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DIVISION OF OIL, GAS AND MINING

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July 22, 2002

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

Re: Conditional Approval of Lion Deck, Plateau Mining Corporation, Star Point Mine, C/007/006-AM02B-2, Outgoing File

Dear Mr. Pappas:

The above-referenced amendment has been reviewed and is conditionally approved upon receipt of seven clean copies including maps and cross-sections. Once we receive these copies, final approval will be granted, at which time you may proceed with your plans.

A stamped incorporated copy of the approved plans will also be returned to you at that time, for insertion into your copy of the Mining and Reclamation Plan. A copy of our Technical Analysis is enclosed.

If you have any questions, please call me at (801) 538-5325 or Wayne Western at (801) 538-5263.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

an
Enclosure
cc: Price Field Office
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Utah!
Where ideas connect

State of Utah

Utah Oil Gas and Mining

Coal Regulatory Program

Star Point Mine
Lion Deck
C/007/006-AM02B-2
Technical Analysis
July 22, 2002

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TECHNICAL ANALYSIS

INTRODUCTION

In response to a Division letter dated July 14, 2000 requesting improved topographic mapping of the Lion's Deck area, Plateau Mining Corporation submitted an amendment application on February 14, 2002. The application includes improved topographic mapping, which more accurately depicts reclamation volumes and watershed definitions.

The amendment modifies the reclamation plan of the Lion's Deck area and the Permittee changed the reclamation plan for the conveyor belt access road. The State, Forest Service and Permittee own the surface of this area.

In response to a Division letter dated May 8, 2002 requesting improved topographic mapping of the Lion's Deck area, Plateau Mining Corporation resubmitted an amendment application on May 10, 2002. The application includes improved topographic mapping, which more accurately depicts reclamation volumes and watershed definitions. On July 18, 2002 the Division received an updated submittal that address the remaining deficiencies.

The current amendment does not modify the Divisions previous finding made for the Biology sections of the current Technical Analysis.

INTRODUCTION

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

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

Minimum Regulatory Requirements:

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

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

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

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

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

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

Analysis:

The requirements for the 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 involve hydrology, the postmining land use and backfilling and grading

The hydrology issues involve restoration of the drainage systems and sediment control. The drainage systems will be evaluated as part of the hydrology section. The sediment control issues are mostly done in the vegetation section. However, the slope shape does influence sediment control and will be partially addressed in this section.

The main concern that the Division has with the slope design is that the reclaimed slopes are mostly flat. Concave slopes usually provide better sediment control. The Permittee either needs to include concave slope designs into the reclamation plan or state why straight slopes will not produce increases in runoff or sediment lose.

The postmining land use requirements will be addressed in that section of the MRP.

The specific requirements of backfilling and grading are as follows:

- All Spoil Piles to be Eliminated
- Final Surface Configuration
- All Highwalls to be Eliminated

No spoil piles are located at the Lion Deck area. Therefore, the Permittee does not have to address this issue.

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

- The final grade of post-mining slopes shall not exceed approximate pre-mining slope grades and the post-mining slope will have a static safety factor of 1.3 or greater. The Division will take into consideration soil, 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.

The Permittee did not address the safety factor requirements for the post-mining slopes at the Lion Deck area. However, past slope stability analysis shows that slopes with angles as steep as 1.5H to 1 V (34°) will have a safety factor greater than 1.3. See the letter dated July 30, 1987 from Rollins, Brown and Gunnell Inc. to Ben Grimes in Exhibit 553.130a. In the letter the consultant states that slopes with angles of 1.5 H to 1.0 V will have safety factors greater than 1.3. In addition, in the approved reclamation plan for the Lion Deck area the post-mining backfilled slopes exceed 40° in some areas. See cross-section F-1 to F-1' on Map 542.200d1 that was incorporated May 27, 1998.

The information from the slope stability analysis indicates that the proposed post-mining slopes of 2H to 1V are gentler than those in the surrounding area and that the slope angles could be increase to 1.5H to 1V without affecting slope stability. By increasing the slope angle the Permittee could reduce or eliminate the cut slopes and highwalls.

The cut and fill calculations indicate that 1,178,377 cubic yards or cut material are available and 1,056,914 cubic yards of fill material is needed. The difference between the cut and fill requirement is 10%, which is the approximate accuracy of most earthwork calculations.

The Permittee is required to eliminate all pre-law highwalls unless they can show that either there is not enough reasonable available fill material or the reclaimed slope would not meet the minimum safety factor requirements.

The proposed reclamation plan for the highwall at the Lion Deck area is shown on cross-section E-E' on Map 542.200d2. The Permittee proposes to leave a 30-foot highwall. The limitation to full reclamation of the pre-SMCRA highwall is due to the Gentry Mountain road. The only way to place fill material high on the highwall is to increase the slope angle or move the Gentry Mountain road to a less stable surface.

The highwall backfill will have a slope of 1.8:1 at the steepest point. The backfill will consist of coal mine waste. The material could be placed at a steeper angle and still be stable. However, the Permittee must place a minimum of four feet of dirt over the backfill. The dirt will not be compacted. To avoid shallow surface failures and minimize erosion the slope angle should average 2:1. Since the slope will be concave, the Permittee will be able to increase the upper section of the backfill to 1.8:1. Therefore, the pre-SMCRA highwall will be reclaimed to the extent possible.

Findings:

The information provided in the amendment is considered adequate to meet the requirements of the AOC section of the regulations.

BACKFILLING AND GRADING

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

Minimum Regulatory Requirements:

General

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

both on and off the site; and, support the approved postmining land use.

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

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

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

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

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

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

Preparation of final-graded surfaces shall be conducted in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.

Previously mined areas

Remining operations on previously mined areas that contain a preexisting highwall shall comply with all other reclamation requirements except as provided herein. The requirement that elimination of highwalls shall not apply to remining operations where the volume of all reasonably available spoil is demonstrated in writing to the Division to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall shall be eliminated to the maximum extent technically practical in accordance with the following criteria:

1.) All spoil generated by the remining operation and any other reasonably available spoil shall be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remining operation shall be included within the permit area.
2.) The backfill shall be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability.
3.) Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The operator shall demonstrate, to the satisfaction of the Division, that the highwall remnant is stable.
4.) Spoil placed on the outslope 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.

Backfilling and grading on steep slopes

Underground mining activities on steep slopes shall be conducted so as to meet other applicable regulatory requirements and the requirements of this section. The following materials shall not be placed on the downslope: spoil; waste materials of any type; debris, including that from clearing and grubbing; abandoned or disabled equipment; land above the highwall shall not be disturbed unless the Division finds that this disturbance will facilitate compliance with the environmental protection standards and the disturbance is limited to that necessary to facilitate compliance; and, woody materials shall not be buried in the backfilled area unless the Division determines that the proposed method for placing woody material within the backfill will not deteriorate the stable condition of the backfilled area.

Special provisions for steep slope mining

No permit shall be issued for any operations covered by steep slope mining, unless the Division finds, in writing, that in addition to meeting all other regulatory requirements, the operation will be conducted in accordance with the requirements for backfilling and grading on steep slopes. Any application for a permit for surface coal mining and reclamation operations covered by steep slope mining shall contain sufficient information to establish that the operations will be conducted in accordance with the requirements for backfilling and grading on steep slopes.

This section applies to any person who conducts or intends to conduct steep slope surface coal mining and reclamation operations, except: where an operator proposes to conduct surface coal mining and reclamation operations on flat or gently rolling terrain, leaving a plain or predominantly flat area, but on which an occasional steep slope is encountered as the mining operation proceeds; where a person obtains a permit under the provisions for mountaintop removal mining; or, to the extent that a person obtains a permit incorporating a variance from approximate original contour restoration requirements.

Analysis:

General

The general backfilling and grading requirements include the following:

- Achieve AOC
- Eliminate Highwalls, spoil piles and depressions
- Achieve a postmining slope that does not exceed either the angle-of-repose of such lesser slope a 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.
- Disposal of coal processing waster and underground development waste
- Cover exposed coal seams, acid- and 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 standards, and the elimination of highwalls, spoil piles and depressions are addressed above in the AOC section.

The slope stability requirements were partially addressed in the AOC section and in the existing slope stability studies in Exhibit 553.130a of the MRP. In the July 18, 2002 submittal, the Permittee states that the angle-of-repose for the backfill material is 1.5 H to1.0 V. The reclaimed slopes will not exceed the angle-of-repose.

The issues involving minimizing erosion and water pollution are addressed in the AOC section. The postmining land use issues are addressed in that section.

The disposal of coal processing waste and underground development waste is included in the MRP. The Permittee does not propose any changes to those plans.

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 usually means areas that were mined and reclaimed or abandoned prior to the enactment of SMCRA. The provisions for previously mined areas include:

- Use of all reasonable available spoil 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 operator shall demonstrate, to the satisfaction of the Division, that the highwall remnant is stable.
- Spoil placed on the outslope 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 is 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 proposed amendment is considered adequate to meet the requirements of the backfilling and grading section of the regulations.

MINE OPENINGS

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

Minimum Regulatory Requirements:

Each exploration hole, other drillhole or borehole, shaft, well, or other exposed underground opening shall be cased, lined, or otherwise managed as approved by the Division to prevent acid or other toxic drainage from entering ground and surface waters, to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, fish and wildlife, and machinery in the permit area and adjacent area. Each exploration hole, drill hole or borehole or well that is uncovered or exposed by mining activities within the permit area shall be permanently closed, unless approved for water monitoring or otherwise managed

in a manner approved by the Division. Use of a drilled hole or monitoring well as a water well must meet the provisions required to protect the hydrologic balance. This section does not apply to holes drilled and used for blasting, in the area affected by surface operations.

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

Each exploration hole, other drill hole or borehole, shaft, well, and other exposed underground opening which has been identified in the approved permit application for use to return underground development waste, coal processing waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed until actual use.

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

Analysis:

The Permittee has committed to seal all mine openings according to the plan in the approved MRP.

Findings:

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

TOPSOIL AND SUBSOIL

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

Minimum Regulatory Requirements:

Redistribution

Topsoil materials shall be redistributed in a manner that: achieves an approximately uniform, stable thickness consistent with the approved postmining land use, contours, and surface-water drainage systems; prevents excess compaction of the materials: and, protects the materials from wind and water erosion before and after seeding and planting.

Before redistribution of the material, the regarded land shall be treated if necessary to reduce potential slippage of the redistribution material and to promote root penetration. If no harm will be caused to the redistributed material and reestablished vegetation, such treatment may be conducted after such material is replaced.

The Division may choose not to require the redistribution of topsoil or topsoil substitutes on the approved postmining embankments of permanent impoundments or of roads if it determines that placement of topsoil or topsoil substitutes on such embankments is inconsistent with the requirement to use the best technology currently available to prevent sedimentation, and, such embankments will be otherwise stabilized.

Nutrients and soil amendments shall be applied to the initially redistributed material when necessary to establish the vegetative cover.

The Division may require that the B horizon, C horizon, or other underlying strata, or portions thereof, removed and segregated, stockpiled, be redistributed as subsoil in accordance with the requirements of the above if it finds that such subsoil

layers are necessary to comply with the revegetation requirements.

Analysis:

Redistribution

Section 542.100, page 500-72, of the submittal indicates that there will be an estimated 1,178,377 CY of earth removed and 1,056,914 CY of fill placed during reclamation. The difference between the two figures is expected to be offset by the required compaction of the cut material into the fill. Table 542.200a outlines by location the source of cut and fill quantities. The table shows that the main channel (refuse) is a source of 553,579 CY of fill for the Lion Deck and the refuse pile. The Lion Deck and Pond #1 will require only 183,515 CY of fill.

Taking into account a ten percent reduction of volume due to the compaction of the refuse, the Division estimates that 300,000 CY of main channel refuse will be hauled to the refuse pile.

The Soil Redistribution Plan (MRP, Section 241, pp 200-21 through 200-25) states that there will be:

- four feet of cover over the refuse pile
- four feet of cover over acid/toxic material and all coal waste used as backfill
- seventeen inches of substitute soils over all other areas
- in-place fill materials used as substitute soils wherever possible
- re-exposed, buried topsoil used
- disturbance of the borrow area (owned by CPMC and located at SW 1/4, SW 1/4 Section 2, T.15 S. R. 8 E) only after the on site; previously disturbed materials are exhausted as a source of cover.

As described on page 200-23 of Section 240, reclamation of the Lion Deck portal access road will not be undertaken, the road will remain to support the post-mining land use. The outslopes of the road will be revegetated. However, the portion of the road affected by a landslide will receive a substitute topsoil application and seeding.

Reclamation of the Lion's Deck will consist of backfilling with coalmine waste from the main channel. Coalmine waste will be covered with four feet of cover. Non-toxic and non-acid forming materials will be covered with seventeen inches of cover at a minimum. The Permittee calculates on page 200-24 of the MRP that 55,499 CY of substitute topsoil will be required for cover, 36,662 CY of which will come from the outslope and 18,837 CY of which will have to be

found from other areas within the permit area or from the borrow site.

Coal waste will also be utilized as fill in the main channel side slopes (MRP, Section 240, page 200-25). The coal waste will be covered with four feet of cover. To accomplish reclamation of the main channel and lower facilities area, the volume of substitute topsoil required is approximately 116,468 CY. This material will be found either during reclamation of the area or from the borrow area.

As laid out in Table 233.100 Reclamation Soil Balance for Coal Waste Cover (MRP, Section 233, page 200-19), four feet of substitute topsoil cover for the Lion's Deck and the Main

Channel amounts to 135,305 CY and will come from the Soil Borrow site – Stage 1

Findings:

The soils redistribution information provided in the Mining and Reclamation Plan has not changed with this submittal and remains adequate for the purposes of the Regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

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

Minimum Regulatory Requirements:

Reclamation

A road not to be retained under an approved postmining land use shall be reclaimed in accordance with the approved reclamation plan as soon as practicable after it is no longer needed for mining and reclamation operations. This reclamation shall include: closing the road to traffic; removing all bridges and culverts unless approved as part of the postmining land use; removing or otherwise disposing of road-surfacing materials that are incompatible with the postmining land use and revegetation requirements; reshaping cut and fill slopes as necessary to be compatible with the postmining land use and to complement the natural drainage pattern of the surrounding terrain; protecting the natural drainage patterns by installing dikes or cross drains as necessary to control surface runoff and erosion; and, scarifying or ripping the roadbed, replacing topsoil or substitute material and revegetating disturbed surfaces.

Retention

A road to be retained for an approved postmining land use shall be classified as a primary road and designed constructed and maintained in accordance with the requirements for primary roads and in consideration of the approved postmining land use.

Analysis:

Reclamation

The short access road between the conveyor rock tunnel and County Road 290 will remain upon reclamation. This road was used for power line access. The original plan was to retain the road but the Permittee requested that road be removed in February 14, 2002 submittal.

Retention

The approved postmining land use includes the retention of County Road 290, which is a public road used to access Gentry Mountain and the Carbon County communication and relay facilities.

Findings:

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

HYDROLOGIC INFORMATION

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

Minimum Regulatory Requirements:

Hydrologic reclamation plan

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

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

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

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

Analysis:

General

The Star Point Mine is located near the headwaters of the Price and San Rafael river basins, with the Carbon/Emery county line marking the watershed divide. Hydrologic resources of the area are described in Volume III of the MRP.

Diversions

The approved plan includes the removal of most of the culverts and temporary diversion facilities associated with mining and reclamation. All sedimentation ponds and Treatment Facility Number 1 were designed to be temporary in nature and will be removed or filled. Flows will be returned to natural channels or constructed channels that best fit the natural flow of the current topography.

Those culverts which will be retained are indicated on Maps 761a through 761c and are associated with roads that will remain in-place, consistent with post-mining land use. Map 761a has been updated in this amendment application in accordance with the watersheds and channels updated by refined mapping. There has been no change to retained culverts.

There have been few changes to operational culverts based on the new topography and watershed information. Operational culvert 46B will be replaced by SPRC-44 to allow reclamation of the access to Pond 001. Four new broad swale channels have been added to the plan, SPRD-20b, SPRD-20c, SPRD-44, and SPRD-45. All of these channels are indicated on Exhibit 761a (map) and Map 761a. Reclamation Culverts SPRC-17a, 17b, 18, 19a, 19b, and 20 have been removed from the plan.

Modified channel design can be found in an addendum to Exhibit 761a, included in the amendment application. Designs are based on the USCS Curve Number Technique (1972) and the Triangular Unit Hydrograph Approach of the USCS (1972). The SCSHYDRO program (Hawkins and Marshall, 1979) was used for runoff depth and peak flow calculations. A 10 year, 6 hour storm event of 1.40 inches was assumed.

Channels falling into the "Standard Broad Swale Design" and "Standard Riprap Channel Design" are found in Table 761a on Page 700-189 of the proposed amendment. Details of the design of these two types of channels can be found in Exhibit 761a in the MRP. The standard broad swale design will generally be installed high in the watershed on steep reclaimed slopes where drainage areas and discharges are limited. The standard riprap channel will be installed lower in the watershed where anticipated flows will be higher.

Site-specific reclamation channel designs including dimensions, maximum velocity, and d_{50} riprap requirements are found in Table 761b on page 700-190. These channels are generally in the lower reaches of the watershed where higher flows are anticipated.

Reclamation culvert diameters, peak flow, outlet velocity and required outlet protection are found in Table 761c on page 700-190.

Layne Jensen, P.E. of EarthFax Engineering, certifies the designs and maps associated with the hydrological design.

Findings:

The information provided fulfills the minimum regulatory requirements for this section.

STABILIZATION OF SURFACE AREAS

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

Minimum Regulatory Requirements:

All exposed surface areas shall be protected and stabilized to effectively control erosion and air pollution attendant to erosion. Rills and gullies which form in areas that have been regraded and topsoiled and which either disrupt the approved postmining land use or the reestablishment of the vegetative cover, or, cause or contribute to a violation of water quality standards for receiving streams, shall be filled, regraded, or otherwise stabilized; topsoil shall be replaced; and the areas shall be reseeded or replanted.

Analysis:

All fill material will be compacted to at least 85% maximum Proctor density in lifts of twelve inches (MRP, Section 542.200, page 500-77). Compaction will be accomplished using repeated passes of rubber-tired equipment, rollers, and other appropriate equipment.

Regraded surfaces will be gouged, scarified or ripped on the contour before replacement of topsoil (MRP, Section 244, p 200-26). Following substitute topsoil application, mulch with a high organic matter content (2 tons/acre) will be incorporated by either deep gouging or by plowing along the contour (MRP, Section 244 and Section 542.200, page 500-78). Following seeding an additional 1.5 to 2 tons/acre of straw mulch will be spread over the site and crimped with a trackhoe bucket or sprayed with a tackifier.

Findings:

The information provided has not changed with this submittal and fulfills the requirements of the Regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

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

Minimum Regulatory Requirements:

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

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

Affected area boundary maps

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

Bonded area map

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

Reclamation backfilling and grading maps

Contour maps and cross sections to adequately show detail and design for backfilling and grading operations during reclamation. Where possible, cross sections shall include profiles of the pre-mining, operations, and post-reclamation topography. Contour maps shall be at a suitable scale and contour interval so as to adequately detail the final surface configuration. When used in the formulation of mass balance calculations, cross sections shall be at adequate scale and intervals to support the mass balance calculations. Mass balance calculations derived from contour information must demonstrate that map scale and contour accuracy are adequate to support the methods used in such earthwork calculations. Detailed cross sections shall be provided when required to accurately depict reclamation designs which include, but are not limited to: terracing and benching, retained roads, highwall remnants, slopes requiring geotechnical analysis, and embankments of permanent impoundments.

Reclamation facilities maps

Location of each facility that will remain on the proposed permit area as a permanent feature, after the completion of underground mining activities. Location and final disposition of each sedimentation pond, permanent water impoundment, coal processing waste bank, and coal processing water dam and embankment, disposal areas for underground development waste and excess spoil, and water treatment and air pollution control facilities within the proposed permit area to be used in conjunction with phased reclamation activities or to remain as part of reclamation.

Final surface configuration maps

Sufficient slope measurements to adequately delineate the final surface configuration of the area affected by surface operations and facilities, measured and recorded according to the following: each measurement shall consist of an angle of inclination along the prevailing slope extending 100 linear feet above and below or beyond the coal outcrop or the area disturbed or, where this is impractical, at locations specified by the Division; where the area has been previously mined, the measurements shall extend at least 100 feet beyond the limits of mining disturbances, or any other distance determined by the Division to be representative of the post-reclamation configuration of the land; and, slope measurements shall take into account variations in slope, to provide accurate representation of the range of slopes and reflect geomorphic differences of the area disturbed through reclamation activities.

Reclamation monitoring and sampling location maps

Elevations and locations of test borings and core samplings. Elevations and locations of monitoring stations used to gather data on water quality and quantity, subsidence, fish and wildlife, and air quality, if required, to demonstrate reclamation success.

Reclamation surface and subsurface manmade features maps

The location of all buildings in and within 1,000 feet of the proposed permit area, with identification of the current or proposed use of the buildings at the time of final reclamation. The location of surface and subsurface manmade features within, passing through, or passing over the proposed permit area, including, but not limited to, major electric transmission lines, pipelines, fences, and agricultural drainage tile fields. Each public road located in or within 100 feet of the proposed permit area and all roads within the permit area which are to be left as part of the post-mining land use. Buildings, utility corridors, and facilities to be used in

conjunction with reclamation or to remain for final reclamation.

Reclamation treatments maps

The location and boundaries of any proposed areas for reclamation treatments including but not limited to: location, extent and depth of materials used for resoiling; location, extent and types of treatments for revegetation including soil preparation, soil amendments, mulching, seeding, variations in seed mixtures, and other revegetation treatments. Each water diversion, collection, conveyance, treatment, storage and discharge facility to be used during reclamation. Each facility to be used to protect and enhance fish and wildlife related environmental values. other treatments or applications which are specifically designed or required as part of phased or final reclamation activity.

Certification Requirements.

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

assistance from experts in related fields such as landscape architecture.

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

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

Analysis:

Final Surface Configuration Maps

The Permittee included cross-sections for the Lion Deck area at 200-foot intervals. Those cross-sections were adequate for the Division to make findings about backfilling and grading and AOC.

For bond release on a site the size of Star Point, the Division usually requires cross-sections on 200-foot intervals or less. Because the design cross-section will be compared to the as-built cross-sections, the Division needs the two sets of cross-sections to be at the same intervals. While the Division usually will not allow the Permittee to reduce the number of cross-sections, they will allow the Permittee to modify the location of the cross-sections for key locations.

Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of the reclamation maps and cross-sections requirements of the regulations.

BONDING AND INSURANCE REQUIREMENTS

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

Minimum Regulatory Requirements:

General

After a permit application has been approved, but before a permit is issued, the applicant shall file with the Division, on a form prescribed and furnished by the Division, a bond or bonds for performance made payable to the Division and conditioned upon the faithful performance of all the requirements of the Act, the regulatory program, the permit, and the reclamation plan.

The bond or bonds shall cover the entire permit area, or an identified increment of land within the permit area upon which the operator will initiate and conduct surface coal mining and reclamation operations during the initial term of the permit. As surface coal mining and reclamation operations on succeeding increments are initiated and conducted within the permit area, the permittee shall file with the Division an additional bond or bonds to cover such increments.

The operator shall identify the initial and successive areas or increments for bonding on the permit application map and shall specify the bond amount to be provided for each area or increment. Independent increments shall be of sufficient size and configuration to provide for efficient reclamation operations should reclamation by the Division become necessary.

An operator shall not disturb any surface areas, succeeding increments, or extend any underground shafts, tunnels, or operations prior to acceptance by the Division of the required performance bond.

The applicant shall file, with the approval of the Division, a bond or bonds under one of the following schemes to cover the bond amounts for the permit area as determined: a performance bond or bonds for the entire permit area; a cumulative bond schedule and the performance bond required for full reclamation of the initial area to be disturbed; or, an incremental-bond schedule and the performance bond required for the first increment in the schedule.

Form of bond

The Division shall prescribe the form of the performance bond. The Division may allow for: a surety bond; a collateral bond; a self-bond; or a combination of any of these bonding methods.

Performance bond liability shall be for the duration of the surface coal mining and reclamation operation and for a period which is coincident with the operator's period of extended responsibility for successful revegetation or until achievement of the reclamation requirements of the Act, regulatory programs, and permit, whichever is later.

With the approval of the Division, a bond may be posted and approved to guarantee specific phases of reclamation within the permit area provided the sum of phase bonds posted equals or exceeds the total amount required. The scope of work to be guaranteed and the liability assumed under each phase bond shall be specified in detail.

Isolated and clearly defined portions of the permit area requiring extended liability may be separated from the original area and bonded separately with the approval of the Division. Such areas shall be limited in extent and not constitute a scattered, intermittent, or checkerboard pattern of failure. Access to the separated areas for remedial work may be included in the area under extended liability if deemed necessary by the Division.

The bond liability of the permittee shall include only those actions which he or she is obligated to take under the permit, including completion of the reclamation plan, so that the land will be capable of supporting the postmining land use approved. Implementation of an alternative postmining land use which is beyond the control of the permittee, need not be covered by the bond. Bond liability for prime farmland shall be specific to include productivity requirements.

Determination of bond amount

The amount of the bond required for each bonded area shall: be determined by the Division; depend upon the requirements of the approved permit and reclamation plan; reflect the probable difficulty of reclamation, giving consideration to such factors as topography, geology, hydrology, and revegetation potential; and, be based on, but not limited to, the estimated cost submitted by the permit applicant.

The amount of the bond shall be sufficient to assure the completion of the reclamation plan if the work has to be performed by the Division in the event of forfeiture, and in no case shall the total bond initially posted for the entire area under 1

permit be less than $10,000.

An operator's financial responsibility for repairing material damage resulting from subsidence may be satisfied by the liability insurance policy required in this section.

Terms and conditions for liability insurance

The Division shall require the applicant to submit as part of its permit application a certificate issued by an insurance company authorized to do business in the United States certifying that the applicant has a public liability insurance policy in force for the surface coal mining and reclamation operations for which the permit is sought. Such policy shall provide for personal injury and property damage protection in an amount adequate to compensate any persons injured or property damaged as a result of the surface coal mining and reclamation operations, including the use of explosives, and who are entitled to compensation under the applicable provisions of State law. Minimum insurance coverage for bodily injury and property damage shall be $300,000 for each occurrence and $500,000 aggregate.

The policy shall be maintained in full force during the life of the permit or any renewal thereof and the liability period necessary to complete all reclamation operations under this Chapter.

The policy shall include a rider requiring that the insurer notify the Division whenever substantive changes are made in the policy including any termination or failure to renew.

The Division may accept from the applicant, in lieu of a certificate for a public liability insurance policy, satisfactory evidence from the applicant that it satisfies applicable State self-insurance requirements approved as part of the regulatory program and the requirements of this section.

Analysis:

Determination of Bond Amount

The Permittee has done a large amount of reclamation work at the site. The amount of reclamation work is enough to offset the additional yardage that will be associated with the modifications to the Lion's Deck reclamation plan.

Findings:

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