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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

January 5, 2017

Kirk Nicholes, Resident Agent  
Alton Coal Development, LLC  
463 North 100 West, Suite 1  
Cedar City, Utah 84720

Subject: Phase I Bond Release, Coal Hollow Mine, Alton Coal Development, LLC, Task ID #5306 C/025/0005

Dear Mr. Nicholes:

The Division of Oil, Gas and Mining (the Division) has reviewed your Phase I Bond Release application and recommended conditional approval. Final approval will be granted when the following conditions have been met:

- 1) Per R645-301-880.130 and R645-301-251, -252, revise the top-soil and sub-soil redistribution tables within Appendix 2-2 and revise drawing DWG 5-76A.
- 2) Receipt of two clean hard-copies prepared for incorporation into the approved Coal Hollow Mine mining and reclamation plan (MRP)

Once these conditions have been met, a stamped incorporated copy will be returned to you for insertion into your copy of the MRP. Please respond to the aforementioned conditions no later than January 25, 2017. If you have questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock  
Coal Program Manager

DRH/SKC/ss



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## Technical Analysis and Findings Utah Coal Regulatory Program

**PID:** C0250005  
**TaskID:** 5306  
**Mine Name:** COAL HOLLOW  
**Title:** PHASE I BOND RELEASE

### Summary

**Analysis:**

The Coal Hollow Mine bond release applies to 9.075 acres (above HWT 2) within the South Private Lease, identified as BRP1-9 and 12.213 acres above Pits 1-3 in the North Lease, identified as BRP1-10. Figures 1 and 2 show the location of the bond release areas. Figures 1-A, 1B and 2-A detail the final topography.

*Deficiencies Details:*

[Redacted]

pburton

On November 29, 2016, the Utah Division of Oil Gas & Mining conducted a site visit to assess the bond release application for to the Mining & Reclamation Plan (MRP) of the Coal Hollow Mine. The application seeks release of 21.29 acres (BRP1-9 and BRP1-10) of Phase I bond release for a bond reduction of \$2,985,984. The Division's initial inspection report can be found on file under Inspection Report #5711. However, due to poor weather at the site Division staff were unable to completely walk the bond release perimeters, therefore, the Division conducted a second inspection on December 7, 2016 to field verify the bond release areas. The results of the second inspection, including a detail map of the survey stakes showing the bond release area, can be seen on file under Inspection Report #5271

This analysis addresses the application's compliance with the engineering (R645-301-500) and bonding (R645-301-800) sections of the Utah Coal Mining Rules. The bond release application meets the minimum requirements of R645-301-500 and -800 by presenting the mine plan details, plates, and drawings presented within the bond release application. The minimum required posted bond for the Coal Hollow mine to \$9,594,000 while Alton Coal Company currently maintains a bond of \$12,750,000 with the Division. The Permittee will not reduce the held bond amount at this point as it will apply contemporaneous mining reclamation and operations in the North and South Private leases.

*Deficiencies Details:*

[Redacted]

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### General Contents

### Public Notice and Comment

*Analysis:*

**Analysis:**

The Permittee sent letters to surface landowners and adjacent landowners, the BLM, Kane County Planning Commission, Kane County Water Conservancy District and the Alton Mayor. On November 7, 2016, the Division advised the Permittee to place a public notice.

On November 7, 2016, the Division sent an invitation to local, state and federal agencies and landowners requesting their attendance at the bond release inspection on November 29, 2016.

The application meets the requirements of public notice, R645-301-880.120. A public notice was published in the Southern Utah News for four consecutive weeks beginning on November 10, 2016 and ending on December 1, 2016. An affidavit of public notice was received from the Southern Utah News. The public comment period extended 30 days from the date of the last publication or until December 31, 2016.

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## **Environmental Resource Information**

### **Maps Existing Surface Configuration**

*Analysis:*

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### **Maps Existing Surface Configuration**

*Analysis:*

The bond release application meets the State of Utah R645 requirements for Existing Surface Configuration Maps.

The bond release application meets the minimum requirements of R645-301-521.150 as it includes a drawing or plate that clearly calls out the pre mining surface and the reclamation surface. Figures 1-B and 2-A show either the fill above or the void below the original contour of the final reclamation surface for two cross section cuts through each of the respective bond release areas.

cparker

## **Reclamation Plan**

### **Approximate Original Contour Restoration**

*Analysis:*

**Analysis:**

The application meets the requirements of R645-301-880.310 for backfilling and grading to approximate original contour. Figures 1A and 2 provide the location of cross-sections through the bond release areas BRP1-9 (9.0 acres, South lease) and BRP1-10 (12 acres, North lease), respectively. Cross sections are shown on Figure 1-B and Figure 2-A.

In August 2016, excess fill above Pit 2 was surveyed to be approximately 7-8 feet and was being pushed into the North end of Pit 3 (Insp. Rpt. #5606). After placement of subsoil, the BRP1-10 cross sections (Fig 2A) show the land is still 7 feet higher than original contour over most of Pits 1, 2, & 3. At cross section B-B', the outslope of BRP1-10 is 350 feet long with a rise of 30 feet over that distance, which is a grade of 8%. The end of this slope drops steeply off into Pond 5. During the bond inspection, a berm was observed at the break in this fill slope.

Pond 5 is 25 feet deep x 150 ft long x 50 ft wide at its deepest point. It will remain until final reclamation. Pond 5 will require 7,900 CY to fill. Bond calculations show that most of the Pond 5 backfill will come from the subsoil pile. However, all the subsoil is dedicated to the surface, therefore the bond calculations should factor in approximately 5,000 CY additional spoil required to backfill Pond 5.

In the South lease, BRP1-9, Figure 1A shows cross section locations for the land above HWT 2B and HWT 3B (subsections of HWT 2). The cross sections show that the land has a gentle slope from North to South over a length of 600 feet (within this bond release polygon). The grade from North to South is 1.6%. The land also slopes gently from East to West for 400 ft with a grade of 0.7%, until a low spot at cross section 2+30. At this location overfill of five feet changes the direction of the slope to West to East. During the bond release inspection, the site was under snow and the low spot could not be evaluated during the bond release inspection to determine if there was ponding or salt accumulation.

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## Approximate Original Contour Restoration

### Analysis:

The bond release application meets the State of Utah R645 requirements for Approximate Original Contour Restoration.

The bond release application meets the minimum R645-301-512.200, -553.110 through -553.150, and -302-270 due to the final reclamation topography matching near approximate original contour (AOC).

AOC as defined by R645-301-553.100 through -553.150 is achieved when the final grade closely resembles the general surface configuration of the land prior to mining activities and provides a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion. Figures 1 through 1-A include plan view drawings showing two foot contour details of the reclamation topography for BRP1-9 within the South Private Lease. Figure 1-B shows a cross section view along the north/south and east/west of the final reclamation contour compared to the original topography. The maximum variance from AOC is 5.37 feet above the original contour along the western boundary, however, this level of variance is acceptable as the original topography drainage patterns remain unchanged. Figure 2 and 2-A show the plan and profile view of the reclamation topography for BRP1-10 within the North Private lease. The maximum variance from AOC is 7.71 feet above the original contour along the southern boundary with the majority of the bond release area being above AOC. This level of variance is acceptable to the Division as the original topography drainage patterns remain unchanged and the site appeared stable.

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## Backfill and Grading General

### Analysis:

The bond release application meets the State of Utah R645 requirements for Backfill and Grading.

The bond release application meets the general requirements of R645-301-553 by following the detailed general backfill and grading plan within the MRP that details how disturbed areas will be backfilled and graded to achieve the approximate original contour, eliminate all highwalls, spoil piles, and depressions, and 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 South Private Lease Pits 2-B and 3-B were reclaimed within bond release area BRP1-9 by moving approximately 896,000 LCY of backfill to the AOC shown on Figure 1 and Figure 1-A. The North Private Lease Pits 1 through 3 were reclaimed within BRP1-10 by moving approximately 1,555,000 LCY of backfill to the AOC shown on Figure 2. Per Division Inspection Report 5711 and 5721 the area was backfilled with subsoil in place and appeared to be stable.

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## Topsoil and Subsoil

### Analysis:

#### Analysis:

This bond release application for BRP1-9 and BRP1-10 (21.88 acres total) meets the requirements of R645-301-880.100, however, the two tables tracking topsoil/subsoil accounting and Dwg 5-76A provided in Appendix 2-2 are not approved for inclusion in Appendix 2-2. They are considered a first draft and need improvement.

Providing topsoil/subsoil accounting in table format, such as that shown on p. 2-35, Chap. 2 is the protocol for bond release applications from this point forward (Conference Call 12/13/2016 between ACD and Division staff). The information

provided in the tables for BRP1-9 and BRP1-10 is considered a first draft, because it is not readily understood and does not reflect the redistribution depths applied to the BRP1-10.

At the completion of topsoil redistribution over BRP1-9 and BRP1-10, there was 56,169 CY in the NPL topsoil and 27,307 CY in the NPL subsoil stockpile. At the South Lease, Topsoil Pile #2 held 73,177 CY and Subsoil pile #2 held 71,810 CY. (Source: Email dated December 15, 2016 from Drew Christensen, sent to file.)

Appendix 2-2 was updated to include chemical analysis of the spoil placed at the surface of BRP1-10 (as described on Dwg 5-76a) and BRP1-9 (described on Dwg 2-2). Spoil sampling was conducted in September 2016 to determine suitability characteristics and to (potentially) reduce the volume of required subsoil cover.

BRP1-9 is a 9.075 acre area above the surface of HWT 2B and HWT3B (identified on MRP Dwg 5-19). BRP1-9 is within E ¼ of Sec 30, T39 S, R5W. BRP1-9 was backfilled in June 2016. Subsoil and topsoil redistribution over HWT 2 occurred in July 2016, but was temporarily halted until the subsurface dried out. Subsoil and topsoil redistribution was completed in August 2016 (Insp. Rpts #5582, Insp Rpt #5606). The table in Appendix 2-2 states that 9,761 CY of topsoil and 48,806 CY of subsoil was replaced over the 9.08 acre area to achieve the required replacement depths of 8 inches of topsoil (0.67 ft) and 40 inches of subsoil (3.33 ft). Half of the topsoil required came from Topsoil Pile #2 (Insp Rpt #5649) and the remainder came from Topsoil pile #4, which was fully consumed. Topsoil redistribution was completed in September (Insp. Rpt #5649).

BRP1-10 is a 12.213 acre area above the surface of Pits 1-3 in the North Lease (within the Year 1 area identified on MRP Dwg 5-76a). BRP1-10 is within W 1/2 NE1/4 Sec 13, T39 S, R6W. BRP1-10 was backfilled from July to October 2016 (Insp Rpt #5582, #5606). Subsoil placement also occurred from July to October 2016. The table in Appendix 2-2 states that 21,346 CY and 10,257 CY subsoil and 47,212 CY suitable spoil were replaced over the 12.21 acres to achieve a suitable rooting depth of four feet. Topsoil and subsoil redistribution over BRP1-10 came from the North Lease topsoil stockpile and was ongoing in October 2016 (Insp. Rpts #5680).

In BRP1-10, suitable spoil to achieve the four foot rooting depth was determined by testing. Samples were taken of the surface three feet of spoil at predetermined locations shown on Dwg 5-76a to determine whether spoil could be used for substitute subsoil. Results of the spoils analysis are found in Appendix 2-2. NPL Soil Pit #1, Soil Pit #2 and Spoil Pit #3 each represent approximately 4 acres. (The area represented by Soil Pit #3 was sub-sampled at locations Soil Pit #3.5N and Soil Pit #3.5E). Based on the Division's 2008 Topsoil and Overburden Guidelines, SAR values at location NPL Pit #2 were "Fair" for two feet. These spoils were allowed to be used as substitute subsoil and were covered with 18 inches of subsoil and 13 inches of topsoil. SAR values of soils represented by Soil Pit #1 were "Poor" in the surface three feet and potentially acid forming below 2 feet. These soils were also covered by 18 inches of subsoil and 13 inches of topsoil. (Insp. Rpt. # 5649 and personal communication with Kirk Nicholes, 1/4/2017.)

SAR values in BRP1-10 NPL Pits 3 was unacceptable from 0 - 3 feet and potentially acid forming in the surface foot. These soils were sub-sampled at locations 3.5N and 3.5E shown on Dwg 5-76a. At Spoil sample location 3.5N SAR values were "Fair" from 0 - 3 feet. These spoils were covered with 18 inches of subsoil and 13 inches of topsoil to reach the premining depth of 34 inches soil above shale parent material (refer to September 27, 2016 Complete Insp Rpt #5649). At sample location 3.5E, SAR values remained "Unacceptable" from 0 - 3 feet. These spoils (approximately 2-3 acres) were not allowed as substitute subsoil and were covered with three feet of subsoil (Insp. Rpt. # 5649 and personal communication with Kirk Nicholes, 1/4/2017.)

The topsoil/subsoil tables provided in Appendix 2-2 do not reflect the actual redistribution of subsoil and topsoil. Since redistribution of subsoil varied over BRP1-10 and differed from the approved MRP, Drawing 5-76a should show the outline of BRP1-10 and the depth of soil placement within that boundary. Tables in Appendix 2-2 do not state the volume remaining in topsoil stockpiles used for reclamation of BRP1-9 or BRP1-10. Therefore, conditional approval of phase 1 bond release is recommended and a re-examination and revision of Dwg 5-76a and Appendix 2-2 tables is requested.

#### *Deficiencies Details:*

R645-301-880.130 and R645-301-251 and 252, Conditional approval of phase 1 bond release is recommended with a re-examination and revision of Dwg 5-76a and Appendix 2-2 tables requested prior to their approval for inclusion in Appendix 2-2.

pburton

## **Road System Reclamation**

### *Analysis:*

The bond release application meets the State of Utah R645 requirements for Reclamation of Roads.

The minimum requirements of R645-301-534 are met within the bond release application as the haul roads utilized during the mining of North Private Lease Pits 1 through 3 and South Private Lease Pits 2-B and 3-B were completely reclaimed.

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## Hydrological Information Reclamation Plan

### Analysis:

The amendment meets the State of Utah R645 requirements for Hydrologic Reclamation.

Plan view maps and cross-sections of the backfilled and reclaimed areas are provided for the Phase I bond release areas BRP1-9 in the south lease and BRP1-10 in the north lease. The maps and cross-sections show the Permittee has restored the pre-mining natural drainage patterns. Refer to Inspection Report #5711 for supporting narratives and photos of the reclaimed bond release areas.

The area BRP1-9 of HWT 2-B and HWT 3-B is adequately reclaimed. The reclaimed land surface elevation of BRP1-9 seamlessly transitions to the surrounding land surface elevation of the reclaimed HWT 2-A, Pit 20-b and Pit 21-A areas to the north and west. The reclaimed area also smoothly transitions to the unmined terrain to the east. Drainage across BRP1-9 matches the surrounding drainage patterns and runoff from the area is still routed to and treated by Pond 4 prior to leaving the permit area. Photos 1 through 6 show the reclaimed BRP1-9 area.

The BRP1-10 area of Pit 01, Pit 02, and Pit 03 is adequately reclaimed. Photo 7 in the inspection report shows the area matches the premining topography and drainage patterns. The majority of the reclaimed area flows to and is treated by Pond 5 while the southeastern corner of corner of Pit 03 reports to Pond 6.

kstorrar

## Contemporaneous Reclamation General

### Analysis:

The bond release application meets the State of Utah R645 requirements for Contemporaneous Reclamation.

The minimum requirements of R645-301-553 of backfill and grading are met within the bond release application as backfilling operations continue for North Private Lease Pits 4 and 5, per Division Inspection Report #5271.

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## Maps Affected Area Boundary

### Analysis:

The bond release application meets the State of Utah R645-301-521.100 requirements for Affected Area Maps.

The minimum requirements of R645-301-542 are met within the bond release application as Figures 1 through 2-A show detailed plan and profile views of bond releases areas BRP1-9 and BRP1-10.

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## Maps Bonded Area

### Analysis:

The bond release application meets the State of Utah R645 requirements for Bonded Area.

The minimum requirements of R645-301-800 are met within the bond release application the bond release application included Figures 1 and 2-A that show a topography that matches the approved final reclamation topography in Drawing 5-37, 5-37A, 5-74 and 5-74A and bond polygons shown on Drawings 5-19 and 5-77 for the North Private lease and South Private Lease respectively.

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## Maps Reclamation BackFilling and Grading

Analysis:

The bond release application meets the State of Utah R645 requirements for Reclamation Backfilling and Grading Maps.

The minimum requirements of R645-301-542 are met within the bond release application Figures 1-B and 2-A show the backfill void vs undisturbed. The South Private Lease Pits 2-B and 3-B were reclaimed within bond release area BRP1-9 by moving approximately 896,000 LCY of backfill to the AOC shown on Figure 1 and Figure 1-A. The North Private Lease Pits 1 through 3 were reclaimed within BRP1-10 by moving approximately 1,555,000 LCY of backfill to the AOC shown on Figure 2. Per Division Inspection Report 5711 and 5721 the area was backfilled with subsoil in place and appeared to be stable.

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## Maps Reclamation Final Surface Configuration

Analysis:

The bond release application meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The minimum requirements of R645-301-542 are met within the bond release application as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC. Figures 1 and 2-A that show a topography that matches the approved final reclamation topography in Drawing 5-37, 5-37A, 5-74 and 5-74A.

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## Bonding and Insurance General

Analysis:

The bond release application meets the State of Utah R645 requirements for Bonding and Insurance Requirements.

The bond release application meets the minimum requirements of R645-301-800 as the applicant is current on the bond and insurance standings.

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## Bonding Determination of Amount

Analysis:

The bond release application meets the State of Utah R645 requirements for Determination of Bond Amount.

The bond release application meets the minimum requirements of R645-301-830.140 as the Permittee submitted detailed bond information in regards to the bond release application. BRP1-9 includes the Phase I release of South Private Lease Pits 2-B and 3-B for \$349,380 and \$750,272 respectively. BRP1-10 includes the Phase I release of North Private Lease Pits 1, 2, and 3 for \$350,918, \$741,003, and \$749,411 respectively. The total approved bond release of \$2,985,984 for Phase I reclamation activities brings the minimum required posted bond for the Coal Hollow mine to \$9,594,000. The Mine currently maintains a bond of \$12,750,000 and will apply contemporaneous mining reclamation and operations in the North and South Private leases.

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