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Outgoing
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#3415
OK

From: Steve Christensen
To: Dave Shaver
CC: Daron Haddock; Jim Smith; OGMCOAL
Date: 11/18/2009 3:46 PM
Subject: Crandall Canyon: Water Treatment Hydro. Deficiencies
Place: OGMCOAL

Dave,

Listed below are the deficiencies relative to the hydrology of the proposed water treatment system. Give me a call and we'll hash through them.

Thanks,
Steve

HYDROLOGY DEFICIENCIES (Task ID #3415):

R645-301-724.100: The Permittee must establish a groundwater monitoring point for the sandstone seep discharge that is to be collected on the ledge located directly above the proposed treatment facility. The Permittee must provide a commitment to supply the Division with the discharge data. As the monitoring of the seepage water will be temporary, the Division will not require that the Permittee submit the data to the electronic water quality database. In consultation with the Division, the Permittee must provide a reasonable timeline, method and frequency for obtaining and supplying the data.

R645-301-751: The Permittee must revise the maintenance/clean-up plan for the proposed settling pond. The previous technical review for a proposed water treatment system (Task ID #3261) identified a deficiency relative to the maintenance/clean-up of the aeration treatment facility. The deficiency stated, "If the intention is to route the in-mine water directly into the receiving drainage during maintenance of the aeration treatment facility, the Permittee must provide the Division with documentation from the Department of Water Quality (DWQ) that such a practice is acceptable per the terms of their UPDES permit and subsequent violation." Page 2 of Appendix 7-65 discusses the bypassing of the mine water (presumably to Crandall Creek). Upon discussions with DWQ staff member Jeff Studenka, this would not be allowed under the terms of the Permittee's UPDES Permit (UT0024368).

R645-301-751: The Permittee should revise the application to reflect that the proposed treatment facility will be a temporary/operational feature. The November 4th, 2009 final reclamation discussions conducted with the USFS, BLM and DWR, determined that an active treatment system in the location of the old load-out area (as proposed with this permitting action) would not be preferred for final reclamation. As a result, the application should revise language that discusses the potential for 'permanent' utilization of the proposed treatment system on page 7-47 and page 3 of Appendix 7-65 of the application. The sections should be revised so that it's clear that the proposed system will be utilized in a solely operational capacity.

R645-301-741 and -742.300: The Permittee must revise the application to identify how the storm water runoff generated in undisturbed watershed WSUD-3 will be diverted into the existing disturbed drainage system. The revisions should provide detailed design drawings and a narrative. Revisions to Plate 7-5, Crandall Canyon Mine Drainage Map, may be necessary in the event that the re-routing of flow from WSUD-3 will be accomplished with something other than a diversion ditch (as currently depicted on Plate 7-5).

R645-301-742: The Permittee must revise the application and remove the characterizations of the proposed water treatment facility as an ASCA. ASCA is not a defined in the State of Utah R645-Coal Mining Rules. However, the Division finds that the proposed water treatment facility and the scope of its design and operation are beyond the common application of the term 'ASCA'. The application refers to the proposed water treatment system as 'ASCA 12'. Discussion of 'ASCA 12' is found on page 7-46 of the approved MRP, the table of contents, page 2 and page 37 of Appendix 7-65. In addition, 'ASCA 12' is depicted on Plate 7-5, Crandall Canyon Mine Drainage Map.

R645-301-742.220: The Permittee must provide up to date survey (not estimated) information regarding the sediment level accumulation in the pond. This information was requested at the time of the previous technical analysis (Task ID #3261). The updated survey information is needed in order to determine whether the pond requires maintenance/cleaning and has the capacity to retain the design storm event (10-year, 24-hour). The application demonstrates that the sediment pond has adequate storage for

the proposed re-routing of undisturbed watershed 3 (WSUD-3). However, that is based upon the sediment level in the pond being maintained below its clean-out level. Based upon recent site visits/field inspections by Division staff, the water level in the pond has been observed less than 1 foot below the principal spillway. Annual reports submitted by the Permittee have provided estimated sediment accumulation elevations of 7,767' for 2006, 7,768' for 2007 and 7,768' for 2008 respectively. The sediment clean-out level for the pond is 7,769'. It is highly unlikely that the sediment level has remained constant. The updated survey information will determine if the pond needs to be cleaned out.

R645-301-742.220: In addition, the Permittee must provide additional design and maintenance information for the proposed settling basin. The additional settling basin information should provide the following:

A discussion as to how it will be determined when the settling basin is in need of clean-out/maintenance and a commitment to perform such maintenance at that time.

A discussion of how the clean out of the settling basin will be performed including the associated designs and calculations. (See Above R645-301-751 deficiency for additional discussion).

A discussion and demonstration as to how the retention time of the settling basin was determined. Page 1 of Appendix 7-65 states, "The unit has been sized according to the anticipated flow rate..." and "The basin has been designed with twice the volume (i.e., retention time) recommended from the bench testing in order to maximize the potential for meeting UPDES compliance levels." Upon review of the application, it's not clear what design assumptions and calculations were utilized in designing the settling basin and it's function.

Figure 1 of 5 in Attachment 6 of Appendix 7-65 must be revised to accurately depict the location of the precast concrete drop inlet box. Based upon field visits with the Permittee, the structure had to be constructed further down gradient from the spillway.

Figure 1 of 5 and Figure 2 of 5 in Attachment 6 of Appendix 7-65 must be revised to depict how the seeps from the Star Point Sandstone ledge will be collected. Based upon a recent field visit by Division staff, the Permittee indicated that the seep collection area would be in a different location than as is depicted on the aforementioned figures.

The Permittee must demonstrate that the proposed utilization of a single open channel spillway meets the criteria established in R645-301-742.223.1.

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