



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

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oc

October 17, 2002

Chris Hansen, Environmental Manager
Canyon Fuel Company, LLC
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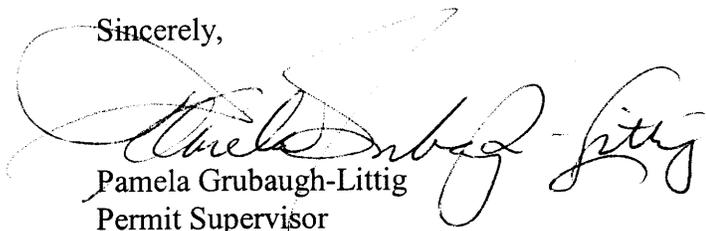
Re: Phase I Bond Release, Canyon Fuel Company, LLC, Gordon Creek #2, #7 & #8 Mine,
C/007/016-BR01B-1, Outgoing File

Dear Mr. Hansen:

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 January 17, 2003 or your application will be returned after that date.

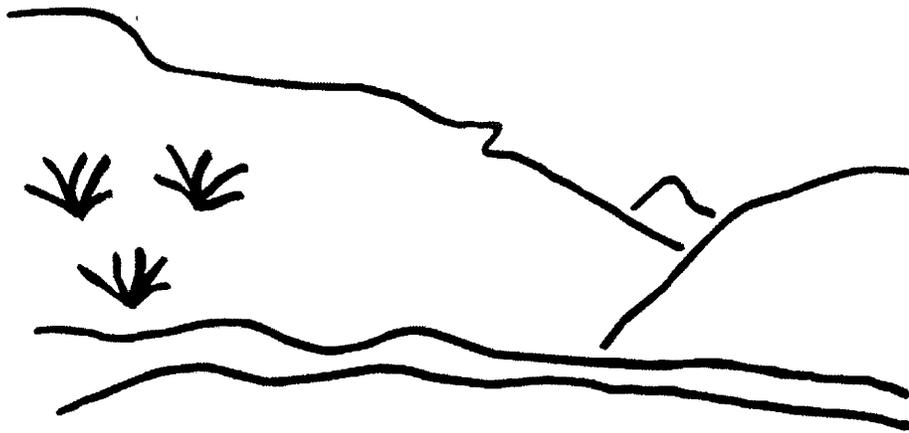
If you have any questions, please call me at (801) 538-5268 or Wayne at (801) 538-5263.

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

Gordon Creek No. 2/7/8 Mines
Phase I Bond Release
C/007/016-BR01B-1
Technical Analysis
October 16, 2002

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TECHNICAL ANALYSIS

TECHNICAL ANALYSIS

The Division regulates 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 the application complies 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

INTRODUCTION

INTRODUCTION

The Phase I bond release application (BR01B) was received on October 25, 2001. The Division reviewed that application and found it to be defective. The deficiencies for the October 25, 2001 application are stated in the Division's Technical Analysis (TA_01B) dated February 25, 2002. A second submittal of the application for Phase I bond release (BR01B-1) was received on August 2, 2002. This TA lists the deficiencies that were found in the August 2, 2002 submittal.

The disturbed area at the Gordon Creek No. 2, No. 7 and No.8 Mine contains 34.88 acres. The portion requested for Phase I Bond Release is 32.52 acres. The 2.36 acres excluded from Phase I are associated with the Sweet's Pond site. The Permittee will be submitting a separate application for Phase III bond release for Sweet's Pond. The Permittee will be able to apply for Phase III (final) bond release because the pond will be part of an alternative postmining land use.

The public notice accompanying this application indicates that backfilling and grading of the site occurred over a two-year period, from 1995 to 1997, with additional work conducted in 1999.

A field inspection of the site took place on September 10, 2002. All areas except Sweet's Pond were observed. Bond release guidelines, Technical Directive-006 (dated September 5, 2000) and Utah Regulations R645-301-880.100 through 880.310 were used to ensure compliance with bond release protocol.

Swisher Mining Company originally disturbed the No. 2 mine in late 1969. No topsoil was salvaged at the site during construction. Coal refuse was dumped along the embankments of the stream channel of Bryner Canyon. Mountain Coal Company permanently sealed the portal in 1985.

The No. 7 Mine was disturbed in 1983. Extensive excavation occurred which left an escarpment about eighty feet high. The No.7 Mine portal was sealed in December 1990. Approximately fifty feet of the escarpment was covered during regrading and channels were reestablished.

The No. 8 Mine was opened in 1989 and then sealed in 1990. Due to poor mining conditions, the operator was forced to close the mine shortly after opening it.

The No. 7 and No. 8 mine sites were backfilled and regraded in 1997. Reclamation of the No. 2 mine began in 1998.

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INTRODUCTION

SUMMARY OF DEFICIENCIES

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, before approval, in accordance with the requirements of:

Regulations

- R645-301-142**, Provide the Division with the results of the soil testing described in the Mining and Reclamation Plan Section 8.6.4, page 8-33; Section 3.4.4, page 3-15; Section 3.5.5.1 and shown on Plate 3-1; Section 8.9 and Section 3.5.5.1, page 3-50 and 3-51; Section 3.4.4, page 3-17; and Section 3.5.4.4, page 3-47A or indicate in the Phase I Bond Release application which of these sampling proposals were eliminated and amend the Mining and Reclamation Plan accordingly. Note: the Permittee recently submitted data that was intended to satisfy the requirements of this deficiency. If the Permittee needs to supply additional information, the Division will notify them 23
- R645-301-542.300 and R645-301-121.200**, The Permittee must clarify which maps in the MRP and bond release package are design maps and cross sections and which ones are as-builts. In the MRP, there are two copies of Plate 3-7. One copy is date received May 19, 1998 and the other is dated received Nov. 4, 1999. The Division assumes that the May 19, 1998 copy is the design plan and the Nov. 4, 1999 copy is the as-builts. In order to avoid confusion the Permittee needs to label each copy of Plate 3-7 as “design” or “as-built”. 19
- R645-301-764** The Permittee must update the timetable by identifying seasons and estimated dates for removing the sediment ponds, removing the gabions and regrading and seeding those areas. 7

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SUMMARY OF DEFICIENCIES

RECLAMATION PLAN

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 Permittee conducted backfilling and grading operations at the Gordon Creek No. 2, No. 7 and No.8 mines from 1995 to 1997. The Division approved the permit area reduction in September 2001, which reduced the permit area from 2286.05 acres to 180.0 acres.

The items that still needed to be done to reclaim the Gordon Creek No. 2, No.7 and No.8 mines include: 1) removing the sediment ponds and associated regarding, 2) removing the fan portal gabions and 3) seeding the pond and gabion areas. The Permittee has submitted a schedule for reclamation in Chapter 3, p. 3-64. However, the schedule is inadequate because it does not mention when those activities will take place. The Division main concern is that the remaining reclamation activities take place during the appropriate seasons. At a minimum the reclamation schedule must state the year and season when the activities will occur. This is important because much of the site could soon be eligible for Phase II reclamation.

Currently the Permittee maintains and monitors a series of sedimentation ponds at the main mine site. According to the reclamation schedule, the ponds will be removed once vegetation cover is adequate to control erosion.

Findings:

Information provided in the bond release application is not considered adequate to meet the minimum requirements of the regulations. Before approval, the Permittee must provide the following in accordance with.

R645-301-764 The Permittee must update the timetable by identifying seasons and estimated dates for removing the sediment ponds, removing the gabions and regrading and seeding those areas.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

During the technical inspection on September 10, 2002, the Division noticed that fences in and around the permit as well as the fence around Jewkes Pond needed repair. The Permittee committed to repair the fences. On October 2, 2002 Joe Helfrich, inspected the site and found that the repairs had been made. The fences are needed to keep cattle off the site.

Findings:

The information provided in the bond release application meets the minimum requirements for the Protection of Fish, Wildlife and Related Environmental Values.

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 achieving the approximate original contour requirements are mentioned in the backfilling and grading requirements of the R645 rules. Technical Directive 002 clarifies those requirements that are as follows:

Final Surface Configuration

The main question that needs to be answered when evaluating the final surface configuration is, does the postmining topography, excluding elevation, closely resemble the premining configuration? The approved backfilling and grading plan called for restoring the area to approximate original contours (AOC.)

The term AOC does not mean that the original contours are restored. Rather AOC means that the surface configuration achieved by backfilling and grading closely resembles the general surface configuration of the land before mining and blends into and complements the undisturbed drainage pattern. In addition, all spoil piles, coal refuse piles and all highwalls have been remove. Note: pre-SMCRA highwall remnants may be allowed to remain if they are not practical to reclaim.

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Before the reclamation designs were approved, the Division reviewed them to determine if they would meet the AOC requirements. As part of the approval process, the Division made findings that the reclaimed site would 1) blend into the surrounding area and 2) the drainages inside and outside the permit area would complement each other.

The Division has verified that the approved backfilling and grading plan was followed and that the site has been restored to AOC during construction from 1995 to 1997. See inspection reports for those years for details. In addition to field inspections, the Division also reviewed certified as-built drawing submitted by the Permittee. See drawings BR01B (received October 25, 2001) and BR01B-1 (received August 2, 2002) for details about the as-built drawings.

Cut-slopes were left because the Permittee either did not have enough fill material or could not achieve the required safety factor of 1.3 without blocking the stream. The Division does not have any regulations or guidelines for cut-slope retention. However, the Division has allowed cut-slope to remain as part of a reclaimed site for over 20 years. Allowing cuts slopes to be retained in order to allow drainage restoration is a standard practice.

During the bond release inspection, the Division evaluated the cut-slopes. The cut-slopes appear to be stable concerning mass soil movement. However, some rills had formed. The Division recommended that the Permittee reseed and mulch those areas.

Spoil Pile Elimination

During the September 10 2002, pre-bond release inspection the Division found that all spoil and coal piles had been reclaimed.

Highwall Elimination

The surface area at the No. 2 Mine was originally disturbed in 1969 so the site is a pre-SMCRA site. The No. 7 Mine was developed in 1983 and 1984 (post-SMCRA) and the No. 8 Mine was disturbed in 1989. The Permittee eliminated the highwalls at the No.7 and No. 8 Mines. The Division verified that the highwall at the No. 7 and No. 8 mines were elimination during the September 10, 2002 pre-bond release inspection.

The highwall remnants at the No. 2 Mine were left due to stability concerns. The main stability concern is a seep that is located at the Right Fork drainage. Concern over the pore water pressure limited the reclaimed slope angle. If the slopes were extended so that the highwalls could be covered, the reclaimed slopes would block the drainage. To allow the drainage to be properly restored the Division approved the highwall remnants to remain.

Because the site is pre-SMCRA, the Division may allow highwall remnants if fill material was not reasonably available, there are safety factor concerns, or elimination would disrupt drainage patterns. The Division allowed the retention of the highwall remnants at the No. 2 Mine due to concerns about disruption of the drainage and slope stability.

There is enough material on site to reclaim the highwalls at the No. 2 Mine. The trade off is between achieving a slope with a minimum safety factor of 1.3 or blocking the drainage. The Division's top priority was to restore the drainage. Therefore the slope high could not extend to the top of the highwalls without a reduction in the safety factor.

Drainages

The Permittee has regraded and contoured the disturbed area to direct runoff to the proper drainages. The disturbed surfaces were ripped and gouged to help store water for vegetation hydration and to help prevent sediment loading to channels, before vegetation cover is established. During some storms, some gouged areas were breached, but a high percentage performed as intended.

Water quality monitoring is being conducted to evaluate the reclaimed site's potential for meeting post-mining land use standards, Chapter 7, p. 7-21 and 7-25.

Postmining Land Use

During the pre-bond release inspection, conducted on September 10 2002, the Division verified that the site is adequate for the postmining land use. The postmining land use will be the same as the premining land use, which were wildlife habitat, hunting and grazing.

During Phase I bond release, the Division main concerns the postmining land use is that the site is suitable for the approved postmining land uses, which include wildlife habitat, hunting and grazing. The Division has determined that the site is safe and stable because all mine openings have been sealed, the slopes have a safety factor of 1.3 or greater and hazards such as coal and noncoal waste have been removed.

Findings:

The information provided in the Phase I bond release package meets the minimum requirements of the approximate original contour requirements of the regulation.

RECLAMATION PLAN

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:

The backfilling and grading requirements are as follows:

- The site will achieve AOC
- Elimination of highwalls, spoil piles and depression
- Achieve a postmining slope that does not exceed either the angle-of-repose or a lesser slope to achieve a static safety factor of 1.3 and prevent slides
- Minimize erosion and water pollution both on and off the site.
- Support the approved postmining land use.

Some of those requirements were addressed in the AOC section. In the AOC section the Division evaluated AOC and elimination of highwalls and spoil piles.

The slopes were designed to have a minimum safety factor of 1.3 and prevent slides. The designs were evaluated for slope stability and found to have a safety factor of 1.3. During the pre-bond release inspection, the Division evaluated the slope and found them to be stable.

The erosion and water pollution issues will be examined in detail in the hydrology, soils and biology sections of this TA. The postmining land use requirements will be discussed in that section of the TA.

Findings:

The Permittee has met the minimum backfilling and grading requirements for the site as required by the regulations.

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 Permittee sealed and backfilled the portals. The portals structures have been removed and the exposed coal seam has been covered. The mines are considered dry; no water

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discharge from the portals is expected. Gordon Creek Mine No. 2 was sealed in 1985 and the No. 7 and No. 8 mines were sealed in 1990.

The maps in the bond release package BR-1 show that the area has been backfilled according to the reclamation plan. That plan called for the sealing and backfilling of all portals and exposed coal seam. The Division verified that the portals and coal seams have been backfilled during the pre-bond release inspection.

Findings:

The Permittee has met the minimum requirements for sealing mine opens as stated in the regulations.

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, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

General

Regulation R645-301-761 requires the operator to ensure all temporary structures are removed and all permanent structures meet the requirements of rules under R645-301 for bond release. The Permittee has already removed most of the temporary structures used during operation. Sedimentation ponds, 7a and 2 were removed during the regrading phase, along with drop drains, ditches, berms, silt fences and culverts (See Plate 3-1.)

Hydrologic structures will remain after Phase I bond release include a three-celled sediment pond and gabion structures. See Plate 3-7 for details.

Ground-water monitoring

Groundwater monitoring is currently being conducted on spring source 2-10-W, the only groundwater source on the bond release area. Groundwater emanating from the spring flows into Jacob's Pond, which in turn flows to the main channel, Plate 3-7.

The Permittee has not summarized water quality data to show that water pollution of groundwater is occurring or if there is a potential of future impacts.

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Surface-water monitoring

Water monitoring will continue until bond release. Post-mining water monitoring sites are identified on page 7-56, Chapter 7. A recent application requesting to eliminate monitoring sites 2-3-W, 2-4-W and -6-W near Beaver Creek has been reviewed and recommended for approval. Active mining ceased in 1990 subsidence monitoring continued through 1998.

The North Fork of Gordon Creek supports a fishery and other wildlife. The mine has a UPDES discharge permit for discharges from the sedimentation pond. No known discharges have occurred from the spillway.

The Permittee has not summarized water quality data to show that water pollution or surface water is occurring or if there is a potential of future impacts.

Acid and toxic-forming materials

The Permittee has supplied water-monitoring data from surface sites and one spring site. See Appendix 7-8 for details. Phase II bond release requires the operator to summarize (describe) changes in water quantity and quality and to show that suspended solids are not being contributed to the receiving stream in excess of normal levels for that stream. Soil sampling was conducted before regrading. The samples showed no signs of acid or toxic forming materials. The sedimentation pond has captured all runoff, since regrading of the site took place.

Transfer of wells

There are no wells on the disturbed area, thus no transfers have taken place.

Discharges into an underground mine

All portals have been sealed; no discharges into underground mines have taken place.

Gravity discharges

No gravity discharges have taken place since the mine portals were sealed.

Water quality standards and effluent limitations

A sedimentation pond collects most of the runoff from the disturbed area. Effluents from the sedimentation pond are monitored via a UPDES discharge site. Gabion structures capture

RECLAMATION PLAN

sediments from the Fan Portal side slope and sedimentation pond embankment/ turn-around/county road. The runoff from these sites have not been monitored for effluents directly, since the side slope area is relatively small the rock gabion structures were employed to contain silts and sediments. Rock gabion structures are a high maintenance structure and need to be cleaned out to function properly.

Rebuilt sections of the main channel in Bryner Canyon Creek, in the Right Fork of Bryner Canyon Creek and side drainages, SD-1, SD-2, SD-3, SD-4, SD-5 and SD-6 are shown on Plate 3-7. Bryner Canyon Creek, in the Right Fork of Bryner Canyon Creek are considered intermittent to perennial. The channels were designed to transmit the 100 yr-6 hr storm. Side drainages, SD-1, SD-2, SD-3, SD-4, SD-5 and SD-6 are classified as ephemeral. Channels for ephemeral drainages were designed for the 10 yr-6 hr precipitation events.

Reclaimed channel flow calculations are in Appendix 7-6 and channel construction certification is in Appendix 7-7. Channel profiles are shown on Plate 7-9. Channel cross-sections are shown on Plate 7-7A.

A 48-inch culvert remains in the Right Fork of the South Fork of the North Fork of Gordon Creek. The culvert was installed to protect the channel from further subsidence impacts. Subsidence had taken place in approximately 1982 when an entry collapsed. The entry had only 28 feet of cover between the coal seam and the channel. Bulkheads made of timber sealed the caved entry. The subsidence hole was backfilled and compacted. The culvert was installed to protect the channel. Engineering studies have been conducted by CBC Engineers and Associates that show the culvert to be sound and stable, and designed to meet the requirements of the regulations. The landowner concurred with leaving the culvert in place after reclamation and has accepted responsibility for the maintenance after final bond release. See Appendix 7-5.

Stream buffer zones

The whole disturbed area is adjacent to an intermittent stream. Disturbance was conducted before SMCRA. All areas along the stream channels have been regraded to AOC. The only stream buffer zones that should exist should be along the North Fork of Gordon Creek.

Sediment control measures

Other than the sedimentation pond, regarding and the reestablishment of vegetation help control sediment loading. During logging operations above the disturbed area, a mass of sediment breached the road embankment and ran down the mountainside, onto the disturbed area and into the sediment pond via channel SD-D. Sediment channels were carved out of the hillside and accumulated in the upper reaches of the canyon. A lot of sediment was washed into the sedimentation pond.

RECLAMATION PLAN

Siltation structures

A set of five rock gabions structures were constructed on the northwest side of the county road used to capture and treat runoff from the Fan Portal area in Bryner Canyon. The side slopes of Bryner Canyon are naturally steep. When the fan portal pad was excavated into the northwest slope of the canyon, a lot of the rock material and soil from side was cast over the edge. The fan Portal was developed pre-SMCRA, but used post law. The soft side cast material became compacted some over the years, but rills developed from rainstorms. Sediments washed off the slope and down the ditch along the county road and through the gabion structures. The side slope of the fan portal area does not drain to the sedimentation pond. The gabions provide the only means of sediment control between the side slope and the stream channel.

Another two rock gabions were placed above the stream channel to control sediment from the sedimentation pond embankment and county road/turn-around area. The gabions provide the only means of sediment control between the sedimentation pond and the stream channel.

The gabion structures have been in place throughout the operational phase of mining. Gabions require a high degree of maintenance. A conflict exists since the gabions are located on county (road) right of way. Reconstruction and maintenance activities are taking place on the county road. These activities are operations outside the permit area. Alternative controls have been discussed, such as silt fences, however no action has occurred, because the slope is too steep and sediment discharges at the early stages of vegetation growth would have collapsed the silt fences.

The rock gabion will be removed before Phase II bond release.

Sedimentation ponds

The existing sedimentation pond is a temporary structure that was built below the disturbed area at the beginning of the reclamation phase. It is a three-celled structure built to treat the runoff, Chapter 7, p. 7-39. The pond will contain the capacity of a 10-yr, 24-hr precipitation event plus sediment storage. Each cell contains an emergency overflow designed to discharge a volume flow equivalent to a 25-yr, 24-hr precipitation event.

The three-celled reclamation sediment pond will remain in place until vegetation standards and acceptable water quality limits are met, Chapter 3, p. 3-31. The details and designs for the pond are in shown in Plate 7-14 and Appendix 7-1. This will be Phase II. At the time of Phase II bond release the sedimentation pond will be removed and the main channel restored, Plate 3-7B.

A professional engineer or specialist experienced in the construction of impoundments will inspect the sedimentation pond, Ch. 3, p. 3-63. A certified report will be submitted to the Division after each inspection, at least quarterly.

Impoundments

Jacob's Pond is a reclaimed stock watering pond. During coal mining, the original stock pond was destroyed by Swisher. It was later constructed as Sedimentation Pond, 2A. Jacob's Pond was reconstructed to meet post-mining land use for stock watering. The pond is designed as a free flow pond that allows filling and discharge of channel flows from areas in the North Fork of Gordon Creek. It will transmit the design flows generated during a 100 yr-24hr event. See appendix 3-4 and Chapter 7, p. 7-40.

Sweet's Pond is a truck fill station. The pond is a permanent structure that was not reconstructed for reclamation. It will require bond release. The Permittee is responsible for the pond through the liability period. Sweet's Pond will be excluded from the Phase I bond release proposal. The approved reclamation plan calls for Sweet's Pond to revert to E.E. Preice after final bond release. See Appendix 3-5.

Casing and sealing of wells

There are no groundwater monitoring wells on the Gordon Creek 2, 7 and 8 mine lease areas.

Findings:

The Permittee has submitted sufficient information to meet the minimum Hydrologic Information requirements of 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.

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Analysis:

Affected area boundary maps

The affected area is assumed by the Division to be the same as the permit area for this mine. The permit boundary for the Gordon Creek No. 2/7/8 Mines is shown on Plate BR-2. Plate BR-1 show the permit area with the exception of the Sweet's Pond area at a scale of approximately 1-inch equals 150 feet. (Note: Sweet's Pond will not be part of this bond release.)

Plate 3-7 in the MRP shows the approved permit boundaries.

Bonded area map

Because of lease relinquishments, the bond area for the Gordon Creek No. 2/7/8 Mines is the same as the permit area. See Plate BR-1 and BR-2 for permit boundaries.

Additional information is also given in the MRP. Plate 3-7 in the MRP shows the permit boundaries.

Reclamation backfilling and grading maps

The Division's Technical Directive Tech-006 outlines the information that should be shown on maps submitted for bond release. The general information that must be included for all bond phases is as follows:

- Delineate all disturbed areas.
- Show the reclamation dates and acreages of each reclaimed area.
- Show the operation or reclamation status of each area, such as active; temporary cessation; or phase bond release.
- Show areas proposed for bond release.

The maps in the MRP and bond release package address the general requirements as follows:

- The disturbed area boundaries are shown on several maps including Plate 3-7 in the MRP and Map BR-1 in the bond release package.
- The Permittee did not show the dates when backfilling and grading operations were conducted at the Gordon Creek No. 2, No. 7 and No.8 mines. Information in the MRP shows that earthwork was done from 1995 to 1997.
- The Permittee does not label the operational status of each area in the disturbed area boundaries. However, information from the text clearly shows that the entire permit area is in permanent cessation.

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- Plate BR-2 in the bond release package shows the areas for which bond release is sought. The area for which bond release is being sought at the Gordon Creek No. 2, No. 7 and No.8 Mine is 32.52 acres.
- The Permittee is excluding 2.36 acres that are associated with Sweet's Pond from Phase I bond release.

The specific information needed for Phase I bond release is as follows:

- Map must have a scale of no smaller than 1 inch equals 500 feet.
- Postmining features including restoration of natural drainages, ponds, diversions, wells and monitoring sites.
- Cross sections showing important topographic features, including to but not limited to, how the approximate original contour requirements were addressed and the roads.
- Dates of backfilling and grading activities.
- Dates of topsoil replacement.
- Topsoil replacement depths.

The maps in the MRP and bond release package address the specific Phase I requirements as follows:

- Plate 3-7 and Plate BR-1 have scales of approximately 1-inch equals 125 feet.
- The Plate 3-7 and Plate BR-1 show the following features: (1) the restored channel including sections that have riprap, (2) French drains from the mine and (3) sediment ponds.
- The Permittee include cross section on 100-foot centers for bond release site. The Permittee also includes detailed cross section for side channel reclamation.
- The plates do not show the dates of backfilling and grading activities. Information in the MRP shows that those activities were done between 1995 and 1997.
- The plates do not show the dates of topsoil replacement but that was done during backfilling and grading. Information in the MRP shows that those activities were done between 1995 and 1997.
- The plates do not show the topsoil replacement depths. The depth of topsoil replacement is shown on Table 8-5A of the MRP.

Because the dates for those activities is well documented in the text the Division will not require that information to be placed on maps.

Reclamation facilities maps

The Permittee shows the location of the sediment ponds that will be retained until vegetation has been established on Plate BR-1.

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Final surface configuration maps

Plate 3-7 and the associated cross-sections show the surface configuration after backfilling and grading. There is enough information on the maps for the Division to check the designs against the as-builts and do a field check.

Findings:

Information provided in the Maps, Plans and Cross-Sections of Reclamation Operations section of the reclamation plan is not considered adequate to meet the minimum requirements of the regulations. Before approval, the Permittee must provide the following in accordance with.

R645-301-542.300 and R645-301-121.200, The Permittee must clarify which maps in the MRP and bond release package are design maps and cross sections and which ones are as-builts. In the MRP, there are two copies of Plate 3-7. One copy is date received May 19, 1998 and the other is dated received Nov. 4, 1999. The Division assumes that the May 19, 1998 copy is the design plan and the Nov. 4, 1999 copy is the as-builts. In order to avoid confusion the Permittee needs to label each copy of Plate 3-7 as "design" or "as-built".

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

General

The disturbed area was 34.88 acres. The portion requested for Phase I Bond Release is 32.52 acres. (This excludes the 2.36 acres associated with the sediment pond and the Sweet's pond site.) The public notice accompanying this application indicates that backfilling and grading of the site occurred over a two-year period, from 1995 to 1997, with additional work conducted in 1999.

The application includes a notarized statement that the reclamation activities have been accomplished in accordance with the Act and according to the approved reclamation plan as required by R645-301-880.130.

Technical Directive 006 requests that technical information such as item 1) dates and depths of topsoil replacement, 2) evaluation of topsoil or substitute topsoil and 3) evaluation of

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the subsoil including replacement depths is included in the Phase I bond release application. This information was not included in the application, but the location of the information was provided in the accompanying deficiencies checklist. The depth of topsoil replacement (required by items II B 3 d) can be found in the MRP, Table 8-5A. The public notice contains information on dates of grading activity (required by item II B 3 e). Information required by item II B 4, 5, and 6 is found in the MRP, Appendix 8-2.

Table 8-5A summarizes information provided in the MRP. Table 8-5A was drafted in 1993 and incorporated into the MRP in July of 1995. This table describes the mass balance proposed during the Mining and Reclamation Plan, as follows:

- At the No. 7 Mine, approximately 3,684 cubic yards of topsoil and 8,000 cubic yards of subsoil were available. See Section 3.4.4, page 3-16 of the MRP.
- At the No. 8 Mine, approximately 2,514 cubic yards of topsoil were available. See Section 3.4.4, page 3-17 of the MRP.
- Approximately 37,000 cubic yards of fill were available along the No. 2 mine road and in the No. 7 mine pad was considered suitable topsoil substitute, with the exception of soils near sample site No. 3 (see also MRP, Section 8.6.2 and Section 8.8).

The Mining and Reclamation Plan further states:

- The total fill required for the property is estimated at 198,386 cubic yards (MRP, Section 3.5.4.1, page 3-36).
- Unsuitable material will be covered with a minimum of four feet of suitable material (MRP, Section 8.8).
- Topsoil was salvaged and placed on the pond embankments when the 2/7/8 sediment pond was created (MRP, Section 3.5.4.4, page 3-47A)

The application does not include the technical information required as per item II B 4 (overburden chemical analyses results) of the Bond Release Directive (Tech - 006, dated September 5, 2000). For example, there are statements in the MRP suggesting that further soil sampling was conducted at the time of reclamation (1995 – 1997) that are not supported by the Phase I Bond Release application and must be clarified. The MRP indicates:

- Ninety days prior to reclamation, additional tests were run on the fill beginning with location No. 3 and extending outward, sampling every ten feet in four directions until suitable SAR values are obtained (MRP, Section 8.6.4, page 8-33).
- Special handling of the fill included laboratory analysis of any material suspected of having greater than 50% coal fines (MRP, Section 3.4.4, page 3-15).
- Additional soil sampling occurred before earthwork and soil redistribution as described in Section 3.5.5.1 and shown on Plate 3-1 (MPR, Section 8.9 and Section 3.5.5.1, page 3-50 and 3-51).

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- Soil sampling occurred on 70% or greater slopes remaining during final reclamation (MRP, Section 3.4.4, page 3-17).
- At the fan portal, 12-18 inches of soil was removed before grading, sampled and replaced after grading (MRP, Section 3.5.4.4, page 3-47A).

The Division's copy of the MRP may be missing Appendix 8-3 titled "No. 8 Mine/Topsoil Piles/No. 2 Mine Sampling Results August 1996" which may have this information (personal communication with Dan Guy on September 23, 2002).

During a site visit on September 10, 2002, the following soil stabilization and erosion control measures were noted as described by the MRP:

- The final surface was left roughened by the bucket of a backhoe with depressions that are 2 to 3 feet in diameter (MRP, Section 8.8).
- Large rock fragments were utilized at the toe of the outcrop (to a depth of 3 feet) to enhance stability. The rocks were covered with one foot of soil. (MRP, Section 3.5.4, page 3-34).
- Erosion controls such as straw dikes were placed below the backfill areas (MRP, Section 3.5.4.1).
- Surface control for water from the seep near the top of the cut slope at Mine No. 7 was provided (MRP, Section 3.5.4.1, page 3-40).
- Seepage from the rock face at the No. 7 mine is controlled as it reaches the lower bench where it is intercepted and conveyed to the main restored channel via a riprapped ditch. Specifications of the ditch are as described (MRP, Section 3.5.4.3, page 3-45).
- A seep in the road cut just below the No. 8 Mine pad is controlled as described in the MRP, Section 3.5.4.1, on page 3-43.
- A seep at the No. 8 Mine flows into a basin of native rock for wildlife watering (MRP, Section 3.5.4.1, page 3-43.)

The following erosion control practices could not be verified during the September 10, 2002 site visit, but were verified by conversation with Dan Guy on September 23, 2002:

- Compacted zones were eliminated by deep chiseling before final reclamation (MRP, Section 8-10 and Section 3.5.4.4.)
- The regraded surface was scarified to a depth of 18 inches (MRP, Section 3.5.4.)
- Areas without topsoil cover received 1500 lbs/ac of organic matter (alfalfa) incorporated with gouging or hand tools (in steep areas). Steep areas also received tackifier and mulch as described in Section 3.5.5.3 (MRP, Section 3.5.5.1, page 3-51 and 3-52.)
- 2000 lbs/ac wood fiber mulch with 60 lbs/ac of tackifier will be placed on slopes less than 3H: 1V (Section 3.5.5.3, page 3-56.)
- There were no slopes qualifying for erosion control mat use as described in Section 3.5.5.3, on page 3-56.

- Once the vegetation is deemed adequate, the sediment ponds will be removed and reclaimed (MRP, Section 3.5.3.3, page 3-31.)
- On severe slopes that do not receive topsoil, 2500 lbs/acre of mulch and 120 lbs/acre of tackifier will be applied (Section 3.5.5.3, page 3-56.)

INSPECTION BY THE DIVISION

A pre-bond release inspection was conducted on September 10, 2002. The review team met Dan Guy at the mine site. The purpose of the field review was to evaluate the site for backfilling and grading and to check some of the areas that have presented problems in the past.

Sedimentation Pond

The first structure evaluated on the review was the sedimentation pond. It consists of a series of three cells with concrete grouted spillways. Recent storms at the site had filled the upper cell with water. There was a small amount of water in the middle cell, but that was probably due to direct rainfall instead of overflow from the first cell. Sediment accumulation in the upper cell was obvious. Dan Guy was asked if the sediment storage level had been exceeded. He stated that the last surveys indicated that the pond had some storage left, however he was uncertain if the last storms had washed down additional sediment to exceed the sediment storage capacity. Dan Guy mentioned he would conduct another survey to check the sediment level. There has been to sediment loading of the middle or lower cells of the pond.

Sediment loading in the pond had increased substantially ever since a storm caused a breach in the county road above the permit area. A large amount of sediment washed down channel SD-6 from the road and canyon. A large amount of the sediment was also piled up in the tributary above the mine site and continues to wash down the channel when it rains.

After the pre-bond release inspection, the Permittee met with the County Road Department to discuss the road and sediment problem. The County has agreed to fix the problem within 60 days. Since an agreement has been made, the Division no longer considers this issue to be a deficiency in the plan. Bond release will not occur until the problem has been fixed.

Stream Channels

Just above the ponds is the first side drainage, SD-6. Five other drainages flow into the main channel of Bryner Canyon. These drainages are shown on Plate 3-7. The lower section of SD-6 shows signs of down cutting from erosion. The riprap has been washed out of a small section in the steep part of the channel. The eroded section needs to be riprapped to control erosion. It is likely due to the additional runoff and sediment contributed from the county road. This problem was to be remedied with the county repairing the road. Dan mentioned that he was having a hard time getting the County to cooperate with repairs. He stated that it had been repaired once, but has breached again. Runoff from the county road area increases the amount of

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runoff and loading, which is not factored into the runoff calculations or storage capacity for the hydrologic structures on the mine site. Without remediation of the flow pattern from the road, the Mining and Reclamation Plan is not accurate. This problem has to be fixed before bond release.

A reconnaissance of the other stream channels on the permit area identified them to be stable and functioning. The permanent culvert in the Right Fork of Bryner Canyon was also observed. It too was intact and stable.

Joe Helfrich inspected the site on October 2, 2002 and confirmed that the damage had been repaired.

Determination of Bond Amount

The Permittee included a detailed reclamation cost estimate for all activities that will occur after Phase I bond release has been granted. Those activities include reclaiming the sediment ponds, Sweet's Pond and the vegetation cost for the entire mine site.

The Division was informed after the pre-bond release inspection that the Permittee would submit a request for total bond release for Sweet's Pond. Therefore, the Division will not require the Permittee to submit reclamation costs at this time. Without that information or a request for Phase III bond release the Division will not be able to grant Phase I bond release.

Terms and Conditions for Liability Insurance

Findings:

Information provided in the bond release application is not considered adequate to meet the minimum requirements of the regulations. Before approval, the Permittee must provide the following in accordance with.

R645-301-142, Provide the Division with the results of the soil testing described in the Mining and Reclamation Plan Section 8.6.4, page 8-33; Section 3.4.4, page 3-15; Section 3.5.5.1 and shown on Plate 3-1; Section 8.9 and Section 3.5.5.1, page 3-50 and 3-51; Section 3.4.4, page 3-17; and Section 3.5.4.4, page 3-47A or indicate in the Phase I Bond Release application which of these sampling proposals were eliminated and amend the Mining and Reclamation Plan accordingly. Note: the Permittee recently submitted data that was intended to satisfy the requirements of this deficiency. If the Permittee needs to supply additional information, the Division will notify them