



June 20, 2016

Sent via electronic mail

Mr. Eric Detmer
Spring Creek Coal, LLC
67 Lakeshore Drive
Decker, MT 59025

Permit ID: C1979012
Revision Type: Major Revision
Permitting Action: Deficiency
Subject: TR1; Sixth Round Acceptability Deficiency

Dear Eric:

The Department of Environmental Quality (DEQ) has completed its acceptability review regarding Spring Creek Coal, LLC's application for Major Revision TR1. The following deficiencies must be adequately addressed before DEQ can determine the application acceptable:

ARM 17.24.314(3): List and summarize all probable hydrologic consequences of the proposed mining operation including whether acid-forming or toxic-forming materials that could result in the contamination of surface or ground water supplies.

ARM 17.24.314(3): The narrative on pages L-3 and L-89 discusses the potential impacts to existing uses and the viable uses designated by groundwater classification. To be consistent with the groundwater standards, please address all designated beneficial uses, rather than only existing uses or potential uses.

ARM 17.24.314(3): The calculated increases in spoil water TDS presented on page L-38 are inconsistent with the data presented in Table 4.2.3-2. Based on Table 4.2.3-2 data, the average spoil TDS concentration is actually 2.2 and 1.8 times higher than overburden and A/D coals and the median spoil TDS concentration is actually 2.2 and 2.5 times higher than overburden and A/D coals. Also, the spoil water quality data presented in Table 4.2.3-3 is inconsistent with the data in Table 4.2.3-2.

ARM 17.24.314(3): The narrative on page L-88 incorrectly states that all spoil groundwater at SCM can be classified as Class II or Class III. The cited SC range (2,750 to 9,290 umhos/cm) and Table 4.2.3-1 indicate that all spoil groundwater at SCM can only be currently classified as Class III.

ARM 17.24.314(3): The current PHC does not include a discussion of observed surface water quality in relation to DEQ-7 or DEQ-12A for aquatic or human health standards. While ephemeral stream conditions persist in the Spring Creek Mine area, recent litigation has indicated that water quality standards may in fact apply to these stream flows as well. Further, the PHC only discusses salinity in postmine water features which will be used for livestock and wildlife watering. Livestock and wildlife drinking water guidelines include other parameters which should also be discussed.

ARM 17.24.314(3): The PHC mentions adsorption, absorption, dilution, and attenuation as processes which will diminish salt concentrations in spoil groundwater during migration down-gradient. However, no data or explanation are provided which demonstrate how these processes will reduce spoil

June 20, 2016

Page 2 of 2

groundwater salinity. Please provide a qualitative and quantitative discussion on how these processes would reduce the salinity of spoil groundwater.

ARM 17.24.314(3): The current PHC does not discuss potential impacts to the Tongue River in regards to water quality. *Van Voast and Thompson, 1982* analyzed the probable impact of spoil water reaching the Tongue River; however, their analysis was a worst case scenario and did not include spoil ground water evolution prior to reaching the Tongue River or mixing with clinker groundwater. An updated analysis of the likely water quality impacts to the Tongue River should be included in the PHC.

ARM 17.24.314(3): The DEQ-7 standard for Barium is 1 mg/L, not 2 as shown in Table 4.2.3.2-2.

ARM 17.24.314(3): The five-foot drawdown contour should be shown in Plate L-1 in addition to the maximum area of drawdown influence. Since the latter is described in the text as extending the five-foot contour by a mile, both should be shown on the figure.

ARM 17.24.314(3): Conductivity is discussed in $\mu\text{mhos/cm}$, which are an obsolete unit. The proper unit is microsiemens per centimeter ($\mu\text{S/cm}$), which are equivalent to $\mu\text{mhos/cm}$ ($1 \mu\text{mho/cm} = 1 \mu\text{S/cm}$).

ARM 17.24.314(3): Page L-77 discusses the Universal Soil Loss Equation and gives the result as sediment yield. The USLE calculates erosion, which is NOT the same as sediment yield (Renard et al., 1997). Particularly in large grids, there can be a significant difference.

ARM 17.24.314(3): In the Executive Summary and in paragraph 4 on page L-99, remove "Spoils groundwater quality as exhibited by". Water quality is generally thought of as increasing with decreasing TDS, therefore the "peak" of water quality could be construed as the lowest TDS. The peak of TDS concentrations over time is unambiguous.

Upon receipt of satisfactory responses to these deficiencies, DEQ will determine the application to be acceptable.

Please feel free to contact Robert D. Smith at 406-444-7444 with questions regarding this letter.

Sincerely,



Chris Yde, Supervisor
Coal and Uranium Program
Industrial and Energy Minerals Bureau
Phone: 406-444-4967
Fax: 406-444-4988
Email: CYde@mt.gov

C: Jeff Fleischman, Office of Surface Mining
Lauren Mitchell, Office of Surface Mining

FC: 630.403 (TR1)

Gilbert, Sharona

From: Gilbert, Sharona
Sent: Monday, June 20, 2016 9:24 AM
To: Eric Detmer (eric.detmer@cldpk.com)
Cc: jfleischman@osmre.gov; lmittchell2@osmre.gov; Bartlett, Franklin P (fbartlett@osmre.gov); Giovetti, Debbie (dgiovetti@osmre.gov); mcalle@osmre.gov; DEQCoal
Subject: C1979012 TR1 Deficiency
Attachments: TR_AcceptabilityDeficiency_Round6_06-20-16.pdf

Please see attached electronic correpondence. Have a great day!

Sharona Gilbert

Administrative Assistant
Coal & Uranium Program
Industrial & Energy Minerals Bureau
Ph: 444-4966
Fax: 444-4988

*The best laid schemes o' Mice an' Men,
Gang aft agley ~Robert Burns*