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 DIVISION OF OIL, GAS AND MINING

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October 13, 1995

TO: Daron Haddock, Permit Supervisor

FROM: James D. Smith, Reclamation Specialist 

RE: Technical Analysis of Alkali Lease Incidental Boundary Change (IBC), including a review of the Cumulative Hydrologic Impact Assessment (CHIA) Soldier Canyon Mine - Soldier Creek Coal Co. ACT/007/018, Folder #2, Carbon County, Utah

The CHIA for the Soldier Canyon Mine is dated February 4, 1987. The proposed Incidental Boundary Change (IBC) is within the boundary of the Cumulative Impact Area (CIA) determined for that CHIA. The irregular western boundary of the IBC was made to correspond with the CIA boundary with the idea that the IBC would be covered by the existing CHIA. The common boundary is a ridge and effects to surface and ground water from the proposed mining in the IBC should not extend outside the CIA. There should be no material damage to the hydrologic balance outside the permit area from the proposed mining in the IBC area.

There are only ephemeral surface drainages and no known springs or seeps within or adjacent to the IBC. The proposed mining will advance entries by room-and-pillar method and there should be no subsidence. This mining activity should create no hydrologic consequences at the surface. Exhibit 5.21-5 shows the more extensive mining planned for the entire Alkali Lease and needs to be redone to show only the mining of entries proposed under the IBC request.

The only probable hydrologic consequence of mining coal in this area is interception of perched water in the Blackhawk Formation. When a perched water table is encountered by the coal mines in the Book Cliffs, water flow rapidly diminishes and often ceases soon after the water bearing zone is breached. Water intercepted in this manner in the Soldier Creek Mine is collected in sumps and used for in-mine operations, with excess water discharged into Soldier Creek. The mine was discharging roughly 130 gpm in 1987 when, in addition to water intercepted by mining, water was being pumped to dewater a sealed area where a fire had occurred. From 1988 to 1991 water discharge increased from 259 acre-feet (approximately 160 gpm) to 927 acre-feet (approximately 580 gpm) as the mine intercepted a fracture zone with flowing water. In 1993 the discharge from the mine was down to 528 acre-feet (approximately 330 gpm), and down to approximately 300 gpm in 1994. No appreciable change in the amount of ground water intercepted or discharged should be expected from the proposed mine operations in the area of the IBC.



Before approval can be granted to add the entire Alkali Lease to the permit, the CHIA will need to be modified or redone.

DEFICIENCY:

Exhibit 5.21-5 shows the mine plan for the entire Alkali Lease and not just the entries to be mined under the IBC. This map needs to be redone to show only the mining proposed under the requested IBC.

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