

#4150

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# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

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August 8, 2012

TO: Internal File

THRU: Steve Christensen, Permit Supervisor *SC*

FROM: April A. Abate, Environmental Scientist III *GAAC 8/15/2012*

RE: Northwater Mitigation Plan, Task ID #4150, Canyon Fuel Company, LLC, SUFCO Mine, C0410002

## SUMMARY:

Canyon Fuel Company, LLC, has made several attempts to replace water that has been lost in the North Water Spring area located in the Pines Lease section of the SUFCO permit boundary. Pines 105, 310, 311, and Joes Mill Pond have undergone a drop in the water table as a result of underground longwall mining activities that occurred in 2005. Subsidence resulted from mining and caused cracking in the Castlegate sandstone that represents the overburden bedrock. These cracks have subsequently caused select springs in the area to go dry. The United States Forest Service (USFS), the surface landowner, issues grazing permits to the Emery County Stockgrowers Association within the North Water Area. Cattle use the springs as a drinking water source and with the loss of water to these springs, an alternative source of water for the cattle is needed.

SUFCO has determined that drought conditions during the 2012 water year have made the plan to install a submersible solar pump in the perennial flowing portion of the East Fork of Box Canyon problematic. As a result, the company has decided to move forward with a previous proposal to collect water from a nearby spring, M-SP89 located on a steep face of Box Canyon and divert approximately 10-15 gallons of water from this spring to the existing troughs installed along the North Water Canyon rim.

On July 12, 2012, SUFCO resubmitted the proposal to install a water line from spring M-SP89 to a collection area and use solar pumping technology to bring the water to the four troughs via a water line. In this submittal, SUFCO has addressed the primary concerns of the Division and the USFS (refer to M:FILES\COAL\PERMITS\041\C0410002\2012\INCOMING) by agreeing to provide continued updates to the performance and efficiency of the pumping system during operations. The long term operation, bonding requirements, and transfer of responsibilities of such a system will be decided at a later time once the system is given a chance to be implemented and for the company to measure its success.

## **TECHNICAL ANALYSIS:**

### **OPERATION PLAN**

The following are previous hydrology-related deficiencies were presented along with the responses received by the company:

- **[R645-301.731.750]:** The installation a solar pump and associated panels meets the objectives of a current solution to the satisfaction of the Forest Service and DOGM. Both agencies acknowledge that this plan should be tested and cannot be considered a final solution until it can establish a proven operation and maintenance track record. As such, a bi-weekly monitoring schedule for the system should be set up during the grazing season. The Operator should add a commitment to Appendix 7-25 to include a statement that the system will be monitored on a bi-weekly basis and during its first season of operation, provide monthly updates (via e-mail) to DOGM and the USFS. Operation and maintenance information of the Northwater Mitigation system should also be included as an annual report item during the grazing seasons when it is in use. The information should include pump volume estimates and water volume supplied to each trough.

**Response:** SUFCO has submitted a commitment in their mitigation plan to provide a monthly report to the Division and USFS detailing the water estimates delivered to the troughs, an assessment of pump efficiency and operation times, and overall system performance. This monthly report will be issued during the first year of system operation. Records will be kept and summarized annually in the SUFCO Annual Report submitted to the Division. These commitments can be found in Appendix 7-25 under the "Mitigation Plan" header.

#### **Findings:**

The information provided is considered adequate to meet the minimum regulatory requirements for this section.

#### **Water Rights and Water Replacement**

**[R645.301-731 224.1, -301.750]:** A previous deficiency from a July 26, 2010 Division letter to SUFCO stating to provide information if spring M-SP89 had a water right associated with it and whether or not the company had the right to use the water from spring. SUFCO responded indicating that there was no specific water right associated with M-SP89 and that a

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point of diversion from M-SP89 to the affected springs in Northwater Canyon and Joe's Mill areas would have to be filed on. The USFS currently holds the majority of water rights within the drainage. According to the State Engineer's office since there is no water right associated with that spring, the USFS, who currently holds the majority of water rights within the drainage will need to file a change application and add spring M-SP80 as a point of diversion. The company and the USFS should work together to fulfill this requirement.

**Findings:**

The company did not address water rights issues in their July 12, 2012 submittal. The Division considers the routing of water from the spring a diversion of flow from an undisturbed area. Therefore, under this rule the Permittee is required to comply with all local, state and Federal laws and regulations including the requirement to obtain a water right for the water being put to use for beneficial use. Currently there is no specific water right on spring M-SP80. However, a change application would be required to add this spring as a point of diversion. The USFS currently holds the water rights associated with the drainage that M-SP89 reports to and would be responsible for the filing of this new point of diversion. Until a change application is filed on this spring as a point of diversion, the Division cannot approve the plan.

## RECLAMATION PLAN

- **[R645-301.764-765]:** Please include all piezometer data collected to date be included in Appendix 7-25 along with maps showing the locations of all piezometers. The Operator should add a commitment to Appendix 7-25 that piezometer data will be provided to the Division in the annual report. The piezometers will need to be included in the bonding calculations and addressed in the reclamation plan addressing their removal.

A piezometer data table and Figures 1 and 2 of the North Water and Joe's Mill areas were included in Appendix 7-25. SUFCO has indicated that the piezometer data will be included as an item in the annual report. According to the reclamation plan section of Appendix 7-25, the piezometers will be removed or plugged at final reclamation in the North Water area when they are no longer in use. However, reclamation costs for the piezometers were not itemized in the bonding cost calculations spreadsheets included in Appendix 5-9. The company will need to provide the Division with an updated bond calculation spreadsheet including the costs of reclamation for the piezometers.

**Findings:**

Reclamation costs for the piezometers were not itemized in the bonding cost calculations spreadsheets included in Appendix 5-9. The company will need to provide the Division with an updated bond calculation spreadsheet including the costs of reclamation for the piezometers.

**RECOMMENDATIONS:**

The plan cannot be approved until the above-listed deficiencies are addressed.