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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 19, 1997

TO: Folder #2

THRU: Daron Haddock, Permit Supervisor

DRH

FROM: Robert Davidson, Soils Reclamation Specialist

RAD

RE: Fan Portal Reclamation Review, PacifiCorp, Cottonwood Wilburg Mine,
ACT\015\019, Folder #2, Emery County, Utah.

SYNOPSIS

The Cottonwood Fan Portal area was initially disturbed in the early 1980s. It was the intention of the permittee to construct a fan portal and a facility pad. However, the fan portal project was never completed beyond the surface disturbance for constructing the pad area. The salvaged topsoil and subsoil material remained where they had been stockpiled and the cuts for the planned facilities remained. Nevertheless, no facilities were built and nothing further was done with the area.

PacifiCorp has prosed to reclaim the Cottonwood Fan Portal in 1997. In response to their proposal, the existing reclamation plan in the MRP has been reviewed for technical adequacy and regulatory compliance. The MRP does not contain sufficient information to make an analysis finding for compliance. This TA reviews the soils' portion of the reclamation plan.

ENVIRONMENTAL RESOURCE INFORMATION SOILS RESOURCE INFORMATION

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

Analysis:

The Mine Reclamation Plan (MRP) contains soils' survey information for the

Cottonwood Fan Portal area. However, the soil survey is inadequate to determine the depth and quality of salvaged material. Field notes and technical data is nonexistent; the names of persons, organizations and credentials need to be provided. In addition, the soil survey map is illegible and does not contain discernable information to decipher which soils were affected by the surface disturbance. Information presented is disjointed and unorganized.

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-222, R645-301-223, R645-301-120 and R645-301-130, Provide an adequate soil survey information to determine the depth and quality of salvaged material. Include field notes and technical data and the names of persons, organizations and credentials. The soil survey map needs to be legible and contain discernable information to decipher which soils were affected by the surface disturbance. Present information in an organized, clear and concise manner.

**OPERATION PLAN
TOPSOIL AND SUBSOIL**

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

Analysis:

The Operation Plan section lacks information concerning soil salvage. The MRP needs to have specific and detailed discussion to the exact areas affected by soil salvage, depth of salvage, soil volumes, and soil segregation. Information concerning soil salvage is vague and nonexistent. Stockpiled materials need to be selectively place on a stable site and protected from contamination and erosion. The MRP needs specific and detailed discussion and maps concerning stockpile locations, physical dimensions, volumes and efforts to protect the soil resource. Mass balance information needs to detail affected acreage, depths and volumes of salvaged topsoil, subsoils, and substitute topsoils.

Insufficient map detail is provided to ascertain the areas of actual disturbance, including pad areas, access roads, and soil storage areas.

If substitute topsoil as fills are salvaged, then the MRP needs information concerning

suitability of topsoil substitutes as determined on the thickness of soil horizons, physical attributes and chemical characteristics. The current stockpiled soils and fills need to be characterized for reclamation suitability, particularly the soil exposed to road salts and other contaminants.

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-230, Provide information concerning soil salvage. Specific and detailed discussion should focus on the exact areas affected by soil salvage, depth of salvage, soil volumes, and soil segregation. Provide specific and detailed discussion concerning stockpile locations, physical dimensions, volumes and efforts used to protect the soil resource. Provide mass balance information detailing the affected acreage, depths and volumes of salvaged topsoil, subsoils, and substitute topsoils. Provide sufficient map detail to ascertain the areas of actual disturbance, including pad areas, access roads, and soil storage areas. Provide information concerning suitability of topsoil substitutes based on soil horizons, physical attributes and chemical characteristics. Characterize the current stockpiled soils and fills for reclamation suitability, particularly the soil exposed to road salts and other contaminants.

**RECLAMATION PLAN
TOPSOIL AND SUBSOIL**

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

Analysis:

The MRP contains dispersed and nonspecific information concerning soil redistribution, uses of soil nutrients and amendments, and stabilization of soils. Soil replacement methods need to be discussed in detail on how the soil will be salvaged from the stockpile area, methods of soil transport and soil placement techniques. The MRP needs to detail and discuss the protection and reclamation of the soil stockpile area after soil removal. Reclamation methods need specifically to detail methods for protecting the soil resources against excess compaction and erosion before and after seeding. Acreage, soil depth, and volumes for soil replacement need to be detailed with mass balance calculations. Both the fan portal area and stockpile area reclamation needs

specificity concerning soil nutrients and amendments and soil stabilization. Soil stabilization practices and methods need special consideration; detailed soil stabilization discussion should focus on soil erosive characteristics, slopes, rock content and placement, erosion protection blankets and materials, mulch and other practices.

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-240 and R645-301-120, Provide specific, clear and concise information concerning soil redistribution, soil amendments, and soils stabilization methods. Soil replacement methods need to be discussed in detail on how the soil will be salvaged from the stockpile area, methods of soil transport and soil placement techniques. Detail and discuss the protection and reclamation of the soil stockpile areas after soil removal. Discuss specific reclamation methods for protecting the soil resources against excess compaction and erosion before and after seeding. Provide reclamation acreage, soil replacement depth and volumes. Provide current information concerning soil nutrients, fertilizer recommendations. Based on soil physical and chemical characteristics, discuss soil amendments and soil stabilization methods to be deployed during reclamation. Soil stabilization practices and methods need special consideration; detailed soil stabilization discussion should focus on soil erosive characteristics, slopes, rock content and placement, erosion protection blankets and materials, mulch and other practices.