

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

January 6, 2004

TO: Internal File

FROM: Wayne H. Western, Environmental Scientist, Engineering/Lead

RE: Phase I Bond Release Application, Plateau Mining Corporation, Star Point Mine, C/007/006, Task ID #1768

SUMMARY:

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

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

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

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TECHNICAL ANALYSIS:

RECLAMATION PLAN

GENERAL REQUIREMENTS

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

Analysis:

The Permittee often refers to events that pertain to Phase I bond release as if they were to occur instead of that they have occurred. In some cases, the reclamation work that occurred is different that what was stated in the reclamation plan. In those cases, the Permittee must state what the reclamation plan was, how the reclamation work differed and why.

The public and other government agencies will rely on the MRP to determine if the reclamation work meets the requirements of the regulations. In addition, the Division will rely heavily on the information in the MRP and bond release submittal to make findings about whether or not the site meets the requirements for Phase I bond release. If the information in not in the MRP or submittal then the Division will have a hard time making findings of adequacy.

Findings:

R645-301-121.200, The Permittee needs to state what was required in the reclamation plan and how those tasks were achieved. If the as-builts differ from the approved plan, the Permittee needs to state why and how the as-builts meet the regulatory requirements.

POSTMINING LAND USES

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

Analysis:

The postmining land uses for the area in the Phase I bond release area are forestry, grazing and wildlife habitat. The Permittee plans to achieve that land use by plant the appropriate plant species.

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

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

Findings:

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

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

APPROXIMATE ORIGINAL CONTOUR RESTORATION

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

Analysis:

The requirements for restoring a site to the approximate original contours is couched in the backfilling and grading requirements. To clarify the requirements that pertain directly to

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AOC the Division developed Technical Derivative 002. The general requirements for restoring a site to AOC involves hydrology, the postmining land use and backfilling and grading.

The hydrology issues involve restoration of the drainage systems and sediment controls. The drainage systems will be evaluated as part of the hydrology section. The sediment control issues are mostly covered in the vegetation section. The postmining land use requirements will be addressed in that section of the TA.

The specific requirements of backfilling and grading are as follows:

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

The reclaimed areas includes the unit train loadout, the main mine facility, Corner Canyon portal area and Mud Water Canyon portal area. The Permittee did not include any information on the unit train loadout facility. At a minimum, the Permittee must include maps, cross-sections and a narrative of how the reclamation work achieved AOC and the general backfilling and grading requirements.

Mine Site

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

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

- The final grade of post-mining slope shall not exceed approximate pre-mining slope grade 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.

Must of the Star Point site was disturbed pre-SMCRA; therefore pre-mining topographic maps are not available. Therefore, the Division cannot determine how closely the postmining

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slopes resemble the pre-mining slopes. What the Division can do is determine if the postmining slopes blend into the undisturbed areas.

The Division made the finding as part of the July 22, 2002 technical analysis that reclaimed slopes will blend into the surrounding area. That finding was made with the use of topographic maps that were at a scale of 1" = 40'. The maps submitted in the November 11, 2003 submittal are at a scale of 1" = 200'. The scale of the as-built maps poses two problems for the Division:

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

The cross-sections are at a scale of 1" = 40', which is adequate for use in determining AOC issues. The topographic maps are at a scale of 1" = 200', that scale is inadequate for the Division to use to determine many AOC issues. The some maps submitted on August 22, 2002 are at a scale of 1" = 40'. At that scale, the Division can easily determine many AOC issues. The Division needs as-built maps at the same scale as the approved maps, so that overlays can be done. When the Division does the layover, they will determine if the as-built slopes blend into the surrounding topography.

The Division analyzed the slope stability information as part of the July 22, 2002 technical analyst. In that analyst, the Division found that the slope designs were adequate to ensure that the minimum safety factor of 1.3 would be achieved. Because some as-built slopes differ from the proposed slopes, the Permittee must address the slope stability on the as-built slopes.

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

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

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

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

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- A narrative about why additional backfill would block County Road 260.
- A narrative about how the slope height could not be increased without the safety factor dropping below 1.3
- Why the as-built slope height is 5 feet less than the approved plan. See cross-section E-E'.

Mud Water Canyon

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

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

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

Corner Canyon

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

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

Findings:

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

R645-301-542, The Permittee must submit as-built maps and cross-section as well as a narrative of the reclamation work done at the unit train loadout. The information must be adequate for the Division to make a finding about the AOC and general backfilling and grading requirements.

R645-301-542 and R645-301-553.510, The Permittee must include a narrative about how the reclamation work and Mud Water and Corner Canyon meet the minimum

AOC and backfilling and grading requirements. In particular, a discussion about why some pre-SMCRA highwalls were left must be included. This information is needed to inform the public and other government agencies about what work was done and how it meets the requirements.

R645-301-553.110 and R645-301-542.300, The Permittee must give the Division maps of main mine facilities and unit train loadout at a scale of 1" = 40', this is needed so the Division can do a layover to determine how the as-built slopes differ from the proposed slopes. Note, the Permittee gave the Division contour maps at a scale of 1" = 40' in the approved MRP.

R645-301-553.130, The Permittee must include a discussion about the as-built slopes and if they meet the minimum safety factor requirements. The slopes must have a safety factor of 1.3 or greater and not exceed the angle-of-repose.

R645-301-121.200 and R645-301-553.500, The Permittee must state in a concise manner (one location) all the information about why highwall remnants were retained. At a minimum the Permittee must 1) discuss the limitation imposed by keeping County Road 260 open, 2) safety factor issues, 3) why when there was more fill than anticipated but the highwalls not eliminated and 4) why the highwalls will not be a danger to the public or the environment and 5) why the some as-built slope expose 5 feet more highwall than anticipated.

BACKFILLING AND GRADING

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

Analysis:

General

The general backfilling and grading requirements include the following:

- Achieve AOC
- Eliminate Highwalls, spoil piles and depressions
- Achieve a postmining slope that does not exceed either the angle-of-repose of such lesser slope or 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.

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

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

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

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

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

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 if any spoil was generated. Therefore, the spoil handling requirements are not relevant. The highwall issues are addressed in the AOC section.

Findings:

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

R645-301-553.260 and R645-301-542.200, The Permittee must state in the narrative and show on as-built maps the location of all known coal mine waste within the areas where bond release is being sought. Where coal mine waste was disposed of during reclamation and to the extent possible state where coal mine waste was placed during mining. Because the site is pre-SMCRA, the location of some coal mine waste might not be known.

MINE OPENINGS

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

Analysis:

The in Section 542.700 of the submittal, the Permittee states that all mine openings to be sealed at least 25 feet inside the mine opening. The seals will be constructed of blocks or a cast-in-place seal will be used. The opening will be backfilled. In Section 551 of the MRP, the Permittee states that BLM and/or MSHA will be notified about portal closure. Was anyone from BLM/MSHA or other government agencies present when the portals were closed? If so, was there a write-up.

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

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

Findings:

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

R645-301-541.200 and R645-301-551, The Permittee must give the Division specific information on when the underground openings were sealed and describe the work done. The three main areas of interest are: 1) When were each of the portals sealed and how, (references to MSHA reports would be helpful), 2) what underground openings were left unsealed for monitoring purposes, and 3) how the shaft at the Lion Deck area was sealed and if the backfill material has stopped settling.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

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

Analysis:

Reclamation

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

Retention

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

In Section 542.600 of the MRP, the Permittee state that additional repair work is anticipated during reclamation for section of County Road 290. The Permittee states in the MRP, that approximately 12,600 CY of material will be used to stabilize sections of the County

road that were damaged during a stability failure in May 1994. The Permittee must also provide the Division with documentation that the County is satisfied with the road's condition.

Findings:

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

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

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

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:

Bonded Area Map

The Permittee shows the reclaimed disturbed area boundaries on the as-built maps. Those boundaries are different that those shown on the approved maps.

The Permittee needs to show the approved disturbed area boundaries on the as-built maps. Those boundaries might be different that those areas disturbed during reclamation.

The Permittee also needs to show the bond release status for all areas including

- The current phase of bond release.
- When bond release was granted.
- Acreage.

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Reclamation Backfilling And Grading Maps

The Permittee gave the Division as-built maps and cross-sections for the reclaimed areas. The cross-sections were at a scale of 1" = 100' and were adequate to evaluate reclamation activities. The maps were at a scale of 1" = 200', at the scale the Division has a hard time comparing the as-builts from the approved designs.

Specific needs for the larger scale maps include:

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

In the approved MRP the Permittee included design maps at a scale of 1" = 100'. Those maps were adequate for the Division to evaluate the reclamation plan. See Maps 542.200a1 – 542.200a3. The Division needs the

Reclamation Facilities Maps

The Permittee needs to state in the text and show on maps the location of each facility that will remain after Phase I bond release is granted. If no facilities will be retained then the Permittee needs to state so in the text.

Final Surface Configuration Maps

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

Certification Requirements.

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

Findings:

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

R645-301-542.100 and R645-301-542.200, The Permittee must show on maps the following: 1) the status of bond release for all disturbed areas (include areas

where bond release has been applied for), 2) dates when bond release was granted, and 3) acreage for each subsection.

R645-301-541.200 and R645-301-542.200, The Permittee must state in the text and show on maps the location of all surface facilities that will remain after Phase I bond release is granted. If no facilities will be left then the Permittee needs to state so in the text.

BONDING AND INSURANCE REQUIREMENTS

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

Analysis:

Determination of Bond Amount

The Permittee wants to reduce the bond amount from \$7,643,000 to \$4,585,800, which is a 60% reduction. A 60% reduction is the maximum amount allowed under R645-301-880.130. Before the Division can grant that bond reduction the Permittee must provide the Division with current revegetation costs.

Findings:

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

R645-301-830.140, The Permittee provide the Division with up to date reclamation costs for achieving Phase II bond release.

RECOMMENDATIONS:

The Division should deny the amendment until all the deficiencies are resolved.