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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple

3 Triad Center, Suite 350

Salt Lake City, Utah 84180-1203

801-538-5340

December 20, 1988

TO: John Whitehead, Permit Supervisor
FROM: Richard V. Smith, Geologist *RVS*
RE: Review of Second Submittal to Amend Approved Mining Sequence, Section 18, Cyprus-Plateau Mining Corporation, Starpoint Mines, ACT/007/006-88D, Folder #2, Carbon County, Utah

Synopsis of Previous Permitting Actions

Stipulation 817.126-(2)-(RVS) of the New Lands permit approval dated August 7, 1987, restricted mining in Panel 3 of Wattis Seam and Panels 7 and 8 of the Third Seam in Section 18. Longwall Development in Panel 3 was restricted from occurring in areas of less than 500 feet of overburden beneath the North Fork of the Right Fork (NFRF) Miller Creek to prevent material damage that could result in environmental degradation. Longwall development in Panels 7 and 8 was denied until potential subsidence-induced impacts from overlying Wattis seam development could be assessed.

The operator submitted an amendment request (ACT/007/006-88D), dated November 14, 1988, to delete Wattis seam development in Panel 1 and extend Panel 3 longwall extraction eastward into areas where overburden thickness varies from 200 to 500 feet beneath NFRF Miller Creek. The operator also requested approval for longwall development in Panels 7 and 8 of the Third seam.

In a Technical Memorandum dated November 21, 1988, it was recommended that the deletion of Panel 1 be approved and all other amendment requests related to Stipulation 817.126-(2)-(RVS) be denied.

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Synopsis of Second Submittal

The operator provided a second submittal, dated December 8, 1988, requesting revocation of Stipulation 817.126-(2)-(RVS) to allow complete longwall extraction in Panel 3 (now retitled LW009) and approval to mine Panels 7 and 8. The second submittal proposes single-seam longwall extraction in LW009 and Panel 7 and double seam longwall extraction where LW008 overlies Panel 8. Overburden thickness ranges from 200 to 850 feet in proposed mining areas that underlie NFRF Miller Creek. The segment of NFRF Miller Creek that is proposed to be undermined is 2400 feet in length.

Technical Analysis

The following analysis will be conducted in accordance with the approved administration waiver of UMC 817.126(a), dated December 16, 1988, and R614-301-525 of the recently Board approved and adopted Utah Coal Rules.

The operator has requested an amendment to allow unrestricted longwall mining beneath certain portions of NFRF Miller Creek. Previous analyses recognized that with less than 500 feet of overburden, NFRF Miller Creek would be at risk for experiencing mining-induced subsidence impacts that could reduce flow or decrease water quality. That finding remains unchanged. However, with the waiver of UMC 817.126(a), mining is no longer expressly excluded beneath perennial streams where subsidence-induced material damage could result in environmental degradation. Amendment ACT/007/006-88D requests approval for longwall mining beneath NFRF Miller Creek as follows:

<u>Longwall Development</u>	<u>Overburden Thickness Beneath Stream</u>	<u>Length of Undermined Stream Segment</u>
Panel 7, Third Seam	750-850 feet	700 feet
LW008, Wattis Seam and Panel 8, Third Seam	500-750 feet	700 feet
LW009, Wattis Seam	200-500 feet	1000 feet

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Previous Division technical analyses identified high risk for potential surface impacts where longwall mining would be conducted in areas of less than 500 feet of overburden (see Memorandum dated June 25, 1987). Moreover, the analysis presented in Exhibit 30 (page 6) of the PAP indicates the cave/fissured zone that propagates above the longwall panels in Section 18 will extend upward a minimum of 400 and 480 feet for single and double seam mining, respectively.

Development of LW009 where overburden is relatively thin appears to pose the greatest risk for tension cracking, vertical movement of the stream bed and slope failure adjacent to the stream. Later mining of Panel 8, after completion of LW009, will also create an environment of high risk for the development of subsidence-induced impacts to NFRF Miller Creek. Mining in Panel 7 poses moderate to low risk for the development of subsidence-induced impacts.

Proposed development attendant to ACT/007/006-88D requires Division review of compliance with performance standards under UMC 817.41, 817.57, 817.97, and because of the waiver for UMC 817.126(a), R614-301-525, regulations indicate that the nonrenewable resource (coal) shall be developed in a manner to minimize adverse impacts to renewable resources (wildlife, vegetative, hydrologic). Moreover, with regard to R614-301-525, longwall development beneath NFRF Miller Creek will not disrupt a public water supply or pose an imminent danger because the area is not inhabited.

The operator has provided detailed monitoring plans to identify mining-induced subsidence (pages 784-141 and 784-142, Map A and Exhibit 53) and impacts to vegetation and wildlife resources (page 817-23). In addition, the operator has described adequate mitigation plans to restore the stream channel (pages 783-122, 784-62b and 784-62c) and vegetative resources (page 817.23).

It is herein determined that the operator has provided adequate monitoring and mitigation plans to:

1. Identify potential mining-induced subsidence impacts, and
2. Minimize adverse impacts to wildlife, vegetative and hydrologic resources.

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However, the Division also recognizes that potential cliff failure, slope failure, or tree topping may, for safety reasons, prevent personnel from promptly implementing mitigation plans, particularly with regard to stream-channel restoration. A scenario may be envisioned whereby a significant portion of NFRF Miller Creek flow is diverted into the mine through tension cracks and because of mining-induced instability and attendant safety hazards, channel restoration cannot be promptly achieved. The potential for a significant portion of NFRF Miller Creek flow (more than 50 percent) to be diverted over an indefinite period of time precludes deriving a finding that development will be conducted in a manner to minimize adverse impacts to renewable resources. Accordingly, approval of Amendment ACT/007/006-88D will be contingent upon the operator agreeing to a stipulation that assures significant streamflow will not be diverted for an indefinite period of time.

Recommendation

It is recommended that Amendment ACT/007/006-88D be approved when the operator submits, for insertion into the PAP, a plan for temporary return of flow to NFRF Miller Creek. The plan must address the potential for hazardous surface conditions preventing prompt surface restoration of the channel as follows:

1. If streamflow is reduced by more than 50 percent for more than 30 days, inflow from the NFRF Miller Creek will be returned to the stream through a borehole drilled laterally to the surface.
2. Drilling will commence within one week after the 30-day limit, identified above, is exceeded.
3. Make application to Bureau of Water Pollution Control for an additional NPDES outfall point.
4. Upon stabilization of the ground and dissipation of hazardous surface conditions, the approved plan for channel restoration will be implemented.

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5. Upon successful sealing or bridging of channel tension cracks and no later than Section 18 abandonment, seal the lateral borehole with a cement plug.

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