



State of Utah

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October 3, 1997

TO: File

THRU: Joe Helfrich, Permit Supervisor *JH*

FROM: Robert Davidson, Soils Reclamation Specialist *RAD*

RE: UC-3 Culvert Extension, Horizon Coal Corporation, Horizon Mine, ACT/007/020-97D, Folder #2, Carbon County, Utah

SYNOPSIS:

Horizon Coal Corporation has submitted an amendment for extending Culvert UC-3 100 feet northward. The 36" culvert currently carries Jewkes Creek beneath the lower pad area and around the sedimentation pond. The purpose for the culvert extension is to alter the truck turnaround radius, thus enlarging the lower facilities pad for safety reasons.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.21, 817.200(c); R645-301-220, -301-411.

Analysis:

The culvert extension amendment contains significant information regarding the soils environmental resources as follows:

- Affected Area Boundary Map
- Soils Description

Affected Area Boundary Map

The disputed area for the culvert extension lies northward of the current disturbed area boundary as shown in the approved MRP and on photographs (see Figure 1 of this TA memo) taken during construction last fall, 1996. The placement of the disturbed boundary marker as shown in Figure 1 is consistent with the marked disturbance boundary as shown in the original approved Mine Reclamation Plan. However, Horizon claims this area as part of the established disturbance area because of errors in surveying that were corrected during a survey performed during the summer of 1997. Drawing A, Appendix 3-9, shows the revised disturbance boundary as it exists in the field after the 1997 survey.

Soils Description

Since the culvert extension falls within the surface disturbance boundary, soil resource information for the proposed disturbance may be represented by the currently approved Mine Reclamation Plan (MRP). Two soil pits were excavated in the lower facilities area during 1996. The first pit was located in the bottom of Jewkes Creek channel while the second pit was located on top of the west bank of the Jewkes Creek drainage. In both locations soils were shown to be previously disturbed with past mining activity. The upper 5 feet of soils in the west bank have been previously disturbed and/or imported while the Jewkes Creek soils contained inter-bed layers of coal fines. Sample results indicate that soils in both areas are acceptable as substitute topsoil and/or backfill with the exception of the coal fines layer in the Jewkes Creek channel.

The Jewkes Creek channel soils are unique since they have a fluvial origin which terminate at bed rock located 12 feet down. The material consists mainly of sandy loam inter-bedded with coal fines ($\approx 30\%$) and loam with a high bedding angle. The Jewkes Creek soils contain less than 10 percent rocks with no coarse fragments. Furthermore, the Jewkes Creek soils were shown to have hydric development associated with the riparian environment.

Findings:

The information provided meets the regulatory requirements of this section.

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

The UC-3 culvert extension project covers the following operational considerations for soil salvage and protection of the soil resource:

- Soil Salvage Locations
- Soil Specialist Supervision
- General Soil Salvage Considerations
- Jewkes Creek Soils - Special Considerations
- Soil Salvage Updates Needed

Soil Salvage Locations

The amendment only gives reference to salvaging soils within the Jewkes Creek channel, which includes soils beneath the proposed culvert and soils immediately adjacent where the channel will be filled and compacted. *No commitment or mention is given to salvaging soils from the adjacent hillsides, particularly the hillside that is planned to be removed. As specified in the MRP, all available soils and substitute soils will be salvaged from the adjoining hillsides of Jewkes Creek.*

Soil Specialist Supervision

The current approved MRP requires that a qualified soils specialist be on site during soil salvage operations. Consistent with this requirement, Horizon commits to having a soils specialist from either UDOGM or the Natural Resource Conservation Service (NRCS) supervise the soils salvage during the culvert extension project.

General Soil Salvage Considerations

The vegetative cover will be removed with and incorporated into the topsoil prior to stockpiling. Trash, concrete, and debris will be hauled to a properly licensed disposal facility as it is removed from the mine site during topsoil removal (page 8-23).

The amendment states that a portion of the soil salvaged from the culvert installation will be placed on a slope adjacent to the culvert. The remaining topsoil/growth medium salvaged will be placed on the topsoil stockpile. Since the amendment only specifies soils to be salvaged from the Jewkes Creek riparian area, the assumption is made that these riparian soils will be used to reclaim the adjacent slope to the culvert. *The adjacent slope to receive 6 inches of soil needs to be shown on a map and identified as interim reclamation.*

Jewkes Creek Soils - Special Considerations

Since the Jewkes Creek channel soils are unique in their fluvial origin in supporting the riparian/wet meadow vegetation which currently exists on site, these soils need special consideration for salvage and storage for reclamation use. In the Jewkes Creek area of the proposed sediment pond, all available excavated soils will be salvaged and stored in the stockpile for later reclamation. Soils in the riparian area will be dried prior to salvage and the subsequent inclusion in the topsoil stockpile. These necessary steps will protect these often waterlogged soils from compaction and clod formation during the soil salvage operations.

Soils salvaged from Jewkes Creek need to be segregated in the stockpile, dried and identified for reclamation in the Jewkes Creek riparian area during reclamation. Furthermore, these riparian soils may not be used for interim or contemporaneous reclamation.

Soil Salvage Updates Needed

Table 8-3 shows that all topsoil/growth medium is stored at the top of Portal Canyon in the stockpile. *Table 8-3 needs to be updated to reflect past, current and proposed status of the soil stockpile in terms of soil removal and additions. A new table should reflect total soil salvaged, accurate topsoil stockpile volume, and other soil volumes in areas of interim and contemporaneous reclamation. Furthermore, these areas need to be marked clearly and maintained during the life of the mine to prevent further disturbance or contamination.*

Findings:

R645-301-232 and R645-301-234. Four parts: (1) specify soil salvage from adjacent hillsides; (2) soils salvaged from Jewkes Creek need to be segregated in the stockpile, dried and identified for reclamation in the Jewkes Creek riparian area during reclamation; (3) Jewkes Creek riparian soils may not be used for interim or contemporaneous reclamation; and (4) the adjacent slope to receive 6 inches of soil needs to be shown on a map and identified as interim reclamation.

R645-301-120. Table 8-3 needs to be updated to reflect past, current and proposed

status of the soil stockpile in terms of soil removal and additions. A new table should reflect total soil salvaged, accurate topsoil stockpile volume, and other soil volumes in areas of interim and contemporaneous reclamation. Furthermore, these areas need to be marked clearly and maintained during the life of the mine to prevent further disturbance or contamination.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

The reclamation portion of the culvert extension amendment contains the following items that are either discussed or still need additional corrections:

- Jewkes Creek Riparian Soils
- Soils and Construction Fills
- Inaccurate Page Numbering

Jewkes Creek Riparian Soils

Since a portion of this disturbance is a riparian area, the commitments within the Horizon permit concerning riparian reclamation will apply. These commitments include replacement of the riparian soil salvaged from the Jewkes Creek riparian area as referenced in Appendix 8-1, Soil Salvage Practices Fall 1996 report submitted on December 15, 1996 to Horizon Coal Corporation from EarthFax Engineering which states the following commitment on Page 2:

“Topsoil from Area 1, the designated riparian area, was collected and stored at the front of the topsoil pile, the southwestern corner, to be utilized for reestablishment of riparian vegetation during reclamation.”

Soils salvaged from Jewkes Creek need to be redistributed in the riparian area of

Jewkes Creek. This commitment needs to be added to this permit amendment under section 3-9.6, Soils, to maintain clarity and consistency within the reclamation plan.

Soils and Construction Fills

Horizon further states that soils and fill material disturbed during mining will be placed within the disturbed area boundary. This is consistent with the current approved MRP which contains numerous references concerning fill placement against cut slopes and high walls. During reclamation, fill excavation will be required from Portal Canyon and Jewkes Creek facility pad areas for achieving the approved channel design and reclamation contours.

Inaccurate Page Numbering

The amendment's pages 3-35 and 3-45 are different from the MRP. Material found on these amendment pages is contained in the MRP on pages 3-34 and 3-43.

Findings:

R645-301-142, R645-301-143, R645-301-120, R645-301-130, R645-301-232.100, R645-301-234.220 and R645-301-242.100. Soils salvaged from Jewkes Creek need to be redistributed in the riparian area of Jewkes Creek. This commitment needs to be added to this permit amendment under section 3-9.6, Soils, to maintain clarity and consistency within the reclamation plan.

R645-301-120. The amendment's pages 3-35 and 3-45 are different from the MRP. Material found on these amendment pages is contained in the MRP on pages 3-34 and 3-43.

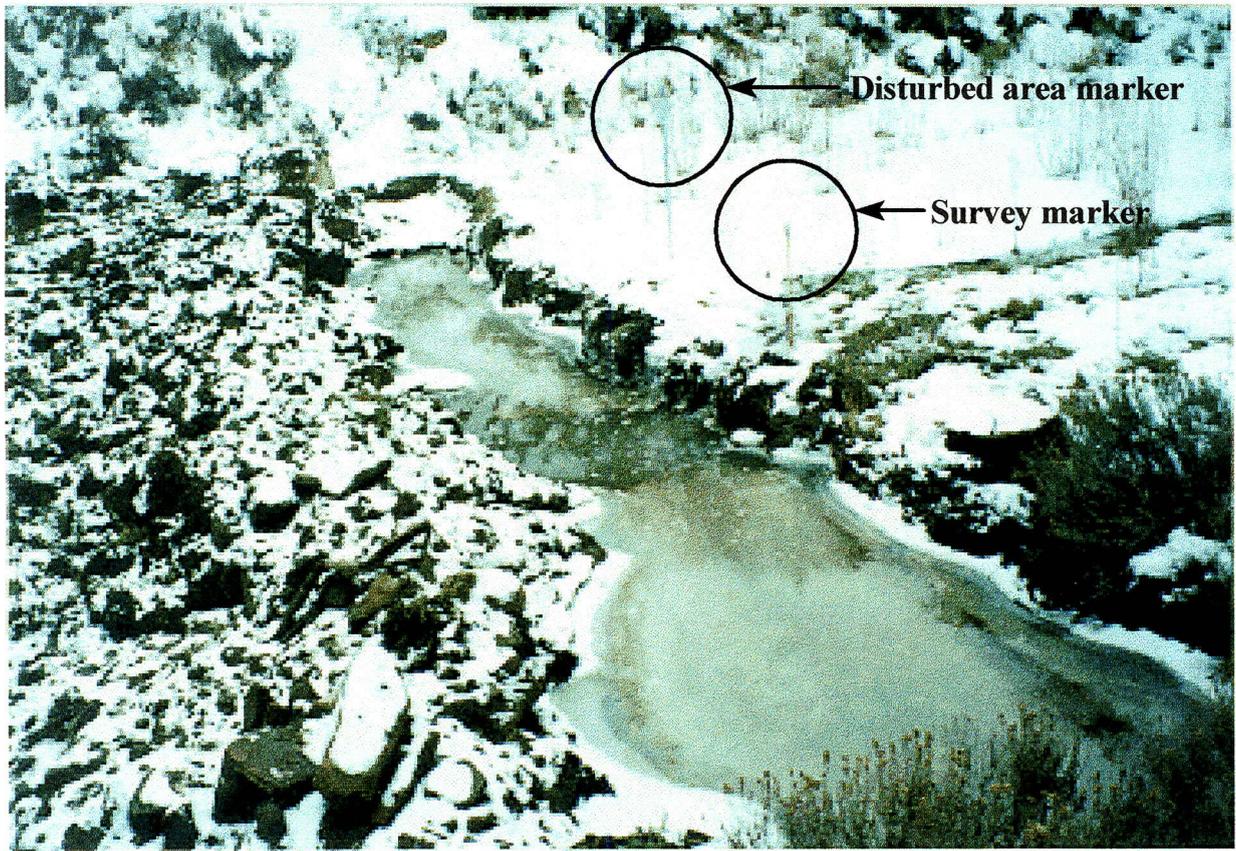


Figure 1. 10/30/96, Horizon Mine. ACT/007/020 on-site inspection . DOGM personnel - Susan White, Sharon Falvey and Robert Davidson. The upper Jewkes Creek disturbance area boundary is shown by the white disturbance marker and the orange survey stake. Jewkes Creek is draining into the excavated ditch that crosses the upper end of the meadow area with the Jewkes Creek located outside the marked disturbance area. The disturbance boundary sign and survey stake are located in the center of the drainage, just above the ditch and adjacent to the Creek. This photograph showing the placement of the disturbed boundary marker is consistent with the marked disturbance boundary as shown in the original approved Mine Reclamation Plan maps.