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TO: File

FROM: Paul Baker, Reclamation Biologist 

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RE: Interim Revegetation at Valcam Loadout, Valley Camp of Utah, Belina Mine, Folder #2, ACT/007/001, Carbon County, Utah

On September 11, 1992, I conducted a partial inspection at Valley Camp's Belina Mine and Valcam Loadout. As part of the inspection, Steve Tanner and I measured ground cover from vegetation, litter, rocks, and bare ground. The purpose was to show that plants have become established and have the ability to establish on substitute topsoil to equal, within 90% with 90% confidence, undisturbed areas.

The areas measured at the loadout were west-facing slopes of about 30-50%. Some native species have become established in these areas, but the dominant grass appears to be Russian wild rye. The slopes have some coal on them which probably affects the vegetation somewhat.

The undisturbed area is on the west side of the highway on what is apparently an alluvial fan. This fan probably extended across the highway and part way up the mountain before the highway, loadout, and Utah Mines were built. Therefore, it probably contains vegetation representative of what existed at the loadout before any disturbance. The area that we measured appeared to have had some grazing on it, but it was not severe. This area also had a west aspect, but the slope was probably less than 10%.

Each area was measured with a pin frame and ten 10-point transects. These were placed randomly within each area. Sample adequacy was achieved for the undisturbed area, but the required sample size for the disturbed area was 21. The reason for the larger sample size requirement for the disturbed areas was probably the variability in vegetation caused by differences in slope and the amount of coal fines. A 10-point transect is not considered adequate according to the "Vegetation Information Guidelines, Appendix A", but following these guidelines is only required for achieving final bond release. The purpose of the sampling was to get a general idea of the vegetation that had established on the interim reclamation sites compared to undisturbed areas using the same methods. The company has test plots that will be evaluated later this year that were intended to prove site reclaimability.

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Ground cover in the undisturbed area was 91%, consisting of 50% vegetation and 41% litter. Vegetative cover was mostly from Kentucky bluegrass and needle and thread grass which were nearly impossible to distinguish. Some sagebrush, green rabbitbrush, and western wheatgrass were also present.

At the interim revegetation site at the loadout, ground cover was 70%, consisting of 50% vegetation and 20% litter. Species encountered, in order of dominance, were Russian wild rye, Kentucky bluegrass, basin wild rye, bluebunch wheatgrass, western wheatgrass, Russian thistle, and Machaeranthera sp.

To be within 90% of the undisturbed area with 90% confidence, the interim revegetation site would have to have had 70.9% ground cover. Cover from vegetation was the same for both areas. The performance standards appear to require that both ground cover and vegetative cover be equal in reclaimed areas as in undisturbed areas. Although ground cover in the interim revegetation area is not as great as in the undisturbed area, there are some major differences which will not be present at final reclamation. The areas measured within the loadout were very steep, and they are continuing to have new coal fines added to them. In spite of this, the vegetative cover is equal to the undisturbed area. I feel that revegetation success can be achieved at the loadout if proper revegetation techniques are used and that, for the present, no new testing needs to be performed.