

0013



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

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

October 16, 1996

TO: File #2

THRU: Joe Helfrich, Permit Supervisor 

FROM: Steven M. Johnson, Reclamation Specialist 

RE: RR1/RR2 Retaining Walls/Southern Embankment of Sediment Pond 12B, Willow Creek Mine, Cyprus Plateau Mining Corp, ACT/007/038-96D, Folder #2, Carbon County, Utah

## SUMMARY

The railroad adjacent to the Willow Creek Mine's Castle Gate facilities is being realigned in order that the grade will suit the trains' capabilities for loading. Because of this work Cyprus Plateau Mining Corp. (CPMC) will need to change the runoff and drainage control plan for effected areas. This is the hydrologic review of CPMC's intended changes.

## ANALYSIS

## HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

### Analysis:

### Diversion Designs

Additional pages have been proposed for Exhibit 13, Appendix D. These pages show the disturbed area culvert designs for C-18, C-19, C-23, C-25, C-26, C-27, and C-28. C-18, C-19, and C-23 are designed to convey the 25-year, 24-hour storm event, and C-25, C-26, C-27, and C-28 are designed for the 10-year, 6-hour storm event. Culverts C-26, C-27 and C-28 are referred to as culverts CGD-10, CGD-9 and CGD-11, respectively, in the text and on the maps. Table 13-11 has been updated to include culverts C-18, C-19, C-23, and C-24, but does not include C-25 or other culverts as named in the design appendix. C-24 is shown on Map 23E-1 and in Table 13-11 but there are no designs for it in Appendix D.

The locations of Culverts C-18, C-19 and C-25 are shown on Maps 23D-1 and 23E-1. The remaining Culverts are not shown on any map. A culvert noted on Map 23D-1 at the Existing Box Culvert is not design as an operational culvert.

### **Sediment Pond Design**

Sediment Pond 003 will not be constructed as part of the Willow Creek Mining operation because of the construction of railroad tracks in the location it was proposed. Cyprus Plateau Mining Company (CPMC) will replace sediment control initially intended for this area by increasing the containment volume of Sediment Pond 12B. The designs for Sediment Pond 12A and 12B are found in Exhibit 13 along with the other sediment pond designs. Appendix A-3 of Exhibit 13 (formerly "Sediment Pond 003 Calculations") contains the hydrologic modeling for Sediment Ponds 12A and 12B. These ponds are designed to treat the 10-year, 24-hour storm runoff and sediment accumulations for three years.

### **Findings:**

The following deficiencies must be address before the operational hydrologic section can be declared complete and accurate:

1. C-24 appears on Map 23E-1 and in Table 13-11 but there are no designs for it located in Appendix D.
2. C-25 appears on Map 23E-1 and in Appendix D but the design is not summarized in Table 13-11.

## **MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

### **Hydrology Maps**

#### **Analysis:**

Many maps have been submitted as part of this amendment. Some of the maps are replacing and updating previous versions while a few are new to the plan. In many cases the updated maps are black and white versions of color originals. These maps are difficult to read because the color was often important in identifying different characteristics.

**Findings:**

The following deficiencies exist in the rail road relocation pond amendment. These deficiencies must be addressed prior to approval and final review of the amendment.

1. Map 15 still shows Pond 003 though it looks as if they attempted to remove it.
2. Map 16 is unreadable. It needs to either be in the original colors or completely reformatted to show all features clearly.
3. Map 18B has also been changed from a color format and is now unreadable.

**RECOMMENDATIONS**

This amendment should not be approved until the listed deficiencies are approved. Analysis on bank stability is reliant on the reviews completed by a Division Engineer.

blb  
O:\007038.WIL\DRAFT\RRPOND.SJ  
CC: Daron Haddock, DOGM Permit Supervisor