.0018

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

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor
Robert L. Morgan
Executive Director
Lowell P. Braxton
Division Director

OK

September 24, 2002

TO: Internal File

THRU: Wayne Western. Senior Reclamation Specialist/Team Lead WW

FROM: David W. Darby, Senior Reclamation Specialist

RE: Phase I Bond Release, Mountain Coal Co., Gordon Creek No. 2/7/8 Mines, C/007/016-BR01B-1

SUMMARY:

Canyon Fuel Company, LLC, submitted a response to deficiencies for Phase 1 bond release on August 2, 2002. The initial application was received on October 25, 2001. A Technical Analysis of the application was completed dated February 25, 2002, which identified some deficiencies. It was reviewed under the requirements of the Utah Coal Rules, R645-301-760.

The disturbed area was 34.88 acres. The portion requested for Phase I Bond Release is 32.52 acres. (This excludes the 2.36 acres associated with the sediment pond and the Sweet's pond site. The public notice accompanying this application indicates that backfilling and grading of the site occurred over a two-year period, from 1995 to 1997, with additional work conducted in 1999.

A field inspection of the site took place on September 10, 2002. Several areas of the minesite were observed. Bond release guidelines, Technical Directive-006 (dated September 5, 2000) and Utah Regulations R645-301-880.100 through 880.310 were used to ensure compliance with bond release protocol.

Swisher Mining Company originally disturbed the No. 2 mine in late 1969. No topsoil was salvaged at the site. Coal refuse was dumped along the embankments of the stream channel of Bryner Canyon. The portal was permanently sealed in 1985 by Mountain Coal Company.

The No. 7 Mine was disturbed in 1983. Extensive excavation occurred which left an escarpment of about eighty feet high. The No.7 Mine portal was sealed in December 1990.

Approximately fifty feet of the escarpment was covered during regrading and channels were reestablished.

The No. 8 Mine was disturbed in 1989 the life of the mine was short, because of poor mining conditions. The No.8 Mine was sealed in December 1990.

The No. 7 and No. 8 mine sites were backfilled and regraded in 1997. Reclamation of the No. 2 mine began in 1998.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

The Gordon Creek 2, 7 and 8 Mines are currently in the initial reclamation process of the mining procedures, although backfilling and grading occurred several years ago.

The permittee conducted backfilling and grading operations of the Gordon Creek #2, 7 and #8 mines a two-year period, from 1997 to 1998. The Division approved the permit reduction in September 2001, which reduced the permit area from 2286.05 acres to 180.0 acres.

The permittee has submitted a schedule for reclamation in Chapter 3, p. 3-64. A current schedule should be submitted to reflect the best estimate for continuing reclamation.

The permittee maintains a sedimentation pond and monitors for discharges in accordance with UPDES discharge standards.

Findings:

Information provided in the application is not considered adequate to meet the requirements of the regulation. Prior to approval the permittee must provide the following information in accordance with:

R645-301-764 The applicant should update the timetable by identifying seasons and estimated dates for repairing the perimeter fence, Channel SD-6, pond removal, regrading and seeding, gabions removal and disposition of Sweets Pond.

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The permittee has regraded, and contoured the disturbed area to direct runoff to the proper drainages. The surface was ripped and gouged to help store water for vegetation hydration and to help prevent sediment loading to channels, before vegetation cover get established. During some storms some gouge areas were breached, but a high percentage performed as intended.

The post-mining land use is identified as the "the same as the pre-mining land use" which is wildlife habitat, hunting, and grazing. During the reclamation period the post-mining land use will be wildlife habitat. At the end of the 10-year bond period the land will revert back to the landowner. The land use will then depend on the landowner's decision. Information in the plan, Appendix 3-4 indicates that the pond Mr. Jacob wants retained on site will be used for livestock. Chapter 4, p. 4-55 doesn't specifically identify grazing as a post-mining land use, however it is implied, because of the pre-mining land use statement.

Water quality monitoring and is being conducted to evaluate the reclaimed site's potential for meeting post-mining land use standards, Chapter 7, p. 7-21 and 7-25.

Findings:

The permittee has met the minimum hydrologic requirements of the regulation.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

General

Regulation R645-301-761, requires the operator to ensure all temporary structures are removed and all permanent structures meet the requirements of rules under R645-301 for bond release. The Permittee has already removed most of the temporary structures used during operation. Sedimentation ponds, 7a and 2 were removed during the regrading phase, along with drop drains, ditches, berms, silt fences and culvers. Plate 3-1

Several hydrologic structures will remain after bond release, they are mentioned below, also see Plate 3-7.

Ground-water monitoring

Groundwater monitoring is currently being conducted on spring source 2-10-W, the only groundwater source on the bond release area. Groundwater emanating from the spring flows into Jacob's Pond, which in turn flows to the main channel, Plate 3-7.

Surface-water monitoring

Water monitoring will continue until bond release. Post-mining water monitoring sites are identified on p. 7-56, Ch. 7. A recent application requesting to eliminate monitoring sites 2-3-W, 2-4-W, 2-5-W and 2-6-W near Beaver Creek has been review and recommended for approval. Active mining ceased in 1990. Subsidence monitoring continued through 1998

The North Fork of Gordon Creek supports a fishery and other wildlife. The mine has a UPDES discharge permit for discharges from the sedimentation pond. No known discharges have occurred from the spillway.

The permittee has not summarized water quality data to show that water pollution or surface water is occurring or if there is a potential of future impacts.

Acid and toxic-forming materials

The applicant has supplied water monitoring data from surface sites and one spring site Appendix 7-8. Phase II bond release requires the operator to summarize (describe) changes in water quantity and quality and to show that suspended solids are not being contributed to the receiving stream in excess of normal levels for that stream. Soil sampling was conducted prior to regarding. The samples showed no signs of acid or toxic forming materials. The sedimentation pond has captured all runoff, since regrarding of the site took place.

Transfer of wells

There are no wells on the disturbed area, thus no transfers have taken place.

Discharges into an underground mine

All portals have been sealed, no discharges into underground mines have taken place.

Gravity discharges

No gravity discharges have taken place since mine portals were sealed.

Water quality standards and effluent limitations

A sedimentation pond collects most of the runoff from the disturbed area. Any effluents from the sedimentation pond are monitored via a UPDES discharge site. Gabion structures capture sediments from the reclaimed fan portal side slope and sedimentation pond embankment/ turn-around/county road. The runoff from these sites have not been monitored for effluents directly, since the side slope area is relatively small the rock gabion structures were employed to contain silts and sediments. Rock gabion structures are a high maintenance structure and need to be cleaned out to function properly. The location of the gabion structures along the county road place a special burden on the operator because however there is a monitoring site down stream .

Rebuilt sections of the main channel in Bryner Canyon Creek, in the Right Fork of Bryner Canyon Creek and side drainages, SD-1, SD-2, SD-3, SD-4, SD-5 and SD-6 are shown on Plate 3-7. Bryner Canyon Creek, in the Right Fork of Bryner Canyon Creek are considered intermittent to perennial. The channels were designed to transmit the 100 yr-6 hr storm. Side drainages, SD-1, SD-2, SD-3, SD-4, SD-5 and SD-6 are classified as ephemeral. Channels for ephemeral drainages were designed for the 10 yr-6 hr precipitation event, Appendix 7,p. 2-2.

Reclaimed channel flow calculations are in Appendix 7-6 and Channel construction certification is in Appendix 7-7. Channel profiles are shown on Plate 7-9. Channel cross-sections are shown on Plate 7-7A.

A 48 inch culvert still remains in the Right Fork of the South North Fork of the North Fork of Gordon Creek. The culvert was installed to protect the channel from further subsidence impacts. Subsidence had taken place in approximately 1982 when an entry collapsed. The entry had only 28 feet of cover between the coal seam and the channel. The caved entry was sealed by bulkheads made of timber. The subsidence hole was backfilled and compacted. The culvert was installed to protect the channel. Engineering studies have been conducted by CBC engineers and Associates that show the culvert to be sound and stable, and designed to meet the requirements of the regulations. The landowner concurred with leaving the culvert in place after reclamation and has accepted responsibility for the maintenance after final bond release. See Appendix 7-5.

Stream buffer zones

The whole disturbed area is adjacent to an intermittent stream. Disturbance was conducted prior to SMCRA. All area along the stream channels have been regraded to AOC. The only stream buffer zones that should exist should be along the North Fork of Gordon Creek.

Sediment control measures

Other than the sedimentation pond, regarding and the reestablishment of vegetation help control sediment loading. During logging operations above the disturbed area a mass of

sediment breached the road embankment and ran down the mountainside, onto the disturbed area and into the sediment pond via channel SD-6. Sediment channels were carved out of the hillside and accumulated in the upper reaches of the canyon. A lot of sediment was washed into the sedimentation pond.

Siltation structures

A set of five rock gabions structures were constructed on the northwest side of the county road used to capture and treat runoff from the Fan Portal area in Bryner Canyon. The side slopes of Bryner Canyon are naturally steep. When the fan portal pad was excavated into the northwest slope of the canyon, a lot of the rock material and soil from side cast over the edge. The fan Portal was developed pre-SMCRA, but used post law. The soft side cast material became compacted some over the years, but rills developed from rainstorms. Sediments washed off the slope and down the ditch along the county road and through the gabion structures. The side slope of the fan portal area does not drain to the sedimentation pond. The gabions provide the only means of sediment control between the side slope and the stream channel.

Another two rock gabions were placed above the stream channel to control sediment from the sedimentation pond embankment and county road/turn-around area. The gabions provide the only means of sediment control between the sedimentation pond and the stream channel.

A gabion structures have been in place throughout the operational phase of mining. Gabions require a high degree of maintenance. A conflict exists since the gabions are located on county (road) right of way. Reconstruction and maintenance activities are taking place on the county road. These activities are operations outside the permit area. Alternative controls have been discussed, such as silt fences, however no action has occurred, because the slope is too steep and sediment discharges at the early stages of vegetation growth would have collapsed the silt fences.

The rock gabion will be removed before final bond release.

Sedimentation ponds

The existing sedimentation pond is a temporary structure that was built below the disturbed area at the beginning of the reclamation phase. It is a three celled structure built to treat the runoff, Chapter 7, p. 7-39. The pond will contains the capacity of a 10 yr-24 hr precipitation event plus sediment storage. Each cell contains an emergency overflow designed to discharge a volume flow equivalent to a 25 yr-24 hr precipitation event.

The three celled reclamation sediment pond will remain in place until vegetation standards and acceptable water quality limits are met, Chapter 3, p. 3-31. The details and designs for the pond are in shown in Plate 7-14 and Appendix 7-1. This will be Phase II. At the

time of Phase II bond release the sedimentation pond will be removed and the main channel restored, Plate 3-7B.

A professional engineer or specialist experienced in the construction of impoundments will inspect the sedimentation pond, Ch. 3, p. 3-63. A certified report will be submitted to the Division after each inspection, at least quarterly.

Impoundments

Jacob's Pond is a reclaimed stock watering pond. During Coal Mining the original stock pond was destroyed by Swisher. It was later constructed as a Sedimentation Pond, 2A. Jacob's Pond was reconstructed to meet post mining land use for stock watering. The pond is designed as a free flow pond that allows filling and discharge of channel flows from areas in the North Fork of Gordon Creek. It will transmit the design flows generated during a 100 yr-24hr event. See appendix 3-4 and Chapter 7, p. 7-40.

Sweet's Pond is a truck fill station. The pond is a permanent structure that was not reconstructed for reclamation. It will require bond release. The operator is responsible for the pond through the reclamation period. Sweet's Pond will be excluded from the Phase I bond release proposal. It is planned that after the site meets bond release requirements, the pond would revert to E.E. Peirce, Appendix 3-5.

Casing and sealing of wells

There are no groundwater monitoring wells on the Gordon Creek 2, 7 and 8 mine lease areas.

Findings:

The permittee has submitted sufficient information to meet the minimum Hydrologic Information requirements of regulations.

INSPECTION BY THE DIVISION

R645-303. 880.210.Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

A Phase I Bond release review was conducted on September 10, 2002. The review team met Dan Guy at the minesite. The purpose of the field review was to evaluate the site for backfilling and grading and to check some of the areas that have presented problems in the past.

Sedimentation Pond

The first structure evaluated on the review was the sedimentation pond. It consists of a series of three cells with concrete grouted spillways. Recent storms at the site had filled the upper cell with water. There was a small amount of water in the middle cell, but that was probably due to direct rainfall instead of overflow from the first cell. Sediment accumulation in the upper cell was obvious. Dan Guy was asked if the sediment storage level had been exceeded. He stated that the last surveys indicated that the pond had some storage left, however he was uncertain if the last storms had washed down additional sediment to exceed the sediment storage capacity. Dan mentioned he would conduct another survey to check the sediment level. There has been to sediment loading of the middle or lower cells of the pond.

Sediment loading in the pond had increased substantially ever since a storm caused a breach in the county road above the permit area. A large amount of sediment washed down channel SD-6 from the road and canyon. A large amount of the sediment was also piled up in the triburary above the minesite and continues to wash down the channel when it rains.

Stream Channels

Just above the ponds is the first side drainage, SD-6. There are five other drainages that flow into the main channel of Bryner Canyon. These drainages are shown on Plate 3-7. The lower section of SD-6 shows signs of down-cutting from erosion. The riprap has been washed out of a small section in the steep part of the channel. The eroded section needs to be riprapped to control erosion. It is likely due to the additional runoff and sediment contributed from the county road. This problem was to be remedied with the county repairing the road. Dan mentioned that he was having a hard time getting the County to cooperate with repairs. He stated that it had been repaired once, but has breached again. Runoff from the county road area increases the amount of runoff and loading, which is not factored into the runoff calculations or storage capacity for the hydrologic structures on the minesite. Without remediation of the flow pattern from the road, the Mining and Reclamation Plan is not accurate. This problem has to be fixed prior to bond release.

A reconicence of the other stream channels on the permit area identified them to be stable and functioning. The permanent culvert in the Right Fork of Bryner Canyon was also observed. It too was intact and stable.

Findings:

Information provided in the application is not considered adequate to meet the requirements of the regulation. Prior to approval the permittee must provide the following information in accordance with:

R645-301-880.210, The applicant should mitigate the problem of county road runoff entering the minesite. Channel SD-6 shall be repaired where riprap has washed out on the steeper section of the channel.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The applicant is required to install and maintain fences around the permit area to control cattle, keeping them off the property yet allowing them to use Jewkes Pond. Some of the fences have been cut and knocked down by trespassers. Those fences need to be repaired and maintained. The applicant will be required to repair the fences prior to Phase I Bond release.

Findings:

Information provided in the application is not considered adequate to meet the requirements of the regulation. Prior to approval the permittee must provide the following information in accordance with:

R645-301-300, Perimeter fences designed to keep cattle off the reclaimed area need to be repaired and maintained.

RECOMMENDATION:

It is recommended that the Phase I application should not be approved until deficiencies noted above are addressed.

O:\007016.GC2\FINAL\dwdBR01B-1.doc