

September 15, 2003

TO: Internal File

THRU: Stephen J. Demczak, Environmental Scientist III/Engineer, Team Lead

FROM: Gregg A. Galecki, Environmental Scientist III/Hydrology

RE: South Fork Portals Reclamation, Canyon Fuel Company, LLC., Skyline Mine, C/007/005, Task ID #1663

SUMMARY:

The following is a review of a proposed amendment to the Skyline Mine Mining and Reclamation Plan (MRP) received by the Division on August 29, 2003. The amendment includes the use of waste rock during the reclamation of the portals located in the South Fork of Eccles Creek. The following review addresses aspects of the amendment from a hydrologic prospective only. Concerns from other disciplines are addressed in separate reviews. The proposal is currently considered deficient and items outlined below need to be adequately addressed to meet the minimum requirements of the State Regulations.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

TECHNICAL MEMO

Analysis:

Map 2.2.1-1 adequately illustrates that the portals are located within the Blackhawk Formation and the dip is to the west indicating that any infiltration of the mine waste will be towards the portals and not toward the creek.

Findings

The information provided adequately addresses the minimum requirements of the Environmental Resource Information – Geologic Resource Information section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Existing Surface Configuration Maps

Map 3.2.11-1 - Mine #1 Portal Breakout Area adequately identifies the area to be reclaimed on a reasonable topographic scale. Map 4.6.5-1 has also been included in the submittal to adequately illustrate the current surface surrounding the portal area and identify cross sections of the proposed backfill. No additional maps area required at this time.

Findings:

The information provided adequately addresses the minimum requirements of the Environmental Resource Information – Maps, Plans, and Cross Sections of Resource Information section of the regulations.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Groundwater Monitoring

No springs or wells exist in the vicinity of the South Fork Portals that would be affected by the current activity. Although waste rock has been included in the fill, it has tested negative for acidic and toxic properties. The dip of the geology is into the mine so any infiltration of the waste rock will flow into the mine.

Surface Water Monitoring

Stream monitoring site CS-15 is located approximately 600-feet downstream of the South Fork Portal area and encompasses the majority of the proposed disturbance. Two stream monitoring sites exist on the South Fork of Eccles Creek (CS-15 and VC-10, respectively). Based on flow records since 1990, CS-15 accounts for approximately 10-12 percent of the flow in the South Fork of Eccles Creek. The middle branch of South Fork of Eccles Creek (where the portals are located) is an ephemeral channel. Flow records since 1990 indicate flows range from 0 to 138 gpm, with an average recorded value of approximately 45 gpm. Skyline's sampling frequency is typically June-August-October and flow has only been observed in June indicating flow is typically in response to snowmelt and individual storm events. Should any localized adverse conditions arise at the reclamation site, CS-15 should adequately document any changes.

Acid- and Toxic-Forming Materials and Underground Development Waste

Acid and toxic-forming materials generation to the point that it causes environmental harm is unlikely. The waste has been tested and will continue to be tested prior to placement as backfill. The portals are located approximately 25-feet vertically and 70-feet horizontally from the middle branch of the South Fork of Eccles Creek that is an ephemeral drainage (in that stretch) indicating communication between the two is unlikely. The portals are located on a well-vegetated slope with no drainages leading through the portal site, indicating sheet flow of water will be minimal through the site. The waste rock will also be covered by a minimum of 4-feet of topsoil and subsoil, highly reducing the infiltration of water through the waste rock.

TECHNICAL MEMO

Sediment Control Measures

The following drainage control measures need to be adequately addressed prior to approval of the proposed amendment. According to the Operator, the currently established road accessing the South Portal area needs improvements prior to construction enabling adequate vehicle access. These improvements include leveling of existing berm, widening of the road in narrow locations, and grading of the road inward (away from the creek). These improvements will increase the potential for concentration of runoff from the road. The Operator needs to make a text commitment to control sediment runoff from the road with the use of silt fences and/or straw bales prior to entering the creek.

During the reclamation of the stream bed currently beneath the culvert/land bridge accessing the South Portals (approximately 80-foot section), the Operator needs to make the following text commitments: 1) when the culvert is removed, the existing stream bed sediments will be roughened (using existing materials) to match natural roughness existing upstream and downstream of the disturbance; and 2) the deep-gouge roughening of the slopes immediately adjacent to the reclaimed stream channel will need to be armored by increasing the composition of straw, rock, and/or high-clay soil in the bank material to make the stream banks more durable while vegetation is being established.

At completion of the closure of the South Portal area, the Operator needs a text commitment to deep-gouge any reclaimed roads to eliminate any concentrated runoff from those areas until vegetation is re-established, or commit to maintain adequate sediment control structures within the permitted area.

Findings:

The information provided does not adequately address the minimum requirements of the Operation Plan – Hydrologic Information section of the regulations. Prior to approval, the following information must be provided in accordance with:

R645-301-742.124, The application must include a commitment to control sediment runoff from the existing access road with the use of silt fences and/or straw bales prior to entering the creek during active reclamation activities.

R645-301-742.211, The application must include a commitment to when the culvert is removed, the existing streambed sediments will be roughened (using existing materials) to match natural roughness existing upstream and downstream of the disturbance.

R645-301-742.120, The application must include a commitment to armor or construct the restored stream banks with material of increased durability as a form of sediment control.

R645-301-742.120, The application must include a commitment to deep-gouge any reclaimed roads to eliminate any concentrated runoff from those areas until vegetation is established, or commit to maintain adequate sediment control structures within the permit area.

RECLAMATION PLAN

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:

Hydrologic Reclamation Plan

In Section 2.4.4 of the MRP the Applicant commits to continuing sampling ‘throughout the post-mining period until the reclamation effort is determined successful by the regulatory authority’. This adequately covers the Hydrologic Reclamation Plan.

Findings:

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Hydrologic Information section of the regulations.

RECOMMENDATIONS:

The proposed amendment is currently considered deficient. The above-cited items need to be sufficiently addressed prior to approval.