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PART I - CONSTRUCTION PLAN

The construction of the West Ridge minesite is described in outline and detail below. To a very great extent, the precepts of initial construction are inter-related to and inter-dependant upon the methods and techniques employed during final reclamation. In many ways reclamation at the West Ridge site is similar to the construction, but only in reverse order. To the extent that reclamation techniques and initial construction techniques are so inter-related, it is imperative to consider the reclamation plan (as presented in Part II of this plan) as an integral part of the construction plan and vice versa. The two separate plans constitute a whole and should be considered as such.

The following discussion of the construction plan is designed to describe the following items:

1) A general description of the C-Canyon minesite area, and the layout of the surface facilities within this area.

2) A general description of the soil resources presently existing in the minesite area.

3) A brief description of the experimental approach to topsoil protection proposed for this area.

4) A brief description of the nature of the fill material which will be used at the minesite.

5) A summary outline of the various area types within the minesite and how construction methods vary with each specific area.

6) A summary outline of the various construction tasks proposed for the minesite.

7) A detailed discussion of the various area types within the minesite and how construction methods vary with each specific area.

8) A detailed discussion of the various construction tasks proposed for the minesite.

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1) A general description of the C-Canyon minesite area, and the layout of the surface facilities within this area.

The minesite surface facilities will be located in C-Canyon where the Lower Sunnyside coal seam out-crops to the surface. Because of the narrowness of the canyon in this area, surface facilities will be confined to a narrow strip along the bottom of the canyon. Suitable surface area for the minesite will be created by constructing a series of earthen pads within the canyon bottom. This will be accomplished by hauling in fill material and by leveling out the area in the bottom of the canyon drainage. The average gradient of C-Canyon in the minesite area is approximately 6.4%. Therefore, the mine pads will be constructed up through the canyon in a stair step manner. Each individual pad level will be dedicated to a specific function as part of the overall minesite operation. Access roads will connect the various pad levels with one another.

The proposed minesite is located in an area where the main canyon branches into two forks and resembles the letter Y. For simplicity, the minesite can be delineated into four distinct areas: the area located within the left fork (left fork); the area located within the right fork (right fork); the area located within the main canyon south of the forks (main canyon); and the area where the main canyon and the two forks converge (confluence). These terms (right fork, left fork, main canyon and confluence) will be used during the remainder of this discussion to refer generally to these respective areas.

Within the main canyon will be located the mine office and parking lot, and a series of sediment ponds. The Carbon County public road which provides access to the minesite will enter the mineyard in this area. Within the confluence area will be located the truck loop, and the truck loadout. The left fork will contain the crusher building, the coal storage pile and a topsoil storage area. The right fork will contain the employee parking area, bath house, substation, portal area, shop/warehouse material storage area and a topsoil storage area.

2) A general description of the topsoil resources presently existing in the minesite area.

Detailed topsoil surveys have been conducted at the minesite area by Jim Nyenhuis, a certified, profession soil scientist during the summer of 1997. These surveys were done in close consultation with DOGM's technical staff. As a result of these surveys the topsoil resources in this area have been adequately defined in terms of soils type, depth and areal extent. The results of these site specific surveys are in close agreement with the regional surveys conducted by the National Resource Conservation Service as presented in the "Soil Survey of Carbon Area, Utah".

At the C-Canyon minesite most of the topsoil exists in the confluence area and in the right fork. The confluence area contains pods of Brycan, Strych and Midfork. Within the right fork

Strych is located along the canyon bottom near the flanks of the stream channel. Midfork also exists along the more densely vegetated south slope (i.e., north facing slope) of the right fork. In these areas topsoil depths vary from 2" to 24" and average about 12". The remainder of the minesite is predominantly rock outcrop/rubbleland which is essentially devoid of topsoil. Small isolated patches of Travessilla do occur within this rock outcrop/rubbleland, however. Map 2-2 depicts the location of the soil types in the mine yard, as well as the areal extent of each type. Appendix 2-2 describes the soil resources in greater detail.

3) A brief description of the experimental approach to topsoil protection proposed for this area.

The regulation for which WEST RIDGE Resources, Inc. is proposing to use an experimental practice would be R645-301-232 Topsoil and Subsoil Removal. Rather than removing the topsoil from the proposed mine yard area, WEST RIDGE Resources, Inc. proposes to protect the soil resource in-place by covering the soil surface with a geotextile fabric, then placing fill material over the fabric. At the time of reclamation, the fill material will be removed. The geotextile will then be removed, exposing the original, intact soil surface. To increase the ability of the soil to absorb moisture and thus enhance the natural disruption in the soil through the freeze/thaw cycle, a mixture of PAM (Polyacrylamide) or best technology currently available at the time of reclamation, will be applied to the soil surface. PAM is designed to create an affinity for water in the soil, open up channels for air and promote water penetration. In order to reduce the soil compaction and promote the infiltration of water, the soil will also be aerated with the teeth on a backhoe bucket. The teeth will be driven into the soil vertically to minimize disruption of the in-place soil structure. The soil will be perforated to a depth of approximately 8 inches. This should allow rain, snowmelt and runoff to infiltrate the soil to provide aeration and moisture at depth. The winter freeze/thaw cycles will also help to reduce soil compaction. This treatment will be applied in successive 5-10 foot lifts as the fill is removed and the hillside is exposed. To enhance soil microbial establishment and promote more rapid stabilization of the soil, the seed mixture (as listed in Chapter 3) will be hand broadcast over the area and raked into the soil surface. A straw mulch will be applied over the seed bed at a rate of 3,000 pounds per acre, then the surface will be sprayed with a tackifier to hold the straw in place.

The proposal to leave the existing topsoil in place and protected by a geotextile barrier within the filled areas of the minesite is considered an experimental procedure as defined in section R645-302-210 of the State of Utah Coal Mining Rules and SMCRA. The practice of protecting the topsoil in-place with a geotextile fabric has been previously approved in Utah in steep slope conditions (Genwal Resources, Crandall Canyon Mine, ACT 015/032).

Based on recommendations from experienced reclamation consultants there is every reason to believe that this procedure will be successful in meeting the reclamation standards required by SMCRA. However, as an added element of assurance for the success of reclamation at the West Ridge minesite, WEST RIDGE Resources, Inc. has preserved, under long-term lease, a separate source of high quality topsoil which can be used to reclaim the minesite if needed. The sole purpose of this topsoil borrow site is to be used for final reclamation on an as needed basis in the unlikely event that the left-in-place topsoil at the minesite cannot be sufficiently revitalized and re-utilized at the time of final reclamation. Sufficient tests have been completed on this potential topsoil borrow site to determine that the topsoil resource exists in sufficient quality and quality to completely reclaim the minesite. This alternate topsoil borrow site is conveniently located within two miles of the minesite and contains soil material which is nearly identical in chemical and physical characteristics to the topsoil naturally existing at the minesite.

4) A brief description of the nature of the fill material which will be imported to the minesite to construct the mine pads.

The minesite earthen pads will be constructed using standard cut-and-fill techniques. However, based on computer generated earthwork models, fill volumes are expected to exceed available cut volumes by approximately 100,000 cubic yards. Therefore, additional fill material will have to be imported to complete the construction of the mine pads. Borrow material will be procured from an independent commercially operated material site located nearby. This material site will be a borrow pit licensed by Carbon County and developed primarily to serve the construction needs of the nearby Carbon County public road. The borrow site will be located on Utah School Trust Land and will be permitted, licensed, operated and reclaimed according to all applicable state environmental regulations.

The occurrence of construction-grade borrow material in this area is invariably associated with the pediment terraces which are located at the foot of the Book Cliffs. These pediment terraces slope away from the cliffs and are topped with a layer of gravelly material consisting of sandstone boulder fragments and cobbles within a fine grained matrix. This material is composed of weathered remnants of the nearby Book Cliffs stratigraphy (ie, Black Hawk Formation). This borrow material is chemically and physically identical to the native materials existing naturally in the vicinity of the minesite. Tests have determined that this borrow material is, in and of itself, a suitable topsoil (growth medium) material. In fact, in its natural condition it supports the exact vegetation types and species that are found close by at the minesite. Numerous such suitable borrow sites containing this type of material are located within a mile or two of the minesite which can be accessed to provide borrow material for construction of the county road as well as the minesite. Prior to being used as a construction medium the pit run material will first be run through a crusher to produce a 8" x 0" product. Therefore the fill material hauled to the minesite for pad construction will contain a high

percentage of larger (8") rock fragments.

5) A summary outline of the various area types within the minesite and how construction methods vary with each specific area.

Construction/reclamation areas within the minesite can be defined accord to the following three criteria:

a) Whether the area lies within the canyon channel bottom or is located up along the canyon sideslopes away from the bottom (Channel or Slope)

b) Whether the area presently contains topsoil or whether it is rock outcrop/rubbleland presently devoid of topsoil (Topsoil or Rock)

c) Whether the area is to be filled over or else cut away during construction of the mine pads (Fill or Cut).

This delineation is important because construction in these various area types is, in a large part, predicated on the requirements for final reclamation in those same areas. In these area-types, construction and reclamation are inter-related and inter-dependant. On an area-by-area basis initial construction methods are influenced by final reclamation requirements and final reclamation techniques are, in turn, dependant upon initial construction methods.

Any given area within the minesite can be defined in terms of a combination of the aforementioned criteria. Different construction and reclamation methods apply to each specific area type. Therefore, for the purpose of defining construction/reclamation methodologies the minesite can be categorized into the following area types.

a) Areas within and immediately adjacent to the stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which will be filled over during construction of the mine pads:
Channel (C), Rock (R), Fill (F) = C/R/F

b) Areas within and immediately adjacent to the stream channel; where topsoil is present; which will be filled over during construction of the mine pads:
Channel (C), Topsoil (T), Fill (F) = C/T/F

c) Areas located up along the canyon sideslope away from the channel; where topsoil is present; which will be filled over during construction of the mine pads: Slope (S), Topsoil (T), Fill (F) = S/T/F

d) Areas located along the canyon sideslopes away from the stream channel; where topsoil is present; which will be cut away during construction of the mine pads: Slope (S), Topsoil (T), Cut (C) = S/T/C

e) Areas located up along the canyon sideslope away from the stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which will be filled over during construction of the mine pads:
Slope (S), Rock (R), Fill (F) = S/R/F

f) Areas located up along the canyon sideslope away from the stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which will be cut away during construction of the mine pads:
Slope (S), Rock (R), Cut (C)= S/R/C

Note: Refer to item 7) for details of these construction area types.
Refer to Attachment 2 for a schematic diagram of the various area types.

6) A summary outline of the various construction tasks proposed for the minesite.

In addition to the construction area-types mentioned previously, the minesite construction area can also be defined in terms of the major tasks that are necessary for completion of the surface facilities. These tasks, listed in approximate order of completion, include the following:

a) Clearing and grubbing of trees and shrubs
b) Installation of the bypass culvert and in-place protection of channel with geotextile
c) Construction of sediment pond
d) Protection of in-place topsoil resources
e) Topsoil removal, salvage and stockpiling
f) Face-up of coal seam, preparation of portal highwall area
g) Construction of various earthen pad levels and interconnecting access roads
h) Installation of ditches, culverts and other drainage controls
i) Construction of coal handling facilities and associated structures

Note: Refer to item 8) for details of these construction tasks

7) A detailed discussion of the various area types within the minesite and how construction methods vary with each specific area.

7a) Area Type C/R/F [Channel (C), Rock (R), Fill (F)] : Areas within and immediately adjacent

to the stream channel; which is predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which will be filled over during construction of the mine pads. These areas occur primarily in the bottom of the main canyon and in the bottom of the left fork.

Construction Method: Before any pad construction can occur in this area, the bypass culvert must first be installed. Since no topsoil exists in these areas, topsoil salvage/protection is not a factor during construction. To the extent practicable, construction will start at the lower (downstream) end of the minesite and progress up canyon. The alignment of the culvert installation will closely follow the existing channel alignment, both vertically and horizontally. This will insure a replicated sinuosity and gradient of the original channel upon final reclamation when the culvert is removed and the channel is restored to its existing configuration. A backhoe will advance up the channel bottom and prepare the bottom for the culvert as it progresses. Large boulders will be moved out of channel and placed up along the bank out of the way. These boulders will be repositioned along the bank in a manner that allows them to be conveniently accessible during final reclamation at which time they will be relocated back into the channel as the channel is being restored to its approximate original morphology. After the boulders have been moved out of the way, the channel bottom will be graded as necessary to accommodate the culvert installation. Humps will be smoothed out and depressions will be filled in using native materials. A thin lift of imported borrow material may be added in places to serve as a bedding material and supplement the grading process, especially in certain areas where grade breaks are more pronounced.

Prior to placement of any imported fill material, bright colored marker material (flagging) will be laid on top of the natural ground surface. The purpose of the flagging material is to mark the original ground surface so, at the time of final reclamation, the fill can be removed down to the marker level and the original native surface can be re-exposed. Use of the marker material will help equipment operators identify the horizon of the natural surface during reclamation and prevent the excavation from penetrating through the layer of naturally occurring, pre-existing colluvium. This colluvium, although not a topsoil, is a naturally occurring growth medium and efforts will be made to utilize this horizon as much as possible for final reclamation.

Immediately after the channel has been prepared the culvert will be installed. Angled culvert joints will be pre-engineered and pre-fabricated as necessary to insure that the culvert can be curved as needed to closely follow the existing channel alignment and preserve the natural stream bed sinuosity. Shortly after the culvert is laid in the prepared channel it will be backfilled using an imported crushed borrow material. This borrow material will be obtained from a nearby source and will have chemical and physical properties which are nearly identical to the native earth materials existing naturally at the C-Canyon minesite. As culvert

installation and backfilling progresses, the covered-over culvert area will provide an access way into the area for construction equipment and materials for the remainder of the minesite earthwork construction activity.

7b) Area Type C/T/F [Channel (C), Topsoil (T), Fill (F)]: Areas within and immediately adjacent to the stream channel; where topsoil is present; which will be filled over during construction of the mine pads. This occurs primarily along the bottom of the right fork.

Construction Method: Before any pad construction can occur in this area the bypass culvert must first be installed. Culvert installation will follow the same procedures as described previously for the channel bottom/rock rubble area. There will be one major exception however. Because soil resources presently exist along the flanks of the channel in the topsoil area special procedures will be implemented to preserve and protect these topsoil resources. The channel bottom will be prepared for the culvert by removing large boulders and clearing vegetation. Tree and shrubs along the channel will be cut off above ground leaving roots in place to help stabilize the streambank soil resources. Before the culvert is actually installed, the channel will be draped with a geotextile material. The geotextile will line the channel and will extend up and over the banks on either side of the channel for distance sufficient to adequately preserve the existing channel geomorphology. Based on field observations and cross sectional measurements the geotextile drape will probably average about 20-30 wide throughout most of the zone. After the channel is lined with geotextile, the culvert bedding material will be placed over the fabric as needed prior to installing the culvert

It should be noted that in this C/T/F area, the culvert will be installed in the existing channel and will follow the existing channel alignment and grade. The channel will not be excavated or incised to accommodate the culvert, and the existing topsoil resources in and alongside the channel will remain undisturbed during culvert installation.

7c) Area Type S/R/F [Slope (S), Rock (R), Fill (F)]: Areas located up along the canyon sideslope away from the stream channel; which is predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which will be filled over during construction of the mine pads. This area occurs primarily in the interior portions of the canyon in the main canyon and the left fork.

Construction Methods: In order to create the mine pads necessary for the long-term operations, fill material will be hauled in and placed over these sideslope areas. Prior to placing fill over these areas they will first be grubbed and cleared of vegetation. Also, some larger boulders may have to be broken up or relocated so that they will not pose complications for subsequent construction of footers and foundations for the buildings and structures which will later be built on top of these pads. These boulders may be relocated

adjacent to the culvert in the deepest part of the fill. This location is advantageous from a future reclamation standpoint. It allows these same boulders to be uncovered lastly in the reclamation process so that they can be relocated back onto the reclaimed sideslopes. This will help mimic and replicate the naturally existing premining boulder surface condition. Boulders encountered during cut operations will be stored in the fill for use during final reclamation. The boulders will be removed from the fill toward the end of the fill removal process. They will then be relocated on the regraded rock outcrop/rubbleland slopes to resemble the rocky characteristic of the native slopes.

Fill material will be brought in from a nearby off-site commercial borrow source. (As explained earlier, this fill material will have chemical and physical properties very similar to the native earth materials existing naturally at the minesite). Fill will be placed in 18"-24" lifts and compacted to at least 90% (modified proctor) in non structural pad areas and at least 95% in structural areas. Prior to placement of any imported fill material, bright colored marker material (flagging) will be laid on top of the natural ground surface. The purpose of the flagging material is to mark the original ground surface so, at the time of final reclamation, the fill can be removed down to the marker level and the original native surface can be re-exposed. Use of the marker material will help equipment operators identify the horizon of the natural surface during reclamation and prevent the excavation from penetrating through the layer of naturally occurring, pre-existing colluvium. This colluvium, although not a topsoil, is a naturally occurring growth medium and efforts will be made to utilize this horizon as much as possible for final reclamation.

7d) Area Type S/T/F [Slope (S), Topsoil (T), Fill (F)]: Areas located up along the canyon sideslope away from the channel; where topsoil is present; which will be filled over during construction of the mine pads. This area occurs primarily in the interior portion of the right fork and the confluence.

Construction methods: In order to create the mine pads necessary for the long-term mine operations, fill material will be hauled in and placed in the sideslope areas. For the most part fill placement will follow the same procedures as describes previously for the rock/fill (S/R/F) areas. There will be one major exception, however. Because of the topsoil resources presently existing in these areas special procedures will be implemented to preserve and protect these soil resources. Prior to placing fill over these areas they will first be grubbed and cleared of vegetation. Trees will be cut off about 6" above the ground. The stumps and roots will be left in place to help stabilize the soil and to help maintain the soil's organic composition. After the area has been grubbed a layer of long-lasting geotextile will be placed over the entire surface area to be filled. After the geotextile has been laid in place fill material will then be imported and placed in compacted 18"-24" layers as described earlier.

7e) Area Type S/R/C [Slope (S), Rock (R), Cut (C)]: Areas containing rock outcrop/rubbleland and which will be cut away. These areas occur along the sides of the canyon where the sideslopes adjoin the upper (surface) level of the fill pads, particularly in the main canyon, the left fork, and the northwest side of the right fork.

Construction methods: Cut areas along the hillslopes within the mineyard are designed to expand and define the yard limits to best accommodate the necessary surface structures, to provide neat-line adjustments for linear features such as roadways and ditches, and to provide clear slopes to facilitate long-term yard maintenance. Like all areas within the proposed minesite these areas will first be grubbed to remove the existing shrubs and vegetation. Rubble from the cuts will be placed in the pad fill along with the imported borrow material. Within the rubbleland areas, cut banks will normally be held to 1:1 slopes or less. In the rock outcrop areas cuts will consist of little more than clearing the slopes of loose weathered rubble and detritus down to bedrock.

7f) Area Type S/T/C [Slope (S), Topsoil (T), Cut (C)]: Areas located along the canyon sideslope away from the stream channel; where topsoil is present; which will be cut away during construction of the mine pads: This occurs primarily along the southeast side of the right fork, at the confluence, and isolated locations within the left fork.

Construction methods. Construction methods in these areas will be similar to those previously described for cuts in the rock outcrop/rubbleland areas with one major exception. After the area has been grubbed, topsoil will be carefully salvaged and hauled to a dedicated storage area. Topsoil salvage and stockpiling will be accomplished under the direction of a trained soil scientist familiar with the soil resources of the area. The soil scientist will be on-site at all times during the soil salvage operations. After all topsoil has been salvaged the substrate material can then be cut back to accommodate the overall design of the minesite. Cut substrate material will be placed in the pad fill, along with the imported borrow material. If the to-be-salvaged topsoil in different areas is distinctly different in terms of chemical and physical classification, the soils will then be segregated according to soil type and stockpiled in separated piles. This is to insure that upon final reclamation specific topsoils can be reapplied back to their specific original locations.

Designated topsoil storage areas are located at the upper end of the material storage area in the right fork and (if needed) the upper end of the coal storage area in the left fork. Prior to receiving salvaged topsoil, the storage areas will first be prepared. Large boulders will be relocated to make it easier to reclaim the topsoil in the future during final reclamation. These areas will not be grubbed however. Naturally existing organic vegetative material will do nothing but enhance the quality of the future soil resources stored on these areas.

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8) A detailed discussion of the construction tasks proposed for the minesite.

As part of the overall minesite development plan, certain major construction tasks must be accomplished in a prescribed manner. Most of these construction tasks are common to many, if not all the area-types described above. The following tasks are listed in order in which they would generally be expected to occur within any given area of the minesite. However, in practice many of these construction tasks will be occurring simultaneously, but at different areas, throughout the minesite. This is attributable to the fact that the minesite construction will be done over a long narrow stretch of the canyon bottom. Most construction tasks will begin at the lower, down-canyon end of the mineyard and proceed up canyon. As primary initial tasks are completed at the lower reaches of the site, secondary tasks can begin even though the primary tasks may not yet be completed in the upper reaches of the site.

The C Canyon drainage is ephemeral and flows only occasionally in response to heavy summer thunderstorms. Due to the dry nature of the region, spring snow melt is usually insufficient to produce any runoff down the drainage channel. Earthwork construction is scheduled to begin in the spring after the deer have moved out. Work will not begin within the channel (i.e., installation of the bypass culvert) if there is any flow at all in the drainage.

Prior to any work on the site, two silt fences will be constructed by hand across the drainage channel at the southern (downstream) end of the project. A third silt fence will also be constructed across the southern end of the earthwork disturbance area (i.e., at the toe of the future office pad) to control sediment runoff from the site. Access will be maintained to the silt fences so that sediment trapped during construction can be cleaned out as needed. These silt fences will be the primary sediment control used during construction of the site until such time as the sediment pond has been constructed. The silt fences will be constructed according to the "post and mesh" method commonly used by UDOT. This method utilizes a non-rotting filter fabric stretched across the stream flow, backed by a wire-mesh fence material, which in turn is supported by a series of steel posts anchored into the streambed. Steel fence posts, 5' in length, will be installed on 2'-3' centers across the entire width of the stream channel and up along either bank for an additional 4'-6'. These posts will be securely anchored into the stream bed/bank, either by being driven firmly into the ground or by being placed in holes dug into the ground and tightly backfilled with course rock. If additional strength is needed to adequately withstand the lateral force in the event of flowing water, the fence posts will be individually supported with angled back-bracing located on the down-stream side and firmly anchored into the streambed. After the fence posts (and bracing) have been installed across the channel, a layer of steel wire-mesh fencing will be attached to the upstream side of the posts to serve as a backing for the filter fabric. The wire-mesh fencing will be 14 gauge minimum, 6" x 6" openings maximum, and will be attached to the fence posts with metal tie wire or clips. The fencing will be installed so that it fits tightly to the bottom of the channel with no gaps in between. If necessary, the channel will be worked with hand tools to assure a tight fit for the bottom of the fence

into the stream bed. A row of rock boulders will be placed behind the fence on the downstream side to provide additional support to the fence bottom in the areas between the fence post supports. The fence post/wire-mesh structure will be tethered on either end (at each bank) to maintain adequate tension to support the top edge of the fence.

After the wire-mesh fence has been installed, the filter fabric silt fencing material (filter cloth) will be installed. This filter cloth will be installed on the upstream side of the wire-mesh back fence and will be attached with metal tie wire or clips. The toe of the filter cloth will be imbedded (anchored) in a trench dug across the channel (and up the bankslopes). This toe-trench will be located several feet upstream from the fence in order to not interfere with the fence post anchors. The toe of filter cloth will be laid into the toe-trench and backfilled with rock material of sufficient size to prevent the trench from being scoured and to prevent the filter cloth from being lifted up by the force of the flowing water.

8a) Clearing & grubbing. One of the earlier phases of construction will involve the removal of all trees and shrubs (ie, clearing and grubbing) from the 25 acre minesite area. Larger commercially valuable trees will be harvested and hauled away. Smaller trees and shrubs will be cleared and disposed of on-site. This slash material will be buried in a controlled manner within the pad fill in non-structural areas such as the coal storage pad in the left fork and the material storage area in the right fork. In order to avoid compaction complications, slash will be buried away from (ie, not in close proximity to) the bypass culvert which will be installed in the bottom of the existing drainage.

8b) Installation of the bypass culvert The initial phase of construction will involve installation of the undisturbed drainage culvert (bypass culvert). This culvert will be installed within the existing channel and is designed to carry the natural canyon drainage underneath the minesite. This culvert system allows the natural drainage to "bypass" the disturbed area of the minesite. This separation also allows the disturbed area drainage to report to sediment control features on the surface thereby preventing intermingling with the natural undisturbed drainage flowing through the bypass culvert.

Prior to culvert installation the channel bottom will first be prepared. A backhoe will be used to smooth out and grade the channel bottom. Large boulders will be moved aside and irregularities (humps, bumps and depressions within the channel bottom) will be filled in utilizing native materials. Where needed, a thin layer of bedding material (imported crushed 8" x 0" borrow) may be laid in the channel bottom to aid in culvert installation. In areas of pronounced grade breaks additional bedding material may be required to provide an adequate vertical alignment for the culvert . In other areas where the existing channel is already smooth and uniform no bedding material may be required. To the maximum extent possible

the alignment of the bypass culvert installation will closely follow the existing stream channel. Culvert angle-joints will be pre-engineered and pre-fabricated to insure that the existing channel alignment can be followed as closely as possible.

Boulders will be removed from the culvert path and relocated up along the flanks of the channel. In this location the boulders will be in convenient proximity to be repositioned back into the stream channel upon final reclamation to replicate the pre-existing pre-mining geomorphology of the channel. Trees and shrubs will be removed from the channelway prior to culvert installation. In areas where topsoil resources are located within and along the banks of the existing channel, trees and shrubs will be cut off about 6'-8" above the ground surface. Stumps and roots will be left in place to help stabilize the existing soil and the existing channel configuration.

After the channel has been readied for culvert installation (ie, graded, bedding material placed, boulders removed and vegetation removed) the culvert can then be installed. The typical pre-culverted channel will be about 10'-12' wide across the bottom and will have natural 2:1 sideslopes. In the topsoil areas (C/T/F), the channel bottom will first be lined with a geotextile fabric before the bedding material is laid down and before the culvert is installed. This fabric will be placed across the full width of the channel and will extend up the side banks at least 5' on either side of the channel. The purpose of the geotextile is to provide a separation barrier to protect the channel and the stream bank topsoil, and to preserve it in its natural condition prior to being filled over during subsequent construction of the mine pads. This will help insure that upon final reclamation the channel morphology can be adequately restored. After the geotextile is laid in the channel bottom, bedding material for the culvert will then be placed on top of the geotextile and then the culvert will be installed.

After the geotextile has been placed through the prepared channel, the culvert will then be installed on top of it. As explained earlier, the culvert alignment will closely follow the existing channel alignment. ~~However, in a few selected areas the culvert alignment will have to be shifted slightly to accommodate important surface structures, such as the mine fan and the substation.~~ After the culvert has been laid in place it will immediately be back filled using the same imported 8" x 0" fill material that was used for the bedding material. Vertical risers will be installed at various locations along the length of the culvert to aid in hydraulic venting and to serve as access for inspection and maintenance. After the culvert has been backfilled and compacted, the area over top the conveyor can be used as an access way for machinery and material involved in the remainder of the site construction.

8c) Construction of the Sediment Ponds. To the extent practicable, installation of the bypass culvert will begin at the lower (down canyon) end of the minesite. Once the culvert

installation has progressed up canyon approximately 500', construction of the sediment pond can begin. The sediment pond actually consist of three individual smaller ponds or cells. Each of these cells will be constructed in the bottom of the canyon directly over top the bypass culvert. The lower pond (cell C) will be constructed first, after the bypass culvert has been installed through that area. As construction of the culvert continues upstream the remaining two pond cells will be installed in sequence. In this manner the sediment ponds will be installed as early as possible in the construction schedule. These ponds will then be in place for the entirety of the remaining construction activities and will provide maximum sediment control for the rest of the project.

The three-tiered multi-cell pond arrangement is well suited to the steep gradient and narrow confines of the conveyor. The ponds will be constructed in a cascading arrangement whereby most minesite disturbed area drainage reports initially to the uppermost pond. If the upper pond fills to capacity, excess runoff will report to the middle pond through an open channel spillway located between the ponds. If the second pond fills to capacity, the excess run-off will then report to the third and lowermost pond. The combined capacity of the three-celled pond is well in excess of the 10 yr 24 hr requirements. However, if the total pond capacity is exceeded, the over flow from the third pond will exit through a riser-type culvert primary spillway equipped with an oil skimmer. This riser spillway will lead directly to the main bypass culvert located below the sediment ponds. One advantage of the multi-celled pond is that most sediment will tend to collect in the upper pond. This will greatly simplify sediment monitoring and clean out. The three-cell arrangement also precludes the possibility of short-circuiting and simplifies the process of decanting the pond in a manner that meets UPDES discharge requirements.

All open channel spillways will be constructed to pass the 10 yr 24 hr storm event. Spillways will have a bottom width of 5'; a freeboard depth of 2'; and 2:1 sideslopes and will be lined with concrete or grouted riprap. The lower pond will also be equipped with an open channel emergency spillway capable of handling a 25 yr 6 hr storm event. Riprap will be installed at the outlet of all open channel spillways to protect the earthen structures from erosional forces.

8d) Protection of in-place topsoil. Within the minesite there are sideslope areas where topsoil presently exists and which will be filled over during construction (S/T/F area type). In these areas the topsoil resource will be protected in place and preserved in its existing state. Prior to placing fill material over these areas they must first be cleared and grubbed of trees and shrubs. Trees will be cut off about 6"-8" above the ground and the roots will be left in place to stabilize the soil until the time of final reclamation. After the area has been grubbed it will be completely draped with a long-lasting geotextile fabric. Once the fabric is in place the area will then be filled over with an imported borrow material. This pad fill will be placed

in compacted lifts. As the fill is built higher and higher up the slopes, additional layers of geotextile will be added to maintain the separation between the left-in-place topsoil and the newly placed pad fill.

The purpose of the geotextile is to protect the existing topsoil resources in their present in-place condition, and to provide a barrier between the in-place topsoil and the imported fill material. By using the geotextile, the existing topsoil located on the channel and slopes can be left in place. Leaving the soil intact and in-place will maintain the soil cohesiveness. Roots and soil structure will help promote soil stability, minimize the potential for erosion and soil sloughage. The soil horizons will remain intact to help promote faster revegetation of the slopes. During final reclamation the fill material and geotextile will be removed to re-expose the existing topsoil.

8e) Topsoil removal, salvage and stockpiling. Within the minesite there are sideslope areas where topsoil presently exists and which will be cut away during construction (S/T/C area type). In these areas the topsoil resource will be carefully removed and stockpiled before any additional excavation continues. All topsoil salvaging will be done under the direction of a competent soils scientist. Based on the soil surveys completed in this area, up to 24" of topsoil may exist in these areas which could be salvaged. Topsoil in these areas will be salvaged with backhoes, trackhoes and/or small front end loaders. It will be hauled by dump trucks to the designated topsoil storage areas. If the topsoil depth in the S/T/C areas averages 18" up to 6,506 cubic yards of topsoil may be available to be salvaged and stockpiled.

It should also be noted that small isolated pockets of Travessilla soils exist within the rock outcrop/rubbleland areas of the minesite. In fill areas (S/R/F) these soils will be protected with geotextile as described above; in cut areas (S/R/C) these soils will be salvaged under the direction of the soil scientist.

Two topsoil storage areas are being proposed: one at the upper end of the material storage area in the right fork, the other at the upper end of the coal storage pad in the left fork. The right fork area will be the primary storage area. The left fork storage area will be utilized if needed in the event that the right fork area is filled to capacity and additional storage area is required. The left fork storage area may also be utilized if separate and segregated stockpiles are needed to maintain the integrity and identity of the individual soil types present at the site (ie, Brycan, Strych and Midfork) for future reclamation.

8f) Face up of coal seam/preparation of portal highwall. As soon as possible after construction begins the coal seam will be faced up and the portal highwall will be excavated. The portals will be located on the southeast side of the canyon within the right fork. Prior to facing up the portals the area will first be cleared and grubbed, and topsoil will be salvaged. The extent

of coal seam weathering and/or burn will dictate the extent of the highwall needed to access the solid coal face for the purpose of installing the portals. The highwall must be constructed long enough to accommodate at least four portal openings (fan, belt, two intakes). However, the mine opening has been designed to require the absolute minimum of highwall length. Minimizing the extent of the highwall is an important consideration not only in the initial mine development but also and even more so for final reclamation. All efforts will be made to not only minimize the length of the highwall, but also to minimize its height as well. The highwall will be constructed (and stabilized as necessary) to conform to the safety requirements of MSHA. In order to achieve minimum disturbance of the canyon side slope the highwall will be cut into the solid rock as steeply as possible while still maintaining the necessary long term structural stability.

8g) Construction of the various earthen pad levels and interconnecting access roads. As mentioned previously, fill material (borrow) will have to be imported to the site in order to construct the mine pads necessary to accommodate the long term operational requirements of the mine. This material will come from a commercial borrow pit located in the near vicinity of the minesite. The borrow material will be chemically and physically similar to the native materials existing at the minesite.

According to computer models of the minesite earthwork, approximately 100,000 yds of borrow will have to be imported to achieve the proposed mineyard configuration. This material will be crushed to an 8" x 0" product before being delivered to the site. It will be placed in 18"-24" lifts and compacted to a minimum 90% density for nonstructural areas, and to 95% density in structural areas. Nonstructural areas include parking lots, material storage areas and coal storage areas. Structural areas include all areas under buildings, conveyor bents, substation, backfilled areas around culverts and reclaim tunnels, roadways, mine fan and reinforced earth retaining walls (Hilfiker). Experience has shown that this material can usually exceed 95% compaction using standard wheel rolling methods, although vibratory compaction will be used in critical structural areas. All earthwork will be required to meet a minimum of 4000 psf load-bearing capacity.

Prior to placement of fill material, the site will first be cleared and grubbed. In topsoil areas, geotextile will be placed in the channel bottom to preserve the geomorphology of the channel for final reclamation. Geotextile will also be placed over topsoil areas along the sideslopes to preserve the in-place soil resources for final reclamation.

Pad construction cannot begin until after the bypass culvert has been installed and backfilled, trees and shrubs removed, and geotextile laid down. In general, the individual pad levels will be constructed beginning with the downstream working areas and will proceed upstream as completion of the culvert allows. However, emphasis and priority will be given to those pad

levels that are designed to accommodate key structural elements of the surface facilities. These include the pad levels associated with the coal pile reclaim system, the substation, the elevated conveyor gallery, bath house, and shop/warehouse building.

Although most of the pad levels will be constructed by filling the area with imported borrow, some pad construction will involve cutting into the existing side slopes. Under normal construction situations sideslope cuts will be minimal, and will not usually extend up-slope more than about 20' above the completed pad level. The primary purpose of the sideslope cuts is not to generate fill volumes, but rather to provide uniform yard boundaries for proper alignment of ditches, roads, buildings and other peripheral structures. Cut slopes area also necessary to predefine the limits of the pads for the purpose of layout and engineering design. Clear slopes are also needed to assure long term site maintenance. In order to meet the objective of yard limit definition, the slopes in some areas may be actually constructed by placing fill against the sides slopes rather than cutting into the existing hillside.

Prior to placement of any imported fill material, bright colored marker material will be laid on top of the natural ground surface. The purpose of the flagging material is to mark the original ground surface so, at the time of final reclamation, the fill can be removed down to the marker level and the original native surface re-exposed. Use of the marker material will help equipment operators identify the horizon of the natural surface during reclamation and prevent the excavation from penetrating through the layer of naturally occurring, pre-existing colluvium. This colluvium, although not a topsoil, is a naturally occurring growth medium and efforts will be made to utilize this horizon as much as possible for final reclamation.

In topsoiled areas (S/T/C areas), before any slope cuts are made, topsoil will first be salvaged and stockpiled. All topsoil salvaging will be under the direction of a qualified topsoil scientist. After the topsoil has been removed, the substrate material will be excavated. Cut material will be incorporated into the pad fill along with the imported fill material. Sideslope cuts may be greater in some selected areas where pre-engineered design parameters dictate. These areas include roadways, portal highway, conveyor runs and various building sites.

8h) Installation of ditches, culverts and other drainage controls. As stated earlier, the sediment pond will be constructed as early as possible in order to provide maximum sediment control during the term of the construction project. Once the pad levels are constructed, along with the interconnecting roadways, drainage control ditches and culverts will be constructed and culverts installed. Disturbed area ditches and culverts will be designed to handle a 10 yr 24 hr storm event. Where necessary, ditches will be lined with concrete or riprap to prevent erosion where velocities are expected to exceed 5 feet/sec. Culvert inlets will be designed to provide adequate freeboard for design flows; outlets will be riprapped where necessary to prevent scouring.

8i) Construction of coal handling facilities and associated structures. Construction of the coal handling facilities will be scheduled to allow the mine to get into full production as quickly as possible. The underground mining operation cannot function smoothly until the elevated conveyor gallery and discharge structure are fully operational. On the other hand, the mine conveyor cannot become fully operational until the mine workings are developed far enough underground from the portals to allow the conveyor to be extended into the mine works and become an integral working part of the continuous miner production section. Once the initial mine workings have been connected up underground with crosscuts, the conveyor can then become operational.

Other integral components of the coal handling facilities necessary for full production include the coal reclaim tunnel, crusher building, truck loadout and interconnecting conveyors. Only after this system is completely operational can mine development and coal production begin in earnest. Other important structures necessary for full-scale mine surface production include the main substation, the water delivery system, and the mine ventilation fan.

After the critical path coal handling facilities and mine development structures are fully operational and the underground mine development is proceeding on course, full attention can be focused on completing the ancillary surface facilities. These include permanent structures such as the mine office, bath house, shop/warehouse and support structures such as the bulk rock-dust system, oil and grease storage, etc. Once the permanent structures are finished the temporary accommodations used during construction can be removed from the site.

06/15/98

PART II - RECLAMATION PLAN

The reclamation of the disturbed areas of the West Ridge minesite is described in outline and detail below. To a very great extent the precepts of reclamation are inter-related to and inter-dependant upon the methods and techniques employed during initial construction. In many ways reclamation at the West Ridge site is similar to the construction, but only in reverse order. To the extent that reclamation techniques and initial construction techniques are so interrelated it is imperative to consider the reclamation plan as an integral part of the construction plan (as presented in Part I of this plan) and vice versa. The two separate plans constitute a whole and should be considered as such.

WEST RIDGE Resources, Inc. recognizes that development of a feasible reclamation plan for final reclamation of the expansion area containing the best available reclamation methodology is an essential part of the permitting process. Therefore, WEST RIDGE Resources, Inc. has contacted consultants with revegetation and reclamation experience to gather together the best reclamation techniques for reclamation of the C-Canyon area. JBR Environmental Consultants, who has had prior experience with reclamation in difficult areas, has provided a letter detailing reclamation methodology that they believe will contribute to the successful reclamation of this area. This letter, included as Attachment 1, was written in response to WEST RIDGE Resources, Inc. discussions held with JBR as the reclamation plan was being conceived. WEST RIDGE Resources, Inc., Inc. feels that incorporation of the various reclamation techniques that JBR has identified as being successful in past situations will greatly enhance the success of this reclamation effort. WEST RIDGE Resources, Inc. also recognizes that in the time between now and when final reclamation is actually done, technology may evolve new and better reclamation ideas. WEST RIDGE Resources, Inc. commits to modifying the reclamation plan prior to final reclamation should better reclamation products and methodology become available. This reclamation plan will be reviewed prior to implementation to incorporate applicable methodology and techniques which are considered best technology currently available (BTCA) at the time of reclamation.

The regulation for which WEST RIDGE Resources, Inc. is proposing to use an experimental practice would be R645-301-232 Topsoil and Subsoil Removal. Rather than removing the topsoil from the proposed mine yard area, WEST RIDGE Resources, Inc. proposes to protect the soil resource in-place by covering the soil surface with a geotextile fabric, then placing fill material over the fabric. At the time of reclamation, the fill material will be removed. The geotextile will then be removed, exposing the original, intact soil surface. To enhance the ability of the soil to absorb moisture, a mixture of PAM (Polyacrylamide) or best technology currently available at the time of reclamation, will be applied to the soil surface. PAM is designed to increase pore space in soil, improve water penetration and drainage and provide an increased resistance to erosion. By opening up channels for air and water penetration water is allowed to infiltrate the soil and assist vegetation establishment and growth. Agricultural studies show a marked improvement in seedling emergence

and growth with the application of PAM.

To enhance soil microbial establishment and promote more rapid stabilization of the soil, the seed mixture (as listed in Chapter 3) will be hand broadcast over the area and raked into the soil surface. A straw mulch will be applied over the seed bed at a rate of 3,000 pounds per acre, then the surface will be sprayed with a tackifier, or soil binder such as SoilLok, to hold the straw in place.

The proposal to leave the existing topsoil in place and protected by a geotextile barrier within the filled areas of the minesite is considered an experimental procedure as defined in section R645-302-210 of the State of Utah Coal Mining Rules and SMCRA. The practice of protecting the topsoil in-place with a geotextile fabric has been previously approved in Utah in steep slope conditions (Genwal Resources, Crandall Canyon Mine, ACT 015/032).

Based on recommendations from experienced reclamation consultants there is every reason to believe that this procedure will be successful in meeting the reclamation standards required by SMCRA. However, as an added element of assurance for the success of reclamation at the West Ridge minesite, WEST RIDGE Resources, Inc. has preserved, under long-term lease, a separate source of high quality topsoil which can be used to reclaim the minesite if needed. The sole purpose of this topsoil borrow site is to be used for final reclamation on an as needed basis in the unlikely event that the left-in-place topsoil at the minesite cannot be sufficiently revitalized and re-utilized at the time of final reclamation. Sufficient tests have been completed on this potential topsoil borrow site to determine that the topsoil resource exists in sufficient quality and quality to completely reclaim the minesite. This alternate topsoil borrow site is conveniently located within two miles of the minesite and contains soil material which is nearly identical in chemical and physical characteristics to the topsoil naturally existing at the minesite.

The primary goals of reclamation at the West Ridge minesite are:

1) Re-establish approximate original contour
2) Eliminate all mine-related highwalls
3) Re-apply topsoil in areas where topsoil was salvaged during construction
4) Re-establish the original stream channel geomorphology
5) Prevent erosion of the reclaimed minesite and excess siltation in the undisturbed drainages
6) Re-establish vegetation cover and density equivalent to the pre-mining condition

Construction/reclamation areas within the minesite can be defined according to the following three criteria:

a) Whether the area lies within the canyon channel bottom or is located up along the

canyon sideslopes away from the bottom (Channel or Slope)

b) Whether the area presently contains topsoil or whether it is rock outcrop/rubbleland presently devoid of topsoil (Topsoil or Rock).

c) Whether the area is to be filled over or else cut away during construction of the mine pads (Fill or Cut).

This delineation is important because reclamation in these various area types is, in large part, predicated on the methods of initial construction used in those same areas. In these area-types, construction and reclamation are inter-related and inter-dependant. On an area-by-area basis initial construction methods are influenced by final reclamation requirements and final reclamation techniques are, in turn, dependant upon initial construction methods.

Any given area within the minesite can be defined in terms of a combination of the aforementioned criteria. Different construction and reclamation methods apply to each specific area type. Therefore, for the purpose of defining construction/reclamation methodologies the minesite can be categorized into the following six area types. These area types are identical to the area types described previously in the construction plan (Part I of this plan), and repeated here for completeness:

a) Areas within and immediately adjacent to the [pre-existing] stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which were filled over during construction of the mine pads:
Channel (C), Rock (R), Fill (F) = C/R/F

b) Areas within and immediately adjacent to the [pre-existing] stream channel; where topsoil is present [and has been protected in-place with geotextile]; which were filled over during construction of the mine pads:
Channel (C), Topsoil (T), Fill (F) = C/T/F

c) Areas located up along the [pre-existing] canyon sideslopes away from the channel; where topsoil is present [and has been protected in-place with geotextile]; which were filled over during construction of the mine pads: Slope (S), Topsoil (T), Fill (F) = S/T/F

d) Areas located up along the canyon sideslope away from the [pre-existing] stream channel; where topsoil was previously present [but was salvaged and stockpiled during construction]; which were cut away during construction of the mine pads:
Slope (S), Topsoil (T), Cut (C) = S/T/C

e) Areas located up along the canyon sideslope away from the [pre-existing] stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which were filled over during construction of the mine pads:
Slope (S), Rock (R), Fill (F) = S/R/F

f) Areas located up along the canyon sideslope away from the [pre-existing] stream channel; which are predominantly rock outcrop/rubbleland and therefore devoid of topsoil; which were cut away during construction of the mine pads:
Slope (S), Rock (R), Cut (C)= S/R/C

Note: Refer to item 7) for details of these construction area types.

In outline form the key reclamation tasks are as follows:

1) Remove all structures, dispose of off-site
2) Backfill and regrade all cut areas
3) Reapply topsoil to backfilled cut slopes (S/T/C areas)
4) Revegetate the regraded cut slopes
5) Remove pad fill/re-expose and revitalize the left-in-place topsoil
6) Re-expose the original rock outcrop/rubbleland surface and revegetate
7) Remove the bypass culvert/re-expose the original stream channel
8) Revitalize and revegetate the channel.
9) Install silt traps and other suitable sediment control features.

These activities are listed in the approximate sequential order in which they will be performed. However, just as during construction, certain later-stage tasks may be on-going in certain areas of the minesite while other early-stage tasks are just beginning in other areas.

1) Remove all structures, dispose off-site; All coal handling facilities, buildings and ancillary structures will be dismantled, disassembled, demolished and then hauled away from the site. Materials which cannot be salvaged or recycled will be disposed of in an approved solid waste land fill such as the ECDC facility located nearby in East Carbon. Structures to be removed include (but are not limited to) the mine office, bath house, shop/warehouse, substation, conveyor gallery and bents, discharge structure, reclaim tunnel, crusher building, reclaim conveyor, truck loadout, loadout conveyor, rock dust bins, water tanks, fuel tanks, garbage vaults, power lines, water lines, culverts, pump house, powder magazines, portals, mine fan, concrete, etc. Asphalt, cleaning solvents, paints and other similar materials will be disposed of in an approved RCRA disposal site.

The coal pile in the left fork will be completely removed from the site prior to final reclamation. Any coal fines which remain on the hill slopes immediately adjacent to the coal stockpile area will be vacuumed clean prior to beginning final reclamation.

2) Backfill and re-grade all cut areas: All cut areas (S/T/C and S/R/C areas) will be restored to approximate original contour. These areas will be backfilled and regraded using fill material taken from the adjacent pad area. Prior to utilizing the pad material as backfill in the adjacent cut slopes, approximately one foot of material will be scraped from the top of the pad fill and disposed of. This will help ensure that excessively compacted and/or contaminated material will not be utilized for backfill during final reclamation.

Fill will be placed in the cuts in 18"-24" lifts and compacted sufficiently to achieve adequate structural stability. Tests have shown that this fill material can achieve structural stability with a safety factor much greater than 1.3 on slopes as steep as 1:1. (Refer to Appendix 5-4) In general, restored cut slopes will have a final slope of about 2:1 which is close to the predominate slope angle existing naturally in the canyon in its pre-mining condition.

Track hoes, dozers, and/or front end loaders will be used to backfill the cuts. Heavy equipment will utilize the existing adjacent pads as work platforms from which the backfilling operation can be staged. Fill material will be inspected and tested to insure that it is free of salts, oils, petroleum products and any other contaminants before being used as backfill in the cut areas. The surface of the regraded backfilled area will be roughed with a backhoe to provide a suitable surface for subsequent top soiling and/or reseeding applications. Boulders and large rocks will be harvested from the nearby vicinity and placed along the surface of the regraded slopes to replicate the pre-mining slope condition.

It should be noted that, in general, the sequence for reclaiming the cut slope areas and adjacent pad fill areas in the RO/RL areas will be accomplished in reverse order from the way in which these areas were initially constructed as the mine yard was created. During construction, material from the cut slopes was used as fill and placed into the adjacent pad areas. If, during pad construction, additional fill was needed (i.e. if there was a deficit of native fill materials from the adjacent cut areas) then imported fill material would be brought in and placed on top of the native fill in order to complete the pad levels. During reclamation the process would be performed in reverse order. In other words, the imported fill would be removed first and, for the most part, would be disposed of off-site. The native fill, located at the lower (deeper) level of the pads (i.e. located under the imported fill) would be used primarily to fill in and restore the adjacent cut slopes. Although some mixing of the native and imported material will invariably occur during construction and reclamation, this is of no consequence because the imported fill is essentially the same as the native material (both physically and chemically) and is, in and of itself, a suitable growth medium.

This reverse order of construction and reclamation applies to large boulders as well. During initial construction, large boulders which occur naturally along the surface will be placed in the bottom of the fill areas above the culvert after the culvert has been installed. Fill materials from the adjacent cut slopes will then be placed over these boulders as the pads are being constructed. In essence, the larger boulders are being "stored" in the depths of the pad fill until the time of final reclamation. During reclamation, the boulders will be re-exposed and will be placed once again on the reclaimed surface to replicate their original premining occurrence. Since the boulders were the first to go into the fill during construction (followed by the native fill and lastly by the imported fill) they will be the last to come back out of the fill during reclamation. Since they will come out last, they will be available to be placed back along the surface of the reclaimed slopes.

In the main canyon area, where pad fills are more limited, the boulders will be "stored" in the outslopes of the sediment ponds. (The structural portion of the pond embankments will be constructed with imported fill material, which can be placed and compacted as needed, to achieve the necessary engineering parameters. This structural portion of the pond embankment, which had been in contact with impounded water and coal fines during operation of the mine, will be removed and disposed of during final reclamation.

Special backfilling techniques will be applied at the highwall area and the conveyor nose cut. Of the entire minesite these are only areas that involve steep slope cuts. The pre-existing pre-mining slopes in these areas are as much as 40 degrees (i.e. nearly 1:1) measured from horizontal. In order to adequately access (face up) the coal seam while minimizing the amount of hillside disturbance, the highwall cut slope will have been made as steep and sheer as safely possible during initial construction. From a reclamation standpoint the challenge of the portal area is to re-establish approximate original contour, eliminate the highwall, and maintain the stability of the backfill material in the process. This will be accomplished in the portal area and nose cut area by utilizing large boulders. Large angular boulders will be stacked one on top of the other along the outer edge of the portal bench along the toe of the slope. Fill slopes reinforced with large boulders, in this manner, can easily stand at the requisite 40 degree incline needed to reestablish the natural slope in this area. Regular 8" x 0" fill material could be used to fill in the void behind the boulders on the inside of the bench where the stability criteria is not as critical a factor. Boulders, and other backfill, would be placed using a backhoe starting at the up dip (southern) end of the portal bench and working northward. As the boulder slope is completed, topsoil would be placed into the surface nooks between the boulders. The surface of the boulder slope would then be revegetated in the same manner as the rest of the reclaimed site. Due to the steepness of the boulder slope some of the topsoil may slide off, leaving the boulder surface visible as bare rock. However, this rocky appearance will be very much in keeping with the natural appearance of the canyon slope in its pre-existing pre-mining conditions. In fact, the coal seam sits atop a massive sandstone which presently manifests itself as a broad bare rock outcrop in the vicinity of the proposed portals. It should be noted that all principals of reclamation described herein for the portal highwall apply to the conveyor

nose cut equally as well.

Note: Final reclamation of the portal highwall will not take place until after the pad backfill material has been removed from the pads, transported into the portals, and placed permanently in the underground mine workings as described in item 5) below.

3) Reapply topsoil to the backfilled cut slopes: After the cut (S/T/C areas) slopes have been backfilled and regraded to approximate original conditions and regraded to approximate original conditions the slopes will then be re-topsoiled. Prior to replacing the topsoil the surface of the slopes will be roughened and pitted with a backhoe bucket to prevent slippage of the topsoil layer and promote root penetration. To the extent practicable, pre-existing topsoil types will be returned to their original locations during reclamation; Brycan topsoil will be returned to the Brycan area near the confluence area. Midfork soils will be returned to the Midfork areas on the southeast slope of the right fork and other isolated areas as identified on Map 2-2. Topsoil will not be reapplied to the rock outcrop/rubbleland areas (i.e., S/R/C areas) which, by definition, are naturally devoid of topsoil.

Topsoil will be reapplied to the slopes in the conventional manner. Topsoil will be hauled in by truck and spread with a front end loader and/or backhoe. Areas to receive topsoil will be marked with stakes indicating the depth of application. A reclamation supervisor will oversee the topsoil redistribution operation. Topsoil will be left in a roughened condition prior to seeding to minimize compaction and erosion as well as promote infiltration of precipitation.

After approximate original contour (AOC) is achieved, the surface will be prepared according to the R-M-V (roughen, mulch, revegetate) method. Pocking consists of imprinting the surface with a pattern of depressions measuring approximately 18" x 24" x 8" deep. The purpose of these pocks is to capture and retain water (moisture), and provide a cradle for seedlings and other plant materials.

WEST RIDGE Resources, Inc. has committed to adding nutrients and determined by laboratory analysis conducted on topsoil samples taken before topsoil redistribution and during final reclamation. The method used to ensure adequate and representative samples from different locations and depths within the topsoil stockpile include: taking two soil samples per stockpile and collecting samples with a soil auger at two foot increments. Samples of the undisturbed soil adjacent to the regraded site will also be taken for a baseline chemical reference. Fertilizer will be added to the redistributed topsoil as indicated by laboratory results.

4) Revegetate the regraded cut slopes: After the cut slopes have been re-contoured and/or re-topsoiled they can then be revegetated. Much of the revegetation efforts on these slopes can be accomplished by using the adjacent pad fill areas as a work platform for equipment and materials.

Revegetation procedures for the regraded cut slopes involves a multi-step process as follows:

a) Fill will be removed until approximate original contour is achieved.

b) Topsoil will be replaced in each area and reapplied to the prepared surface to a depth of 18 inches.

c) A weed-free straw mulch will be blown over the topsoiled surface at a rate of 2,000 pounds per acre. Fertilizer, if determined necessary by soil testing, would also be applied at this time.

d) The surface will be gouged or pocked with irregularly shaped depressions approximately 18" x 24" x 8" deep. This will also mix the straw into the upper portion of the soil surface.

e) The appropriate seed mix (Tables 3-2A, 3-2B, 3-2C, and 3-2D.) will be either broadcast or hydroseeded on the area at the rate specified on the table.

f) A weed-free straw mulch will again be applied to the surface at a rate of 4,000 pounds per acre and held to the surface with a tackifier or possibly SoilLok or PAM.

g) If root stock is listed in the seed mix, the containerized plants will be planted at the rate specified in the seed list table.

Hydro seeding will combine the tackifier and small amount of mulch with the seed mix (to mark the area of coverage) during application to the redistributed topsoil. All seed utilized on the site will be certified pure live seed. The plant containerized stock will be planted in the second year of reclamation. Revegetation work will not be done until fall (September-October).

5) Remove pad fill/re-expose and revitalize the left-in-place topsoil (S/T/F areas): After the surface facilities have been demolished and removed from the site, and after the cut slopes have been re-contoured and revegetated, removal of the pad material can begin. Pad fill will be removed in 5'-10' lifts using dozers, end loaders and/or backhoes. The material will be loaded into dump trucks and hauled to the portals. A conveyor belt will be installed to transport this fill material from the surface back into the underground mine works. From the conveyor's underground discharge point, the fill material will be picked up by mine LHD (load/haul/dump) vehicles, and transported to the final underground storage area. Because of the steep dip of the coal seam (13%), the fill material

will be relatively easy to transport and dump into the abandoned mine workings.

A specified area of the main entries (and connecting cross-cuts) will be designated as the final repository for the pad fill upon final reclamation. Assuming a 25% swell factor for the reposited fill, approximately 1,950 feet of main entries (measured inby from the portal seals) will be needed to adequately store the fill material.

After all the pad fill has been excavated and transported into the mine workings, the mine portals will be permanently sealed. All seals will be constructed according to MSHA standards. After the seals have been constructed, the remaining length of entries from the seals outby to the portal openings will then be backfilled with a last remnant of pad fill material. After the portals have been sealed and backfilled, the highwall will be reclaimed to approximate original contour as described earlier in item 2.

During the fill removal process the bypass culvert inlet structures will be left in place at the upstream end of the mine site in both the right fork and the left fork. The bypass culvert system will remain intact throughout the fill removal process to keep the undisturbed drainage separated from the ongoing reclamation earthwork underway at the minesite. A 40' wide berm will be left intact at the culvert inlets to continue to serve as the culvert headwall and to continue to divert the undisturbed drainage into the bypass culvert.

Fill will be removed from the pads in 5-10 foot lifts starting from the upper end of the yard and proceeding down canyon. At the intersection of the pre-existing topsoiled slope and the pad fill, the geotextile fabric will be re-located. The pad fill will be carefully removed from on top of the geotextile fabric as the yard fill is being excavated. This will allow reclamation to be done on vertical increments of the hillside that will be easy to access from the adjacent yard level. Removal of fill material adjacent to the slopes will be done very carefully in order not to disturb the in-place soil resources located under the geotextile. Fill removal in this area will be done with small earth-moving equipment (Bobcats, backhoes, etc.) and/or by hand if necessary in order to minimize disturbance of the topsoil. Once the geotextile fabric has been exposed, the fabric will be carefully peeled away from the soil and the condition of the underlying soil materials observed at this time. The soil will be reclaimed and revegetated in 5-10 foot horizontal zones that can be easily accessed and worked by hand from the adjacent pad fill level. After each level has been reclaimed as described below, another lift (5-10 feet of fill) will be removed from the fill. Revegetation work will then continue on the next increment of hillside below the previously reclaimed level. This work will be done in continued successive lifts, involving fill removal, peeling away the geotextile, revitalization of the in-place topsoil, and revegetation of the newly exposed increment. Reclamation of the slopes will take place in vertical increments (lifts) simultaneously with the removal of the fill material in corresponding lifts. As fill lifts are being removed, the adjacent newly exposed hillside will be reclaimed and revegetated. It should be noted that approximate original contour of the filled

area will also be re-established as the fill is being removed in lifts as described previously.

Sediment control during pad fill excavation will be met by continued use of the sediment pond located at the downstream end of from the yard area. The main bypass culvert inlets and an adequate amount of fill to maintain the existing headwall will be left intact during this phase of the fill retrieval process.

It is anticipated that after the pad fill is removed in lifts and the geotextile fabric is peeled away in vertical increments, the underlying soil material could be somewhat compacted. To increase the ability of the soil to absorb moisture and thus enhance the natural disruption in the soil through the freeze/thaw cycle, a mixture of PAM (Polyacrylamide) or best technology currently available at the time of reclamation, will be applied to the soil surface. PAM is designed to create an affinity for water in the soil, open up channels for air and promote water penetration. In order to reduce the soil compaction and promote the infiltration of water, the soil will also be aerated with the teeth on a backhoe bucket. The teeth will be driven into the soil vertically to minimize disruption of the in-place soil structure. The soil will be perforated to a depth of approximately 8 inches. This should allow rain, snowmelt and runoff to infiltrate the soil to provide aeration and moisture at depth. The winter freeze/thaw cycles will also help to reduce soil compaction. This treatment will be applied in successive 5-10 foot lifts as the fill is removed and the hillside is exposed.

To enhance soil microbial establishment and promote more rapid stabilization of the soil the seed mixture (as listed in Chapter 3) will be hand broadcast over the area and raked into the soil surface. A straw mulch will be applied over the seed bed at a rate of 3,000 pounds per acre, then the surface will be sprayed with a tackifier to hold the straw in place.

By removing the fill in 5-10 foot lifts and simultaneously reclaiming the slopes in corresponding lifts, the pad area can then serve as convenient operating platform for the machinery and supplies used during the reclamation effort. In this manner heavy machinery will not be required to maneuver on the slopes. All reclamation work performed directly on the slopes will be done with hand labor and tools. The reclamation process will be supported by heavy equipment staged on the adjacent pad level.

6) Re-expose the original rock outcrop/rubbleland surface and revegetate; Topsoil will not be applied to the re-exposed rock outcrop/rubbleland slopes which, by definition, are naturally devoid of topsoil, However, as the pad fill is being removed in lifts a remnant layer of this fill material will be left in place on the rock outcrop/rubbleland slopes to help re-establish vegetation. Tests have shown that this fill material is, in and of itself, a suitable growth medium (i.e., topsoil material). This material is chemically and physically the same as the native material existing naturally in the minesite area. In fact, in its natural condition the fill material supports the exact vegetation types and species that are found at the minesite area. The fill material is composed of weathered remnants of the Black Hawk Formation from the adjacent Book Cliffs. By leaving a layer of this fill material in place on the rock outcrop/rubbleland areas these slopes will have a growth medium which is as good as or better than the original rock outcrop/rubbleland in supporting reclamation revegetation. This residual fill material will then be processed as any other topsoil material in terms of revegetation. Prior to revegetation the area will be roughened and pitted with a backhoe bucket.

After approximate original contour (AOC) is achieved, the surface will be prepared according to the R-M-V (roughen, mulch, revegetate) method. Pocking will be the primary method used to roughen the surface. Pocking consists of imprinting the surface with a pattern of depressions measuring approximately 18" x 24" x 8" deep. The purpose of these pocks is to capture and retain water (moisture), and provide a cradle for seedlings and other plant materials.

Revegetation procedures for the rock/rubbleland slopes involves a multi-step process:

a) In fill areas, fill will be removed down to the original slope. (The original slope will be marked with the flagging material that was placed on the native surface prior to fill placement during construction of the mineyard. This flagging will be a visual aid for equipment operated to ensure that excavation does not inadvertently extend into and beyond the original RO/RL surface during pad fill removal at the time of final reclamation). Approximate original contour will be achieved by closely following the previously existing slopes. A remnant layer of fill material will be left in place to serve as a growth medium. The thickness of this layer may vary from a skiff (i.e. 2-3") up to 18-24" in areas where natural depressions and irregularities occur in the original existing surface.

b) For cut areas, fill will be placed in the cut in 18" lifts until approximate original contour is achieved. The fill will be obtained from the adjacent pad fills. (Approximately one foot of material will be scraped from the top of the pad fill and disposed of prior to using the pad material as backfill in the adjacent cut slopes. This will help assure that excessively compacted and/or

contaminated material will not be utilized for backfill).

c) A weed-free straw mulch will be blown over the topsoiled surface at a rate of 2,000 pounds per acre. Fertilizer, if determined necessary by soil testing, would also be applied at this time.

d) The surface will be gouged or pocked with irregularly shaped depressions approximately 18" x 24" x 8" deep. This will also mix the straw into the upper portion of the soil surface.

e) The appropriate seed mix (Tables 3-2A, 3-2B, 3-2C, and 3-2D.) will be either broadcast or hydroseeded on the area at the rate specified on the table.

f) A weed-free straw mulch will again be applied to the surface at a rate of 4,000 pounds per acre and held to the surface with a tackifier or possibly SoilLok or PAM.

Hydro seeding will combine the tackifier and small amount of mulch with the seed mix (to mark the area of coverage) during application to the residual topsoil material. All seed utilized on the site will be certified pure live seed. Revegetation work will not be done until fall (September-October).

In order for the remnant layer of fill material to adequate serve as a suitable topsoil material (growth medium) during final reclamation it is imperative that it not become contaminated during the operational life of the mine. This consideration applies equally as well to the left-in-place topsoil. Of primary concern as contaminant sources are salts and petroleum products. Salts are typically used in winter time for de-icing the roadways. Petroleum products (oils, grease, diesel fuel, etc.) are used extensively as part of the day-to-day mine operations.

Salts are not expected to be a problem for the following reasons: a) Because of its geographic location in the drier Book Cliffs, its relatively low elevation (7000'), and its southern exposure orientation, snow fall at the minesite is not expected to be heavy, nor long-lasting. Therefore, salt usage is expected to be minimal; b) The overall gradient of the minesite is a relatively steep 6.4 %. Therefore any salt accumulation along the roadways should be quickly and harmlessly washed away to the sediment pond, and; c) In the event that any salts happen to remain on the surface they are not likely to migrate downward into the fill or the left-in-place soil. Because the evapo-transpiration rate substantially exceeds the precipitation rate in this area, salts would more likely gravitate upward to the surface rather than downward from the surface.

Contamination from petroleum products is not expected to present a problem to the fill

material nor the left-in-place topsoil. All oil and grease products will be stored on site in sealed steel containers within a protected weather-tight enclosure. Nearly all of these oil and grease cans will be taken underground before they are opened and used. Diesel fuel will be stored on the surface in substantially constructed steel tanks, and each tank will be located within a concrete/steel enclosure capable of holding the entire content of the tank in the event of rupture. All petroleum products will be delivered, stored and transferred in accordance with an EPA approved Spill Prevention Control and Counter-measure Plan (SPCC as required by Clean Water Act).

7) Remove the bypass culvert/re-expose the original stream channel; As pad fill material is removed in successive vertical lifts and the re-exposed sideslopes are reclaimed, approximate original contour will be re-established. Once the fill has been removed to the bottom of the canyon the bypass culvert will be encountered and exposed. In order to reclaim the channel the culvert will have to be removed. Before culvert removal begins, a minimum of four silt fences will be installed in the natural drainage below the minesite. Removal of the culvert will begin at the up-canyon ends of both the right fork and left fork. The culvert inlets and remnant headwalls will first be removed. At this stage of reclamation the sediment ponds will still be in place at the down canyon end of the reclamation site, and will still be the primary source of sediment control from the site. As the culvert is removed (starting at the upstream end) the geotextile located immediately under the culvert will be exposed. The geotextile will be carefully peeled away, re-exposing the original channel in the process. Many of the larger boulders located adjacent to the channel way (which were originally in the channel but had been relocated out of the way during construction) will now be replaced back into the restored channel.

Within the right fork, most of the stream channel is flanked by Strych soil (C/T/F areas). In some areas the Strych horizon actually forms the banks of the stream channel. This soil resource was protected in place by the geotextile laid down at the time of construction. Once the culvert is removed from this area and the geotextile peeled off, the soil material along the channel banks will be re-exposed.

It is anticipated that after the culvert is removed and the geotextile fabric is peeled away, the underlying soil material along the stream banks will be somewhat compacted. To increase the ability of the soil to absorb moisture and thus enhance the natural disruption in the soil through the freeze/thaw cycle, a mixture of PAM (Polyacrylamide) or best technology currently available at the time of reclamation, will be applied to the soil surface. PAM is designed to create an affinity for water in the soil, open up channels for air and promote water penetration. In order to reduce the soil compaction and promote the infiltration of water, the soil will also be aerated with the teeth on a backhoe bucket. The teeth will be driven into the soil vertically to minimize disruption of the in-place soil structure. The soil will be perforated to a depth of approximately 8 inches. This should allow rain, snowmelt and runoff to infiltrate the soil to provide aeration and moisture at depth. The

winter freeze/thaw cycles will also help to reduce soil compaction. This treatment will be applied in successive 5-10 foot lifts as the fill is removed and the hillside is exposed.

As the channel is being restored, silt traps will be constructed in the channel bottom. These traps will consist of depressions measuring about 2-3 feet deep which will be dug into the bottom of the channel. These silt traps will be spaced about 200' apart and, where possible, will be located in areas of naturally occurring grade breaks. The purpose of these silt traps is to collect silt minor quantities which may originate from the adjacent reclaimed side slopes prior to the time that vegetation becomes established.

To enhance soil microbial establishment and promote more rapid stabilization of the soil, the seed mixture (as listed in Chapter 3) will be hand broadcast over the area and raked into the soil surface. A straw mulch will be applied over the seed bed at a rate of 3,000 pounds per acre, then the surface will be sprayed with a tackifier to hold the straw in place.

It should be noted that even in non-topsoil areas (i.e., rock outcrop/rubbleland (C/R/F areas)) the channel and channel banks will be revegetated. Within the rock/rubble areas, a layer of fill material will be left behind as a suitable topsoil material (growth media) as described earlier. Therefore, in the channel areas of the rock outcrop/rubbleland, revegetation measures will be identical as for the slope areas.

Revegetation procedures for the rock/rubble channel will involves a similar process as for the rock outcrop/rubbleland slopes:

a) Fill will be removed down to the original slope. Approximate original contour will be achieved by closely following the previously existing slopes. A remnant layer of fill material will be left in place to serve as a growth medium. The thickness of this layer may vary from a skiff (i.e. 2-3") up to 18-24" in areas where natural depressions and irregularities occur in the original existing surface.

b) For cut areas, fill will be placed in the cut in 18" lifts until approximate original contour is achieved. The fill will be obtained from the adjacent pad fills.

c) A weed-free straw mulch will be blown over the topsoiled surface at a rate of 2,000 pounds per acre. Fertilizer, if determined necessary by soil testing, would also be applied at this time.

d) The surface will be gouged or pocked with irregularly shaped depressions

approximately 18" x 24" x 8" deep. This will also mix the straw into the upper portion of the soil surface.

e) The appropriate seed mix (Tables 3-2A, 3-2B, 3-2C, and 3-2D.) will be either broadcast or hydroseeded on the area at the rate specified on the table.

f) A weed-free straw mulch will again be applied to the surface at a rate of 4,000 pounds per acre and held to the surface with a tackifier or possibly SoilLok or PAM.

Hydro seeding will combine the tackifier and small amount of mulch with the seed mix (to mark the area of coverage) during application to the residual topsoil material. All seed utilized on the site will be certified pure live seed. Revegetation work will not be done until fall (September-October).

The channel restoration process (i.e., remove culvert, peel away geotextile, replace boulders, revegetate channel) will continue to progress down-stream until the sediment pond area at the lower end of the minesite has been reached. Then, one by one, the pond cells will be taken out. Culvert removal will continue until the entire culvert has been removed. In addition to re-establishing the approximate original contour of the channel, the original channel geomorphology will have been replicated in the following ways:

a) The original channel sinuosity and gradient will have been preserved and replicated.

b) The profile, configuration and the composition of the channel and the adjacent channel banks will have been preserved and replicated.

c) The boulder-stream nature of the original channel will have been restored.

8) Summary; By the time the last section of culvert is removed and the last segment of channel has been restored, the primary goals of reclamation for this site will have been achieved, namely:

a) Re-establishment of approximate original contour

b) Elimination of all highballs

c) Re-establishment of the original stream channel morphology

d) Topsoil replacement and/or revitalization along with re-seeding in anticipation of successful future revegetation, and

e) Implementation of an adequate sedimentation and erosion control plan to protect the newly reclaimed site until revegetation has been successfully re-established.