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C. RAY JUVELIN

1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

CLEON B. FEIGHT
Director

May 22, 1978

Mr. Mark L. Adkins
Geologist
Plateau Mining Company
P.O. Drawer FMC
Price, UT. 84501

Dear Mr. Adkins:

Thank you for your letter of April 27, 1978 concerning volumetric data for your proposed sedimentation pond and dam. As you probably already know, on May 3rd 1978, U.S. District Court Judge Thomas Flannery made the decision that design criteria regulating sedimentation ponds were to be remanded until the Secretary published final regulations and the court reviews the merits of those regulations. Therefore, enforcement of Section 717.17 (E) has been enjoined.

Because of Judge Flannery's decision, the final design specifications for sedimentation ponds may be changed. I would like to comment on the design criteria that you proposed in your letter. Apparently you used the rational formula to compute a volume of runoff. This is an incorrect application of the formula as the result is peak flow in cubic feet per second.

The technique was developed in 1870 for the design of a storm facility for Rochester, New York. If you assume a small impervious watershed the runoff intensity should approximate the precipitation intensity. The equation was developed as follows:

$$q = (in/hr) = p (in/hr)$$

$$q = i (in/hr) \times 1/3600 \text{ hr/sec} \times A_c \times 1/12 \text{ ft/in} \times 43560 \text{ ft}^2/\text{ac}$$

$$q = 1.00833 i A, \text{ for a small impervious watershed}$$

$$q = ciA$$

Where q = peak flow in cfs

c = land coefficient

A = area in acres

i = rainfall intensity in inches/hour

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When designing the sedimentation pond, if required by the final regulations, I would suggest consulting Sections 6.6.1 and 6.6.2 of the M.E.S.A. Engineering and Design Manual - Coal Refuse Facilities. There is a good discussion of the SCS runoff curve number technique for estimating runoff volumes and there are several methods listed concerning peak flow determination.

If you have any questions please feel free to call.

Sincerely,



K. MICHAEL THOMPSON
RECLAMATION HYDROLOGIST