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August 10, 1988

TO: John Whitehead, Permit Supervisor

FROM: Brent Stettler, Reclamation Biologist *Brent*

RE: Soil Analysis Results for 12 Samples Taken on Permanent Reclamation, Beaver Creek Coal Company, Huntington #4 Mine, ACT/015/004, Folder #2, Emery County, Utah

Early in 1988, Division inspectors expressed concern for several barren areas on Huntington #4 Mine reclamation. Poor soil characteristics were believed to be responsible. Consequently, Beaver Creek Coal Company collected soil samples at each of 12 sites to identify the source of the problem.

Analyses were conducted by Inter-Mountain Laboratories, Inc., and the Division was provided with a copy of the results. Division Soil Scientist James Leatherwood reviewed the results and identified several problem areas:

1. The salt content of samples #1 and 7 were high (EC value over 4.0 mmho/cm). These spots should be replanted with species having high drought/salt tolerances (i.e., thickspike wheatgrass, slender wheatgrass, Great Basin wildrye, Palmer penstemon, etc.).
2. The phosphorus (P) and potassium (K) values of almost all soil samples were low. Phosphorus in most samples ranged from almost zero to 1 ppm; whereas optimum levels are 12 ppm. Potassium should be over 100 ppm, and was short in most samples.

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The Division recommends that all areas be scarified to reduce soil compaction. The surface should be left rough to enhance water retention and reduce erosion. Seeding has the greatest likelihood of success when it immediately precedes the onset of winter. In an operation separate from seeding, we recommend that fertilizer be applied. This may be done in a hydromulch, or broadcast following application of hay mulch. Fertilizer should include nitrogen and potassium. The Division recommends that 100 lbs/acre super phosphate (P_2O_5) be applied.

djh
cc: D. Guy, BCCC
WP+5/1-2