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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

May 15, 2015

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

Subject: Conditional Approval Appendix 5-10 Lower Robinson Creek Reconstruction Plans (NOV #16149 Response), Alton Coal Development, LLC, Coal Hollow Mine, C/025/0005, Task ID #4871

Dear Mr. Nicholes:

The Division has completed its review of the designs for the reconstruction of Lower Robinson Creek that were received on April 10, 2015. A copy of the technical analysis is attached. The amendment, Appendix 5-10, is conditionally approved pending concurrence from the Division of Water Rights in the form of an approved stream alteration permit. Approval is also conditioned upon receipt of 2 clean copies prepared for incorporation. Please submit these copies by May 27, 2015.

The abatement of Notice of Violation #116149 (the NOV) has been modified to allow you time to complete the newly designed reconstruction work of Lower Robinson Creek. Prior to construction, you must obtain approval from the Division of Water Rights for the revision of Stream Alteration Permit #07-85-0002 which has expired.

To abate the violation, the work must be completed by May 27, 2015. The date corresponds to 90 days from the issuance of the NOV. The Division's review time was not included in the calculated due date of May 27, 2015. Once the reconstruction work of Lower Robinson Creek has been completed, the NOV will be terminated.

Per R645-400-328.200, an extension may be granted beyond the 90 day deadline with the concurrence of the Director of Oil, Gas and Mining.

Sincerely,

Steve Christensen
Permit Supervisor

SKC/PWB/ss
Enclosure
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UTAH DNR OIL, GAS & MINING

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Technical Analysis and Findings

Utah Coal Regulatory Program

May 15, 2015

PID:	**C0250005**
TaskID:	**4871**
Mine Name:	**COAL HOLLOW**
Title:	**NOV #16149 RESPONSE**

Summary

On April 10th, 2015 the Division of Oil, Gas and Mining (the Division) received a response to NOV 16149 from Alton Coal Development, LLC (the Permittee) regarding the reconstruction of Lower Robinson Creek within the Coal Hollow permit area. The application is assigned Task ID #4871. During an inspection at the Coal Hollow mine on 01/12/2015 it was found the Permittee failed to follow the approved reconstruction plan of Lower Robinson Creek running through the mid-NW corner of the permit area. The Division issued a Notice of Violation for this failure on 01/26/2015, for further citation information refer to NOV 16149. The Permittee has responded to the NOV by providing an Engineering Evaluation of Lower Robinson Creek reconstruction of the as-built reconstructed channel and designs for the channel to meet the minimum hydrologic requirements as per the Coal Mining Rules. Task #4871 is the second response to the initial submission which was rejected during the IR of Task #4811.

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Reclamation Plan

Hydrological Information Reclamation Plan

Analysis:

Analysis:

The application meets the minimum hydrologic requirements as per the State of Utah R645-301-700 Coal Mining Rules. Lower Robinson creek is a naturally incised ephemeral channel flowing east to west/southwest through the permit in two locations. It is relatively unaltered where it first crosses through the eastern boundary of the permit area and has its two branches conveyed under the main haul road through two culverts. Following these culverts the two channels join to form one continuous channel that briefly flows outside the permit area before it bends to flow southwest across the mid-NW corner of the permit area. After leaving the western permit boundary it continues down gradient to the west draining into Kanab Creek. Open pits in the mid-NW corner of the permit area mined through the natural channel and making it necessary to temporarily realign the channel. Upon completion of open pit mining mining in this location the area was backfilled and graded flat. In early January 2015, the Permittee's initial reconstruction of Lower Robinson Creek excavated a channel into the backfilled and graded area that roughly followed the plan view sinuosity of the approved channel design in the MRP. However, the excavated channel was not properly sloped at a -2.5% grade to seamlessly join the reconstructed channel to the unaltered natural channel at its head and outlet. Instead, the January 2015 reconstruction had a 1 to 2% grade for the first 1,500 ft of the channel before it abruptly changed to a > 8% slope to connect the channel at the outlet to the natural channel elevation.

The Permittee has submitted Task #4871 to alter the currently approved design for the reconstruction of the channel to instead match the shape of how the channel is currently constructed. The application includes an engineered design that

will bring the currently as-built construction of Lower Robinson Creek channel into compliance with the minimum hydrologic requirements as per the R645-301-700 Coal Mining Rules. The design will keep the as-built construction of the channel through the shallow 1- 2% grade section or roughly the top 1,500 ft. The drop at the end of the channel is designed to be set back more than the as-built channel currently is excavated, and the channel bottom will be widened to 15 ft to reduce the depth of the flow through this transition area. A plunge pool is designed to be at the bottom of the steeper transition zone, which will act to dissipate energy before it leaves the permit boundary. The channel will be riprapped along its length with D50 riprap sized for the design flow and the transition area and plunge pool will be concrete grouted.

R645-301-742-323: The application provides a channel designed to safely pass the peak runoff from a 100-year 6-hour rain event. Volume 3 Appendix 5-3 in the approved MRP calculates the peak runoff through this section Lower Robinson Creek at 347 cfs. This peak flow is used as the design calculations for the sizing of riprap along both the shallow and the steep graded section of the reconstructed channel. In addition to the riprap along the channel length, the plunge pool at the bottom of the transition zone will dissipate the energy of the flow at the outlet of the reconstructed channel and before it leaves the permit area.

R645-301-743.131.1: The application has designed the channel to be stable. The channel will be lined with riprap along its length on both the bed and banks. The D50 sizing of the riprap along the shallow graded channel and the transition zone will prevent the channel from incising into the bed and banks. The concrete grouted transition area and plunge pool will prevent runoff from scouring below the riprap, as has happened in the transition area of the current temporary diversion.

While this design meets the minimum hydrologic requirements as per the States Coal Mining Rules, there are some reservations regarding the overly steep section of the channel. The concrete grouted face in the transition area will not allow for the pressure release of ground water behind the sealed grout curtain. This may cause the curtain to 'pop' off the face of the transition area. A popped face may cause the curtain to break up so it will no longer prevent downcutting in the transition zone, and/or it can cause piping underneath/behind the curtain. This could potentially suspend the grout curtain above the flow in the channel. Flow over the unprotected transition area face would cause a significant head cut in this zone that would likely migrate up-channel.

Findings:
The application meets the minimum hydrologic requirements as per the State of Utah R645-301-700 Coal Mining Rules.

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