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8/15/1985

CONSULTANTS / ENGINEERS

VAUGHN HANSEN ASSOCIATES

WATERBURY PLAZA - SUITE A
5620 SOUTH 1475 EAST
SALT LAKE CITY, UTAH 84115
(801) 272-5263

July 16, 1985

RECEIVED

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DIVISION OF OIL

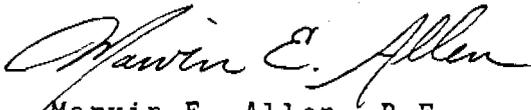
Mr. D. Wayne Hedberg GAS & MINING
Permit Supervisor/Reclamation Hydrologist
State of Utah - Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center - Suite 350
Salt Lake City, Utah 84180-1203

Dear Mr. Hedberg:

At the request of Ben Grimes, Environmental Coordinator of Plateau Mining Company, submitted herein are three copies of our letter to Mr. Grimes, responding to DOGM review comments outlined in your letter dated June 5, 1985. Included with the letters are all design calculations and design details for Sediment Pond No. 2.

If you have any questions, please call.

Sincerely,



Marvin E. Allen, P.E.
Executive Vice President

MEA/jd

Enclosures

cc: Ben Grimes

**VAUGHN
HANSEN
ASSOCIATES**

WATERBURY PLAZA - SUITE A
5620 SOUTH 1475 EAST
SALT LAKE CITY, UTAH 84121
(801) 272-5263

July 8, 1985

Mr. Ben Grimes
Environmental Coordinator
Plateaus Mining Company
P.O. Drawer PMC
Price, Utah 84501

RE: Response to Comments for Sediment Pond #2 - Star Point
Mines.

Dear Ben:

As directed, we have completed our review and response to the questions asked by the Utah Division of Oil, Gas and Mining in their letter dated June 5, 1985. The response to each question presented by the Division is discussed below separately.

Comment #1:

The sizing for the principal spillway does not appear to be adequate. Based on the Division's peak flow review the principal spillway for the #2 Sediment Pond must be capable of passing approximately 16 cfs. As presently designed, the spillway for the #2 Sediment Pond is limited by the 12 inch barrel culvert through the embankment at approximately 10.5 cfs.

Response #1:

The peak discharge from the 25-year 24-hour precipitation event has been recomputed using our HYDRO model, which predicts runoff hydrographs using the SCS Unit Hydrograph Methodology. Using HYDRO our prediction of the peak discharge is approximately 17 cfs. Therefore, the principal spillway has been redesigned to carry a total flow rate of 17.2 cfs with 1.3 feet of head above the principal spillway inlet. The redesign consists of a 24 inch CMP riser and an 18 inch CMP outlet pipe. The calculations presented in Appendix A show that weir and orifice control dominate up to a head of approximately 1.75 feet above the spillway crest, whereafter pipe flow governs with a maximum flow of approximately 20 cfs. Design detail sheets are attached.

Comment #2:

No emergency spillway has been incorporated into the #2 Sediment Pond design. UMC 817.46 (1) requires that an appropriate combination of spillways, one emergency and one principal spillway, be used for the conveyance of excess flows through the sediment pond. The purpose of this requirement is to prohibit possible failure of the sediment pond because the principal spillway pipe becomes plugged or is not capable of handling the flow. Plateau Mining Company must incorporate an emergency spillway into the design of Sediment Pond #2.

Response #2:

An emergency spillway has been designed for Sediment Pond #2 which consists of an 18 inch CMP riser and a 12 inch CMP outlet pipe. Calculations presented in Appendix A show that the total combined principal and emergency spillway flow at the maximum potential head in the pond of 1.5 feet is approximately 24 cfs. If the principal spillway were to plug, the emergency spillway would have a capacity of approximately 7.6 cfs just before overtopping the embankment. Additional design details can be found on the attached drawings or in Appendix A.

Comment #3:

A grouted riprap splash basin has been located at the base or outlet of the barrel culvert through the embankment. No design information for the splash basin was provided with the designs for Sediment Pond #2. In accordance with UMC 817.47, Plateau Mining Company must provide documentation demonstrating that the proposed splash basin dimensions will be acceptable.

Response #3:

Design modifications were required on the splash basin due to the addition of an emergency spillway. Design details of the new energy dissipation structure are shown on the attached detail sheets and calculations are presented in Appendix A.

Comment #4:

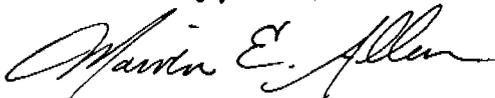
The cross section on map titled "Sediment Pond #2 Design Details" indicated that a six-inch CMP riser will be installed vertically from approximately the crest of the embankment down to the barrel culvert through the embankment between the two antiseep collars. No documentation is provided regarding the purpose of this riser, therefore, Plateau Mining Company must describe the use of the riser.

Response #4:

The six-inch CMP riser referred to was initially designed so that the pond could be dewatered by pumping water from the pond into the pipe spillway. In the design presented herein, the six-inch CMP riser has been eliminated and replaced with a dewatering orifice as shown on the attached drawings. The efficiency of the pond in settling out settleable solids was determined by use of the University of Kentucky "SEDIMOT II" watershed and sedimentology simulation model. The peak effluent settleable concentration was estimated to be 0.06 mg/l (0.00004 ml/l) as shown on the computer printout in Appendix B. The runoff sub-areas used in the calculation of the runoff characteristics are shown in Figure 1.

If you have any questions regarding the above mentioned items, don't hesitate to call.

Sincerely,



Marvin E. Allen, P.E.
Executive Vice President

MEA/jd