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United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

5 West Price River Dr.  
Price, Utah 84501

015/032 #2

Reply to: 2820

Date: August 21, 1991

Daron R. Haddock, Permit Supervisor  
Utah Department of Natural Resource  
Division of Oil, Gas, and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Dear Mr. Haddock,

RE: Response to Stipulations on State Leases ML-21568 and ML-21569, Revised State Permit Package, Crandall Canyon Mine, ACT/015/032, Folder #2, Emery County, Utah.

We have reviewed the revised Chapter 14 of the Permit Application pertaining to the state leases. The revised package does not adequately respond to the stipulations required by UDOGM in the Decision Package dated April 22, 1991. Thus, the Forest Service continues to be concerned about possible effects to National Forest System Lands adjacent to the leases. Specific concerns are as follows:

**Stipulation R614-301-525 DWD - Subsidence of Forest Service Surface**

The Permit Application Package contains contradictory statements about Genwal's commitment to not effect Forest Service surface. Section 14.3.2.1.2 of the Permit Application Package states on page 14-5 that mining will not occur within 30 degree angle-of-draw from the lease boundaries until the Forest Service grants permission or until geotechnical information indicates that no subsidence effects will occur with a lesser angle of draw. Consistent with this statement, plate 14-1 shows the retreat mining boundary at a 30 degree angle of draw well within the lease boundary. However, section 14.6.2.1 on page 14-38 states that a 30 degree angle-of-draw extending from the lease boundary was used to delineate the maximum limit of possible subsidence as shown in figures 14-9 and 14-10. These figures show subsidence effects extending across Forest Service boundaries which are contrary to the text in section 14.3.2.1.2 (page 14.5). Although Genwal has committed to not subsiding Forest Service Surface, all pertinent sections of the plan must be consistent in this commitment.

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DIVISION OF  
OIL GAS & MINING

## Stipulation R614-301-700 sf - Ground Water Hydrology

The groundwater hydrogeology of the lease area and adjacent areas has not been adequately characterized. Conflicting information has been presented in section 14.5.1.4 as to whether potential mine workings would be within or above the Starpoint-Blackhawk aquifer. Genwal acknowledges the need for collecting additional data to make a more accurate determination of the potentiometric surface, hydraulic gradient, and mine inflow rates. Yet, Genwal states in 14.5.1.5, that only minimal impacts on groundwater resources may result. Until the needed data is collected and evaluated such statements are speculative. The proposed data collection and analysis is needed to reasonably anticipate effects on groundwater resources before mining occurs.

The characterization of the hydrogeology of Upper Joe's Valley, which lies immediately west of the state leases, is lacking. Water originating on the west slope of East Mountain flows into Upper Joe's Valley where it sustains springs, streams, and a wet meadow. The Forest Service has claimed water rights on many of these springs. Subsidence caused by coal mining within the state leases will induce some fracturing of overlying strata. The potential for these fractures to intercept and dewater the water resources of the west slope of East Mountain should be evaluated.

Section 14.5.1.2 makes the case that mine dewater would not effect aquifers perched in formations above the potential mine workings because of permeability barriers. However, the potential for subsidence induced fractures to breach these permeability barriers and dewater these overlying aquifers needs to be addressed.

The ground water monitoring program is inadequate to establish any water losses if they should occur. Groundwater monitoring of only springs SP 2-24 and 2-9 is insufficient. The Forest Service has claimed water rights on numerous springs in upper Joe's Valley, immediately west of the state leases. Additionally, no springs are proposed for monitoring within the state leases. Yet, the leases contain springs with perennial flows such as SP2-35, SP1-13a, SP1-13b, and SP1-10b. Many other springs within the state leases have strong intermittent flow such as SP1-18 and SP1-19 which yielded 50 to 30 gallons per minute respectively in June 1990. These springs are likely to contribute substantially to the flow of the major streams of the area including Crandal and Blind Creeks and should be monitored. Figure 14-2 fails to identify an important spring along the east section line, section 2. It is identified as Forest Service Water Right 694.

Genwal should develop a plan to monitor effects on water resources in upper Joe's Valley and to monitor springs that may be contributing to ground and surface flow on National Forest System Lands.

**Stipulation 724.200-SF - Surface Water Information**

Insufficient information has been presented to characterize the flow of the various streams crossing the state lease and adjacent Forest System lands. We understand that studies are being conducted. These studies are concentrating on Blind Creek, Crandal Canyon, and Horse Creek. The study should be extended to the west slope of East Mountain to determine which streams are perennial. On July 30, two previously unidentified streams were flowing down the west slope of East Mountain in section 35 just north of state lease ML-21568. Flow was sufficient to suggest that these streams may be perennial. Additional and potentially perennial streams may be flowing down other canyons on East Mountain, as well. These other canyons on East Mountain should be checked for active streams. Any active streams should be monitored for a two year period to determine whether they are perennial. The Forest Service requests all data used in characterizing these streams and requests all proposals for retreat mining in these areas. It is essential that perennial streams be protected in order to maintain important water resources on National Forest System Lands.

**Stipulation R614-301-727-SK - Alternative Water Source Information**

Section 14.5.1.5 states that only minimal impacts on groundwater resources in the vicinity of the state leases may result. Without adequate characterization of the groundwater of the area, such a statement is speculative. The applicant should state what measures would be taken to protect premining water uses and what measures would be taken to replace water losses as required by R614-301-727.

**Response to other stipulations**

The Forest Service considers Genwal's response to other stipulations in the decision package to be adequate.

**Additional Comments**

The following changes in text would improve clarity of the MRP. On page 14-29, section 14.5.2.3, paragraph 2, the phrase, "what reaches of these streams of perennial", should say "what reaches of these stream are perennial." On page 14-12, section 14.4.1, the orientation of stratigraphic dip should be given.



for  
George A. Morris  
Forest Supervisor

cc:  
P.Kilbourne  
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