



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

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August 10, 1999

Johnny Pappas, Sr. Environmental Engineer  
Plateau Mining Corporation  
847 Northwest Highway 191  
Helper, Utah 84526

RE: K-Seam Mine Water; Suggestions for Determining Water Source, Plateau Mining Corporation, Willow Creek Mine, ACT/007/038, Folder #3, Carbon County, Utah

Dear Mr. Pappas:

The Division's Senior Reclamation Specialist, Sharon Falvey, has had recent discussions with you regarding handling and treatment of waters encountered when mining the K-seam at the Willow Creek Mine. This letter is written to document some of the discussion issues and hopefully provide you with some guidance in dealing with this issue through the permitting process. Of course treatment and discharge of the water is handled by the appropriate agencies as part of the UPDES permitting process. The Division's concern is not only with the discharge meeting the standards set by the State, but is also concerned with minimizing impacts. These impacts can best be minimized by identifying and controlling the source of inflow.

One potential source for impacts to the water, is the area of burned coal that outcrops along Willow Creek. Water quality analyses show a high concentration of Ammonium in the K-seam water. This water quality characteristic may be present from water moving through the burn area. Coal gas creates ( $H_2$ ,  $CH_4$ ,  $CO$ ,  $C_2H_6$ ,  $NH_3$ ,  $CO_2$ ,  $H_2S$ ). Since trapped gases from burned coal could react with groundwater, the ammonium concentration could increase from ammonia released during the burn.

As a cursory investigation to identify whether water moves from Willow Creek to the K-seam, the applicant should determine the following:

- 1) The maximum water elevation recorded in the K-seam.
- 2) The elevation where the burn seam intercepts Willow Creek.
- 3) The maximum mined roof elevation in the K-seam.

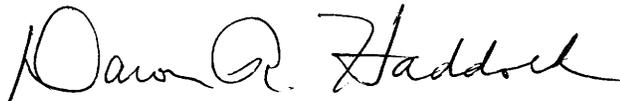
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After determining these elevations the water elevation can be mapped and compared to the region where the burn intercepts the Willow Creek channel. It is possible that Willow Creek is a losing stream through most of the region due to water deficit in the alluvial soils. If the system was completely recharged during the spring of a wet year there could be a correlation between the maximum water elevation in the K-seam and the burn outcrop. However, if the system was not completely recharged these results could still be inconclusive.

The next step would be placement of the third well. The existing wells show the water table is level. If the third well was placed near Willow Creek and the burn area, the water table may be elevated and this would support the possibility that water is recharging near the burn.

This information is provided to aid you in addressing the issues that will need to be covered when permitting future proposed K-seam dewatering. If you have any questions please call Sharon Falvey, Senior Reclamation Specialist at (801) 538-5260.

Sincerely,



Daron R. Haddock  
Permit Supervisor

tm  
cc: Vicky Bailey, Earth Fax Engineering  
Sharon Falvey, DOGM  
Paul Baker, DOGM  
Daron Haddock, DOGM  
Mike Herkimer, DEQ Water Quality  
Miles Moretti, DWR

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