



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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007/020 #2
CC: Bill Malenick

TECHNICAL FIELD VISIT

DATE: September 14, 1999, 8:00 a.m. to 12:30 p.m.
DOGM STAFF: Robert Davidson
ATTENDANTS: Vicky Miller, EarthFax Engineering Inc.
RE: Topsoil Stockpile Volume Survey, Loadstar Energy, Inc. Horizon Mine, ACT/007/020, Folder # 2, Carbon County, Utah

Purpose:

Discuss the options and methodology for determining the volume of soil in current topsoil stockpile.

Background:

- The MRP was originally approved 10/10/96 and construction commenced in the fall of 1996.
- Approximately 14,000 CY of soil was originally salvaged and placed in the topsoil stockpile.
- 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. The refuse slope has been graded, topsoiled and vegetated. Water runoff flow is diverted from reaching the topsoil surface by a diversion ditch located at the base of the refuse hillside.
- The main facility pad and culvert expansion in Jewkes Creek resulted in additional topsoil salvage, including riparian topsoil salvage and segregation. Salvage occurred in late December 1997 or early January 1998. The salvaged riparian topsoil was segregated from salvaged non-riparian topsoil. 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.
- To this date, no current survey of the topsoil stockpile has been performed for accurately determining the volume of soil currently contained in the topsoil stockpile. Inaccuracies of original surveys and discrepancies with current surveys has resulted in difficulty in interpreting data.

Field Observations:

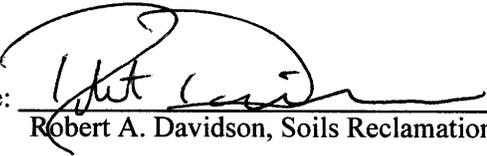
- The upper portion of the topsoil stockpile that was not disturbed by the crushed culvert exercise, is well vegetated with a predominance of Cicer Sweetvetch and some grasses. Vegetation has taken hold on the riparian pile, but is not as established as the surrounding stockpile surface.
- The lower portion of the topsoil stockpile that was disturbed by the crushed culvert exercise, is not

vegetated with the soil surface appearing to be compacted. Erosion is occurring by sheet action and by rill formation resulting in soil loss from the reclaimed surface. The soil sediment is being caught by straw bales at the base of the pile.

- The coal refuse slope adjacent to the pile has sustained significant erosion resulting in topsoil loss and large rill formation.
- A possible area was observed and discussed for placing sediment pond and ditch clean out material. Discussion focused on using the site as a temporary spoil pile. The possible area for the temporary spoil pile would be located within the current disturbed area, at the base of the old railroad grade which is behind the trailer and power substation.

Recommendations and Conclusions:

- Upper topsoil stockpile area - survey the immediate upper canyon elevation, adjacent slopes and lower canyon elevation for estimating the soil volume available. Available soil volume determination will be made in part by comparing the survey with the proposed reclamation topography and elevations.
- Lower topsoil stockpile area - Survey adjacent hillsides and lower canyon elevations, plus, determine soil depth to undisturbed soil by digging seven soil pits in a grid pattern from the upper to lower portions of the pile. Available soil volume determination will be made by integrating the soil pit information with the survey information. At the conclusion of digging the pits, the entire soil surface of the lower pile area will be roughened using the deep gouging method to relieve soil compaction and help prevent future runoff erosion. The prepared area will then be seeded and revegetated using the interim seed mix.
- The eroded refuse slope adjacent to the topsoil stockpile will be repaired and reseeded.

Signature: 
Robert A. Davidson, Soils Reclamation Specialist

on September 16, 1999