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State of Utah

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DIVISION OF OIL, GAS AND MINING

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Folder #2

DIVISION OF OIL GAS & MINING TECHNICAL FIELD VISIT FORM

Date: October 9, 1996
Mine: J. B. King
File Number: ACT/015/002
DOG M Staff: Sharon Falvey, Susan White, Bob Davidson 
Other Attendees: None

Purpose: Visit the site to observe the erosion and water flow patterns that occurred following a significant rainfall event. To observe and make recommendations on pond design changes needed to meet regulatory requirements for all drainage reaching the pond.

Observations: The pond received runoff from an adjacent drainage through the spillway inlet. The spillway is located in a shallow low gradient area that drains into the pond. It was observed that if the pond had filled up during the event and water could not exit the outlet, the water might possibly breach near the road. The pond did not fill to the elevation of the spillway during the event.

The drainages down-cut during the event. The main drainage down-cut to an approximate 8-9 foot depth through fill material resulting in vertical exposed banks. It is expected that these banks will head cut to reach a grade compatible with the grade cut by the channel. The feeder ditch south of the main ditch also down-cut. However, the fill has been placed closer to the channel grade and is not expected to head-cut very much relative to the main channel. Another area has gullies that may develop into a drainage. The erosion at this site clearly demonstrates the need to establish a grading plan that is developed from the grade controls of the channel outward to the desired surface configuration for the site.

The deep gouging did show signs of breaching. This indicates that the rainfall event that occurred did not occur off-site and that the precipitation gauge on-site did not accurately measure the storm event. However, even though some of the gouging breached and formed rills, it appears the gouging did minimize the extent of rill formation while the roughness of the pile was maintained.

Recommendations/Conclusions:

The applicant has the following options to preform to demonstrate the pond will meet regulatory requirements:



1. Show that the pond can contain the adjacent area drainage and also provide a water elevation profile on the drainage and the pond to demonstrate the spillway will function as an outlet should the pond fill and when the drainage is flowing.
2. Move the spillway to the south between the ditch and the road and raise the embankment adjacent to the ditch to prevent inflow to the pond.
3. Lower the gradient of the ditch. (Not recommended because it is outside the disturbed area and may require an additional 404 permit).

The operator is presently conducting an erosion monitoring program and should conduct monitoring soon to determine the extent of the erosion that occurred from the event.

Initialed by: WAZ on 10/2/96
(Permit Supervisor) (Date)