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OK

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

December 19, 2012

TO: Internal File

THRU: Daron Haddock, Program Manager, Team Lead

FROM: Ken Hoffman, Hydrologist

RE: Drainage Control Adjustments, Alton Coal Development, Coal Hollow Mine, C/025/005, Task ID #4205

SUMMARY:

On October 9 2012, The Utah Division of Oil Gas & Mining (Division) received and application for an amendment to the Mining and Reclamation Plan (MRP) of the Coal Hollow Mine. The primary purpose of the address deficiencies identified in a previous application (tasks #4101 & #4198) for the inclusion of a plan for the management of alluvial groundwater that has been encountered during surface coal mining activities.

This memo addresses the application's compliance with the hydrology (R645-301-700) section of the Utah Coal Mining Rules. The contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules and the amendment is recommended for approval.

TECHNICAL ANALYSIS:

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

The following deficiencies were identified during the most recent (task #4101) review process:

- ***R645-301-526.115.2.*** *The applicant shall include a proceed for notification to the Division of the timeframe that they will be doing construction so the Division has the opportunity to observe the construction and installation.*

The Permittee commits on Page 2 of Appendix 7-9 that prior to construction of alluvial groundwater interceptor drains notification and an opportunity to observe will be given to the Division. The procedure for this notification or opportunity is not expressly defined but this commitment satisfies and addresses the deficiency.

- ***R645-301-526.220.*** *The applicant shall require prior specific Division approval for any groundwater dewatering wells installed outside of the area to be mined. The application shall be revised to indicate wells will only be installed in areas yet to be mined. Request for installation of well outside of the area to be mined shall be submitted to the Division as a separate application for approval.*

The Permittee has added language to Page 11 of Appendix 7-9 that drains will be constructed hydraulically upgradient of mine pit areas and only within permitted disturbed areas. In addition, the Permittee states if drains are required in other areas, these will be constructed upon approval from the Division. This language satisfies and fully addresses the deficiency.

- ***R645-301.724.100.*** *The applicant must provide ground water quantity descriptions with details of approximate rates of discharge and flow within the alluvium. These estimates should be based on a worst-case precipitation event using the thickest section of alluvium that can be treated by a trench conveyance system and based on a 100-year, 24-hour precipitation event.*

  The applicant states "Chapter 7 text on page 7-16" addresses this deficiency. The text describes an observation of flow in the pits made on June 2, 2011 and that Table 7-9 includes flow rates in the alluvium. The applicant shall use the information since the start up of the mine of the flow into the pits and the information presented in MRP Table 7-9 to calculate a worst-case design flow rate in gallons per minute.

The applicant shall use this design flow rate and document the calculations for the increase in size of Pond 3.

On page 14 of Appendix 7-9 the Permittee has added *Table 1 Monthly alluvial groundwater quantities, July 2011 – June 2012.* Table 1 documents the total alluvial groundwater and precipitation water pumped from a 2011 alluvial trench, mine pit water, and Pond 3 and the water discharged at UPDES Serial Outfall No. 003 and 005. Further, the Permittee has indicated in conversation that this data is routinely collected and could be made available to the Division in the future as more data is collected. The addition of Table 1 satisfies this deficiency.

- ***R645-301-731.*** *The applicant shall demonstrate all required State Appropriated Water Rights are being address for groundwater dewatering and for any beneficial uses such as dust control for water collected from the groundwater dewatering wells.*

The Permittee has added language to page 10 of Appendix 7-9 concerning possession of Water Right a36784 for valid use of alluvial groundwater for dust suppression and industrial use. The Permittee further states they will pursue modification of point of diversion the water right if that is found to be necessary. Water Right a36784 and the additional language address this deficiency.

- ***R645-301-731-221.*** *In addition, to #16 on page 6 of the application, the applicant shall revise the monitoring discussion in the MRP and associated tables to specify the locations and frequencies where selenium monitoring will be performed in accordance with Permit condition No.4.*

Table 7-6B and 7-7B were revised to include dissolved selenium fully addressing this deficiency.

- ***R645-301-731.720.*** *and R645-301-526.220 The applicant shall include a map showing the area where groundwater dewatering wells are being requested to be installed. It is the Divisions expectation this will be the perimeter of the area to be mined. The applicant shall provide an updated copy of this map within 15 days of the construction of any groundwater dewatering wells. The map shall include a legend with details on constructions specifications in relation to the standard design.*

The Permittee includes language on page 11 of Appendix 7-9 that a map showing the area where interceptor drains are proposed for construction will be provided to the Division. In addition, the Permittee commits to provide an updated copy of this map to the Division within 15 days of the construction of any alluvial groundwater interceptor drains. Further, the Permittee will include a legend with details on construction specification in relation to the standard design. Last, as described previously, the Permittee committed that drains will only be constructed within previously permitted disturbed areas that are hydraulically upgradient of mine pit which addresses the current need for a map showing the area being requested.

- ***R645-301-731-730.*** *Revise MRP Drawing 7-10 (Water Monitoring Locations) to show spring monitoring location SP-19 and reinsert SP-19 into Table 7-5.*

The Permittee revised Table 7-5 and Drawing 7-10 to include SP-19 as requested.

- ***R645-301-751**. The applicant must demonstrate that the effluent limitations for UPDES permit compliance prior to discharge. If the applicant is going to discharge at Outfall No. 005 the applicant shall at minimum collect and analyze a sample for UPDES effluent limitation parameters and receive these results prior to discharging. These result shall also be provided to the Division prior to discharging, however no Division approval for discharge will be required. As required by the UPDES permit testing will be required upon discharge at Outfall No. 005.*

On page 5 of Appendix 7-9 in number 11 the Permittee commits that prior to offsite discharge of water to demonstrate the water meets effluent limitations for the UPDES permit by sample collection and analysis. Further the Permittee committees to providing these results to the Division. This plan to sample prior to discharge addresses this deficiency.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

RECOMMENDATIONS:

Approval is recommended at this time.

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