

**TECHNICAL ANALYSIS**

Revised - April 16, 1996

TO: Daron Haddock, Permit Supervisor

FROM: Wayne H. Western, Reclamation Specialist *WHW*

RE: Crandall Canyon Reclamation Plan 95D, AMAX Coal Company, Castle Gate Mine, ACT/007/004, Folder #2, Carbon County, Utah

**ENGINEERING****Backfilling and Grading****Analysis:**

As part of Phase I reclamation activities, all surface structures will be removed. Additionally, all sections of the Hilfiker retaining wall, not covered by a minimum of 4 feet of soil, will be removed from approximate station 1+00 to station 10+00. Also, the retaining wall down gradient of Pond No. 015, at approximate station 19+00 will be removed as needed. Access road (A-1) will be reclaimed as well as a portion of the main access road (P-1).

As part of the Phase II reclamation activities, the remainder of the main access road (P-1) from Highway 6 & 50 to the Phase 1/Phase II reclamation boundary will be reclaimed. If the road is surfaced with asphalt, the asphalt will be removed, placed against the cutslopes as fill material, and covered with a minimum of 4 feet of soil. During backfilling of the road, the best available soils within the outslope or base of the road will be used as final topsoil cover.

There are no highwalls in Crandall Canyon, since the only access to the underground workings is through the shafts. There are no spoil piles, refuse piles, or small depressions that will be retained in the reclamation plan.

Cut slopes will be completely backfilled and graded when technically possible. There are four cut slopes segments that can only be partially backfilled. Completely backfilling the cut slopes would result in either covering up the stream channels or creating non-steep slopes. If the four cut slope segments are completely backfilled they would either cover the stream channels or be steeper than 2 to 1.

Topsoil placed on slopes steeper than 2 horizontal to 1 verticle will erode before vegetation can be established. When possible, slopes no steeper than 3 to 1 should be left to insure reclamation success.

The unreclaimed cut slopes are in bedrock and will have a safety factor of at least