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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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OK

February 24, 2003

Gary Gray, Resident Agent
Genwal Resources Inc.
P.O. Box 1077
Price, Utah 84501

Re: South Portals, Genwal Resources Inc., Crandall Canyon Mine, C/015/032-02A-1, Outgoing File

Dear Mr. Gray:

The above-referenced amendment has been reviewed. There are deficiencies that must be adequately addressed prior to approval. A copy of our Technical Analysis is enclosed for your information. In order for us to continue to process your application, please respond to these deficiencies by May 24, 2003.

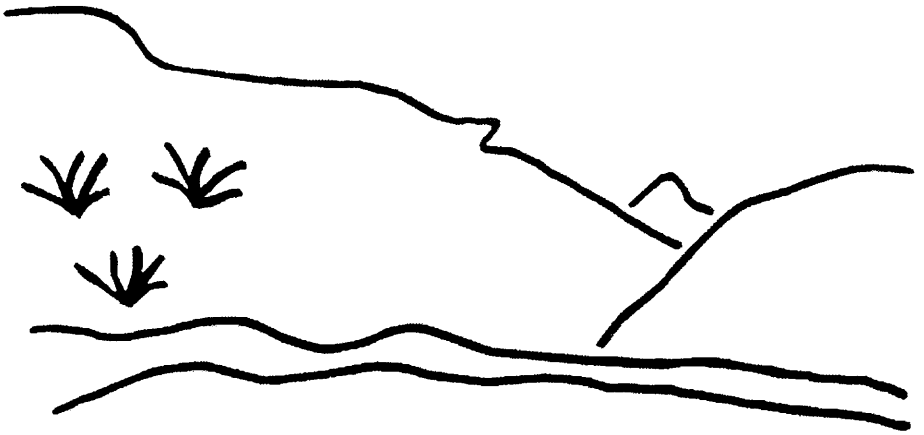
If you have any questions, please call me at (801) 538-5268 or Karl R. Houskeeper at (435) 613-5330.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

KRH/sd
Enclosure
cc: Price Field Office
O:\015032.CRA\FINAL\DEF02A-1.DOC

State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Crandall Canyon Mine
South Portals
C/015/032-02A-1
Technical Analysis
February 21, 2003

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TECHNICAL ANALYSIS

The Division regulates the Surface Mining Control and Reclamation Act of 1977 (SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at http://ogm.utah.gov/coal

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

INTRODUCTION

The Division received proposed changes to Genwal Resources Inc., Crandall Canyon Mine on July 17, 2002. The proposed changes involve the construction of three new portals in the coal outcrop located on the southern slopes of the existing disturbed area. The plan calls for the installation of one new culvert, a ventilation fan, three portal face up's, and a conveyor belt in order to access the coal reserves on the southern side of the canyon.

Amendment AM02A was found deficient by the Division on September 19, 2002. The operator responded to deficiencies in AM02A on November 22, 2002; however, several items necessary for Division review were not included. This submission was assigned as AM02A-1. On January 28, 2003, the operator provided the missing material in AM02A-1 for Division review. The missing material included reclamation costs pertaining to the redistribution of soils and the removal and/or demolition of the coal conveyor, portal face up's, culvert, and ventilation fan.

Genwal Resources, Inc. proposal to add three portals is along the south slope at the Crandall Canyon Mine. The area is on a steep hillside. To keep surface disturbance to a minimum, topsoil would be salvaged from the immediate vicinity of the portal cuts, 0.07 acres. The submittal indicates 333 cu yd's of topsoil will be salvaged and stored for reclamation of the site.

The Crandall Canyon Mine was given approval on June 25, 1997 to cover native soils with geo-textile fabric, rather than salvage the topsoil prior to culverting the stream. During this previous activity, 1.10 acres of stream channel and 1.53 acres of steep slope were covered with geo-textile fabric. The procedure was to cover the in-place topsoil with geo-textile fabric and to separate the geo-textile from the fill with a layer of different colored fill (marker soil). This procedure should be followed again with the south portal construction.

The current proposal is to cover additional acreage on the slope with geo-textile fabric in areas to be covered with construction fill.

This application presents an alternative scenario of tunneling to the coal seam from the existing pad. This alternative scenario would create about 2,000 cu yd's of spoil. This spoil would be stored on the mine pad during operations and returned to the mine workings at reclamation. Genwal Resources has not determined which method of development they will use at this time.

INTRODUCTION

SUMMARY OF DEFICIENCIES

The Technical analysis of the proposed permit changes cannot be completed at this time. Additional information is requested of the permittee to address deficiencies in the proposal. A summary of deficiencies is provided below. Additional comments and concerns may also be found within the analysis and findings made in this Draft Technical Analysis. Upon finalization of this review, any deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the division, result in denial of the proposed permit changes, or may result in other executive or enforcement action and deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

Regulations

SUMMARY OF DEFICIENCIES

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The pages included in the permit amendment have been revised to include revision dates as a footnote in the lower left hand corner.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit change.

COMPLETENESS

Regulatory Reference: 30 CFR 777.15; R645-301-150.

Analysis:

The Permittee has made adjustments to the acreage identified on page 2-10. The subtotal sum for Areas Not Topsoiled is listed as 8.59 acres on page 2-10.

Findings:

The information provided is not completely accurate. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-150, Correct the total area on page 2-10 which sums to 15 acres.

GENERAL CONTENTS

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

Appendix 2-3B contains earlier surveys of the stream soils and south slope affected by the culvert installation (see Finalta.cul). Appendix 2-6 contains the survey conducted on August 18, 1998 by Mr. James Nyenhuis, ARCPACS Certification #2753, of the soils to be affected by the south portal development. The soils are in the Map Unit E, Lucky Star loam, 40 – 80% slopes. The soil is described as a loamy-skeletal, mixed Ustic Haplocryoll with a mollic epipedon surface layer seven inches thick overlain by a two-inch Oe horizon of semi-decomposed needles and twigs. A facsimile of the Nyenhuis soil survey map is attached in Appendix 2-6. Apparently, the facsimile is only a portion of the area surveyed, as described on page 6 of Appendix 2-6. There were four map units (Units C, D, E, and F) as well as reclaimed land and rubbleland-rock outcrop delineated on the survey map.

The proposed area for disturbance does fall within the facsimile provided. The area was all mapped as Unit E.

The soils information presented in the facsimile map of the survey is misinterpreted on Figure 8B Soil Salvage Areas; map unit E is presented as Map unit F on Figure 8B. Map unit F has only a 8.5 inch salvageable layer, whereas map unit E has a two foot layer suitable for salvage, according to the soil survey.

Findings:

The information provided is not complete. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-222.100, Figure 8B should be corrected to indicate that construction of the south portals will affect soil unit E.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

Information on pages 5-30a – 5-30c has been revised to include the type of materials used, size and/or dimensions of the portal face ups. Information on the conveyor belt size length and construction are addressed. The proposed ventilation fan and respective specifications are noted. The ventilation fan will not use a diesel back in case of power failure; therefore, a diesel fuel tank and containment are not required. Access to the travel portal will be via the existing mine pad. Since the access utilizes the existing pad area a road designation of primary or ancillary are not assigned. During reclamation the structures will be removed, portals sealed and backfilled, and highwalls will be put to AOC.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit change.

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244, -301-420.

Analysis:

On December 16, 2002, Meteorological Solutions Inc., on behalf of the operator, submitted proposed changes and additions to the approved air quality permit DADE- 827-01 to the State of Utah, Division of Air Quality.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit change. Once the proposed changes and additions are approved, by the State of Utah, Division of Air Quality, a copy of the new permit should be submitted to the Division for incorporation into the approved MRP.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Subsidence Control Plan

Plate 5-2, Crandall Canyon #1 Mine Mining Projections, has been revised to show three portals. A 200' barrier between the mining activities and the outcrop is also shown on Plate 5-2 as indicated on Page 5-21 of the approved MRP. The amendment indicates that the current subsidence plan covers this area of mining activity. Current baseline data for Hydrologic, geologic, and climatologic information applies to the areas proposed in the amendment.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit change.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

Topsoil Removal and Storage

The proposed Belt Portal is located in the coal storage area where topsoil has previously been salvaged and stored. The Intake and Fan Portals are located in undisturbed ground and the Permittee will salvage one foot of surface soil prior to construction of the portal canopies. In all, 110 cu yds of topsoil will be salvaged and stored in the #4 Topsoil pile at the mouth of the canyon.

The area of topsoil removal is shown on Figure 8B. This area corresponds with Map Unit E described in Appendix 2-6 by Mr. James Nyenhuis, ARCPACS certification 2753. Mr. Nyenhuis indicates that the upper two feet of the soil is "entirely suitable for salvage...". Accordingly, the Permittee has planned for a twenty-four inch removal depth, amounting to 333 cu yds of topsoil to be salvaged and stored in the #4 Topsoil pile (page 2-6b of Section 2.22.4). The plan describes a replacement depth of 16 inches for the south portal location (page 2-10, Section 2.42).

Amendment Number 2 for Special-Use Authorization issued 07/29/97 by the U.S. Department of Agriculture Forest Service allows for the storage of approximately 3,000 cu yds of soil on 0.6 acres. The #4 topsoil pile was designed to accommodate 5,000 cu yds of soil with 3h:1v side slopes (page 2-8. MRP). Topsoil pile #4 currently holds approximately 4,756 cu yds. As-Built Plates 2-5, 2-5A, and 2-5B will be updated after topsoil salvage from the south portal construction is complete (page 2-8).

The Crandall Canyon Mine obtained approval on June 25, 1997 to bury topsoil in-place beneath construction fill separated from the fill by a layer of different colored fill (marker soil) and geotextile fabric. Figure 8D shows the areas protected with geotextile. During culvert expansion, 2.5 acres of in-place topsoil were protected (page 2-5). Prior to construction of a ramp up to the site of the south portals, 17 feet above the existing storage yard pad, the topsoil on the steep south slopes will be covered with geotextile. A cross-section showing the procedure is shown in Figure 5-11. The area to be covered with geotextile during south portal construction is approximately 0.08 acres (page 2-5). The type of geotextile fabric is described in Appendix 2-7.

The construction fill will be derived from a mix of materials from the portal excavations and imported fill from Nielson Construction commercial borrow pit located in Huntington Canyon (page 2-6a). Laboratory analysis of the fill is provided in Appendix 2-8. Approximately 3,500 cu yds of fill will be required for ramp construction.

The gravel pit and hillside to be used as a source of fill was evaluated for the presence of noxious weeds by the Utah Department of Agriculture in May of 1997. The noxious weed *Agropyron repens* (l.) Beauv, quackgrass, was noted on the site, but the Agriculture Department representative, Carl Bott, noted that under Section R68-9-4, Number 8 a of the Utah Noxious Weed Act, "contaminated soil may be used for restrictive, non-planting purposes upon permission and under the direction of the County Weed Supervisor or a representative of the Utah Department of Agriculture." The condition of the gravel pit was re-evaluated for noxious weeds by a representative of the Utah Department of Agriculture in January 2003.

The submittal indicates on page 2-6b that, "All topsoil removal, salvage and storage will be over-seen, directed, and monitored by an independent soil scientist approved by the Division. A report of the topsoil salvage operation will be prepared by the soil scientist and added to the MRP upon completion...".

Findings:

The information provided meets the minimum requirements of the Regulations for topsoil removal and storage.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Acid- and Toxic-Forming Materials and Underground Development Waste

This application presents an alternative scenario of tunneling to the coal seam from the existing pad (pages 2-6c, 5-30d, Figures 5-13a & b). This alternative scenario would create about 2,000 cu yds of spoil. This spoil would be stored on the mine pad during operations and returned to the mine workings at reclamation. Genwal Resources has not determined which method of development they will use at this time.

Should tunneling be implemented, the plan must include a means of monitoring the chemical characteristics of the mine waste stored on the mine pad during operations. By characterization, the Permittee and Division can determine whether the hydrologic balance is being protected (R645-301-731.111 and –731.121).

Diversions: Miscellaneous Flows

The plan proposes to add one new culvert in the South Portal area. Culvert C-11A will be placed under the proposed access ramp leading up to the South Portals. This culvert will divert sheet flow drainage from the upper material yard to existing diversions that will carry the flow to the sedimentation pond. Calculations for sizing the culvert were performed using the SCS- TR55 method and Manning's equation, and can be found in Appendix 7-4.

Diversion ditch 12 will be shortened to allow for the placement of the proposed ramp. DD-12 will be 50' long instead of 500'.

Stream Buffer Zones

According to Plate 7-5, portal construction will take place within 100' of Crandall Creek, a perennial stream. However, this will not affect the quality or quantity of flow in Crandall Creek since the Main Canyon Culvert protects it. The Main Canyon Culvert is 6 feet in diameter and follows the natural channel through the mine site.

Siltation Structures: Sedimentation Ponds

The disturbed area will not be increased and the existing sedimentation pond was originally sized to accommodate the South Portal expansion. The existing pond should be adequate to control all disturbed area runoff, including that from the new culvert, C-11A.

Findings:

The information provided is not complete. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-731, The plan must include a means of monitoring the chemical (acid/toxic) characteristics of the mine waste stored on the mine pad during operations.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Mining Facilities Maps

Plate 7-5 shows the entire drainage plan for the Crandall Canyon Mine, including the South Portal Expansion.

Mine Workings Maps

Plate 5-2, Crandall Canyon #1 Mine Mining Projections, has been revised to show three portals. A 200' barrier between the mining activities and the outcrop is also shown on Plate 5-2 as indicated on Page 5-21 of the approved MRP. The amendment indicates that the current subsidence plan covers this area of mining activity.

Certification Requirements

Plate 5-2, 5-3, and 7-5 included in this submittal contain a P.E. stamp accompanied by a signature and date.

Findings:

Information provided in the application is considered adequate to meet the minimum Maps, Plans and Cross Sections of Mining Operations requirement of the Regulations.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

Redistribution

The total disturbed area of the mine site is 14.18 acres of which 6.37 acres will receive twelve inches of topsoil at final reclamation (Page 2-10 and Appendix 5-22, page 5). An additional 8.63 acres will not receive topsoil during final reclamation as outlined in Section 2.42 of the submittal.

The south portal pocket cuts will be reclaimed in accordance with the MRP procedures described for the portal area (Appendix 5-22). The south portal cuts will be filled and receive one foot of topsoil replacement.

Soils beneath the ramp will be uncovered. Reclamation will follow the approved plan provided in Appendix 5-22.

Findings:

The information provided meets the minimum requirements of the regulations.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Determination of Bond Amount

The Division reviewed the reclamation cost estimates for the south portal area. The Division found some errors that need to be corrected before the bond amount can be approved.

Those errors include but are not limited to:

- The Permittee list what appears to be two activities twice. Under earthwork calculations the ripping of the fill area seams to be listed twice but in the first item the ripper is pulled by a pickup truck while in the second listing the ripper is pulled by a D-9 bulldozer. The ripped volume is identical for each line.
- Under miscellaneous costs, the Permittee lumps several items. The Division needs those costs broken down. Some costs are items that are not required by the Division such as water and vegetation sampling.
- The earthwork summary sheet contains information not usually found on a summary sheet and the subtotals are not totaled.
- The Permittee did not include all the relevant information needed to verify the bond calculations. The Permittee did not include updated maps and cross-sections that show the additional earthwork that will be needed.

Findings:

The information provided in the amendment is not considered adequate to meet the requirements of the bonding section of the regulations: Prior to approval, the Permittee must provide the following in accordance with:

R645-301-830.140, The Permittee must give the Division detailed information needed to calculate the bond amount. The Division found some errors in the bond calculations that are listed in the analysis section; the Permittee must also give the Division the maps and cross-sections that were used to calculate the earthwork costs.