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DIVISION OF
OIL, GAS & MINING

MID-TERM REVIEW

Genwal Coal Canyon Mine
Crandall Canyon Mine
Tract 1
ACT/015/032
Emery County, Utah

July 2, 1986

INCOMPLETE ITEMS

UMC 783.19 Vegetation Information - LK

The operator has stated the SCS will be contacted to assess range condition during the summer of 1986. This should be done early enough so that the assessment can be completed and forwarded to the Division for review no later than September 1, 1986.

The SCS has been contacted and will get back in touch before July 14, 1986

UMC 783.21 Soil Resources Information - JSL

The applicant state that Plate 3-8 shows the relative location of the subsoil materials to the topsoil materials. Plate 3-8 does not identify the subsoil location relative to the topsoil stockpile location. These two materials must be identified.

Plate 3-8

not submitted

UMC 783.24 Maps: General Requirements - JRH

(c) The operator has provided a revised surface facilities map indicating the disturbed areas and their acreages. However, there is no map delineating the proposed topsoil storage areas for the site and indicating the disturbed acreage for these areas. The Operator is not complete with respect to this section.

Plate 3-8

UMC 783.25 Cross-Sections, Maps and Plans - DC

(b) The operator must still submit a comprehensive map showing the location of all surface and ground water monitoring stations.

pg 7-55

UMC 783.25 Cross Sections, Maps and Plans - JRH

(i) Plate 3-1 does not include the topsoil storage pile locations on the drawing which are adjacent to the haul road. Plate 3-8 shows the details of the topsoil stockpiles but does not show the disturbed area or the permit area boundaries for the topsoil stockpile areas.

Plate 3-8

UMC 784.13 Reclamation Plan: General Requirements - RS

(b)(1) The three maps requested depicting the reclamation phases are not complete nor technically adequate. The drainage system (including diversions (labeled), contributing watersheds, the sediment pond, berms, culverts and other drainage control devices) is not depicted on each map. This includes, but is not limited to depiction of berms along the road, lack of final channel designs for the ephemeral channel immediately to the west of the portals, and depiction of interim sediment control devices (i.e. silt fences along the perimeter of the site during construction and reclamation activities). Plate 3-4, 3-5 Plate 3-1

UMC 784.13 Reclamation Plan: General Requirements - LK

(b)(5) Page III-24 states that the reclamation maps are plates 3-5 and 3-4. These plates show only where seed mix #1 and seed mix #2 will be used and the outslope of the sediment pond for the wooded area. While these plates have a table heading indicating areas of post construction seeding, they are not marked on the map. Plate 7-5 does show areas of post construction/temporary revegetation and should be referenced. Also the outslopes of the road and the road (and cut) between the sediment pond and the permit boundary sign are not shown on the map. It is suggested that all areas east of the road be seeded and planted with the wooded (riparian) seed plan. pg. 3-24

Pages III-30 and III-33 refers to Plate 8-1 for map showing where each seed mix is to be used. This reference must be corrected to Plates 3-4 and 3-5. pg. 3-30,33

Page III-31 refers to Plate 3-8 for areas of post construction contemporaneous reclamation. This reference should be referred to as Plate 7-5. pg 3-30

The response index indicated that mulching was addressed on page 3-33. Page III-33 does not address mulching. Page III-30 still lists several methods for anchoring straw mulch. Please provide specific plans on how Genwal intends to anchor straw mulch and, if more than one method will be used, show the area for each method on the reclamation map. pg 3-30

UMC 784.13 Reclamation Plan: General Requirements - JRH

(b)(7) The operator has proposed to locate a permitted disposal site at the Sinbad Landfill. Since this area will require additional review, public notice and Federal approval, the operator shall be given conditional approval in the interim. Conditional approval shall require that the operator only store sediment pond waste material and other non-coal waste material in the designated temporary storage location at the mine site. Until the off-site disposal area is approved no permanent disposal of the material will be allowed. The Operator must also submit plans and seek approval for the permanent waste disposal area in accordance with the conditions of the approval.

Will be submitted in the near future, upon completion of mid-term review.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks Dams and Embankments - RS

The applicant has completely addressed this regulation in Appendix 7-6. It has not been technically reviewed at this stage of the review process.

No response required

UMC 784.18 Relocation or Use of Public Roads - JRH

The Division is still awaiting review and approval of the road modifications by the Forest Service.

No response required

UMC 784.23 Operation Plan: Maps and Plans - JRH

(b)(3) The Operator will be required to submit a corrected map(s) to include the topsoil storage areas and the permanent waste disposal facilities.

Plate 3-8, see 784.13

## TECHNICAL DEFICIENCIES

### UMC 800 Bonding - JRH

The Operator must submit to the Division a complete and detailed cost estimate for the reclamation of the site. The detailed cost estimate shall include the following information:

1. Mass balance calculations for earthwork and topsoil distribution, quantities, equipment selection, productivity and cost estimates for all phases and aspects of the work required for reclamation.

2. Calculations for the reclamation work to be accomplished shall include references as to the source of the information used and the date or dollar year in which the estimates are based.

3. A map(s) to be used as Exhibit "A" of the surety bond which shows the disturbed area boundaries of all areas to be disturbed. This shall include the permanent waste disposal facilities and the topsoil stockpile storage locations. This map(s) must be certified correct to serve as a legal description of the disturbed areas for the reclamation bond.

Will be supplied upon mid-term acceptance

### UMC 817.24 Topsoil: Redistribution - JSL

On page 111-28 the applicant states that 0.6 feet of topsoil will be redistributed at the time of final reclamation and page 111-29 indicates 1.01 feet of topsoil will be redistributed. The Division approves the 1.01 feet redistribution depth - not 0.60 feet. Please amend.

pg 3-28

### UMC 817.41 Hydrologic Balance: General Requirements - DC/RS

A noncoal waste disposal area has been proposed, but has not been permitted or approved by State Health. To accomplish this approval, a 30-day public comment period will be required. Therefore, a stipulation will be required in order to grant Genwal a timely approval.

Also see comments under UMC 784.13.

No reponse required

### UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow and Ephemeral - DC

The operator must submit documentation for the high manning's n value (0.10) used in the exit velocity calculation for the flexible downspouts for diversions UD-1 and UD-3.

No test data available. Selected values based on professional judgement.

The operator must submit documentation or a justification for the high manning's n value (0.04) used in the velocity calculations in diversions, UD-2, DD-1 through DD-6. Standard Manning's n values for excavated earth channels typically range from 0.018 to 0.025. The operator must use an n value that is representative of the channel lining for the diversion velocity calculations. Additionally, the operator must provide a channel lining design for all diversions that will have a velocity during the design discharge capable of eroding the channel. Note: The Division feels that velocities of 4-5 feet per second are capable of eroding an excavated earth channel and will require a channel lining. — Pg. 9 Appendix 7-7

The operator must submit a map of the permit area that shows the contributing sub-watersheds to each disturbed diversion. — deleted

The operator has included a typical culvert inlet on page 27 of Appendix 7-7. The operator must state which culverts will be installed with this typical inlet configuration. — pg 27 of appendix 7-7

UMC 817.46 Sedimentation Ponds - RS

(i) The emergency spillway proposed will be acceptable (following technical review) if onsite inspection of the area verifies that previous (nor probable future) piping or erosion around the large rock fragments is evident and the design is reviewed and approved by the USFS. — no response required

This section is still not complete. An onsite visit will need to be conducted in conjunction with the USFS in order to determine compliance with this section.

(s) The applicant must propose measures to insure compliance with this subsection. Reclamation measures for the sediment pond outslope must be described and the area of reclamation must be depicted on the plate labeled "runoff controls". — pg 7-52b

This section is not complete. The applicant must submit plans to restore the riparian community in the vicinity of the sediment pond and all other areas of the Crandall Creek channel that are impacted.

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring - OC

The operator must still state when the proposed ground and surface water monitoring programs will commence. The operator must sample the ground water monitoring station in June 1986 as proposed in the MRP. — pg 7-30, 7-54a

UMC 817.57 Hydrologic Balance: Stream Buffer Zones - DC

The operator must still submit a sediment control plan for the construction activities of the new surface facilities.

Plate 3-1

UMC 817.71 Disposal of Excess Spoil and Underground Development Waste - JRH

The Operator shall submit to the Division a detailed set of plans for the location, installation, operation and reclamation of non-coal waste disposal facility to be included within the mine permit area and disturbed area boundaries. The Operator shall promptly review and respond to any deficiencies found by the Division in the plan. Upon completion of the 60 day public notice and review period required for the modification to the plan, the Operator shall have responded to all public and agency concerns regarding the plan and the modification shall be made complete and adequate within 30 days after the closing date of the public notice.

See 784.13

No permanent disposal of non-coal waste material, sediment pond waste, coal spoils, or coal processing waste shall be made by the Operator until such time as the above modifications are approved. The Operator shall store all such material within the temporary waste storage facilities as shown on Plate 3-1 of the MRP. This condition does not apply to trash and garbage or other such materials which are approved by the Division for disposal in the approved sanitary landfill.

No response required

UMC 817.103 Backfilling and Grading: Covering Coal and Acid- and Toxic-Forming Materials - JSL

The operator must submit official laboratory results of the coal material analyses. The acid-base potential (ABP) was determined to be -11 tons $CaCO_3$/1000 tons. This material is classified as a acid forming material. The applicant has agreed to sample the soil material immediately under the coal stockpile at the time of final reclamation. However, the applicant must re-edit previous comments on pages VIII-4 Part 8.5 to indicate this material is a potentially acid-forming material.

pg 8-4

0849R

Insert the following pages

into the appropriate locations

in Appendix 7-7

7-7-1986

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Genwal Coal Company, Inc.
Crandall Canyon Mine, Tract I
Mid-Permit Review
ACT/015/032
Emery County, Utah

DETERMINATION OF COMPLETENESS

UMC 782.13 Identification of Interests - SCL

.13(g) The applicant still has not addressed whether or not it has interests in lands which are contiguous to the area covered by the permit. This should be on page II-5, part 2.2 of the application.

The applicant must provide a legal description of the new lease and show on a map how it relates to the proposed permit area. — P 2-5, PLATE 2-2

UMC 783.13 Description of Hydrology and Geology - General Requirements - DC & DD

The applicant shall describe in detail the geologic formations present in the vicinity of the mine area and regional area. The geologic description shall include formation characteristics, lithofacies changes, thickness and extent of formations, location (distance) of formations and relationship to the mine area.

The applicant has not clearly defined the geologic formations in the area. The maps submitted by the applicant are too small to read or give detail as to the relationship of the different geologic formations in and adjacent to the mining area. Their location relative to the mining area is important in defining impacts for hydrologic purposes. — PG 6-3

Item VI 1 is listed as a geologic cross section, yet, it appears to be a core or borehole analysis of the Castlegate SS. Where was this borehole located? — ITEM 6-1

The lithofacies of the Blackhawk need to be established in the vicinity of the mine area. A geologic cross section showing this should be submitted. — ITEM 6-1

Thickness and extent of all formations in and adjacent to the area should be discussed. — ITEM 6-1

The applicant should submit a coal isopach map of both the Hiawatha and Blind Canyon Coal seams that is illustrated by isoplith lines. Plate 6-2 is not a coal isopach map. — PLATE 6-2

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UMC 783.14 Geologic Description and Ground Water Information - DD

Although no water has been contacted from mining over the Starpoint Sandstone, the Starpoint Sandstone is considered an aquifer in the mining area. The applicant shall provide information and data that defines the location, the extent, the quality and piezometric surface of the aquifer. This information is necessary to evaluate the aquifer and calculate any adverse impacts from future mining and to correlate this aquifer to springs in the area.

The applicant has as yet not submitted specific information about the Starpoint Sandstone aquifer. A commitment to drill has been made but the information is needed before permit approval. pg 7-30, 7-33

UMC 783.14 Geology Description - DC

The applicant must resubmit Items VI-4 and VI-3 and replace them with a legible and readable Figure. Item VI-4 is not a stratigraphic cross section as stated in the text; this discrepancy must be clarified. Item VI-1 must be referenced in the text as to where the cross sections are located. A plan view map must be included showing the locations of these cross sections. The applicant states on Page VI-3 that the Starpoint Sandstone is 700-900 feet thick. This information must be referenced as it conflicts with the work performed by Doelling, 1972. Item VI-5 that is referenced to on Page VI-3 cannot be found in the document. The applicant must clarify this discrepancy.

Item VI-1 shows the upper coal seam to be 10 feet thick. This conflicts with information provided by the operator that this seam is not of mineable thickness. Item VI-2 is not a coal isopach and overburden map as stated on Page VI-5 but rather an acid-base accountability report. This discrepancy must be clarified.

The operator has not sufficiently addressed this section in order to be determined complete. While Items VI-4 and VI-3 have been resubmitted and are printed more clearly, these items do not reflect the geology in the vicinity of the minesite. This regulation requires a description of the geology within the proposed mine plan area. Additionally, the text on Page VI-3 Mid Term Revision April 15, 1986 states that Items VI-3 and VI-4 refer to specific lithologic characteristics of the interburden and the strata immediately above and below the coal seams performed by Mr. Wollen. Items VI-3 and VI-4 are reproductions from Doelling, 1972. Please clarify. The operator must provide a plan view map showing where the cross-sections in Item VI-1 are located. Thicknesses of the Star Point Sandstone on pages VI-3 Mid Term Revision April 15, 1986, and VI-6 Mid-Term Revisions April 15, 1986 are significantly different. Please clarify. Items VI-5 has still not been included. Item VI-1 still conflicts with informaiton in the text. Items VI-2 has still not been clarified.

pg 6-3
plate 6-1,2
pg 6-6
item 6-5
item 6-1
pg 6-7

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UMC 783.15 Ground Water Information - DC

The applicant must submit site specific information that describes the regional aquifer in the vicinity of the mine permit area. This information should include a lithologic description of the aquifer, thickness of the aquifer, the conditions under which water occurs in the aquifer (confined or unconfined), elevation of the water table or potentiometric surface, gradient of the water table or potentiometric surface, uses of water in the aquifer and quality of the water. Additionally, information should be submitted that describes the recharge, storage and discharge characteristics of the aquifer. This information should be site specific and not regional in nature.

The statement on Page VI-5 that the mine is dry needs to be revised to coincide with Section 7.1.3.1. The statement in Section 6.5.3 that the aquiferous potential of the formations in Crandall Canyon has been described in other documents submitted to DOGM needs clarification. These documents need to be identified and the pertinent information from these documents should be included as part of this MRP. Item number 2 in Section 6.5.3 conflicts with Section 7.1.2.1 This conflicting information must be clarified. Item number 3 on Page VI-6 contains information on the permeability of the shales in the Blackhawk Formation and interconnection of the sandstones. This information needs to be referenced. Additionally, the statement in Item number 3 on page VI-6 that faults and fractures do not increase water yielding characteristics in the Blackhawk Formation conflicts with Section 7.6.2.1 and 7.1.2.2.

The operator has addressed the recharge, storage and discharge characteristics of the regional aquifer. The operator has not, however, addressed site specific information on the regional aquifer that describes the lithology of the aquifer, thickness of the aquifer, the conditions under which water occurs in the aquifer (i.e. confined or unconfined), elevation of the water table or piezometric surface, gradient of the water surface, uses of water in the aquifer, and quality of the water. The operator should explain how the drilling program presented on page 7-31 Mid-Term Revision April 17, 1986 will answer the above comments concerning the regional aquifer. Additionally, this information should be included in Section 7.1.2.2. pg 7-30 pg 7-33

The operator has revised page VI-5 to coincide with Section 7.1.2. The operator has sufficiently addressed the comments pertaining to Section 6.5.3. The statement in Item number 3 on page VI-6 is still conflicting with information presented in Sections 7.1.2.1 and 7.1.2.2. pg 6-6

UMC 783.19 Vegetation Information - LK

On page IX-5, the applicant refers to a letter from the Soil Conservation Service (SCS) which certifies the range condition of the reference area. This letter must be included as part of the plan. Does not exist p. IX- 5

Please submit a copy of the letter from the Soil Conservation Service that is referred to on page IX-5 which certifies the range condition of the reference area.

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UMC 783.21 Soil Resources Information - JSL

The operator should include a statement in Part 1.2, 3.4.4.1, and 8.1 describing the pedogenic processes and physio-chemical changes that will occur to the soil resource. The submitted soil mass - balance table is insufficient. The anticipated depth of topsoil and subsoil removal, and the volume of previously stockpiled soil material must be represented for each soil series. The topsoil/subsoil replacement depth can be calculated from the potential salvaged soil volumes. The applicant has committed to remove soil equal to a redistribution depth of 14.8 inches, yet the permit application states that a depth of 0.75 feet will be redistributed. Please clarify. All calculations should be submitted.

Due to the change in the proposed disturbance area the soil mass balance table must be revised. All intended disturbance area topsoils must be removed and accounted for in both the Datino Variant and Twin Creek soil series complexes. The removal of only a portion of the topsoil from the proposed disturbance area is not permissable. All topsoil materials must be salvaged. The operator must salvage sufficient soil material whereby at the time of reclamation an eight inch topsoil horizon will be replaceable. Plate 3-9, the cross sectional views of previously salvaged topsoil stockpiles, was not enclosed in the April 23, 1986 submission. Please amend. The applicant must include the location of these two previously salvaged stockpiles on the surface facilities map. The applicant must also submit cross sections and contour maps of the "new" propoosed topsoil stockpile location. Include the contours and cross sections and all pertinent preservation techniques that will be employed for the proposed topsoil stockpile.

plate 3-1
3-8

Included

UMC 783.24 Maps: General Requirements - DD

The applicant shall submit a current geologic map that depicts all geologic formations on and adjacent to the mine plan area. The map shall also show any fracture zones or faults in the area. A legend should be used to depict all symbols or abbreviated material.

The geologic maps submitted by the applicant are too small to read and should be resubmitted at a scale of at least 1 foot = 1000 feet and contain a legend that depicts all symbols and altitudes and abbreviated materials.

plate 6-3, 6-3a

UMC 783.24 Maps: General Requirements - JRH

A listing of the deficiencies in maps, plans, tables and exhibits is given below. Comments with respect to these data refer to the adequacy of the maps and plans with respect to scale, certification, readability, and clarity. Technical deficiencies with respect to the information contained on the drawings and exhibits is made under the appropriate regulation concerning the information.

The Operator's mine plan is not considered complete and adequate with respect to this Section. Numerous deficiencies exist in the mine plan as currently submitted to the Division. Proposals for the changes in the surface facilities will alter or change many of the maps and plans required for determination of completeness of the mine plan. The Operator shall revise and amend all maps in accordance with the approved modifications to the mine plan.

CORRECTED AS NEEDED

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Other deficiencies or comments with respect to particular maps or plans shall be made in those particular areas or sections where they apply.

.24(c) Boundaries and locations of all areas proposed to be affected throughout the life of the mine are inadequate. The PROPOSED SURFACE FACILITIES map does not include the delineation of the disturbed area boundaries or provide the acreage thereof. No map or drawing provided in the latest May 12, 1986 submittal clearly defines those areas which are to be disturbed or are currently disturbed within the permit area.

Plate 3-1

.24(d) A map of all buildings in and within 1000 feet of the proposed permit area has not been submitted by the applicant and must be submitted prior to technical review of the permit application package. The map must show the permit area boundary and a secondary boundary located a distance of 1000 feet outside the permit area boundary. All buildings and structures that are within this area shall be identified as required in the regulations. This information may by submitted in conjunction with information required from other sections for maps and plans.

PLATE 2-2
81/2 x 11

UMC 783.25 Cross Sections, Maps and Plans - RS

a. The applicant must submit a map depicting the location and elevation of drill hole CH-2 and any other test borings and core samples in the mine plan adjacent area (i.e. Crandall Canyon).

Plate 6-2
Hiawatha

The applicant has not addressed this comment.

i. The applicant must submit a map depicting the sumps proposed in Chapter XI (pgs. 6 & 8).

Hiawatha Mine
PLATE 3-2

The applicant has not addressed this comment.

UMC 783.25 Cross Sections, Maps and Plans - DC/DD

The applicant must submit a comprehensive map that depicts all water monitoring (ground and surface stations and all rain gauge locations). Item VI-2 is not a coal and overburden isopach as stated on Page VI-3 but rather an acid-base accountability report. This discrepency must be clarified.

Figs. 7-2,14
pg 6.3

The applicant shall provide elevations and depth of test borings.

Plate 6-2

The applicant shall supply geologic cross sections that correlate information gathered from drill holes 1 and 2.

Item 6-5

Submit cross sections depicting the thickness of all coal seams and lithofacies changes.

plate 6-2, item 6-1

All map and cross sections must be approved by a registered professional engineer or professional geologist.

corrected

The applicant has not addressed any of the comments made in the March 18, 1986 deficiency letter for this section. The applicant must address all of the comments made in this section in order for it to be determined complete.

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UMC 783.25 Cross-Sections, Maps, and Plans - JRH

.25(i) The applicant has provided on an un-numbered drawing entitled "PROPOSED SURFACE FACILITIES" as received by the Division on May 12, 1976, the locations of the surface facilities within the permit area. This drawings should but do not provide the disturbed area boundary for the site. No location for the explosives storage facilities as described in the plan is found on the drawing. No location for the temporary or permanent storage of mine development waste, coal waste or sediment pond waste is found on or located on the proposed surface facilities map. No location or identification of the topsoil storage facilities is shown on this drawing.

PLATE 3-1

.25(k) The Operator shall provide to the Division, upon completion of the construction and contemporaneous revegetation and mulching work on the site, maps and plans with true and correct contour and surface features. Aerial photographs of the site and contour manuscripts shall be provided to confirm the location and the extent of the facilities and the disturbed areas. Approval of the plan shall be subject to the confirmation and the correlation of the as built construction of the site with the proposed surface facilities. Map accuracy shall be in accordance with National Map Accuracy Standards. All maps shall be of an appropriate size and scale for their respective use so as to provide sufficient detail of such features and facilities.

APPLICANT WILL SUBMIT AS BUILT DRAWINGS

UMC 784.12 Operation Plan: Existing Structures - JRH

Existing facilities from previous mining within the permit area boundaries are described in part 3.4.2 of the Operation and Reclamation Plan, which also refers to the archeological information contained in Chapter 5. The only portion of the previously existing facilities that are incorporated into the mining plan are the mine portals. The Operator should include a description of the nature and the condition of the portals that were incorporated into the mining plan and the measures to ensure that the performance standards, and that health and safety standard are (were) met during construction.

PG. 3-10

Find

UMC 784.13 Reclamation Plan General Requirements - JRH

.13(b)(2) The Operator must submit a detailed cost estimate which reflects the proposed modifications and changes to the facilities since the original proposal. The disturbed area, surface facilities, earthwork and configuration of the site must be provided sufficiently in order to determine the cost for reclamation construction. Reclamation maps for the site must clearly show which areas and facilities are to be reconstructed for Phase I reclamation of the site and for Phase II reclamation work.

Will be supplied when approved

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| | | |
|---|---|---|
| | Phase I reclamation drawings shall show the post mining and post reclamation contours of the site, and drainage and sediment control structures to be utilized during Phase I reclamation. Phase II reclamation drawing shall show the final post reclamation configuration of the site when the sediment control structures (sediment pond) and other remedial facilities have been removed as part of the reclamation plan. Cost estimates for the work shall sufficiently breakdown the reclamation construction activities so that costs for Phase I and Phase II bond release can be implemented. | PLATE 3-4,5 |
| | The Operator intends on submitting the reclamation cost estimate upon completion and approval of the reclamation plan. | WILL SUBMIT UPON ACCEPTANCE |
| .13(b)(3) | The maps, plans and cross sections required for the earthwork are not adequate to show the final configuration of the site. Additional plans and cross sections will have to be provided for mass balance calculations for backfilling and grading. | PLATE 3-4,5 |
| .13(b)(4) | Topsoil storage and redistribution requirements cannot be determined from the information provided. The Operator must provide sufficient information and maps to meet the requirements of this Section. | PLATE 3-8<br>CHAPTER 8 |
| .13(b)(7) | The Operator has revised the plans for waste disposal. The Operator has proposed that a site be located for the disposal of coal spoils, non-coal waste and sediment pond waste. This site would be identified, permitted and included in the mine plan at a later date. Temporary storage has not been accounted for for the disposal of such waste material in the interim. This section could be conditionally approved. The Operator must provide a location for the temporary and permanent disposal of this material prior to approval of the revised mining plan. | PLATE 3-1 |
| UMC 784.13 | Reclamation Plan General Requirements - RS/JRH | |
| .13(b)(1) | The applicant's reclamation timetable (pg. III-38) must reflect the removal of the sedimentation system (i.e. sediment pond and associated diversions) after compliance with the requirements of UMC 817.46(u). See comments under UMC 784.14 for details required for this determination. | |
| | The applicant has partially addressed this comment. The applicant is requested to submit three maps depicting the drainage system at the proposed minesite. The first map should depict the drainage system (including diversions (labeled), contributing watersheds, the sediment pond, berms, culverts and other drainage control devices) proposed for the operation phase. A second map should depict the drainage system (including all of the above items) proposed for the site following the final grading and reseeding phases of reclamation. A third map should depict the final drainage plan (including all of the above items) for the site prior to final abandonement (i.e. reconstructed channels, removal of the diversions, and removal of the sediment pond. | PLATE 3-1,4,5,7-5 |

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.13(b)(2) The Operator has provided a detailed cost estimate as Item 3-12 of the Operation and Reclamation Plan. However, the information provided in this estimate is outdated. The disturbed area, surface facilities, earthwork and configuration of the site upon reclamation deviate considerable from the information found in the cost estimate. The Operator must submit a detailed cost estimate which reflects the proposed modifications and changes to the facilities since the original proposal. This Section is considered inadequate.

The Operator has not provided the above. The Operator intends on submitting the reclamation cost estimate upon completion and approval of the reclamation plan. This requirement could be conditionally approved and a determination of the bond amount made upon completion of the mid term review.

WILL BE SUPPLIED UPON ACCEPTANCE

.13(b)(3) The maps, plans and cross sections required for the earthwork are not adequate to show the final configuration of the site. The Operator has not met the requirements of this section.

Reclamation contours of the site can be found on Plate 3-5 of the recent submittal and provide sufficient detail for the proposed reclamation contours of the site. Additional plans and cross sections may have to be provided for mass balance calculations for backfilling and grading.

PLATE 3-4,5
CHAPTER 8

.13(b)(4) Due to conflicts of information regarding the disturbed area acreage and the configuration of the site, topsoil storage and redistribution requirements cannot be determined. The Operator is not in compliance with this section.

CORRECTED

These deficiencies still apply.

.13(b)(6) The description of the measures used to maximize the use and conservation of the coal reserves is not adequate. The operator has not provided sufficient information with regard to the potential coal reserves within the permit area. The Operator needs to provide more information with respect to the nature and reserves found in the Blind Canyon seam and justification for exclusion of this coal from production. The Operator comments in part 3.3.1.2 that if economics appear to be favorable to develop the Blind Canyon(upper seam), a combination of slopes and portals will be used. This indicates that the Blind Canyon seam may be considered mineable, and that the Operator will have to provide information regarding the protection of these reserves, or, justification for wasting the seam where the Hiawatha seam is mined and pillared below the Blind Canyon seam. See also comments under UMC 817.59.

The Operator has determined that the Blind Canyon Seam is not of mineable thickness and has eliminated references that slopes or additional portals may be used to develop the Blind Canyon Seam if more favorable economics warrant. The Division has not sufficiently reviewed the geologic information to make a determination on coal recovery under this section or under UMC 817.59 at this time.

BLM approved 1985
Information supplied

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.13(b)(7) The Operator includes in the Operation and Reclamation Plan in part 3.4.9, plans for waste disposal. These plans conflict with the conditions given by the Division concerning the disposal of sediment pond waste material. The Operator shall revise the waste disposal plans to be in compliance with the conditions of the September 23, 1985 letter from the Division to Genwal Coal Company. Other requirements or deficiencies in the waste disposal plan are found in the technical comments.

The Operator has revised the plans for waste disposal. The Operator has proposed that a site be located for the disposal of coal spoils, non-coal waste and sediment pond waste. This site would be identifie, permitted and included in the mine plan at a later date. Temporary storge has been accounted for for the disposal of such waste material in the interim. This section could be conditionally approved. The Operator must determine and permit a location for the disposal for waste material. pg 3-15a

UMC 784.13(b)(5) Revegetation Plan - LK

There are several references made in chapter III to a reclamation map (Plate 3-8). Please submit. This map is not currently in the plan.

The applicant has referred to a reclamation map (Plate 3-8) several times for specific details regarding the revegetation plan (i.e., areas of contemporaneous/temporary stabilization, where each seed mix and seeding method will be used, where trees are to be transplanted, where different types of mulches will be used, etc.). The plate 3-8 which was submitted shows only contours and cross sections of two topsoil storage areas - not the reclamation details that are referenced. Please submit the reclamation map. pg 3-4,5

Mulching

On page III-33, the applicant states that slopes steeper than 1:1 will be mulched with burlap netting. This contradicts the plan on page III-30, to hydromulch, using 1 ton per acre of a wood fiber mulch. The use of burlap netting has not been successful in past reclamation in similar sites. Therefore, please eliminate the plan to use burlap netting as mulch.

Page III-30 lists several mechanical methods and the use of an emulsion as possible alternatives to anchor mulch (straw). Please be specific as to which method (or methods showing areas on the Reclamation Map) will be used.

Page III-30 lists several methods (mechanical and chemical) of how mulch could be anchored to the soil. Please provide specific plans on how Genwal intends to anchor each type of mulch used for reclamation. If more than one method will be used, please show the area where each type will be used on the reclamation map. pg 3-33

The seeding rates listed for contemporaneous revegetation is for drill seeding. It should be doubled for broadcast seeding. Please make this clear in the plan.

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Several areas were identified and discussed in the field on May 20, 1986 that would be regraded and contemporaneously revegetated in order to reduce runoff curve numbers for sizing sediment control structures. Since a high percentage of ground cover must be acheived and maintained, the following options should be considered to modify the contemporaneous reclamation plan for steep slope areas (greater than 30% slope) since it is unlikely the approved contemporaneous plan will achieve the required level of vegetation and litter cover: pg. 3-29

1. add alfalfa (Medicago sativa) at a rate of 2lbs PLS/ac to the seed mix

2. Substitute hydromulch with high velocity curlex (or equivalent) provided the finish slope has few rocks on other protrusions that would prevent a good mulch-to-soil contact (this type of mulch has a field life of 5+ years compared to standard curlex (2-3 yrs) or hydromulch (4-6 months).

3. Irrigate the slopes (approximately 1/2" water every 5-7 days during dry periods) using a sprinkler type irrigation system. Since this is contemporaneous revegetation, the irrigation could continue through the life of the mine to maintain the high vegetation cover.

Please provide the specific details of how these areas will be treated.

UMC 784.14 Reclamation Plan: Protection of the Hydrologic Balance - DC

The applicant must submit a plan of the measures to be taken to insure the protection of Crandall Creek during reclamation construction activities. The applicant must submit a plan for the collection, recording and reporting of ground and surface water quality and quantity data during and after reclamation of the minesite. This monitoring program should adhere to the DOGM Guidelines for the Establishment of Surface and Ground Water Monitoring Programs. The applicant must also include a plan that will demonstrate that the requirements of UMC 817.46(u) are met before removal of the sedimentation pond. The reclamation monitoring plan should include the following:

1. A map showing proposed sampling points including a point at the entrance of the sediment pond. plate 3-4

2. Sample frequency and parameter list. pg 7-56

3. Procedure of recording and reporting of sampling data (including dates of submittal of the results to DOGM). pg 7-56

4. Commitment and bond for sampling until requirements of UMC 817.46(u) are met. pg 7-58

The operator has not addressed any of the comments made in the March 18, 1986 deficiency letter for this section. The operator must address all of the comments made in this section in order for it to be determined complete. Additionally, the groundwater monitoring program proposed by the operator on Page 7-30 Mid-Term Review February 1, 1986 is technically deficient. See comments in Section UMC 817.52. pg 7-30,7-33

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UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments - RS

.16(a)(1)(ii) The sediment pond details presented on Plate 7-4 are not adequate. It is suggested that cross sections be enlarged in order to be more usable. Cross sections A-A' must depict the design water level elevation (10-year, 24-hour and 25-year, 24-hour event), the slopes of the outer embankment and the north embankment, and the surveyed elevation of the "natural embankment contact." Cross-section B-B' must depict design water elevations (10-year, 24-hour and 25-year, 24-hour event), elevation of spillway inlet, elevation of junction of spillway riser and barrel, and elevation of spillway outlet. See also the requirements of 30 CFR 77./216-2(a)(7).

This section is not complete. Each slope of the outer embankment should be represented with the corresponding slope. Additionally, the elevation of the natural embankment contact is not presented on cross-section A-A. The design water elevation, sediment cleanout level and sediment storage elevation should be presented on this cross-section. The sediment cleanout and design sediment storage volume elevations should be depicted on the riser detail. The cross-sections should be extended for a distance of at least 50 ft. horizontally to the South of Crandall Creek.

PLATE 7-6

.16(b)(2) The applicant has not addressed this requirement completely. The applicant must submit the information required under 30 CFR, 77.216-1 and 30 CFR 77.216-2. These requirements are enclosed for the applicant's reference. To facilitate the review the applicant should respond to each item in sequential order.

APPENDIX 7-8

The applicant has not addressed this comment.

UMC 784.18 Relocation or Use of Public Roads - JRH

The mine haul road and facilities are on USFS properties. Changes in the proposed surface facilities for the site will relocate the existing and approved location of the Forest Service road through the facilities area. Approval of the relocation of the road shall be subject to the approval of the Forest Service.

UMC 784.22 Diversions - RS

The applicant has not adequately addressed this section. See Comments under UMC 817.43 and UMC 817.44 of this document.

SEE COMMENTS UNDER 817.43 and 817.44

The operator has not sufficiently addressed this section in order to be determined complete. See comments under UMC 817.43 and UMC 817.44.

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UMC 784.23 Operation Plan: Maps and Plans - JRH

.23(a) The maps and plans submitted by the Operator do not clearly show, conflict with the text in the plan, or conflict with other drawings within the plan with regard to facilities or features in the proposed operations. The Operation revise the text and other drawings which conflict with proposed facilities prior to approval of the plan. — CORRECTED

.23(b)(2) The Operator has not provided a map of the area to be affected with respect to the proposed modifications and changes found in the mine plan. Those areas to be affected must include the disturbed area boundaries for the proposed surface facilities, those areas which are or may have to be disturbed as a result of reclamation work, those areas where topsoil material or excess material is stored in conjunction with the surface facilities, and other such areas which are or will be disturbed as a result of the mining activities within the permit area. — PLATE 3-1

(3) The Operator has not provided a map or a legal description delineating the area of land for which bond will be posted. — p. 2-7 Plate 3-1

(9) The locations for explosives storage and handling facilities can not be found on the Proposed Surface Facilities map received by the Division on May 12, 1976. — Plate 3-1

(13) No facilities are expected to remain on the site as a permanent feature, however, the Operator shall provide post reclamation maps showing the final contours of the disturbed areas as described in comments made under Section UMC 784.13. — PLATE 3-4

ACK 6-20 verified

UMC 784.23 Operation Plan: Maps and Plans - RS

.23(b)(6) The applicant must submit maps, plans and cross-sections for the proposed in-mine sumps. See also comments under UMC 784.16, 817.43, 817.44 & 817.49 of this document. — Plate 3-2 (old) 3-2a (3-7) p.III-10

The applicant has not addressed this comment.

UMC 784.24(a) Transportation Facilities - RS

.24(a) The applicant must submit designs and plans for all road culverts and drainage ditches for the road on the permit area. Page III-8, section 3.2.10, states that the road in the permit area is a Class III road . The Division has made a determination that the road is a Class I road and therefore plans, maps, cross-sections and designs (w/assumptions) must be presented demonstrating compliance with UMC 817.151(d), 817.152(c)(3) through (c)(15), 817.153, and 817.156(a)(2), (5), (7). The Division has determined that the roads to the office facilities and upper portal pad are Class II roads and must comply with UMC 817.160 and 817.166. The road to the substation is a Class III road and plans must be submitted to address UMC 817.170-.176. Details are referenced to on page 53, Chapter 3, Section 203.07 and 203.13 but are not found. The applicant must reference specific drawing numbers. — PLATE 3-6 pg. 3-8

The applicant has not completely addressed this comment.

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.24(d) The applicant has not addressed this section. The applicant must submit plans for headwall protection for all proposed road culverts on the permit area. appendix 7-7

The applicant has not addressed this section.

UMC 784.24 Transportation Facilities - JRH

Refer to comments under UMC 817.150-.176.

UMC 784.25 Return of Coal Processing Waste to Abandoned Underground Workings -JRH p. III-15

This Section applies under UMC 817.71(m), refer to comments made under that Section.

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TECHNICAL DEFICIENCIES

UMC 800 Bond and Insurance Requirements - JRH

The Operator must supply sufficient information in order for the Division to determine the amount of the bond. Such information required shall include estimated quantities for earthwork and unit quantities for other activities, calculations for selection of equipment and productivity, and manpower selection and cost estimates. The Division uses Blue Book Rental Rates for estimation of equipment rental and operating costs and the Means Site Work Cost Data book to determine labor costs. Items such as revegetation costs and portal closures may be determined from vendors and contractors in the area. Additionally, the Division shall allow for contingency and inflation when final bond estimates are considered. The applicant shall provide sufficient information in the bond estimate to determine technical adequacy of the plan for reclamation.

WILL BE SUBMITTED UPON ACCEPTANCE

The Operator has not resubmitted bonding calculations and costs with the mid-term review submittals. The Operator has stated that upon approval of the mining and reclamation plan during the mid-term review, the information will be submitted. Approval of the plan cannot be implemented until such information is submitted to the Division and the bond amount determined.

UMC 817.13-.15 Casing and Sealing of Exposed Underground Openings - JRH

The Operator has indicated in part 3.5.3 that exposed underground openings will be closed either temporarily or permanently as required by this Section. However the details and plans for permanently casing and sealing the openings are not sufficient to determine this Section as technically adequate.

PLATE 3-4
pg 3-27b,c
pg 3-27

The Operator needs to provide drawings and sections of the mine openings to show their existing configuration and the expected final disposition of the portals after sealing. These details will also show the final configuration of the portal bench highwall. This information will be used to determine the cost of sealing the mine openings and highwall reduction, and adequacy of the method of closure under this Section.

The Operator has provided generalized sections of the mine openings for permanent closure as shown on page III-27B of the mid-term revisions. The drawing does not provide sufficient scale or detail to show that the closure complies with the minimum requirements of MSHA regulations. These details do not include any hydrologic information with regard to the closure of the mine openings.

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UMC 817.41 Hydrologic Balance: General Requirements - DC/RS

The applicant states in Section 3.5.1 that all surface areas which are disturbed during the construction phase and will not be needed for mining operations will be revegetated. The Division feels that the area proposed for public parking across from the coal loadout should be reclaimed and revegetated. Since this area is being abandoned by Genwal as a part of the surface facility for mining operations this area should be reclaimed.

The operator has not sufficiently addressed this section in order to be determined technically adequate. The operator has indicated on the Runoff Controls map submitted May 12, 1986, that the area currently being used for the surface facilities across from the coal stockpile will be reclaimed. In order for this section to be determined technically adequate detailed plans must be submitted that show the methods to be used for sediment and runoff control. Specifically, the applicant must address UMC 817.42(3) and meet the requirements for a small area exemption Criteria required for a small area exemption by the Division were discussed with Genwal at a meeting on May 1, 1986 in the Division offices. — pg 7-52b,53 appendix 7-9

GENERAL

The following comments pertain to hydrology in a general nature and deficiencies found in the MRP.

3. The applicant is requested to reclaim the area across from the coal stockpile if the area is no longer needed for operations or submit a letter from the USFS accepting responsibility for this area. Regardless, drainage from this area must be routed to and treated at the sediment pond. — pg 7-52d,53 appendix 7-9

   See comments under 817.41 above.

4. Page III-15, section 3.3.9.2. The applicant states that solid waste will be disposed of at a state approved landfill. The proposed landfill should be specifically identified in the MRP. — pg 3-15,16

   The applicant has not addressed this commment. A disposal area has not been proposed.

6. Page III-21, Section 3.4.6.2. The applicant states monitoring will be conducted according to previously submitted ground and surface water monitoring plans . These plans should be included in the MRP.

   The applicant has deleted the discussion in Section 3.4.6.2. See comments under 817.52. A monitoring plan has been submitted, but is not adequate. This section is not complete. — pg. 7-30-33 7-54a-58a

10. Page III-38, Section 3.5.6.1. A reclamation map must be submitted depicting this system. This section should reflect the proposal to leave the sedimentation system intact at the site until the requirements of UMC 817.46(u) are met. — PLATE 3-4,5

    This section has not been addressed. See comments under 784.13 for specific information required.

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12. Chapter 11, Page 4. The applicant states in paragraph 3 that two sediment ponds will be implemented at the site and have a capacity to contain the 100-year storm event. This conflicts with other sections in the MRP. The applicant should correct this discrepancy.

CAN NOT FIND REFERENCE
DELETE LANGUAGE

The applicant has not removed this language from the permit. This section is not complete.

13. Chapter 11, Page 12-15. The applicant states that two Class II roads are proposed for the site. This conflicts with other information (albeit incorrect) in the MRP that states all roads are Class III. See comments under 784.24 for required clarification.

PG 12-15

The applicant has not corrected the referenced section of the permit, nor provided the information requested under 784.24. This section is not complete.

14. Chapter 12, Table of Contents. The applicant has not included page numbers for this table.

CH 12 TOC

This comment has not been addressed.

15. Chapter 12, Page 6, Delta Engineering report. Design details for the recommended diversions and culverts discussed on this page must be submitted.

ITEM 12-6

This comment has not been addressed.

16. Chapter 12, October 3, 1985 letter. The applicant states SP-30 will be monitored as described on Page VII-22. The page number reference is incorrect, VII-22 does not discuss any such monitoring.

pg. 7-30

The applicant has failed to correct this reference. If this letter is critical to the application, a dated footnote should be added to the letter updating the reference discussed.

17. Chapter 12, R & M Report, last page. The applicant should submit design details for the diversion. (10-year, 24-hour event).

see CH 7
PLATE 7-5

This comment has not been addressed. The applicant should state by labeled reference to Plate 3-1 which diversion corresponds to the above recommended diversion and reference the design details of this diversion to the appropriate section in the MRP.

UMC 817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations - DC

The Division has determined that the upper pad area (power substation pad) must meet the requirements of UMC 817.42 (3) as a small area exemption. Since this area is disturbed and runoff will not be diverted to a treatment facility the applicant must request a small area exemption for this area.

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The Division feels that a method of treatment for runoff from the highwall area behind the power substation pad should be included in the runoff and sediment control plan. The Division recommends constructing a stilling basin in the undisturbed diversion at the junction of the upper pad diversion channel and the head of the undisturbed diversion channel above the main pad area.

The operator has not sufficiently addressed this section in order to be determined technically adequate. The operator must request a small area exemption for all areas that will not be treated by a sedimentation pond. These areas include the current facilities area and the upper pad (substation) area. The operator must address UMC 817.42(3) and meet the requirements for a small area exemption. Criteria required for a small area exemption were discussed with Genwal at a meeting on May 1, 1986 in the Division offices. Detailed plans showing both primary and secondary treatment must be included for all areas that will be proposed as small area exemptions.

pg. 7-52b-53
APPENDIX 7-9

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Groundwater Flow and Ephemeral Streams - RS

The following comments must be addressed by the applicant.

1. The applicant has provided design information for three diversions (WS-1, WS-2, and WS-4 combined, WS-3 and WS-4) at the site. The applicant must delineate the proposed diversions with a separate label on Plate 3-1. The location and proposed extent of each diversion must be clear. Reference in the Appendix should refer to a specific Plate or map and not simply "see site map."

   Cross-sections drawn to scale (UMC 784.22 and 784.23 (b)(6)) must be submitted for these diversions. It is requested that the cross section for diversion WS-1, WS-2 and WS-4 be drawn to include the existing upslope for a horizontal distance of 8 to 10 feet.

2. The applicant has not submitted designs for the remaining diversions noted below. The diversions were summarized from Plate 3-1 and may not be inclusive of all diversions planned or required at the site. The applicant must submit plans for each diversion including peak flow value with assumptions, calculated velocities and required channel lining location of diversion (with distinct label), typical cross-sections depicting flow depth and channel geometry. The applicant may use a worst case flow value and diversion design for all diversions onsite if the information provided demonstrates all other diversions are conservative (i.e. diversion slopes depicted and drainage area apparent).

   The Diversions are:

   a. Behind the bathhouse and office warehouse.
   b. Access road to substation pad.
   c. Access road to portal pad.
   d. Diversion from access road to stockpile area.
   e. Diversion south of loadout and north of USFS road.
   f. Diversion above truck turnaround.
   g. Diversion into sediment pond (see plate 7-4).

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3. Plate 3-1 depicts two culverts from the portal pad to the sediment pond. No designs or details have been submitted for these culverts. Please submit.

4. Based on on observations onsite by Division staff, concern has been raised relative to the grade and drainage near the existing 24" CMP north of the sediment pond. Disturbed area drainage has been reported to bypass the sediment pond and flow down the access road. The applicant must propose measures to correct this problem. Alternatives to consider are installing a slotted drain, rolling dip or regrading to insure free drainage to the pond.

The operator has delineated all proposed diversions and labelled them on the "Runoff Controls" map submitted May 12, 1986. The operator has included cross-sections drawn to scale of the proposed diversions in Appendix 7-7 of the May 12, 1986 submittal. The operator has submitted designs for all diversions proposed in Appendix 7-7. Designs have been submitted for the two culverts entering into the sediment pond in Appendix 7-7. The proposed diversions are currently being reviewed for technical adequacy.

no response required
note design changes
in appendix 7-7

UMC 817.44 Hydrologic Balance: Stream Channel Diversions - DC

The applicant must submit a watershed map for the Crandall Creek flood flow calculations on page 1 of Appendix 7-5. The Division feels that the SCS Type II rainfall distribution is more representative for a storm duration of 24 hours than the SCS Type B distribution. Therefore, the peak flow for the 100-year, 24-hour precipitation event should be calculated using the SCS Type II distribution. The applicant must reference the slope determination on page 7 of Appendix 7-5. The channel cross section of Crandall Creek on Page 8 of Appendix 7-5 needs to be certified by a professional engineer. Additionally, the applicant must submit reclamation plans for Crandall Creek in the vicinity of the sedimentation pond after removal of the pond.

The operator has included a watershed map for the Crandall Creek flood flow calculations. The operator has calculated the 100-year, 24-hour runoff event using the SCS Type II storm distribution. The channel cross-section of Crandall Creek has been certified by a registered professional engineer. However, the operator has not referenced the slope determination of Crandall Creek, or provided reclamation plans for Crandall Creek in the vicinity of the sediment pond after removal of the pond. Additionally, the selection of the manning's n value located on page 7 of Appendix 7-5 is not technically adequate. An on site visit to Genwal on May 2, 19896 by Division hydrologists revealed that very little vegetation, logs or debris exist in the Crandall Creek channel in the vicinity of the sedimentation pond. Therefore, the stage-discharge relations must be modified to reflect an accurate manning's n value. Photographs of the reach in question are available for the operator for review in the Division offices.

APPENDIX 7-5

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UMC 817.46 Hydrologic Balance: Sedimentation Ponds - RS

.46(c) The applicant is requested to delineate on Plate 3-1 each subwatershed used to conduct the calculations on pages 6-10 of Appendix 7-1.

The applicant has delineated the discussed boundaries on the plate labelled "Runoff Controls". The applicant must also provide the assumptions used to determine each CN value for each subwatershed. This information is to include soil group, land condition, percent cover values (referenced to the vegetation sections), literature source of value, and specific mulching, regrading and netting requirements to be used to acheive the proposed CN values for reclaimed areas

APPENDIX 7-4 OK

.46(e) The decant discussed on page 11 of Appendix 7-1 needs more detail. What type of decant is proposed? What is the operating procedure for the decant? How doe the decant affect detention time?

The applicant has addressed this information on Plate 7-4 and in the narrative on page 7-47. A commitment to insure that manual dewatering of the pond will not occur prior to providing a 24 hour detention time for all events equal to or less than a 10 year- 24 hour precipitation event must be added to the narrative.

pg 7-47 not clear how determine decant, sample, + release

.46(h) The applicant must propose a sediment marker in the pond to delineate the elevation at which the sediment pond requires sediment removal. Location of the stake should be depicted on Plate 7-1. The stake should be located midway between the inflow and outflow points of the pond.

The applicant has provided the information on Plate 7-4, yet is inconsistent with the text (Appendix 7-1). The stage-volume curve from that Appendix shows the cleanout elevation to be 7775.5 ft., yet the elevation depicted on the plate is 7776.1. Please clarify.

PLATE 7-6 OK

.46(i) The applicant must submit plans showing that the emergency spillway is capable of discharging the required event from the sediment pond crest to Crandall Creek. A spillway only at the crest (Plate 7-1) is not sufficient as drainage is being routed to an undefined channel and erosion is highly probable when flow is routed to an area that has not been developed to handle such flows.

The applicant has provided the requested information. The emergency spillway proposed will be acceptable (following technical review) if onsite inspection of the area verifies that previous (nor probable furture) piping or erosion around the large rock fragments is evident and the design is reviewed and approved by the USFS.

NO RESPONSE REQUIRED

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.46(r) The applicant must commit to submitting the certification required under this subsection and 817.49(h)(1-5) by July_31, 1986.

The applicant commits to submitting an as-built report to the Division following completion of the sediment pond construction on page 7-51 of the submittal. A commitment that this report will contain the items required by 817.46 (r) and 819.49 (h)(1-5) must be submitted. PG 7-51 ok

Kuns lu? Rp. req here?

.46(s) The applicant must propose measures to insure compliance with this subsection. Reclamation measures for the sediment pond outslope must be described and the area of reclamation must be depicted on the plate labelled "runoff controls". PG 7-52 ok PLATE 7-5

.46(t) The applicant must commit to conducting the inspection of the sediment pond embankment as required by this subsection. The Division hereby grants approval for quarterly inspections until such time that weekly (30 CFR 77.216-3) inspections may be required. The applicant must commit to submitting the reports required by 30 CFR 77.216-3 (enclosed for reference) to the Division including dates of submittal. The applicant is additionally requested to submit a copy of the information required by subsections (c) and (e) of 30 CFR 77.216-3. The applicant must also state where the records of inspections required by subsection (c) will be located at the minesite.

The applicant has not adequately addressed this comment. The applicant has proposed a semi-annual inspection schedule (page 7-54) , the pond must be inspected a minimum of four times per year. The applicant must also discuss the monitoring of the pieziometer at the sediment pond (i.e. frequency, level for expected problems, and contingency plan). In addition to the requested information, the most efficient way to demonstrate compliance with this section is to supplement the above requested information with a sample copy of the form to be used for performing the required inspections. pg 7-54 ok, but need form

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - JRH

.46m Variance from the combined upstream and downstream side slopes of the embankment of less the 1v:5h is requested by the Operator. Design of slopes are to be stable in all cases in order to accept a variance from this Section. The Operator has provided stability analysis of the structure.

Analysis of the sediment pond by the consultant shows stability of the embankment in all cases. However, the consultant's input data restricts the minimum failure surface such that the steep section of the embankment found in cross section C-C is suppressed from the analysis. Further analysis by the Division indicates that this steep section has a stability factor significantly less than 1.5. This steep section of the embankment is part of the natural stream bank and all construction of the sediment pond will occur above the bank. NO RESPONSE REQUIRED

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Natural erosion of the stream bank indicates that this material has and will continue to fail under tension into the stream channel during peak runoff periods or when the soils become saturated. Additional analysis of the sediment pond with regard to this natural erosion is as follows.

Failure circles and failure planes were determined for the steep stream bank. Total failure of the stream bank would result in all or most of the failed material being removed by the stream. Analysis was then run on the sediment pond embankment with the failed material removed. The Factor of Safety determined for the sediment pond embankment was found to be in excess of 1.6. This analysis indicates that the embankment will be stable for the pond at section C-C even in the event of failure of the natural stream embankment.

Although the entire outslope of the embankment was not found to be stable, it is evident that the overall stability of the sediment pond embankment is adequate. To achieve stability for the entire outslope of the embankment, portions of the natural stream channel would have to be removed. This would require the removal of some trees, shrubs and other natural vegetation along the stream channel and contribute to the sediment load of the stream during construction and until vegetation can be established along the outslope of the pond. This would also increase the disturbed area for the site.

In the interest of minimizing the disturbed area for the site it is recommended that the natural steep embankment not be removed. In the event of the failure of the natural embankment along the outslope of the pond, the operator would be required to repair and revegetate any areas of the stream bank which fail.

The Operator has provided a description of the measures taken during the construction of the sediment pond starting on page 7-47 of the mid term revisions. The results of the slope stability analysis indicate that the proposed pond construction and facilities will be stable and the work has been certified by a registered professional engineer. Determination of the stability and the acceptability of the impoundment will depend on the final as-built condition of the pond, the drawings, analysis and certification of the final construction of the pond. Any variation from the dimensions of the design, properties of the materials used for construction, hydrologic characteristics or conditions that may or could affect the stability of the embankment shall be included in the stability analysis.

UMC 817.47 Hydrologic Balance: Discharge Structures - RS

The applicant has not completely addressed this section. Plates 7-1 and 3-1 depict the following energy dissipators for which complete plans have not been submitted.

1. Discharge point from primary spillway.

2. Discharge point at Crandall Creek for diversion for WS-1, WS-2, and WS-4.

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3. Discharge point of the 18" CMP located at the bottom of the access road to the portal pad.

4. Discharge point of the 24" CMP located northeast of the sediment pond.

Additional discharge points that require energy dissipators apparent from the above two plates are as follows:

1. The two unlabeled culverts from the portal pad to the access road and sediment pond (Plate 3-1).

2. Discharge point at the emergency spillway outlet and Crandall Creek.

The only designs included for these dissipators are found in page 9/13 of Appendix 7-1. How was this information determined? The applicant must insure the following designs and calculations (including inputs) are submitted for each dissipator:

1. The exit velocity of discharge.

2. Proposed riprap size with filter blanket.

3. Exact dimensions and extent of dissipator.

4. Expected velocities off the dissipator.

5. Construction maps.

The operator has not addressed this section sufficiently in order to be determined technically adequate. The operator must submit designs for energy dissipators at the discharge point from the primary spillway, undisturbed diversion UD-1 outlet, culverts C-1, C-3 and C-4. The applicant must insure that the following designs and calculations (including inputs) are submitted for each dissipator. APPENDIX 7-7

1. The exit velocity of discharge
2. Proposed riprap size with filter blanket
3. Dimensions of dissipator
4. Expected velocities off the dissipator
5. Construction maps.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments - RPS

.49(h) The applicant must address each subsection of this regulation, and commit to the required certification statement. pg 7-51

The applicant has not completely addressed this section.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments - JRH

.49(c) Excavations that will impound water during or after the mining operations shall have perimeter slopes that are stable and shall not be steeper than 2v:1h. Where surface runoff enters the impoundment area, the side slopes shall be protected against erosion. appendix 7-6 pg 7-52a

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| | |
|---|---|
| The excavated inslope to the pond has a slope of 1.3:1 which exceeds these requirements. The Operator has not provided stability analysis of this area and has not included measures to protect these slopes from erosion. | appendix 7-6<br>pg 7-52a |
| No protection of the toe of the embankment or protection of the stream channel has been included in the mine plan subject to the requirements of the Forest Service. | pg 7-51 |
| No piezometric information was submitted with the mid-term revision to conclude or substansiate design parameters. The Operator shall provide additional information regarding this to confirm design assumptions. | appendix 7-6 |
| A monitoring plan for the pond has been proposed in the mid-term revisions. No calculations of justification for the frequency for monitoring or the critical piezometric line was provided in the monitoring plan. Such justification should be provided. | pg 7-54a-56 |
| Determination of the conditions of the pond and the required monitoring program that will be implemented shall be based on the design criteria established in the mid-term review. However, as-builts of the sediment pond and the final determination of stability of the sediment pond upon completion of the construction of the pond may dictate the frequency and the type of monitoring that may be required. | pg 7-51 |
| The operator did not include designs for channel protection of Crandall Creek. The Operator has not provided information regarding this in the mid-term revisions and is not in accordance with the requirements of the Forest Service Conditions for design of the stream channel protection. | pg 7-51 |
| Final determination of the site cannot be made until the Operator provides a complete and comprehensive plan for the design and location of the surface facilities. In those areas where the natural slope and embankments may effect the stability of ponds, roads, pads, etc., the Operator shall have to provide sufficiently detailed information to determine the stability of such structures. | pg 7-51 |
| The operator must provide sufficiently detailed maps and plans to show the slopes and configuration of all earthwork accomplished on the site and include the stability analysis for those areas which are not within the acceptable limits for slopes as they apply within the regulations. | PLATE 3-1 |

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring - DC

The applicant must state when the proposed surface and ground water monitoring programs will commence. The applicant must also submit monitoring programs for surface and ground water during and after reclamation of the minesite.

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The operator has not sufficiently addressed this sectionin order for it to be determined technically adequate. The ground water monitoring program proposed does not adhere to the Water Monitoring Guidelines prepared by the Division. The operator must commit to the analysis of the baseline parameters as outlined in the Guidelines for a period of two years. After two years of baseline data the operator may analyze according to the abbreviated (operation) parameter list. This includes the monitoring/water supply well and the proposed springs. — pg 7-30-33

The operator must also submit a plan for surface water monitoring that adheres to the water quality guidelines as prepared by the Division for the construction phase of the new facilities, the construction phase of final reclamation, and the post-mining mining period until bond release. — pg 7-56-58a

Additionally, the operator must state when the proposed surface and groundwater monitoring programs will commence. — pg 7-33

UMC 817.57 Hydrologic Balance: Stream Buffer Zones - DC

The applicant must submit a plan for sediment control during construction activities of the new surface facilities. The Division feels sediment control should occur before sediment enters Crandall Creek. Strawbales or other sediment control measures should be placed along the entire perimeter of the disturbed area and be designed so sediment will be trapped before entering the Creek. Additionally, the area that is currently being used for the trailer and generator should be reclaimed with a natural riparian vegetation in order to create a buffer zone between mining operations and Crandall Creek.

The operator has not sufficiently addressed this seciton in order to be determined technically adequate. The operator must submit a sediment control plan for the construction activities of the new surface facilities. — pg 7-52b,d,e

UMC 817.61-.68 Use of Explosives - JRH

The Operator's commitment to comply with the federal and state regulations pertaining to surface blasting activities incidental to underground mining operations is not technically adequate. The Operator must submit plans which meet the requirements included in the regulations. The Operator should also indicate that there are no dwellings or structures within one-half mile of the blasting activity if there are no such features, and that there is no public concern or conflict with the public interest for the surface blasting that will occur on the site if this is the case. Approval shall also be obtained from the Forest Service with respect to surface blasting indicating acceptability of the plans and procedures to be used during surface blasting. — pg 3-14; Approval from USPS

Plate 3-1 of the mine plan does not include the location of the explosives to be stored on the surface as indicated by the Operator in part 3.3.5.4. The Operator shall include such facilities on the drawings of the operation plan and provide for the removal of such facilities in the reclamation plan. — Plate 3-1

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UMC 817.71-.74 Disposal of Underground Development Waste and Excess Spoil and Non-Acid and Nontoxic-Forming Coal Processing Waste - JRH

The Operator may return mine development waste and excess spoil to underground workings if the Operator is in accordance with UMC 784.25 and a plan is approved by the Division and MSHA. If the waste rock is to be gobbed underground the applicant must formulate a plan for backfilling and shall be in accordance with State UMC 784.19, UMC 784.25 and Federal 30 CFR regulations. Such plans shall be submitted to and approved by MSHA as part of the operation plan for the mine. The Operator has not provided in the mine plan, a design proposal and approval by MSHA for the proposal. pg 3-15

Under the general requirements for the disposal of excess spoil and underground development waste, the Operator must show that any leachate from the material will not degrade surface or ground waters or exceed the effluent limitations of Section UMC 817.42. The Operator has not provided this information. pg 3-15

This section is still not adequate in that the Operator has not located and provided plans for permanent disposal of underground coal waste, including sediment pond waste materials as well as other such coal waste that will be prevelant on the site and will have to be disposed of during reclamation. The Operator has indicated that the location an area for such disposal is in the process and review and approval of such a facility will be subsequent to submittal of such a proposal. pg 3-15

UMC 817.89 Disposal of Non-Coal Wastes - JRH

Disposal of the sediment pond material must be provided for within the permit area boundary as required under UMC 817.71(a). Until the Operator includes in the plan a method for disposal of the sediment pond sludge within the permit area, this Section will be determined technically inadequate. The Conditions found within the letters dated September 23, 1985, and October 24, 1985, included in the mine plan as Items 3-9, must be met for approval. Conditional approval for the off site disposal to the landfill was a temporary and singular approval. The Operator must develop permanent operation and reclamation plans to handle these materials. pg 3-15, 16,17

The Operator has deferred comments on this until a location for disposal has been made and plans submitted to the Division. The plans must be submitted for approval in order to determine the plan complete.

UMC 817.91-.93 Coal Processing Waste - JRH

The Operator has stated in part 3.4.9 of the mine plan that no coal processing facilities will be used at the mining facility in Crandall Canyon. This Section does not apply except where such conditions are required for return of mine spoils to underground workings and/or the treatment and handling of sediment pond sludge. Determination of technical adequacy will be made upon submittal of information regarding the above. pg 3-15

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UMC 817.97 Protection of Fish, Wildlife & Related Environmental Values - LK

The applicant must include DOGM in the notification and consultation with regards to the need for and design of wildlife guzzlers (refer to page III-21). pg 3-21

UMC 817.99 Slides and Other Damage - JRH

The Operator has not provided a commitment in the mine plan to notify the Division at any time a slide or other damage occurs which may have potential adverse effects as specified under this Section. The Operator shall include in the plan such a commitment. This section is not considered to be technically adequate. p. III-22 4-15-86

UMC 817.101 Backfilling and Grading: General Requirements - JRH

The Operator has not provided sufficient information to technically determine that the conditions and the requirements of this Section are met. The Operator shall submit plans and drawings for the backfilling and grading requirements of the site which address the conditions of this Section. plate 3-4,5 pg 3-27,28

Accuracy and contour intervals provided by the operator for the backfilling and grading calculations for reclamation earthwork are not sufficient in accuracy to achieve a mass balance for the construction work. The Operator shall provide sufficiently accurate drawings and calculations to show that sufficient materials exist for backfilling and grading of the site for reclamation.

UMC 817.103 Backfilling and Grading: Covering Coal and Acid and Toxic Forming Materials - JSL

On page VIII-4, the operator states that the "...proposal has not identified the presence of acid- or toxic-forming materials that would warrant the protective measures required by section UMC 817.48, nor have such materials been encountered at other coal mines in the region." What information was applied to develop the conclusion that there is no acid- or toxic-forming material at other mines? Please submit the data used to formulate your theory. On what data is the operator basing the conclusion that the Genwal coal mine has no acid- or toxic-forming materials? Item VI-2 does not include coal as a sample. Sampling of the coal seam must occur prior to any hypothetical judgment. According to the data in Item VI-2, sample 5605 (sandstone) and 5607 (mudstone) have acid-base potentials less than -5 tons $CaCO_3$/1000 tons material. These two sample are classified as acidic- and toxic-forming materials. The low acid-base potential indicates that the adjacent coal material may also be acid- or toxic-forming. The coal resource must have an acid-base potential analysis prior to a permit approval. The coal resource must be sampled in the roof, mid section and floor of the coal seam. The applicant must commit to an acid-base potential analysis of the soil material underlying the coal stockpile if the sampled coal proves to be an acid- or toxic-forming material. A minimum of three potentially contaminated soil sample sites, at six inch depth intervals to a two foot depth must be incorporated into the reclamation plan. This analytical data must be submitted to the Division prior to soil redistribution. ITEM 6-2

The operator has not yet submitted this information.

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UMC 817.131-.132 Cessation of Operations - SCL

The applicant does not address the entirely of those regulations, only the sealing of portals. The applicant must commit in Part 2.6 of the application to comply with the requirements of these regulations. pg 3-27

The applicant has addressed this comment. However, on p. III-27 the reference to the specific plate number is missing.

UMC 817.150-.176 Roads - JRH

Class I Road designation should be given to the main road on the site up to and including the truck turnaround. All other roads on the site should be considered as Class II Roads with the possible exception of the access road to the substation. The Operator shall reclassify and comply with the requirements for roads under this Section. pg 3-8,8a

Roads to be constructed and or maintained by the operator must be described in detail in the mine plan. Such details shall include road profiles, culvert and drainage design, and primary function of each road.

The Operator has not provided sufficient information to determine the mine plan technically adequate. Information required to determine this Section complete includes Design and construction, drainage, surfacing, maintenance and restoration details for the roads.

The Operator has not addressed the requirements of these Sections. All of the information regarding roads should be submitted for inclusion into the mine plan.

UMC 817.180 Other Transportation Facilities - JRH

This Section is considered technically incomplete. In correspondence with the Department of Health provided by the Operator as Item XI-1, condition 4 of that letter states that, "All conveyors shall be covered and equipped with water sprays which shall be operated as dry conditions and materials moisture warrant or as determined necessary by the Executive Secretary." The conveyor from the portal to the surface storage stockpile is not covered as is required under this condition. The Operator shall obtain approval from the Department of Heath to leave the conveyor uncovered or shall submit and implement a plan to cover the conveyor as required. See air quality approval already submitted

The Operator shall also include in the plan, procedures for the removal of those facilities and the disposition of waste or other materials generated from the removal. pg 3-27

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UMC 817.181 Support Facilities and Utility Installations - JRH

The applicant shall address the requirements as contained in this section of the regulations. Committments to protection of the environment should be considered and made in the application. Such items would include the use of raptor proof power lines, and erosion control methods used to prevent surface erosion and siltation in and around support facilities and surface utilities. p. III-6 4-15-86

The Operator shall include a description as to the disposition of the support facilities and utility installations during reclamation construction. This should account for the disposal of waste materials generated from the removal of the facilities, removal of concrete and foundations and the removal of machinery and equipment from the site. p. III-27 4-15-86

The applicant shall also indicate whether or not any utility installations as described in part (b) of this section currently exist or are planned as part of the mining plan. p. III-6 4-15-86

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# CHAPTER 1
# INTRODUCTION AND SUMMARY OF PERMIT APPLICATION

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## PART 1.1 SCOPE OF OPERATION

Genwal Coal Company, Inc.'s (Genwal) proposed Crandall Canyon Mine consists of a 161.2 acre Federal Coal lease in Crandall Canyon, Emery County, Utah. Crandall Canyon is a westward trending side branch of Huntington Canyon, roughly 6.1 kilometers in length, refer to Item I-1.

The lease area is divided into 2 separate permitting Tracts, Tract 1 and Tract 2, approximately 83.64 and 77.53 acres respectively. This application represents only information needed to permit Tract 1, Tract 2 has been submitted for a separate approval. The correct acreages for this permit are as follows:

| | | |
|---|---|---|
| TRACT II | Tract II - Coal Lease | 77.53 acres |
| TRACT I | Tract I - Coal Lease | 83.64 acres |
| | USFS Special Use Permit | 1.50 acres |
| | Beaver Creek Lease Area | 1.70 acres |
| | Total Tract I | 86.84 acres |
| MINE PLAN AREA | | 6.03 acres |
| | less Undisturbed Area | 0.30 acres |
| | less Road to be left in place | 1.20 acres |
| | Total to be Reclaimed | 4.53 acres |

Genwal proposes an underground mine with one set of portals in the Hiawatha coal seam, which at this time is the only mineable seam on the property. Using a continuous mining machine and shuttle car haulage to a belt conveyor system, Genwal will produce approximately 360,000 tons per year. At the present time Genwal has an application in with BLM for an additional 256 acres of coal, located to the north and west of the existing lease. Genwal will attempt to acquire more coal through leasing Federal coal as it is made available under the Federal Coal Leasing Program. Markets for this coal, which is a high volatile bituminous coal, have been secured domestically and foreign markets are being developed.

## PART 1.2 SUMMARY OF ENVIRONMENTAL IMPACTS

A determination has been made that the proposed mine in Crandall Canyon will not have a significant impact on the social or economic environment of the County. With an employment of approximately thirty five people, a work force can be drawn from the existing and established labor pool. Established is defined as a household in Carbon or Emery County, complete with sewage and water facilities, and oc-

cupied by the intended employee in Emery or Carbon County for two years or more. According to statistics obtained from the State of Utah, 250 of the people who have graduated from the miners training class at CEU through March of 1980, are still seeking employment in the surrounding mines. Of these 250 possible employees, 60% are established residents of Carbon and Emery Counties. Emery County High School, through a mine training class in their day program, prepare students for future employment in the mining industry. As these young people graduate they also enter the labor pool in Carbon and Emery Counties and they are from established households. Due to the apparent existing job shortage for established residents of Carbon and Emery Counties, the proposed mine can only have a positive impact on the social and economic environment. The operation will be in a geographic location that will also appear favorable to the labor pool in San Pete County.

Genwal's proposed Crandall Canyon Mine should not have adverse effects on surface or ground water in the permit area nor adjacent areas. Genwal will monitor both surface and ground water as proposed within this permit.

The "Air Pollution Control Plan", which has been approved by the State of Utah's Division of Environmental Health, can be found in Chapter 11.

The loss of vertebrate habitat resulting from the mine development will be kept to a minimum by efficient use of space at the mine site and by the anticipated USFS approval of minimum design criteria for the access road. Human activity in the canyon will pressure the Mule Deer and Elk to use other routes or higher trails to by pass the human presence. Mining activities may impact wintertime Moose use of the lower 2 km of the canyon. With better access provided to the canyon, hunting pressure is likely to increase on Black Bear and Cougar in the area.

Genwal believes the disturbed surface area could be reclaimed after mining and returned to the land use it now has, that being recreation, hunting and range. Most of the proposed surface area for the mine facilities was used for a previous mining venture and had not been reclaimed.

## PART 1.3 INTRODUCTION TO DOCUMENT ORGANIZATION AND REVIEWERS CHECKLIST

This document is organized as suggested by the revised guidelines issued November 3, 1980. These guidelines were presented to Genwal by Leland C. Spencer from the Division of Oil, Gas and Mining, State of Utah. During this mid-term

review process it was Genwal's opinion these guidelines were not an efficient method of presenting this permit, however with the format in place for Tract 1 and Tract 2 it was determined that changing the format would be confusing and cumbersome.

A five dollar permitting fee has been paid as required by UMC 771.25.

The notarized verification of permit application can be found at the beginning of this permit application.

PART 1.4 Acknowledgments