



## Technical Analysis and Findings

### Utah Coal Regulatory Program

July 19, 2016

**PID:** C0070016  
**TaskID:** 5189  
**Mine Name:** GORDON CREEK 2, 7 & 8 MINES  
**Title:** AS-BUILTS

#### Reclamation Plan

##### General Requirements

*Analysis:*

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

The minimum requirements of R645-301-540 are met within the amendment which included asbuilt for the repaired creek channel SD-6. The ditch repairs were completed on November 15th, 2015 but snow fell the night and days following the repair delaying the final survey until this point. Earthfax Engineering was hired for the repair design and final reclamation of the channel. The amendment includes the addition of the cover letter and asbuilt report into the back of Appendix 7-1. Plate 3-13 was added to detail the asbuilt of repaired reclamation Channel SD-6. The total area related to the channel repairs completed in 2015 was 1.041 acres or approximately three percent of the total reclaimed acreage.

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##### Backfill and Grading General

*Analysis:*

The amendment meets the State of Utah R645 requirements for Backfill and Grading.

The amendment meets the general requirements of R645-301-553 by failing to detail a general backfill and grading plan 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 minimum requirements of R645-301-553 are met within the amendment as the asbuilt report includes a narrative, designs, and survey of the backfilled and repaired channel. The channel was designed with a trapezoidal shape, having a 5 foot bottom wide with 2H:1V side slopes and minimum depth of 1.5 feet. The survey showed the channel has cross section areas ranging from 16.1 ft<sup>2</sup> to 45.5 ft<sup>2</sup>. The channel was armored and riprapped with a median diameter of 9 inch cobble. An erosion lining was placed along the steeper portion of the channel to assist in large storm events through the slope transition zone.

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##### Revegetation General Requirements

*Analysis:*

The engineer and biologist assigned to the review of this amendment could not accurately determine the extent of the areas affected by the reconstruction of several diversions at the Gordon Creek reclaimed site. Therefore the areas were ground truthed on July 13 by Division staff Steve Demczak and Joe Helfrich using a Garmin E-Trex 20 GPS unit to calculate the acreages. The total acreage of the areas was 1.109 acres or 3.4% of the 32.52 acres of reclamation that had received phase II bond release in 2007. Division staff (Dana Dean, Daron Haddock, Steve Christensen, Cheryl Parker and Joe Helfrich) met on July 19th to determine the extent of the responsibility for the recent disturbance repair and seeding and mulching. The requirements of R645-301-357 et. sec were evaluated during the discussion. The consensus was that the additional disturbance that occurred after phase II bond release would restart the liability period for 10 years absent any additional information.

*Deficiencies Details:*

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the following information is required in accordance with R645-301-356 et sec. Since the affected areas have been seeded after phase II bond release has been granted the additional disturbance that occurred after phase II bond release would restart the liability period for 10 years and the current MRP would need to be updated to acknowledge the areas included extended liability period absent any additional information.

jhelfric

### **Stabilization of Surface Areas**

*Analysis:*

On May 16, 2016 the Division received a response to the deficiencies noted in task 5062. This analysis will include a review of that information. The text provided includes an accurate description of the reclamation practices that were employed to reclaim the affected areas including but not limited to:

The date(s) the area(s) was or were reclaimed;  
The methods used to reclaim the site including equipment;  
The seed mix used in reclamation and ;

Documentation of certified weed free materials used in reclamation of the site. Evidence of mulch was observed on the access areas. However there was no evidence of seeding or mulch in the reclaimed portions of the diversions. This situation is being addressed as a separate compliance issue in the July 13th inspection report. This information to date is adequate to meet the requirements of this section of the regulations

jhelfric

### **Maps Reclamation Final Surface Configuration**

*Analysis:*

The amendment meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The minimum requirements of R645-301-542 are met within the amendment as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC. See Plate 3-13 provided within the application that details the area affected by the repair work, 1.04 acres.

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### **Maps Reclamation Treatments**

*Analysis:*

The as-built information includes as part of the reclamation plan, a revised reclamation treatment map for the area(s) that have been reclaimed in 2014 and 2015 (Plate 3-13). The Division's staff have determined that plate 3-13 does not accurately depict the disturbance associated with the reclaimed areas. The acreages of the affected areas were ground truthed by walking the perimeters using a Garmin Etrex GPS unit on July 13 by Division staff Steve Demczak and Joe Helfrich using a Garmin E-Trex 20 GPS unit to calculate the acreages. The total acreage of the areas was 1.109 acres or 3.4% of the 32.52 acres of reclamation that had received phase II bond release in 2007.

jhelfric

## Maps Reclamation Certification Requirments

### Analysis:

The amendment meets the State of Utah R645 requirements for Certification Requirements

R645-3010-512 minimum requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer with experience in underground mining operations.

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## Bonding and Insurance General

### Analysis:

The amendment does not meet the State of Utah R645 requirements for general bonding Requirements.

The amendment does not meet the minimum requirements of R645-301-357 and R645-301-820 as the applicant currently has Phase II bond release for the area but repairs included reseeding that reset the period of liability. The original damage was documented in the September 2015 inspection report, #5296. The repairs were completed in November 2016 and were documented under snow cover in Inspection reports 5378, 5411, 5469, and 5494. The permittee included reseeding material in the previous submission of Task #5016. The Permittee included Plate 3-13 to show the area affected by the November 2015 creek repair which clarified the total affected acreage of disturbed and reseeded for the Division to be 1.04 acres. The repair of the channel included tracking heavy earthwork equipment to the channel for regrading destroying the established vegetation in the area. The equipment destroyed vegetation around the work area as well as a two track from the access point. The reclamation pocks can be seen in photos of inspection report 5494. These repairs reset the period of liability for the 1.04 acres due threshold defined in R645-301-357.324.

Gordon Creek 2, 7, & 8 has applied for two series of bond release. Phase I bond release of 32.52 acres was approved by the Division in October 2003 and Phase II bond release of 32.52 acres was approved by the Division in March of 2007. The Permittee reseeded the repair areas of the ditch and per R645-301-357.324, no husbandry or augmented seeding can take place after year six of the liability period. The Permittee may provide information to demonstrate that the damage was the result of a storm event that exceeded the drainage design under R645-301-357.340 and allow for seeding beyond Phase II bond release. Otherwise, per R645-301-357.304 the repair work and reseeding of the 1.04 acres will necessitate the liability period be extended ten years.

### Deficiencies Details:

R645-301-357.100, R645-301-357.300, R645-301-357.340, and R645-301-820.330: Permittee will submit documentation to demonstrate an exceedance of the design storm or the liability period will be reset ten years for the 1.04 acres reworked.

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