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*Lieutenant Governor*

January 28, 2004

Johnny Pappas, Sr. Environmental Engineer  
Plateau Mining Corporation  
P.O. Box 30  
Helper, Utah 84526-0030

Re: Phase I Bond Release Application, Plateau Mining Corporation, Star Point Mine, C/007/0006, Task ID #1768, Outgoing File

Dear Mr. Pappas:

The above-referenced amendment has been reviewed. 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 April 27, 2004.

If you have any questions, please call me at (801) 538-5268 or Wayne Western at (801) 538-5263.

Sincerely,

Pamela Grubaugh-Littig  
Permit Supervisor

an  
Enclosure  
cc: Price Field Office  
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# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

Star Point Mine  
Phase I Bond Release Application  
C/007/0006, Task ID #1768  
Technical Analysis  
January 27, 2004



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## TECHNICAL ANALYSIS

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## TECHNICAL ANALYSIS

The Division ensures compliance with the Surface Mining Control and Reclamation Act of 1977(SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the Permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

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 first 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. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

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.

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**TECHNICAL ANALYSIS**

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## INTRODUCTION

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## INTRODUCTION

The Permittee ceased active operations at the Star Point Mine and began reclamation work. In 2001, reclamation work included demolition of the unit train loadout and subsequent backfilling and grading of the immediate areas. In addition, No. 1 Mine Road area was backfilled and graded. Drainage was then established at the site.

In 2002, the Permittee completed demolition work at the main mine site and backfilling and grading. In addition, in 2002, a postmining land use change was approved to facilitate the installation of two coal-bed methane wells and utility corridors by Conoco Phillips within the Star Point Mine permit area.

The Permittee also reclaimed remote portals at Mud Water Canyon and Corner Canyon.

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## **INTRODUCTION**

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**SUMMARY OF DEFICIENCIES**

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**SUMMARY OF DEFICIENCIES**

The Technical analysis of the proposed permit changes cannot be completed at this time. Additional information is requested of the Permittee to address deficiencies in the proposal. A summary of deficiencies is provided below. Additional comments and concerns may also be found within the analysis and findings made in this Draft Technical Analysis. Upon finalization of this review, any deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement action and deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the Permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

***Regulations***

- R645-301-113** The Permittee needs to provide a violation history for the three years preceding the application date. This information should be provided for any coal mining and reclamation operation owned or controlled either by the Permittee or by any person who owns or controls the permit. .... 9
  
- R645-301-121.100 and R645-301-121.200**, The Permittee must update the application to show that 1) Phase III bond release has been granted for the oil and gas well area and 2) The refuse pile area has been taken out of the permit area and transferred to Sunnyside Cogeneration Associates. .... 16
  
- R645-301-121.200 and R645-301-553.500**, The Permittee must state in a concise manner (one location) all the information about why highwall remnants were retained. At a minimum the Permittee must 1) Discuss the limitation imposed by keeping County Road 290 open, 2) The minimum safety factor for the highwalls remnants, 3) Why all available material was not used to eliminate more of the highwalls remnants, 4) Why the highwalls remnants will not be a danger to the public or the environment and 5) Why some as-built slopes expose 5 feet more highwall than anticipated. .... 20
  
- R645-301-121.200** The Permittee must clarify the following: 1) State where the cover material for the Lion Deck came from, 2) The preparation work done to the slopes before topsoil

**SUMMARY OF DEFICIENCIES**

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placement (ripped or otherwise scarified), 3) If fertilizer was applied during seeding in 2001 and 2002 and 4) Describe the techniques used to incorporation straw and surface mulch into the topsoil..... 15

**R645-301-121.200**, The Permittee must make the following changes: 1) Revised page 500-80 of the application so that the text picks up where it ends on the preceding page, 2) Update Table 321.100b to show the area and vegetation type for Mud Water Canyon and Corner Canyon, and 3) Show the entire location of cross-section M-1 to M-1' on Map 542.200b and the cross-section on the appropriate sheet..... 11

**R645-301-121.200**, The Permittee needs to state in the bond release application 1) What was required in the reclamation plan, 2) How those tasks were achieved and 3) As-built information showing how the regulatory requirements were met. If the as-builts differ from the approved plan, the Permittee needs to state why and how the as-builts meet the regulatory requirements..... 27

**R645-301-541.200 and R645-301-551**, The Permittee must give the Division the following information: 1) When and how were each of the portals were sealed, (references to MSHA reports would be helpful), 2) What underground openings were left unsealed for monitoring purposes, and 3) How the shaft at the Lion Deck area was sealed and if the backfill material has stopped settling..... 23

**R645-301-542 and R645-301-553.510**, The Permittee must include a narrative about how the reclamation work at Mud Water and Corner Canyon meets the minimum AOC and backfilling and grading requirements. In particular, a discussion about why some pre-SMCRA highwalls were left must be included..... 19

**R645-301-542**, The Permittee must include a narrative about how the unit train loadout facility was reclaimed with an emphasis on why the as-builts differ significantly from the designs... 19

**R645-301-542.100 and R645-301-542.600**, The Permittee must state what roads were reclaimed and what roads will be retained as part of the postmining land use. .... 23

**R645-301-542.600 and R645-301-121.200**, The Permittee must state what repair work was done to County Road 290 and provide documentation that the County is satisfied with the road's condition. .... 23

**R645-301-553.110 and R645-301-542.300**, The Permittee must give the Division maps of main mine facilities and unit train loadout at a scale of 1" = 40', so the Division can compare the approved designs with the as-builts by overlaying the two maps. Note, the Permittee gave the Division contour maps at a scale of 1" = 40' in the approved MRP. .... 20

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**R645-301-553.150 and R645-301-542.310**, The Permittee must show on maps the following: 1) Dates when backfilling and grading activities were completed, 2) Dates when topsoil replacement was completed, 3) Topsoil replacement depths and 4) Areas where coal mine waste are located. .... 15

**R645-301-553.260 and R645-301-542.200**, The Permittee must state in the narrative and show on as-built maps the location of all known coal mine waste disposal areas within the area proposed for bond release. .... 22

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**SUMMARY OF DEFICIENCIES**

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## GENERAL CONTENTS

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# GENERAL CONTENTS

## IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

### Analysis:

An AVS check on the ownership and control information was done on November 24, 2003. This information was compared to the information contained in the approved MRP. The information contained in the approved MRP is still current and accurate when compared to the AVS check. That information was stamped approved on May 27, 2003 and incorporated into the MRP.

### Findings:

The information on ownership and control in the MRP meets the minimum regulatory requirements.

## VIOLATION INFORMATION

Regulatory Reference: 30 CFR 773.15(b); 30 CFR 773.23; 30 CFR 778.14; R645-300-132; R645-301-113

### Analysis:

The MRP was reviewed for violation history information. The MRP has violation history information for the Star Point Mine, but does not contain any violation history for any of the Permittee's other coal mining and reclamation operations. The last violation information for the Star Point Mine was in 1997. The Permittee needs to update the information.

### Findings:

**R645-301-113** The Permittee needs to provide a violation history for the three years preceding the application date. This information should be provided for any coal mining and reclamation operation owned or controlled either by the Permittee or by any person who owns or controls the permit.

## **PUBLIC NOTICE AND COMMENT**

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

### **Analysis:**

The Permittee submitted a draft public notice for Phase I bond release. This public notice will be published in the local newspaper for the required amount of time upon approval from the Division.

The application also includes draft letters to be sent to all interested parties for the Phase I bond release request. These letters will be sent upon approval from the Division.

The description contained in the draft public notice was checked. The public notice meets the requirements of the coal rules. Publication of the public notice should take place upon approval by a coal program supervisor.

The Permittee prepared draft letters to be mailed to all interested parties informing them of the Phase I bond release request. Upon Division approval to advertise the public notice, the Permittee should mail the letters to the interested parties.

### **Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

## **PERMIT APPLICATION FORMAT AND CONTENTS**

Regulatory Reference: 30 CFR 777.11; R645-301-120.

### **Analysis:**

The narrative on page 500-80 of the application begins with wording found in the middle of page 500-79 of the MRP.

Table 321.100b list disturbed area by vegetation types. The total acreage listed on the table is 93.77 acres, which is the area of the mine site. The Permittee needs to include the area and vegetation type for Mud Water Canyon and Corner Canyon on the table.

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**GENERAL CONTENTS**

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The location of cross-section M-1 to M-1' is partially shown on Map 542.200b. Cross-section M-1 to M-1' is not shown on any maps. The Permittee must either show the entire location of cross-section M-1 to M-1' and the cross-section or remove the reference.

**Findings:**

The application does not meet the requirements for clear and concise information. Before approval, the Permittee must provide the following in accordance with:

**R645-301-121.200**, The Permittee must make the following changes: 1) Revised page 500-80 of the application so that the text picks up where it ends on the preceding page, 2) Update Table 321.100b to show the area and vegetation type for Mud Water Canyon and Corner Canyon, and 3) Show the entire location of cross-section M-1 to M-1' on Map 542.200b and the cross-section on the appropriate sheet.

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## RECLAMATION PLAN

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# RECLAMATION PLAN

## GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

### Analysis:

The public notice included as Exhibit 117.200a states the amount of surety listed is \$7,643,000.00 for which, \$4,585,800.00 or 60% is requested for bond release. The bond amount was recently revised with Amendment AM0D-1 but the actual bond amount of \$7,796,000 will remain in effect until the rider is amended.

A total of 95.3 acres is requested for bond release. The areas for bond release include:

- Lion Deck, main mine facilities, unit train loadout, associated roads, ponds and facilities and the reconstructed channel of Serviceberry Creek, together all those areas comprise 93.77 acres.
- Mud Water Canyon site consists of 1.10 acres.
- Corner Canyon consists of 0.44 acres.

The reclaimed land belongs to either Plateau Mining Corp. or the State of Utah (Surface Ownership Map 112.500a).

The application includes a notarized statement that the reclamation activities have been accomplished in accordance with the coal mining and reclamation regulations and with the approved reclamation plan.

Side cast soils and pad soils were used in the reclamation of the main mine facilities. Soils were to have been harvested from the Lion Deck out slopes and the areas surrounding the main channel (Table 233.100) and from pond embankments (page 200-18). The reclamation plan calls for replacement soil depth to be six inches at the unit train loadout. Characteristics of these soils are found in the MRP Tables 230.200a, c, d, e, & f and Exhibit 241a.

## RECLAMATION PLAN

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The soil redistribution plan (MRP, Section 241, pp 200-21 through 200-25) indicates:

- Four feet of cover would be placed over all acid/toxic materials.
- Seventeen inches of substitute soils would be placed over all areas.
- In-place fill materials would be used as substitute soils.
- Re-exposed, buried topsoil would be used wherever possible.

As laid out in Table 233.100, Reclamation Soil Balance for Coal Waste Cover, (MRP, Section 233, page 200-19) 135,305 CY of material would be needed to place four feet of cover over the Lion Deck and the main channel. The Permittee needs to state in the application how much cover material was used and where it came from.

On page 200-26 of the MRP, the Permittee states that fertilizer will be applied during reclamation. However, Division understands that this did not occur. The Permittee must state if fertilizer was used.

The MRP states on pages 200-26 and 200-27 that the regarded soils would be ripped or otherwise scarified before topsoil placement. The application must state whether this procedure was followed. On pages 200-27 and 500-78 of the MRP, the Permittee states that after topsoil placement 2 tons per acre of hay and/or straw mulch would be incorporated into the soil with plowing or gouging. The mulch was to be spread over the area after seeding and crimped into the soil or sprayed on with a tackifier. The Division understands that the actual practice was to hydromulch using wood fiber mulch and a tackifier. The Permittee must describe the techniques that were used to incorporate of straw and surface mulch into the soils.

Technical Directive 006 recommends in item II B 3 that the postmining topographic maps show the following features:

- List dates when the backfilling and grading activities were completed.
- List dates when topsoil replacement was completed.
- Topsoil replacement depths.
- Show where areas where coal mine waste are located.

The maps in the bond release application do not show that information.

### **Findings:**

The Permittee has not met the minimum reclamation requirements for Phase I bond release. Before approval, the Permittee must provide the following in accordance with:

## RECLAMATION PLAN

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**R645-301-553.150 and R645-301-542.310**, The Permittee must show on maps the following: 1) Dates when backfilling and grading activities were completed, 2) Dates when topsoil replacement was completed, 3) Topsoil replacement depths and 4) Areas where coal mine waste are located.

**R645-301-121.200** The Permittee must clarify the following: 1) State where the cover material for the Lion Deck came from, 2) The preparation work done to the slopes before topsoil placement (ripped or otherwise scarified), 3) If fertilizer was applied during seeding in 2001 and 2002 and 4) Describe the techniques used to incorporate straw and surface mulch into the topsoil.

## POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### Analysis:

The postmining land uses for the area being sought for Phase I bond release are forestry, grazing and wildlife habitat. The Permittee plans to achieve those land uses by planting the appropriate plant species.

In the postmining land use section of the MRP, the Permittee states that oil and gas wells will be located in the preparation plant area and that the refuse pile will be reclaimed. That information is outdated. Phase III bond release was granted for the areas involved with oil and gas production. The refuse pile area was transferred to Sunnyside Cogeneration Associates. The Permittee needs to update the MRP and bond release application to show the changes that occurred. That information is important because it provides a record of events.

The Permittee does make mention in Section 542.100 of the application that reclamation of the refuse pile, topsoil borrow and subsoil stockpile sites are superseded by the information in the Sunnyside Cogeneration Associates' permit C/007/042. Since the application will be reviewed by the public and other governmental agencies that are not familiar with the transfer of the refuse pile area Sunnyside Cogeneration and that Phase III bond release was granted to areas where oil and gas production occur, a detailed narrative must be included in the Phase I bond release application.

### Findings:

The information provided in the amendment is not considered adequate to meet the requirements of the postmining land use section of the regulations. Before approval, the Permittee must provide the following information in accordance with:

**R645-301-121.100 and R645-301-121.200**, The Permittee must update the application to show that 1) Phase III bond release has been granted for the oil and gas well area and 2) The refuse pile area has been taken out of the permit area and transferred to Sunnyside Cogeneration Associates.

## APPROXIMATE ORIGINAL CONTOUR RESTORATION

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

### Analysis:

The requirements for restoring a site to the approximate original contours is couched in the backfilling and grading requirements. To clarify the requirements that pertain directly to AOC the Division developed Technical Directive 002. The general requirements for restoring a site to AOC involves hydrology, the postmining land use and backfilling and grading.

The hydrology issues involve restoration of the drainage systems and sediment controls. The drainage systems will be evaluated as part of the hydrology section. If the bond release application meets the hydrology requirements then the Division considers that all the hydrology issues involved with AOC have been met.

Likewise, the Division considers that all postmining land use issues relating to AOC are met if the postmining land use requirements have been met.

The specific requirements AOC requirements of backfilling and grading regulations are as follows:

- All spoil piles will be eliminated.
- Final surface configuration will blend into the surrounding topography.
- All highwalls will be eliminated

The areas for which bond release is being sought are: main mine site, unit train loadout facility, Mud Water Canyon and Corner Canyon. Each of the areas will be addressed separately in this section of the TA.

## RECLAMATION PLAN

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### Main Mine Site

No spoil pile was generated at the mine site. Any excess spoil would have been placed in the refuse pile area that has been subsequently transferred to Sunnyside Cogeneration Associates. Therefore, the spoil pile issue has been adequately addressed.

The main criterion for compliance with the final surface configuration requirement is, "Does the postmining topography, excluding elevation, closely resemble its pre-mining configuration?" When answering that question the Division looks at the following two issues:

- The final grade of postmining slopes shall not exceed approximate pre-mining slope grades and the postmining slopes will have a static safety factor of 1.3 or greater. The Division will take into consideration soil types, climate and other pertinent characteristics of the surrounding area in evaluating the adequacy of final graded slopes.
- In arid or semi-arid areas, vegetation alone may not adequately control erosion on steep slopes. Therefore, the Division will closely evaluate the slope gradients of reclaimed areas to ensure effective erosion control.

Most of the Star Point site was disturbed pre-SMCRA; therefore, pre-mining topographic maps are not available. The Division cannot determine how closely the postmining slopes resemble the pre-mining slopes. What the Division can do is determine if the postmining slopes blend into the undisturbed areas. The Division made that finding as part of the July 22, 2002 technical analysis that designs for the reclaimed slopes will blend into the surrounding area.

That finding was made with the use of topographic maps at a scale of 1" = 40'. The maps submitted in the November 11, 2003 application were at a scale of 1" = 200'. The scale of the as-built maps poses two problems for the Division:

- With the proposed and as-built maps at two different scales, a direct comparison is difficult.
- At a scale of 1" = 200' there is not enough detail for the Division to make a finding.

Before the Division can make a finding about AOC, the Permittee must submit as-built maps that are at the same scale as those in the MRP.

The Division analyzed the slope stability information as part of the July 22, 2002 technical analysis. In that analyst, the Division found that the slope designs were adequate to ensure that the minimum safety factor of 1.3 would be achieved.

In the July 18, 2002 application, the Permittee states that the angle-of-repose for the backfill material is 1.5 H to 1.0 V. The reclaimed slopes will not exceed the angle-of-repose.

The Star Point Mine was constructed pre-SMCRA. Therefore specific rules apply to the reclamation of highwalls, see R645-301-553.500.

The Division approved the retention of highwall remnants at the Lion Deck area because of the need to preserve County Road 290. There is a tradeoff between eliminating the highwall remnants and preserving the County road.

The information about highwall retention is scattered throughout the amendment and MRP. The Permittee needs to consolidate the information about highwall retention. The Division is specifically looking for:

- A narrative about why additional backfill would block County Road 290.
- A narrative about how the slope height could not be increased without the safety factor dropping below 1.3.
- Why the as-built slopes heights are 5 feet less than what is shown in the approved plan. See cross-section E-E'.

#### Unit Train Loadout Facility

The Permittee did not include any information on the unit train loadout in the text of the bond release application. The site is shown on Map 542.200c and the cross-sections on Map 542.200e1.

No spoil piles or highwalls are in the unit train loadout area. The main AOC concern is about blending into the surrounding area. Since Map 542.200c is at a scale of 1" = 200' the Division has a hard time making a finding based on the topographic map.

Map 542.200e1, shows the cross-sections for the area. The cross-sections show that the design topography is significantly different from the as-built topography. Cross-section I-3 - I-3' show that the area was to be filled in but the as-builts show the area was a cut area. The Permittee needs to state why the designs differ so much from the as-builts.

#### Mud Water Canyon

No spoil was generated at the Mud Water Canyon portal area.

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## RECLAMATION PLAN

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The Permittee submitted Map 542.200g, As-Built Mud Water Canyon Fan Reclamation Topography and Treatment Map. The map is at a scale of 1" = 40' and shows the as-built topography and cross-sections.

The Permittee did not include a narrative about the Mud Water area. At a minimum, the Permittee must state how the AOC requirements at the site were met.

A large pre-SMCRA highwall remnant is left at the site. The Permittee needs to state why the highwall remnant was left in the bond release application. This information is needed to address the concerns about highwall retention by the public and other governmental agencies.

### Corner Canyon

No spoil was generated at the Corner Canyon portal area.

The Permittee submitted Map 542.200h, As-built Corner Canyon Fan Reclamation Topography and Treatment Map. The map is at a scale of 1" = 20', which is adequate for the Division to make a finding about adequacy.

The Permittee did not include any narrative in the Phase I application. A discussion about how the site meets the AOC and general backfilling and grading requirements must be included in the application. A major concern is the pre-SMCRA highwall remnant that is left.

### Findings:

The information provided in the amendment is not considered adequate to meet the requirements of the AOC section of the regulations. Before approval, the Permittee must provide the following information in accordance with:

**R645-301-542**, The Permittee must include a narrative about how the unit train loadout facility was reclaimed with an emphasis on why the as-builts differ significantly from the designs.

**R645-301-542 and R645-301-553.510**, The Permittee must include a narrative about how the reclamation work at Mud Water and Corner Canyon meets the minimum AOC and backfilling and grading requirements. In particular, a discussion about why some pre-SMCRA highwalls were left must be included.

**R645-301-553.110 and R645-301-542.300**, The Permittee must give the Division maps of main mine facilities and unit train loadout at a scale of 1" = 40', so the Division can compare the approved designs with the as-builts by overlaying the two maps.

Note, the Permittee gave the Division contour maps at a scale of 1" = 40' in the approved MRP.

**R645-301-121.200 and R645-301-553.500**, The Permittee must state in a concise manner (one location) all the information about why highwall remnants were retained. At a minimum the Permittee must 1) Discuss the limitation imposed by keeping County Road 290 open, 2) The minimum safety factor for the highwalls remnants, 3) Why all available material was not used to eliminate more of the highwalls remnants, 4) Why the highwalls remnants will not be a danger to the public or the environment and 5) Why some as-built slopes expose 5 feet more highwall than anticipated.

## **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.

### **Analysis:**

#### **General**

The general backfilling and grading requirements include the following:

- Achieve all AOC requirements.
- Eliminate all highwalls, spoil piles and depressions.
- Achieve a postmining slope that does not exceed either the angle-of-repose of such lesser slope as necessary to achieve a minimum long-term static safety factor of 1.3 and prevent slides.
- Minimize erosion and water pollution both on and off site.
- Support the postmining land use.
- Dispose of coal processing waster and underground development waste.
- Cover exposed coal seams and acid/toxic forming materials.
- Prepare final graded surfaces in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.

The AOC requirements are part of the backfilling and grading requirements. To avoid duplication all specific issues relating to AOC, highwall elimination and slope stability are addressed in the AOC section of the TA.

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## RECLAMATION PLAN

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The issues involving minimizing erosion and water pollution are addressed in other sections of the TA, such as hydrology, vegetation and land use.

In the November 10, 2003 application the Permittee crosses out the cut and fill quantities (789,910 CY cut and 315,532 CY fill) and updates the amounts to be 667,673 CY cut and 42,826 CY fill. The crossed out cut and fill numbers are different from those in the approved MRP, 1,178,377 CY cut and 1,056,914 CY fill.

The main reason why those numbers are off is that the refuse pile area was officially transferred to SCA on November 14, 2003 and the application was received on November 10, 2003. Because of the overlap, some changes to the cut and fill quantities had not been fully addressed in the MRP.

In the amendment, the Permittee states that coal processing waste will be disposed of primarily on the refuse pile or covered with at least 4 feet of material. The Permittee needs to update the application by stating where any coal processing waste was disposed of within the disturbed areas. That information is needed to determine if coal processing waste was disposed of properly.

The Permittee shows the location of the coal seams on the cross-sections on Map 542.200d2. The coal seams will be covered with a minimum of 40 feet of fill material.

### **Previously Mined Areas**

Previously mined areas are those areas that were mined, reclaimed or abandoned prior to the enactment of SMCRA. The provisions for previously mined areas include:

- Use all reasonable available spoil material for backfill.
- The backfill shall be graded to a slope that is compatible with the approved postmining land use.
- Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The Permittee shall demonstrate, to the satisfaction of the Division, that the highwall remnant is stable.
- Spoil placed on the out slope during previous mining operations shall not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.

Since the mine is an underground mine, little if any spoil was generated. Therefore, the spoil handling requirements are not relevant. The highwall issues are addressed in the AOC section.

**Findings:**

The information provided in the amendment is not considered to meet the requirements of the backfilling and grading section of the regulations. Before approval, the Permittee must provide the following information in accordance with:

**R645-301-553.260 and R645-301-542.200**, The Permittee must state in the narrative and show on as-built maps the location of all known coal mine waste disposal areas within the area proposed for bond release.

**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.

**Analysis:**

The in Section 542.700 of the application, the Permittee states that all mine openings would be sealed at least 25 feet inside the mine opening. The seals will be constructed of blocks or a cast-in-place seal will be used. The openings were to be backfilled. In Section 551 of the MRP, the Permittee states that BLM and/or MSHA will be notified about portal closure.

In Section 551 of the MRP, the Permittee states that all boreholes not needed for monitoring would be sealed and how the shaft at the Lion Deck would be closed. The Division needs to know what if any monitoring wells will remain after Phase I bond release. The Division needs a write-up on how the shaft was sealed and if the backfill has stabilized (stopped settling.)

The Permittee needs to document in the MRP and bond release application how the portals were sealed, including reports from MSHA, BLM and other governmental agencies that monitor the process. The Permittee also needs to state what wells and boreholes were sealed and which ones will remain open. The location of the boreholes must be listed or cross-referenced in Section 551 of the MRP.

**Findings:**

The information provided in the bond release application is not considered adequate to meet the requirements of this section of the regulations. Before bond release can be approved, the Permittee must provide the Division with the following information in accordance with:

**R645-301-541.200 and R645-301-551**, The Permittee must give the Division the following information: 1) When and how were each of the portals were sealed,

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(references to MSHA reports would be helpful), 2) What underground openings were left unsealed for monitoring purposes, and 3) How the shaft at the Lion Deck area was sealed and if the backfill material has stopped settling.

## 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:

#### Reclamation

The Permittee states that all roads not to be retained for an approved postmining land use will be reclaimed after they are no longer needed for mining and reclamation operations. The Permittee needs to state what roads were reclaimed.

#### Retention

The Permittee needs to state what roads will be retained as part of the postmining land use. The Permittee must document or cross reference why the roads were allowed to remain.

In Section 542.600 of the MRP, the Permittee states that additional repair work is anticipated during reclamation for section of County Road 290. The Permittee states in the MRP, that approximately 12,600 CY of material will be used to stabilize sections of the County Road 290 that were damaged during a stability failure in May 1994. The Permittee must also provide the Division with documentation that the County is satisfied with the road's condition.

### Findings:

The information provided in the bond release application is not considered adequate to meet the requirements of this section of the regulations. Before bond release can be approved, the Permittee must provide the Division with the following information in accordance with:

**R645-301-542.100 and R645-301-542.600**, The Permittee must state what roads were reclaimed and what roads will be retained as part of the postmining land use.

**R645-301-542.600 and R645-301-121.200**, The Permittee must state what repair work was done to County Road 290 and provide documentation that the County is satisfied with the road's condition.

## 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.

### Analysis:

#### Hydrologic Reclamation Plan

All wells within the permit area have been sealed to prevent acid or other toxic contamination of ground or surface water, to minimize disturbance to the hydrologic balance and to ensure safety of people, livestock, fish and wildlife. Method of sealing wells is provided in Section 551 of the MRP.

The water monitoring plan has been reduced from operational schedule. The Permittee previously submitted requests accompanied by explanations why some sites did not need to be monitored for the reclamation period. The reclamation surface monitoring schedule is described in Section 731.221. The reclamation monitoring schedule for spring, streams and wells is shown in Table 731.211a. Some UPDES sites have been taken over by SCA for their operation. The Permittee is still submitting UPDES reports for discharge sites to the Division of Water Quality, even though the ponds have been removed. The DWQ requires that the bond be released before monitoring ends. Monitoring of all reclamation sites shown in Table 731.211a will continue until the site is released. Water monitoring data is being collected and submitted to the UDOGM water quality database.

Watersheds have been reestablished in the disturbed areas. Designs for reclamation channels and culverts (approved for postmining land use are designed for the County Road 290 and access road for natural gas wells) are shown in Exhibit 761a, b and c. As-built channel calculations that demonstrate the constructed reclamation channels can transmit the peak flow generated by the 10yr-24hr design storm for standard channels and by the 100yr-6hr for the culverted channels are provided in the Reclamation Section 761, Volume II and Exhibit 761a, b and c. Plans and maps identify the channel sections and methods of channel protection to provide stability of the channel and prevent erosion.

No sedimentation ponds or siltation structures are planned for the permit area. All sediment ponds on the mine site, except those transferred to SCA, have been removed in accordance with reclamation plan.

Gouging (or pocking of the surface by excavators) is the only siltation controls features in the permit area. There are no ponds, berms or silt fences to maintain or reclaim.

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All of the disturbed areas have been gouged to retain runoff and reseeded to establish plant growth. The Permittee proposes that the combination of these treatment measures will control runoff and reduce sediment yield.

No exemptions for siltation structures have been proposed

All wells within the permit area have been sealed to prevent acid or other toxic contamination of ground or surface water, to minimize disturbance to the hydrologic balance and to ensure safety of people, livestock, fish and wildlife. Method of sealing wells is provided in Section 551 and Exhibit 724.200a of the MRP.

No wells have will be transferred.

There are not any surface discharges into the mine.

There are no gravity discharges from the mine.

The applicant has designed and reconstructed the drainage area to transmit runoff from storm sizes specified in the regulations. Disturbed areas have been gouged to retain sediment on site.

### **Findings:**

The information provided by the applicant is sufficient to address the hydrologic concerns of the hydrologic information section of the reclamation regulations.

## **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:**

The Permittee gave the Division as-built maps and cross-sections for the reclaimed areas. The cross-sections were at a scale of 1" = 100' and were adequate to evaluate reclamation activities. See Maps 542.200a1 – 542.200a3. The maps in the bond release package are at a scale of 1" = 200', at that scale the Division has a hard time comparing the as-builts from the approved designs. A common method to compare maps and cross-sections is to overlay them on a light table.

With maps at a scale of 1" = 200' the Division has a hard time making the following findings:

- Show the extent of pre-SMCRA highwall remnants.
- Show the extent of pre and post-SMCRA cutslopes.
- Evaluation of reclamation contours.

This deficiency is also stated in the AOC section of the TA and will not be repeated in this section.

#### **Reclamation Facilities Maps**

The Permittee state on maps the location of areas already granted Phase I bond release and the area transferred to SCA.

#### **Final Surface Configuration Maps**

The final surface configuration maps were discussed in the AOC and backfilling and grading section of the TA.

#### **Reclamation Monitoring And Sampling Location Maps**

Reclamation monitoring is shown in the monitoring plan in

#### **Certification Requirements.**

All required maps have be certified by a registered professional engineer.

#### **Findings:**

The information provided in the bond release application is considered adequate to meet the requirements of this section of the regulations.

## **BONDING AND INSURANCE REQUIREMENTS**

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### Analysis:

#### General

Before the Division can approve a bond release, they must make a finding that all the conditions for Phase I bond release have been met. When the Division reviewed the bond release application they found that the Permittee often refers to events that pertain to Phase I bond release as if they were to occur instead of that they had occurred. In some cases, the reclamation work that occurred is different from that what stated in the reclamation plan. In those cases, the Permittee must state what the reclamation plan was, what reclamation work occurred, and why.

#### Determination of Bond Amount

The Permittee wants to reduce the bond amount from \$7,643,000 to \$4,585,800, which is a 60% reduction. A 60% reduction is the maximum amount allowed under R645-301-880.130. The Division will process the request for bond reduction after Phase I bond release has been granted.

### Findings:

**R645-301-121.200**, The Permittee needs to state in the bond release application 1) What was required in the reclamation plan, 2) How those tasks were achieved and 3) As-built information showing how the regulatory requirements were met. If the as-builts differ from the approved plan, the Permittee needs to state why and how the as-builts meet the regulatory requirements.