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

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February 28, 1997

TO: File #2
THRU: Daron Haddock, Permit Supervisor
FROM: James D. Smith, Reclamation Specialist
RE: Waste Rock Disposal Site, Soldier Canyon Mine, Soldier Creek Coal Company, ACT/007/018-96A, File #2, Carbon County, Utah

DRH
JPS

SUMMARY:

A coal mine permit amendment has been submitted to the Utah Division of Oil, Gas, and Mining (DOGM) by Soldier Creek Coal Company to permit a waste rock disposal site near the Soldier Canyon Mine. The only notable difference between Chapter 6 - Geology - in the current MRP and the submitted Chapter 6 is that the word "refuse" has been replaced with "waste rock", except it has simply been removed from the text in a few places.

ENVIRONMENTAL RESOURCE INFORMATION

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.22; R645-301-623, -301-724.

Analysis:

Chapter 6 - Geology of the Waste Rock Disposal Site amendment contains the same geologic information as Chapter 6 in the current MRP: no information has been added or removed. The only difference between the two versions of Chapter 6 is that wherever the word "refuse" is used in the current MRP it has been replaced with "waste rock" in the amendment or, in a few places, "refuse" has simply been removed.

Geologic information in the Waste Rock Disposal Site amendment is in sufficient detail to assist in: determining the probable hydrologic consequences of the operation upon the quality and quantity of surface and ground water in the permit and adjacent areas, including the extent to which surface- and ground-water monitoring is necessary; determining all potentially acid- or toxic-forming strata down to and including the stratum immediately below the coal seam to be mined; determining whether reclamation can be accomplished and whether the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area; and, preparing the subsidence

control plan.

Geologic information includes a description of the geology of the proposed permit and adjacent areas down to and including the deeper of either the stratum immediately below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. This description includes the areal and structural geology of the permit and adjacent areas, and other parameters which influence the required reclamation and it also show how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially impacted surface and ground water. Geologic information is based on maps and plans required as resource information for the plan, detailed site specific information, and geologic literature and practices.

In no portion of the Soldier Canyon Mine permit area and adjacent areas are the strata down to the coal seam to be mined to be removed. The strata down to the coal seam to be mined are exposed at outcrops in and adjacent to these areas. Coal seam isopach, structure, interburden isopach, and overburden isopach maps are based on data from forty-six exploratory bore holes, three gas exploratory bore holes, and outcrop and in-mine measured sections. No new samples have been collected and analyzed for the Waste Rock Disposal Site amendment.

Samples collected from test borings or drill cores have been analyzed to provide logs of drill holes that show the lithologic characteristics, including physical properties and thickness of each stratum that may be impacted. Location of ground water is noted where it was encountered. Elevations and locations of test borings and core samplings are on Exhibits 6.22-1, 6.22-2, and 6.22-3.

Samples collected from test borings or drill cores of strata immediately above and below the coal seam to be mined have been submitted for chemical analyses for acid- or toxic-forming or alkalinity-producing materials. Strata immediately above and below each coal seam to be mined were also found to have very low clay content. Samples of the coal seam to be mined have been analyzed for acid- or toxic-forming materials, including total sulfur and pyritic sulfur. Analyses have also been done on samples from fresh, unweathered and uncontaminated rock that was exposed by facilities expansion and portal development, down to and including the Rock Canyon Seam. Pyritic sulfur was not determined for these samples because of high iron oxide content.

Collection, analysis, and description of additional geologic information has been determined not to be necessary. to protect the hydrologic balance, to minimize or prevent subsidence, or to meet the performance standards.

The applicant has not requested that the Division waive in whole or in part the requirements of the borehole information or analysis required of this section.

Findings:

Geologic information for the Alkali Tract Significant Revision to the Soldier Canyon Mine MRP is complete and accurate.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Cross sections, maps, and plans included in Chapter 6 of the Waste Rock Disposal Site amendment have been certified by a professional engineer as required by this section.

Coal Resource and Geologic Information Maps

Analysis:

Coal Resource and geologic information maps in the currently approved MRP and in the Waste Rock Disposal Site amendment show areal geology, coal crop lines, strike and dip of the coal to be mined, coal seam thickness, and interburden thickness. Geologic cross sections show depth of coal seams to be mined and thickness of overburden, or, at the Waste Rock Disposal Site, the nature and thickness of strata on which waste rock will be placed.

Findings:

The Waste Rock Disposal Site amendment meets the minimum requirements for coal resource and geologic information maps.

Monitoring and Sampling Location Maps

Analysis:

Elevations and locations of test borings and core samplings are shown on Exhibits 6.22-1, 6.22-2, and 6.22-3.

Findings:

The Waste Rock Disposal Site amendment meets the minimum requirements for well maps.

Well Maps

Analysis:

There are no gas and oil wells within the proposed permit area. There are three natural gas exploration wells approximately one-half to one mile north of the Soldier Canyon Mine permit area that are shown on Exhibits 6.22-1, 6.22-2, and 6.22-3.

Findings:

The Waste Rock Disposal Site amendment meets the minimum requirements for well maps.