STATE OF COLORADO

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DRMS Adequacy Review of 2019 AHR for Keenesburg Mine

1 message

Zuber - DNR, Rob <rob.zuber@state.co.us> Thu, Aug 6, 2020 at 11:13 AM
To: "Moline, Ben" <ben.moline@molsoncoors.com>

Hello, Ben

Please see the attached letter with my review of your 2019 AHR.

Regards,
Rob

P.S. This letter includes the California Street address, but can you confirm your official current address? Also, does the name "Coors Energy Company" still apply? Thanks.

Rob Zuber, P.E.
Environmental Protection Specialist II
Active Mines Regulatory Program

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

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Keenesburg_DRMS_review_2019_AHR.pdf
434K

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

August 6, 2020

Ben Moline, PE, Senior Manager
Water Resource and Environmental Compliance
Coors Energy Company
1801 California Street, Suite 4600
Denver, CO 80202

Re: Keenesburg Mine, Permit C-1981-028
Adequacy Review of 2019 Annual Hydrology Report (AHR)

Dear Mr. Moline:

The Division received the 2019 AHR for the Keenesburg Mine on February 27, 2020. The Division reviewed this AHR in the context of Rules 4.05.1, 4.05.6, 4.05.11, and 4.05.13 (Regulations of the Colorado Mined Land Reclamation Board for Coal Mining). Table 1 lists important logistical requirements of the Keenesburg Mine water monitoring plan, and indicates no issues with the 2019 AHR.

Table 1. Requirements of the Keenesburg Mine Water Monitoring Plan

Requirement	Source of Requirement (Rule or Page in PAP)	Requirement met for 2019?
Filing frequency of AHR - annually	Rule 4.05.13(4)(c)	Yes
Timely filing of AHR – submitted by end of February each year	Page 117 of PAP	Yes
Surface water monitoring	Not required	NA
Groundwater monitoring - sites sampled and sampling frequency	Page 56 of PAP	Yes
Groundwater monitoring - parameters sampled	Page 57 of PAP	Yes

Regarding Total Dissolved Solids (TDS), the 2019 data did not reveal that the Keenesburg Mine is causing negative impacts on groundwater quality.

To determine possible issues with mining impacts on groundwater quality (for parameters other than TDS), data in the 2019 AHR for the Keenesburg Mine were compared to water quality standards. The groundwater regulations used for this AHR review are Regulation 41 (Colorado Department of Public Health and Environment (CDPHE), revised June 2020). These regulations include domestic supply and agricultural standards.

Two down gradient wells were assessed for mining impacts:

- AMW-1, which is just north and down gradient of the B Pit area

- DH-96, which is approximately 0.7 mile north of the facilities area.

The following table lists parameters and concentrations from these wells that are exceedances of Regulation 41 standards.

Table 2. Exceedances in 2019 Data at Down Gradient Wells (concentrations in mg/L)

		Manganese, dissolved	**Selenium, dissolved**	**Sulfate**
Regulation 41 Standard:		*0.05*	*0.020*	*250*
Sample Location	**Month of Sampling**			
AMW-1	April	NA	0.021	600
AMW-1	September	NA	0.022	640
DH-96	April	0.29	NA	680
DH-96	September	0.48	NA	790

The data from the two down gradient wells was compared to data from two upgradient wells: AMW-2 and DH-122.

For dissolved manganese, the 2019 values at AMW-2 are greater than at the down gradient wells (2.3 mg/L in April and 0.97 mg/L in September). Concentrations at DH-122 (0.051 mg/L in April 2019 and 0.3 mg/L in September 2019) are not as high as at AMW-2, but they are still over the standard and are comparable to the DH-96 concentrations. Mining impacts from the Keenesburg Mine do not appear to be causing an issue with dissolved manganese in groundwater at or near the site.

For dissolved selenium, the exceedances at AMW-1 are barely over the standard of 0.02 mg/L (agricultural standard). Also, the data at DH-96 do not indicate a problem with this parameter. However, data for the up gradient wells (AMW-2 and DH-122) were reviewed for recent years, and the dissolved selenium values were all non-detects, while concentrations at AMW-1 were almost all above the standard. **The data indicate a potential issue with this parameter, and the Division requests a response to this letter with a discussion of dissolved selenium concentrations in groundwater. The discussion might provide evidence that exceedances of the dissolved selenium standard are not a problem or it could provide a plan to reduce the concentrations in the future. Of particular relevance could include correspondence with the Hazardous Materials and Waste Management Division at CDPHE.**

For sulfate, the concentrations from AMW-2 (3,500 and 4,000 mg/L) are much higher than the concentrations in Table 2. Concentrations at DH-122 (1,000 and 1,100 mg/L) are also higher than in the down gradient wells. For sulfate, baseline concentrations for groundwater at Keenesburg can be found in Appendix I-1 of the PAP (report by D.B. McWhorter and N. Ortiz of Colorado State University, 1978). These concentrations are very high (seven sites had concentrations ranging from 440 to 3,600 mg/L when

converted from milliequivalents per liter), and this data further supports the idea that high sulfate concentrations are not caused by mining.

If you have any questions, please do not hesitate to contact me at Rob.Zuber@state.co.us or 720.601.2276. I look forward to your response.

Regards,

Robert D. Zuber, P.E.
Environmental Protection Specialist II