



STATE OF  
COLORADO

Zuber - DNR, Rob <rob.zuber@state.co.us>

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## Revision of 2019 AHR for Bowie #1

1 message

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**Zuber - DNR, Rob** <rob.zuber@state.co.us>

Wed, Aug 19, 2020 at 3:59 PM

To: Basil Bear <basilbear@wolverinefuels.com>, Tamme Bishop <tamme.jestover@bresnan.net>

Tamme/Basil -

Thanks for the letter and revision of the 2019 AHR for Bowie No. 1.

My response is attached. No further action is required from BRL on this matter.

Take care,  
Rob

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



**COLORADO**  
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**DRMS\_review\_\_2019\_AHR\_\_Second\_review.pdf**  
379K

August 20, 2020

Basil Bear  
Bowie Resources, LLC  
P.O. Box 1488  
Paonia, CO 81428

**Re: Bowie No. 1 Mine, Permit C-1981-038,  
Review of 2019 Annual Hydrology Report (Second Review)**

Dear Mr. Bear:

The Division received the revised 2019 AHR for the Bowie No. 1 Mine (submitted with cover letter by Tamme Bishop dated August 18, 2020).

Ms. Bishop's letter and the revised report alleviated my concerns regarding frequency of sampling at the two surface water sites and at the wells and springs. It is a good idea, as she mentions in her letter, to clearly show in future reports when a site was not accessible. This can be done in the text or in the data tables; both text and table is preferable.

Because new data is submitted with the revised AHR, an analysis of this data for the downstream sampling site for East Roatcap Creek (SW06) was performed.

At SW06, a sample was collected on 5 May 2019, and the results of laboratory analyses (along with field sampling results) are shown in Figure 18 of the 2019 AHR. For those parameters with a CDPHE standard, a comparison was made to determine potential water quality problems. Table 1 lists monitoring results and standards from Regulation 35 (Segment 5b.). For some parameters, water supply (WS) standards are shown for reference, although it is unlikely that the creek water will be used for this use.

**Table 1. 2019 AHR Data from SW-06 Sampling Site in East Roatcap Creek, with Standard Comparison**

Parameter	Units	Maximum Concentration in 2019 AHR	CDPHE Standard	Comments
pH	su	8.4	6.5 - 9.0	Standard includes low limit and high limit. No 2019 values below 6.5.
Temperature	deg C	16.4	17	CS-II standard for non-winter months.
Chloride	mg/L	0.87	250	
Sulfate	mg/L	2.2	250	WS standard from Regulation 31.
Iron, dissolved	mg/L	<b>0.322</b>	0.3	WS standard from Regulation 31.
Iron, total	mg/L	0.334	1.0	
Manganese, total	mg/L	0.0191	0.05	WS standard from Regulation 31.



The only exceedance is dissolved iron. This is not considered problematic for the following reasons:

- As noted above, it is unlikely that the water in East Roatcap Creek will be used for domestic water supply.
- The exceedance is very small (0.322 mg/L versus 0.3 mg/L).
- Data in AHRs from recent years do not indicate a problem with this parameter at this location.

The Total Dissolved Solids (TDS) value in May 2019, 87 mg/L, is much less than a guideline of 750 mg/L (see Banta, 1988, as noted in the first review). This parameter is not considered problematic at this time.

Thank you,

A handwritten signature in blue ink, appearing to read "Robert D. Zuber".

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

Cc via email: Tamme Bishop, J.E. Stover & Associates, Inc.