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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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November 18, 1997

TO: File

THRU: Daron Haddock, Permit Supervisor

FROM: Wayne H. Western, Senior Reclamation Specialist

RE: Thickener Pond Redesign Preparation Plant, Cyprus Plateau Mining Corporation, Willow Creek Mine, ACT/007/038-97J, File #2, Carbon County, Utah

SUMMARY

Amendment 97J, for the Willow Creek Mine, was received in the Price Field Office on October 6, 1997. The Permittee wants to redesign the thickener treatment ponds system. The new ponds will increase the storage capacity and be more stable than the existing pond.

TECHNICAL ANALYSIS:

The Permittee states in on page 3.4-2:

"Two thickener treatment ponds are used to clarify water used in the coal preparation process before returning it to the system. The thickener treatment ponds will be used as holding ponds for material from the thickener. A small pond adjacent to the thickener treatment ponds labeled the "Clearwater Pond" receives clarified overflow water from cells A and B. Water from the clearwater pond is pumped to the makeup water pond for recirculation to the coal preparation plant. These four water processing ponds have little or no surface water runoff flow into them. They are non-discharging; however they require emergency spillways to comply with the Utah regulations to prevent erosion of embankments in the event of overfilling or catastrophic events. In the event that the ponds must be drained for maintenance, the water will be pumped from them and channeled to one of the sediment ponds for processing before it is discharged into the Waters of the State."

R645-301-533.100 states that the Permittee will show that all MSHA ponds will have a static safety factor of 1.5 and a seismic safety factor of 1.2. Non MSHA ponds must have a static safety factor of 1.3. The Permittee failed to

comply with the requirements of R645-301-533.100 by:

- Not stating the volume of each pond and the maximum height of the embankments. That information is needed to determine if the pond is subject to MSHA requirements (total volume of 20 acre-feet or more, have a high of 20 feet or more)

- Not showing that the pond's embankments meet or exceed the appropriate safety factors.

R645-301-533.300 states that the slopes will be stable under rapid drawdown conditions.

- The Permittee did not address how the embankments will be protected from rapid drawdown.

Exhibit 3.4-4B shows the cross sections for Pond A and Pond B. The Permittee shows the existing ground level on each cross section. During an on site technical inspection the Division saw that a pond exists in the area where the ponds will be constructed. The existing ground level shown on Exhibit 3.4-4b does not show the existing pond.

- The Permittee must update Exhibit 3.4-4b so that it shows the existing topography.

R645-301-533.700 states that the Permittee will supply the Division with a detailed design plan for each non MSHA pond. The plan will include the operation and maintenance requirements. The Permittee's design plan was inadequate because it did not show:

- Cross sections for the Clearwater Pond.

- The cross sections for Pond A and Pond B did not show the locations of the primary spillway, the secondary spillway and the emergency spillway.

- The cross sections do not adequately show the topography surrounding the ponds. At a minimum the cross sections should show the embankment plus five times the pond's maximum depth. That information is needed for slope stability studies.

- The Permittee must state if the ponds will be inspected as one unit or if they will be inspected as individual units.

Drawing 3 of 15, shows a disposal stockpile area for excess cut materials, with a

note: refuse pile as well. Stockpiled cut materials and refuse materials must be stored separately. The Permittee must state what materials will be stored in the stockpile area.

Any material placed in a refuse pile will be considered refuse. Refuse materials must be reclaimed to the standards listed in R645-301-553.250. Those standards include a requirement to cover all refuse with at least 4 feet of suitable cover. Stockpiled soils do not have the minimum cover requirement.

Findings:

The Permittee did not provide the Division with adequate information. Prior to approval the Permittee must supply the Division with the following information:

The Permittee failed to comply with the requirements of **R645-301-533.100** by:

- Not stating the volume of each pond and the maximum height of the embankments. That information is needed to determine if the pond is subject to MSHA requirements (total volume of 20 acre-feet or more, have a high of 20 feet or more)
- Not showing that the pond's embankments meet or exceed the appropriate safety factors.

The Permittee failed to comply with the requirements of **R645-301-533.300** by:

- Not addressing how the embankments will be protected from rapid drawdown.

The Permittee failed to comply with the requirements of **R645-301-533.700** by:

- Not giving cross sections for the Clearwater Pond.
- Not showing the locations of the primary spillway, the secondary spillway and the emergency spillway in the cross sections for Pond A and Pond B.
- Not showing the topography next to the ponds on the cross sections. At a minimum the cross sections should show the embankment plus five times the pond's maximum depth. That information is needed for slope stability studies.
- Not stating if the ponds will be inspected as one unit or if they will be inspected as individual units.

The Permittee failed to comply with the requirements of **R645-301-121.100** by:

- Not showing the existing topography on Exhibit 3.4-4b.
- Not clearly stating if refuse and soil materials will both be placed in the stockpile area shown on Sheet No. 3 of 15.

CC: Sharon Falvey