



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

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May 30, 2002

Chuck Semborski, Environmental Supervisor  
Energy West Mining Company  
P.O. Box 310  
Huntington, Utah 84528

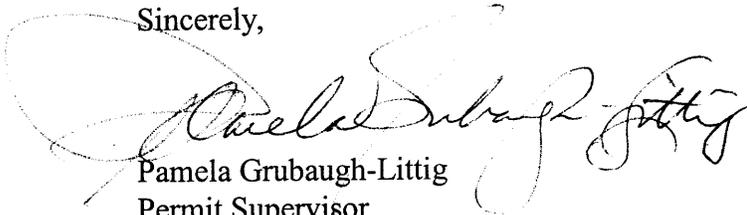
Re: Phase I Bond Release, Energy West Mining Company, Cottonwood/Wilberg Mine,  
C/015/019-BR00D-3(a), Outgoing File

Dear Mr. Semborski:

The above-referenced bond release has been reviewed. As a result of the inspection, there are deficiencies that must be adequately addressed prior to approval. A copy of our Technical Analysis is enclosed for your information. In order for us to continue to process your application, please respond to these deficiencies by August 22, 2002.

If you have any questions, please call me at (801) 538-5268.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Supervisor

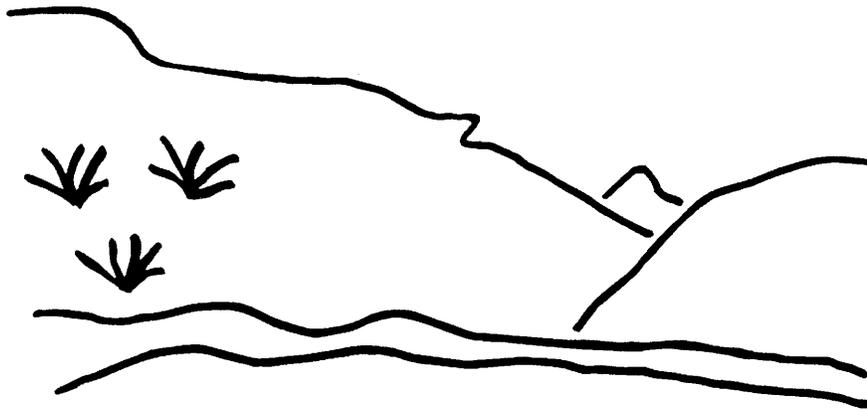
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Enclosure

cc: Price Field Office

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# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

Cottonwood/Wilberg Mine  
Phase I Bond Release  
C/015/019-BR00D-3(a)  
Technical Analysis  
May 21, 2002

INTRODUCTION

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## TECHNICAL ANALYSIS

### INTRODUCTION

Drainage control at the Cottonwood Fan Portal (CFP) site is not in accordance with the approved reclamation plan (R645-301-880.310 and R645-301-761). Prior to approval for Phase 1 bond release, the applicant must respond adequately to the deficiencies identified in this technical memorandum. The Mining and Reclamation Plan should be modified to relate that there will not be an undisturbed drainage collection ditch above the site and to describe reclamation of ditch UD-3. Damage from erosion at the south end of UD-3 should be repaired (R645-301-742.311).

The 6.1 acre CFP site is located directly across Cottonwood Canyon from the Trail Mountain Mine in Emery County. The area was cleared of vegetation and topsoil in 1980 in anticipation of construction of fan portals for the Cottonwood/Wilberg Mine, but the portals were never built. The soils cast aside from the disturbance were seeded in 1981. These reclaimed, side-cast soils remain on the slope above the Cottonwood Canyon Road as the final configuration of the site. Backfilling, grading and seeding of the remaining area were done in 1998.

The CFP disturbed area surrounds the Old Johnson Mine site. The Old Johnson Mine is not part of the disturbed area and is not covered by the reclamation bond; however, the road to this old mine was disturbed by the CFP work and is covered by the bond. The road has been reclaimed up to the Old Johnson Mine site boundary (a rough trail to the Old Johnson Mine was left at the request of SHPO). The section of the road within the Old Johnson Mine site was not backfilled or graded but is was seeded along with the reclaimed areas in 1998.

The CFP site was not returned to a contour similar to adjacent areas because of slope-stability concerns. Vegetation supplies good cover in spite of the dryness of the past four years. The Division's hydrologist recommended removal of ditch UD-3 (see the paragraph at \* on page 3 of the attached copy of the February 4, 1998 memo), but this undisturbed ditch was retained as a permanent diversion to protect stability of the reclaimed site. Runoff has breached ditch UD-3 in several places. Energy West is now of the opinion that the revegetated site will not be jeopardized by overland flow from UD-3 and therefore, have not repaired the berm of UD-3. Because ditch UD-3 has not been maintained to perform as described in the MRP (Plates 4-8 CM-10828-CP and 4-9 CM-10827-CP), the Division requests that the MRP reflect this change in thinking and that UD-3 be reclaimed.

Erosion of the hillside at the south end of the undisturbed ditch UD-3 was discussed on April 2, 2002 during a field inspection of the site. Energy West indicated that steps to reclaim the gully had been taken once before, but seemed open to taking further corrective action while the AML work at the Johnson Mine is in progress during the summer of 2002.

**INTRODUCTION**

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Surface runoff and seepage report to ditch DD-4 and flow to a sediment pond, which is generally dry. Silt fences in ditch DD-4 are full to capacity with sediment. Energy West indicated these silt fences would be removed when the pond is taken out, probably during 2002. When the pond is removed, Energy West intends to salvage the organic-rich sediment from the pond for use as a surface covering in reclamation of the pond area.

RECLAMATION PLAN

## RECLAMATION PLAN

### APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Minimum Regulatory Requirements:

Note: The following requirements have been suspended insofar as they authorize any variance from approximate original contour for surface coal mining operations in any area which is not a steep slope area.

Criteria for permits incorporating variances from approximate original contour restoration requirements.

The Division may issue a permit for nonmountaintop removal mining which includes a variance from the backfilling and grading requirements to restore the disturbed areas to their approximate original contour. The permit may contain such a variance only if the Division finds, in writing, that the applicant has demonstrated, on the basis of a complete application, that the following requirements are met:

- (1) After reclamation, the lands to be affected by the variance within the permit area will be suitable for an industrial, commercial, residential, or public postmining land use (including recreational facilities).
- (2) The criteria for the proposed post mining land use will be met.
- (3) The watershed of lands within the proposed permit and adjacent areas will be improved by the operations when compared with the condition of the watershed before mining or with its condition if the approximate original contour were to be restored. The watershed will be deemed improved only if: the amount of total suspended solids or other pollutants discharged to ground or surface water from the permit area will be reduced, so as to improve the public or private uses or the ecology of such water, or flood hazards within the watershed containing the permit area will be reduced by reduction of the peak flow discharge from precipitation events or thaws; the total volume of flow from the proposed permit area, during every season of the year, will not vary in a way that adversely affects the ecology of any surface water or any existing or planned use of surface or ground water; and, the appropriate State environmental agency approves the plan.
- (4) The owner of the surface of the lands within the permit area has knowingly requested, in writing, as part of the application, that a variance be granted. The request shall be made separately from any surface owner consent given for right-of-entry and shall show an understanding that the variance could not be granted without the surface owner's request.

If a variance is granted, the requirements of the post mining land use criteria shall be included as a specific condition of the permit, and, the permit shall be specifically marked as containing a variance from approximate original contour.

A permit incorporating a variance shall be reviewed by the Division at least every 30 months following the issuance of the permit to evaluate the progress and development of the surface coal mining and reclamation operations to establish that the operator is proceeding in accordance with the terms of the variance. If the permittee demonstrates to the Division that the operations have been, and continue to be, conducted in compliance with the terms and conditions of the permit, the review specified need not be held. The terms and conditions of a permit incorporating a variance may be modified at any time by the Division, if it determines that more stringent measures are necessary to ensure that the operations involved are conducted in compliance with the requirements of the regulatory program. The Division may grant variances only if it has promulgated specific rules to govern the granting of variances in accordance with the provisions of this section and any necessary, more stringent requirements.

#### Analysis:

The CFP site was not returned to a contour similar to adjacent areas because of slope-stability concerns. There are five terraces numbered 1 through 4 and 4a. Bare-rock ledges separate the terraces. Soil was backfilled against the rock ledges to cover exposed coal seams and restore some slope to the area. There has been a small but noticeable gully eroded into the hillside near the south end of undisturbed ditch UD-3, and the disturbed area boundary includes this disturbance.

## Findings:

The reclamation that has been done is sufficient to meet the AOC requirements of the coal mining rules; however, the small gully and related deficiencies are discussed further in sections that follow.

## BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

### Minimum Regulatory Requirements:

#### General

Disturbed areas shall be backfilled and graded to: achieve the approximate original contour; eliminate all highwalls, spoil piles, and depressions; achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long term static safety factor of 1.3 and to prevent slides; minimize erosion and water pollution both on and off the site; and, support the approved postmining land use.

The postmining slope may vary from the approximate original contour when approval is obtained from the Division for a variance from approximate original contour requirements, or when incomplete elimination of highwalls in previously mined areas is allowed under the regulatory requirements. Small depressions may be constructed if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist revegetation.

If it is determined by the Division that disturbance of the existing spoil or underground development waste would increase environmental harm or adversely affect the health and safety of the public, the Division may allow the existing spoil or underground development waste pile to remain in place. Accordingly, regrading of settled and revegetated fills to achieve approximate original contour at the conclusion of underground mining activities shall not be required if: the settled and revegetated fills are composed of spoil or nonacid- or nontoxic-forming underground development waste; the spoil or underground development waste is not located so as to be detrimental to the environment, to the health and safety of the public, or to the approved postmining land use; stability of the spoil or underground development waste must be demonstrated through standard geotechnical analysis to be consistent with backfilling and grading requirements for material on the solid bench (1.3 static safety factor) or excess spoil requirements for material not placed on a solid bench (1.5 static safety factor); and, the surface of the spoil or underground development waste shall be vegetated in accordance with the revegetation standards for success, and surface runoff shall be controlled in accordance with the regulatory requirements for diversions.

Spoil shall be returned to the mined-out surface area. Spoil and waste materials shall be compacted where advisable to ensure stability or to prevent leaching of toxic materials. Spoil may be placed on the area outside the mined-out surface area in nonsteep slope areas to restore the approximate original contour by blending the spoil into the surrounding terrain if the following requirements are met: all vegetative and organic materials shall be removed from the area; the topsoil on the area shall be removed, segregated, stored, and redistributed in accordance with regulatory requirements; the spoil shall be backfilled and graded on the area in accordance with the general requirements for backfilling and grading.

Disposal of coal processing waste and underground development waste in the mined-out surface area shall be in accordance with the requirements for the disposal of spoil and waste materials except that a long-term static safety factor of 1.3 shall be achieved.

Exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining shall be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

Cut-and-fill terraces may be allowed by the Division where: needed to conserve soil moisture, ensure stability, and control erosion on final-graded slopes, if the terraces are compatible with the approved postmining land use; or, specialized grading, foundation conditions, or roads are required for the approved postmining land use, in which case the final grading may include a terrace of adequate width to ensure the safety, stability, and erosion control necessary to implement the postmining land-use plan.

Preparation of final-graded surfaces shall be conducted in a manner that minimizes erosion and provides a surface for

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replacement of topsoil that will minimize slippage.

**Analysis:**

**General**

There are five terraces numbered 1 through 4 and 4a. Bare-rock ledges separate the terraces. Soil was backfilled against the rock ledges to cover exposed coal seams and restore some slope to the area.

Erosion of the hillside near the south terminus of undisturbed ditch UD-3 was discussed with Energy West personnel on April 2, 2002 during a field inspection of the site. They indicated that in 1998 ditch UD-3 was extended to convey water above the eroded gully and over to a natural drainage. At that time, slash was placed in the gully along with a silt fence to repair the erosion of the hillside. It was apparent to all in attendance that these measures were not successful. Energy West representatives were non-committal, but seemed open to the possibility of taking further corrective action while labor and equipment are on-site during the AML work at the Johnson Mine during the summer of 2002.

**Findings:**

The reclamation performed is not sufficient to meet the requirements of the coal mining rules. Prior to approval for Phase 1 bond release, the applicant must respond adequately to the following deficiency:

**R645-301- 553.100**, The gully near the end of Ditch UD-3 must be filled, regraded, or otherwise stabilized, then reseeded or replanted.

**MINE OPENINGS**

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

**Minimum Regulatory Requirements:**

Each exploration hole, other drillhole or borehole, shaft, well, or other exposed underground opening shall be cased, lined, or otherwise managed as approved by the Division to prevent acid or other toxic drainage from entering ground and surface waters, to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, fish and wildlife, and machinery in the permit area and adjacent area. Each exploration hole, drill hole or borehole or well that is uncovered or exposed by mining activities within the permit area shall be permanently closed, unless approved for water monitoring or otherwise managed in a manner approved by the Division. Use of a drilled hole or monitoring well as a water well must meet the provisions required to protect the hydrologic balance. This section does not apply to holes drilled and used for blasting, in the area affected by surface operations.

Each mine entry which is temporarily inactive, but has a further projected useful service under the approved permit application, shall be protected by barricades or other covering devices, fenced, and posted with signs, to prevent access into the entry and to identify the hazardous nature of the opening. These devices shall be periodically inspected and maintained in good operating condition by the person who conducts the underground mining activities.

Each exploration hole, other drill hole or borehole, shaft, well, and other exposed underground opening which has been identified in the approved permit application for use to return underground development waste, coal processing waste or water to

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underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed until actual use.

When no longer needed for monitoring or other use approved by the Division upon a finding of no adverse environmental or health and safety effects, or unless approved for transfer as a water well, each shaft, drift, adit, tunnel, exploratory hole, entry way or other opening to the surface from underground shall be capped, sealed, backfilled, or otherwise properly managed, as required by the Division and consistent with the requirements of 30 CFR Section 75.1711. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

### Analysis:

The CFP site is located in Emery County, directly across Cottonwood Canyon from the Trail Mountain Mine. The area was cleared of vegetation and topsoil in 1980 in anticipation of construction of a fan portal for the Cottonwood/Wilberg Mine, but the portals were never built.

The disturbed area surrounds the Old Johnson Mine site, but the Old Johnson Mine site is not included in the disturbed area. The two portals of the Johnson Mine are sealed with concrete block walls, but the wall on the southern portal has been vandalized. These portals are scheduled to be resealed with a second block wall in the summer of 2002, the work to be administered by DOGM's AML section.

### Findings:

The information in this section is sufficient to meet the requirements of the coal mining rules.

## 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.

Minimum Regulatory Requirements:

Hydrologic reclamation plan

The application shall include a plan, with maps and descriptions, indicating how the relevant regulatory requirements will be met. The plan shall be specific to the local hydrologic conditions. It shall contain the steps to be taken during mining and reclamation through bond release to minimize disturbance to the hydrologic balance within the permit and adjacent areas; to prevent material damage outside the permit area; and to meet applicable Federal and State water quality laws and regulations. The plan shall include the measures to be taken to: avoid acid or toxic drainage; prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow; provide water treatment facilities when needed; and control drainage. The plan shall specifically address any potential adverse hydrologic consequences identified in the PHC determination and shall include preventive and remedial measures.

Each application shall contain descriptions, including maps and cross sections, of stream channel diversions and other diversions to be constructed within the proposed permit area to achieve compliance with the performance standards for those structures.

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

Before abandoning a permit area or seeking bond release, the operator shall ensure that all temporary structures are removed and reclaimed, and that all permanent sedimentation ponds, diversions, impoundments, and treatment facilities meet the requirements of this Chapter for permanent structures, have been maintained properly and meet the requirements of the approved reclamation plan for permanent structures and impoundments. The operator shall renovate such structures if necessary to meet the

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requirements of this Chapter and to conform to the approved reclamation plan.

### **Analysis:**

#### **Diversions**

Drainage control is not in accordance with the approved reclamation plan. According to the reclamation plan, undisturbed ditch UD-3 is to be retained as a permanent diversion to prevent disturbance of the steep-slope reclamation in the area revegetated in 1981 (Volume 11: Plate 3-13 and Section R645-301-762.100, page 25). Ditch UD-3 has not been maintained to perform as described in the MRP (Plates 4-8 CM-10828-CP and 4-9 CM-10827-CP). In several places sediment has accumulated and reduced the capacity of the ditch to the point that water has either overflowed or breached the ditch. Energy West representatives believe the ditch will reclaim itself with time and that flow will eventually form natural channels down the hillside. The Division is in agreement with the concept of reclaiming rather than maintaining this ditch. The Mining and Reclamation Plan should be modified to relate that there will not be an undisturbed drainage collection ditch above the site and to describe reclamation of ditch UD-3.

Surface runoff - mainly sheet flow - and seepage from the french drains report to ditch DD-4 and a small sedimentation pond, which is generally dry. There is no planned maintenance for this ditch: Energy West asserts that the county has requested the ditch remain as a terrace to stop debris from rolling down the slope and onto the road: information on the status of ditch DD-4 is supposed to be in an attachment to Chapter 7, but this attachment could not be found. When the pond is removed, Energy West intends to salvage the organic-rich sediment from the pond for use as a surface covering in reclamation of the pond area.

#### **Sediment control measures**

Damage from erosion at the south end of UD-3 should be filled, regraded, or otherwise stabilized, then reseeded or replanted. See discussion under Reclamation Backfilling and Grading (above).

#### **Siltation structures**

Silt fences in ditch DD-4 are full to capacity with sediment. Energy West indicated these silt fences would be removed when the pond is taken out, probably during 2002

#### **Sedimentation ponds**

Surface runoff - mainly sheet flow - and seepage from the french drains report to ditch DD-4 and flow to a sedimentation pond, which is generally dry. Energy West has indicated a desire to remove the pond during 2002. When the pond is removed, Energy West intends to salvage the organic-rich sediment from the pond for use as a surface covering in reclamation of the pond area.

### Findings:

The information in this section is not sufficient to meet the requirements of the coal mining rules. Drainage control is not in accordance with the approved reclamation plan. Prior to approval for Phase 1 bond release, the applicant must respond adequately to the following deficiency:

**R645-301-880.310, -761**, Modify the Mining and Reclamation Plan to relate that there will not be an undisturbed drainage collection ditch above the site and to describe reclamation of ditch UD-3.

**R645-301-121.200**, Include the information concerning the county's request that ditch DD-4 remain as a terrace to stop debris from rolling down the slope and onto the road and provide the Attachment to Chapter 7 with descriptive information on DD4.

## 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.

### Minimum Regulatory Requirements:

Each application shall contain maps, plans, and cross sections which show the reclamation activities to be conducted, the lands to be affected throughout the operation, and any change in a facility or feature to be caused by the proposed operations, if the facility or feature was shown and described as an existing structure.

The permit application must include as part of the reclamation plan information, the following maps, plans and cross sections:

#### Affected area boundary maps

The boundaries of all areas proposed to be affected over the estimated total life of all mining activities and reclamation activities, with a description of size, sequence, and timing of phased reclamation activities and treatments. All maps and cross sections used for reclamation design purposes shall clearly show the affected and permit area boundaries in reference to the reclamation work being accomplished.

#### Bonded area map

The permittee shall identify the initial and successive areas or increments for bonding on the permit application map and shall specify the bond amount to be provided for each area or increment. The bond or bonds shall cover the entire permit area, or an identified increment of land within the permit area upon which the operator will initiate and conduct surface coal mining and reclamation operations during the initial term of the permit. As surface coal mining and reclamation operations on succeeding increments are initiated and conducted within the permit area, the permittee shall file with the Division an additional bond or bonds to cover such increments. Independent increments shall be of sufficient size and configuration to provide for efficient reclamation operations should reclamation by the Division become necessary.

#### Certification Requirements.

Cross sections, maps, and plans required to show the design, location, elevation, or horizontal or vertical extent of the land surface or of a structure or facility used to conduct mining and reclamation operations shall be prepared by, or under the direction of, and certified by a qualified, registered, professional engineer, a professional geologist, or in any State which authorizes land surveyors to prepare and certify such cross sections, maps, and plans, a qualified, registered, professional land surveyor, with assistance from experts in related fields such as landscape architecture.

Each detailed design plan for an impounding structure that meets or exceeds the size or other criteria of the Mine Safety

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and Health Administration, 30 CFR Section 77.216(a) shall: be prepared by, or under the direction of, and certified by a qualified registered professional engineer with assistance from experts in related fields such as geology, land surveying, and landscape architecture; include any geotechnical investigation, design, and construction requirements for the structure; describe the operation and maintenance requirements for each structure; and, describe the timetable and plans to remove each structure, if appropriate.

Each detailed design plan for an impounding structure that does not meet the size or other criteria of 30 CFR Section 77.216(a) shall: be prepared by, or under the direction of, and certified by a qualified, registered, professional engineer, or in any State which authorizes land surveyors to prepare and certify such plans, a qualified, registered, professional land surveyor, except that all coal processing waste dams and embankments shall be certified by a qualified, registered, professional engineer; include any design and construction requirements for the structure, including any required geotechnical information; describe the operation and maintenance requirements for each structure; and, describe the timetable and plans to remove each structure, if appropriate.

**Analysis:**

**Affected area boundary maps**

The sedimentation ponds have been included in the boundary of the area that is being reclaimed for bond release, which helps clarify the sequence and timing of phased reclamation activities, and affected and permit area boundaries are clearly shown in reference to the reclamation work being accomplished.

**Bonded area map**

The sedimentation ponds have been added to the area that is being reclaimed for bond release, so that the initial and successive areas or increments for bonding are identified and the bond amount to can be specified for each area or increment of reclamation.

**Findings:**

The information in this section is sufficient to meet the requirements of the coal mining rules.