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

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November 29, 1994

TO: File

TO: Daron Haddock, Permit Supervisor

FROM: Henry Sauer, Senior Reclamation Soils Specialist *HS*

RE: Sowbelly Gulch Phase I Bond Release Curtesy
Inspection, AMAX Coal Co., Castle Gate Mine
ACT/007/004, Folder #2, Carbon County, Utah

SYNOPSIS

On November 2, 1994, in response to the permittee's request for a preliminary Phase I Bond Release Inspection, the Division conducted a curtesy inspection of the Sowbelly Gulch portion of the Castle Gate Mine to determine the adequacy of reclamation as it relates to fulfilling the regulatory requirements for Phase I Bond Release.

The findings below are preliminary. The basis for these findings are soil profile examination and general site evaluation. Additional comments will be forthcoming upon receipt of laboratory analyses of soil samples collected by this writer and the post-grading soil analyses conducted by the permittee.

ANALYSIS

As the soils specialist for the Division I am required to arrive at the following Phase I Bond Release technical determinations: 1) The soil surface is devoid of coal or other objectionable material in quantities that could hinder achieving the revegetation performance standards; 2) The disturbed area ties in smoothly with the adjacent undisturbed land; 3) the root zone material is of acceptable quality and depth; 4) the "topsoil" material is distributed to the specified depth.

Each determination required for Phase I Bond Release will be restated below, a discussion will be provided and a technical finding will be made.

Required Phase I Determination No. 1

- 1) The soil surface is devoid of coal or other



objectionable material in quantities that could hinder achieving the revegetation performance standards.

Discussion:

The majority of the surface is devoid of coal. However, there are some areas within the disturbed area which have substantial quantities of coal on the surface. This may inhibit plant growth and jeopardize achieving the revegetation performance standards.

The "topsoil" material located at or near the surface of the disturbed area is predominantly Mancos Shale in various phases of weathering. Mancos Shale is recognized by clay enrichment, highly soluble mineral salts and sodicity. These factors may inhibit plant growth and jeopardize achieving the revegetation performance standards.

Finding

The soil surface contains objectionable material in quantities that could hinder achieving the revegetation performance standards.

Required Phase I Determination No. 2

2) The disturbed area ties in smoothly with the adjacent undisturbed land.

Discussion:

Based on site observations the disturbed area does not tie in smoothly with the adjacent undisturbed area. Numerous near vertical cut slopes remain. The cutslopes are comprised of alternating strata of sandstone and shale. The undisturbed areas immediately adjacent to the aforementioned cutslopes are 60-70%, convex, slightly hummocky slopes covered with salina wildrye. Immediately above these slopes are outcrops of Castle Gate Sandstone.

Finding

The disturbed area **does not** tie in smoothly with the adjacent undisturbed land.

Required Phase I Determination No. 3

3) The root zone material is of acceptable quality and depth.

Discussion:

Please see *Discussion* under Determination No. 1

Finding

The root zone material **is not** of acceptable quality.

Required Phase I Determination No. 4

4) The "topsoil" material is distributed to the specified depth.

Discussion:

The redistribution of stockpiled "topsoil" was not required by the approved mining and reclamation plan. The quality of the material which currently exists at the surface of the regrade disturbed area and for the purposes of this exercise comprises the root zone is not of suitable quality (Please see *Discussion* under Determination No. 1).

RECOMMENDATION

This writer has determined, preliminarily, that all of the aforementioned findings **have not** been affirmatively achieved and recommends that the permittee's request for Phase I Bond Release be denied.

CC: J. Randel Harden
Paul Baker
Wayne Western

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