



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

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June 16, 1999

Gary Gray, Resident Agent
Genwal Resources, inc.
P. O. Box 1420
Huntington, Utah 84528

Re: Deficiencies in 50 Acre Incidental Boundary Change Application, Genwal Resources, Inc., Crandall Canyon Mine, ACT/015/032-IBC99-1, Folder #3, Emery County, Utah.

Dear Mr. Gray:

The Division has completed a review of your application to add 50 acres to your Crandall Canyon Permit. Your application has some deficiencies in it that will need to be corrected before we can approve it. A partial technical analysis is enclosed which discusses the issues that will need to be resolved. Please review it carefully and respond as necessary.

In order for us to keep this in our review loop we will expect a response by no later than July 16, 1999.

Please call if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Daron R. Haddock".

Daron R. Haddock
Permit Supervisor

tam

cc: Price Field Office
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State of Utah
Division of Oil, Gas and Mining
Utah Coal Regulatory Program



Technical Analysis and Findings
Crandall Canyon Mine
ACT/015/032
50 Acre Incidental Boundary Change
June 16, 1999

INTRODUCTION

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 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.

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.

SUMMARY OF DEFICIENCIES

R645-301-114, The applicant needs to supply complete right of entry information.

R645-301-525.440, The Permittee must have a subsidence monitoring plan what will monitor the room and pillar areas for an extended amount of time. The area must be monitored for an extended time since subsidence from room and pillar mining can occur several years after mining stops.

R645-301-525.420, The Permittee will describe how mining will be conducted in the IBC so that subsidence will not occur. The Permittee must show those areas in the 50-acre IBC where pillars will be left to prevent subsidence.

R645-301-731, The application does not contain information on how underground mining will be conducted so as to protect hydrologic systems possibly associated with the Joes Valley fault and to prevent material damage to the hydrologic balance outside the permit area.

R645-301-730, The IBC may require a revision of the existing CHIA determination. The IBC area is entirely within the East Mountain CIA. There are insufficient data to make a determination that there are no probable cumulative hydrologic impacts of the proposed IBC mining upon surface- and ground-water systems in the cumulative impact area, and that the proposed IBC operation will not cause material damage to the hydrologic balance outside the permit area. Specifically, the application does not contain information on how underground mining will be conducted so as to protect hydrologic systems possibly associated with the Joes Valley fault and to prevent material damage to the hydrologic balance in Joes Valley.

TECHNICAL ANALYSIS**TECHNICAL ANALYSIS****ADMINISTRATIVE INFORMATION****OWNERSHIP AND CONTROL**

Regulatory Reference: R645-301-112

Analysis:

The application shows one change to the officers and directors of Genwal Resources, Inc., and to its parent, Andalex Resources, Inc. One person was removed from the list of officers.

Appendix 1-12 contains a list of affiliated companies, and the applicant has revised this appendix. The information should be checked in the applicant violator system.

The only other changes proposed for this section of the plan are to add some wording referencing affiliated coal mining and reclamation operations and a statement that the applicant has no pending interests in lands contiguous to the permit area.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. Information in the revised Appendix 1-12 should be checked against the applicant violator system.

RIGHT OF ENTRY

Regulatory Reference: R645-301-114

Analysis:

The application says Genwal will obtain a coal right of way from the Bureau of Land Management to extend the longwall panels to the west boundary of Section 2 of Township 16 South, Range 6 East, with setup rooms and barrier pillars in the incidental boundary change area. The area is shown on Plates 1-1, 4-4, and 5-2A. The application includes a legal description of the area.

The applicant needs to obtain right of entry for this area before the Division can approve the amendment.

TECHNICAL ANALYSIS**Findings:**

Information provided in the proposal is not considered adequate to meet the requirements of this section of the regulations. Prior to final approval, the applicant must supply the following in accordance with:

R645-301-114, The applicant needs to supply complete right of entry information.

ENVIRONMENTAL RESOURCE INFORMATION**LAND USE AND HISTORIC AND ARCHAEOLOGICAL RESOURCES INFORMATION**

Regulatory Reference: R645-301-411 and R645-301-412

Analysis:

Current land uses in the area are grazing and wildlife, and the proposed mining is not expected to affect these uses. The application would update portions of the plan referencing cemeteries, the Wild and Scenic Rivers System, and the National System of Trails and show that none of these features is in the proposed addition to the permit area.

The applicant has updated maps that show grazing allotments and oil and gas development. The proposed mining should not affect grazing, and Plate 4-3 does not show any oil or gas development in the incidental boundary change area.

The application does not include additional information about cultural resources in the area; however, since no surface disturbance would occur and subsidence is unlikely, no information should be needed. The State Historic Preservation office has previously concurred with similar proposals, and the Division should recommend a cultural resources clearance based on no surface disturbance.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations. The Division should recommend a cultural resources clearance from the Division of State History based on no surface disturbance.

TECHNICAL ANALYSIS

VEGETATION AND FISH AND WILDLIFE INFORMATION

Regulatory Reference: R645-301-321 and R645-301-322

Analysis:

Vegetation and fish and wildlife maps have been updated to include the incidental boundary change area. Vegetation in the area consists primarily of aspen and conifer communities, and these would be expected to provide habitat for big game calving and fawning and for tree-nesting raptors. The area contains poor habitat for cliff-nesting raptors, and no nests were found in the area in the 1998 raptor survey.

No listed threatened or endangered species are known to inhabit the area with the possible exception of bald eagles and peregrine falcons that might fly over occasionally.

Because the proposal is for underground development only and because surface effects are unlikely, no further information is required.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:**Baseline ground-water information.**

Seep and spring surveys were conducted in the area around the IBC in 1987, 1989, and 1990. Plate 7-12 in the current MRP shows locations. No seeps or springs were identified in the IBC area (p. 7-3).

Findings:

No other environmental hydrologic resource information has been submitted with the IBC application. Hydrologic resource information provided in the IBC application and the current MRP is considered adequate to meet the requirements of this section.

TECHNICAL ANALYSIS

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Affected Area Boundary Maps

The boundaries of the areas to be affected over the estimated total life of the proposed underground mining activities are shown on revised versions of Plates 1-1, 3-1, 3-2, 4-1, 4-2, 4-3, 4-4, and 5-2A. Plate 5-2A shows the size, sequence, and timing of mining of the IBC and adjacent areas.

Mine Workings Maps

Plates 5-1 and 5-2 in the current MRP show mine workings in the permit and adjacent areas. Plate 5-2A shows location and extent of recent and projected underground mine workings in the proposed IBC and immediately adjacent areas.

Permit Area Boundary Maps

The boundaries of the permit area upon which the applicant has the legal right to enter and begin underground mining activities or upon which an application has been made to the BLM for a right-of-way in the proposed IBC are shown on revised versions of Plates 1-1, 3-1, 3-2, 4-1, 4-2, 4-3, 4-4, and 5-2A.

Surface and Subsurface Manmade Features Maps

There are no surface and subsurface manmade features within or passing over the IBC or permit areas (p. 4-3).

Well Maps

Plate 4-3 shows boundaries of the Oil and Gas Analysis Areas and also locations of the existing gas wells in the IBC and adjacent areas.

Surface and Subsurface Ownership Maps

Plate 4-4 shows surface ownership. Plate 1-1 shows subsurface ownership within the current permit area; however, it does not show surface ownership in the IBC and adjacent areas.

Certification

Maps and plans included in the IBC application have been certified by a qualified, registered, professional engineer.

No maps pertaining to the following were with the IBC submittal:

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Archeological Site Maps
Coal Resource and Geologic Information Maps
Existing Structures and Facilities Maps
Existing Surface Configuration Maps
Cultural Resource Maps
Monitoring Sampling Location Maps
Subsurface Water Resource Maps
Surface Water Resource Maps
Vegetation Reference Area Maps
Contour Maps

Findings:

Maps, plans, and cross sections of resource information provided in the IBC application are considered adequate to meet the requirements of this section.

OPERATION PLAN**FISH AND WILDLIFE RESOURCE PROTECTION PLAN****Analysis:**

The current mining and reclamation plan contains plans for monitoring and protecting wildlife. The incidental boundary change area is almost entirely for setting up longwall rooms and barrier pillars, so subsidence is unlikely. Therefore, additional protection plans are not required.

The application includes some information about the Colorado cutthroat trout that were found in Crandall Creek before it was culverted and about the mitigation work done for this fish and the riparian areas. This does not relate directly to the current proposal, but it can be approved.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

COAL RECOVERY

Regulatory Reference: 30 CFR Sec. 817.59; R645-301-522.

Analysis:

The IBC is a narrow strip between the Joes Valley fault on the west and the existing mine permit area on the east. The addition of the IBC will allow GENWAL to mine additional coal in Section 2 and

TECHNICAL ANALYSIS

reserves in the eastern edge of Sections 3 and 10 that would not be minable from the west because of the Joes Valley fault and not from the north or south because of limited access.

GENWAL is to obtain a right-of-way from the BLM for the IBC area. The right-of-way is intended to accommodate the setup rooms and barrier pillars for several longwall panels in Section 2, allowing those longwall panels to be extended farther west than is now possible. This extension of the longwall panels will recover approximately 300,000 additional tons of coal, and an estimated 40,000 tons of coal will be recovered by continuous mining in the IBC area.

Findings:

Coal Recovery information provided in the IBC submittal is considered adequate to meet the requirements of this section.

SUBSIDENCE CONTROL PLAN

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

Analysis:**Renewable resources survey.**

In the Surface Features and Facilities Subject to Subsidence section of the amendment the Permittee includes the following:

Both forks of Crandall Creek are considered to be perennial at least up to the federal lease boundary with State Lease ML-21568.

The Division hydrologist reviewed and approved that statement.

Subsidence control plan.

- (1) A description of the method of coal removal, such as longwall mining, room-and-pillar removal, hydraulic mining, or other extraction methods, including the size, sequence, and timing for the development of underground workings.

First mining only will be done in the 50-acre IBC to prevent subsidence. Stipulation #20 with the USFS requires that a subsidence free zone be maintained within a 22° angle of draw from the Joe's Valley fault. Therefore, the Permittee has no choice but to use first mining only.

- (2) A map of underground workings which describes the location and extent of areas in which planned-subsidence mining methods will be used and which includes all areas where measures will be taken to prevent or minimize subsidence and subsidence related damage and where appropriate, to correct subsidence-related material damage.

Plate 6-2 shows the subsidence boundaries. The plate was not updated since the Permittee does

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not expect subsidence to occur from mining in the 50-acre IBC.

- (3) A description of the physical conditions, such as depth of cover, seam thickness, and lithology, which affect the likelihood or extent of subsidence and subsidence-related damage.

No changes were made to this section.

- (4) A description of monitoring, if any, needed to determine the commencement and degree of subsidence so that, when appropriate, other measures can be taken to prevent, reduce, or correct material damage.

In the Subsidence Monitoring section of the PAP the Permittee proposes changing the subsidence monitoring system. Currently, if the Permittee has not detected any subsidence at a particular point for a period of two years, the point will be monitored every other year. The Permittee proposes to conduct monitoring annually until subsidence of less than one foot has been measured for three consecutive surveys showing that subsidence is substantially complete. The Division does not want the Permittee to stop subsidence monitoring after years of no substantial movement because subsidence in room and pillar section may not occur until several years after mining ends. Therefore, the Division will not approve this change for room and pillar sections.

- (5) Except for those areas where planned subsidence is projected to be used, a detailed description of the subsidence control measures that will be taken to prevent or minimize subsidence and subsidence-related damage, including, but not limited to: backstowing or backfilling of voids; leaving support pillars of coal; leaving areas in which no coal is removed, including a description of the overlying area to be protected by leaving the coal in place; and, taking measures on the surface to prevent material damage or lessening of the value or reasonably foreseeable use of the surface.

The first mining only will be done in the 50-acre IBC.

- (6) A description of the anticipated effects of planned subsidence, if any.

The Permittee does not anticipate any subsidence in the IBC area.

- (7) A description of the measures to be taken to mitigate or remedy any subsidence-related material damage to, or diminution in value or reasonably foreseeable use of the land, or structures or facilities to the extent required under State law.

The Permittee committed to mitigate any subsidence damage that they caused.

- (8) Other information specified by the Division as necessary to demonstrate that the operation will be conducted in accordance with the performance standards for subsidence control.

The Division does not require any other subsidence information for this amendment.

TECHNICAL ANALYSIS**Performance standards for subsidence control.**

The Permittee committed to meet the performance standards for subsidence control.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-525.440, The Permittee must have a subsidence monitoring plan what will monitor the room and pillar areas for an extended amount of time. The area must be monitored for an extended time since subsidence from room and pillar mining can occur several years after mining stops.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:**Coal mine waste.**

In Section 5.28.30 of the PAP the Permittee states:

The waste generated by the normal underground mining activities will be brought outside the mine for disposal which includes, but not limited to the following: wood, paper, scrap metal, belting, etc., could possibly be disposed of underground on pillar lines in accordance with MSHA regulations.

The Permittee proposes to remove the following:

... which include, but not limited to the following: wood, paper, scrap metal, belting, etc., could possibly be disposed of underground on pillar lines in accordance with MSHA regulations.

The Permittee also makes a commitment to remove scrap metal and used equipment from the mine unless safety considerations prevent removal.

The Division and the USFS now require all permittees to inventory the noncoal waste that is left underground. By removing as much of the noncoal waste as possible from underground the Permittee will have less material to inventory.

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Findings:

The Permittee met the minimum requirements of this section.

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:

Affected area maps.

Plate 1-1 show the existing permit boundaries in addition to the 50-acre IBC. Other maps and plate also show the proposed change to the permit boundary.

Mine workings maps.

Plate 5-2A shows the projected mine workings for the existing permit boundary and the proposed 50-acre IBC. As mentioned in the subsidence section of this TA the Permittee must give the Division detailed information about pillar design and placement. That information should be shown on Plate 5-2A.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-525.420, The Permittee will describe how mining will be conducted in the IBC so that subsidence will not occur. The Permittee must show those area in the 50-acre IBC where pillars will be left to prevent subsidence.

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:**General.**

The application does not contain information on how underground mining will be conducted so as to protect hydrologic systems possibly associated with the Joes Valley fault and to prevent material

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damage to the hydrologic balance outside the permit area.

Ground-water monitoring.

No additional ground-water monitoring is proposed

Surface-water monitoring.

No additional surface-water monitoring is proposed.

No information pertaining to the following was with the IBC submittal:

Acid and toxic-forming materials.**Transfer of wells.****Discharges into an underground mine.****Gravity discharges from underground mines.****Water quality standards and effluent limitations.****Casing and sealing of wells.****Findings:**

R645-301-731, The application does not contain information on how underground mining will be conducted so as to protect hydrologic systems possibly associated with the Joes Valley fault and to prevent material damage to the hydrologic balance outside the permit area.

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:**Affected area maps.**

The boundaries of the areas to be affected over the estimated total life of the proposed underground mining activities are shown on revised versions of Plates 1-1, 3-1, 3-2, 4-1, 4-2, 4-3, 4-4, and , 5-2A. Plate 5-2A shows the size, sequence, and timing of mining of the IBC and adjacent areas.

Mine workings maps.

Plate 5-2A shows location and extent of know workings of active, inactive, or abandoned underground mines the proposed IBC and immediately adjacent areas.

TECHNICAL ANALYSIS

No maps pertaining to the following were with the IBC submittal:

Mining facilities maps.

Monitoring and Sampling Location Maps.

Certification Requirements.

Maps and plans included in the IBC application have been certified by a qualified, registered, professional engineer.

Findings:

Maps, plans, and cross sections of mining operations provided in the IBC submittal are considered adequate to meet the requirements of this section.

RECLAMATION PLAN

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

In Section 5.42.60 of the PAP, the Permittee clarifies the reclamation plan for the main road through the mine site. The USFS now wants the Permittee to remove the asphalt surface. The Permittee restated their commitment to reclaim the road to the specification stated in the road use permit.

Findings:

The Permittee met the minimum requirements of this section.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

TECHNICAL ANALYSIS**Hydrologic reclamation plan.****Analysis:**

This section on hydrologic reclamation information and plans does not apply to the IBC proposal. No information pertaining to the following was with the IBC submittal:

Ground-water monitoring.

Surface-water monitoring.

Acid and toxic-forming materials.

Transfer of wells.

Discharges into an underground mine.

Gravity discharges.

Water quality standards and effluent limitations.

Diversions.

Stream buffer zones.

Sediment control measures.

Siltation structures.

Sedimentation ponds.

Postmining rehabilitation of sedimentation ponds, diversions, impoundments, and treatment facilities.

Other treatment facilities.

Exemptions for siltation structures.

Discharge structures.

Impoundments.

Casing and sealing of wells.

Findings:

No hydrologic reclamation information has been submitted with the IBC application. Hydrologic reclamation information provided in the current MRP is considered adequate to meet the requirements of this section.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

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

Analysis:

No maps pertaining to the following were with the IBC submittal:

Reclamation monitoring and sampling location maps.

Affected Area Boundary Maps

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Bonded Area Map
Reclamation Backfilling and Grading Maps
Reclamation Facilities Maps
Final Surface Configuration Maps
Reclamation Monitoring and Sampling Location Maps
Certification Requirements

Findings:

There will be no surface disturbance from mining in the IBC. This section on maps, plans, and cross sections of reclamation operations does not apply to the IBC proposal.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

The IBC may require a revision of the existing CHIA determination. The IBC area is entirely within the East Mountain CIA. There are insufficient data to make a determination that there are no probable cumulative hydrologic impacts of the proposed IBC mining upon surface- and ground-water systems in the cumulative impact area, and that the proposed IBC operation will not cause material damage to the hydrologic balance outside the permit area. Specifically, the application does not contain information on how underground mining will be conducted so as to protect hydrologic systems possibly associated with the Joes Valley fault and to prevent material damage to the hydrologic balance in Joes Valley.

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