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KAISER STEEL

KAISER STEEL CORPORATION
SUNNYSIDE COAL MINES
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August 19, 1983

Mr. Tomas Munson
Reclamation Hydrologist
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: Pasture Sediment
Pond
ACT/007/007 #4
Carbon County, Utah

Dear Mr. Munson:

Thank you for reviewing the Pasture sediment pond design. The items mentioned in your letter of August 11, 1983 are addressed in this letter or the material is enclosed.

Rip-rap will be used to protect the inlet and outlet to the sediment pond and the culvert under the haul road. Rock at the mouth of the outlet will be 12 inch minus. Smaller sizes (6 inch minus) will be used at the pond inlet and at the culvert mouth and outlet.

Water velocities of 5 feet per second are expected in the ditches for a 25 year storm. In table 3.2 of Applied Hydrology and Sedimentology For Disturbed Areas by B.J. Barfield and R.C. Warner 1981 under graded loam to cobbles when non-colloidal and clear water the limiting velocity is 3.75 feet per second. Limited errosion would take place if prevention measures are not taken. Rocks will be placed in the channels to act as energy dissipators at intervals not to exceed 200 feet. Rip-rap will be placed at the 90 degree bends where entering the culvert or where the ditches join. The ditch calculation presented in the plan is for the inlet or outlet ditch. The collection ditches along the haul road are in place and are wide borrow pits much larger than the proposed outfall ditch.

Stipulations in the State Board of Health Approval letter will be followed.

All topsoil will be saved and stored as per proceedures outlined in our letter of January 11, 1983 to Barton Kale.

The drawing D4-0083 has been revised to show the location of the proposed rip-rap.

Sincerely,

Douglas C Pearce

DOUGLAS C PEARCE
MINE ENGINEER

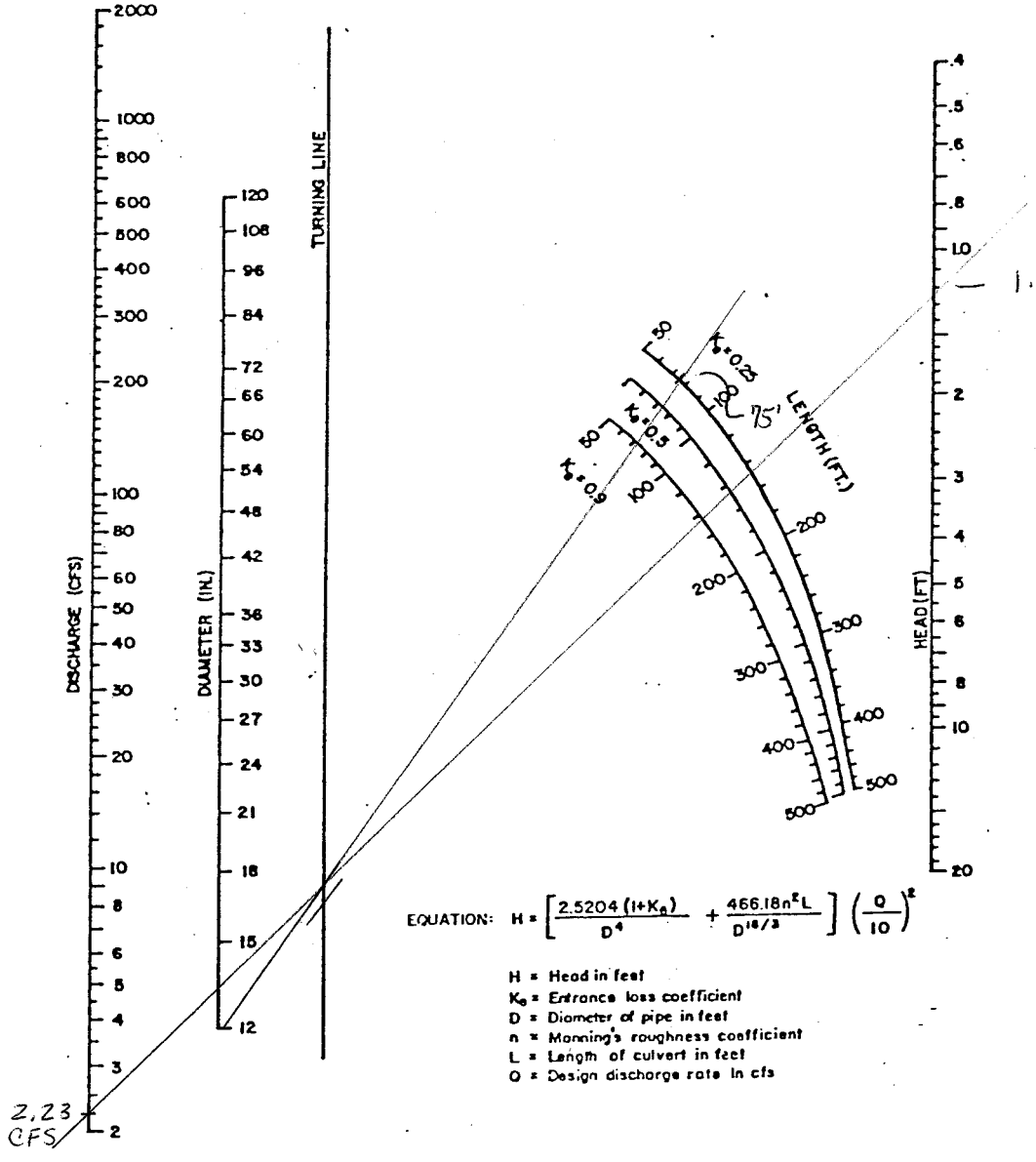

Figure 7A.3b. Pipe full nomograph - corrugated metal, n = 0.024. (adapted from Portland Cement Association, 1962)

Haul road culvert use 12" CMP