

0012



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter  
Governor

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355 West North Temple  
3 Triad Center, Suite 350  
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July 28, 1992

CERTIFIED RETURN RECEIPT  
P 074 979 273

Mr. Dan Guy, Manager  
Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

*Dan*  
Dear Mr. Guy:

Re: Division Order, Mountain Coal Company, Gordon Creek #2, #7 and #8 Mines,  
ACT/007/016-DO-92A, Folder #3, Carbon County, Utah

Enclosed please find a Division Order for the Gordon Creek #2, #7 and #8 Mines. This Division Order is the outcome from an Informal Hearing held on July 14, 1992 in which NOV #N92-20-1-1 was vacated. This Division Order relates to deficiencies that were sent to you on June 22, 1992 (copy enclosed). Deficiencies are identified according to the approved plan or a proposed plan (i.e., plans submitted subsequent to and as a result of Division Order DO-91A issued June 6, 1991). This Division Order is prepared in a unique format because it refers to the approved plan and proposed plans, as requested by the Director during the Informal Hearing.

If in your review of this Division Order you have any questions, please call me or Pamela Grubaugh-Littig.

Sincerely,

*Lowell P. Braxton*  
Lowell P. Braxton  
Associate Director, Mining

jbe  
Enclosure  
cc/enc: Pamela Grubaugh-Littig  
Joe Helfrich  
007016DO

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

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PERMITTEE

Dan Guy  
Mountain Coal Company  
Gordon Creek #2, #7 & #8 Mines  
P.O. Box 1378  
Price, Utah 84501

ORDER & FINDINGS  
of  
PERMIT DEFICIENCY

PERMIT NUMBER ACT/007/016  
DIVISION ORDER # DO-92A

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PURSUANT to R645-303-212, the DIVISION ORDERS the PERMITTEE, Mountain Coal Company, to make the permit changes and other changes enumerated in the findings of permit deficiency in order to be in compliance with the State Coal Program. These findings of permit deficiency are to be remedied in accordance with R645-303-220.

SOILS

Findings of Deficiency  
(Proposed Plan)

The Division finds the proposed plan deficient in contravention with the requirements of R645-301-233.100.

The approved plan to demonstrate the suitability of the proposed substitute topsoil (immediately under the existing surface of the No. 2 Mine yard pad) is sufficient to characterize the suitability of the material as a plant growth medium for final reclamation. However, in the event that highwall reclamation adjacent to the No. 2 Mine is required and, therefore, requires a major change in the backfilling and grading plan, the approved plan to demonstrate the suitability of the proposed substitute topsoil is inadequate.

Regulation Cited

R645-301-233.100 Selected overburden materials may be substituted for, or used as a supplement to topsoil if the operator demonstrates to the Division that the resulting soil medium is equal to, or more suitable for sustaining vegetation on nonprime farmland areas than the existing topsoil, has a greater productive capacity than that which existed prior to mining for prime farmland reconstruction, and results in a soil medium that is the best available in the permit area to support revegetation.

Requirements

In order to comply with this regulation, the permittee must submit a plan to demonstrate the suitability of the proposed substitute topsoil material in the event that the No. 2 Mine highwalls require complete reclamation.

Findings of Permit Deficiency  
(Approved Plan)

The Division finds the permit deficient in contravention with the requirements of R645-301-233.100. The permit does not identify the location of or demonstrate the suitability of the plant growth medium which will remain on slopes which will not receive topsoil (i.e., slopes greater than 70 percent).

Regulation Cited

R645-301-233.100 Selected overburden materials may be substituted for, or used as a supplement to topsoil if the operator demonstrates to the Division that the resulting soil medium is equal to, or more suitable for sustaining vegetation on nonprime farmland areas than the existing topsoil, has a greater productive capacity than that which existed prior to mining for prime farmland reconstruction, and results in a soil medium that is the best available in the permit area to support revegetation.

Requirements

In order to comply with this regulation, the permittee must submit a plan to demonstrate the suitability of the proposed substitute topsoil material in the areas which will not receive topsoil (i.e., slope greater than 70 percent).

Findings of Permit Deficiency  
(Approved Plan)

The Division finds the permit deficient in contravention with the requirements of R645-301-241. The permit does not contain an adequate soil nutrient and amendment plan.

Regulation Cited

R645-301-241. General Requirements. Each permit application will include plans for redistribution of soils, use of soil nutrients and amendments and stabilization of soils.

Requirements

The permittee must submit a fertilizer and amendment plan which includes the soil sampling procedures employed during final reclamation. This plan must include sample frequency, field and laboratory procedures employed, type(s) and rate(s) of fertilizer applied.

Findings of Permit Deficiency  
(Approved Plan)

The Division finds the permit deficient in contravention with the requirements of R645-301-242.200. The permit does not contain an adequate treatment plan to reduce potential slippage of the redistributed topsoil material and to promote root penetration within the regraded spoil.

Regulation Cited

R645-301-242.200 Before redistribution of the materials removed under R645-301-232 the regraded land will be treated if necessary to reduce potential slippage of the redistributed material and to promote root penetration. If no harm will be caused to the redistributed material and reestablished vegetation, such treatment may be conducted after such material is replaced.

Requirements

The permittee must commit to deep ripping spoil material to at least 12 inches below the spoil surface. Spoil material and the initial lift of the soil material (i.e., six inches) may be ripped simultaneously to avoid the creation of an impenetrable interface between the soil and spoil material.

## BIOLOGY

### Findings of Permit Deficiency (Approved Plan)

Pages 3-85 and 3-88 of the permit state that seedbed preparation on less than 40 percent slopes will include discing or harrowing to be followed by drill seeding. It has been the Division's experience that discing and drill seeding reduce surface roughness and, therefore, vegetative success. Gouging or ripping areas are sufficient seedbed preparation. Broadcast seeding (hydroseeding is a form of broadcast seeding) followed by light raking is the seed application method of choice for the entire site.

#### Regulation Cited

R645-301-341.220 states the permit will contain a description of the methods used for planting and seeding to comply with the biological protection performance standards.

#### Requirements

The permittee must commit to using these seeding and seedbed preparation methods.

### Finding of Permit Deficiency (Approved Plan)

The permittee has committed to use hydromulch as a suitable mulch on topsoiled areas. The Division contends that the permittee has not demonstrated that hydromulch is suitable mulch and soil stabilizer on slopes of 2:1 or steeper.

#### Regulation Cited

R645-301-355 states that suitable mulch and soil stabilizing techniques will be used on all topsoiled areas.

#### Requirements

The permittee must commit to using erosion control matting on any slopes 2:1 or steeper.

Findings of Permit Deficiency  
(Approved Plan)

Pages 3-90 and 3-91 of the permit describe the permanent reclamation seed mixture. The PAP does not contain adequate information as required by R645-301-341.210 and R645-301-353.

Regulations Cited

R645-301-341.210 and R645-301-353 states that the permit will contain a description of the seed mixture and that the seed mixture will be comprised of species necessary to achieve the approved postmining land use.

Requirements

The following changes are required to comply with the aforesaid rules.

- a) Northern milkvetch is what species of Astragalus? Does the permittee mean Northern sweetvetch? Northern sweetvetch, Hedysarum boreale, is desirable in reclamation seeding and may be available if ordered early summer.
- b) Eriogonum corymbosum is a shrub, the common name is not Purple Daisy Fleabane. Please check as to availability of E. corymbosum prior to adding to the list.
- c) "Bandera" Rocky Mountain Penstemon, Penstemon strictus, is better suited to the elevation at the #2, #7 & #8 Mines than Palmer pensemon.
- d) The seed application rate for Bitterbrush and Mountain Mahogany provide for only .17 and .6 seeds per square foot, respectively. Please increase these seed rates.
- e) "Hobble Creek" big sagebrush, Artemisia tridentata ssp. vasseyana is a newly released sagebrush that is very robust and palatable. Please substitute this for A. t. ssp. tridentata as listed.
- f) The entire seeding rate (except Bitterbrush and Mountain Mahogany) is high and should be reduced by about 25 percent.

The permittee must change the seed mixture to comply with these changes.

Findings of Permit Deficiency  
(Approved Plan)

The permit lacks the schedule for the vegetation plan. For example, the schedule should show that seed ordering be completed by early summer. This is necessary to assure availability of seed and testing of seed.

Regulation Cited

R645-301-341.100 states that the permit must contain a detailed schedule and time table for completion of each major step in the revegetation plan.

Requirements

Shrub transplants should be ordered one year in advance to ensure availability. The permittee must incorporate a revegetation schedule into the permit.

Findings of Permit Deficiency  
(Approved Plan)

The approved postmining land use as stated in the permit is recreation and wildlife, however, the canyon is too steep to allow livestock grazing. The permit states the success will be based on cover, stocking and production.

Regulations Cited

R645-301-356 states that the revegetation will be judged on the effectiveness of the vegetation for the approved postmining land use.

R645-301-356.230 states that when the postmining land use is wildlife, the effectiveness of the vegetation will be based on vegetative ground cover and tree and shrub stocking.

Requirements

The permittee must remove the production standard from the permit.

Findings of Permit Deficiency  
(Approved Plan)

The permit states that 37 percent cover and what that number is based on. Page 3-94.1 presents an unexplained table for success standards.

Regulation Cited

R645-301-356.110 states that standards for success are defined in the Division's "Vegetation Information Guidelines."

Requirements

The permit must contain a standard for success as described in the Vegetation Information Guidelines with data on which to base the standard.

Findings of Permit Deficiency  
(Approved Plan)

The permit does not contain the commitment required by R645-301-356.232.

Regulation Cited

R645-301-356.232 states that at the time of bond release, trees and shrubs will be healthy and at least 80 percent will have been in place for 60 percent of the minimum period of responsibility.

Requirements

The permittee must commit to the 80/60 rule and the tree and shrub sampling program.

## HYDROLOGY

### Findings of Permit Deficiency (Proposed Plan)

The proposed plan does not completely and accurately reflect the requirements of the design criteria for sediment control structures (i.e., all impoundments/sediment ponds). Some of the significant information relative to the sediment control structures that is missing and must be included:

- 1) Stage capacity curve.
- 2) Identification of maximum sediment storage and cleanout elevations based on data.
- 3) Stage discharge curve.
- 4) Maintenance plan.
- 5) Justification of the postmining land use with a letter from the land owner. If livestock is the postmining land use of this structure, it must be designed with this in mind (i.e., 5:1 sloped ramps for entry into the pond).
- 6) Design for the stock watering pond found in the Right fork of Bryner Canyon.

### Regulations Cited

#### R645-301-732.200. Sedimentation Ponds

732.210. Sedimentation ponds whether temporary or permanent, will be designed in compliance with the requirements of R645-301-356.300, R645-301-356.400, R645-301-513.200, R645-301-742.200 through R645-301-742.240, and R645-301-763. Any sedimentation pond or earthen structure which will remain on the proposed permit area as a permanent water impoundment will also be constructed and maintained to comply with the requirements of R645-301-743, R645-301-533.100 through R645-301-533.600, R645-301-512.240, R645-301-514.310 through R645-301-514.321 and R645-301-515.200.

732.220. Each plan will, at a minimum, comply with the MSHA requirements given under R645-301-513.100 and R645-301-513.200.

733.200. Permanent and Temporary Impoundments.

- 733.210. Permanent and temporary impoundments will be designed to comply with the requirements of R645-301-512.240, R645-301-514.300, R645-301-515.200, R645-301-533.100 through R645-301-533.600, R645-301-733.220 through R645-301-733.226, R645-301-743.240, and R645-301-743. Each plan for an impoundment meeting the size or other criteria of the Mine Safety and Health Administration will comply with the requirements of 30 CFR 77.216-1 and 30 CFR 77.216-2. The plan required to be submitted to the District Manager of MSHA under 30 CFR 77.216 will be submitted to the Division as part of the permit application package. For an impoundment not meeting the size criteria of 30 CFR 77.216(a) and located where failure would not be expected to cause loss of life or serious property damage, the Division may establish through the Utah State program approval process engineering design standards that ensure stability comparable to a 1.3 minimum static safety factor in lieu of engineering tests to establish compliance with the minimum static safety factor of 1.3 specified in R645-301-533.100.
- 733.220. A permanent impoundment of water may be created, if authorized by the Division in the approved permit based upon the following demonstration:
- 733.221. The size and configuration of such impoundment will be adequate for its intended purposes;
- 733.222. The quality of impounded water will be suitable on a permanent basis for its intended use and, after reclamation, will meet applicable Utah and federal water quality standards, and discharges from the impoundment will meet applicable effluent limitations and will not degrade the quality of receiving water below applicable Utah and federal water quality standards;
- 733.223. The water level will be sufficiently stable and be capable of supporting the intended use;
- 733.224. Final grading will provide for adequate safety and access for proposed water users;

- 733.225. The impoundment will not result in the diminution of the quality and quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational or domestic uses; and
- 733.226. The impoundment will be suitable for the approved postmining land use.
- 733.230. The Division may authorize the construction of temporary impoundments as part of coal mining and reclamation operations.
- 733.240. If any examination or inspection discloses that a potential hazard exists, the person who examined the impoundment will promptly inform the Division according to R645-301-515.200.
734. Discharge Structures. Discharge structures will be constructed and maintained to comply with R645-301-744.

#### Requirements

Submit a complete and accurate reclamation plan for the sedimentation ponds.

#### Findings Of Permit Deficiency (Approved Plan)

The permit does not completely and accurately contain all the necessary design information for all reclaimed diversions.

#### Regulations Cited

- R645-301-742.300 Diversions.
- 742.310. General Requirements.
- 742.311. With the approval of the Division, any flow from mined areas abandoned before May 3, 1978, and any flow from undisturbed areas or reclaimed areas, after meeting the criteria of R645-301-356.300, R645-301-356.400, R645-301-513.200, R645-301-742.200 through R645-301-

742.240, and R645-301-763 for siltation structure removal, may be diverted from disturbed areas by means of temporary or permanent diversions. All diversions will be designed to minimize adverse impacts to the hydrologic balance within the permit and adjacent areas, to prevent material damage outside the permit area and to assure the safety of the public. Diversions will not be used to divert water into underground mines without approval of the Division in accordance with R645-301-731.510.

- 742.312. The diversion and its appurtenant structures will be designed, located, constructed, maintained and used to:
- 742.312.1. Be stable;
  - 742.312.2. Provide protection against flooding and resultant damage to life and property;
  - 742.312.3. Prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and
  - 742.312.4. Comply with all applicable local, Utah, and federal laws and regulations.
- 742.313. Temporary diversions will be removed when no longer needed to achieve the purpose for which they were authorized. The land disturbed by the removal process will be restored in accordance with R645-301 and R645-302. Before diversions are removed, downstream water-treatment facilities previously protected by the diversion will be modified or removed, as necessary, to prevent overtopping or failure of the facilities. This requirement will not relieve the permittee from maintaining water-treatment facilities as otherwise required. A permanent diversion or a stream channel reclaimed after the removal of a temporary diversion will be designed and constructed so as to restore or approximate the premining characteristics of the original stream channel including the natural riparian vegetation to promote the recovery and the enhancement of the aquatic habitat.

742.314. The Division may specify additional design criteria for diversions to meet the requirements of R645-301-742.300.

Requirements

The permit must contain accurate profiles and cross-sections of all proposed diversions whether it be to capture a seep or established drainage. A hydrology map showing all sub drainages contributing to each channel is required where the diversions capture surface-water runoff. Diversions capturing springs or seeps and no surface runoff be sized based on expected flow. These areas are not all included within the permit area as shown.

All data used to determine slopes, drainage areas, velocities, cross-sections, etc. must be combined into a table corresponding to referenced numbered diversions and/or specific sections of diversions on a Plate.

The reclaimed channel profiles shown on Plate 3-10 are not accurate and do not reflect actual conditions as shown in the new plan.

The use of check dams in all miscellaneous diversions using Figure 3-10 does not work. The permittee is using a generic design developed by a hydrologist at the Division (referenced from Burchard Heede's design parameters) but not considering the design parameters of each diversion (i.e., design calls for a structure 24-30 inches high when the ditches described in the plan are 12 inches deep).

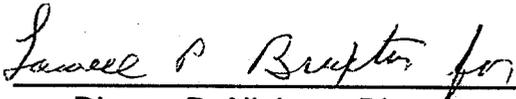
The permit fails to correctly identify the extent of reclaimed drainages in profiles or on plates (i.e., outlet of the sediment pond just ends at the end of the plate without showing how it will join with the creek).

*The permittee must correct the above deficiencies. All changes and deletions must be made throughout the permit so as not to contain contradictory information.*

**ORDER**

It is hereby ordered that Mountain Coal Company make the requisite permit changes in accordance with R645-303-220 and submit a complete application for permit change, and submit complete and accurate information for reclamation of the Gordon Creek #2, #7 & #8 Mines by no later than August 28, 1992.

Ordered this 30 day of July, 1992, by the Division of Oil, Gas, and Mining.

  
\_\_\_\_\_  
Dianne R. Nielson, Director  
Division of Oil, Gas and Mining

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# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter  
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June 22, 1992

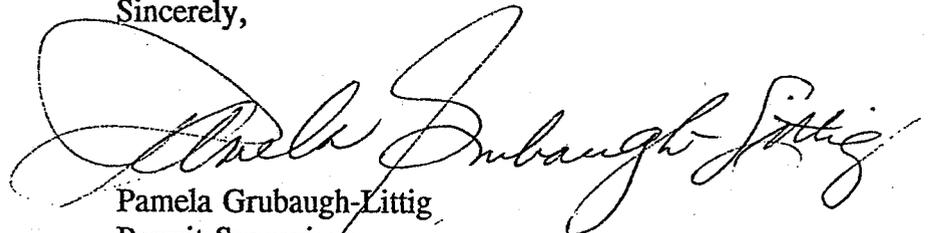
Mr. Dan Guy, Manager  
Mountain Coal Company  
P.O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

Re: Division Order DO-91A Response Reviews, Gordon Creek #2, #7, and #8 Mines,  
ACT/007/016-DO-91A, Folder #2, Carbon County, Utah

Enclosed please find the reviews of your responses to the above-noted Division Order. If you have any questions, please call me.

Sincerely,



Pamela Grubaugh-Littig  
Permit Supervisor

pgl  
Enclosure:



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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June 22, 1992

TO: Pamela Grubaugh-Littig, Permit Supervisor  
FROM: Henry Sauer, Senior Reclamation Soils Specialist *HS*  
RE: Division Order DO-91A Response Review, Gordon Creek #2, #7 and #8 Mines, ACT/007/016, Folder #2, Carbon County, Utah

SYNOPSIS

The permittee has responded (received May 7, 1992) to Division Order DO-91A. Many issues which were not adequately addressed in the permittee's response remain unresolved. The majority of the issues include unsubstantiated claims, incomplete analysis of the reclamation procedures, and a disregard for regulatory and permitting requirements.

The forthcoming review includes Division Order deficiencies and deficiencies noted during this writer's comprehensive review of the reclamation plan for the #2, #7 and #8 Mines.

TECHNICAL ANALYSIS

R645-301-233. Topsoil Substitutes and Supplements

1) On page 8-27 of the Permit Application Package (PAP) the permittee commits to collecting and analyzing spoil material by dividing the mine site into ten square meter grid sections and randomly sampling the soil/spoil from 10% of the grids. The results from the soil/spoil laboratory analyses will be employed to determine the suitability of the proposed substitute topsoil material (fill material) for the #2 Mine. Additionally, as a means of identifying the extent of unsuitable material (i.e., Sodium Absorption Ratio > 12) in the vicinity of soil sample site location #3 (Plate 8-1a), soil samples will also be collected and analyzed.

The PAP specifically states that the collection and analysis will proceed "within ninety days of reclamation." If one considers the first date of seeding to be no earlier than September 1, 1992 (page 3-88A of the Division Order) then soil/spoil sample collection should have occurred during the month of June, 1992.

The soil/spoil sampling plan outlined in the PAP has not been implemented to date (personal communication with Mr. Dan Guy). Nor has the permittee submitted, for Division approval, alternative proposals for the collection and laboratory analysis of soil/spoil material.

The permittee must implement the approved soil/spoil sampling plan immediately.

2) On page 3-38 of the PAP the operator states topsoil will not be redistributed on slopes that exceed 70 percent (approximately 1.5h:1v slopes). However, the permittee does not describe, identify or physicochemically characterize the plant growth material which will remain on slopes greater than 70 percent.

The permittee must therefore substantiate the suitability the aforementioned material as a substitute topsoil material for final reclamation. In addition, the permittee must depict, on an appropriate map or plate, the areas which will not have topsoil redistributed on the surface.

#### R645-301-242. Soil Redistribution

The Division believes that in many circumstances where large textural differences exist between the regraded spoil and the redistributed topsoil abrupt interfaces are created. These interfaces tend to increase the lateral movement of percolating soil water which may form failure planes and induce chemical hard pans. Therefore, spoil material must be deep ripped to at least 12 inches below the spoil surface. In addition, suitable regraded spoil and the initial lift of soil material (i.e., 6 inches) should be deep ripped simultaneously to avoid the creation of an impenetrable interface between the soil and spoil material.

On page 3-85 and 8-31 of the PAP the permittee commits to breaking up surface clods. The Division believes that clod dissipation is unnecessary in areas where seed will be broadcast and/or where the soil structural condition will not prohibit the operation of conventional drill seeding equipment and/or where there is an ample fine earth fraction.

#### R645-301-243. Soil Nutrients and Amendments

Page 3-85 of the PAP refers to gaining valuable information from the Gordon Creek No. 3 and No. 6 Mines to help determine the type(s) and rate(s) of fertilizer application. The applicant must submit a fertilizer and amendment plan which incorporates the information gained from the G.C. #3 and #6 Mines.

The permittee must also submit a fertilizer and amendment plan which includes the soil sampling procedure employed during final reclamation. This plan should include sampling frequency, and field and laboratory procedures employed.

#### R645-301-244. Soil Stabilization

The permittee must describe the mechanisms by which redistributed topsoil will be stabilized to effectively control erosion on slopes steeper than 3h:1v.

#### R645-301-553.700. Backfilling and Grading

The permittee's proposal to retain highwalls at the No. 2 Mine is unacceptable for the following reason:

- 1) The claim that the fill material is not available because of contamination. The PAP contain no physicochemical data or fill profile descriptions which substantiates this claim. In fact the fill material in question was originally estimated (page 3-45, revision date: 8/10/89) to contain no more than two percent (by volume) contaminated material and was also proposed as a substitute topsoil for final reclamation. In the permittee's response to the Division Order, estimated volume of contaminated material increases to 10-20%. No information or calculations are provided to indicate how this estimate was revised or derived.

- 2) On page 3-83.1 of the PAP (revised 8/10/89) the permittee states that "...most of the mine site [No. 2 Mine] is located in the canyon bottom and there are no obvious rock ledge outcrops, no problems are anticipated in recovering the require amount of material..." In the response to the Division Order, the permittee claims that "Slopes to the canyon bottom are extremely steep and represent extremely hazardous areas on which to operate machinery." These two statements are contradictory.

In addition, if the material which comprises the No. 2 Mine yard is fill material, excavation down to the original surface can be controlled through backfilling and grading designs. These designs could easily prevent hazardous operating conditions for machinery operators.

- 3) The permittee claims that there are natural rock ledges in the area. The area immediately surrounding the mine site does not contain, to my knowledge, natural cliff faces.

jbe  
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DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

  
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June 19, 1992

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Jesse Kelley, Reclamation Engineer *JK*

RE: Review of Revised Reclamation Plan, Mountain Coal Company,  
Gordon Creek #2, #7 & #8 Mine, ACT/007/016, Folder #2, Carbon  
County, Utah

SYNOPSIS

Mining operations ceased at this site in December of 1990. From that time until early 1992, the Division and the operator had a number of discussions to try to resolve several problems with the reclamation plan prior to the actual commencement of reclamation activities.

Among the problems with the reclamation plan was the presence of highwalls, the reclamation of which the reclamation plan did not adequately provide for under the R645 rules. On June 6, 1991, the Division issued Division Order DO-91A, which required that the operator make proper provision for reclamation of the highwalls. On May 7, 1992, partly in response to DO-91A and partly in response to the Division's other concerns, the operator submitted a completely revised reclamation plan. This memorandum is this writer's review of the revised reclamation plan.

ANALYSIS

The revised reclamation plan is still inadequate for three reasons.

First, the operator fails to demonstrate that there is not enough "reasonably available" material to completely reclaim the highwalls in the No. 2 portal area, as required by R645-301-553.520. The operator simply states, on page 3-77 of the revised plan, that the available material is some distance from the highwalls, that it is located in a difficult area in which to operate equipment, and that it may be contaminated with coal. None of these is adequate reason for not using all the available material for complete reclamation of the No. 2 highwalls.

Second, the operator states, on page 3-78 of the revised reclamation plan, that it is his intention to only partially reclaim the No. 7 highwall. He bases his intention on a stability analysis done by J.F.T. Agapito & Associates, Inc. of Grand Junction, Colorado, which is included in the revised reclamation plan as Appendix 12. This study concludes that, due to the material properties and geometric constraints peculiar to this site, it is not possible to completely reclaim the No. 7 highwall. The study further proposes a range of possible slopes for the highwall fill, one group based on a safety factor of 1.3 and another group based on a safety factor of 1.5. The operator bases the final highwall fill geometry on the slopes where the assumed safety factor is 1.5. But the required safety factor is not 1.5, but 1.3 (see R645-301-553.130). And according to the Agapito study, this might make it possible, given adequate room in the canyon bottom, to reclaim much more of the No. 7 highwall without greatly increasing the slope of the fill. The operator must explore this possibility and provide a more complete discussion of it in the reclamation plan.

Third, the operator states, on pages 3-77B and 3-81 of the revised reclamation plan, that there are some "minor seeps" in the highwall areas and that these seeps will be allowed to flow over the fill by way of armored channels. It has been the writer's understanding that all of these seeps would be covered by fill material and would therefore have to be channelled through a layer of permeable material in order to prevent them from jeopardizing the stability of the fills. The operator needs to provide more information about the seeps, including exactly where they appear on the highwalls, their respective flow volumes, and whether or not they will have the potential to destabilize the highwall fills.

### RECOMMENDATIONS

It is recommended that the operator provide the required additional information relative to the reclamation plan.

jbe  
GCREC.MEM

Norman H. Bangertter  
Governor  
Dee C. Hansen  
Executive Director  
Dianne R. Nielson, Ph.D.  
Division Director

STATE OF UTAH  
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June 19, 1992

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Susan M. White, Reclamation Biologist *SMW*

RE: Review of Gordon Creek #2, #7 and #8 Reclamation Plan, Mountain Coal Company, Gordon Creek #2, #7 & #8 Mines, ACT/007/016, Folder #2, Carbon County, Utah

Synopsis

The reclamation plan received by the Division on May 7, 1992 in response to Division Order DO-91A was reviewed as it pertains to biology and land use. Numerous deficiencies are noted below.

Analysis

The below listed deficiencies must be resolved prior to reclamation.

- 1) Page 3-85 and 3-88 the permittee states that seedbed preparation on less than 40% slopes will include discing or harrowing to be followed by drill seeding. It has been the Division's experience that discing and drill seeding reduce surface roughness and therefore, vegetative success. Gouging or ripping areas should be sufficient seedbed preparation. The Division would be receptive to approving broadcast seeding (hydroseeding is a form of broadcast seeding) followed by light raking as the seed application method for the entire site.
- 2) The permittee must commit to raking all broadcast seeded areas.
- 3) A commitment must be made to use erosion control matting on all slopes steeper than 2:1. Hydromulch has not been shown to be adequate to control erosion and/or establish vegetation on these steep slopes.

- 4) Page 3-90 and 3-91 describes the permanent reclamation seed mixture. Please change or correct the following.
  - a) Northern milkvetch is what species of Astragalus? Northern sweetvetch, Hedysarum boreale, is desirable in reclamation seedings and may be available if ordered now.
  - b) Eriogonum corymbosum is a shrub, the common name is not Purple Daisy Fleabane. Please check as to availability of E. corymbosum prior to adding to the list.
  - c) "Bandera" Rocky Mountain Penstemon, Penstemon strictus, may be better suited to the elevation than Palmer pensemon.
  - d) The seed application rate for Bitterbrush and Mountain Mahogany provide for only .17 and .6 seeds per square foot, respectively. Please increase these seed rates.
  - e) "Hobble Creek" big sagebrush, Artemisia tridentata ssp. vasseyana is a newly released sagebrush that is very robust and palatable. Please substitute this for A. t. ssp. tridentata as listed.
  - f) The entire seeding rate (except Bitterbrush and Mountain Mahogany) is high and should be reduced by about 25 percent.
- 5) All seed should be ordered now. If ordered now, seed can be tested to insure that it conforms to all state and federal seed laws prior to ground application.
- 6) Shrub ordering may already be to late to obtain all the desired species. I suggest that the operator order the shrubs now.
- 7) The operator has proposed an entirely new vegetative standard for success. These success standards do not comply with the standards required for the stated postmining land use. Please correct.

- 8) The proposed "stock" watering pond and permanent impoundment designs must be endorsed by the Division of Wildlife Resources since the postmining land use is wildlife habitat.
- 9) Numerous springs are on site. Please submit an augmented seed and/or planting plan for these critical habitat.

Recommendation

The operator must correct the above noted problems with the proposed reclamation plan. If the operator desires, I would be available to meet and discuss success standards.

The operator should also be reminded that approval of these current proposed changes will require changes to the remainder of the permit so as not to contain contradictory information.

jbe  
007016.RGC



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

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June 3, 1992

TO: Pamela Grubaugh-Littig, Permit Supervisor ✓

FROM: Thomas Munson, Senior Reclamation Hydrologist 

RE: Reclamation Plan, Mountain Coal Company, Gordon Creek #2, #7, and #8 Mines, ACT/007/016, Folder #2, Carbon County, Utah

Synopsis

The Division received a reclamation only plan on the Gordon Creek #2, #7, and #8 Mines on May 7, 1992. The review on this plan will incorporate, where appropriate, the necessary data from the original plan.

Analysis

The initial  cursory  review of this plan for the hydrology portion of the Reclamation plan indicated that the plan has left out some significant information, regarding design calculations for the diversions and the ponds.

Ponds

- 1) No stage capacity curve.
- 2) No identification of maximum sediment storage and cleanout elevations based on data.
- 3) No stage discharge curve.
- 4) No maintenance plan.
- 5) No justification of post-mining use with a letter from the land owner. If livestock is the post-mining use of this structure then it must be designed with this in mind (i.e., 5 to 1 sloped ramps for entry into the pond).
- 6) No design for the stock watering pond found in the Right fork of Bryner Canyon.

Diversions

The overall plan has changed enough from the originally proposed plan that the Hydrology section is extremely confusing and it is a recommendation that the operator be required to revamp and reorganize this section of the plan to

remove any information which does not apply. It is also a recommendation that the operator supply accurate profiles and cross-sections of all proposed diversions whether it be to capture a seep or established drainage. A hydrology map showing all sub drainages contributing to each channel will be required where the diversion captures surface-water runoff. Diversions capturing just springs or seeps and no surface runoff can be sized based on expected flow.

All data used to determine slopes, drainage areas, velocities, cross-sections, etc., must be combined into table corresponding to referenced numbered diversions and/or specific sections of diversions on a Plate.

The reclaimed channel profiles shown on Plate 3-10 are not accurate and do not reflect actual conditions as shown in the new plan.

The use of check dams in all miscellaneous diversions using Figure 3-10 does not work. The operator is using a generic design put together by a hydrologist at the Division (referenced from Burchard Heede's design parameters) without even looking at the design parameters of each diversion (i.e., design calls for a structure 24-30 inches high when the ditches described in the plan are 12 inches deep.)

The plan fails to identify correctly extent of reclaimed drainages in profiles or on Plates (i.e., outlet of the sediment pond just ends at the end of the Plate without showing how it will join with the creek.)

### Recommendations

Overall, the plan has many loose ends and inaccurate representations between the old plan and the new plan and therefore, it is my recommendation that a totally new hydrology plan be assembled, deleting all the inappropriate information from the old plan. A new plan then be put together with all the necessary information. My review has been somewhat cursory in nature and based on the number of inconsistencies found, as well as, missing information, makes it imperative that more time and energy be put into the assembly of this document before a formal review can take place.

DOGM JBE ACT/007/016-DO-92A #3

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