

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

March 1, 2011

TO: Internal File

THRU: Priscilla Burton, En Sci III, Soils Scientist, Team Lead *PWB km SRS*
 Jim Smith, En Sci III, Permit Supervisor, Task Manager *JS 02/03/11*

FROM: Peter Hess, En Sci III, Reclamation Cost Estimate Review *PHH km SRS*
 Engineering Review

RE: CHANGE TO MINING SEQUENCE, Alton Coal Development, LLC,
Coal Hollow Mine, C/025/005, Task ID # 3735, Second Review

SUMMARY:

The Permittee submitted a formal response to several deficiencies which were aired and discussed during a conference call with Larry Johnson and Kirk Nicoles, representing ACD on February 24, 2011. This memo will address five deficiencies as well as re-evaluate the reclamation cost estimate for Phase I which was originally estimated on February 9, 2011.

The proposed change to the coal recovery / pit sequence will only affect the topsoil removal, burden removal and coal removal from pits 1 through 8. The recovery sequence from pits 9-13 will remain unchanged.

A reclamation bond in the amount of \$ 6,045,000 has been posted by the Permittee with the Division through Bond Safeguard Lexon Insurance Companies.

This response will be reviewed and tracked under Task ID # 3735, Second Review, by the Division.

TECHNICAL ANALYSIS:

OPERATION and RECLAMATION PLAN

MINING OPERATIONS AND FACILITIES

Analysis:

The Permittee submitted a revised DRAWING 5-10 which depicts an established sequence for coal pits 1, 2 and 3. Overburden removal will occur based on this same sequence, allowing pits 1 and 2 to be developed east of the coal outcrop / burn. Pit 3 will be developed at the junction of pits 1 and 2, extending nine hundred to the south, which is the farthest extreme of coal recovery in this area.

Spoil from Pits 1, 2 and 3 will be stripped off and stored in the Stage 1 Excess Spoil Pile. Spoil from pits 4-8 will be placed according to the coal recovery sequence determined by the Permittee after pits 1, 2 and 3 have been mined.

Pits 9, 10, 11, 12 and 13 should be mined according to the coal recovery sequence depicted on DRAWING 5-10.

It should be noted here that the Division does not have the authority to establish coal removal sequences based on established regulation. R645-301-553 does have the authority to require that a Permittee keep backfilling and rough grading of mined areas a maximum of 60 days or 1500 linear feet (maximum pit length) behind coal recovery. The Permittee has committed to meeting the requirement of R645-301-553 in the text written on page 5-65 of the mining and reclamation plan.

The completion of the overburden removal for Stage 1 is shown on DRAWING 5-17.

In the list of deficiencies generated on or about February 24, 2011, the Division asked that the Permittee develop a reclamation timetable or bar graph which would provide a time table commitment for re-topsoiling and seeding of the back filled coal recovery areas. This request could not be met due to the uncertainty of the timing, existing weather conditions or timing when backfilling has been completed in certain pit areas. The Division will need to monitor topsoiling and seeding schedules to take advantage of soil moisture conditions during monthly inspections.

Findings:

The revisions received on March 1, 2011 for Task ID # 3735, Second Review, adequately address the requirements for backfilling and grading, R645-301-553.

COAL RECOVERY

Regulatory Reference: 30 CFR 817.59; R645-301-522.

Analysis:

The mining and reclamation plan states that the Stage I coal recovery will generate approximately 2 million tons during the first year of operations. It is not anticipated that this volume will change due to this amendment, which is a change in the mining sequence.

Findings:

The provided information adequately addresses the requirements of the R645 Coal Mining Rules.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Performance Standards for Subsidence Control

The Coal Hollow Mine is a surface mine, and it does not use underground extraction methods. The methods used in surface coal mining do not plan for subsidence deformation of large surface areas in a predictable and controlled manner.

Findings:

The requirements of this section are not applicable to the Coal Hollow surface coal mining operation.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

Mine Workings Maps

DRAWINGS 5-10, Coal Removal Sequence and 5-17, Overburden Removal Stage 1, depict the areas where coal removal will occur. Only pits 1, 2 and 3 have been sequenced at this time. The approval of Task ID # 3735 requires that the Permittee submit an amendment to sequence un-numbered mining pits 4 through 8. The Division has determined that the Permittee needs a sufficient amount of freedom to practice coal

recovery at will, rather than be hampered by a specific pit sequence established in the mining and reclamation plan.

Certification Requirements

Both drawings are P.E. certified by Mr. Larry J. Adams, Utah registered professional engineer. The certifications are stamped, dated and signed by Mr. Adams, in accordance with the requirements of R156-22-601.

Findings:

The drawings submitted as part of the revised Task ID # 3735 meet the requirements of this section of the R645 Coal Mining Rules.

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 revisions submitted with the new information for Task ID # 3735 contain revised pages 5-65 and 5-68, which address the needed changes to R645-301-553, **BACKFILLING AND GRADING**. The major change is contained on page 5-68. This explains that only pits 1, 2, and 3 are sequenced at this time. During the conference call held with the Permittee on February 24, 2011, the Division made the decision to allow the Permittee the freedom to sequence the coal recovery from pits 4 through 8, as they saw the need, to simplify mining recovery based upon coal quality, weather conditions, and burden removal.

Based on the 2/24 conference call, the Permittee agreed to submit a recovery sequence for pits 4-8 upon the evaluation made about the mining conditions determined from pits 1, 2, and 3. This commitment is contained on both Drawing # 5-10, Coal Removal Sequence and in the mining and reclamation plan, Chapter 5, page 5-68.

The Permittee has not requested any drastic changes to the requirements of R645-301-553, and is committed to keeping backfilling and rough grading of mined pits as close to the mining area as feasible, and in compliance with this regulation.

Findings:

The proposed revision to the backfilling and grading section of the mining and reclamation plan meets the requirements of the R645 Coal Mining Rules.

TOPSOIL AND SUBSOIL

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

Analysis:

Erosion Protection from Wind and Water

The original Task ID # 3735 identified a new subsoil pile which will contain 207,000 loose cubic yards. The pile is located east of the pits north of pit #2, and it has a life of four to six months.

Topsoil Pile #3, (See DRAWING 2-2, Topsoil Handling) will contain 31,000 cubic yards of resource. The mine reclamation plan anticipates that the life of this pile will be from 4 to 6 months.

Both piles have an expected life of 4 to 6 months. Section 244.100, Erosion Protection from Wind & Water, page 2-28, Chapter 2, states that "temporary stockpiles that will be in place for more than 1 year will be seeded...and mulched..." There is no need to bond for the seeding and mulching of the two aforementioned stockpiles, as was done in the original Task ID # 3735 review.

The two stockpiles are to be coated with a tackifier at the manufacturers suggested rate for dust control applications. This cost is not considered to be a reclamation cost, and was not added to the reclamation cost estimate in APPENDIX 8-1.

Findings:

This section meets the requirements of the R645 Coal Mining Rules.

BONDING AND INSURANCE REQUIREMENTS

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

Analysis:

General

The Coal Hollow Mine is a surface coal mining operation, requiring removal of overburden material, and replacement of this material in a sequential manner as the coal resource is removed. Thus, reclamation of / or backfilling of the coal recovery areas must occur as new coal recovery areas are being developed. The Task ID # 3735 application is merely proposing that the approved mining sequence for pits 2 through 8 be

changed to more efficiently recover the reserves from pits 2-8. The sequence for pits 9 through 13 (Phase I) remains unchanged.

A revised DRAWING 5-10, COAL REMOVAL SEQUENCE has been submitted as part of this application. There are no changes to the amount of acreage which is to be disturbed, as shown when comparing the approved/incorporated DRAWING 5-10 with the new application DRAWING 5-10. There is no change in the volume of dirt to be replaced in order to backfill pits 2 to 8. The 2.7 million cubic yard excess spoil pile will still be constructed, as part of the new mining sequence. Production rates for backfilling and grading, topsoiling and re-seeding of the reclaimed areas remain unchanged.

The Permittee has shown on Dwg 2-2 that two new soil storage piles will be created by the approval of Task ID # 3735. Topsoil Pile #4 will contain a 56,000 cubic yard volume, and the new subsoil pile located NNW of Topsoil Pile #4 will contain 207,000 additional cubic yards. Using the cost figures provided by the Permittee from **APPENDIX 8-1**, page titled Phase 1 Reclamation Cost Estimate an increase in the costs for replacement of the additional subsoil (207,000 LCY @ \$ 0.97 / LCY = \$ 200,790) and the additional topsoil (56,000 LCY @ \$ 0.95 = \$ 53,200) amounts to an increase in the total direct costs for the Phase 1 reclamation of \$ 253,990.00.

The total effect of the Task ID # 3735 will increase the total direct costs for the Phase 1 mine reclamation to \$ 4,842,206.00. This total **DOES NOT INCLUDE THE INDIRECT COSTS OR THE ESCALATION COST TO 2013** (See Total Required Bond Amount for Task # 3735, page 1, which will become a part of APPENDIX 8-1).

Form of Bond

The bond held by the Division to ensure the reclamation of the Coal Hollow Mine is a **surety bond**, which is provided by the Bond Safeguard Lexon Insurance Companies. This surety company has an A.M. Best rating of "A-" as of December 31, 2010.

Determination of Bond Amount

Using a scale of 1" = 500 feet, the plan view dimensions of coal removal pits 2 through 8 were determined from both the approved DRAWING 5-10, COAL REMOVAL SEQUENCE and the proposed DRAWING 5-10, which depicts the proposed mining sequence change. The sum of the determined / scaled acreages from pits 2-8 (approved sequence) amounts to 52.12 acres; the sum of the determined scaled acreages from the proposed sequence amounts to 51.6 acres.

These acreages are essentially identical and thus the amount of the reclamation cost remains identical for the pit backfilling process. However, as is noted in the General section of this memo, Task ID # 3735 will increase the direct cost of the Phase 1 reclamation cost by \$ 253,990.00.

Thus the reclamation cost for the coal recovery areas Pits 1 through 12 is now \$ 3,284,776.00.

The total / escalated (escalated to 2013) reclamation cost estimate which includes the required indirect costs is \$ 6,213,000.00. This cost is \$ 168,596.00 more than the bond which was posted in 2010, (\$ 6,045,000.00). The new reclamation cost estimate exceeds the posted bond amount by 2.79 %.

There is no need to increase the posted bond amount at this time.

The original reclamation cost estimate was determined in 2009 using current cost data indices.

Findings:

Task ID # 3735, **Change to Mining Sequence** meets the minimum regulatory requirements of the **R645-800**, Bonding and Insurance coal mining rules.

RECOMMENDATION:

Task ID # 3735 should be approved. An increase in the amount of the current reclamation bond is not needed at this time.