



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

fd

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

INSPECTION REPORT

Partial: Complete: Exploration:
 Inspection Date & Time: March 03, 1998
 Date of Last Inspection: November 28, 1997

Mine Name: Gordon Creek Mines 2, 7 & 8 County: Carbon Permit Number: ACT/007/016
 Permittee and/or Operator's Name: Mountain Coal Company
 Business Address: P.O. Box 591 Somerset, Colorado 81434
 Type of Mining Activity: Underground Surface Prep. Plant Other
 State Official(s): David Darby
 Company Official(s): None
 Federal Official(s): None
 Weather Conditions: Overcast, 8" snow on the ground
 Existing Acreage: Permitted- 2289 Disturbed- 17.2 Regraded- 17.2 Seeded- 17.20 Bonded- 17.2
 Increased/Decreased: Permitted- Disturbed- Regraded- Seeded- Bonded-
 Status: Exploration/ Active/ Inactive/ Temporary Cessation/ Bond Forfeiture
 Reclamation (Phase I/ Phase II/ Final Bond Release/ Liability Year)

REVIEW OF PERMIT, PERFORMANCE STANDARDS & PERMIT CONDITION REQUIREMENTS

Instructions

- Substantiate the elements on this inspection by checking the appropriate performance standard.
 - For complete inspections provide narrative justification for any elements not fully inspected unless element is not appropriate to the site, in which case check N/A.
 - For partial inspections check only the elements evaluated.
- Document any noncompliance situation by referencing the NOV issued at the appropriate performance standard listed below.
- Reference any narratives written in conjunction with this inspection at the appropriate performance standard listed below.
- Provide a brief status report for all pending enforcement actions, permit conditions, Division Orders, and amendments.

| | EVALUATED | N/A | COMMENTS | NOV/ENF |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 1. PERMITS, CHANGE, TRANSFER, RENEWAL, SALE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. SIGNS AND MARKERS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. TOPSOIL | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. HYDROLOGIC BALANCE: | | | | |
| a. DIVERSIONS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. SEDIMENT PONDS AND IMPOUNDMENTS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. OTHER SEDIMENT CONTROL MEASURES | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. WATER MONITORING | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. EFFLUENT LIMITATIONS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. EXPLOSIVES | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. DISPOSAL OF EXCESS SPOIL/FILLS/BENCHES | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. COAL MINE WASTE/REFUSE PILES/IMPOUNDMENTS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. NONCOAL WASTE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. PROTECTION OF FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. SLIDES AND OTHER DAMAGE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. CONTEMPORANEOUS RECLAMATION | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. BACKFILLING AND GRADING | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 13. REVEGETATION | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. SUBSIDENCE CONTROL | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. CESSATION OF OPERATIONS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. ROADS: | | | | |
| a. CONSTRUCTION/MAINTENANCE/SURFACING | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. DRAINAGE CONTROLS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. OTHER TRANSPORTATION FACILITIES | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. SUPPORT FACILITIES/UTILITY INSTALLATIONS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. AVS CHECK (4th Quarter-April, May, June) _____ (date) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. AIR QUALITY PERMIT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. BONDING & INSURANCE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

INSPECTION REPORT

(Continuation sheet)

Page 2 of 3

PERMIT NUMBER: ACT/007/016

DATE OF INSPECTION: March 03, 1998

(Comments are Numbered to Correspond with Topics Listed Above)

General Comments

I called Dan on March 2 to let him know I would be inspecting the minesite the next day. He mentioned he had work pending in Provo, Utah and may not be able to make a tour of the site, but would have someone accompany me if necessary. He mentioned he had not been up in the area for a couple of weeks and didn't know the snow condition. He said he had talked to Mel Coonrod and who had been in the area and Mel mentioned that the access road was still covered with snow.

I told Dan that I would go down to the site to see if I could gain access and if I had any problems with the site I would call down to his office.

The Gordon Creek road had clear access, because of traffic going to and from Horizon Mine. The access road to Bryner Canyon was covered with approximately 12 inches of heavy saturated snow making the road impassable from the turnoff to the mine. I parked the vehicle and hiked along the ridge where the snow had melted to see if I could see the minesite. I could look up the canyon and see that the mine area was still covered with snow, but could not tell if water had filled any of the ponds.

Stamatkis Technical Summary

A Technical Summary was conducted with regard to Mr. Stamatakis' concerns, that mining in the vicinity of Beaver Creek had intercepted and transferred of surface water from Beaver Creek drainage to the Gordon Creek drainage. He was also concerned when surface disturbances appeared in the vicinity of Beaver Creek and thought they may be related to mine subsidence.

The review found that historical data was not available to make a determination of dewatering of Beaver Creek of increased flows to major springs, which feed Gordon Creek. Recent data and observations indicate that the stream channels is not losing flow, but do show that the stream channel has changed which may have impacted flows. Several scenarios have can account for the physical changes over time, drought, land management, historic mining or recent mining all can apply. Without historic data older causes make it hard pinpoint direct impacts from mining.

4. HYDROLOGIC BALANCE:

a. DIVERSIONS

Culvert in the Right Fork of Bryner Canyon

The Division received an Amendment (AM-98A) from Mountain Coal Company on January 29, 1998 proposing measures to leave the existing 48 inch culvert in the Right Fork of Bryner Canyon. A review was conducted of the proposal and found to be deficient. The culvert was installed to provide protection to the stream channel when overburden above an entry caved to the surface.

Copy of this Report:

Mailed to: James Fulton (OSM/Denver), Paige Beville (MCC), Dan Guy (Blackhawk Engineering)

Given to: Joe Helfrich (DOGM)

Inspector's Signature: David W. Darby

David W. Darby #47 Date: April 2, 1998

INSPECTION REPORT

(Continuation sheet)

PERMIT NUMBER: ACT/007/016

Page 3 of 3

DATE OF INSPECTION: March 3, 1997

(Comments are Numbered to Correspond with Topics Listed Above)

The amendment was denied in a letter dated February 17, 1998, because the operator had not supplied sufficient information to insure long term maintenance of the structure and future protection of the channel. A letter was sent on March 18, 1998 instructing the applicant to revise the MRP to include reconstruction and stabilization plans for the channel.

12. Backfilling and Grading

An Informal Hearing and Assessment conference was held on February 24, 1998 for NOV N97-47-2-3, a three part violation for failure to design, construct and maintain stream channels, sediment control structures and to minimize erosion of reclaimed surfaces. The order vacated all three parts of the violation because the operator had shown that the design standards for all structures and surfaces were exceeded. A schedule presented by the operator showed that the site had been monitored prior to the event and the damage rapidly responded to after it occurred.

Copy of this Report:

Mailed to: James Fulton (OSM/Denver), Paige Beville (MCC), Dan Guy (Blackhawk Engineering)

Given to: Joe Helfrich (DOGM)

Inspector's Signature: David W. Darby

David W. Darby #47 Date: April 2, 1998



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Dave
Final Version

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

Memorandum

TO: Mary Ann Wright, Associate Director of Mining

THRU: Daron Haddock, Permit Supervisor *DH*

FROM: David Darby, Senior Reclamation Specialist *DD*

DATE: March 5, 1998

RE: Technical Summary of Mr. Stamatakis' Concerns of Mining Related Impacts to Hydrologic Resources in Beaver and Gordon Creeks, Carbon County, Utah

Synopsis

Over the past four years, Steve and Pete Stamatakis have been in contact with the Division and have repeatedly expressed their concern that mining in the vicinity of Beaver Creek has had a negative impact on water resources; not only on Beaver Creek, but on the resources in adjacent areas as well. Messrs. Stamatakis have owned property in Beaver Creek for eight years and have managed cattle on the area for approximately forty years.

On October 3, 1997 Steve Stamatakis conducted a tour of sites which he suspected had been impacted by mining activities. Several people from the Division of Oil, Gas and Mining attended the meeting, including Mary Ann Wright, Associate Director of Mining; Jesse Kelley, Reclamation Specialist/Engineer; Sharon Falvey, Reclamation Specialist/Hydrologist; Luci Malin, Reclamation Specialist/AML; Bill Malencik, Reclamation Specialist/ Range Conservationist and David Darby, Reclamation Specialist/Hydrologist. Also participating in the tour was Dan Guy, Consulting Engineer represented Mountain Coal Company, Vicky Bailey, Environmental Consultant representing EarthFax Engineering and Horizon Mine and Pete Stamatakis, Landowner.

Near the Gordon Creek area, Steve Stamatakis pointed out two spring sites, one at the head of Jewkes Creek (for this report called Horseshoe Spring) and another at the mouth of Coal Canyon, both of which he asserts have increased in flow and caused slumping of slopes and soils adjacent to the springs.

The group then drove to Beaver Creek, where Mr. Stamatakis claims that flows have diminished over the years, and identified an area along the creek where sinking and slumping of the ground had occurred. The group also visited areas adjacent to Beaver Creek where Mr. Stamatakis claimed subsidence and slumping was caused by mining. The features were not distinct during this visit, however, some features were observed by division personnel on earlier visits.

Mr. Stamatakis pointed out a diversion on Beaver Creek that held a water right of two second-feet. He reasoned that the stream flow prior to mining had to have been greater than what was currently flowing in the creek in order to satisfy the water right as well as contribute to the flow downstream. He also pointed out springs near Beaver Creek, including Jewkes spring, that he contends had flowed more in the past.

Mr. Stamatakis was concerned that future mining would cause diminution of and devaluation to his property, since Horizon's long term mine plans will likely propose mines that will extend beneath Stamatakis property through the Hiawatha Coal Seam.

Several areas were examined to determine if mining had dewatered the stream. A major part of the examination focused on the possibility that mining activities conducted by Beaver Creek Coal Company and other mining companies had induced subsidence fractures that intercepted the stream and reduced flows in Beaver Creek.

Structure and stratigraphy were also evaluated to determine if subsidence had induced fracturing along the surface and transferred flows from Beaver Creek to sites described by Mr. Stamatakis as having increased in flow, i.e., Jewkes' Spring and Coal Canyon Spring. Other scenarios were also considered because of their obvious relationship to Mr. Stamatakis' claim.

Observation of the current stream morphology as well as testimony from persons who have visited the stream indicate that upper Beaver Creek has undergone extensive changes from 1980 to the present. The stream once supported a fishery, a thriving beaver colony and a willow-covered riparian area. The stream is now channelized with banks blanketed with silt.

The areas of concern were evaluated to determine if surface and water resources were affected as a result of mining activity regulated by Utah's Coal Regulatory Program. Mr. Stamatakis' concerns are identified and discussed below under three major headings, each of which is followed by an Analysis and Conclusion. At the end of the report is a Technical Opinion summarizing the probability of impacts on the Stamatakis property and rights.

I Dewatering of Beaver Creek

Several factors acting singly or in concert could account for the changes to the stream flow. A deficient water supply may be caused by interception by mining, drought, removal of beaver, overgrazing or logging. Each of these factors was evaluated and discussed below.

Analysis

Stream Flow Diversion on Beaver Creek

Mr. Stamatakis claimed that the flow in Beaver Creek should be higher, not only to accommodate the diversion of two second-feet, but to maintain flows downstream for his priority stock water rights. In a telephone conversation with this reviewer, Mark Page of the Utah Division of Water Rights stated that it is common practice to issue water rights on a stream which exceed the normal flows of that stream. Mr. Stamatakis' stock water rights have the highest priority on the stream and the Division of Wildlife Resources (DWR) has second priority. Essentially, DWR can only divert flows in excess of the stock water rights.

Stream Flow Interception by Subsidence Along Beaver Creek

A potential exists that stream flow can be intercepted when subsidence opens fractures and allows flow to migrate out of the stream to other areas. Faults that exist in an area can intercept and transmit water if movement caused by subsidence opens interstices along the shear zone. This scenario is hard to recognize and apply unless the activity is highly visible or background data exists that reveal a change in flows.

Mining has taken place beneath Beaver Creek before and after SMCRA. The Blue Blaze #3 Mine and the Gordon Creek #2 Mine mined areas under Beaver Creek in the Castlegate A Seam.

Beaver Creek Coal Company mined under the upper part of Beaver Creek between 1978 and 1981. Messrs. Stamatakis later purchased the property where some of the mining had taken place. Steve Stamatakis suggested that mining of the Gordon Creek #2 Mine had caused depletion of flows in Beaver Creek and caused an increased flow to Horseshoe Spring.

Subsidence data collected by Mountain Coal Company (Beaver Creek Coal Company, Annual Report 1997) indicate that no subsidence has occurred adjacent to their monitoring sites. Most of the areas were mined prior to the passage of SMCRA, August 1977, whereas other areas in the graben were mined while interim rules were being established and no subsidence monitoring stations were required.

The Gordon Creek/Beaver Creek area is highly faulted. The faulting dictated the way mines were developed. In some instances faulting prohibited mining. Several of these faults cross Beaver Creek, and two of them form the edge of a horst which runs northeast through the Stamatakis property. The relationship between groundwater movement and the faults is not well known. According to Dan Guy, no major flows were contacted in the Gordon Creek #2 Mine.

The area around Horseshoe Spring is highly faulted. Although the fault systems of the horst which crosses Beaver Creek align with Horseshoe spring, a conclusive correlation cannot be established. The historic flows of Horseshoe spring are not well known. An old water collection system was used for culinary water at some of the older mine sites and towns in the area, which shows that the spring existed prior to mining of Gordon Creek #2 Mine.

Drought in the Vicinity of Beaver Creek

South central Utah and the adjacent mountain areas experienced continuous drought conditions a total of 6 years from the end of 1986 to the beginning of 1993 (Palmer Hydrological Drought Index). This was about the time when Mr. Stamatakis and many other water users expressed concerns about water loss. Dry conditions were again experienced in 1994 and 1996 and this added to the questionable levels of stream flows. Drought conditions would unquestionably yield lower stream and spring flows and lower the water tables adjacent to the stream.

Riparian Management Along Beaver Creek

The riparian corridor along the Beaver Creek was once covered with willows and beaver ponds. Most of the beaver are gone. Only one large beaver pond is active on the upper reaches of Beaver Creek.

Grazing Along Beaver Creek

Both sheep and cattle graze the areas adjacent to Beaver Creek. Overgrazing can damage the riparian zone and decrease its ability to store water. Overgrazing can also damage the banks of the stream and thus increase sediment loading in the stream. Overgrazing in combination with removal of beaver ponds would cause the stream to channelize and reduce the bank storage which supplies water to the stream as stream flows diminish.

Logging Near Beaver Creek

Logging is currently conducted on private lands adjacent to Beaver Creek. It was

observed that no riparian management practices are implemented which would protect Beaver Creek. Improper logging practices can increase overland flow, decrease infiltration, erode soils, contribute excessive sediment to streams, destroy and displace biota (macro invertebrates and fisheries) in the streams. All of the following appear to be occurring on Beaver Creek.

- 1-Extensive logging activities on slopes, leaving barren areas and exposed soils that are easily washed down into the creek.
- 2-Logging adjacent to Beaver Creek with no buffer zones to inhibit impacts.
- 3-Road development along Beaver Creek with no runoff controls.
- 4-Extensive erosion of the channel in Beaver Creek.
- 5-Thick deposits of silt in Beaver Creek.

Conclusion and Recommendation

Mr. Stamatakis' claim that flows in Beaver Creek were higher to accommodate the upstream diversion (DWR's water rights) flows plus the flows for his cattle watering rights is flawed and does not reflect past streamflow characteristics or lesser flows.

There is no evidence of subsidence or dewatering of Beaver Creek in the area where Mountain Coal Company (Beaver Creek Coal Company) undermined the stream. Subsidence data from the area adjacent to Beaver Creek indicate that no subsidence has taken place. A seepage study conducted by EarthFax Engineering indicates that flows generally increase in the creek over mined areas and decrease outside of the mined areas, indicating no significant interception of streamflow by mining.

The relationship of Horseshoe Spring and Beaver Creek was examined. It is highly likely that the spring is recharged from the fault system that forms the horst which extends west through Beaver Creek. The association between Horseshoe Spring and the fault zone is highly probable. However, there are no definite indications that there is an association between Beaver Creek and the fault system. Extensive tests would have to be conducted to establish a relationship between the spring and the creek.

The combined effects of poor riparian management are evident. These practices coupled with a drought have had devastating impacts on the stream. Reduced flows can be attributed to these practices.

It is recommended that subsidence surveys and surface water monitoring programs be intensified during potential subsidence periods. Horizon Coal Company has currently been collecting some information in the area in accordance with their permit requirements.

II Slumps and Slides

Mr. Stamatakis pointed out sites on Beaver Creek where he suspected that subsidence features exist. He also identified sites in adjacent areas that had subsided and others sites that he thought were related to subsidence.

Analysis

Beaver Creek

The Blue Blaze #3 Mine mined the Castlegate A Seam under Beaver Creek. Mr. Stamatakis pointed out small escarpments and sink holes along the south side of the stream. The sinks/escarpments were not apparent to several people on the October 3 trip, but were more obvious on earlier tours.

The sink/escarpment location on Beaver Creek was measured by vehicle mileage and GPS readings. Both readings marked the location over the old Blue Blaze #3 Mine. There is in this area 700 to 800 feet of overburden above the old workings. When previously observed the features resembled fractures with a pattern more representative of tension cracks. There was no definitive findings that this area was disturbed by mine subsidence.

North Fork of Gordon Creek-Bryner Canyon

During the site visit, Steve Stamatakis pointed out areas where sink holes and slumps occurred that he thought were related to mining. His point in doing so was to show that subsidence had happened in the past and could be associated with future impacts and stream loss.

We hiked down a slope from the county road to the Gordon Creek #2 Mine pad. We found a fracture approximately 60 feet long that had opened about 2 feet wide. The fracture had filled in substantially with some of the surrounding earth. Some animals had burrowed into the fill material of the fracture. The fracture overlies some entries that don't appear to be second mined, according to Plate 3-3 of the Gordon Creek #2 Mine Map. There is less than 200 feet of overburden.

As we walked down to the Right Fork of Bryner Canyon, Steve pointed out another area that had subsided. Dan Guy described the situation. Back in 1979 the channel had sunk into the mine entries. The cover was less than 50 feet. The subsidence hole was backfilled and a culvert was placed in the channel to span the subsided area.

Conclusion and Recommendation

Mr. Stamatakis pointed out sluff areas on adjacent hillsides and settling of a pond near the Gordon Creek #8 mine and discussed areas over the Gordon Creek #8 Mine portals that had subsided. None of these areas was on Stamatakis property. Mountain Coal Company had already documented the subsidence areas over the portal areas of the mine.

Desiccation of the soils brought about by drought and poor riparian management would cause settling of embankments and fracturing along slopes, and is a likely cause of the sink hole/escarpment phenomena. No definitive findings could be made that this area was related to subsidence from mining.

The subsidence sites near the Gordon Creek #2 Mine pointed out by Mr. Stamatakis were definitely mining related. The subsidence sites were not known to exist at the time Mr. Stamatakis pointed them out, but are associated with the #2 Mine entryways with overburden less than 80 feet. The areas noted over the #8 Mine were recorded in the Gordon Creek #8 Mine Annual Report.

As we hiked down the slopes of a hillside Mr. Stamatakis pointed out what he thought were slumps on adjacent hillsides. They were too far away to determine if they were slumps. Jesse Kelley, Ron Singh, Vicky Bailey, Steve Faulk, Max Nielsen, Stan Perkes and Jim Kohler toured the sites around the #8 Mine on October 16, 1998. Jesse Kelley stated that he could identify subsidence cracks over the #8 Mine, but could not locate the stock pond that Mr. Stamatakis said had dried up due to subsidence. Jesse also stated that the slump areas that Mr. Stamatakis pointed out on the ridges might in fact be bare areas or rock outcrops.

Subsidence has occurred in locations over the #2 mine and #8 mine where overburden was not sufficient to support the cover.

The location of the sink/escarpment features overlies the Blue Blaze #3 Mine. Considering that overburden depth ranges from 750 feet to 850 feet and the height of mining is approximately 8 feet, it is unlikely that subsidence occurred on the surface at such a late date. No definite link could be concluded between the features and mining. The features could be caused by droughts and poor land management practices.

III Increased Flows to Gordon Creek

Analysis

Mr. Stamatakis pointed to Horseshoe Spring and Coal Canyon Spring to illustrate that

flows were being transmitted from Beaver Creek and increasing the flows in Gordon Creek.

Horseshoe Spring

Steve Stamatakis pointed out an area along the county road in the NE 1/4 NE1/4 Section 18 which he claims had slumped over the last few years. The slump area lies between the Gordon Creek #2 Mine and the Blue Blaze #3 Mine. Spring sources have been noted on the U.S.G.S. quadrangle, dated 1979. A spring box just below the bend in the road was built to supply some of the early mines and towns. The elevation of the slump area ranges from 7920 feet to 8240 feet. Several faults appear to intersect at the spring site coming from the horst that transects the area.

Coal Canyon Spring

Mr. Stamatakis expressed concerns that a spring area at the mouth of Coal Canyon was discharging larger flows, which drowned a group of trees and caused sloughing of the river embankment along Gordon Creek.

During the site visit on October 3, 1997, Mr. Stamatakis pointed out a stand of aspen trees at the mouth of Coal Canyon, the same canyon in which the Gordon Creek #3 and #6 mine portals are located. A stand of aspen, all similar in age and occupying the valley floor, apparently died abruptly. Mr. Stamatakis claims that the ground surrounding the trees became saturated with groundwater produced as a result of mining, killing the trees. He proposed that the water issuing from the seeps came from Beaver Creek, reducing the flows in Beaver Creek and increasing the flow of Gordon Creek.

Dan Guy discussed mining activities in the Gordon Creek #3 & #6 mining operations. The mine workings are located in the eastern end of a major fault block (graben) which trends WNW-ESE. The fault block is part of the down thrown block of the Fish Creek graben (Figures 6-1 and 6-2, Horizon MRP). A 40 foot fault cuts NW-SE through the graben which created a barrier for the southern limit of mining for the #3 Mine. The National Mine workings were developed on both sides of the fault and lie mainly to the west of the #3 Mine. Dan mentioned that during the development, Gordon Creek #3 Mine operations broke into the National Mine workings a couple times, but were sealed off. The #3 Mine was considered dry until the company mined through a 14-foot fault (graben) which lies in the mined block. Then the mine had to pump water from the mine daily, while mining in the graben. Dan estimated that the mine was pumping about 400,000 gallons per day.

The 40 foot fault intersects the creek in Coal Canyon at about the 7410 ft elevation. The highest level that water begins flowing in the channel at the mouth of Coal Canyon, considered

Technical Summary
Stamatakis Concerns
March 5, 1998
Page 9

related to the spring, is at the 7360 ft elevation, about 1,000 feet below the fault. Several faults are delineated on Horizon's Geologic Map, Plate 6-1.

During the tour a few people hiked up the west side of the canyon mouth to observe the stand of dead trees and to determine where the water was emanating. An evaluation of the geologic features (on site and in the office) reveals a possible connection for transmitting ground water from the National/Gordon Creek #6 Mines and the spring area.

It is difficult to establish a connection from Beaver Creek to the National/Gordon Creek #3 and #6 Mines. The National Mine had mined in the graben block west of the Gordon Creek Mines (in the Hiawatha seam, Plate 1-3, Gordon Creek #3 and #6 Mines MRP). A connection between the mines and the spring might be established if water intercepted at the faults which border on the graben were transmitted via the mines through a fault or the Star Point aquifer to the spring. This scenario lacks the data to show that the faults and mines are connected in some way to the spring.

The spring area appears to be located at the interface between the Star Point Sandstone and the Mancos Shale. Similar springs exist in the Wasatch Plateau in relationship to the Star Point Sandstone. Water emanates from both sides of the creek and in the bottom of Coal Canyon, even though the creek cuts through the eastern side of the canyon. This suggests that water is moving horizontally along the contact and not from a particular fault. The sandstone units of the Star Point Sandstone display higher porosities which hold and transmit groundwater more readily than the fine grains of the Mancos Shale.

When groundwater contacts the Mancos Shale it tends to move laterally, sometimes reaching surface as a spring. The spring at the mouth of Coal Canyon appears to follow the parabolic shape of the canyon mouth where the Star Point sandstone intersects Coal Canyon. More water flows from the north and west side of the canyon than from the east side. However, seepage was noticed on the east side of the creek and road, indicating that the flow might come from a deeper source such as a formation supplied from the fault or overlying strata.

A conduit or system that links groundwater movement between either the National Mine or the Gordon Creek #3 and #6 Mines to the spring has not been demonstrated to exist.

The spring existed prior to development of the #3 and #6 mines. This is known because the miners noticed the meadow area and trees. Some have reported that the trees were killed when beaver built a large dam across the marshy meadow. This theory for the dead trees has been expressed by several people who have worked in the area, including Mel Coonrod and Pat Axelson. They indicate that the dead aspen are the result of large beaver ponds built by a pair of beaver. Young trees are once again growing in the marshy meadow above the dead trees. Beaver

are no longer at the site.

Conclusion and Recommendations

The Coal Canyon Spring appears to flow from the Star Point Sandstone/aquifer. A definite link has not been established between water produced in the Gordon Creek #3 and #6 Mines, or the National Mine, and the Coal Canyon spring. There is not sufficient evidence to establish a connection between the mining operations in Coal Canyon and Beaver Creek.

Mr. Stamatakis' concerns regarding potential impacts from future mining are currently being addressed by the Division under the Utah Coal Regulatory Program. Horizon has already submitted an application with the U. S Bureau of Land Management to acquire some federal coal leases adjacent to Beaver Creek. The Division of Oil, Gas and Mining will require any applicant to analyze and characterize the surface and groundwater regimes in the area surrounding Beaver Creek prior to mining. Already, Horizon has located and monitored several streams, springs and some well sites to help establish the state of existing conditions. More groundwater analysis and subsidence surveys will be required of Horizon prior to mine development beyond the current permit area.

New methods of reporting and managing hydrologic data have been implemented by the Division which will help in the collection of quality data. A newly implemented water quality data base will provide the means to analyse monitored data and help identify impacts to the water resource. Subsidence monitoring stations will be required to detect land and surface movement. Any impacts will be easier to identify as information is gathered and compared to baseline characterization.

It is recommended that before future mining activities are conducted in the vicinity of Beaver Creek that the mining applicant identify the surface and groundwater regimes, evaluate and model the relationship between fault systems and groundwater movement.

The applicant should develop wells to access all major aquifers above and below the mined seam and conduct separate monitoring activities to reflect the flow (or pressure) and quality of water in the aquifer.

At least three monitoring wells should be located along the northeastern side of the Fish Creek Graben Zone northwest of Beaver Creek (Figure 6-3. Regional Structure Contour Map, Horizon Mining and Reclamation Plan), one of which should be located northwest of Jump Creek. Another three monitoring wells should be located in the Jump Creek Graben (or fault block) northwest of Beaver Creek, of those one well should be located northwest of Jump Creek.

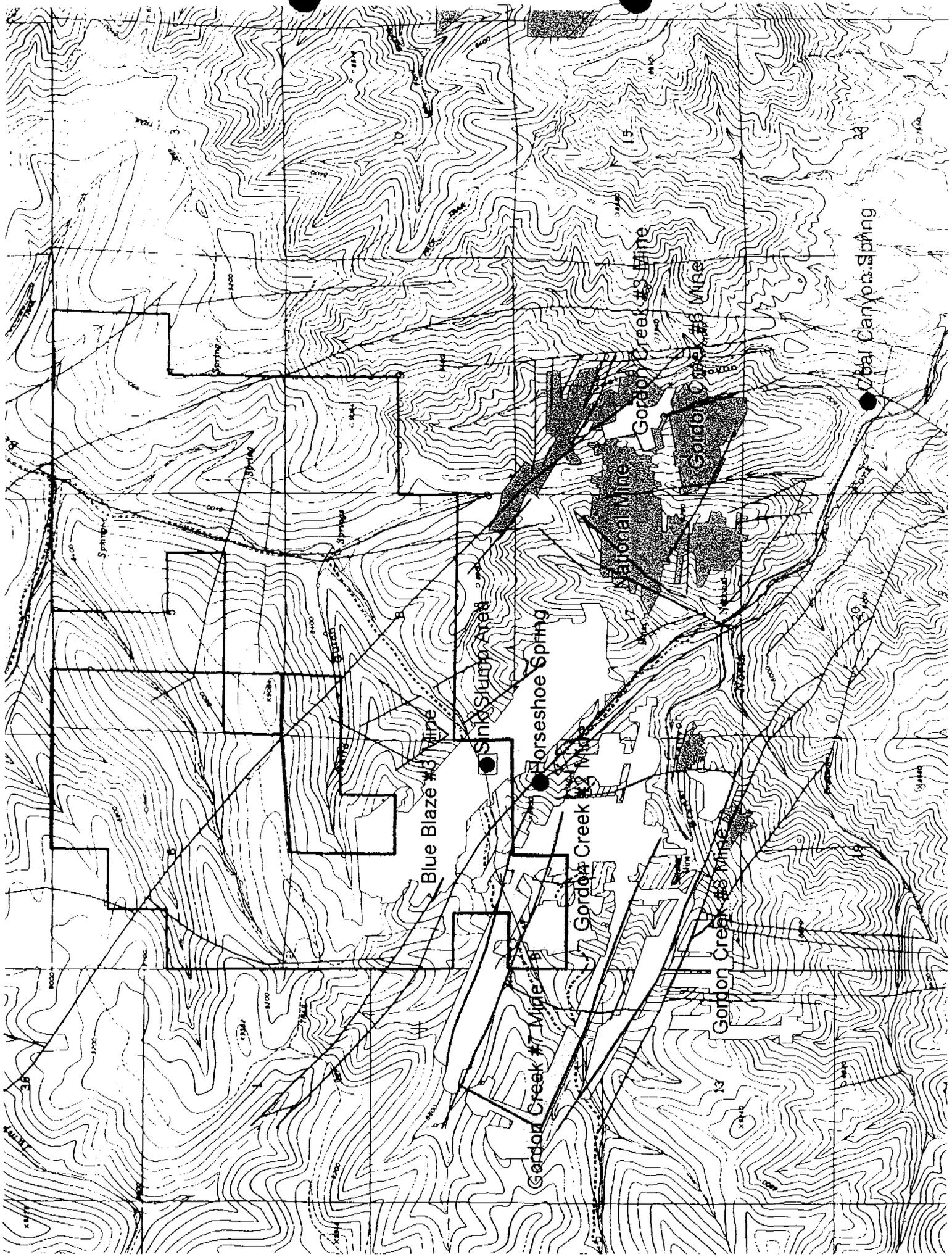
Technical Summary
Stamatakis Concerns
March 5, 1998
Page 11

Technical Opinion

The existing data and information does not indicate that mining has impacted or caused diminution of the Stamatakis' property or water rights.

Evaluations conducted by the Division staff identify varied scenarios for each concern, but available information does not support Mr. Stamatakis' claim. There is no conclusive evidence or data to show that water is being intercepted from Beaver Creek and conveyed to Horseshoe Spring or Coal Canyon Spring. The claims that subsidence has occurred beneath or adjacent to Beaver Creek can not be substantiated.

O\STAMRESP.JWK



Blue Blaze #3 Mine

Horseshoe Spring

Sink Slump Area

Gordon Creek #1 Mine

Gordon Creek #2 Mine

Gordon Creek #3 Mine

Gordon Creek #4 Mine

Gordon Creek #5 Mine

National Mine

Gordon Creek #3 Mine

Gordon Creek #4 Mine

Great Canyon Spring

B

13

15

20

35

36

37

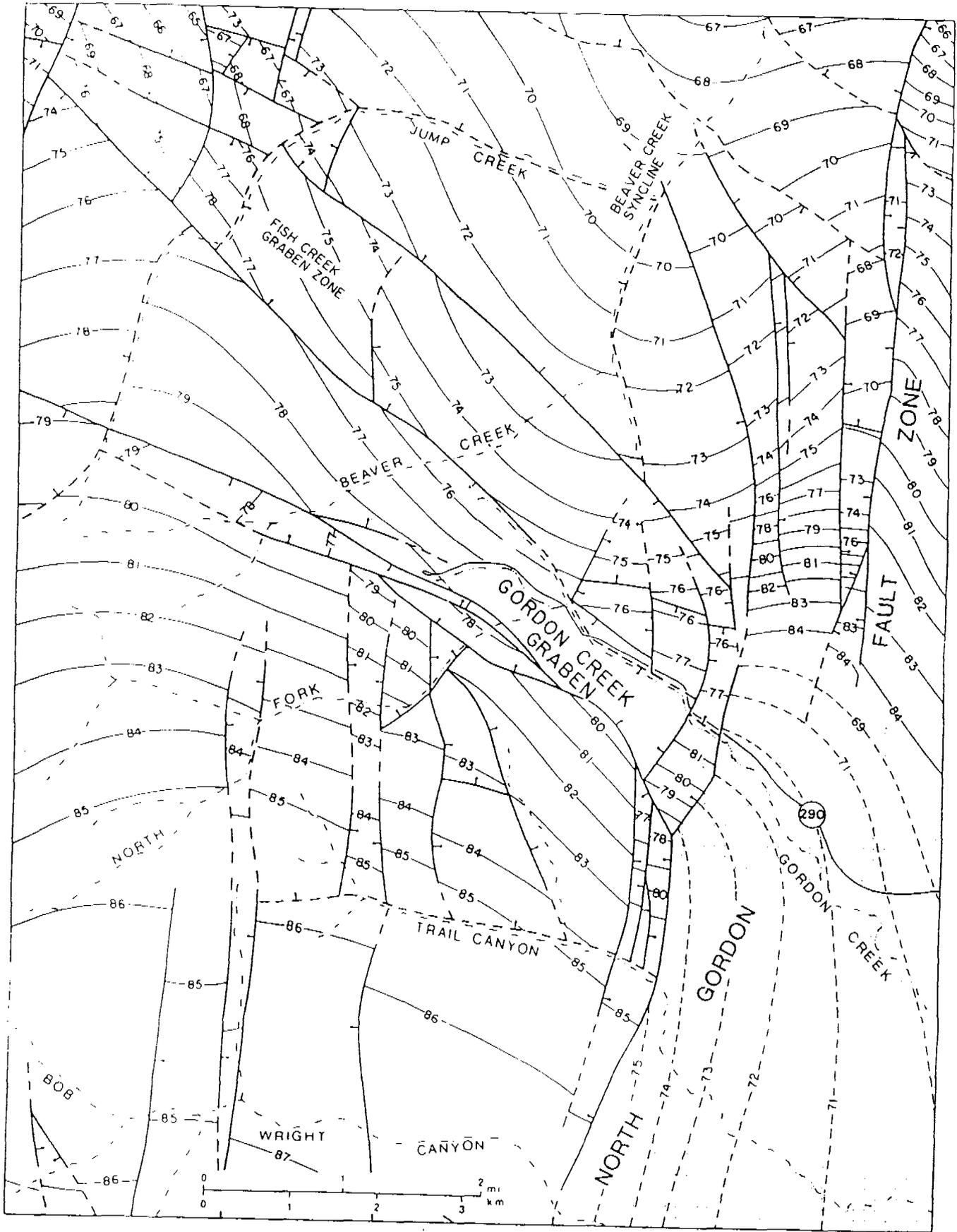


FIGURE 6-3. REGIONAL STRUCTURAL CONTOUR MAP.

DATUM IS TOP OF SPRING CANYON MEMBER OF STARPOINT FORMATION EXCEPT IN SHADED AREAS. IN SHADED AREAS, DATUM IS TOP OF EMERY SANDSTONE MEMBER OF MANCOS SHALE. (HANSEN, 1968).

Field Investigation of Mining Related Activities near Beaver Creek

Introduction: BLM is in the process of making a determination on whether to hold a coal sale on a parcel of land which is called "Beaver Creek Tract" with the following legal description:

T. 13 S. R. 8 E., SLM

Section 6: SESW, S2 SE, NWSE,

Section 7: Lots 1-3, E2, E2W2,

Section 8: NWNW, S2NW, SWNE, N2SW, W2SE, SWSW,

Section 17: N2NW, SWNE,

Section 18: NENE,

Containing 1,288.49 acres.

This coal has been applied for under a lease by application by White Oak Mining Company. As part of the application process, BLM with the help of a third party contractor has developed an Environmental Analysis (EA) to fulfill the requirements of the National Environmental Policy Act (NEPA). All requirements of NEPA were followed and there were no protests to the analysis. As part of the coal leasing process, a hearing was held on 9 October 1997 to receive public comments on the Fair Market Value (FMV) of the coal resources in the proposed lease. At this public hearing a group of concerned citizens brought up the accusations that past underground coal mining had affected the surface of the land adjacent to the coal tract they controlled surface interests. These citizens brought up the fact that they control the surface on the coal tract being offered and did not want similar surface effects due to mining under their land.

BLM agreed to do a field investigation of the issues that the citizens had brought to attention and to make a determination if the effects were mining related or not. This investigation took place on 16 October 1997. A global positioning system (GPS) unit was used to locate the features which were examined to compare them with the location of past underground mining activities. The following personnel were present:

Jim Kohler, Geologist, BLM

Max Nielson, Economist, BLM

Stan Perkes, Mining Engineer, BLM

Steve Falk, Mining Engineer, BLM

Jess Kelly, Mining Engineer, Utah Division of Oil, Gas and Mining

Ran Singh, Mining Engineer, Office of Surface Mining, Denver

Steve Stanmatakis, rancher, Private Surface Owner

Vicky Bailey, Earth Fax Engineering

Stop #1 (See map designations for stop locations)

ISSUE: This stop was near the road above the new Horizon mine in the North Fork of Gor

Creek canyon. There were fresh indications of slumping, especially around a spring box the road. There was more slumping NE of the road and west of the drainage that appeared older than on the east side of the road.

ANALYSIS: Mining has not been conducted beneath the disturbed area. The area previously mined is to the west of this area and approximately 1200 ft. east of this point. The escarpments indicate that the slumping is a recent phenomena evidenced by due to alluvium saturation and steep slopes. This was noted further up the road where slumping had occurred the trees were leaning. Jim Kohler noted that this area was slumping in 1983 during the extreme wet years. Since there was no mining underneath or within the angle of draw in we can conclude that this disturbance is not mining related.

Stop #2

ISSUE: Cracks on ridge. (Above Gordon Creek No. 2 and Blue Blaze No. 2 mines)

ANALYSIS: The group examined the cracks on the ridge which extended in a north/south direction. These cracks had some reclamation work performed on them and were difficult. It was the opinion of BLM that the cracks were mining-related from mining the upper sea Gordon Creek No.2 mine during the 1970's and mining in the Blue Blaze No. 2 mine in the 1930's. The Blue Blaze No. 2 mine was developed and full extraction took place in the seam with 500-600 feet of overburden. Gordon Creek No. 2 mine did first mining in the seam with between 400-500 feet of overburden. These cracks were fairly predictable on ridge with mining and full extraction underneath with low overburden. There appeared to be linear features that lined up with some of the cracks indicating the possibility of mining helping to cause the cracks. This was confirmed when the Gordon Creek No. 2 mine maps were reviewed.

Stop #3

ISSUE: Intermediate stop to investigate issues in stop #4 (Cracks on the ridge Above Gordon Creek No.7 & 8 mines)

ANALYSIS: BLM noted the cracks and decided to investigate them more thoroughly.

Stop #4

ISSUE: Close up look at the features above Gordon Creek No. 7 and 8 mines.

ANALYSIS: There were two linear features which were perpendicular to the ridge top and a vertical displacement of approximately 2 feet forming a small scarp. The two scarps were approximately 50 feet apart (this section being the lower portion of the feature) and extended from the ridge top to approximately 50 yards down the north east facing slope. During investigation it was noticed that the vertical displacement at the ridge top was small. The maximum displacement was about 15-30 yards down slope. The vertical displacement had

disappeared about 50 yards down slope. The subsidence feature entered an aspen grove could not be traced any further. From the top of the ridge top on the south west facing scarp and displacement could not be seen. The trend of the feature lined up with the fault was exposed in the high wall of the old Gordon Creek No. 7 mine. There were some additional cracks that had opened up that and had healed that were running parallel to the two scarps. Along the strike of this feature further down the slope a small slump was noticed. There were also some small tension cracks that had healed further down the slope.

After a review of Gordon Creek No. 7 and 8 mine maps the scarps appear to line up with that was encountered in the mine. Both sides of the faults had full extraction in the area. This left the graben zone with little or no support thus causing this natural zone of weakness to subside more than the subsidence of the pillar extraction. This was predictable with both sides of a major fault with little or no support remaining. The feature expressed the low amount of overburden. The full extraction and low overburden also expressed it slumps and tension cracks which have healed over time.

Stop #5

ISSUE: Fault in the exposed high wall of Gordon Creek No. 7 Mine.

ANALYSIS: With this natural feature there was verification that the small scarps on the ridge in fact line up with this natural feature. This is what directed us to look at the mine to see what the cause and effect was on this feature.

Stop #6

ISSUE: Sink hole above Gordon Creek #2 mine

ANALYSIS: After a review of the mine maps it was evident that the mining above this sink hole was with less than 50 feet between the mine workings and the surface. This is a prediction of mine subsidence where the roof material was not strong enough to hold up its own weight caused a sinkhole above the underground workings.

Stop #7

ISSUE: A primary spring on Stanmatakis lands runs intermittently

ANALYSIS: This spring was running an estimated 10 gallons per minute at the time of the investigation. There was full extraction mining under the spring in the 1970's by Swisher Coal Company. The spring running intermittently may be due to its location in shallow alluvium that is subject to precipitation variations in preceding months. No hydrologic information is available that indicates that underground coal mining caused the spring to dry up and create an on and off condition. Mining has impacted this spring.

Stop #8

ISSUE: Sink holes and leaning trees along Beaver Creek

ANALYSIS: There were no disturbances that are defined as sink holes that were found. There were no trees that were observed to be leaning. There was mining under this area which maps indicate that pillars were left and full extraction was not attempted. The overburden area was approximately 800 feet from the mining to the surface. It is doubtful any subsidence in this area extends to the surface. The hill side, south of Beaver Creek could have some occurring slides due to alluvial saturation or sluffing of the bank.

COAL CANYON: There was another stop in the mouth of Coal Canyon that was shown to the group. This feature showed a group of aspen trees that had died. The cause seemed to be that the water level had raised in this bog area. In the stream near the road there was seepage and slumping in the bank. This area is well below the Starpoint sandstone which is at the same level of the mining. It appears that the water level in the bog area where the aspen trees have risen thus killing the trees. Another postulation was the fact that in the 1970's the area was the recipient of high levels of heavy coal truck traffic which could have compacted the soil and thus caused the water in the canyon to back up because the outlet was essentially dried during compaction.

The Department of Agriculture, Soil Conservation Service issued a report on December 13, 1978 on this area. The conclusion of this report was "The water right of the rancher is being threatened by collapse of the Beaver Creek Valley surface in the form of sinkholes. The sinkholes are related to collapse of a coal mine that has had the pillars removed. This conclusion is based because no substantiation of pillar removal or mine location has been obtained. . . ." In discussions with the author, BLM pointed out that during our investigation there was no evidence of sinkholes that could be found in this area. In some areas under Beaver Creek the maps were reviewed showed no pillar extraction in the Blue Blaze No. 3 mine. The Gordon Creek No. 3 Mine showed some pillar extraction underneath the stream but there were not visible effects. Therefore the conclusion of this report still remains tentative.

Conclusions:

Many areas that were observed had multiple-seam mining and there were no visible signs of surface disturbance by subsidence. The areas that evidenced subsidence were totally pre-existing due to existing conditions. The coal in the proposed tract is approximately 700-1000 feet deep except in T13S R8E, Sec 17 NENW : which appears to be around 600 feet deep. The greater the distance between the coal and the surface, the less the effects of normal subsidence.

The new tract being offered will most probably have ground lowering in a gradual concave shape. Factors that can change these conditions are geologic anomalies, slope gradient, overburden size of panels. Normally subsidence will occur over full extraction areas. Normal subsidence should be no greater than approximately 65 % of the seam height that is extracted.

Most of the tract will only have one seam with full extraction. A small portion of the southern portion of the tract will have 2 seams mined. The effects of subsidence are less in areas of single seam mining than in Areas of multiple seam mining. Full single subsidence can be expected within 6 months to 1 year after full extraction mining has t If pillar remnants are left under ground it is difficult to predict the subsidence time

Tensional cracking: The surface effects of tensional cracking have the largest probab underground coal mining in the transition area between the non-mined and the mined area Because of the thickness of the alluvium, most cracks that form at the surface should t themselves quickly as was evidenced in our tour of the Beaver Creek area.

Sinkhole subsidence: This usually occurs over abandoned mines that are less than 165 f (Hunt, 1979 and Peng, 1992). Since the coal in the tract is generally 700-1000 feet de phenomenon is unlikely to happen.

Chimney subsidence: This will likely occur when the ratio of the overburden to the mi is less than 4 to 5. When it is greater than 10 or 11 it will have a less than 10% cha happening (McGraw and Ecert-Clift, 1986, Peng, 1992). The lowest ratio in this tract ha greater than 60. Therefore , chimney subsidence is extremely unlikely.

Springs: Historically, longwall coal mining under springs in Utah has shown that ther conclusive evidence that any springs have been impacted negatively due to underground c mining. Springs can be affected by subsidence in coal mining due to the following fac

- 1) Absence of hydrophilic clays and mudstones in the interburden
- 2) Spring sources that are found in the subsidence fracture or cave zone. (Kad

Streams: Beaver Creek appears to be located on top of alluvial material which will ten easily and heal itself under coal mining subsidence scenarios. Historically the only p stream was impacted was on the North Fork of the Right Fork of Miller Creek. (Freethy) was in an area of low overburden (300-500) feet. These conditions could not be found i tract and therefore should not have an impact under normal conditions.

Small Faults: The surrounding the property in the existing mines contain numerous small which were mined through by the operation. None of the subsidence features observed in field were related to these small faults. (The fault between the Gordon Creek 7 & 8 mi be classified a substantial fault). Mining through small faults should not be not caus abnormalities.

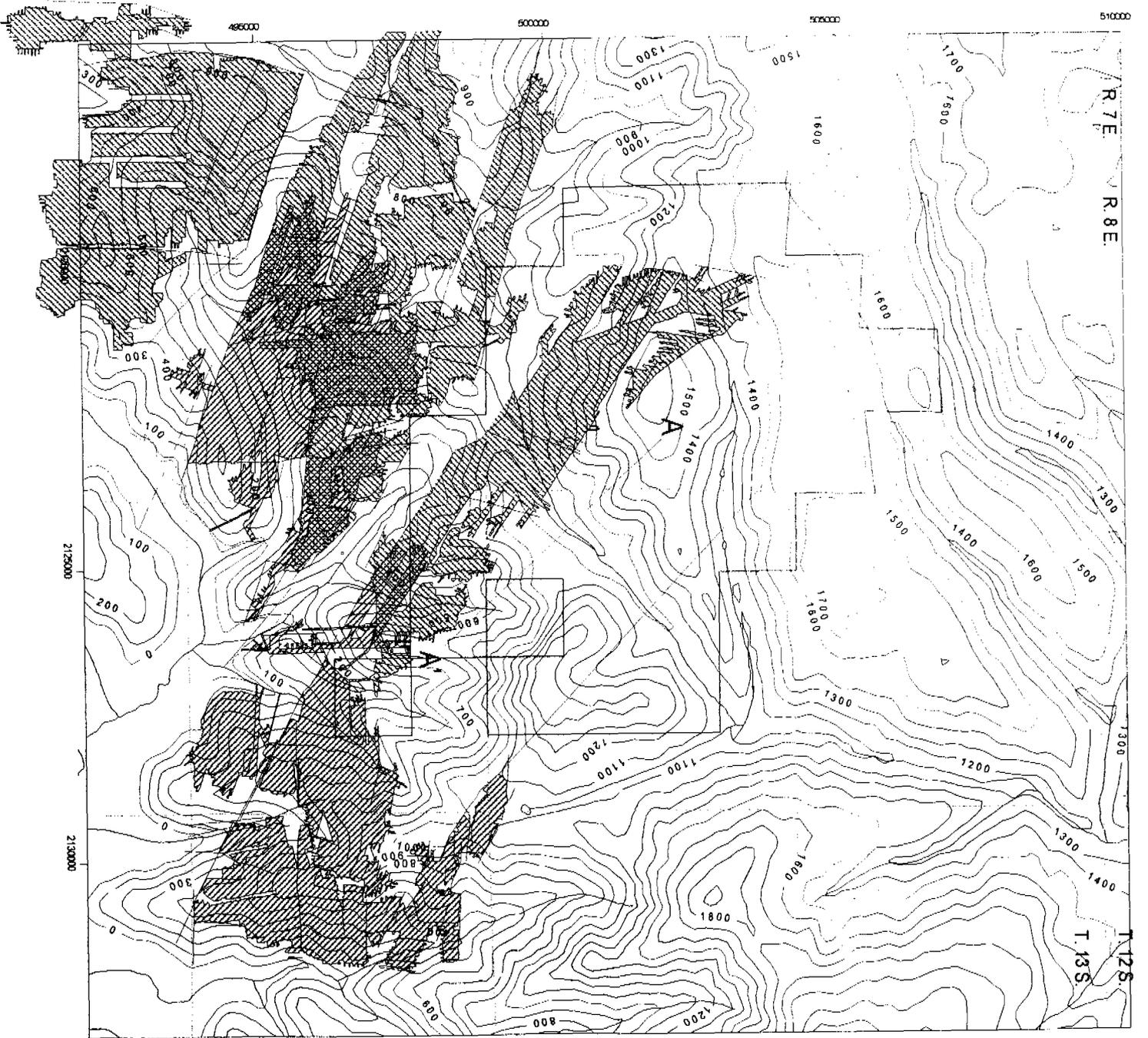
Bibliography

Surface Subsidence Engineering, Peng, SME, 1992

Response of Springs to Longwall Coal Mining at the Deer Creek and Cottonwood Mines,
Wasatch Plateau, Ut, Kadnuck, USBM IC 9405, 1994

Field Notes, Kohler, 1997

Hydrology of the North Fork of the Right Fork of Miller Creek, Carbon County, Utah, Bef
During, and After Underground Coal Mining, Slaughter, Freethey and Spangler, 1995, USGS
IR95-4025



Dave D.



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael L. Stewart
Governor
Ed Sowell
Executive Director
Lowell D. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

March 20, 1998

CERTIFIED RETURN RECEIPT REQUESTED
No. P 540 714 038

Paige B. Beville, Manager
Environmental, Health, and Safety
ARCO Coal Company
555 17th Street, Room 2170
Denver, Colorado 80202

Re: Findings of Fact, Conclusions of Law and Order and Finalized Assessment for State Notice of Violation N97-47-2-3, ACT/007/016, Mountain Coal Company, Gordon Creek 2, 7, and 8 Mine, Folder No. 5, Carbon County, Utah

Paige
Dear Ms. Beville:

On February 24, 1998, an Informal Hearing and Assessment Conference was held to review the fact of violation and proposed assessment for state violation N97-47-2-3 ("the NOV"), Gordon Creek 2, 7 and 8 Mine, Mountain Coal Company. As a result of a review of all pertinent data and facts, including those presented in the Informal Hearing and Assessment Conference, the following shall constitute the Findings of Fact, Conclusions of Law and Order and Finalized Assessment:

Fact of Violation

The NOV is a three part notice of violation.

Number 1 of 3 was written for: "Failure design locate, constructed and maintained diversion channels."

Provisions of act, regulations and permit violated: R645-301-742.312-312.1.

Portions of the operation to which notice applies: Right Fork Channel, Channel SD-4, Channel SD-5 and Channel SD-6.

Remedial action required: Reconstruct channels to ensure stability, remove displaced riprap, replace filter bed, reline channels with graded angular riprap having a D-50 of 6" or larger.

The inspector statement: Major sections of riprap had washed out of four channels whose purpose is to transmit flows across the reclaimed number 2 mine pad. Minor down cutting had occurred

in the channels as a result of diminished channel protection. Under 'explanation' the inspector (Senior Reclamation Specialist Dave Darby) stated, "regulations require permanent diversion structures to be stable (R645-301-742-32.1) (sic) provide protection against flooding and be designed to transmit the 100-year 6-hour runoff . . . and (explanations following the degree of fault portion of the statement). "The operator is responsible to construct a channel with a properly sized riprap to transmit the design storm which is the 100-year 6-hour event for permanent structures. " . . . and without information showing the design event had been exceeded, the operator was in violation of R645-301-742-323."

Number two of three was written for: "Failure to design, construct and maintain sediment control structure."

Provision of act, regulations or permit violated: R645-301-742.213 (siltation structures).

Portion of operation to which notice applies: Gabion rock weirs below access gate on sides of access road.

Remedial action required: Remove and reconstruct gabion rock weirs. Ensure that ends of weirs are keyed into the banks, develop pools behind weirs to trap sediment.

The inspector statement: (Regarding occurrence of the event.) "Four of seven gabions structures were washed out. Their purpose is to contain and filter runoff." Explanation: "The operator did not supply the information necessary to show that a 10-year 24-hour precipitation event fell over the area which the regulations require for temporary structures."

Number three of three was written for: "Design, construct and maintain control measures to minimize erosion."

Provisions of act, regulations or permit violated: R645-301-742.113 (minimization of erosion to the extent possible).

Portion of operation to which notice applies: Gully on #2 Mine pad below cut slope. Part of the ripped slope on the #2 Mine pad east of channel SD-4. Slope on south side of main channel reach 4 on Plate 3-7A. Deep rill on #7 Mine pad.

The inspector statement: "The areas on the reclaimed number 2 Mine pad had incurred damage as runoff removed topsoil and cut deep rills into the mine pad." (Explanation at Seriousness section.) "Regulations require the operator to minimize erosion to the extent possible . . ." (Explanation at Degree of Fault section.) "The damage occurred as a result of several rainstorms hitting the area. Riling and soil erosion are prima facia indications that best technology applications were not instituted."

Discussion on the fact of the violation for the Division was carried by Senior Reclamation Specialist Dave Darby. Mr. Darby indicated that he was aware of wet field conditions beginning in early August 1997, and that inspections were conducted on August 13 and 27, that on these occasions he had observed dirt-covered riprap, some riling and had voiced concerns about the appropriateness of riprap placement. No NOV's were written over these concerns. Mr. Darby became aware of wet field conditions on September 5 and 6, September 18 thru 20 and September 22, and decided to inspect on

September 25. At the September 25 inspection, serious degradation to reclaimed surfaces and to the structures that became the subject of the three part NOV was noted.

The NOV was issued on October 1. After issuance, discussions with the operator regarding availability of equipment to complete remedial action began, as did discussions on availability of suitable riprap to rebuild degraded diversions. Other discussions included what plans were required prior to initiation of construction activities to satisfy part 3 of the NOV, and what data could be submitted to demonstrate exceedence of the design storm (in this case the 100-year 6-hour event). Mr. Darby provided a chronology of activity relevant to the NOV, and used photos from previous inspections and sketch maps to support his contention that violations to the Coal Regulatory Program had occurred. No data were presented to substantiate that inadequate designs or construction activities contributed to the reclamation failures constituting the NOV. Mr. Darby suggested the three part NOV be upheld because the operator had not notified the Division of adverse conditions, did not have rain gages on site, and did not have as-builts to demonstrate reclamation had been conducted in accordance with the approved mining and reclamation plan (MRP).

Paige Beville represented ARCO Coal at the Informal Hearing. She acknowledged the operator's obligation to maintain the site in the configuration dictated by the reclamation plan, and in a manner that conformed with the performance standards of the Utah Coal Regulatory Program. A chronology was presented showing the operator's representative had been visiting the site during September, the period that sustained wet weather. Ms. Beville stated that the inspections conducted by ARCO prior to a major storm on or about September 22 indicated that the site had successfully withstood the precipitation events that preceded the September 22 storm. Minor riprap movement was noted in an inspection on the 9th, and heavy damage was observed in an inspection on September 23. This chronology noted that ARCO's representative, Dan Guy, discussed the rain damage with Dave Darby by telephone on September 24. The inspection that ultimately resulted in the NOV occurred on September 25, the violation was issued on October 1.

Ms. Beville indicated that early abatement of the three-part violation was prevented by wet field conditions, but stated that equipment was mobilized to the site about ½ day before ground conditions allowed initiation of construction. She also indicated reluctance on the part of the operator to begin the remedial activities mandated at number 2 of 2 until the Division had approved the requisite designs.

Ms. Beville stated that ARCO had provided the Division with calculations that demonstrated the site had sustained a storm in excess of the 100-year 6-hour precipitation event.

Mr. Darby indicated his review of ARCO's storm calculations substantiated an exceedence of the 100-year 6-hour precipitation event had occurred, but not of the magnitude calculated by ARCO.

Permit Supervisor Joe Helfrich provided information from similar instances that occurred in other states. One state asserted that a violation of their program had not occurred because data supported an exceedence of the design storm event, and because the operator had advised the state regulatory authority (RA) of the problem that was eventually found to have been caused by the design storm exceedence. Another state discussed an inspection that followed a design storm exceedence, and discussed mechanisms that resulted in rehabilitation of the site following this exceedence. Discussions between Division employees prior to the Informal Hearing had focused on an understanding that an

operator has a requirement to advise the Division of deteriorating site conditions.

Findings

1. The Informal Hearing and Assessment Conference was requested in a timely manner and was appropriately noticed.
2. The Notice of violation was abated on December 8, 1997.
3. Permanent diversion channels discussed in violation number 1 of 3 must be designed and constructed to pass the peak runoff from a 100-year 6-hour precipitation event.
4. An approved permit including designed channels exists for this site.
5. The Division presented no evidence at the hearing that the cited diversions had been improperly constructed or maintained.
- X 6. The operator presented data to substantiate an exceedence of the 100-year 6-hour precipitation event, and calculations by Senior Reclamation Specialist Dave Darby confirmed the exceedence.
7. Violation number 2 of 3 alleged a violation of R645-301-742-213 (pertaining to siltation structures) and asserted damage had occurred to gabion rock weirs.
- X 8. Gabion rock weirs are not siltation structures, they are categorized as alternative sediment control measures.
9. The maximum design storm for siltation structures is the 100-year 6-hour storm.
- X 10. Siltation structures perform higher order sediment control than alternative sediment control measures.
11. Alternative sediment control are not designed to out perform the design storm of a siltation structure.
12. The operator presented data to substantiate an exceedence of the 100-year 6-hour precipitation event, and calculations by Senior Reclamation Specialist Dave Darby confirmed the exceedence.
13. Sediment control measures for the areas cited in violation number 3 of 3 were part of an approved MRP.
14. The Division presented evidence suggesting certain "contour ripping sediment control measures" had not been performed on the contour.

15. The general failures cited in number 3 of 3 are not all attributable to failure to rip on contour.
16. Performance failures in sediment control measures followed a storm that has been demonstrated to exceed a 100-year 6-hour precipitation event.
17. Alternative sediment control measures do not have to perform in excess of a 100- year 6-hour precipitation event.
18. The operator evaluated site conditions following heavy rains on September 10, and September 19, and determined some riprap movement had occurred. Site conditions had deteriorated after heavy rains that followed the September 19 operator inspection as revealed by a September 23 inspection.
19. The operator and the Division discussed site conditions on September 24.
20. The Utah R645 regulations mandate when an operator must notify the RA following the occurrence of certain events.
21. The R645 regulations are silent regarding an operator's requirement to notify the RA of the occurrence of erosion, although such a practice should be encouraged on a case-by-case basis.
22. The Utah Coal Regulatory Program does not have a requirement to have precipitation data collecting on site.

Order

Violation N97-47-2-3 consisting of parts 1, 2 and 3 is vacated. The vacation is based on evidence submitted by the operator and substantiated by the Division that demonstrates impacted portions of the Gordon Creek number 2, 7 and 8 Mine site had sustained runoff in excess of the 100-year 6-hour precipitation event.

Assessment Conference

An Assessment Conference followed the fact of violation hearing. Paige Beville represented ARCO, and Mary Ann Wright represented the Division in the absence of Pam Grubaugh-Littig, the Assessment Officer. The Division's rationale for the proposed assessment was presented, using the assessment form with support from the inspector statement. Ms. Beville stated that aggregate penalties resulting from a three-part violation all based on an inspection following what had been demonstrated to be a design storm exceedence placed the operator in a position of multiple jeopardy. The Assessment Conference Officer agreed to review the proposed assessments following his review of the fact of the violations.

Page 6
Paige B. Beville
ACT/007/016
March 20, 1998

Finalized Assessment

Vacation of parts 1, 2 and 3 of N97-47-2-3 precludes the need to finalize the proposed penalties.

Remarks

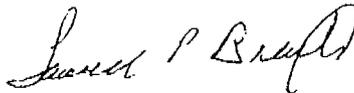
Given evidence for out of compliance site conditions at the time of the inspection, the Division's decision to take enforcement action was prudent. In an identical future situation, and again lacking evidence that the failures were directly related to improper design or construction, the Division might wish to reconsider issuance on the basis of "failure to design or construct." Lacking evidence to the contrary, an approved MRP is in itself an approved design. No evidence beyond local ripping off the contour was presented supporting a failure to construct according to plans. No photographic evidence of site conditions at the time of the inspection was presented at the Informal Hearing. (Photos of site conditions prior to the inspection were offered.)

With appropriate photographic or other evidence, and lacking a demonstration of a design storm exceedence, a "failure to maintain" NOV would likely have gone uncontested.

While it is clear that damage was sustained at three portions of the reclaimed site, the similarity of the damage noted at each part of the NOV (erosive failure) makes the issuance of a three-part NOV questionable.

Given the need to mobilize equipment, the field conditions following the September 25 inspection, and weather conditions following the inspection, the operator's efforts to re-establish appropriate site conditions are appreciated.

Sincerely,



Lowell P. Braxton
Assessment Conference Officer

vb
cc: D. Guy, Blackhawk Engineering
M. Wright
PAGROUPS\MINES\WPAGC278.WPD

