OFFICE OF SURFACE MINING

RECLAMATION AND ENFORCEMENT

Annual Evaluation Summary Report

for the

Regulatory Program

Administered by the State

of

COLORADO

for

Evaluation Year 2007

(July 1, 2006 through June 30, 2007)

September 7, 2007

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The following list of acronyms is used in this report:

BLM	Bureau of Land Management
CY	Calendar Year
DFD	Denver Field Division
DRMS	Division of Reclamation, Mining, and Safety
EY	Evaluation Year
GIS	Geographic Information System
IMCC	Interstate Mining Compact Commission
NTTP	National Technical Training Program
OSM	Office of Surface Mining
SMCRA	Surface Mining Control and Reclamation Act of 1977
TIPS	Technical Innovation and Professional Services Program
CMA	Colorado Mining Association
USFS	United States Forest Service
WIEB	Western Interstate Energy Board
WR	Western Region
WRTT	Western Region Technology Transfer

I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the United States Department of the Interior. SMCRA provides authority to OSM to oversee the administration of and provide Federal funding for State regulatory programs that have been approved by OSM as meeting the minimum standards of SMCRA. This report contains summary information regarding the Colorado Department of Natural Resources, Division of Reclamation, Mining, and Safety's (DRMS) implementation of the approved Colorado program. Federal oversight of DRMS is conducted by the OSM, Western Region, Denver Field Division (DFD).

II. Overview of the Colorado Coal Mining Industry

Coal underlies 30,000 square miles or 28 percent of the State. Colorado is eighth in the United States in the demonstrated reserve base of coal (16.96 billion tons). The coal reserves are three-quarters bituminous and nearly one-quarter subbituminous. There are also small amounts of lignite and anthracite, but these are not currently being developed commercially.

Since the commencement of mining in 1861, mines in Colorado have produced over 1 billion tons of coal. Production in evaluation year 2007 (EY 2007) was 36,534,554 million tons ranking Colorado 6th among coal producing states (Table 1). Coal production in Colorado has risen dramatically in the last decade, primarily due to an increase in underground mining operations utilizing the longwall mining method.

The majority of Colorado's demand for electricity is met by coal-fired power plants. Most of the coal used by these plants is mined in Colorado. Colorado coal is low in sulfur, ash, mercury, and trace elements. The majority of this Colorado-produced 'clean air compliance coal' is shipped by railroad to Texas, Utah, and four states in the South and Midwest, where it is blended and burned with lower quality coal.(Colorado Mining Association)

As of June 30, 2007, there were 45 inspectable units (Table 2). For these operations permitted acreage totaled 168,600 acres (Table 2) and bonded acreage approved for disturbance totaled 18,646 acres (Table 5). Of the 10 operations that were actively producing coal as of June 30, 2007, 7 were underground mines, and 3 were surface mines. Five of the 7 underground mines use the longwall mining method, and two use the room-and-pillar mining method.

The Federal government owns approximately 8.8 million acres of coal in the State. Colorado's coal mining industry has a significant impact on local and State economies. The mines employ about 2,246 staff. In 2006, they paid $64.4 million in federal and state royalties, $28.4 million into the United Mine Workers of America Combined Benefit Fund (Funding mandated by SMCRA to provide health benefits to underground coal miners.), $6.9 million into the abandoned mined land reclamation fund (Funding mandated by SMCRA for the reclamation and restoration of land and water resources adversely affected by past coal mining.), $10.3 million in property taxes, and $9.2 million in severance and sales taxes. Much of this funding is used to support local and State governments and projects (Colorado Mining Association, CY 2006, Coal Production and Employment).

Differences in elevation throughout the State create many climatic zones in Colorado coal country. Annual precipitation averages less than 8 inches in some areas in extreme western Colorado, to 30 inches in certain mountainous areas. The growing season can be up to 169 days in length at some sites, but is usually much less, particularly in the mountainous regions of the Yampa River Basin where many of the mines have historically operated.

III. Overview of the Public Participation Opportunities in the Evaluation Process and Colorado Program

A. Oversight Process

Each year OSM and DRMS jointly evaluate DRMS's program for regulating coal mining. They determine how effective DRMS is in ensuring that coal mine reclamation is successful, in preventing offsite impacts, and in providing service to its customers. Evaluation parameters of these three, key areas are further discussed in OSM Directive REG-8 "Oversight of State Regulatory Programs". OSM Directive REG-8 was revised effective December 21, 2006.

During each year via an annual mailing, the Team solicits input from coal mining stakeholders on topics that OSM and DRMS should evaluate, and the Team also requests comments on the oversight evaluation process and past OSM evaluation reports. The Team has also periodically held advertised public meetings in all of Colorado's coal producing regions.

On May 3, 2006, the Team mailed outreach letters to coal mining stakeholders (State, Federal, and local governmental agencies, coal mine permittees, environmental groups, consulting firms,

and coal mining trade groups), soliciting input for topics to evaluate during EY 2007, and soliciting any questions or comments on previous oversight reports or the OSM / DRMS oversight process. The Team received one response from the United States Forest Service (USFS) office in Delta, Colorado. The USFS respondent recommended that the Team consider evaluating DRMS's regulatory program compatibility with Federal land use plans (for example a National Forest's Land and Resource Management Plan administered by the USFS, or a Bureau of Land Management-BLM-Field Office Resource Management Plan).

In response to the recommendation, the Team arranged a meeting on September 20, 2006, with the commenter, the DRMS Coal Program Supervisor, and 1 Team member to discuss USFS concerns with coal mine development projects. The current coal mine development projects that could potentially affect National Forest lands managed by the Delta office are the surface effects of underground longwall mining located on the North Fork of the Gunnison River. The commenter updated meeting participants on USFS requirements to formally request the DRMS and Colorado Governor's Office joint review of the revised National Forest Plan(s) in their jurisdiction area. The commenter also updated meeting participants on some of the specific provisions proposed for the revised National Forest Plan(s) related to potential surface affects of underground mining activity located on the North Fork of the Gunnison River.

Mr. Berry indicated he was available to facilitate this review process at USFS request. The revised National Forest Plan(s) have not been submitted to DRMS for review as of June 30, 2007. The USFS also provided meeting participants with the appropriate staff contacts for DRMS and DFD actions within the Delta office's jurisdiction area.

B. Colorado Program

1. Mined Land Reclamation Board Meeting

The Colorado Mined Land Reclamation Board is a multi-interest citizen board which establishes the regulations, standards and policies that guide the Division of Reclamation, Mining and Safety. The Board was created in 1976 by the Colorado General Assembly. Members are appointed by the Governor and confirmed by the legislature, serving terms of 4 years. The composition of the Board is established by the Colorado Mined Land Reclamation Act. The Colorado Coal Program acts independently of the Board on nearly all decisions.

The Board:

Adjudicates violations and permit decisions after all administrative appeals at the Program level have been exhausted;
Revokes permits and forfeits bonds; and
Promulgates rules.

2. Education and Community Outreach

DRMS made presentations to local university and school classes, professional organizations, Scout troops, and adult education classes. Presentations focused on the regulatory program and associated reclamation issues.

All DRMS staff had an opportunity to work in the DRMS booth at the Colorado State Fair and help educate visitors about mining and reclamation. Over 70,000 people visited the Natural Resource Building.

3. Information and Technology Exchanges

DRMS participates in the OSM steering committees for the National Technical Training Program, the Technical Innovation and Professional Services program, Western Regional Technology Transfer Team, and National Technology Transfer Team.

DRMS staff attended the Western Regional Technology Transfer team's annual meeting in Salt Lake City and made a presentation on the Coal Program's application of geospatial technologies and mobile computing in the DRMS inspection and permitting programs.

DRMS exchanged information with other states through participation in the Interstate Mining Compact Commission (IMCC) fall annual meetings, and as a representative of the reclamation committee for the Western Interstate Energy Board (WIEB). At the IMCC's "Benchmarking Roundtable Discussion on the Regulation of Subsidence Impacts from Mining", DRMS staff provided an overview of subsidence regulations in Colorado and provided a case study on the public safety protection measures required by DRMS at the Foidel Creek Underground Mine.

IV. Accomplishments, Issues, and Innovations

A. Accomplishments

1. Final Bond Releases

DRMS fully releases a reclamation performance bond (phase III bond releases) when a permittee meets or exceeds all DRMS program requirements on the land that it disturbed.

During EY 2007 DRMS granted final bond release for all land disturbed by one surface mine. The total number of permitted sites for which Colorado has approved full and final Phase III bond release under its permanent regulatory program is now 17.

For further discussion of successful reclamation on permitted mines, see following Section V. B Reclamation Success.

2. DRMS and Colorado Mining Association Reclamation Awards

To encourage innovative reclamation techniques and to recognize the companies that have

exceeded the regulatory requirements for environmental protection and reclamation success, DRMS participated in the award process for DRMS's and Colorado Mining Association's Annual Reclamation Awards.

Seneca Coal Company received the Large Surface Mine Excellence in Reclamation Award for reclamation conducted at the Seneca II-W Mine and the Yoast Mine. The company was recognized for backfilling and grading 352 disturbed area acres, for using site-specific geotechnical evaluations to maximize stability of reclaimed steep slopes, for taking extra measures to restore aspen ecological communities, and for installing several strategically-placed watering ponds for livestock and wildlife use.

Mountain Coal Company received the Large Underground Mine Excellence in Reclamation Award for reclamation conducted at the West Elk Mine. The company was recognized for minimizing potential impacts to the environment during its methane drainage well drilling operations, for using innovative techniques in the sealing of its methane drainage wells, and for using innovative techniques in reclaiming a steep section of a US Forest Service access road.

Energy Fuels Mining Company received an Excellence in Achieving Final Reclamation and Phase III Bond Release Award for reclamation performed at the Raton Creek Mine. The company was recognized for accomplishing the approved post-mining land use of rangeland and wildlife habitat in an area of the state that suffered significant drought in 2002, and for coordinating landowner grazing plans in conjunction with its revegetation efforts and vegetation success sampling.

Hayden Gulch Terminal Inc. received an Excellence in Achieving Final Reclamation and Phase III Bond Release Award for reclamation performed at the Hayden Gulch Mine. The company was recognized for ensuring that Phase III reclamation was achieved over an almost 20-year period, and for using innovative techniques, such as transplanting of mature plants and shrub seedlings, to re-establish native shrubs.

3. Evaluation of Permit Revocation Sites

DRMS continues to evaluate the reclamation status of the permit revocation sites in an effort to terminate jurisdiction. Several of the sites have been seeded for ten years or longer which serves as the liability time period. In the summer of 2006, DRMS conducted revegetation sampling at two of the forfeited mine sites to demonstrate revegetation success.

Based on past DRMS sampling efforts, DRMS has released liability for two sites where the permit was revoked, reducing the number of permit revocation sites to 12.

4. Training

DRMS continued to ensure that its staff is professionally and technically competent. Staff members attended TIPS and NTTP classes covering the Trimble Geo XT, Terrysync and PF

Office: Mobile Computing for Reclamation; AutoCAD; Introduction to Arc GIS for Mining and Reclamation, GPS Analyst for GIS application; Image Analysis for Arc GIS; Excess Spoil Handling; SurvCADD; and Coalfield Communications: How to Get it Right. One staff member attended Navitech Solutions and Autodesk University.

One staff member attended the Instructor's Training Course and then taught the Bonding - Cost Estimation Class. Prior to teaching the class, staff went to Knoxville, TN to help rewrite a portion of the Cost Estimation Class. Another staff member helped re-write the AutoCAD / SurvCADD course during EY 2007.

One staff member also attended OSM's National Interactive Forum on Geomorphic Reclamation in Farmington, New Mexico.

5. Review of Coal Exploration Cost Estimates

In the fall of 2006, the Division began a project to conduct reviews of the reclamation cost estimates of its coal exploration Notices of Intent. In EY07, the Division developed a baseline of 178 coal exploration files, with a baseline performance bond amount for all Colorado coal exploration sites of $3,625,864.56. The Division in EY07 subsequently terminated several files for administrative reasons. The Division also received and approved bond release requests for four of the 178 exploration operations, releasing a total of $265,663 in performance bonds in EY07. This project will carry over into EY08, with the Division anticipating the termination of several more files via operator-requested bond release applications and Division administrative action.

6. Geographic Information Systems Development

As part of the underground mine mapping initiative initially funded by the Mine Safety Health Administration, and followed up with funding from OSM, the DRMS digitized and geo-referenced many of the historic mine maps for the Boulder-Weld coal field. This data is used internally and is available to the public for evaluations.

B. Issues

There are no unresolved issues as of June 30, 2007.

C. Innovations

1. Review of Coal Exploration Cost Estimates

See number 5 above at DRMS accomplishments for EY 2007.

V. Success in Achieving the Purposes of SMCRA

The Team conducted evaluations and inspections in EY 2007 to measure the number and extent of offsite impacts, the percentage of inspectable units free of offsite impacts, the number of acres that have been mined and reclaimed and / or meet the bond release requirements for the various phases of reclamation (reclamation success), and DRMS's effectiveness in providing customer service. These evaluations and inspections are summarized in Section VII, Evaluation Topics.

Reports of the oversight evaluations and inspections conducted during EY 2007 are available for review in the DFD office.

A. Offsite Impacts

An "offsite impact" results from a surface coal mining and reclamation activity or operation that causes a negative effect on resources (people, land, water, structures) outside the area authorized by the permit for conducting mining and reclamation activities. The applicable State program must regulate or control the mining or reclamation activity, or the result of the activity, causing an offsite impact. In addition, the impact on the resource must be substantiated as being related to a mining and reclamation activity, and must be outside the area authorized by the permit for conducting mining and reclamation activities (OSM Directive, REG-8).

Table 4 shows the number and type of offsite impacts that the Team documented as having occurred during EY 2007, for both permitted sites and bond forfeiture sites. DFD reviews monthly DRMS inspection reports and enforcement actions which are the primary source of identifying offsite impacts in Colorado. DFD also conducts complete, joint, oversight inspections with DRMS, and oversight evaluation topics are selected by the Team to analyze offsite impacts occurring during the evaluation year. The Team identified 2 offsite impacts on permitted sites; and 3 offsite impacts on bond forfeiture sites during EY 2007 (Table 4).

1. Permitted Sites

The Team assessed whether offsite impacts had occurred on each of the 33 permitted coal mining operations (as of June 30, 2007) in Colorado. As noted above under offsite impacts, DFD reviews monthly inspection reports and enforcement actions provided by DRMS which are the primary source for determining offsite impacts during the evaluation year. The Team discusses inspection and enforcement activities during routine, monthly Team meetings.

The Team evaluated the following on-the-ground observations on permitted sites: 135 DRMS complete inspections; 258 DRMS partial inspections (Table 9); 5 OSM and DRMS joint complete oversight inspections; and 3 OSM / DRMS joint field evaluations for the recently-regraded lands surface water runoff control evaluation. (The 5 complete inspections and 3 field evaluations are included in the DRMS complete and partial inspection totals shown).
Based on the above, and DFD monthly review of all DRMS inspection reports and enforcement actions, the Team finds that DRMS has met or exceeded the required inspection frequency on all permitted sites.

Two total offsite impacts occurred, one at each of 2 separate mine sites, both underground mining operations. Both offsite impacts were hydrological impacts that affected a water resource. One offsite impact was a minor impact to a water resource; and 1 offsite impact was a moderate impact to a water resource (Table 4). DRMS issued a Notice of Violation (NOV) for each offsite impact. The two NOV's abatement requirements and corrective measures were implemented as required in a timely manner by each permittee, and the NOV's were terminated. No environmental damage to water resources was recorded as a result of the 2 offsite impacts

2. Bond Forfeitures and Revoked Permit Sites

The Team's initial evaluation of offsite impacts from Colorado's 14 bond forfeiture and permit revocation sites occurred in EY 2000. That evaluation documented 3 minor, hydrology offsite impacts to a land resource due to erosion and sedimentation caused by uncontrolled surface water runoff from 3 separate bond forfeiture sites

The Team initiated a two year evaluation beginning in EY 2004 to again determine offsite impacts from the fourteen bond forfeiture and permit revocation sites. Seven of the fourteen sites were evaluated in the field during EY 2004, and the remaining 7 sites were evaluated in the field during EY 2005. Seventy eight percent of the bond forfeiture and permit revocation sites (11 of 14) were free of offsite impacts during each of the following evaluation years: EY 2005, EY 2004, EY 2003 (9 month evaluation period),EY 2002, and EY 2001. Findings from this 2 year evaluation was reported in the EY 2005 annual evaluation summary report for Colorado and is available for review at the DFD.

In EY05, after 2 years of successful revegetation sampling, DRMS terminated jurisdiction on the New Pryor Mine. In EY06, a permit revocation site known as the La Plata No. 1 Mine, reclaimed by a bank holding the mine's bond, achieved successful reclamation and was released by DRMS from full Phase III liability. Following these actions, the number of Colorado's bond forfeiture sites and permit revocation sites was reduced from 14 to 12.

For EY 2006, 75 percent of the bond forfeiture and permit revocation sites (9 of 12) were free of offsite impacts. That evaluation documented 3 minor, hydrology offsite impacts to a land resource due to erosion and sedimentation caused by uncontrolled surface water runoff from 3 separate bond forfeiture sites.

For EY 2007, DRMS conducted 31 complete, and 31 partial inspections on these 12 mines. DRMS documented 3 minor, hydrological, offsite impacts to a land resource on 3 separate bond forfeiture sites. For EY 2007, 75 percent of the bond forfeiture and permit revocation sites (9 of 12) were free of offsite impacts (Table 4).

3. Recently Re-graded Lands – Surface Water Runoff Control

This topic was selected by the joint DRMS/OSM Oversight Team to evaluate whether DRMS is implementing its approved regulatory program with respect to preventing or minimizing offsite

impacts from recently re-graded lands. Hydrologic balance protection is an important performance measure in the 1996 Oversight Agreement (revised January 3, 2005). Sediment control is a basic requirement for all lands within the disturbed area. The purpose of the sediment control structure(s) is to prevent off-site impacts. This topic will evaluate hydrologic balance protection and offsite impacts from recently re-graded lands. All of the lands that have been re-graded within the past evaluation year on the selected mines will be considered.
Results of this evaluation are found at in Section VII, B. Recently Re-graded Lands – Surface Water Runoff Control.

4. Joint, Complete, Oversight Inspections

Each year the Team evaluates offsite impacts and reclamation success on joint, complete, oversight inspections selected by the Team to reflect current Colorado coal mining conditions, and coal mining regions. Reports detailing the 5 oversight inspections conducted during EY 2007 are available for review in the DFD office. No offsite impacts were identified during the oversight inspections. Reclamation success at these 5 mines was also evaluated (in part) and documented during each inspection. No problems with reclamation success were identified at the mines inspected.

B. Reclamation Success

1. Permitted Sites

Each evaluation year the Team compiles reclamation information for all operations that DRMS has permitted under the Colorado Regulatory Program since its approval in December 1980. This reclamation information is derived from annual reclamation reports submitted to DRMS by all permitted coal mine operations, and evaluation year bond release data contained in DRMS's permitting database. The annual reclamation reports show mining and reclamation data based on the calendar year, and is reflected on the EY 2007 Colorado Reclamation Status Table.

The DRMS permitting database is queried for bond release acreages, and those acreages are presented as EY 2007 data on the reclamation status table. For the permitted and bonded operations the Team measures reclamation success by tracking the bonded, disturbed acreage that has received bond release from DRMS during the evaluation year. OSM also conducts oversight inspections and the Team selects evaluation topics that focus on reclaimed lands.

During EY 2007, DRMS granted phase I bond releases on 2,272 acres, phase II bond releases on 9 acres, and phase III bond releases on 9 acres (Table 5).

Using the data from the EY 2007 Colorado Reclamation Status Table, the Team can accurately determine acreage in the following categories: disturbed acreage, acreage backfilled and graded, acreage topsoiled and seeded, acreage seeded for 10 years or longer, and Phase I, II, and III bond

release acreage. This table is divided into three blocks that list the permitted mines - active, temporarily inactive, and inactive operations (all permitted operations or 33 mines); terminated permits or operations for which DRMS has released phase III bonds (17 mines); and revoked permits, the 12 mines where the permit has been revoked and the bond money was forfeited.

Review of data in the EY 2007 Colorado Reclamation Status table indicates 61% (13,036 of 21,315 acres) of all the acreage disturbed on active, temporarily inactive, and inactive operations (all permitted operations) have been backfilled, graded, topsoiled, and seeded. Of the 21,315 total disturbed acres 7,690 acres consist of long-term facilities and active mining areas that are not subject to contemporaneous reclamation requirements during any given evaluation year, and thus not eligible for any phase of bond release. Several operations have not submitted bond release applications for lands that have been reclaimed 10 years or longer.

Since the Colorado Permanent Regulatory Program approval in December 1980, DRMS has granted phase III bond release on a total of 7,573 acres. This successfully reclaimed acreage is 30% percent of the total disturbed acreage under the Colorado permanent regulatory program (7,573 of 25,423 acres that includes all permitted mining operations, and full Phase III bond release mines, but not including bond forfeiture sites).

EY 2007 oversight inspections, and topic evaluations completed by the Team did not identify problems with contemporaneous backfilling and grading, or completed reclamation evaluated. The ratio of total phase III bond release acreage to total disturbed acreage in Colorado is higher than other comparable western States.

OSM concludes that reclamation of mined land in Colorado is successful based on the Team's review of the coal permittee's annual reclamation reports, DRMS's permitting database, the EY 2007 Reclamation Status Table and DRMS's routine monthly inspections that include reclamation success evaluations of the reclaimed lands.

2. Bond Forfeitures and Revoked Permit Sites

In EY 2005 after 2 years of successful revegetation sampling DRMS terminated jurisdiction on the New Pryor Mine. In EY 2006 a permit revocation site (La Plata Mine) reclaimed by the bank holding the bond achieved successful reclamation, and DRMS released the bank from full Phase III liability.

The Phase III bond release application from the bank was processed and approved in accordance with Colorado Rule 3.03 "Release of Performance Bonds". Both these sites were removed from the Colorado inspectable units list in Table 2. This reduced total bond forfeiture and permit revocation sites in Colorado to 12.

During EY 2007 DRMS continued to evaluate the 12 bond forfeiture sites, for reclamation success that will lead to termination of jurisdiction.

3. Compliance with Post-Mining Topography

The Team also evaluated reclamation success in EY 2007 via a compliance with post-mining topography evaluation. Backfilling, grading and reestablishment of the approximate original contour at surface coal mines is an important performance measure in the 1996 Oversight Agreement (revised January 3, 2005).

This topic evaluated the permittee's compliance with the backfilling and grading plan, including contemporaneous reclamation scheduling, and reestablishment of the approximate original contours approved in the mining and reclamation plan. Results of the compliance with post-mining topography evaluation are found in Section VII, B. Compliance with Post-Mining Topography.

4. Joint, Complete, Oversight Inspections

Each year the Team evaluates reclamation success and offsite impacts on joint, complete, oversight inspections. Reports detailing the five inspections conducted during EY 2007 are available at the DFD. No problems with reclamation success or offsite impacts were identified as a result of these five inspections.

C. Customer Service

During EY 2007, the Oversight Team evaluated the Colorado regulatory program requirement for DRMS to provide written notification to operators of the need to file a complete application for a 5-year permit term renewal at least 180 days before the expiration of the existing permit in compliance with Section 2.08.5(2) (a) of the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. DRMS shall mail to the operator notice of the need to renew such permit at least 90 days prior to the final date for the filing of the permit renewal.

The primary purpose of the evaluation was to determine whether DRMS had mailed a permit renewal notification to the applicable coal mine at least 270 days prior to the permit expiration date as required by Rule 2.08.5(2)(a) Right of Successive Renewal.

DFD evaluated whether DRMS provided timely permit renewal notifications for the nine mines evaluated. For a discussion of this evaluation, see section VII, C Division Notification to Permittees of Need to Renew Permits.

VI. OSM Assistance

For the 1 year grant period starting January 1, 2007, OSM funded an Administrative and Enforcement grant to the Colorado program in the amount of $ 1,903,776 (Table 8). Through a Federal lands cooperative agreement, OSM reimburses DRMS for permitting, inspection, and other activities that it performs for mines on Federal lands.

Because most of the acreage mined for coal in Colorado is on Federal lands (Table 2), 79 percent of DRMS total program costs are funded by OSM. For the 1 year grant period starting January 1, 2007, OSM also funded a grant to the Colorado Abandoned Mine Land (AML) Program in the

amount of $ 2,419,708. This amount represents 100 percent funding for the AML Program (Table 8).

OSM's / TIPS supported DRMS by providing training and software upgrades. Eighteen training instances (17 students) were recorded for DRMS employees.

The DRMS staff continues to participate in sharing their technological advances, exchanging electronic information with stakeholders, and developing a GIS.DRMS staff made significant contributions to technology transfer this year by attending, participating, and sharing their expertise. DRMS attended the WRTT meeting and gave a presentation on mobile computing applications for bond release.

DRMS participated in a GeoXT course held specifically for DRMS staff. The course was held at the OSM, Western Region Office, TIPS training center in Denver. OSM provided technical assistance to DRMS focusing on mobile computing and bond release. DRMS also met with OSM to discuss data collection methods and techniques to improve current processes.

OSM's Technical Librarian filled three reference requests and provided 30 journal article reprints to DRMS staff. OSM's Technical Library web site can be accessed at www.ott.wrcc.osmre.gov
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VII. Evaluation Topics

Each year the Team selects specific evaluation topics to determine whether DRMS is effective in preventing or minimizing offsite impacts, ensuring reclamation success, and providing customer service. Following are descriptions and findings of the evaluations conducted during EY 2007. Evaluation reports for these topics are maintained at the DFD.

A. Recently Re-graded Lands-Surface Water Runoff Control

Basis for Topic Selection

This topic was selected by the joint DRMS / OSM Oversight Team to evaluate whether DRMS is implementing its approved regulatory program with respect to preventing or minimizing offsite impacts from recently re-graded lands. Hydrologic balance protection is an important performance measure in the 1996 Oversight Agreement (revised January 3, 2005).

Sediment control is a basic requirement for all lands within the disturbed area. The purpose of the sediment control structure(s) is to prevent off-site impacts. This topic will evaluate

hydrologic balance protection and off-site impacts from recently re-graded lands. All of the lands that have been re-graded within the past evaluation year on the selected mines will be considered.

Measurements

Evaluation of the following Colorado Rules were used to determine and measure offsite impacts:

Colorado Rule 4.05.1(1) Hydrologic Balance requires that "Surface and underground mining activities shall be planned and conducted to minimize disturbance of the prevailing hydrologic balance in both the mine plan and adjacent areas, and to prevent material damage to the hydrologic balance outside the permit area in order to prevent long-term adverse changes in the hydrologic balance (111(1) (m) and 120(2) (j)."

Colorado Rule 4.05.1(4) Hydrologic Balance requires that "Operations shall be conducted to minimize water pollution and, where necessary, treatment methods shall be used to control water pollution 120(2) (j)."

Colorado Rules 4.05.2(1) & (2) Water Quality Standards and Effluent Limitations require that:

(1) All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, shall be passed through a sedimentation pond, a series of sedimentation ponds, or other treatment facilities before leaving the permit area; and

(2) Sedimentation ponds and other treatment facilities for surface drainage from the disturbed area shall be maintained until removal is authorized by the Division and the disturbed area has been revegetated and stabilized, the untreated drainage from the disturbed area ceases to contribute additional suspended solids above natural conditions, and the quality of untreated drainage from the disturbed area meets the State and Federal water quality standard requirements applicable after the sedimentation ponds and treatment facilities are removed, if any, for receiving streams.

EY 2007 Evaluation Findings

The Team evaluated recently re-graded lands at 3 surface coal mining and reclamation operations in Colorado during EY 2007. We used the 5 year reclamation schedule in the approved permit; annual reclamation reports for each mine submitted by the permittee; recent aerial photographs; and post mining as-built topography maps to determine the recently re-graded areas that were completed during the last evaluation year (EY 2006).

On 1 of the 3 mines we also evaluated re-graded and reclaimed lands that were completed prior to the EY 2006 evaluation year. We used surface water control plan maps to determine how and where runoff from the recently re-graded areas was being contained and / or controlled on the permit area; and we evaluated sediment pond discharges that eventually flowed off the permit area.

Our field evaluations at all 3 mines were conducted jointly (DRMS and OSM representatives) and we determined that each mine was in compliance with their contemporaneous grading

requirements as approved in their reclamation schedule.

No excessive erosion was noted on the re-graded areas whether they were spoil or topsoiled. Each mine used sedimentation ponds as their primary surface water runoff containment and control structures. Sediment ponds were located and functioning as designed. Sediment pond discharges evaluated were in compliance with state and federal effluent limitations.

The Team finds that DRMS is preventing or minimizing disturbance to the prevailing hydrologic balance in both the mine plan and adjacent areas on these 3 mines; and preventing or minimizing material damage to the hydrologic balance outside the permit area. DRMS is successfully implementing their approved rules for hydrologic balance protection and water quality standards noted above.

B. Compliance with the Post Mining Topography approved in the DRMS Mining and Reclamation Plan

Basis for Topic Selection

This topic was selected by the joint DRMS / OSM Oversight Team to evaluate whether DRMS is implementing its approved regulatory program to help ensure reclamation success through monitoring completed reclamation areas to ensure compliance with the post mining topography approved in the mining and reclamation plan.

Backfilling, grading, and reestablishment of the approximate original contour at surface coal mines is an important performance measure in the 1996 Oversight Agreement (revised January 3, 2005). This topic evaluated the permittee's compliance with the backfilling and grading plan, including contemporaneous reclamation scheduling, and reestablishment of the approximate original contours approved in the mining and reclamation plan.

Reclamation Success Determination

OSM Directive REG-8 states: OSM will evaluate and report on the effectiveness of the State programs in ensuring successful reclamation on lands affected by surface coal mining operations". REG-8 continues: Information will be collected to measure program performance in the following areas:

a. Land form / approximate original contour
b. Land capability
c. Hydrologic reclamation
d. Contemporaneous reclamation

This topic focused on comparing the permittee's approved post mining topography maps (as shown in the mining and reclamation plan) with the permittee's final contour maps of completed reclamation areas.

Measurements

These evaluation findings include the team's field observations at 3 surface coal mines, and evaluated the permittee's compliance with the requirements of the post mining topography approved in the mining and reclamation plan. Colorado Rule 4.14 Backfilling and Grading contains regulatory requirements for post mining topography.

EY 2007 Evaluation Findings

The Team evaluated the permittee's compliance with the requirements of the post mining topography approved in the mining and reclamation plan at 3 surface mines during EY 2007.

The field evaluations at all 3 mines were conducted jointly (DRMS and OSM representatives), and we determined that each mine was in compliance with their post mining topography approved in the mining and reclamation plan as described below.

We evaluated the permittee's compliance with the backfilling and grading plan, including contemporaneous reclamation scheduling, using the 5 year reclamation schedule approved in the DRMS permit; annual reclamation reports for each mine submitted by the permittee; and recent aerial photographs. All 3 mines met or exceeded the backfilling and grading requirements of the contemporaneous reclamation schedule in the approved permit. We evaluated these areas in the field noting which final graded areas had been topsoiled; and also evaluating where permanent drainage channels had been established. No excessive erosion was noted on the re-graded areas and permanent drainage channels evaluated.

We also compared pre mining contour maps and / or pre mining cross sections in the approved permit with the as built post mining topography maps and / or cross sections. Final topography and permanent drainage channel locations closely approximated the pre mine topography (contours and elevations) and drainage channel locations. On one mine, some pre mining slopes were 2:1, and the permittee was able to re-grade the final slopes flatter (less steep) than 2:1 which will enhance reclamation success and post mining land use.

Contemporaneous backfilling, grading, and reestablishment of the approximate original contour at these 3 mines are in compliance with Colorado Rule 4.14 Backfilling and Grading which helps to ensure reclamation success.

The Team finds that DRMS is ensuring compliance with the post mining topography approved in the DRMS mining and reclamation plan. Final slope gradients on one mine were replaced with flatter slopes (not as steep as the pre mining slopes) which will enhance reclamation success and post mining land use.

C. Division Notifications to Permittees of Need to Renew Permits

Basis for Topic Selection

During EY 2007, the Oversight Team evaluated the Colorado regulatory program requirement for DRMS to provide written notification to operators of the need to file a complete application for a 5-year permit term renewal at least 180 days before the expiration of the existing permit in compliance with Section 2.08.5(2) (a) of the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. DRMS shall mail to the operator notice of the need to renew such permit at least 90 days prior to the final date for the filing of the permit renewal.

The Team selected mines for which the "270th Day" preceding the permit expiration date falls between July 1, 2006 and June 30, 2007. The Team reviewed nine notifications to operators of the need to renew permits (approximately 25% of Colorado's permitted mine sites). The primary purpose of the evaluation was to determine whether DRMS has mailed to operators notice of the need to renew their permits at least 270 days prior to the permit expiration dates as required by Rule 2.08.5(2)(a) Right of Successive Renewal.

Proper notification includes a cover letter describing the requirement to renew 5-year permit term applications, and providing the operator with a renewal application detailing the minimum information to be submitted back to the DRMS.

Specifically, the Team accessed DRMS' permitting data base and evaluated whether the notification letters were mailed to operators at least 90 days prior to the final date for the filing of the permit renewal.

The Team found that DRMS provided timely permit renewal notifications for six of the nine mines evaluated. Although three notification letters were late, all of the permit applications were received from operators within the 270-day time frame.

EY 07 Evaluation Findings

OSM finds that DRMS is, for the most part, mailing operators notice of the need to renew their 5-year permit term application at least 90 days prior to the final date for the filing of the permit renewal. DRMS will strive to improve upon the timeliness for mailing such notifications. DRMS is also ensuring that permit applications are received from operators within the 270-day time frame specified in Colorado Rule 2.08.5(2)(a).

Appendix Tabular Summary of Core Data Characterizing the Colorado Program

Tables 1 – 12 present data pertinent to coal mining operations and State and Federal regulatory activities within Colorado. The tables also summarize Colorado funding provided by OSM, and Colorado staffing. Unless otherwise specified, the reporting period for all data is EY 2007 or July 1, 2006, through June 30, 2007.

EY 2007 REG-8 Tabular Data Clarifications for Colorado

When OSM's Directive REG-8, Oversight of State Programs, was revised in December 2006, the reporting period for coal production on Table 1 was changed from a calendar year basis to an evaluation year basis. The change was effective for the 2007 evaluation year. In addition to coal production figures for the current year, Table 1 also contains the coal production figures from annual evaluation reports for the two most recent prior years. Therefore, for the 2007 annual evaluation report, coal production figures are provided for calendar years 2005, 2006 and 2007.

In order to ensure that coal production for these three years are directly comparable, the calendar year production figures from the 2005 and 2006 annual evaluation reports were recalculated on an evaluation year basis (July 1 – June 30). This should be noted when attempting to compare coal production figures from annual evaluation reports originating both before and after the December 2006 revision to the reporting period.

Table 5 The Table 5 format was also changed effective EY 2007 as a result of the OSM Directive REG-8 revision in December 2006. The acreage numbers shown on Table 5 are calculated as follows:

Total Phase I bond released (BR) during EY 2007 is 2,272 acres. This total includes only mines in the active, temporarily inactive, and inactive categories of inspectable units (Permitted mining operations). Inspectable unit categories are shown on the EY 2007 Colorado reclamation status table.

Total Phase II BR during EY 2007 is 9 acres and includes only permitted mining operations (active, temporarily inactive, and inactive mines).

Total Phase III BR during EY 2007 is also 9 acres. These same 9 acres are included in the Phase I and Phase II BR acreage totals shown above and on Table 5.

Total number of new acres bonded during EY 2007 is 1,517 acres. In Colorado this 1,517 acres represents total acres bonded that are approved for disturbance during EY 2007. This number is derived from the DRMS permitting database, and is a different number than total bonded acreage.

Total number of acres bonded at the end of the last review period (EY 2006) was reported as 18,119 acres. In EY 2006 the Team derived the 18,119 acres from total disturbed acreage reported in annual reclamation reports from each permitted mining operation ending December 31, 2005; minus total Phase III acreage released through evaluation year EY 2006 ending June 30, 2006. This number represents only mines in the active, temporarily inactive, and inactive inspectable unit categories, or all permitted mining operations (Cumulative Colorado Program totals since December 1980).

Total number of acres bonded at the end of this review period (18,646 acres ending EY 2007) derives from the DRMS permitting database and represents total acres bonded that are approved for disturbance as described above.

The Colorado Reclamation Status Table was used to determine the bond release acreage sums on Table 5. "Sum of acres bonded that are between Phase I and Phase II bond release as of June 30, 2007" was calculated by subtracting the total Phase II acreage from the total Phase I acreage, and the "Sum of acres bonded that are between Phase II and Phase III bond release as of June 30, 2007" was calculated by subtracting the total Phase III acreage from the total Phase II acreage.

Total acres disturbed during this evaluation year (382 acres ending Calendar Year 2006) derives from the Colorado Reclamation Status Table and represents disturbed acreage reported on annual reclamation reports submitted by each permitted mining operation for the period ending December 31, 2006.

Total acres disturbed at the end of EY 2007 (21,315 total disturbed acres ending Calendar Year 2006) is cumulative since the approval of the Colorado Program in December 1980, and based on annual reclamation reports submitted by each permitted mining operation for the period ending December 31, 2006). The total disturbed acreage of 17,850 is derived by subtracting cumulative Phase III bond release acreage (Phase III release from December 1980 through EY 2007) or 21,315 – 3,465 = 17,850 total disturbed acres.

The EY 2007 Table: "RECLAMATION STATUS OF ALL AREAS DISTURBED UNDER THE COLORADO PERMANENT REGULATORY PROGRAM" contains data from CY 2006 and EY 2007. The CY 2006 data is disturbed acreage, acreage backfilled and graded, acreage topsoiled and seeded, and acreage seeded for longer than 10 years that is derived from annual reclamation reports submitted by each permitted mining operation for the period ending December 31, 2006. The EY 2007 data in the table is bond release acreage released during the evaluation year, and is labeled as EY 2007 data.

These disturbance and reclamation acreages are tracked by DRMS via annual reclamation reports submitted by all permitted mining operations on a calendar year basis. This data represents all lands disturbed and reclaimed by permitted mining operations in Colorado since the approval of the Colorado Permanent Regulatory Program in December 1980.

DRMS also tracks and reports evaluation year bond release data to DFD during routine monthly meetings throughout the evaluation year.

Additional data used by OSM in its evaluation of Colorado's program is available for review in the evaluation files maintained at the OSM / DFD. Contact James Fulton, Chief, DFD, at jfulton@osmre.gov or to (303) 844-1400 x1424.

Online copies of this EY 2007 Colorado Annual Evaluation Summary Report and Tables are available on the OSM web site at http://www.osmre.gov

Once on the OSM web site above, navigate from the list of topics on the left side of the page as follows: Regulation of Active Mines, Reports & Publications, and then to Current state program oversight reports.

EY 2007 COLORADO OVERSIGHT TEAM MEMBERS

Sandy Brown and Daniel Hernandez, DRMS

Henry Austin and Howard Strand, DFD

David Berry DRMS, and James Fulton DFD, Team coaches