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

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TECHNICAL FIELD VISIT

DATE: May 21, 1998, 11 a.m. to 12:30 p.m.
DOGM STAFF: Robert Davidson, Priscilla Burton and Bill Malencik
ATTENDANTS: Vicky S. Bailey, EarthFax Engineering Inc.
RE: Riparian Topsoil Relocation, Horizon Coal Corporation, Horizon Mine, ACT/007/020, Carbon County, Utah

#7

Purpose:
To visually inspect the topsoil resources relative to the culvert expansion project, contemporaneous reclamation areas, and topsoil stockpile disturbance.

Background:
- The MRP was originally approved 10/10/96 and construction commenced in the fall of 1996.
- A section of crushed culvert beneath the upper pad of portal canyon resulted in a Notice of Violation (NOV 97-26-5-1). The lower half of the topsoil stockpile had been disturbed relative to repairing the crushed culvert. Approximately 500 CY of topsoil from the disturbed stockpile was removed and placed on the south facing slope (Area D) above the facility areas of Portal Canyon at an average 11 inch depth.
- Old coal refuse is located on the south face slopes above the topsoil stockpile. Some contamination to the topsoil stockpile occurred when the exposed refuse embankment was used as backfill during repair of the crushed culvert as witnessed by Robert Davidson and Vicky Bailey on 9/9/97. Vicky Bailey immediately stopped the operator from using the refuse as backfill. However, significant contamination had already occurred to the stockpile surface immediately below the refuse embankment.
- Culvert Expansion with resulting topsoil salvage, including riparian topsoil salvage and segregation, occurred in late December 1997 or early January 1998. The salvaged riparian topsoil was segregated from salvaged non-riparian topsoil with both topsoil temporarily stockpiled in Area E.

Field Observations:
Culvert Expansion Area
- On the pad outslope and extending down into the riparian area, significant amounts of exposed gray shale on the surface is rapidly weathering and slaking apart.

Contemporaneous Reclamation Area D
- Approximately 6 to 8 inches of wind blown coal fines have collected on the lower slopes of the contemporaneous reclaimed Area D. These slopes contain salvaged topsoil which was relocated from the topsoil stockpile during repair of the crushed culvert. The wind transported fines are collecting from the adjacent conveyor belt located immediately south of the slope.

Topsoil Stockpile Area
- The relocated riparian topsoil salvaged from the culvert extension project has been stockpiled as a separate pile on top of the topsoil stockpile. The riparian topsoil pile has been located approximately midway and off to the southern edge of the main topsoil stockpile. The pile appears to have slopes at the angle of repose. A berm has been constructed around the base of the pile to help retain the riparian soil. This berm has been constructed using a mixture of soil and coal waste refuse.
- The down canyon slope, immediately above and adjacent to the topsoil stockpile on the south facing slope, contains old coal waste refuse that extends down and onto the stockpile surface. The refuse slope has been graded onto the surface of the topsoil stockpile and coal refuse debris has been mixed with topsoil at the edge of the topsoil stockpile. Also, water runoff flow is not diverted from reaching the topsoil surface from the refuse.
- A ditch has been constructed across the topsoil stockpile mid-slope that collects drainage from the upper stockpile surface and the upper north facing, adjacent hillsides. The ditch then switchbacks back across the steeper stockpile face, immediately below the new riparian stockpile, and diverts runoff back to the lower, southern edge of the stockpile.
- No "Topsoil Stockpile" sign was installed at the bottom edge of the topsoil stockpile.

Recommendations and Conclusions:

Culvert Expansion Area

- Sample and analyze the gray shale material for acid and toxic forming parameters according to the Division's Topsoil and Overburden Guidelines.

Contemporaneous Reclamation Area D

- The MRP states that the wind-blown coal fines will be vacuumed from the topsoil surface of the reclaimed slope. The coal fines have collected to a depth of 6 to 8 inches and are now further contaminating the upper top-soiled slope by being blown further up the slope. The coal fines should be removed immediately.
- Mechanical and/or physical engineered controls should be installed and implemented to help alleviate the wind-blown coal fines at this location. For example, using a down-tube at the conveyor's drop point would practically eliminate wind-blown fines from collecting on the reclaimed slope. Also, until the conveyor installation is complete and engineered controls installed, geotextile could be placed on the slope surface to help prevent further contamination by coal fines to topsoil.

Topsoil Stockpile Area

- Install "Topsoil Stockpile" signs designating the topsoil stockpile.
- Drainage diversions at the topsoil stockpile are not installed according to the MRP, Plate 7-4, which was incorporated into the MRP on July 11, 1997 and certified by Richard B. White on July 23, 1997. The topsoil stockpile's drainage diversions should be installed according to the MRP certified plans. If these certified plans need to be altered to meet conditions in the field, then appropriate amendments to be filed and approved by the Division. Since topsoil resources on the topsoil stockpile are subjected to erosion by the inappropriate installed diversion ditch across the stockpile surface, performance standards are not be complied with according to R645-301-250.
- The coal waste berm constructed around the riparian topsoil pile needs to be removed immediately to prevent further contamination of the topsoil stockpile surface. A berm should be constructed using soil resources that will not contaminate the topsoil resources on the surface of the topsoil stockpile.
- The riparian topsoil stockpile needs to be graded to eliminate the extremely steep (angle of repose) slopes.
- The base of the coal waste refuse at the northern lower boundary to the topsoil stockpile needs to graded away from, and separated from, the topsoil stockpile surface using an appropriate berm constructed from appropriate materials.
- Sample and analyze the coal waste material for pH, EC, SAR, acid/base potential, Boron, Selenium and water holding capacity.

Signature:  on May 27, 1998

Robert A. Davidson, Soils Reclamation Specialist

cc: Daron Haddock
Joe Helfrich
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