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GENWAL
RESOURCES, INC.

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April 4, 1995

Mr. Daron R. Haddock
Permit Supervisor
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Response to Longwall Amendment Deficiencies, Crandall Canyon Mine, ACT/015/032-95C. #2 Copy BLM & Daron

Dear Daron:

We at Genwal Resources, Inc. appreciate your quick response to our Longwall Amendment and your willingness to meet and work on the issues. This letter, in conjunction with the associated permit modifications, are being submitted to respond to the requirements of your letter of March 6, 1995. Each of the requirements will be addressed separately. They are:

Requirement 1:

The operator must provide the Division with the BLM's findings that longwall mining will maximize coal recovery on the federal leases.

The BLM's comments have not yet been received by Genwal Resources, Inc. However, Genwal will forward these comments to the Division as soon as they are available.

Requirement 2:

The operator must provide the Division with information on how longwall mining will affect the amount of recoverable coal in the state lease.

Changing the mining method from room and pillar to longwall will increase recovery of the coal reserves from approximately 55% to over 60%. As stated in the text on page 5-8, "Expected recovery at Genwal is predicted to be 80% in panels and 60% overall."

Requirement 3:

The operator must develop and implement recovery plans for coal not suitable for longwall mining.

The mining plans presented in Chapter 5 present the maximum recovery plans. The only areas which are not planned for maximum recovery are associated with the stream buffer zones where the U.S. Forest Service has deemed the overlying drainages to be perennial. It is important to note that Genwal has data to show that certain portions of the upper reaches of these streams are not perennial. However, the Price office of the Forest Service is not willing to change their perennial delineation to that of ephemeral or intermittent, as is appropriate.

Requirement 4:

The operator must include plans to up-drill into the Blind Canyon and the Bear Canyon seams and determine if those seams are minable. If they are minable then the Operator must recover the upper coal first.

The text has been modified (page 5-7) to comply with the Trust Lands Stipulations. Up-holes will be drilled before second mining of room and pillar or longwall sections of the mine. Genwal has committed to drilling 150 foot deep up-holes every half-mile in the mains prior to second mining.

Requirement 5:

The operator must refer to the subsidence study done by Mr. Sinha as a finite boundary method not a finite element method.

The 1993 subsidence study conducted by Mr. Sinha utilized both the Boundary Element Method and the Finite Element Method. Mr. Sinha determined that the Finite Element Method most closely approximated (represented) the conditions present at the Crandall Canyon Mine. The text has been modified to show that both analytical methods were used to model subsidence.

Requirement 6:

The operator must include the effects of longwall in all subsidence calculations. Including updating Plate 6-2, Maximum Limits of Possible Subsidence.

Subsidence studies are produced using longwall numerical models. In the past these numeric models have been modified by using a correction factor to demonstrate the potential effects of room and pillar mining.

The Maximum Limits of Possible Subsidence was determined by taking the approved angle of draw and projecting that angle

from the bottom of the coal bed upward. Thus, setting the outer limits irrespective of the actual amount of subsidence which might take place. In fact, it is the angle of draw which determines the lateral extent to the west for the Crandall Canyon mining operations. Thus, ensuring that no subsidence will occur outside of the permit boundary. Genwal has committed to no second mining within 250 feet of the western property boundary.

Requirement 7:

The operator must update the subsidence monitoring program and include a copy or reference in the MRP.

When Genwal first anticipated obtaining the LBA 9 leases, they prepared a subsidence monitoring program which covered the proposed mine permit area. Genwal is providing a copy of the plate which depicts their most recent subsidence study. In prior years during the annual subsidence monitoring, the top of East Mountain was used as the western limit of the subsidence study.

In the summer of 1995 the previously established monitoring points in Upper Joe's Valley will be resurveyed and the panels reestablished to allow this area to be included in the 1995 fall subsidence survey.

Requirement 8:

The operator must commit to assess and locate faults associated with the north-south trending Joe's Valley fault system via horizontal drilling, seismic analysis or other methods proposed by the operator and acceptable to the Division, so that ground water interception from the fault does not occur.

Published data from the U.S. Geological Survey accurately depict the location of the Joe's Valley Fault in the area of Upper Joe's Valley and Scad Valley. In fact, the USGS map depicts a solid line for the fault throughout this area, meaning an exact location. In addition, data gathered by Genwal personnel during field studies, within and contiguous to the permit area, over the past ten years support the USGS data.

Geologists have worked in the area extensively during drilling, field studies for baseline water quality assessment,

seep and spring inventories, and cooperative field studies with the USFS, BLM, Huntington-Cleveland Irrigation, etc. During this work no geologic features have been observed on the west side of East Mountain which would be considered as sympathetic faults associated with the Joe's Valley Fault. Specifically, no other lineations are visible on aerial photos or in the field. The locations of seep and springs are random and only associated with lithofacies changes and not linear structural features (i.e. sympathetic faults).

While it is true that most seeps or springs on the west side of East Mountain do emanate from fractures, the fractures are not aligned in a linear position. Also, in the west draining watersheds the Price River and Castlegate Sandstones are continuous and not offset.

It is important to remember that the Joe's Valley Fault is a minimum of 500 feet west of the permit boundary and 800 feet west of the projected mine workings (Figure 6-2) (note that most of the mine workings will be 850 to 900 feet from the fault). Thus, mining activities within the Crandall Canyon Mine have an extremely low or no probability of encountering a fault.

Genwal does not propose or anticipate conducting additional underground or field work associated with definition of the Joe's Valley Fault. Existing data are sufficient to conclusively show that operation of the Crandall Canyon Mine will not intercept the Joe's Valley Fault or significant sympathetic faults.

(Note) - Water Right 93-175 is not a perennial stream. It is true that the water right is depicted for the length of the stream channel. However, the stream within this drainage is ephemeral. The water rights within this drainage area associated with seeps and springs.

I have enclosed three copies of the proposed changes for your review and approval. Again, I appreciate the opportunity to work with you on this project. Please call should you or members of your staff have any questions.

Sincerely,

Randolph B. Gainer, P.G.
Environmental Manager

Form DOGM - C1 (Last Revised 6/93) File Folder # 3

APPLICATION FOR PERMIT CHANGE

Title of Change: **Response to March 8, 95 Longwall Amendment Deficiencies**

Permit Number: ACT/015/032

Mine: Crandall Canyon

Permittee: Genwal Resources, Inc.

RECEIVED APR - 6 1995 DIV OF OIL, GAS & MINING

Description, include reason for change and timing required to implement: **Response to DOGM Deficiencies**

Yes	☒ No	1. Change in the size of the Permit Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☒ No	2. Change in the size of the Disturbed Area? _____ acres ☐ increase ☐
☐ Yes	☒ No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
☐ Yes	☒ No	4. Will permit change include operations in hydrologic basins other than currently approved?
☐ Yes	☒ No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☒ No	6. Does permit change require or include public notice publication?
☐ Yes	☒ No	7. Permit change as a result of a Violation? Violation #
☐ Yes	☒ No	8. Permit change as a result of a Division Order? D.O.#
☐ Yes	☒ No	9. Permit change as a result of other laws or regulations? Explain:
☐ Yes	☒ No	10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	☒ No	11. Does the permit change affect the surface landowner or change the post mining land use?
☐ Yes	☒ No	12. Does permit change require or include collection and reporting of any baseline information?
☐ Yes	☒ No	13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes	☒ No	14. Does permit change require or include soil removal, storage or placement?
☐ Yes	☒ No	15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
☐ Yes	☒ No	16. Does permit change require or include construction, modification, or removal of surface facilities?
☐ Yes	☒ No	17. Does permit change require or include water monitoring, sediment or drainage control measures?
☐ Yes	☒ No	18. Does permit change require or include certified designs, maps, or calculations?
☒ Yes	☐ No	19. Does permit change require or include underground design or mine sequence and timing?
☒ Yes	☐ No	20. Does permit change require or include subsidence control or monitoring?
☐ Yes	☒ No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
☐ Yes	☒ No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
☐ Yes	☒ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

☐ **Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.**

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations herein.

Randall B. Simon - Env. Manager 4-4-95

Signed - Name - Position - Date

Subscribed and sworn to before me this 4th day of April, 1995

Rosina Siaperas

Notary Public

ROSINA SIAPERAS
NOTARY PUBLIC • STATE of UTAH
776 EAST BRIARWOOD CIRCLE
PRICE, UT 84501
COMM. EXP. 5-28-97

My Commission Expires: _____, 19__

Attest: STATE OF Utah
COUNTY OF Emery

Received by Oil, Gas & Mining

ASSIGNED PERMIT CHANGE NUMBER

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change: **Response to Longwall Amendment Deficiency Letter of March 8, 1995**

Permit Number: **ACT/015/032**

Mine: **Crandall canyon**

Permittee: **Genwal Resources, Inc**

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☐ REPLACE	☐ REMOVE	**Pages 5-7 to 5-30 (Text Changes are in bold)**
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?