October 30, 1984

TO: Coal File

FROM: John Whitehead, Reclamation Hydrologist

RE: Beaver Creek Coal Company, Gordon Creek #2 Mine, ACT/007/016, #2 and #3, Carbon County, Utah

On October 11, 1984, Tom Munson and John Whitehead made a technical site visit at the Gordon Creek #2 Mine site. They were accompanied by Mr. Dan Guy, Beaver Creek Coal Company (BCCC). The purpose of the visit was to verify design specifications contained in the response to Stipulations #1 and #2 for the Gordon Creek #2 mine permit and to inspect the gabion installations at the culvert outlets of the Southwest Lease Mine site area.

Stipulation #1 deals with protection requirements that are required in Diversion DU-3 at the Southwest Lease area. Stipulation #2 regards the protection of the undisturbed and disturbed diversions at the Gordon Creek #2 main mine site which parallel the highwall on the south side of the mining area.

The following observations were made for Diversion DU-3 at the Southwest Lease. The upper section of DU-3 contains a lined channel with riprap. The liner installation appears to be somewhat haphazardly installed. The channel was not excavated underneath the liner prior to installation, therefore, large rocks and rubble material lie underneath the liner. This section of the liner will most likely fail in the very near future. When the liner is reinstalled, the channel should be excavated and smoothed underneath the liner and the 2' x 4' lumber sections should run continuously along the edge of the liner with the roof bolts going through the 2' x 4'. In stretch #1 of DU-3, which comprises the first 175 feet of the diversion below the sediment pond outlet, two differences were noted in the specifications contained in the Stipulation Response versus on-site observations. The bottom width of the channel was noted as six feet in the BCCC Stipulation Response, in actuality the width is approximately three feet. The side slope was noted as 2:1 in the BCCC Stipulation Response, when, in fact, the actual side slope appears to be 1:1, or at best, 1.5:1.

The second stretch of DU-3, which comprises the next 90 feet of the diversion, two differences were observed between the BCCC Stipulation Response and the on-site observations. The width of the channel bottom is noted as three feet in the BCCC Stipulation Response, when in the field it appears to be more like 1.5 feet. Additionally, the side slopes noted in the BCCC Stipulation Response was noted as 2:1, when, in fact, it appeared to be more like 1.5:1. It should be noted that the installation of the liner in stretch #2 and #3 was much more satisfactorily installed.

In stretch #3, which comprises the next 145 feet of DU-3, there were no differences observed between the specifications noted in the Stipulation Response by BCCC and the on-site observations. A serious problem area exists in the lower reaches of stretch #3. As it intersects a small pad area down-canyon from the topsoil stockpile area, the channel, which had previously been approximately six foot wide with 2:1 side slopes, narrows to a channel just nearly six inches wide at the bottom and not more than 1/2 foot deep as it crosses the pad. Past the pad, and down the slope from the pad, there is no channel which exists presently. Apparently this area was either not constructed or was obliterated by the mud flows which were experienced this spring.

Additionally, at the middle of stretch #3 of DU-3, the installation of the liner and of riprap appeared to be towards one side of the diversion leaving the side towards the topsoil pile perhaps unprotected. It is difficult to ascertain from this field inspection how the water actually would run in the diversion and it is recommended this situation not be modified until next spring. If it should prove to be a problem, then additional lining and riprap may need to be installed in this section towards the side of the stockpile.

The analysis of the adequacy of the Stipulation Responses for Stipulation #1 are contained in a letter to BCCC dated November 2, 1984.

The installation of the gabion structures at the end of the culverts which drain the access road to the Southwest Lease area was inspected. The gabion structures were not installed according to approved plans. The present

configuration as installed provides an energy dissipating function at the end of the culverts, but does not provide any sediment control. In discussing the situation with Dan Guy, the suggestion was made that straw and rock filter gabions be installed in the ditch which parallels the conveyor belt above each culvert inlet. These could be much more easily installed and maintained than the existing gabion locations. The Division is presently awaiting design measures from BCCC.

Stipulation #2 dealt with the disturbed and undisturbed diversions which run along the south side of the main #2 Mine site. BCCC performed a bedrock study to determine if bedrock existed at the drop-off point in both channels adjacent to the old coal stockpile. Bedrock is in place at this drop and protection measures will not be needed.

The second area of concern was where the undisturbed diversion drops back into the main Bryner Canyon drainage adjacent to the bathhouse area. Prior to responding to the Stipulation, BCCC had installed six inch drain rock in this area. It appeared that the six inch drain rock would prove to be a significant problem in that the rounded nature of the material would tend to cause it to be easily moved by water. It would also provide an unstable base for any riprap that may be placed on it. The Division review in response to the BCCC submittal on Stipulation #2 is contained in a letter to BCCC dated November 2, 1984.

An additional area of concern which was observed was the discharge pipe from the Southwest Lease sedimentation pond. The outlet of the pipe appeared not to have adequate free fall to allow it to properly drain into the diversion DU-3. Potentially, if the diversion DU-3 runs at a depth of greater than 1/2 foot, water may actually run back into the pond depending on depth of flow in DU-3. This situation merits close attention by the inspection staff during the 1985 runoff season.

btb
cc: Dan Guy
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