



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

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

January 13, 1995

Mr. R. J. Marshall
Genwal Coal Company
P.O. Box 1201
Huntington UT 84528

RE: Response to LBA Stipulations, Genwal Coal Company, Crandall Canyon Mine,
ACT/015/032-94F, Folder #3, Emery County, Utah

Dear Mr. Marshall:

The Division has completed a review of the information received on October 31, 1994 which was intended to satisfy the stipulations attached to the LBA Permit. For the most part the stipulations have been addressed, however there remain a few items that require your further attention. The enclosed review document discusses the status of each stipulation. Please review it paying particular attention to the requirement sections. Genwal must submit the required information by no later than February 15, 1995.

You should also be aware that the Forest Service is also reviewing the October 31st information pursuant to Stipulation #2. Their review is forthcoming and will be forwarded to you as soon as we receive it. They may identify items that require additional response.

We appreciate your efforts to address the stipulations. Please call if you have any questions.

Sincerely,


Daron R. Haddock
Permit Supervisor

enclosure

cc: P. Grubaugh-Littig

S. Falvey

J. Smith

P. Baker

stipslet.gen



**TECHNICAL REVIEW
Response to LBA Stipulations**

**Genwal Coal Company
Crandall Canyon Mine
ACT/015/032**

January 6, 1995

CLEAR AND CONCISE APPLICATION

Regulatory Reference: R645-301-120

Stipulation #3

Analysis:

The Operator has resubmitted some pages from Appendix-7. Additional, copies will be presented, on request, for pages remaining illegible.

Finding:

The Operator has adequately addressed this stipulation.

VEGETATION INFORMATION

Regulatory Reference: R645-301-321

Analysis:

Stipulation:

Appendix 3-1 Vegetation Reference Area and Species List

This does not appear to have been updated since 1988. Is it valid for the new lease area?

Response:

Genwal's response letter says:

The vegetative reference area and species list was prepared as a comparison for revegetation of the disturbed areas. The only disturbed areas are associated with the existing surface facilities and no new disturbances are proposed in the revised MRP for LBA #9. In addition, a reference area is a standard which is chosen to be representative of the vegetation and percent ground cover present in a mining area. Unless disturbed by natural hazards or direct permission is received from the regulatory agencies, reference areas are not typically changed for the life of the mine.

The response is correct. Genwal does not need to change its vegetation reference areas or include additional ones because of the new lease.

Stipulation:

Appendix 7-30 Manti-La Sal National Forest Vegetation Data

The map needs a legend or description. It is impossible to determine vegetation type from the map as it is.

Response:

Genwal has included a legend for the map in Appendix 7-30. The map was apparently prepared by the Forest Service and is not very clear. Nevertheless, it appears to be adequate.

Stipulation:

Appendix 7-31 Percent Ground and Crown Cover Calculations

There is no description of the land type or vegetation type. The data in the table are useless as presented and must be revised.

Response:

The response includes a legend to be used in association with data in Appendices 7-27 through 7-39. The legend contains general descriptions of vegetation and land forms. This legend appears to adequately address the requirement.

Findings:

Genwal has complied with the requirements of the permit stipulations relating to this regulation.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Stipulation:

Page 3-17 Wildlife

Raptor #4 should be "Swainson's hawk," not "Swenson Hawk." Coopers hawk should be added to the list. It is unlikely that the Ferrugenous hawk would occur in the area.

If there are possible impacts to raptors, the company should contact the Forest Service in addition to UDWR.

Response:

The typographical error formerly on page 3-17 where Swainson's hawk was listed as Swenson's hawk has been corrected. The plan includes a note that the Forest Service does not believe the ferruginous hawk is likely to occur in the area. However, Cooper's hawk has not been added to the list. Cooper's hawks are tree-nesting raptors that are likely to nest in the permit area.

There are two other typographical errors that should be corrected in this section (page 3-18). Goshawk is listed as "gashawk," and sharp-shinned hawk is listed as "sharp skinned hawk."

Genwal has committed to contact the Forest Service if there are impacts to raptors.

Stipulations:

Page 3-16, third paragraph

The baseline data are useless unless there is a periodic check to determine deviations from baseline conditions. The company should commit to an aquatic macroinvertebrate study every 3 years to show that there have been no impacts to the aquatic environment.

Page 3-33, fourth paragraph

As on page 3-16, a periodic survey of macroinvertebrates is necessary to compare with baseline data to detect changes in the aquatic environment.

Response:

The plan says Genwal conducted a macroinvertebrate study in 1994 and will perform another in the summer of 1999. The results of the 1999 study will be used to determine if additional monitoring of the habitat and biotic community are prudent.

Macroinvertebrate studies are normally done in the spring and fall rather than the summer.

The stipulation required Genwal to commit to macroinvertebrate studies every three years, and Genwal committed to one more in five years. They have not complied with the stipulation.

Stipulation:

Page 3-6 Reptiles and Amphibians

There is a discussion of amphibians, but no mention of reptiles.

Response:

The plan has been amended to say that reptiles are found throughout the permit area from riparian areas to mesic hillslopes and ridgetops. It says that Table 3 in Appendix 3-3 is a list of reptiles that may be found in the area and their relative abundance.

Appendix 3-3, Table 3, is a list from a Wildlife Resources publication and includes reptile species that could occur in the area. It is not site-specific but is adequate for the purposes of the mining and reclamation plan.

Stipulations:

Pages 3-6 through 3-8 Migratory Birds of High Federal Interest

The first paragraph starts with a discussion of the 22 species on the FWS list then jumps into grassland hunting habitat, presumably for some type of raptor. Something is missing, and the paragraph does not make sense. Also, how current is the list of 22 species?

Number 11 on the list is the "Flammulated Owl," not the "plammulated Owl."

There is a discussion of a few of the birds on the list, but not all. Why were some omitted?

There is no mention of the Forest Service, region 4, list of especially significant species occurring in the area.

In the paragraph immediately below the list of the 22 species (page 3-7), it states 5 of the species were previously discussed in the report. We can not find where they were discussed.

The second paragraph below the species list does not make sense. It goes from a discussion of reporting the presence of T&E species into a discussion of golden eagle nest sites.

Response:

The first paragraph under this section has been rewritten and clarified. The response letter says the 22 species list is current with the "FWD" but that discussion has been added to address the F, Region 4, list of significant species occurring in the area.

The list of 22 migratory birds of high federal interest was prepared by the Fish and Wildlife Service in 1980. It has not been updated. As discussed in Appendix 3-3, some of the birds on the list are unlikely to occur in Genwal's permit area.

The typographical error with the flammulated owl has been corrected.

The response letter says a more thorough discussion of the birds on the list of migratory birds of high federal interest is in Appendix 3-3. Appendix 3-3 contains a discussion of all birds on the list.

The entire section under "Migratory Birds of High Federal Interest" is confusing and should be rewritten. Some of the problems are:

- On page 3-7, Genwal has included a list of "5 bird species" which are known or suspected threatened, endangered, proposed, and sensitive species and that are more likely to be potentially present in the area of influence of the mine. This list includes Townsend's big-eared bats. Bats are not birds.
- The peregrine falcon is an endangered species, and the plan says Wildlife Resources considers it to potentially occur in the "study area." Yet, this species is not included in the list of threatened, endangered, proposed and sensitive species.
- The plan has a list of four species that it says Wildlife Resources believes are actually or potentially in the permit area, then it lists three more species that could be present. Why not list all seven together?

It is suggested that Genwal use the following organization:

1. Include the list of migratory birds of high federal interest.
2. Summarize the narrative information in Appendix 3-3 concerning migratory birds of high federal interest by presenting a list of birds from this group that may be in the permit area.
3. List threatened, endangered, and sensitive (combined Forest Service and Fish and Wildlife Service lists) species that may occur in the permit area.

Later in this section is a discussion of two golden eagle nests. There is a statement that the golden eagle nest high on the ridge north and east of the mine portal area is the only raptor nest in Crandall Canyon according to information supplied by Wildlife Resources. This statement leads one to believe there are no other raptor nests in Crandall Canyon, and this contradicts other information in the mining and reclamation plan. It should be modified.

In 1993 monitoring, Wildlife Resources was unable to locate golden eagle nests 181.167 and 187.273. The Fish and Wildlife Service believes nest 181.167 may have been abandoned because of increased human activity in Crandall Canyon. With the rest of the

discussion about these two nests, the plan should mention that they could not be found in the 1993 monitoring.

The last two Forest Service comments have been addressed in revisions of the two paragraphs.

Stipulation:

Page 3-9, section 3.22.230

Spotted bats, Townsend's big-eared bats, and spotted frogs are known to occur on the Wasatch Plateau, but are not mentioned.

Response:

As mentioned above, Townsend's big-eared bats are included in the list of rare birds. Spotted bats and spotted frogs are mentioned in Section 3.22.230 regarding other species or habitats requiring special protection.

Although the plan says spotted bats and spotted frogs have not been found in the permit area, the permit area appears to contain suitable habitat for both of these species and for Townsend's big-eared bats. According to information in the Forest Service publication *Threatened, Endangered, and Sensitive Species of the Intermountain Region*, Townsend's big-eared bats use juniper/pine forests, shrub/steppe grasslands, deciduous forests, and mixed coniferous forests up to 10,000 feet elevation. Spotted bats have been found in ponderosa pine, desert scrub, pinyon-juniper, and open pasture habitats. Spotted frogs prefer permanent water, such as the marshy edges of ponds or lakes, algae-grown overflow pools of streams, or springs with emergent vegetation in the breeding season. Habitat is usually in mixed conifer and subalpine forests, grasslands, and brushlands and sagebrush and rabbitbrush.

Stipulation:

Appendix 3-2 Aquatic Resources of Crandall Canyon

The macroinvertebrate survey data for 1981 and 1982 are missing.

Response:

The response letter says macroinvertebrate studies were conducted in 1980, 1982, and 1983 and that the data are in Appendix 3-2. Appendix 3-2 does contain studies from these years, but the 1980 and 1982 reports are stream surveys rather than macroinvertebrate studies. They mention the two most common genera of macroinvertebrates, but there are no details.

It appears that the mining and reclamation plan text does not reference Appendix 3-2 ✓

for this information. The information in this appendix is important baseline information that relates to the rest of the plan, and it needs to be referenced. Also, the plan indicates that another macroinvertebrate study was done in 1994. When the results of this study are received, they need to be included in the plan.

Findings:

Cooper's hawks need to be added to the list of tree-nesting raptors potentially occurring in the permit area. Two typographical errors (gashawk and sharp skinned hawk) on page 3-18 need to be corrected.

By reference to the Forest Service comments, the Division stipulated that Genwal commit to conduct macroinvertebrate studies in Crandall Creek every three years. The revised plan says Genwal conducted one such study in 1994 and will do another in 1999. This is not in accordance with the stipulation to which Genwal agreed. Genwal needs to commit to a macroinvertebrate study every three years as specified.

The discussion of migratory birds of high federal interest and of threatened, endangered, and sensitive species contains some inaccuracies and inconsistencies that need to be corrected. It is suggested that this entire section be revised.

The statement that the golden eagle nest high on the ridge north and east of the mine portal area is the only raptor nest in Crandall Canyon according to information supplied by Wildlife Resources leads one to believe there are no other raptor nests in Crandall Canyon. This contradicts other information in the mining and reclamation plan. The statement should be modified.

Information about golden eagle nests 181.167 and 187.273 should be updated. Wildlife Resources personnel were not able to find these nests in the most recent raptor survey of the area.

The mining and reclamation plan should reference Appendix 3-2 for results of the 1980 macroinvertebrate study and 1982 and 1983 stream surveys.

Requirements:

- 1) Genwal still needs to clarify fish and wildlife information in its mining and reclamation plan.
- 2) Genwal must commit to conduct a macroinvertebrate survey every three years as specified in the stipulation.

- 3) The cultural resources survey in Appendix 4-1A contains information about important archaeological sites and needs to be considered confidential. Genwal must separate it from the body of the Permit application Package and provide it in a separate package marked confidential.

FISH AND WILDLIFE PROTECTION

Regulatory Reference: R645-301-333

Analysis:

Stipulation:

Page 3-14, section 3.33, Impacts to Fish and Wildlife

There is a discussion of surveying for impacts to raptors, but no mention of identifying impacts to the other wildlife or fish occupying the area.

Response:

Genwal's response letter says they have added a discussion on page 3-15 clarifying what surveys Genwal conducts or will conduct to monitor the impacts to fish or other wildlife in the area. New discussion on page 3-15 includes mention of three monitoring techniques: 1) Genwal has agreed to do a survey of tree-nesting raptors if subsidence is detected. 2) They have two permitted UPDES discharge points which help to ensure that sedimentation and runoff do not reduce the viability of the downstream waters. 3) Genwal, working with outside consultants and Wildlife Resources, has conducted stream inventories to define micro- and macroinvertebrates.

The monitoring plan is felt to be adequate for current operations and conditions. As discussed under "Fish and Wildlife Information," Genwal needs to commit to conduct macroinvertebrate surveys every three years.

Stipulations:

Page 3-16, fourth paragraph

Guzzlers may not provide satisfactory mitigation. Genwal must commit to complying with the lease stipulation which requires replacement of water in quality and quantity.

Page 5-27, third paragraph

Guzzlers may not provide acceptable mitigation. Genwal must commit to replacing water in quality and quantity, as required by the lease stipulation.

Response:

The plan now says that if it is proven that mining activities have eliminated the flow of any seep or spring in the area, Genwal will notify Wildlife Resources, the Division, and the Forest Service. They will then begin working on an acceptable mitigation plan involving the use of guzzlers or other approved mitigation measures which replace the water in quantity and quality. This response satisfies the stipulations.

Stipulation:

Page 5-27, last paragraph

We do not object to Genwal paying livestock permittees for lost forage, but Genwal must also replace the water in quality and quantity, as required by the lease stipulation.

Response:

Genwal has added a phrase referring to the commitment to replace the quality and quantity of water.

Findings:

Genwal has complied with the requirements of these stipulations.

REVEGETATION PLAN

Regulatory Reference: R645-301-341

Analysis:

Stipulations:

Page 3-18, first paragraph

The Forest Service will not consent to the sediment pond being left in place after the mine area is reclaimed. It must be removed as agreed to in the original mine plan.

Page 5-46, Section 5.42.5 Timetable and Plans, Removal of Sedimentation Pond, second paragraph

The Forest Service will not consent to leaving the pond after the mine is reclaimed. This is an unapproved change from the last mine plan.

Response:

In Chapter 3, the plan says the sediment pond will be removed in final reclamation

after the mine site has been revegetated and potential for erosion and sedimentation has been significantly diminished. In Chapter 5, the plan says the sediment pond will remain temporarily after the mining operations until adequate revegetation has been established to control erosion. These changes satisfy the stipulations.

Findings:

Genwal has complied with the requirements of these stipulations.

LAND USE INFORMATION

Regulatory Reference: R645-301-411.100 through R645-301-411.130; R645-301-411.200

Analysis:

Stipulation:

Page 4-3, fifth paragraph

The last word, "leases," should be replaced with "lease stipulations." The USFS consents, with stipulations, to the issuance of leases by the BLM. The USFS does not issue leases.

Response:

The plan now references Forest Service lease stipulations rather than leases.

Findings:

Genwal has complied with the requirements of this stipulation.

ARCHEOLOGICAL INFORMATION

Regulatory Reference: R645-301-411.140

Analysis:

Stipulation:

Page 4-5, first full paragraph

There should be mention of the archeological survey done for the new lease tract.

Response:

The mining and reclamation plan says an additional archeological survey was conducted for LBA #9 in 1992 and that the data are in Appendix 4-1A.

The cultural resources survey report in Appendix 4-1A says that, although there are several significant sites in the area, they do not contain standing architecture, delicate features, or susceptible rock are which could be adversely affected by mountain and slope subsidence which could result from future coal mining operations.

Because this report shows the locations of significant archeological sites, it needs to be considered confidential information and not included with the rest of the mining and reclamation plan.

Findings:

Genwal has complied with the Forest Service stipulation, but the cultural survey report in Appendix 4-1A contains information about important archeological sites and needs to be considered confidential.

GROUND WATER MONITORING PLAN

R645-301-731.210

Stipulation #5

Discussion:

Tables 7-4 and 7-5 list the parameters for which operational and baseline ground water monitoring are done. Samples are collected and analyzed according to the current edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Parts 136 and 434. Reports are submitted to UDOGM quarterly, followed by an annual summary. All test and measurement instruments are operated, maintained, and calibrated according to the manufacturer's instructions.

Seep and spring locations are on Plate 7-12. Groundwater monitoring included collection of water quality and quantity data from sixteen springs up through the spring of 1994 (pages 7-40 and 7-42). SP2-24, SP2-9, SP-47a, SP2-14, SP2-23, and SP1-3 were chosen because of the water rights filed on them by the USFS. SP-30 and SP-36 have been monitored to determine potential impacts in the immediate vicinity of the mine. SP-58 has been monitored as an indicator of long term changes in groundwater issuing from the

Blackhawk Formation in an area that will not be affected by mining operations. SP1-19 and SP1-22 have been monitored as indicators of the water supply in the upper reaches of Blind Canyon. SP1-33, SP1-47, and SP2-1 were monitored for indications of changes in ground water issuing into Joes Valley from near the base of East Mountain. SP1-9 and SP1-24 were monitored for effects from subsidence in the state leases.

According to Appendix 7-17 and Annual Reports for 1990, 1991, 1992, and 1993, spring SP-30 has had no measurable flow since October 1985. Genwal intends to continue monitoring SP-30 to observe flow trends as they relate to precipitation patterns.

SP-58, SP-36, SP2-9, SP2-24, SP1-33, and SP1-9 will continue to be monitored quarterly for quantity and quality. Genwal proposes that SP-30, SP2-1, SP1-47, SP1-24, SP-19, SP-47a, SP1-3, and SP1-22 will be monitored quarterly for quantity and other field parameters only. Springs SP2-14, SP2-23 will no longer be monitored because there has been little or no flow and adjacent spring SP2-9 will continue to be monitored.

SP2-14 and SP2-23 are the only seeps or springs that have been monitored in the north fork of Horse Canyon, in an area that is scheduled for full extraction mining beginning in 1998 under the currently approved plan. The nearest spring that is to be monitored is SP2-9. That spring is located approximately one-quarter mile south of SP2-14, in the south fork of Horse Canyon but barely across the divide between the two forks. S2-9, which was flowing 8 gpm in June 1993, has greater and apparently more consistent flow than SP2-14 and SP2-23. S2-9 will be subject to subsidence of similar timing and magnitude as SP2-14 and SP2-23. The proximity of SP2-14 and SP2-23 to SP2-9 and their low discharge rates support the assertion that continued monitoring of SP2-14 and SP2-23 would probably be of marginal value.

The fourteen springs listed above are to be monitored quarterly, but frequency may vary according to accessibility. After reclamation and up to release of the bond, springs will be monitored semiannually and water samples analyzed according Table 7-4. During both operation and reclamation, samples collected during the low flow period (usually the fourth quarter) in the years 1990, 1995, 2000 and at 5-year intervals thereafter until bond release will be analyzed according to Table 7-5.

DH-1, which flows from the roof of the mine, is also monitored quarterly. The active portion of the mine will be inventoried quarterly for mine inflows that exceed three gpm. UDOGM will be consulted to determine if monitoring of additional mine inflows is needed and to establish a schedule for monitoring. Monitoring of mine inflows will continue as long as they are safely accessible. Quarterly analyses of mine inflows are to be done according to Table 7-4. Samples of mine inflows collected during the low flow period in the years 1990, 1995, 2000 and at 5-year intervals thereafter are to be analyzed according to Table 7-5.

Monitoring wells MW-1, MW-2, MW-4, and MW-5 will be monitored quarterly for water levels and water quality. Quarterly analyses are to be done according to Table 7-4. For a two year period following completion of a well and in the years 1990, 1995, 2000, and at 5-year intervals thereafter, analyses of water samples from wells are to be done according to Table 7-5. Wells that remain accessible will continue to be monitored by this schedule until two years after the completion of surface reclamation. MW-1 will continue to be monitored annually until bond release.

Findings:

The plan for ground water monitoring, during both operation and reclamation, is complete and accurate.

Stipulation #4

R645-301-731.600

Stream Buffer Zones

Analysis:

The Operator has not re-incorporated the wording from the previously approved document regarding the buffer zone variance, as specifically requested in the stipulation. The Operator has incorporated new wording in the latest revision. The new wording indicates that they will disturb the stream if necessary but, not without approval from the Division. The changes in wording (item 9) implies that an allowance to disturb the stream channel was considered in the approval of the original buffer zone variance. In fact, it was determined that the buffer zone be approvable only if the stream channel was not disturbed and impacts were minimized.

The Operator has referenced Section 3.23.400, which identifies how impacts are minimized during construction activities. The Operator removed the original approved commitment Number 8 from the plan (last incorporated in the 5/4/1993 revision on pages 3-10 and 3-11) which states, "The Original stream channel will not be altered". The Operator has altered the previous commitment #8 as new commitment #9 to indicate that, "... if further (stream channel) disturbance is required, Genwal will not disturb the creek until approval is granted from DOGM." The Operator has not received additional buffer zone variances. At this time no additional changes in the original stream channel or original buffer zone are approved for mining and reclamation activities.

The 1982 permit approval for construction activities and the details of the Operation plan as outlined under UMC 817.41-.56 of the MRP and the TA justified granting a variance

to the 100-foot buffer zone requirements. It was determined that the buffer zone was approvable based on conditions and the information presented in the plan. Any future changes to the buffer-zone or re-disturbance would require an additional buffer zone variance approval.

Finding:

While the letter of this stipulation was not complied with directly, the operator is considered to be in compliance and has completed this stipulation. If future disturbance of Crandall Creek is necessitated, Genwal would be required to obtain specific approvals and separate buffer zone variances at that time.

Requirement:

The operator must remove the statement on page 3-10 "(Taken in it's entirety from 5/22/92 submittal)" as this is not a true statement.

Stipulation #6

Analysis:

The Operator did commit to monitor surface materials according to the State Guidelines. However, the Operator is still considered deficient in determining the acid or toxic nature of the coal. Inclusion of the data obtained for identification of acid and toxic forming materials found in coal which remains as underground pillars should be submitted. No specific date was included in the commitment to submit the data to the Division. Analysis, identification, and discussion in regard to the potential of post-mining water quality impacts should also be submitted. Should any spring or significant water source be intercepted by mining operations, acid and toxic forming materials, if found in the workings, could potentially affect water quality of the springs recharged by the mine area. Additionally, the springs currently discharging from the Blackhawk or springs which could develop discharge from the mined area following mine closure, could be affected by any identified acid and toxic forming materials.

However, a recent discussion with Randy Gainer of Genwal indicated the samples were recently obtained and the Operator should submit results of this data with the upcoming 1994 annual report.

Findings:

The Operator adequately responded to Stipulation #6.

Requirement:

Genwal must incorporate the findings from the acid and toxic forming analysis of the coal data recently obtained into the upcoming 1994 annual report. Analysis, identification, and discussion in regard to the potential of post-mining water quality impacts based on the data obtained should be incorporated into the PHC as well.

LBARESP.GEN