RECLAMATION PLAN

The reclamation/revegetation process will be designed to restore a mosaic vegetation scheme consisting of site specific dominance of various life forms (shrubs, grasses, and forbs) with a diverse species composition. Additional revegetation goals include site stabilization/erosion control and visual aesthetics. Land use restoration goals include wildlife habitat and livestock grazing.

Reclamation backfill will be achieved during the castback mining process using variously sized Caterpillar tractor-scrapers and backhoes depending on availability. Wyo-Ben, Inc.'s mining contractors typically use Caterpillar 631 and 637 tractor-scrapers. These are supplemented with Caterpillar tractor-dozers ranging from D-8 to D-11 in size. Dozers, and occasionally large backhoes in narrow pits, are used for backfilling, contouring, and drainage construction.

Final reclamation contours will be consistent with those necessary to reestablish the projected postmining land use goals of domestic livestock grazing and wildlife habitat. Final slopes and surface contours will approximate native gradients and will blend with adjacent topography. Through drainage will be reestablished in all backfilled phases. Ephemeral channels to be impacted by this proposed mining activity will be temporarily directed around open pits during active mining stages. Channel design for both temporary and permanent diversions will match premine channel gradients and cross-sectional shapes. Temporary diversions will comply with Wyoming Noncoal rules, chapter 3, section 2(e)(ii)(F) to allow passage of peak runoff from a 2 year, 6 hour precipitation event in a nonerosive manner. Permanent diversions (including reconstructed channels and adjacent topography) will comply with Wyoming Noncoal rules, chapter 3, section 2 (e) (iv), to be erosionally stable during the passage of the peak runoff from a 100 year, 6 hour precipitation event by matching native drainage gradients, cross section and their flood plains.

Reclamation backfill will follow the castback mining sequence illustrated on Figure MP-1 through MP-3. Following backfilling and contouring, all compacted surfaces will be ripped to improve water infiltration and retention. Subsoil and topsoil will be replaced from stockpiles or hauled directly during the castback mining sequence. Average topsoil and subsoil redistribution depths are reported in Table D-7.7. Where necessary on initial pit cuts, out-of–pit overburden stockpiles will be contoured in-place and used for temporary bentonite and soil stockpile locations. Final reclamation of these areas will include deep-ripping, spreading topsoil/subsoil and seeding. All topsoil stockpiles will be seeded if they are present for more than one year.

Wyo-Ben, Inc. will comply with the requirements listed in Noncoal rules, Chapter 13, Section 3 (a) (vi) regarding the timeliness of reclamation.

Timeliness of Haul Road Reclamation

Reclamation of haul roads will be accomplished by contouring to restore drainage patterns, remove culverts, and blend with surrounding topography. These areas will then be deep-ripped, subsoiled/topsoiled and seeded. Haul roads will be reclaimed when they are no longer needed to access pits. There may be situations where a current pit accessed by a particular haul road may be totally reclaimed through seeding, but future pits which may or may not be permitted to mine will be accessed by that haul road. In those cases,

the haul road will not be reclaimed until those future pits are mined and fully reclaimed. Finally, potential situations may occur where Wyo-Ben, Inc. may enter into an agreement with the land owner in which the haul road will be left as a permanent access road, but Wyo-Ben will no longer be responsible for maintenance or a reclamation bond.

Drill-Hole Plugging

All drill holes are filled with overburden that is augured out of the hole during the drilling process immediately after the intended drill sample has been obtained.

Feasibility of Pit Backfill

As previously mentioned, Wyo-Ben utilizes a castback mining procedure when stripping pits. This method of mining is both economical and environmentally compatible. The fact that overburden is handled only once in the process of material movement during the stripping and reclamation process is an economical method of mining. Also, using the castback method allows reclamation to remain concurrent with mining as backfilling and contouring of a previous phase is occurring at the same time the current phase of a pit is being stripped. Finally, moving material between phases of a pit is safer than pushing it laterally into the open hole over the highwall.

Isolation and Control of Acid-Forming, Toxic, or Deleterious Material

Wyo-Ben, Inc. characterizes the overburden from the surface down to the bentonite in each pit it plans to mine at a rate of 1 hole per mile of proposed pit (reported in appendix D-5). In this process, a material sample is obtained every five feet down to the bentonite and chemical and physical parameters are analyzed. If it is shown that a particular pit has the potential for acidic, deleterious or toxic material near the surface, Wyo-Ben will attempt to cover it with at least two feet of a more neutral spoil material from adjacent pits in a lateral castback procedure, or bury that layer deeper in the profile during backfill. If deleterious material (bentonite, spoil) is intentionally placed on the surface, it will be bermed to prevent off-site sedimentation of the material.

Post Closure Management

Wyo-Ben monitors all its reclaimed lands post closure for off-site sedimentation, erosion and seeding failures. Off-site sedimentation is controlled by installation of straw bail or fabric check dams into affected drainages. If unacceptable erosion is detected, it is repaired at the first available opportunity. Repair in the past has mostly been accomplished by reconstructing the drainage and lining it with erosion control fabric, rock, or installation of rock gabions. Finally, seeding is monitored on a regular basis. If after three to five growing seasons vegetation establishment is not adequate, Wyo-Ben will determine the reason for failure and mitigate the problem including reseeding of the site.

Revegetation Techniques and Seed Mixtures

Revegetation considerations include use of the area for domestic livestock grazing and wildlife habitat. Revegetation procedures will begin following contouring and topsoiling of the disturbed areas as previously described.

Seedbed preparations may include deep-ripping after soil replacement to break up the surface and loosen the soil. Additional surface manipulations such as deep parallel furrows or pitting may be used to enhance moisture harvesting capacities of the areas receiving seed. Seed mixtures will be broadcast seeded. In general, seeding shall be conducted in the fall and early winter (prior to freeze-up) to take full advantage of fall, winter and spring moisture. From time to time, we may exercise our discretion to attempt spring seeding on areas where live topsoil has been directly placed during winter months to reduce destruction of native species volunteering during the first growing season and prior to what would be the fall seeding period. Attempts will be made to coordinate with the BLM and grazing permittees to avoid excessive early season use on newly seeded areas. Wyo-Ben, Inc. will consider the use of temporary fencing to protect these areas if coordination attempts are not successful.

Composition of the proposed seed mixture is detailed below. Use of all species depends on seed availability in the year of seeding.

Seed Species	Rate-lb PLS/acre
Fourwing saltbush (*Atriplex canescens*)	2.0
Gardner saltbush (*A. gardneri*)	3.0
Russian wildrye (*Elymus junceus*)	3.0
Bottlebrush squirreltail (*Sitanion hystrix*)	0.5
Indian ricegrass (*Oryzopsis hymenoides*)	3.0
Bluebunch wheatgrass (*Agropyron spicatum*)	0.5
Slender wheatgrass (*Agropyron trachycaulum*)	0.5
Sand dropseed (*Sporobolus. cryptandrus*)	0.5
Sandberg bluegrass (*Poa sandbergii*)	1.0
Shadscale saltbush (*Atriplex confertifolia*)	1.0
Cicer Milkvetch (*Astragalus cicer*)	0.5
Desert Parsley (*Lomatium sp.*)	1.0
Western Yarrow (*Achillea millifolium*)	0.5
Wyoming Big Sagebrush (*Artemisia tridentata*)	2.0
	19.0 lb/acre

Rubber Rabbitbrush and Winterfat may also be seeded onto reclaimed lands at 0.5 pounds per acre. Monitoring of past reclamation successes and failures may influence seed mixture composition and surface preparation techniques.

Quality Assurance

Wyo-Ben utilizes two drill trucks to characterize the volume and quality of bentonite in the various beds during the development of pits we mine. This allows us to tighten planned disturbance boundaries of our pits, which in many cases, reduces the amount of disturbance that would otherwise occur. Soils of proposed mine areas are characterized to an order 2 level. This allows us to determine the quality and volume of soils that can be saved to produce quality reclamation when conditions allow. As stated previously, Wyo-Ben commits to save all available top and subsoil for reclamation during the initial stripping part of the mining process, and will either stockpile or spread it live. The stripping of pit phases is accomplished using a castback mining procedure. This practice allows reclamation to be concurrent with mining. Typically, previously mined phases of a pit are reclaimed through backfilling and contouring almost adjacent to the open phase of a pit, with soiled and seeded phases not far from this. Before a pit is backfilled, bentonite cleanings are pushed against the bottom of the highwall to ensure they will be buried deep. In the reclamation of bentonite stockpile areas, the pad (portion of bentonite near the bottom of a stockpile that is not used) is buried, followed by the ripping and soiling of the area. All compacted areas, such as roads and other stockpile areas are also ripped prior to soiling to reduce compaction. The movement of overburden during the mining process is done in a tiered castback process, which places material from the current phase of mining into a previous open pit in approximately the same order as it was removed. This process is employed unless overburden testing reveals the need to place at least two feet of neutral spoil material over a toxic layer near the surface (i.e., very high SAR or acid potential).