



State of Utah  
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DIVISION OF OIL, GAS AND MINING

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TO: File

TO: Daron Haddock, Permit Supervisor *DH*

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

RE: Response to Mid-Term Review Deficiencies, Castle Valley Resources, Wellington Preparation Plant, Folder #2, ACT/007/012, Carbon County, Utah

**SYNOPSIS**

After review of the proposed mining and reclamation plan it is apparent that inconsistencies abound, resource information is inadequate and the reclamation plan for the Slurry Ponds, Coarse Slurry Pile and the Coarse Refuse Pile is insufficient to fulfill the requirements of the R645 Coal Mining and Reclamation Rules.

At this juncture this writer is unable to render a finding of reclaimability for the areas which are contaminated with and/or comprised of coal processing waste material and coarse refuse.

Refuse and slurry physiochemical data is limited and must be greatly enhanced. Reclamation knowledge achieved through the revegetation test plots on slurry and refuse are restricted by poor establishment of perennial vegetation, poor quality assurance and quality control, and the narrow treatment variables employed.

**ANALYSIS**

R645-301-233. Topsoil Substitutes and Supplements.



The permittee has not adequately demonstrate<sup>d</sup> that the proposed substitute topsoil material within the borrow area depicted on Map E9-3341 will meet the requirements of R645-301-233. Topsoil Substitutes and Supplements.

The permittee has not provided adequate soil survey information for the portions of the proposed borrow area which will be disturbed {R645-301-222. Soil Survey, Division Guidelines for the Management of Topsoil and Overburden Page 2 A(1)}.

The permittee has not adequately characterized the suitability or the volumetric availability of the borrow material. For example, the proposed Mining and Reclamation Plan describes the removal of approximately 211,800 cubic yards from the proposed borrow area (i.e. excavation depth = 1.6 feet X excavation area = 82.4 acres). Given the requirement of four feet of suitable cover over coal mine waste (R645-301-553.252), the slurry ponds alone would require approximately 871,200 cubic yards of material (i.e. cover depth = 4.0 feet X slurry ponds area = 135 acres). This would require the borrow area to be excavated to a depth of approximately 6.6 feet. In addition, the permittee must consider the suitability of the material which is to remain within the proposed borrow area and act as the plant grow medium for final reclamation after topsoil excavation activities.

#### **R645-301-553.250 Refuse Piles.**

Currently the DOGM retains a reclamation bond which requires **four feet of topsoil cover over the Slurry Ponds, the Coarse Slurry Piles and the Coarse Refuse Pile.** The most recent proposed reclamation plan does not contemplate this fact nor has there been a demonstration, as provided under R645-301-553.252, that less than four feet of cover over coal mine waste and/or acid- and toxic-forming materials is adequate to meet the requirements of R645-301-353 through R645-301-357, R645-301-413 and R645-301-553.300.

#### **R645-301-731.300. Acid- and -Toxic Forming Materials.**

The acid-and/or-toxic forming and alkalinity producing potential of the slurry and refuse material has not been adequately identified (R645-301-731.300 et. seq.). The permittee has not provided baseline resource information with regards to the ground-water resource within and adjacent to the slurry ponds or provided measures to be taken to protect the hydrologic balance (R645-301-731.100 et.seq.).

At a minimum the permittee must characterize the acid-

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and/or-toxic forming and alkalinity producing potential of the slurry, coarse slurry and coarse refuse material by collecting and analyzing refuse samples (Division Guidelines for the Management of Topsoil and Overburden, Table 6) throughout its total depth. Sample site locations shall be on a one acre grid for all areas which are contaminated with coal slurry and/or refuse. If data collected during the refuse sampling program identifies areas of acid- and/or -toxic forming or alkalinity producing material, then additional drilling may be required to identify the lateral extent of toxic material.

#### RECOMMENDATIONS

The permittee must formulate a reclamation plan subsequent to the investigation required above which demonstrates that acid- and/or toxic forming or alkalinity producing material will not prevent surface reclamation and revegetation or the degradation of the quality of surface and ground water.