

**OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT**

Annual Evaluation Summary Report

For the

Regulatory Program

Administered by the State

Of

Utah

For

Evaluation Year 2004

(July 1, 2003, through June 30, 2004)

September 2004

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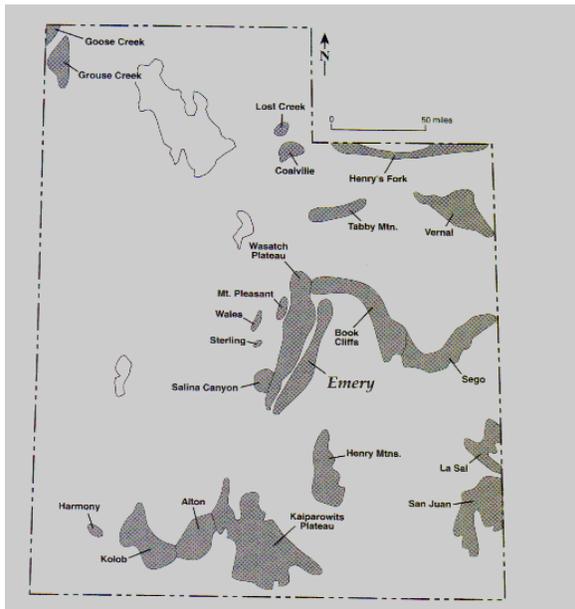
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I. Introduction

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) created the Office of Surface Mining Reclamation and Enforcement (OSM) in the 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 Utah program and the effectiveness of the Utah program in meeting the applicable purposes of SMCRA as specified in section 102. The approved SMCRA program for the State of Utah is administered by the Department of Natural Resources, Division of Oil, Gas and Mining. This annual report covers the period of July 1, 2003, through June 30, 2004. Previous years evaluation periods were from October 1 to September 30 of the following calendar year. Detailed background information and comprehensive reports for the program elements evaluated during the period are available for review and copying at the OSM Denver Field Division office.

II. Overview of the Utah Coal Mining Industry



Coal is found beneath approximately 18 percent of the state of Utah, but only 4 percent is considered mineable at this time. The demonstrated coal reserve base is about 6.4 billion tons, which is 1.3 percent of the national reserve base. The State and Federal governments and Indian tribes hold most of Utah's coal resources.

Utah coal fields are shown on the figure to the left (Utah Geological Survey, Survey Notes, September 1998). In 2004, only the Wasatch Plateau and Book Cliffs coal fields were being actively mined.

Most of the coal is bituminous and is of Cretaceous age. The Btu value is high compared to most other western States. Sulfur content ranges from medium to low in the more important coal fields.

Coal production steadily increased from the early 1970's and peaked in 1996 at 28.9 million tons. Production in 2003 was 23.5 million tons (table 1). The majority of the coal production is produced by underground mining operations, which mostly mine seams exceeding 8 feet in thickness.

As of June 30, 2004, Utah had 27 permitted operations that had disturbed 2,372 acres

(table 6). Utah considered each of these operations to be an inspectable unit. All of these operations were active or temporarily inactive; none were inactive or abandoned (table 2). Of the 27 operations, 11 were underground mines that use the longwall mining method, 10 were underground mines that use the room-and-pillar mining method, one was a surface mining operation that extracts coal in the area of previous underground mining, one was a surface mining that extracts coal from an underground mine refuse pile, and four were coal preparation plants/loadout facilities. Utah also has five bond forfeiture sites with additional 318 acres of disturbance.

Utah's coal mining industry has a direct, significant impact on the local economies where mining occurs. Coal mining currently occurs in Carbon, Emery, and Sevier Counties. In 2003, the most recent year for which figures are available, mining companies, including coal mining companies, respectively employed 742, 648, and 371 persons in Carbon, Emery, and Sevier Counties. In Carbon County, coal mining companies represented four of the fifteen largest employers and one was the third largest employer. In Emery County, the first and second largest employers were coal companies and, coal mining companies represented five of the fifteen largest employers. In Sevier County, a coal mining company was the second largest employer. Coal mining employment dropped slightly in 2003 for all counties. (<http://jobs.utah.gov/wi/regions/county.asp>).

The climate of the Wasatch Plateau and Book Cliffs coal fields is characterized by hot, dry summers and cold, relatively moist winters. Normal precipitation varies from six inches in the lower valleys to more than 40 inches on some high plateaus. The growing season ranges from five months in some valleys to only 2 1/2 months in mountainous regions.

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

Evaluation Process

DOG M and OSM solicit comments or suggestions from persons and groups who may have an interest in coal mining and, specifically, an interest in the oversight process. DOGM posted a notice on its web page requesting suggestions for oversight topics from the public, industry, and environmental groups. As in years past, no comments or suggestions were received.

The team also made a copy of the EY 2003 report available for review on the OSM internet site at www.osmre.gov.

Utah Program

The Utah Board of Oil, Gas, and Mining is the policy making body for DOGM. The Board consists of seven members knowledgeable in mining matters. The Board convened monthly meetings during this evaluation year. The meetings were held in Salt

Lake City, Vernal, and Castledale.

Quarterly throughout the evaluation year, DOGM representatives met with Emery County water user associations, which have a concern that mines may be diminishing and degrading surface water flows. Meeting attendees discussed cumulative hydrologic impact areas for the Emery County mines and DOGM's water monitoring database and water replacement rules. The water users have water monitoring data that they provide to DOGM. To further exchange information, DOGM and the water users agreed to meet semiannually.

IV. Accomplishments, Issues, and Innovations

Accomplishments

DOGM outreached to the public, operators, agencies, and stakeholders by providing opportunities to discuss issues.

- Quarterly throughout the evaluation year, DOGM representatives meet with Emery County water user associations, Emery County Coal Operators, Water Rights, Forest Service, BLM, Emery County Commission and other interested parties to discuss water issues relating to coal mining in the Emery County area. The group discusses cumulative hydrologic impacts, DOGM's water monitoring database, water replacement rules and general issues related to coal mining. The water users provide updates on water availability and systems.
- A Water Quality Database training session was held at the College of Eastern Utah computer lab for coal operators and their consultants.
- DOGM outreaches to the citizens and communities by participating in programs that help to educate the public about mining.
- The Board of Oil, Gas and Mining sponsors an Earth Day Award to recognize operators or individuals for going beyond what is required by regulation to protect the environment while providing society with essential natural resources. The Board recognized the Deer Creek Mine in 2004 for the innovative use of helicopter drilling in coal exploration, Star Point Refuse for the reuse of coal waste, Canyon Fuel as a Good Neighbor Award, and Crandall Canyon Mine for the sealing of air ventilation shafts.
- OSM accepted Utah's nomination of the Castle Gate Hard Scrabble Mine for an Excellence in Surface Coal Mining Reclamation Award. The individual who was responsible for the reclamation was recognized as "The Best of the Best" by OSM for this accomplishment.

- The Division Director is on the University of Utah Mining Engineering Department's ad hoc review committee and the Associate Director of Mining is an adjunct professor teaching a mine permitting and reclamation class.
- The Division maintains information on their web site at <http://www.ogm.utah.gov/>. Information includes: Water Quality Database, announcements of pending rules, mine information, contact information, links, technical information, and an FTP site.

DOGM provides leadership and outreach in the coordination with other state and federal agencies involved in coal.

- DOGM conducts monthly interagency conference calls to coordinate permitting issues. Agencies who participate in these calls include the BLM, State Trust Lands, OSM, US Fish and Wildlife and the Forest Service.

DOGM is in the process of maintaining and developing a database and data processing for electronic permitting. Primary functions and goals of these processes are:

- To create, index and locate electronic documents on DOGM's network that are scanned from existing files or created digitally. This electronic filing system will make documents electronically available to DOGM staff, operators, OSM, other agencies, and the general public.
- To track permitting information and maintain a chronology of permit-related activities including permits, bonds, acreages, mine and permit status, inspections and compliance information.
- To assign and schedule tasks related to permits or projects and to allocate resources (people) to those tasks. Such tasks include new permit reviews, revisions, amendments, reports, bonding and any other project or activity to which DOGM wishes to allocate staff.
- To maintain a relational database of people and companies that associates them to each other, permits, projects and other activities. These data will be used as contact information (names, addresses, phone numbers) for the creation of notification's, mailing lists, inspection reports, fees and other DOGM related work.
- To serve as an intermediate application to link information from other database applications which will enable DOGM to publish maps, reports and provide current and accurate information on DOGM's Web site.
- To provide a core to the development of on-line permit applications and other related DOGM activities over the Internet through a web browser environment.

In June, the Western Interstate Energy Board held a meeting in Salt Lake City with the OSM Director. Each western state was represented. The meeting included discussions about the integration of Government Performance and Results Act (GPRA) figures into the oversight process and reporting on the figures in the annual reports, Abandoned Mine Land reauthorization, funding and other issues effecting western states.

The third New Technologies Implementation Workshop was held in Salt Lake City in June 2004, and was co-sponsored by Utah DOGM showcasing State achievements in GIS and electronic permitting by presenting the following topics:

Utah's Progress in the Electronic Permitting Process,

Solutions to Transfer of Data in a Secure and Safe Manner Using Light-Weight Directory Access Protocol (LDAP),

Application Deployment Using a Thin Client Strategy,

And Water Quality Data Base.

A DOGM staff member presented the summary, key points, and highlights of the data he collected for the Information Management Effort Survey of the seven Western States at an OTT/WRTT New Technologies Implementation Workshop held in Sante Fe, NM. The presentation provided an overview of needs in planning a multi-year Geographic Information System (GIS) initiative support.

Issues

The following is a description of significant regulatory issues DOGM has addressed on mining operations during EY04. Some of the issues may be ongoing and DOGM continues to monitor them.

Water Impacts at the Skyline Mine

Beginning in March 1999, Skyline Mine encountered a series of water inflows estimated at 14,800 gpm that decrease to 9,300 gpm by March of 2003 and now have decrease to 870 gpm by June 2004. Electric Lake reservoir is adjacent to the mine workings and the reservoir water is used for the operation of an 895-megawatt power plant in Emery County. Mine water is discharged to Eccles Creek in Carbon County and Electric Lake in Emery County. The Division is reviewing the Mines monitoring of the discharge to Eccles Creek.

Issues being followed are:

- Has the increase discharge caused channel erosion, scoured macroinvertebrates

or impacted the riparian community? Based on the data made available to the Division as of July of 2004 the Division is able to find that there have been no detrimental impacts associated with the discharge reported to date that would affect fish, macroinvertebrates and wildlife.

- Prior to May 2003, Skyline was exceeding their UPDES daily tonnage limit for TDS (7.1 tons/day) because of the volume of discharges. In May 2003, the UPDES permit was changed to allow a maximum of 500 mg/l 30-day average. Since May 2003, the Mine remains compliant with the UPDES permit requirements.
- To date, no conclusive data has been provided that indicates a direct link between Electric Lake and Skyline mine exists. Current data suggests that if any surface water is being encountered in the Mine, water supplied by the JC fault and mine dewatering wells to Electric Lake is in excess of the water being encountered. The water being supplied by the JC wells is considered a positive impact to Electric Lake.
- The increased mine discharge has had no negative impact on agricultural activity along Mud Creek (Eccles Creek is a tributary to Mud Creek. Instability in the channel banks and increased erosion of the stream channel in reaches of the channel that are not well vegetated are very small in relation to the acreage being pastured and are negligible to the total production of the pastures.
- The CHIA concludes, “No evidence of material damage from the actual mining operations has been found. No probability of material damage from actual or anticipated mining operations has been found.”

Skyline Mine temporarily ceased operations in 2004. The Division continues to monitor the water impacts at the Skyline Mine.

Dugout Canyon Mine Water Discharge

Historic mining activities in Dugout Canyon began in the 1920's and continued through the mid 1960's, leaving abandoned workings close to the current mine workings. In August of 2002, the Mine discovered excessive amounts of water stored in abandoned underground workings located dangerously close to the current operation. MSHA required an emergency dewatering. Water quality discharges of the old workings ranged from 1565 to 1750 gpm, with Total Iron concentrations of 4.5 to 5.0 mg/l and TDS concentrations of approximately 1400 mg/l. TDS loading of the stream ranged from 27,000 to 30,000 lbs/day.

Canyon Fuel Company has been working in conjunction with the Utah Division of Water Quality (UDWQ) to try to mitigate the situation for the past year. In April of 2004, Dugout Canyon Mine applied for an Individual Discharge permit requesting an increase in the 1-ton/day TDS due to the interception of groundwater. The report indicated the

Mine was intercepting groundwater that would otherwise naturally report to Dugout Creek through the alluvium. The request to increase the Mine's allowable TDS limit based on the report was denied by DWQ. The Division of Oil, Gas, & Mining continues to monitor the situation and assess the downstream impacts. The additional water continues to be used beneficially by filling stock ponds and irrigating crops. The rancher downstream has recently planted two additional alfalfa fields.

The Division's current evaluation has determined that the water quality of the discharges is not in excess of anticipated/baseline concentrations that would be normally seen in the region. Water quality data collected in April of 2004 suggests that any variation between the discharge and receiving waters of Dugout creek are buffered/mitigated within 1/3-mile downstream of the mine. The additional water provided by the mine discharge is having a positive offsite impact by providing water to wildlife, livestock, and crops.

SUFCO Mine

In the fall of 2003, the Division approved an amendment to mine under a perennial stream known as the East Fork of Box Canyon. This modification also required a change to the Resource Recovery and Protection Plan approved by the BLM. The Utah Environmental Congress (UEC) appealed the BLM's approval to mine under the perennial stream to the Utah District Court because of alleged violations of the National Environmental Policy Act. The court rejected UEC's claims. UEC appealed this ruling to the US Court of Appeals for the Tenth Circuit. The Division has filed as an amicus party to this action.

White Oak Mine

The White Oak Mine began surface contour mining after underground mining ceased in the fall of 2001. Shortly after surface mining began the Division was notified of the financial problems of the mine's parent company, Lodestar Energy, Inc., and its bonding company, Frontier Insurance Company. Utah, OSM, and other parties have worked since that time to secure reclamation funds from the owners, creditors, bankruptcy trustee and bonding company. A settlement was reached in June of 2004 that will allow the Division to complete the site reclamation.

Innovations

DOGM has been a participant and facilitator in holding regular discussions among various agencies that deal with coal mining in the State of Utah. Mid-level management representatives (Coal Managers Group) of the agencies also meet as needed to iron out any issues that arise in the regular meetings. At the request of, and under a written charter from the Coal Managers Group, a subgroup of the Interagency Coal Group, termed the ICOP (Interagency Coal Operating Procedures) Group, has met numerous times since mid-July of 2003 to draft a Working Agreement describing respective agency responsibilities and authorities for actions on Utah coal operations ranging from the pre-leasing stage through final reclamation. A draft Working Agreement was formulated by

the ICOP group and presented to the mining managers group on December 9, 2003. There were three issues that could not be resolved at the ICOP level so these were forwarded to the Mine Managers Group for further refinement. The Working Agreement that has now been developed is very close to being ready for signatures. The goal of this agreement is to reduce the current duplication that is occurring in coal mine permitting among the agencies.

The Division has employed a summer intern (mining engineering student) to review and study the surface expression of subsidence. The review also collected data to identify why certain subsidence features appear. The field data was overlaid on geologic maps using Arc View software. The conclusion was that geologic formation and topographic position were better predictors of surface subsidence features than overburden thickness. In the past, Division staff has generally used overburden thickness as the primary predictor of subsidence surface expression.

V. Success in Achieving the Purposes of SMCRA As Determined By Measuring and Reporting End Results

To further the concept of reporting end results and measuring Utah's success in achieving the purposes of SMCRA, OSM and DOGM conducted evaluations and inspections whose purpose was 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 meet the bond release requirements for the various phases of reclamation, and DOGM's effectiveness of customer service. Reports, which provide additional details on how OSM and DOGM conducted the evaluations and inspections and took the measurements, are available in the OSM Denver Field Division office.

Offsite Impacts

An "offsite impact" is anything resulting 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.

Table 4 shows the number and type of offsite impacts that OSM and DOGM documented as having occurred during EY 2004.

Sites Where DOGM Had Not Forfeited Reclamation Performance Bonds

OSM and DOGM assessed whether offsite impacts had occurred on each of the 22 permitted operations that existed at some time during the evaluation period and for which DOGM had not forfeited reclamation performance bonds. OSM and DOGM did so through the following 303 on-the-ground observations: 111 DOGM complete inspections including 4 OSM and DOGM joint, complete inspections; and 192 DOGM partial inspections.

OSM and DOGM found incidents where one mine caused a land-related offsite impact. The impact was classified as a minor encroachment impact. Ninety one percent of the permitted operations (20 of 22) were free of offsite impacts. In comparison, OSM and DOGM found 96, 93, and 85 percent of the mines free of offsite impacts in EY's 2000, 2001, and 2002.

Sites Where DOGM Had Forfeited Reclamation Performance Bonds

Since 1981 when OSM approved the Utah permanent regulatory program, DOGM has forfeited reclamation performance bonds for six mines.

During EY 2004, DOGM conducted nine complete inspections on the five mines. It did not observe any offsite impacts. Table 4 (bottom half) shows that 100 percent of the bond forfeiture sites were free of offsite impacts. OSM and DOGM found 100 percent of these mines also free of offsite impacts in EY's 2000, 2001, and 2002.

A coal mine with a surface disturbance of 151 acres was forfeited during this evaluation year. No off site impacts have been observed from the site to date. DOGM has not made a written finding to validate a reduced inspection frequency at this site.

Reclamation Success

Sites Where DOGM Had Not Forfeited Reclamation Performance Bonds

For the operations where DOGM had not forfeited reclamation performance bonds, OSM and DOGM used as the measure of reclamation success the disturbed acreage that had received bond release. Historically, the amount of bond release acreage in Utah has been very low due to the following two factors.

- Most of the permitted operations are underground mines (table 2). Underground mining operations are long-lived, and the surface disturbances for them are relatively small (2,385 acres disturbed, 171,232 acres permitted) and remain active during the entire life of the mining operations because of their continued use as surface facilities.
- The bond liability period is a minimum of 10 years.

Table 5 shows the acreage on active or inactive permits where DOGM partially released (phases I and II) or totally released (phase III) bonds during the evaluation year. For the 2,385 acres of total disturbance that had not yet received final (phase III) bond release at the beginning of the evaluation year, DOGM granted a phase I bond release of 32.52 acres and a phase III bond release of 13.88 acres.

Customer Service

DOGM conducted an evaluation of its subsidence notifications. This evaluation concerned procedural aspects of DOGM's program. This evaluation concerned DOGM's effectiveness in serving its customers by examining mine records to ensure that operators have notified landowners of upcoming subsidence.

For a discussion of this evaluation, see following section VII.

VI. OSM Assistance

For the 1-year grant period starting July 1, 2003, OSM funded the Utah program in the amount of \$1.76 million (table 9). Through a Federal lands cooperative agreement, OSM reimburses DOGM for permitting, inspection, and other activities that it performs for mines on Federal lands (table 8). Because most of the mines in Utah occur on Federal lands, the percentage of total program costs for which OSM provided funding was high (89 percent, table 9).

In order to assist DOGM in its electronic permitting initiative, data processing storage, management and distribution, OSM provided electronic permitting funds in the amount of \$ 24,602. Those funds were used for an HP Designjet Wide bed Scanner and Macromedia software.

OSM's Technical Librarian filled three reference requests, and provided 39 journal articles to Utah Staff. In addition Utah received seven technical publications: The Seed and Soil Dynamics in Shrubland Ecosystem; Geologic Studies of Mercury by the USGS; Strontium Isotopic Characterization of Coal and Sandstone Aquifers, Powder River Basin; Evaluation and Comparison of Hypothesis Testing Techniques for Bond Release Applications; Native Plants Materials Directory; Proceedings of Market-Based Approaches to Mined Land Reclamation and Reforestation: A Technical Interactive Forum; Effect of Mechanical and Biological Enhancements on Erosion at High Elevation Disturbed Lands; and 10 CDs that were distributed to WRTT.

OSM provided technical assistance with regard to information on public liability insurance and on surety bond replacement issues and procedures.

OSM organized two OTT/WRTT New Technologies Implementation Workshops in which DOGM staff made presentations, and seven staff members attended three workshops for a total of eleven attendees.

OSM was a co-sponsor of the third New Technologies Implementation Workshop held in Salt Lake City in June of 2004. The workshop showcased State achievements in GIS and electronic permitting.

OSM has provided the State of Utah DOGM with regulatory and technical assistance related to surface water and ground water at Canyon Fuel Companies Skyline Mine. Specifically, OSM worked in conjunction with the state hydrologist to review a ground

water flow model submitted to the state by Canyon Fuel Company. After regulatory review, OSM and state personnel met with a Canyon Fuel Company representative and the model developer to discuss impact predictions necessary for the probable hydrologic consequences (PHC) determination, and ultimately the cumulative hydrologic impact analysis (CHIA) necessary for the state. The PHC and CHIA updates will be ongoing in EY05.

OSM provided the Division with two GPS units. A Geo Explorer III was loaned to the Division for several months in the spring of 2004 and a Geo Explorer XT is on permanent loan to the Division

VII. Evaluation Topic Reviews

Each year OSM and DOGM evaluate topics to determine whether DOGM is effective in preventing offsite impacts, ensuring reclamation success, and ensuring effective customer service.

Customer Service - Subsidence Notification Requirement

The team is evaluating this topic under the primary objective of OSM Directive REG-8 for determining whether the Utah-DOGM is effective in its customer service. The focus of this evaluation is compliance with the procedures of the Utah regulatory program. As such, it is a procedural review rather than a results-oriented on-the-ground review, as is being done for the other evaluation topics.

The team found that one mine met all of the R645-301-525.700 requirements, one mine met the requirements with a single exception, and one mine failed to meet the requirements. The topic evaluation team determined that the requirements at R645-301-525.700 are subject to varied interpretations.

The team developed specific recommendations for DOGM to evaluate the requirements of R645-301-525.700 and formulate a guidance document to prevent varied interpretations. DOGM should provide this guidance document to the coal industry on the interpretation of R645-301-525.700. Specifically, this guidance should emphasize the intent of R645-301-525.700 and:

- Clarify that the permitting process does not qualify as the mailed notification intended by R645-301-525.700.
- Make clear the definition of structures used in the context of this regulation (e.g. “structures” vs. “occupied residential dwelling structures related thereto”). In addition, clarify if owners of structures such as fence lines are recognized as being subject to the notification requirements of this regulation. If so, are those structures identified in the permit?
- Emphasize the need to provide proof of notification with copies maintained with other mine records, and if DOGM decides to recommend to the operators, green

- cards as proof mailing.
- Clarify the time frame for the notification mailing (would a one time only mailing done years in advance, and at least six months prior to mining suffice as this notification for future years?)
 - Should decide if a mailed notification to surface owners under the same corporate umbrella is necessary. (e.g. PacifiCorp permittee, UP&L surface owner.)

Reclamation Success - Plant Succession and Native Plant Invasion on Reclaimed Mines

Most reclaimed mines in Utah are meeting vegetation cover, productivity, and diversity success standards, but it is not known what successional changes occur over time in reclaimed plant communities. The purpose of this evaluation topic was to see if species native to the surrounding vegetative community are invading the reclaimed sites and to see if vegetation composition changes over time.

Existing vegetation data for four mine sites reclaimed and revegetated for at least 10 years were examined. Plant species seed in the original seed mixture dominated the reclaimed sites. Native plant species other than those seeded were also observed but to a much lesser extent. Plant species known for their aggressive establishment were used in the original seedings to guarantee reclamation success and to control erosion. This aggressive characteristic may have prevented less aggressive native species from invasion and subsequent establishment. The team concluded that mine site reclamation is successful and recommended the mines use less aggressive species in the seed mixture and select species native to the site when erosion control is not critical.

Offsite Impacts – Mining Under Perennial Streams

This evaluation topic evaluated Utah’s program and its effectiveness in minimizing impacts and preventing material damage to the hydrologic balance outside the permit area. This two-year topic will focus on those situations where mining has been conducted beneath perennial streams.

During 2004, the team completed a records search to identify any mine sites that have undermined a perennial stream. The sites were ranked according to both the extent of mining that has occurred and the extent of perennial flow. During the 2005 evaluation year, the team will select a representative number of sites and collect additional existing data. The team will then conduct a field review and ground truth to verify the effects of subsidence and the mitigation performed.

DOGM Internal Review

A Subsidence Documentation Study was conducted by DOGM as an internal review to analyze work done during the summer of 2003 by a summer intern. The Division does not normally ground check the Permittee’s subsidence. However, after 20 years of

monitoring subsidence, the Division determined that an on-the-ground evaluation of the surface effects of subsidence was in order. Four sites visited by the intern were selected for review. The MRP commitments for each of these mines were reviewed and the subsidence observed by the summer intern was compared to that reported by the mines in the annual report. The team reviewed the findings and recommended that some of the mines subsidence-monitoring plan need to be clarified and reporting could be improved. However, the mines are collecting useful information on the surface effects of subsidence. Generally, no on the ground subsidence features were found that were not reported by the mines.

Appendix

Tabular summary of core data characterizing the Utah
program