

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

#3498

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April 5, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor, Team Lead *JDS 06 Apr 2010*
Daron Haddock, Coal Program Manager

FROM: Peter Hess, En Sci III, Engineering / Bonding *PHH km 8/25*

RE: SURFACE DESIGN CHANGES, UtahAmerican Energy, Inc., Horse Canyon Mine / Permit Area "B" (Lila Canyon), C/007/013, Task ID # 3498

SUMMARY:

The Permittee responded to deficiencies aired in Task ID # 3351, Surface Design Changes on March 2, 2010. The Division determined on March 9, 2010 that the application was complete and the inter-disciplinary review could be initiated.

Task ID # 3498 is the fourth submittal made to the Division to request permitting approval of the requested changes.

TECHNICAL ANALYSIS

OPERATION PLAN

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

R645-301-512.200, 521.125 Impoundments Identified on Surface Facilities Map

The following deficiency was identified during the Task ID # 3351 review:

"Pond # 2 must be clearly identified within the Mine Facility List, Plate 5-2".

Analysis:

The Permittee's response, dated November 5, 2009, is as follows:

“Plate 5-2 has been revised to show both Pond #2 and the pole barn”.

Analysis of PLATE 5-2, submitted with Task ID # 3498, indicates that sediment pond #2 (the smaller pond located inside the permit boundary at the terminus of Emery County road #126) and listed in the surface facilities index as identification number 36, has addressed the identified deficiency.

A 30-foot by 50-foot pole barn has also been added to PLATE 5-2. It is identified as unit #37 in the Mine Facility List. The cost to reclaim the pole barn has been added to the demolition cost for the site.

Findings:

The Permittee has adequately addressed the deficiency identified above.

SUBSIDENCE CONTROL PLAN

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

The following deficiency was identified during the Task ID # 3351 review:

R645-301-525.420, Measures to Prevent Subsidence;

“The Permittee must provide additional information relative to escarpment protection, including which escarpments are to be protected, why each escarpment requires protection and the engineering methods implemented to provide protection in those specific areas”.

Analysis:

Subsidence Control Plan

Performance Standards For Subsidence Control

The Permittee’s response dated March 2, 2010 is as follows; “the BLM requires escarpment protection and protection from unplanned breakouts. A 200’ buffer, for escarpment protection, is shown on Plate 5-5 and identified as first mining only.”

As determined elsewhere within the application (Chapter 3, Page 13), the 200-foot wide barrier, where only first mining is to take place is only intended to protect escarpments

immediately above the coal seam (i.e., escarpments immediately above the 200 foot width of coal). The 200-foot barrier pillar is also to protect against unplanned holeouts (or breakouts) at the outcrop.

The Permittee has not provided a clear definition of where first mining will be allowed by the R2P2. There is no clear definition of pillar design or extraction ratios to be implemented. How close the first mining will be allowed to the outcrop is not defined.

The Permittee does not explain how “first mining only” within the barrier will be monitored to prevent accidental breakouts of the outcrop by the mining crews.

First mining is approved in these barrier areas, but pertinent information which is contained within the R2P2 has not been provided. This is necessary for the Division to complete its review relative to subsidence control.

Section **522, Coal Recovery**, of the MRP states that “one or more of the following methods may be used to properly size barrier pillars”. Nine different methods are identified.

The Permittee, in consultation with the BLM, must determine which single method will be used to determine barrier pillar width and load bearing capacity for the barrier pillar designs, which will be implemented in the Lila Canyon Mine. The Division realizes that the use of another method may be necessary to determine if the single selected design method is adequate, but the Division requires that one specific design method be identified and used to design all barrier pillars.

The barrier pillar designs will be based upon their location, height of coal seam, depth of overburden and the other standard engineering design parameters / methods for coal mine barrier pillars.

The Permittee must provide the associated R2P2 information to the Division.

PLATE 5-5 depicts the anticipated mine workings layout for the main entries and longwall panels located south of the entry fault in the Lila Canyon Mine. The area where the headgate entries intersect the setup face at the western most panel are 200 feet from the coal outcrop. The Mine projection appears to keep all mine workings inside the imaginary 200-foot buffer zone line.

The Permittee's response addresses escarpments immediately above the coal outcrop. The subsidence of raptor habitat in the Lila Canyon Mine permit area is possible, depending upon the location of nests.

SPECIAL CONDITION #3, as stipulated in Attachment "A" of the currently approved State permit requires the following relative to raptor protection in or adjacent to the Lila Canyon permit area;

UEI will:

- 1) provide for conducting yearly fly-over raptor surveys;
- 2) immediately contact UDOGM, USFWS, UDWR, and BLM if raptors are tending nests or are nesting in areas near the area to be mined (mining in the subsidence zone and below the cliffs next to the subsidence zone) in the current nesting season or in the coming nesting season (the following year);
- 3) implement the Best Technology Available (BTA) to provide for protection of the raptors and their nests. This BTA will be determined by the agencies and then implemented by UEI. Implementation of BTA measures may include fencing of the nests, or avoidance of the area and / or may also include the need to apply for a 'take' permit from USFWS; and
- 4) provide a complete report of the yearly surveys to UDOGM. **(This condition is ongoing.)**

These permit conditions are adequate to address the protection of raptors and their nesting areas when they are located over secondary extraction coal recovery areas.

Findings:

- 1) **R645-301-525.440, 525.450, 525.454**, the Permittee must clearly describe what is meant by “first mining only” within the 200 foot barrier width.
 - 2) **R645-301-525.440, 525.450, 525.454**; The Permittee must describe how points of deepest penetration will be monitored to prevent breakouts through to the outcrop.
 - 3) **R645-301-525.440, 525.450, 525.454**; The Permittee, in consultation with the BLM, must determine which single method will be used to determine barrier pillar width and load bearing capacity for the barrier pillar designs which will be implemented in the Lila Canyon Mine.
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The Division identified the following deficiency during the generation of the Task ID # 3351 review:

“R645-301-525.440, Description of the Subsidence Monitoring Plan, the subsidence control plan submitted as part of the Task ID # 3351 does not meet the requirements of R645-301-525.440. Commitment #6 must be revised to state that

“a ground survey of the mine permit area ‘where secondary extraction has occurred over the last year’ will be conducted in conjunction with the quarterly water monitoring program. Identified features will be monitored until they are repaired, or self-healed. The survey will be conducted on roads, adjacent to stock watering ponds, and in drainage channels where they cross tension areas relative to the underground extraction areas.”

“The results of this survey will be documented quarterly in a written report which provide global positioning co-ordinates as well as the following information;

- a) a description of the identified subsidence related feature,*
- b) Length, and width measurements, and compass bearing,*
- c) Dated photographic documentation,*
- d) Located on a topographic overlay map of the underground disturbed area.*
- e) If the feature is determined as significant, the Division will be notified within a 48-hour period of discovery. Where water loss has been determined as occurring due to subsidence, the Permittee will provide a similar quantity of water to the down stream users, and take immediate action to repair the stream channel damage, based upon a plan approved by the Division and the surface landowner.*
- f) A written report, compiling the four quarterly reports for the monitoring year, and describing the status of all identified features related to mining*

subsidence, will be submitted as part of the Annual Report required by the Division.

- g) *The commitment "to restore the land where subsidence damage has affected the use of the surface" must be revised to read, "to restore the land where subsidence damage has been determined as significant enough to require repair, as determined by the Division".*

Analysis:

The Permittee's response, as received in the Task ID # 3498 application states the following;

"Text in Chapter 5 has been revised to reflect the above request."

Analysis of the re-submitted Task ID # 3351, Chapter 5, Section 525.440, Pages 43 and 44 indicates that the Permittee has made the requested revisions to the MRP subsidence monitoring plan.

However, Page 44, paragraph G) must be revised to remove the words "the commitment 'to restore the land where subsidence damage has affected the use of the surface' must be revised to read". The following words, "UtahAmerican Energy commits" must be added to "to restore the land where subsidence damage has been determined as significant enough to require repair, as determined by the Division".

The Task ID # 3351 revision meets the requirements of the R645 Coal Mining Rules for subsidence monitoring, which is part of the subsidence control plan.

However, the aforementioned text revisions and additions will be made before a recommendation for approval is made.

Findings:

The application is deficient.

In accordance with the requirements of;

R645-301-525.440, 525.450, 525.453, 525.454

The Permittee must address the following:

- 1) The Permittee must clearly define what is meant by “first mining only” within the 200- foot width barrier.
- 2) The Permittee must clearly designate what will be a minimum thickness of coal to be left between the “first mining only” points of deepest penetration and the coal outcrop. The thickness must be sufficient to prevent break through to the outcrop because of crushout.
- 3) The Permittee must provide R2P2 information, which describes pillar sizes to be retained within the 200-foot barrier.
- 4) The Permittee must provide the method used to determine the barrier pillar widths. The method of design must be one of the standard methods used for barrier pillar design or the barrier design must be approved by the BLM.

These are the pillars to be used in other locations of the Mine and not the barrier having the 200-foot width between the main mine entries and the outcrop.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Coal Mine Waste

The following deficiency was identified during the Task ID # 3351 analysis;

“R645-301-536, Coal Mine Waste; the Permittee must clearly state where the coal mine waste generated by the screening plant at Lila Canyon will see final deposition. The material must be disposed of at a R645 permitted site, either within the C/007/013 permit area, or within an off-site area approved by the Division for that purpose”.

Analysis:

The Permittee responded to this deficiency as follows, (See Task ID # 3498, Chapter 5, Page 58, Section 536, Coal Mine Waste); “the screen (i.e., the crusher screen plant) does not produce coal mine waste. The oversized off the screen goes to the crusher and is crushed down to a 2” minus and re-enters the coal stream.”

Therefore any 2-inch plus material (roof material, coal, etc.) is reduced in size and re-blended back into the run-of-mine product.

The Permittee has submitted the following redline strikeout pages to revise indicated text as listed on the following pages;

- 1) Chapter 5, Page 52, Sections 528.320, 528.321
- 2) Chapter 5, Pages 58 and 59, Section 536, 536.100, 536.200.

The text revisions clearly state that

- 1) Any underground development waste brought to the surface will be placed into a temporary waste storage pile. When appropriate, and / or when ROM coal-ash conditions allow, the waste will be crushed to ROM size and blended back into the ROM coal product stream.
- 2) There will be no coal processing waste generated on the surface.

The revised text relative to handling of mine development waste and coal processing waste at Lila Canyon has addressed two concerns previously identified by the Division:

- 1) Mine development waste brought to the surface was to be shipped off the permit area, to what may have been an un-permitted or un-authorized site.
- 2) Coal processing waste generated by the screening plant was also to be handled by shipping off site.

The Permittee has addressed these concerns.

Findings:

The Permittee has adequately addressed the Coal Mine Waste deficiency, **R645-301-536**.

BONDING AND INSURANCE REQUIREMENTS

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

General

The Division identified the following deficiency during the review of the Task ID # 3351 application:

R645-301-830.140, Detailed Estimated Cost, *“the Permittee must provide detailed cost estimates to remove the following buried underground utilities*

- 1) *AC power transmission lines / conduits*
- 2) *The sewage leach field;*
- 3) *All other buried pipelines.”*

Analysis:

The Permittee’s response is as follows;

- 1) All power lines are above ground on structures and included in bonding calculations.
- 2) The leach field will be left in place; additional bonding is not required.
- 3) The buried pipeline will be left in place; additional bonding is not required.

The Task ID # 3498 submittal states on page 10, Chapter 5, section **520, Operation Plan** the following; *“within the disturbed area it is anticipated that all power lines will be underground. Underground lines will be run where feasible. As builds will be provided. Underground Power Lines will be left in place upon reclamation.”*

The surface lands where the Lila Canyon Mine surface facilities are being constructed are owned by the USA and managed by the U.S. Department of the Interior, Bureau of Land Management, Utah State Office / Price FO.

UtahAmerican Energy, Inc. has a BLM right-of-way (UTU-77122) to construct the Permit Area “B” Mine facilities. UTU-77122 does not require the reclamation of underground utility installations at this site (personal conversation with BLM employee relative to the Lila Canyon Mine site ROW on 3/22/2010). All installed utilities should be left as is, unless they are re-disturbed by the reclamation of the remainder of the mine site disturbed area.

Findings:

The Permittee has adequately addressed the previously identified deficiency relative to reclamation of buried mine site utilities.

Form of Bond

Three bonds comprise the \$ 1,694,000 reclamation bond necessary to reclaim the Lila Canyon Mine; all are surety bonds. The largest is issued by XL Specialty Insurance Company. Rockwood Casualty Insurance Company issued the others.

Determination of Bond Amount

The Task ID # 3498 permit amendment contains revised bond calculations as Chapter 8, Appendix 8-1.

The demolition costs provided include the removal of all facilities for the permit area "B" Mine, and the maintenance and monitoring of the two remote seals in Lila Canyon related to the Geneva Mine.

Earthwork and re-vegetation costs are also provided for the 42.6 acres of disturbance.

The total direct costs have been determined to amount to \$ 1, 403,675.00.

The indirect costs have been estimated at \$ 376,186.00.

The total cost estimated using 2009 unit cost estimates amounts to \$ 1,779,861.00.

The **ESCALATED** reclamation cost to 2013 dollars is \$ 1,806,693.00.

The required bond amount is \$ 1,807,000.00.

The bond amount posted in 2009 amounts to \$ 1,694,000.00. This is \$ 113,000.00, or – 6.25% short of the required amount.

UtahAmerican Energy, Inc. must post an additional \$ 113,000.00 of bond.

Terms and Conditions for Liability Insurance

The Permittee's current general liability insurance is provided through Federal Insurance Company, and the coverage period of Policy # 37104410 remains in effect through June 1, 2010. Coverage for damage incurred from the use of explosives is provided.

Findings:

UtahAmerican Energy, Inc. must post an additional \$ 113,000.00 of bond.