority for the Program to collect these fees is provided by Part 2, Access to Public Records, at Section 63-2-203, Fees of the Utah Government Records Access and Management Act, (GRAMA) under Title 63, Chapter 2 of the Utah Administrative Code. A separate schedule of fees, Form 225, is kept which contains current fee rates for printing costs associated with various types of printing jobs.

We concluded that DOGM accounts for and disposes of all program income in a manner that is consistent with OSM Policy. Further, we concluded that DOGM's financial records of program earned income are adequate and are being properly maintained by DOGM accounting staff. Income earned by the Utah AMR Program is deducted from total allowable costs using the "deductive option" as stipulated by the FAM at Chapter 1-420, Section 1-420-20(3), which describes OSM's general policy guidelines. DOGM records any program income that is generated in a given fiscal year in financial logs kept for tracking and auditing purposes. This is in keeping with financial record requirements of the FAM at section 1-420-30. DOGM reports UAMRP's program income on an annual basis to OSM through the Budget Information and Financial Reporting Form OSM-49. Also, DOGM keeps all records of program income earned in their respective grant files where they can be easily accessed and reviewed.

V. Accomplishments and Inventory Reports

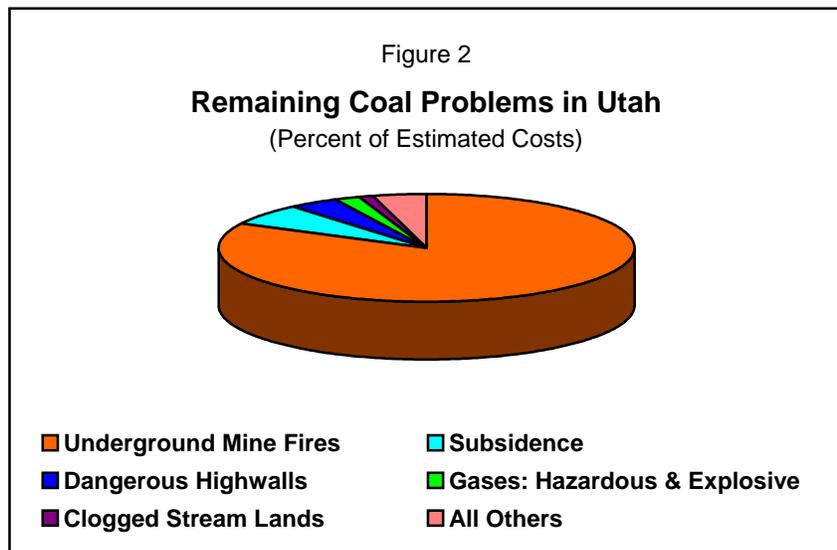
Title IV of SMCRA stresses reclamation of abandoned coal mine-related problems because a fee that active mines pay per ton of coal produced generates the AMR Fund. Appendix 1 lists the abandoned coal problems that Utah reclaimed since its AMR Program began and how much that reclamation cost to date. It also shows the estimated reclamation cost of unreclaimed coal problems in the State.



Utah reclaimed 50 coal projects from the time the Secretary approved its AMR Program to the end of the 2003 evaluation period. Abating ten types of AML problems required about 91.5 percent of the almost \$9.62 million Utah spent to reclaim those coal projects. Those problem types include: Dangerous piles and embankments (22.2%); surface burning (14.2%); portals (12.7%); underground mine fires (9.4%); gobs (8.8%); hazardous equipment and facilities (6.5%); clogged stream lands (5.7%); clogged streams (4.7%); dangerous highwalls (4.6%);

and spoil areas (2.7%). Fifteen other types of problems make up the remaining 8.5 percent of the Utah AMR Program's completed abandoned coal mine reclamation. Figure 1 above shows the Program's reclamation of various problem types and how they compare to each other and all coal reclamation completed in Utah to date.

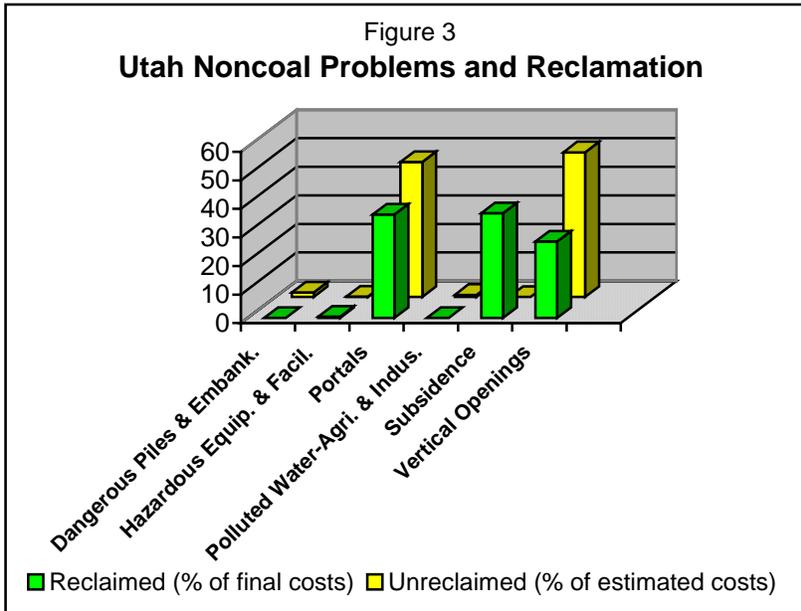
DOG M has made significant progress toward abating the known coal problems in the State since 1983. However, the State has not certified under section 411(a) of SMCRA that it addressed all its known abandoned coal mine problems and OSM continues to fund the Program to abate them. Appendix 1 shows over \$24.7 million in unreclaimed problems are included in the State's



inventory of coal hazards in AMLIS. This is a decrease of \$83,000 in estimated costs of unreclaimed problems since the 2002 evaluation year and a decrease of \$848,000 since the 2001 evaluation year. About 95.8 percent of the estimated cost of unreclaimed problems is associated with five problem types, including: Underground mine fires (82.4%); subsidence (6.4%); dangerous highwalls (3.9%); hazardous and

explosive gases (2%); and clogged stream lands (1.1%). Figure 2 above further illustrates the scope of Utah’s remaining abandoned coal mine problems.

Appendix 2 summarizes the noncoal problems Utah inventoried and the State’s noncoal reclamation accomplishments and costs. Abandoned noncoal problems still number in the thousands and are found throughout the entire State despite the AMR Program’s efforts to address the highest priority hazards over the years. Utah does not have a comprehensive noncoal inventory in AMLIS. Nevertheless, an estimated \$3.63 million are needed to reclaim the noncoal hazards Utah has inventoried in AMLIS, not including work already funded and uninventoried hazards. That is a decrease of about \$460,000 from 2002. Portals, vertical openings, dangerous piles and embankments, hazardous equipment and facilities, and polluted water make up 100 percent of that estimated cost. These abandoned mine features pose immediate and extreme hazards to public health and safety because they are so numerous and widespread and because demographic changes increasingly put people in proximity to them.



The Utah AMR Program continues to respond to the noncoal threat by reclaiming priority one abandoned noncoal mine projects. To date, OSM funded 30 noncoal projects in grants awarded to the AMR Program. The Program reclaimed 28 noncoal projects so far. Appendix 2 shows that Utah’s completed reclamation addressed dangerous piles and embankments, hazardous equipment and facilities, portals, subsidence, and

vertical openings at a cost of over \$5.64 million. Presently, portals and vertical openings appear to pose the most severe and immediate noncoal threat to public safety in Utah and many Rocky Mountain States. The AMR Program has aggressively addressed Utah’s noncoal problems by closing at least 2,991 portals and vertical shafts, an increase of 222 closures in the last year. Figure 3 above illustrates the percentage each category of inventoried, unreclaimed noncoal problem comprises of Utah’s estimated unfunded reclamation costs. It also shows how much the Program’s completed reclamation of the same type of noncoal problems cost to date.

Appendix 1

Utah Abandoned 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	8 acres	\$12,500	0	0	4 acres	\$154,544	12 acres	\$167,044
Clogged Streams	0.2 mile	\$10,000	0	0	14.1 miles	\$455,376	14.3 miles	\$465,376
Clogged Stream Lands	10 acres	\$271,000	6 acres	\$525,000	9 acres	\$546,126	25 acres	\$1,342,126
Dangerous Highwalls	5,000 feet	\$970,000	0	0	3,425 feet	\$444,871	8,425 feet	\$1,414,871
Dangerous Impoundments	0	0	0	0	1 (count)	\$14,600	1(count)	\$14,600
Dangerous Piles & Embankments	6.7 acres	\$92,000	0	0	148 acres	\$2,133,520	154.7 acres	\$2,225,520
Dangerous Slides	0	0	0	0	3 acres	\$29,825	3 acres	\$29,825
Equipment & Facilities	12 (count)	\$19,300	0	0	64 (count)	\$47,850	76 (count)	\$67,150
Gases: Hazardous & Explosive	6 (count)	\$501,000	0	0	19 (count)	\$55,000	25 (count)	\$556,000
Gobs	58 acres	\$159,500	0	0	255 acres	\$846,349	313 acres	\$1,005,849
Highwall	0	0	0	0	550 feet	\$1	550 feet	\$1
Hazardous Equipment & Facilities	13 (count)	\$151,000	0	0	154 (count)	\$627,752	167 (count)	\$778,752
Haul Road	0.5 acre	\$5,000	0	0	5 acres	\$43,847	5.5 acres	\$48,847
Industrial / Residential Waste	5 acres	\$22,000	0	0	9 acres	\$76,800	14 acres	\$98,800
Portals	41 (count)	\$154,800	0	0	510 (count)	\$1,223,722	551 (count)	\$1,378,522
Pits	3 acres	\$900	0	0	8 acres	\$23,266	11 acres	\$24,166
Polluted Water: Agric. & Industrial	1 (count)	\$50,000	0	0	2 (count)	\$54,700	3 (count)	\$104,700
Subsidence	183 acres	\$1,575,000	1 acre	0	6 acres	\$109,796	190 acres	\$1,684,796
Spoil Area	28.3 acres	\$174,034	0	0	55 acres	\$264,484	83.3 acres	\$438,518
Surface Burning	8 acres	\$170,000	0	0	38.8 acres	\$1,368,636	46.8 acres	\$1,538,636
Slurry	0	0	0	0	1 acre	\$2,830	1 acre	\$2,830
Slump	7 acres	\$16,000	0	0	16 acres	\$24,143	23 acres	\$40,143
Underground Mine Fire	326 acres	\$20,365,071	10 acres	\$163,000	27 acres	\$903,277	363 acres	\$21,431,348
Vertical Openings	1 (count)	\$2,433	0	0	23 (count)	\$49,243	24 (count)	\$51,676
Water Problems	1.5 gal/min	\$4,500	0	0	20.3 gal/min	\$117,085	21.8 gal/min	\$121,585
UTAH TOTAL COSTS		\$24,726,038		\$688,000		\$9,617,643		\$35,031,681

* This table is based on a Problem Type Unit and Cost Summary Report from the Abandoned Mine Land Inventory System as of 08/12/2003

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

Appendix 2

Utah Abandoned 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 Piles & Embankments	60 acres	\$54,000	78 acres	77,170	1 acre	\$1,400	139 acres	\$132,570
Hazardous Equipment & Facilities	2 (count)	\$1,500	2 (count)	\$1,243	26 (count)	\$23,565	30 (count)	\$26,308
Portals	1,039 (count)	\$1,714,500	46 (count)	\$67,169	2,117 (count)	\$2,041,831	3,202 (count)	\$3,823,500
Polluted Water: Agri. & Indus.	1 (count)	\$25,000	0	0	0	0	1(count)	\$25,000
Subsidence	0	0	0	0	178.2 acres	\$2,066,049	178.2 acres	\$2,066,049
Vertical Openings	943 (count)	\$1,838,500	58 (count)	\$138,784	874 (count)	\$1,510,950	1,875 (count)	\$3,488,234
UTAH TOTAL COSTS		\$3,633,500		\$284,366		\$5,643,795		\$9,561,661

* This table is based on a Problem Type Unit and Cost Summary Report from the Abandoned Mine Land Inventory System as of 08/12/2003