



May 15, 2019

Louis Head  
New Elk Coal Company, LLC  
12250 Hwy 12  
Weston, CO 81019

**Re: New Elk Mine (Permit No. C-1981-012)  
Review of 2017 and 2018 AHRs**

Dear Mr. Head:

I have the following comments regarding the New Elk 2018 AHR.

I also looked at the 2017 AHR. For that report, however, I only looked for exceedances of water quality standards.

Sampling Locations

The required water monitoring locations for the New Elk Mine are in the PAP, including the text of Section 2.05 and Table 27 within Section 2.05. With TR-73, the Division approved an update to Table 27, including a change to the status of several sites: NE-6-10a, NE-6-10b, NM-20, NM-21, NM-22, NM-23, and SF-2. TR-73 removed the requirement to sample those sites while there are no mining activities at the New Elk Mine. (Resumption of sampling those sites is required prior to resumption of mining.) TR-73 also updated the requirements for NE-1-10. In the future, NECC must sample this location on an annual basis (annual for water quality and twice a year for water levels). The 2018 AHR does not include data for the eight sites mentioned above. This is acceptable to the Division for the 2018 AHR, but future years AHRs must include sampling data for NE-1-10 (as noted by NECC in the 2018 AHR).

**Three other sampling locations are in the PAP text and the list of sites (Table 27), but no data is provided in the 2018 AHR: PRS-1a, PRS-4a, and PAW-1a. Please explain these omissions.**

Regarding the NPDES stations, two aspects of Table 27 are unclear to the Division. It appears that outfall NE 010 should be included, but it is not. Secondly, why is NE 080 included in this list? Perhaps inclusion of NE 080 is outdated. **Please explain the list of NPDES stations, with reference to the New Elk Mine CDPHE permit (CO-0000906) as appropriate.**

Monitoring Frequency

With TR-73, the Division approved changes to the frequency of monitoring for many sites. In 2018, NECC complied with the frequencies in Table 27. No problems that need to be addressed by NECC were detected regarding monitoring frequency.



### List of Water Quality Parameters

Table 28 from Section 2.05 contains the required parameters for water quality analyses for all sites of the monitored sites.

Regarding Table 2 in the AHR (Field Data), it is unclear why water levels are provided for surface sites. **Please explain or omit in the future.**

Regarding Table 3 in the AHR (Lab Analysis), the Division has the following comments for future reference (edit in future AHRs):

- The word “Suspension” should be “Suspended.” This misspelling can be found in other portions of the AHR also (e.g., page 3 of the cover letter).
- The word “Disolved” should be “Dissolved.”

**Please explain why Total Dissolved Solids and hardness are not included in Table 3. These parameters are listed in Table 28.**

### Analysis of Surface Water Data

**Regarding the discussion of Site 010 on page 2 of the AHR, please explain how there was some flow (albeit minimal) but no discharge.** Perhaps there was “no flow” rather than “minimal flow.” Or was there flow into the weir, but it did not flow out of the weir?

Regarding water quantity, the data does not provide evidence that the hydrologic impacts of mining have been more deleterious than the impacts predicted in the Permit Application Package (PAP).

Water quality data for the downstream surface water point (PRS-4) was compared to surface water quality regulations, “Regulation No. 32 Stream Classifications and Water Quality Standards, Arkansas River Basin,” Segment 5b. for the Middle Fork of the Purgatoire River. The comparison was made for parameters in both the standards and in the AHR data. The relevant parameters and the Regulation 32 standards are as follows (maximum for all but pH):

- pH – 6.5 to 9.0
- Temperature
  - 24.3 deg C (April – October)
  - 13.0 deg C (November – March)
- Chloride – 250 mg/l (chronic)
- Sulfate – 250 mg/l (chronic)
- Iron (total recoverable) – 1.0 mg/l
- Iron (dissolved) – 0.3 mg/l
- Manganese (dissolved) – 0.05 mg/l.

No exceedances were found in the 2017 data for PRS-4.

Only one exceedance was found in the 2018 data for PRS-4. The pH value in the field data from May 2018, 9.41 standard units, exceeded the standard. However, the data indicate that the value upstream of the mine, at site PRS-1, was identical, indicating that the mine did not likely cause this exceedance.

#### Analysis of Groundwater Data

Fluctuations in depth to water do not appear to indicate a significant impact from mining, per the historical data in the 2014 AHR and the data from 2017 and 2018. Particular wells that were reviewed include PAW-9 and NEW-4.

In the data summary table (Table 2 in 2017 AHR) it appears that “water level” means “depth to water.” Is that correct? If so, that is confusing. **I suggest you revise to match field notes and say “depth to water.”**

Water quality data for the downgradient alluvial well (PAW-9) and downgradient mine water (NEW-4) was compared to “Regulation No. 41 The Basic Standards for Ground Water.” The comparison was made for parameters in both the standards and in the AHR data. The relevant parameters and the Regulation 41 standards are as follows (maximum for all but pH):

- pH – 6.5 to 8.5
- Chloride (dissolved) – 250 mg/l
- Sulfate (dissolved) – 250 mg/l
- Iron (dissolved) – 0.3 mg/l
- Manganese (dissolved) – 0.05 mg/l.

No exceedances were found in the 2017 data for PAW-9. Only one exceedance was found in the 2018 data for PAW-9. The pH value in the field data from June 2018, 8.75 standard units, exceeded the standard of 8.5. However, the data indicate that the value upstream of the mine, at site PAW-1, was even greater, indicating that the mine did not likely cause this exceedance.

No exceedances were found in the 2017 data for NEW-4. The pH value in NEW-4 from November 2018, 8.85 standard units, slightly exceeded the pH standard of 8.5. Given that this is only slightly over the standard and that there was not an exceedance in the 2017 data, the Division does not find this to be problematic. **However, this potential issue warrants close scrutiny by NECC in future AHRs.**

Please feel free to contact me with any questions or comments.

Regards,



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