



## Technical Analysis and Findings

### Utah Coal Regulatory Program

June 28, 2016

**PID:** C0150032  
**TaskID:** 5190  
**Mine Name:** CRANDALL CANYON MINE  
**Title:** MIDTERM COMPLETION RESPONSE

### General Contents

#### Right of Entry

##### *Analysis:*

The amendment does not meet the State of Utah R645-301-114 requirements for Right of Entry Information and the information provided is not clear and concise as required by R645-301-121.200.

Right of entry information is presented in section 114 on pages 1-6 and 1-8. As indicated on page 1-8, the emergency nature of the disturbance on East Mountain required verbal approval by landowners in the rescue attempts. However, this narrative does not describe what right-of-entry was granted after the construction occurred. The Division believes a Right-of-Way was granted to the Permittee after the disturbance was made. However, the narrative on page 1-8 under Emergency Drillholes and Access Roads indicates no formal rights-of-entry were granted due to the emergency.

The amendment acknowledges the need for Forest Service Special Use Permit for existing surface facilities and as such the Permittee applied for a SUP. However, the SUP has not yet been granted and therefore, the Permittee does not have legal Right of Entry pursuant to R645-301-114.

The amendment does not provide right-of-entry for the Neilson Fee Lease.

Organization is confusing and several sentences are repeated. The Permittee must clearly organize the information for clarity. It is recommended that all Federal Leases be listed under Federal Coal Leases, including Federal Special Use Leases. All Fee Leases be listed under Fee Leases. All State Leases be listed under State Leases, and so forth. Repeating information should be removed.

##### *Deficiencies Details:*

The amendment does not meet the State of Utah R645-301-114 requirements for Right of Entry Information and is not clear and concise as required by R645-301-121.200.

The Permittee must provide the Special Use Lease which grants Right of Entry information for surface facilities and disturbance area located in Lot 6, of Section 5, T.16S., R.7E (approximately 6.278 acres) as shown as the red polygon on plate 2-3. The Division understands this is pending approval from USFS.

The Permittee must provide a description of the right of entry granted for access on the East Mountain Property as described on page 1-8 under the Emergency Drillholes and Access Roads heading.

The Permittee must provide a description of the right of entry for the Nielson Fee parcel.

The Permittee must organize the right of entry information in a clear and concise manner.

Ireinhart

## Right of Entry

### Analysis:

The amendment meets the deficiency requirements identified by Steve Christensen during the previous review (Task ID #5067) relative to the State of Utah requirements for Right of Entry.

The Right of Entry deficiency identified by Mr. Christensen pertained to information located in a portion of section 114.100. Specifically, the 1st and 4th bullets immediately under the section 114.100 heading were to be deleted. The bullets discussed Federal Coal Leases UTU-54762 and UTU-68082. As these leases had been relinquished, section 114.100 of the approved mining and reclamation plan (MRP) needed to be revised accordingly.

The submitted amendment (received on May 19th, 2016) has revised Section 114.100 to accurately reflect the leases currently being held by the Permittee.

Although this deficiency has been addressed, additional Right of Entry deficiencies have been identified by Lisa Reinhart that must be addressed prior to final approval.

schriste

## Legal Description

### Analysis:

The amendment does not meet the State of Utah R645-301-114 and R645-521.132 requirements for providing a written description that identifies all lands upon which the Permittee has the legal right to enter and perform mining and reclamation operations.

The Permit Legal Description does not include the Nielson Fee Parcel (SW1/4 S.8, T.16S., 7E.)

### Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for describing the land subject to coal mining over the life of the operation.

The Permittee must update the legal description to include the Neilson Fee Parcel as shown on Plate 1-1.

Ireinhart

## Maps and Plans

### Analysis:

The amendment does not meet the State of Utah R645-301-521 requirements for providing maps identifying the lands subject to coal mining and reclamation operations because the "Permit Boundary" does not adequately represent the correct permit boundary and/or disturbance areas. Because the SUL has not yet been acquired from USFS, the permit area in Lot 6, of Section 5, T.16S., R.7E is a dotted line and therefore not shown within the permit area. The Division understands this predicament cannot be resolved until the SUP is acquired by the Permittee. However, the maps cannot be approved until such time that the SUP is acquired and subsequently incorporated into the Right of Entry and then incorporated into the Permit.

### Deficiencies Details:

The amendment does not meet the State of Utah R645-301-521 requirements for providing maps identifying the lands subject to coal mining and reclamation operations because the "Permit Boundary" does not adequately represent the correct permit boundary and/or disturbance areas.

R645-301-521: The Permittee must revise all plates, maps, and figures that depict the Permit Area Boundary includes the SUP which is currently pending issuance from USFS.

Ireinhart

## Operation Plan

### Mining Operations and Facilities

#### Analysis:

The midterm review of the MRP meets all the State of Utah R645 requirements for Mining Operations and Facilities.

The midterm review of the MRP meets the minimum requirements of R645-301-523, -526, and 528 by addressing the current operational amounts of the Burma pond in Appendix 7-65 attachment 11. The text within Appendix 7-66 was updated to clarify the accumulation rate of solid material within the Burma Pond. Narrative within Chapter 5 section 5.40 was updated to reflect the relevant direction to additional reclamation plans associated with the Burma Pond and water treatment facility. The Permittee provided update facility drawings and Burma pond drawings.

cparker

### Topsoil and Subsoil

#### Analysis:

##### Analysis:

The information provided meets the commitment in Chapter 2 of the MRP and R645-301-231.400, because Plate 5-3A provides as-built information for the Burma pond. Plate 5-3A outlines 860 CY of topsoil stored in a pile protected with a berm and 284 CY topsoil with grubbed vegetation in a separate pile. The total salvaged is 1,144 CY, which is enough to cover the disturbed area (1.67 acres) with six inches of topsoil. The topsoil pile and the embankment of the pond were seeded with an interim mix in the fall of 2013. The smaller topsoil/grubbed vegetation pile will be seeded in the fall of 2016 (Chapter 5, Item 6 on page 10 and item 9 on page 11).

The management practices for placement of the sludge in to the pond have been updated in Chapter 5 as follows. The sludge is 95% water. It is hauled twice a week to the Burma pond (2-3 truckloads each time @ 4,000 gallons per truckload). UEI estimates 4,300 cubic feet of dried sludge will accumulate annually. This volume over the 20,000 sq.ft pond will be approximately 2.6 inches each year. This rate of deposition allows for a 16 year life of the facility (until 2032). An estimate of annual accumulation will be provided in the annual report (Chapter 5, Item 8).

Chap 5, Item 2 states that grab samples of the dried material will be taken every five years or with 7.5 inches of solid waste deposited. This site was constructed in November 2012 and became operational in the first quarter of 2013, therefore the first sludge sampling should occur in 2018, unless the depth of sludge reaches 7.5 inches before 2018.

Chap. 5, Item 7 describes compaction of the sludge as necessary and reporting of compaction in the annual report. The sludge will be covered with four feet of cover at final reclamation (Chapter 5, Item 1). The source of cover will be the embankment berms where 2,363 CY of cut is stored (Chap 5, Item 14, pg. 12). This volume of material spread over the 20,000 sq ft pond will provide 3.19 feet of cover. An added half a foot of topsoil brings the total cover to 3.69 feet. The plan states imported material may be required. (Chap 5. Item 1, page 7 ).

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### Hydrologic Impoundments

#### Analysis:

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

The deficiency listed under the previous task ID 5067 was addressed by moving the waste disposal text from the inappropriate ""Casing and Sealing of Wells"" section of the MRP to the correct ""Disposal of Excess Spoil"" section of the MRP.

adaniels

## Reclamation Plan

### General Requirements

*Analysis:*

The midterm review of the MRP meets the State of Utah R645 requirements for Reclamation Activities.

The minimum requirements of R645-301-540 are met within the midterm review of the MRP as the Permittee including updating Chapter 5 to reflect the current lease relinquishment, correct references in Chapter 5 Section 5.40, and relevant updates to Appendix 7-66 detailing current Burma Pond operations. The Permittee provided updated Burma pond operations and reclamation drawings.

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## **Stabilization of Surface Areas**

*Analysis:*

**Analysis:**

R645-301-142 and R645-301-244, The Permittee has partially met the requirements of the SITLA lease 1708, Article 10.2 (App. 1-16) which required leveling, seeding and other reasonably necessary steps to prevent soil erosion, ensure the establishment of suitable vegetation and control noxious weeds. The site was leveled and a drainage ditch UD -1 carries water away from the disturbed area to prevent erosion. Areas outside the fence disturbed by construction should be seeded in the Fall of 2016 (at the same time as the topsoil/grubbed vegetation pile).

Interim seeding of the containment berm and the topsoil pile was accomplished in the year after construction. The smaller topsoil/grubbed vegetation pile will be seeded in the fall of 2016. These piles are outside the fenced area and subject to grazing animals. Sediment leaving these pile is captured by excelsior logs.

R645-301-234.230, Photographs of the site were taken on March 17, 2016. Vegetation growth on seeded areas was limited at that time. An evaluation of the interim seeding should be done during the growing season in 2016 to determine whether a second seeding is warranted for the containment berm and the topsoil at the same time as the topsoil/grubbed vegetation pile is seeded.

*Deficiencies Details:*

R645-301-142 and R645-301-244, The Permittee has partially met the requirements of the SITLA lease 1708, Article 10.2 (App. 1-16) which required leveling, seeding and other reasonably necessary steps to prevent soil erosion, ensure the establishment of suitable vegetation and control noxious weeds. The site was leveled and a drainage ditch UD -1 carries water away from the disturbed area to prevent erosion. The Permittee should provide a commitment to seed areas outside the fence which were disturbed by construction in the Fall of 2016 (at the same time as the topsoil/grubbed vegetation pile).

R645-301-234.230, The Permittee should provide a commitment to conduct a second seeding of the containment berm and the topsoil in the Fall of 2016, pending a joint evaluation of the vegetation growth on the stockpiles by the Division and UEI during the growing season 2016.

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## **Bonding Determination of Amount**

*Analysis:*

The midterm review of the MRP meets the State of Utah R645 requirements for Determination of Bond Amount.

The Division requires an evaluation of the reclamation cost estimate during each midterm permit review. This cost estimate is updated to current year dollars then escalated for five years or until the next midterm review. In accordance with the requirements of R645-303-211, R645-301-830, and -301-830.140, it is the Permittees responsibility to provide detailed estimated cost sheets to support the reclamation cost estimate.

The Permittee corrected bond information related to missing references for third party costs utilized in the estimate, incorrect application of salvage credit, and the total reclamation cost is missing the escalation to the next midterm 2020.

In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee may utilize third party contractors for cost references when a general cost references does not adequately describe the required reclamation task. In the event the Permittee utilizes local third party contractors cost estimates additional reference information must be submitted with the application. Additional

reference information includes a minimum of three individual quotes for the work. Reference information may include items such as a letter or email transcript that includes all relevant contact information from the contractor. The contact information must be readily available so that the Division may contact said contractor to verify unit cost is valid in the event the Division was the hiring personal.

References were submitted at the time the reclamation bond amount was submitted to the Division. In the event less than three quotes can be gathered the Permittee will submitted detailed justification of measure taken in attempts to garner three quotes including contact information of representatives attempted and documentation of attempts of contact. The Permittee provided contractor quotes for four tasks. Four contractors were contacted for the portal sealing: Jenn Chem, Wall Contractors, Kiewit, and Frontier Kemper. Jenn Chem was selected for a quote of \$4,320 per 8.6' by 20' by 2.6 ' seal. Contact information for Jenn Chem is provided in the MRP with the reclamation bond sheets in Appendix 8-A. Three companies (Scamp, Nielson, W.W. Clyde) were contacted for quotes on earthwork. Scamp was selected and provided a table, found in Appendix 8-A, of various equipment rates that include operator costs. Six nurseries were contacted to provide seed mix quotes (Maple Leaf Co., Granite Seed, Laver Nursery, Blake Nursery, Native Plant, and West Scape Nursery. Maple Leaf Co was selected as the contractor to develop vegetation and tree costs. Three contractors were contacted regarding providing concrete: Nielson Concrete, Geneva Rock, Christensen Ready mix. Nielson Concrete was selected as the concrete contractor and the quote information can be found in Appendix 8-A.

The Permittee did update the unit cost data used in the 2010 Midterm Permit Review reclamation cost estimate to 2016 unit costs using the 2016 R.S. Means Heavy Construction Cost Data manual. All computation sheets for demolition, earthwork and re-vegetation were updated and submitted to the Division. In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee utilized bare unit costs when using standardized cost reference manuals such as R.S. Means Heavy Construction. The Division applies an indirect cost of 26.8% that covers overhead and profit calculations in the indirect line items of the total sheet.

In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee removed salvage costs in the demolition of structures.

The total reclamation cost for the Crandall Canyon Mine (sum of the direct and indirect costs) must be escalated from 2016 to 2020 (4 years) using an escalation factor of 0.7 %. This escalated cost is rounded to the nearest \$ 1,000 to determine the amount of required bond which must be posted with the Division by the Permittee.

The total required reclamation bond amount could not be determined based on missing contractor quote information regarding the concrete demolition costs. The Permittee must provide a 2016 quote from a minimum of three contractors. Reference information may include items such as a letter or email transcript that includes all relevant contact information from the contractor. The contact information must be readily available so that the Division may contact said contractor to verify unit cost is valid in the event the Division was the hiring personal.

*Deficiencies Details:*

R645-303-211, R645-301-830.100 through -830.140, R645-301-830.410: The Permittee must submit detail cost quotes from a minimum of three parties to utilize a cost reference outside of published construction related cost reference manuals, e.g. R.S. Mean Heavy Construction, for concrete demolition.

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