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

355 West North Temple
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August 12, 1988

TO: John Whitehead, Permit Supervisor

FROM: Tom Munson, Reclamation Hydrologist TM

RE: Review of Utah Power and Light Company Hydrologic Monitoring Report, Cottonwood/Wilberg Mine, ACT/015/019; Deer Creek Mine, ACT/015/018; and Des-Bee-Dove Mine, ACT/015/017, Folder #2, Emery County, Utah

Synopsis

The Division received, on June 29, 1988, the Utah Power and Light Company's Hydrologic Monitoring Program Annual Report for 1987. The operator was asked to incorporate a summary of surface water and groundwater sites with the monitoring frequencies and parameters for these sites. This memo will document the adequacy of their current monitoring program and document future data collection needs or modifications.

Analysis

The analysis section will be divided into three subjects: Surface Water, Springs, and In-Mine Monitoring.

Surface Water

The operator is monitoring eight surface water sites and will perform monitoring on these sites as identified in their Annual Report. The operator will collect a high and low flow baseline parameter sample for Grimes Wash, Deer Creek, and Meetinghouse Canyon in 1989, the year preceeding repermitting, per the requirements of the Division's Guidelines. They are currently performing quarterly operational sampling and monthly field sampling on all sites except Cottonwood Canyon Creek and Deer Creek at the permit boundary, due to previous monitoring variances granted by the Division.

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The capacity of the flume below the Deer Creek Mine has been questioned in the past. It should be noted that this flume has a staff gage which comes into play when flows exceed the flume's capacity. As a general rule, the flume's capacity is not exceeded, but in extreme flows, the staff gage allows the operator to obtain flow data.

East Mountain Springs and Recession Study Springs

The operator is monitoring a total of 21 springs, of which 12 are recession study springs. The operator is obtaining two water quality samples, high and low flow (July and October) on all 21 springs, and monthly field parameters on the recession study springs. The list of springs identified represents the springs recommended for monitoring by the Division on April 13, 1987. The only exception to their recommended springs is spring 79-12, which is currently not being monitored. It does not have a defined flow and Ted's Tub Spring is being monitored in close proximity. Therefore, an exception to monitor 79-12 was granted.

The Forest Service has asked Utah Power and Light Company (UP&L) to investigate the six springs which are identified in the Division's May 11, 1988 memo. Until the Forest Service is able to verify field occurrence and formally document monitorable flow on these six springs, UP&L is not required to perform any monitoring of these springs. Formal concurrence was obtained from Carter Reid of the U. S. Forest Service on August 11, 1988, per a telephone conversation on this date. The U.S. Forest Service approves of the current monitoring program, with the exception of these six springs.

In-Mine Monitoring

The operator is currently performing monitoring at two sites in the Wilberg/Cottonwood Mine and at two sites in the Deer Creek Mine. The operator is currently collecting quarterly water quality data at all four sites.

The discussion of in-mine water production in this report is limited. The establishment of a more adequate mine inflow monitoring program is noted in a memo dated July 11, 1988 from Rick Smith to John Whitehead. Due to in-mine construction projects and abandonment of certain monitoring locations, the operator has not been able to maintain any long-term monitoring sites. The operator must make more of an effort to define in-mine quantity and give the Division a more comprehensive explanation of water production in the mine.

The operator must provide an updated plan to discuss their intentions regarding in-mine water monitoring drill holes.

Recommendations

1. The operator must include a more definitive and adequate in-mine sampling program which includes all major inflow sources, as well as an updated plan to discuss their intentions regarding the installation of in-mine water monitoring drill holes.

2. The operator will continue to use Drawing CM-10742-WB to demonstrate the location of springs in relationship to current mine plans and subsidence areas. Although Drawing CE-10404-EM shows the location of current springs and five-year overlay at a much greater scale, it does not include panel orientation by year or the location of subsided areas. Both drawings are useful and should be used to describe the applicability of current monitoring programs.

3. The operator must include a discussion of their intentions to monitor Rilda Canyon surface flows, as was committed to on page 2-85-b of the Deer Creek PAP.

djh
cc: R. Smith
B. Warmack, P.F.O.
WP+5/6-8