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

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January 30, 2003

OK

Chris Hansen, Environmental Manager
Canyon Fuel Company, LLC
HC 35 Box 380
Helper, Utah 84526

Re: Phase I Bond Release Plan Approved, Canyon Fuel Company, LLC, Gordon Creek #2, #7, & #8 Mine, C/007/016-BR01B-2, Outgoing File

Dear Mr. Hansen:

The Phase I Bond Release plan is conditionally approved upon receipt of three clean copies prepared for incorporation as well as an updated C1 and C2 form. Please submit these copies by March 14, 2003.

The Division will now coordinate with you to schedule the Phase I Bond Release inspection.

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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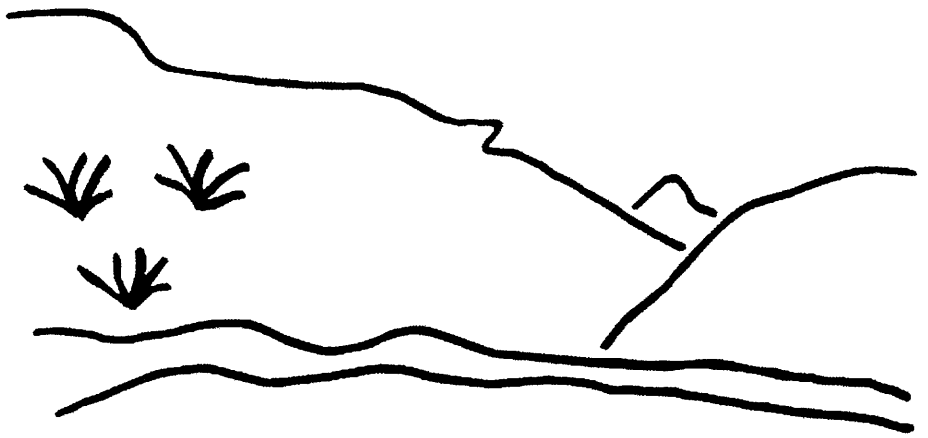
State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Gordon Creek No. 2/7/8 Mines
Phase I Bond Release
C/007/016-BR01B-2
Technical Analysis
January 24, 2003

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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.

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. On October 2002, the Division received additional information. During the review of that information, the Division found the site met the minimum requirements for Phase I bond release.

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.

INTRODUCTION

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 Gordon Creek 2, 7 and 8 Mines are currently in the initial process of Phase I bond release, although backfilling and grading occurred several years ago.

The permittee conducted backfilling and grading operations of the Gordon Creek #2, 7 and #8 mines a two-year period, from 1997 to 1998. The Division approved the permit reduction in September 2001, which reduced the permit area from 2286.05 acres to 180.0 acres. The permit reduction removed most of the area used exclusively for underground mining while the surface disturbed area remain.

The permittee has submitted a revised for reclamation in Chapter 3, p. 3-64. The revised schedule reflects the best estimate for continuing reclamation.

The permittee maintains a sedimentation pond and monitors for discharges in accordance with UPDES discharge standards.

Findings:

The information in the Phase I bond release application meets the minimum requirements of the general reclamation regulation.

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 post-mining land use is identified as the "the same as the pre-mining land use" which is wildlife habitat, hunting, and grazing. During the reclamation period the post-mining land use

will be wildlife habitat. At the end of the 10-year bond period the land will revert back to the landowner. The land use will then depend on the landowner's decision. Information in the plan, Appendix 3-4 indicates that the pond Mr. Jacob wants retained on site will be used for livestock. Chapter 4, p. 4-55 does not specifically identify grazing as a post-mining land use, however it is implied, because of the pre-mining land use statement.

Findings:

The Permittee has met the minimum regulatory requirements for the post-mining land use section of the regulations.

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 coached 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 its premining configuration? The approved backfilling and grading plan called for restoring the area to AOC. When the Division compares the design plans (Plate 3-7 received May 19, 1998) with the as-built drawings (BR-1 received October 25, 2001 and August 2, 2002) and the on site conditions with the AOC requirements the Division finds that the Permittee met those requirements.

The Division verified during the pre-bond release inspection, that the reclaimed area blends into the undisturbed area. The Division checked the as-built maps, look at how the disturbed area was transitioned into the undisturbed area and verified that the topography within the disturbed area is similar to the surrounding area.

Cut-slopes were left because the Permittee did not have enough fill material or the required safety factor of 1.3 could not be achieved without blocking the stream. The Division does not have any regulations or guidelines for cut-slope retention.

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

Neither the designs nor the as-builts show the location of the reclaimed spoil piles. This issue is addressed in the map section. During the bond release inspection, the Division will field check the site to determine if the spoil piles have 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 eliminate the highwalls at the No.7 and No. 8 Mines. The Division verified that the highwall elimination during the pre bond release inspection.

The highwall at the No. 2 Mine was not eliminated due to stability concerns. The main stability concern is a seep that in located at the Right Fork drainage. Because the site is pre-SMCRA, the Division can allow highwall remnants if fill material were not reasonably available, safety factor concerns, or elimination would disrupt drainage patterns. The as-builts drawing show that the Permittee followed the approved plan.

Drainages

The restored drainages are shown in the as-built drawing and cross–sections. During the pre bond release inspection, the Division verified that the drainages were properly installed.

Postmining Land Use

The post-mining land use is identified as the "the same as the pre-mining land use" which is wildlife habitat, hunting, and grazing. During the reclamation period, the post-mining land use will be wildlife habitat. At the end of the 10-year bond period, the land will revert back to the landowner. The land use will then depend on the landowner's decision. Information in the plan, Appendix 3-4 indicates that the pond Mr. Jacob wants retained on site will be used for livestock. Chapter 4, p. 4-55 does not specifically identify grazing as a post-mining land use, however it is implied, because of the pre-mining land use statement.

Water quality monitoring and 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.

Findings:

The Permittee has met the minimum requirements for reclaiming the site to AOC standards are required by the regulations.

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 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 application includes a notarized statement that the reclamation activities have been accomplished in accordance with the SMCRA and according to the approved reclamation plan as required by R645-301-880.130. This statement is found in Appendix 2-8.

The Backfilling and Grading of the No. 7 mine was the subject of a Ten Day Notice (TDN) from the Office of Surface Mining in 1994 (TDN number X94-020-352-003 TV2). Approval of the reclamation and the accompanying Technical Analysis dated July 20, 1995 defended the reclamation plan, but placed two conditions on the reclamation plan. The first condition was quickly resolved, according to correspondence dated October 12, 1995, and the second condition was restated for clarity as follows:

Condition #2

Backfilled slopes in the #7 Mine portal area shall be backfilled to the extent possible while maintaining a factor of safety of no less than 1.3 and no greater than 1.5. The operator shall determine, based on site conditions, where additional materials may be developed and placed as fill to further reduce or eliminate cut slopes associated with the reclamation plan. Slope measurements and stability analysis based on site conditions during construction shall be provided in conjunction with certified as-built reports or plans demonstrating stability and that backfilling of cut slopes to the extent possible during reclamation activities has been accomplished.

Plate 3-7 indicates that the slope near the #7 mine is 4.5h: 1v or about 22%. Photographs in the Division records from 1995 compared with recent photographs of the area indicate that the highwall is buried approximately 45 feet in the fill as planned; suggesting that burial to a depth of 60 feet with additional material was not achieved. The September 11, 1996 inspection report verifies that, "The fill material is built up at the #7 Mine to the MSHA bench. This elevation for backfill was agreed to by the applicant and regulatory authorities to establish an acceptable stability factor." Consequently, the original plans found in the MRP support the current configuration and stability of the highwall.

In fact, in a March 7, 1997 response to the UDOGM Highwall Survey conducted in conjunction with the DOGM/OSM Evaluation team, Mr. Dan Guy outlined the location of the supporting information for highwall reclamation, as follows:

- Volume 1, pages 3-5, 3-14, 3-15, 3-17, Section 3.5.3 Final Abandonment; Section 3.5.4 Backfilling and Grading Plans; Section 3.5.4.1 Removal or Reduction of Highwalls, Portal Face-ups and Cut Slopes;
- Appendix 3-1 Stability Investigation for Gordon Creek No. 7 Mine Highwall and Road Construction;
- Appendix 3-7 Gordon Creek No. 7 Mine, Highwall Stability Analysis and Reclamation Limits; and
- Appendix 3-8, Gordon Creek No.2 Mine Highwall Stability Analysis and Reclamation Limits.

Condition #2 required the submittal of additional information if plans varied from those described in the Mining and Reclamation Plan. Backfilling and grading plans did not vary from the plans described and therefore no additional information has been submitted to the Division. Verification that the work was conducted according to plan was found in the Division records and statements from the Permittee.

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 address in the AOC section. In the AOC section the Division evaluated AOC and elimination of highwalls and spoil piles. Some pre-SMCRA highwalls remnants were left because they could not be reclaim in a manner that complies with the regulations. No spoil piles existed on site.

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 issue 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.

Previously Mined Areas

The only area in the Gordon Creek complex that falls under the definition of previously mined area is the Number 2 mine. Mine development began in 1969, which means that the site is pre-SMCRA. The main consideration at the Number 2 mine site is the highwall remnant. The issue is address in the AOC 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 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 backfill 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.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

Redistribution

Technical Directive 006 requests that technical information such as item II B 3 d and e (dates and depths of topsoil replacement) and II B 5 (evaluation of topsoil or substitute topsoil), and II B 6 (evaluation of the subsoil including replacement depths) is included in the Phase I bond release application. The location of the information was provided in the deficiencies checklist that accompanies the application, as follows:

- The depth of topsoil replacement was twelve inches (MRP, Table 8-5A).
- 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.
- Evaluation of topsoil and subsoil is found in the MRP, Appendix 8-2 and Appendix 8-3.

Table 8-5A summarizes information provided in the MRP. Table 8-5A was drafted in 1993, revised in 1996, reviewed and approved November 26, 1996, but never incorporated into the MRP. The technical review of the 1996 amendment (dated October 28, 1996) clarifies that topsoil salvaged from the No. 7 Mine was used at the No. 2 Mine; the No. 8 Mine topsoil was used in the reclamation of the No. 7 Mine; Subsoil salvaged from the No. 8 Mine was returned to the No. 8 Mine as substitute topsoil.

The revised 1996 Table 8-5A has been resubmitted to the Division with the Phase I Bond Release application. Table 8-5A describes origin of the topsoil and substitute topsoil for the site as follows:

- The No. 7 mine site provided 3,684 cubic yards of topsoil and 8,000 cubic yards of subsoil for topsoil substitute material (see also MPR, Section 3.4.4, page 3-16).
- The No. 8 mine provided approximately 2,514 cubic yards of topsoil (see also MRP, Section 3.4.4, page 3-17).
- Approximately 37,000 cubic yards of fill along the No. 2 mine road and in the No. 7 mine pad was considered suitable topsoil substitute. (see also MRP, Section 8.6.2 and Section 8.8).

Chemical analysis of the overburden and substitute topsoil is found in Appendix 8-3 of the application. Soil sampling was conducted in 1995 and 1996 as described in Section 3.5.5.1,

pages 3-50 and 3-51. Appendix 8-3 does not report depth of sampling and location of sampling, but a Division field report dated July 25, 1996 describes the 1996 work, in detail as follows:

- Samples labeled "No 8 Mine ss#1 -#5" were taken from the surface eight inches of the backfilled and graded No. 8 Mine site.
- Samples labeled OP #1 and OP #2 were taken from the office pad surface. They were about 1 to 1.5 feet deep.
- Samples labeled road #7 mine were taken from a pit dug on the outward slope of the road above the #2 mine pad.

Sample locations for the remaining samples in 1995 and 1996 are self-explanatory from the sample identifications. It should be noted that four containers labeled "GC No 7" were from slopes greater than 70% in the No. 7 Mine vicinity as required by MRP, Section 3.4.4, page 3-17 (personal communication with Mr. Dan Guy on January 14, 2003).

Appendix 8-3 indicates that the material sampled was suitable as a substitute topsoil, but deficient in potassium. A field report dated August 21, 1996 indicates that the Division recommended an application of 16-16-8 fertilizer during reclamation.

During regrading of the site, topsoil was salvaged and placed on the pond embankments when the new 2/7/8 sediment pond for the reclaimed site was created (MRP, Section 3.5.4.4, page 3-47A)

Findings:

Verification that the work was conducted according to plan was found in the Division records and statements from the Permittee and therefore meets the minimum requirements for Phase 1 bond release under R645-301-880.310.

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

All roads in the proposed bond release area have been reclaimed. See the backfilling and grading section of the TA for more details about the earthwork plan. The roads were reclaimed in such a way that the drainages are compatible with those in the surrounding area. The road surfaces were covered or pocked during earthwork so that vegetation could be established.

Retention

No roads will be retained within the proposed bond release area.

Findings:

The Permittee met the minimum requirements for the reclamation of roads and other transportation systems.

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

Based upon a conversation with Mr. Dan Guy on January 14, 2003, the Division understands that the sampling of the fill in the location of No. 3 (Plate 3-1) was not conducted since the suspect material was buried deep in the fill. No samples of coal waste were reported to the Division (as required by MRP, Section 3.4.4, page 3-15). The Division understands from talking with Mr. Dan Guy that the majority of the coal waste was removed from the site to C.V. Spur during final reclamation. However, field reports and inspection reports on file at the Division for the years 1995 and 1996 indicate that a substantial amount of coal was mixed with soil and placed against the highwall of the No. 2 Mine.

Backfilling at the site required a total of 198,386 cubic yards (MRP, Section 3.5.4.1, page 3-36). Mr. Guy maintains that all unsuitable material was covered with a minimum of four feet of suitable material (as stated in the MRP, Section 8.8).

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 culvers. Plate 3-1

Several hydrologic structures will remain after bond release, they are mentioned below, also see Plate 3-7.

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.

Surface-water monitoring

Water monitoring will continue until bond release. Post-mining water monitoring sites are identified on p. 7-56, Ch. 7. A recent application requesting to eliminate monitoring sites 2-3-W, 2-4-W, 2-5-W and 2-6-W near Beaver Creek has been review 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 applicant has supplied water monitoring data from surface sites and one spring site Appendix 7-8. 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 prior to regarding. The samples showed no signs of acid or toxic forming materials. The sedimentation pond has captured all runoff, since regrarding 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 mine portals were sealed.

Water quality standards and effluent limitations

A sedimentation pond collects most of the runoff from the disturbed area. Any effluents from the sedimentation pond are monitored via a UPDES discharge site. Gabion structures capture sediments from the reclaimed 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. The location of the gabion structures along the county road place a special burden on the operator because however there is a monitoring site down stream .

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 event, Appendix 7,p. 2-2.

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 still remains in the Right Fork of the South North 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 area along the stream channels has 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-6. 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.

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 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.

A 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 final 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 contains 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 a 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 operator is responsible for the pond through the reclamation period. Sweet's Pond will be excluded from the Phase I bond release proposal. It is planned that after the site meets bond release requirements, the pond would revert to E.E. Peirce, 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.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation was not a part of the Phase I bond release.

Findings:

The Permittee met the minimum requirements for the revegetation section of the regulations.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

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. (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 rip-rapped 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, 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 were verified by Division field reports dated August 21 and October 23, 1996 and through conversation with Dan Guy on September 23, 2002:

- 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 were placed on slopes less than 3H:1V (Section 3.5.5.3, page 3-56).
- On severe slopes that did 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)

- There were no slopes qualifying for erosion control mat use as described in Section 3.5.5.3, 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). (Work on the sediment ponds was completed in the fall of 2002.)

Findings:

Verification that the work was conducted according to plan was found in the Division records and statements from the Permittee and therefore meets the minimum requirements for Phase 1 bond release under R645-301-880.310.

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:

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. This information was submitted in the September 2001 submittal.

Additional information is also given in the MRP. Plate 3-7 in the MRP shows the 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 Plates BR-1 and Br-1 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

Plate 3-7 "Gordon Creek No.2/7/8 Mines Final Reclamation (Phase 1)" dated July 2002 accompanies this submittal. This version of Plate 3-7 shows the approximate location of the coal mine waste burial. However, coal mine waste was mixed with soil throughout the site of Mine #2 and used as fill against the highwall and cut slopes according to statements from Division technical staff and according to the record as noted in the July 23, 1995 field visit report and inspection reports for the 1996 field season (verified by photographs).

Because part of the site was disturbed pre-SMCRA and part was disturbed post-SMCRA, the permittee must include backfilling and grading maps that show the location of the pre-SMCRA and post-SMCRA boundaries. This information is needed to determine what standards should apply.

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:

- Delineated 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 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 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 shows the number of acres in the bond release areas and the acreage excluded from Phase I bond release on Plate BR-2.

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.

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.

Final Surface Configuration Maps

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

Certification Requirements.

All maps and cross-sections were certified by a registered professional engineer.

Findings:

The Permittee met them minimum requirements for maps, plans and cross-session for the reclamation plan.

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 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. This statement is found in Appendix 2-8.

Determination of Bond Amount

The reviewed the bond calculations and determine that sufficient bond will exist after Phase I bond release to insure proper reclamation in case of bond forfeiture.

Terms and Conditions for Liability Insurance

Findings:

The Permittee met the minimum requirements for the bonding and insurance requirements.