

0018



State of Utah

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

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April 24, 1992

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Wm. J. Malencik, Reclamation Specialist *WJM*

RE: Analysis of Response to Division Order #DO-91B, PacifiCorp Electric Operations, Cottonwood/Wilberg Mine, ACT/O15/O19 #2

This is my analysis of the PacifiCorp response to Division Order #DO-91B. In summary, my recommendations are as follows:

I. DO-91B Findings of Permit Deficiency

1. Positive drainage on top of the refuse pile, i.e. crown the top of the refuse pile - unacceptable.
2. Controlled drainage off the refuse pile - unacceptable.
3. Establish a lower and upper diversion - unacceptable.
4. Reconsider other alternative for sediment material storage - acceptable.
5. Evaluate the stability of the refuse pile where it interfaces with sediment pond - unacceptable.
6. Evaluate the size and functions of the terraces in relation to drainage - unacceptable.

II. Comments to the permittee's response are as follows:

Item 1, Page 1: Coal Mine Waste, R645-301-746.120 - unacceptable. The concern was pond water backing into the toe of the refuse pile. As a spinoff of item one, the stability of the refuse pile is a concern. More specifically the portion that interfaces with the sediment pond. The operator did not provide any measurements on how much of the refuse pile would be covered when the pond was filled to the decant level or the spillway level. The potential stability problem would be associated with the toe of the refuse pile that could be saturated when the sediment pond is full. The base of the refuse pile is mancos shale. As a function of height, weight,

and because of the nature of the base, I believe the operator should be required to demonstrate the stability of the refuse toe in a saturated condition. Recently, water from the clean-out material appears to have infiltrated through the refuse pile and into the sediment pond. While this is not a concern at this time, when the pile gets higher, this question will need a better answer in the form of a stability analysis. This should be done at this time to clear the air.

Item 2, Page 2:

- ° Refuse Pile - R645-301-746.212 - Uncontrolled surface drainage - unacceptable. Operator stated no drainage is being diverted over the outslope. The PAP calls for a ten foot berm at the edge of the refuse pile. The operator should explain the drainage system on the top of the pile and how such runoff would then be diverted into the diversions.
- ° Refuse Pile - R645-301-746.221 - acceptable.
- ° Refuse Pile - R645-301-746.222 - unacceptable. See analysis Item 3.
- ° Refuse Pile - R645-301-746.330 - unacceptable. It has been a common practice to have at least two ditches, a ditch above the refuse pile that conveys non refuse runoff and a ditch below the refuse pile that conveys runoff from the refuse pile. Failure to have such ditches resulted in the Division taking adverse action on inspections of other mines. Other mines now have two ditches.

In the instant case, 15.3 acres of undisturbed lies above the refuse pile. All of the drainage from the two ditches would go to the sediment pond. The regulation and/or interpretation requiring two ditches is confusing especially since the two ditches can co-mingle. Nevertheless, the consistent current interpretation is two ditches.

Furthermore, only one ditch at the toe of the refuse pile was in place at the time of the inspection, ie., the west ditch. No ditch existed on the east portion. While this is in accordance with the PAP, it does not meet performance standards.

Item 3, Page 2:

Backfilling and Grading - R645-301-553.251 - unacceptable. The PAP uses the word terrace to describe the 2-3 foot offset between lifts. There should be no question in the record or field about the terraces. The key question: are the terraces part of the refuse pile drainage system? The operator did not respond to this question specifically. Since the pile's projected height is 140 feet, recommend the terrace be constructed to be part of the drainage system.

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Item 4, Page 3:

Sediment Pond - R645-301-742.220 - See comment Item 1.
Sediment Pond Clean-out Material - acceptable.

III. Recommend the permittee be provided additional time to respond to the five issues determined to be inadequate (see I. above).

Enclosures (2): Attachment (PAP Excerpts
 Photo

ATTACHMENT

"PAP Excerpts" - Key Words:

15.3 acres of undisturbed.

16 acres of disturbed.

Diversion ditch west side/design 100-6.

As pile progresses ditch reconstructed at toe of refuse.

East side - no current ditch.

Berm 10' high outside edge of the waste pile.

Terrace - 2-3' offset when top of berm is reached and new berm constructed.

Acid and Toxic - sampling bi-annually.

Waste Rock pile height of "about 140 feet."

Waste Rock slope 2:1

Sed Pond



Lower Ditch - Nollupic Ditch



Coal refuse
Staging area

Balance of the Area
filled with Sed Po

NO DITCH
(Lower)



Cottonwood Waste Rock Site
11/9/92 WMM

one ditch ? upper

and Cleanup.