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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

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January 4, 1996

Mr. Dave Darby, Reclamation Hydrologist
Division of Oil, Gas, and Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Genwal Mine Plan Modification-Longwall Mining, Crandall Canyon Mine, Act/015/032-95F, Carbon County, Utah, Folders 2 and 3.

Dear Mr. Darby:

In our comment letter, dated August 22, 1995, to the above referenced mine plan, we stated that our Southeast Regional Office in Price would be measuring the flow of Crandall Creek during the fall of 1995. We requested that these measurements be referenced to decide at what location the stream becomes perennial.

From these fall measurements, we are requesting that the entire Crandall Creek stream bed of both the north and south forks, be classified as perennial. We also request that a stream buffer zone for the entire stream be included as a requirement of the permit. The measurements were completed in conjunction with the U.S. Forest Service and showed quantifiable evidence that the stream is perennial. A visual inspection by Ben Morris, Utah Division of Wildlife Resources (UDWR), and Jeff DeFrees, U.S. Forest Service (USFS), on October 5, revealed a minimum of one to two cubic feet per second flow in the north fork. This flow was observed approximately 1.5 miles west of the main forks. Genwal mine had submitted that perennial flow ends within 100 yards above the fork. Jill Dufour, fisheries biologist, USFS, also toured the same area of the creek with Randy Gaynor, Genwal Mine and Dale Harber, USFS, the first part of September and found essentially the same situation regarding water flow.

During the inspection UDWR used the following criteria to define Crandall Creek as perennial:

☐ Water flow is present year round except during prolonged droughts.

☐ Hydric species were present on the greenline.

UTAH CENTENNIAL 1896-1996

☐ The presence of a macro-invertebrate community was visually verified by examining the underside of rocks in the stream. During the survey by Jill Dufour, a "flourishing" macro-invertebrate community was surveyed in the riffles. This community included Hydropsychids, mayflies, planaria, a species of Dipteran larva, and nematodes. A flourishing macro invertebrate community, especially mayflies are indicators of perennial water.

☐ No significant terrestrial vegetation was found in the stream bed.

☐ There is a defined channel (i.e., there is a defined bed and banks).

All five criteria were verified during both the October 5 and the early September visit by Jill Dufour. UDWR personnel also monitored the weir, approximately one mile below the forks in Crandall Creek, from early September through November. This monitoring showed the stream flow to be fairly constant. While the weir is located below the forks, the amount of flow remained fairly consistent with the measurement taken on October 5, when significant water was seen well beyond the fork.

We appreciate the opportunity to make our recommendations on this project. If you have any questions, please contact Ben Morris or Bill Bates at 801-637-3310 in our Southeast Regional Office.

Sincerely,

Robert G. Valentine
Director

cc: Jill Dufour, USFS

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DRAFT COMMENTS

STREAM FLOW INTERRUPTION MITIGATION

Genwal Resources, Inc. has submitted mine plans to place long-wall panels in Section 2 (State Lease 21568). Portions of these panels will be in areas which have intermittent drainages for several months due to snowmelt runoff. Genwal is presenting this mitigation plan even though several hundred feet of overburden is present between the coal seam and the surface; the interburden material is primarily shales which have been proven to be self sealing; and the land and mineral owner is the State of Utah.

If surface flows from the existing drainages are interrupted by subsidence and/or subsequent mine inflows are observed the following mitigation measures will be implemented. They are:

1. Field inspections will be immediately undertaken (within 72-hours) to locate the area of impact and to verify if an impact has occurred. Appropriate regulatory agencies and land owners will be immediately notified upon verification of any verified impact.

2. Using approved methods (horse, hand-carried, helicopter, etc.) to move appropriate materials to repair the stream inflow in the area of impact. It is proposed that a bentonite/cement mix be used with local materials as a backfill material.

3. Hand-excavation methods will be used to excavate the insitu sand, gravel and cobble materials within the inflow zone. (An appropriately sized flexible pipe will be used to bypass the flow while the remediation measures are being installed). The exposed insitu soils will then be mixed with the bentonite/cement mix (5 bentonite and 1 cement with 10 equal volumes of soil) and hand compacted. The coarse materials will then be replaced.

4. Where required geotextile fabric will be used to aid in bank and stream bottom stabilization.

5. The area being remediated will be inspected on a bi-weekly basis for an 8-week period. After the area is considered stable, annual inspections of the remediation work will be conducted.