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

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February 1, 2002

TO: Internal File

THRU: Susan M. White, Senior Reclamation Specialist/Team Lead *SMW*

FROM: David W. Darby, Senior Reclamation Specialist *[Signature]*

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

SUMMARY:

The Phase 1 Bond release application was received on October 25, 2001. 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.

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.

TECHNICAL MEMO

Analysis:

The permittee conducted backfilling and grading operations of the Gordon Creek #2, 7 and #8 mines a two-year period, from 1995 to 1997. 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:

R645-301-764 The applicant should update the timetable and plans to remove each structure as appropriate.

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.

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

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.

TECHNICAL MEMO

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. 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 regarding 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 all runoff from the disturbed area.

Diversions

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-D. 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

No other siltation structures exist on site than already discussed above.

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 contain 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.

TECHNICAL MEMO

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:

R645-301-880.210 The Permittee should summarize water quality data for the disturbed area and draft a findings whether pollution of surface and subsurface water is occurring, and the probability of future occurrences of such pollution.

RECOMMENDATION:

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