Outgoing
C025005
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State of Utah

DEPARTMENT OF NATURAL RESOURCES

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Division of Oil, Gas and Mining
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December 21, 2011

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

Subject: Drainage Control Adjustments, Alton Coal Development, Coal Hollow Mine, C025/0005, Project #3991

Dear Mr. Nicholes:

The Division has reviewed your response to the deficiency letter for the alluvial groundwater management plan and the updates to the water monitoring plan dated December 15, 2011.

The Division has determined that there are deficiencies that must be addressed before a determination can be made that the requirements of the R645 Coal Mining Rules have been met, and an approval can be granted. Those deficiencies and the full technical memorandum prepared by the Division staff are listed as an attachment to this letter.

Each deficiency identifies its author by that author's initials in parentheses, such that your staff can directly communicate with that individual should any questions arise relative to the preparation of Canyon Fuel Company's response to that particular deficiency.

Please be advised that additional regulatory requirements need to be met for the sump impoundment that is located in the permit boundary. The Division recognizes that the need to discharge water from the impoundment is critical as the winter weather worsens. The Division does not want to hold that process up any longer then necessary. As such, this amendment is being turned around one week ahead of schedule in hopes that additional work can be completed on the sump structure so that it meets the outlined regulatory requirements necessary to operate.

The plans as submitted are denied. Please resubmit the entire application.

Sincerely,

Daron Haddock
Coal Program Manager

DRH/AAA/sqs
Attachment
cc: Price Field Office
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UTAH DNR OIL, GAS & MINING

Deficiency List

Task No. 3991

Task Name: Drainage Control Adjustments

The members of the review team include the following individuals:

April Abate (AA)

[R645.301-722]: The second page of the alluvial groundwater management plan incorrectly references Figure 2 as showing the berms on either side of the groundwater intercept trenches. This reference should be changed to Figure 1 in Appendix 7-9. Figure 2 shows the mine pit sequences and the general flow directions of groundwater at different areas of the permit boundary. This figure was also supposed to show the outfall location at LRC but the location did not print properly because of the scale of the figure. Please make the noted corrections and resubmit the figures.

[R645-301-733]: The sump collection system meets the criteria for an impoundment and as such will be required to meet all standards outlined in the 733 rules.

[R6545-301.743]: An appropriately-sized spillway design for the impoundment will be required and will need to meet the regulations outlined in the 743 rules.

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

December 21, 2011

TO: Internal File

THRU: Daron Haddock, Coal Program Manager

FROM: April A. Abate, Environmental Scientist III

RE: Drainage Control Adjustments, Alton Coal Development, Coal Hollow Mine, C025/0005, Project #3935

SUMMARY:

On December 19, 2011, Alton Coal Development (ACD), the Permittee submitted a response to a deficiency letter addressing an amendment for the management of alluvial groundwater upgradient of the mine pits. The management of groundwater during the winter and wetter weather months has been problematic at this site. This plan addresses a way to divert alluvial groundwater away from the mine pits and ultimately discharge the water to Lower Robinson Creek (LRC), an ephemeral channel that drains to Kanab Creek. This will minimize the volume of groundwater needing to be pumped from the mine pits into the sediment ponds.

The submittal addresses deficiencies outlined in a letter from the Division dated October 28, 2011 and from a site inspection on November 30, 2011. Upon the inspection, the Division discovered that the sump collection system was already constructed (without prior Division approval) and that it was actually a water impoundment that would be required to meet all the regulatory criteria outlined in the R645 Utah Coal Rules.

RECOMMENDATIONS:

Approval is not recommended at this time until the following deficiencies are addressed:

[R645.301-722]: The second page of the alluvial groundwater management plan incorrectly references Figure 2 as showing the berms on either side of the groundwater intercept trenches. This reference should be changed to Figure 1 in Appendix 7-9. Figure 2 shows the mine pit sequences and the general flow directions of groundwater at different areas of the permit boundary. This figure was also supposed to show the outfall location at LRC but the

location did not print properly because of the scale of the figure. Please make the noted corrections and resubmit the figures.

[R645-301-733]: The sump collection system meets the criteria for an impoundment and as such will be required to meet all standards outlined in the 733 rules.

[R6545-301.743]: An appropriately-sized spillway design for the impoundment will be required and will need to meet the regulations outlined in the 743 rules.

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:

Groundwater Monitoring

The Permittee indicated in their amendment cover letter that groundwater monitoring wells Y-38 and Y-61 will be monitored for acidity based on a request made by the Division. This monitoring period is to extend for a two-year time period until data can be reevaluated to determine if acidity is being produced in groundwater wells screened in the coal seam. At that time data can be reevaluated to determine if acidity is being produced in groundwater wells screened in the coal seam.

Additional corrections were also made to Table 7-5 for other sampling locations listed in the water monitoring plan. Springs SP-14 and SP-20 have changed from Protocol 4 to Protocol 3, adding quarterly operational field and laboratory water quality measurements at these locations. Well LS-28 added Protocol 5 to the plan adding quarterly operational field and laboratory water quality measurements at this well. A pond located near Sorenson Pond (SP-19) is being discontinued. The quality of data is questionable due to the area often being inundated with snowmelt or excess runoff from the nearby trough. A comment was added to SP-3 indicating that the spring has been piped and developed down canyon in Sink Valley Wash.

Findings:

[R645-301.724.100]: The Permittee has added a revision to Table 7-4 adding a new protocol (Protocol 7) to include the acidity sampling at monitoring wells Y38 and Y-61. The Permittee has also updated the sampling requirements at locations SP-14, SP-20, LS-28 adding operational laboratory parameters to the quarterly monitoring program. SP-19 is being discontinued due to the lack of quality data. Updates to the water monitoring tables 7-4 and 7-5 meet the Utah Coal Rules and are recommended for approval.

Water-Quality Standards and Effluent Limitations

The Permittee has received approval from the Utah Division of Water Quality to include a new permitted outfall location intended for the discharge of upgradient alluvial groundwater. The location of the new outfall is listed as outfall location 005 and has the same effluent limitations applied to it as all other outfall locations in the permit. The outfall is located at the beginning of the temporary diversion of Lower Robinson Creek and will remain in place once the diversion has been reclaimed and LRC has been restored to its natural channel configuration. A copy of the revised Utah Pollution Discharge Elimination System (UPDES) permit UTG040027 is included in Appendix 7-12. Water quality and discharge rates will be monitored in accordance with the UPDES permit.

Findings:

It should be noted that the UPDES permit expires in April 2013. At that time, the Permittee will need to submit a current copy of the UPDES permit to the Division. No further action is recommended at this time.

Groundwater Monitoring Plan

The alluvial groundwater management plan submitted by the Permittee proposes to intercept alluvial groundwater by excavating trenches upgradient of the mine pits perpendicular to groundwater flow. Each trench will be constructed such that there will be a slight gradient to allow water to flow and collect at a downgradient end of the trench. Water would then be allowed to settle and the water will then be piped to a sump located near the UPDES outfall. Water will then be transferred from the sump location to the discharge outfall. The Permittee has submitted an alluvial groundwater management plan integrated into Appendix 7-9 describing the processed used to divert groundwater away from the mine pits so that a minimal amount of water from upgradient groundwater will need to be pumped from the mine pits into the sediment ponds. The Permittee submitted Figures 1-3 in Appendix 7-9. Figure 1 is a cross-sectional view of the underlying geology and how the intercept trenches will work to prevent groundwater from entering the mine pits. Figure 2 shows the mine pit sequences and the general flow directions of groundwater at different areas of the permit boundary. This figure was also supposed to show the outfall location at LRC but the location did not print properly because of the scale of the figure. A sump construction as-built diagram and pumping protocol will be designed to minimize any disturbance of sediment and allow for suspended solids to settle before discharging to LRC. The Permittee has also submitted an updated Figure 5-3 to reflect the location of the sump impoundment on the Surface Facilities Map.

Findings:

[R645.301-722]: The second page of the alluvial groundwater management plan incorrectly references Figure 2 as showing the berms on either side of the groundwater intercept trenches. This reference should be changed to Figure 1 in Appendix 7-9. Figure 2 shows the mine pit sequences and the general flow directions of groundwater at different areas of the permit boundary. This figure was also supposed to show the outfall location at LRC but the location did not print properly because of the scale of the figure. Please make the noted corrections and resubmit the figures.

Probable Hydrologic Consequences Determination

The Probably Hydrologic Consequences section of the MRP found in Section 728 of the MRP has been updated to include a reference to the implementation of the alluvial groundwater management plan. The plan is referenced in Appendix 7-9.

Findings:

[R645-301.728.333]: The Permittee has referenced the groundwater management plan on Page 7-34 and 7-40 of the MRP addressing the alluvial groundwater and has integrated the management plan into Appendix 7-9 in the MRP. Page 7-40 of Section 728.333 references the location of the groundwater management contingency plan in Appendix 7-9. The Permittee has adequately addressed this deficiency. The Permittee has adequately addressed this deficiency.

Diversions: Miscellaneous Flows

The diversion of alluvial groundwater falls into the category of Diversion of Miscellaneous Flows under regulations 742.330 of the Utah Coal Rules. The alluvial groundwater trenches that the Permittee will construct will be required to meet the standards of a peak runoff of a 2-year, 6 hour precipitation event. The alluvial groundwater management plan referenced in Appendix 7-9 addresses the construction of trenches. The trenches will be constructed so as to minimize contributions of surface water runoff. To minimize infiltration of surface water, exclusion berms will be constructed on both the upgradient and the downgradient margins of the trenches as indicated by Figure 1 submitted as part of Appendix 7-9. Small amounts of precipitation are expected to fall directly into the trench but the amount would not be considered significant enough to exceed the 2-year, 6-hour storm event.

Findings:

[R645.742.333]: The Permittee has addressed concerns that the temporary upgradient trenches used to reroute groundwater to the sump collection system will meet the 2-year, 6-hour standard. The Permittee presented a diagram of the bermed trenches as Figure 1 of Appendix 7-9. The Permittee has adequately addressed this deficiency.

Impoundments

During a site inspection to the Coal Hollow mine on November 30, 2011, inspectors observed that the "sump" under technical review with the Division as part of the current amendment was actually an excavated pit that was impounding water representative of upgradient groundwater flowing from the intercept trenches. An as-built drawing detailing the size of the sump and storage volume were provided as Figure 3 and certified by Larry J. Adams, P.E. on December 15, 2011. By definition, the dewatering sump meets the criteria for an impoundment. Impoundment is defined in R645-100-200 as a dam, embankment, or other structure used to impound water, slurry, or other liquid or semi liquid material.

Findings:

[R645-301-733]: The sump collection system meets the criteria for an impoundment and as such will be required to meet all standards outlined in the 733 rules.

[R6545-301.743]: An appropriately-sized spillway design for the impoundment will be required and will need to meet the regulations outlined herein.

Performance Standards

Section 750 of the Utah Coal Rules are a series of performance standards that are designed to minimize the disturbance to the hydrologic balance within the permit and adjacent areas and to prevent material damage to the hydrologic balance outside the permit are. This includes complying with water quality and effluent limitations in the UPDES permit, and minimizing the diminution or degradation of the groundwater quality and refraining from significantly altering the normal flow of water in a drainage channel.

The Permittee submitted a pumping protocol amended to the alluvial groundwater management plan. According to the protocol, dewatering will occur on an intermittent basis after water has accumulated in the impoundment and given time to settle out any solids. Pumping will take place at a rate of 40 gallons per minute (gpm) and stop once a drawdown of 5 feet has been reached. The discharge location for the pump outfall is Lower Robinson Creek at permitted UPDES Outfall location 005. Erosion control measures have been designed at the discharge location at the temporary diversion of LRC consisting of rip rap and an energy dissipating device to slow the flow on the end of the discharge hose. The Permittee has indicated that the temporary diversion of LRC is an engineered channel designed to be stable and resist erosion. The natural channel of LRC was documented as unstable in its pre-mining state. The reclamation plan will only require that the channel be returned to its pre-mining state. The operator makes the case that pumping at a rate of 40 gpm will not likely result in any major

erosion to the stream channel and that the channel is often subject to snow melt and precipitation events of similar magnitude.

Findings:

[R645-301-750]: This protocol submitted with the alluvial groundwater management appendix is adequate to satisfy the deficiency.

RECOMMENDATIONS:

Approval is not recommended at this time until the above deficiencies are addressed.

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