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STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

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April 20, 1982

Mr. Rob Wiley
Environmental Engineer
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

RE: NOV #82-4-4-2, #2 of 2
Evaporation Cells at Sowbelly
Canyon
ACT/007/004
Carbon County, Utah

Dear Rob:

Upon reviewing the April 8, 1982, submission detailing the rainfall runoff characteristics and required evaporation pond capacities for Sowbelly Canyon, the following items were emphasized.

Rather than review the total runoff occurrence in the Sowbelly Canyon disturbed area in relation to capacity requirements, the approximate runoff occurring from each sub-basin into each cell (003-004-005) was calculated. This is due to the fact of each cell serving separate drainage areas. The required holding capacity for the 25-year, 24-hour event and the excess storage capacity available was derived for each cell (see Attachment A).

An average curve number of 80 was utilized since the area is partially revegetated and unpaved. The required holding capacity was calculated for the 25-year, 24-hour storm with sediment storage. The excess capacity for storage was calculated. The 10-year, 24-hour required capacity was also calculated to provide that cells 004 and 005 can actually retain a 10-year, 24-hour event on top of the 25-year, 24-hour event. This, of course, means dewatering of cell 003 to the lower two will occur but at a rate and amount that may readily be assimilated in both the lower cells.

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The design for cells 003, 004 and 005 has proven to be sized in excess of that required for a sediment pond, UMC 817.42, in that the 25-year, 24-hour event plus a 10-year, 24-hour event can be contained at one time. The Division concurs with Price River Coal Company's request to call these evaporation cells. Considering the probability of a design storm occurrence and the fact that the average annual lake evaporation rate is 40 inches and pan evaporation 55 inches which by far exceeds the average annual precipitation of 18 inches, DOGM feels there is little likelihood for error in the assumption that the evaporation cells are adequate. In light of these findings, a discharge structure will not be required for any of these cells.

If you have any further concerns, please call me.

Sincerely,



SALLY KEFER
RECLAMATION HYDROLOGIST

cc: OSM
Dave Lof, DOGM

SK/btb

ATTACHMENT A

Curve Number = 80

25-year, 24-hour Q = .67 inches 10-year, 24-hour Q = .44 inches

Cell	Capacity	Drainage Area Acres	25 yr-24 hr Required Storage Capacity	Sediment Storage	Total	Excess Capacity	10 yr-24 hr Required Storage Capacity
003	11253	4.0	9728	508	10236	1017	6389
004	40460	7.5	18241	953	19194	21266	11979
005	16766	2.5	6080	318	6398	10368	3993

(All values in cubic feet.)