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DEPARTMENT OF NATURAL RESOURCES

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Technical Analysis and Findings
Utah Coal Regulatory Program

PID: C0410002
TaskID: 4582
Mine Name: SUFCO MINE
Title: WASTE ROCK SAMPLING COMMITMENT

Operation Plan

Hydrologic Acid and Toxic forming Materials

Analysis:

A Quarterly sampling plan has been in place at the Waste Rock site since its inception and was based upon an annual deposition of 10,000 tons or 8,200 yd³, which worked out to about one sample/2,000 yd³. (The density of 1.2 tons/yd³ was previously stated in the MRP.) Laboratory analyses provided with the annual reports in 2009 through 2012 indicated pockets of extreme SAR, extreme pH and high boron and elevated selenium in the waste. Thus, boron is not the sole concern with the waste and its potential to impact surface/ground waters as stated on WRDS page 3-14 or its potential for interfering with vegetation establishment. the plan should reflect current information in this regard.

In February 2014, Section 3.1.5 was modified to read one sample every 10,000 Tons (task 4457). Appendix III refers to a density of 185 lbs/ft³ which suggests that if one sample was taken every 10,000 Tons, then one sample will represent 4,000 yd³. However, the Permittee could not confirm an average density of the material currently being hauled to the site (see cover letter Nov 16, 2013).

Consequently in April 2014, the Division requested that the sampling plan be returned to quarterly with the understanding that the volumes of material placed at the site will be reported. The application states that volumes will be reported annually beginning with the 2015 annual report (WRDS page 3-14). This is not adequate, because the 2015 annual report is not required to be filed with the Division until March of 2016. It is recommended that volume of deposition be reported with the Quarterly inspection reports which are provided quarterly to the Division.

Deposition at the site has trended upwards in recent years. The MRP states on WRDS p. 3-14 that the average fill "volume" was 3,200 tons per year between 1996 through 2003. Cell #5 was initiated in 2009 (see 2009 annual report). The recent expansion of Lift #5 (Task 4457) will allow an additional 40,000 tons to be placed at the site and this amount of material is expected to fill and complete the site within a short time (Sec. 3.3). Under a quarterly sampling regime, one sample may represent all 40,000 tons or less, depending on rate of deposition.

Based upon previous sampling data, the Permittee should include a sampling plan for grabbing composite samples from the final cell #5 surface and slopes (0 - 12 Inches) prior to the 30 inch soil cover application described in Vol 3, Section 4.5 , such that four feet of cover is assured.

Deficiencies Details:

R645-301-121.100, Laboratory analyses provided with the annual reports in 2009 through 2012 indicated pockets of extreme SAR, extreme pH and high boron and elevated selenium in the waste. Thus boron is not the sole concern with the waste and its potential to impact surface/ground waters as stated on WRDS page 3-14 or its potential for interfering with vegetation establishment. The plan should reflect current information in this regard.

R645-301-514.200, -514.210, -514.220, and -514.230, The application states that volumes will be reported annually beginning with the 2015 annual report (WRDS page 3-14). This is not adequate, because the 2015 annual report is not required to be filed with the Division until March of 2016. The volume of deposition be reported with the Quarterly inspection reports and which shall be promptly provided to the Division.

R645-301-553.252, Based upon previous sampling data, the Permittee should include a sampling plan for grabbing composite samples from the final cell #5 surface and slopes (0 - 12 Inches), prior to the 30 inch final soil cover application (described in Vol 3, Sec 4.5), such that four feet of cover is assured.

pburton