

STATE OF  
COLORADO

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## New Elk RN8 adequacy Memo

1 message

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**Reilley - DNR, Robin** <robin.reilley@state.co.us>

Thu, Oct 19, 2023 at 10:24 AM

To: Amber Michels - DNR &lt;amber.michels@state.co.us&gt;, Robin Reilley - DNR &lt;robin.reilley@state.co.us&gt;

Good Morning Amber,

Please find my memo regarding New Elk RN8 permit review. I'm available to answer any questions that you have.

Best  
Robin

Robin Reilley, M.S. GISP  
Environmental Protection Specialist II



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### 2 attachments

**ADQ#\_NewElk\_Amber\_Oct2023.docx**

164K

**ADQMemo\_Reilley\_NewElk\_RN8.pdf**

336K



To: Ms. Amber Gibson  
DRMS  
19 October 2023

From R. Reilley  
DRMS

**Re: New Elk; Permit C-1981-012**  
**DRMS Adequacy Memo: Review of Permit Revision 8 (RN8)**

Ms. Gibson,

Please find my review of the above referenced permit in response to the RN8 permit renewal. I'm available to answer any question that you may have.

**Rules Reviewed for New Elk Permit Renewal RN8**

2.04.3				
2.04.4	2.04.5	2.04.6	2.04.7	2.05.3(4)
2.05.6(3)	4.05.2	4.05.3	4.05.4	4.05.5
4.05.6	4.05.7	4.05.9	4.05.13	4.24

Adequacy issues are numbered in *italics* below.

**Rule 2.04.3 General Requirements: Site Description and Land Use Information**

**No adequacy issues noted.** The information required by this rule is discussed in permit section 2.04.3 comprising permit pages 2.04-1 through 2.04-4, Exhibits 5 and 6, and Map 4; Pre Mine Land Use.

**Rule 2.04.4 Cultural and Historic Resource Information**

**No adequacy issues noted.** The information required by this rule is discussed in permit section 2.04.4 comprising permit pages 2.04-4 through 2.04-9, Exhibit 7. A 2021 cultural resources survey was performed. Should mining activity restart and new surface disturbance be proposed, SHPO recommends that a class III cultural resource inventory be completed prior to construction activities to determine the presence of cultural resources in the area of potential effect and to assess the eligibility of any resources for the National Register of Historic Places (NRHPA). Rule 2.04.4 requires such an analysis for areas potentially impacted by surface activities or probable subsidence. At the moment no new cultural resources survey is required.

The above referenced rules are adequately addressed in the permit.



#### **Rule 2.04.5 General Description of Hydrology and Geology**

**No adequacy issues noted.** The information required by this rule is discussed in permit section 2.04.5 comprising permit pages 2.04-8a through 2.04-11b, sections 2.04.6 and 2.04.7 of the permit document, as well as Map 5, Regional Geology Map 6 Surface and Bedrock Geology, Map 7 shows the coal seams and Map 8, Regional Hydrology.

The above referenced rules are adequately addressed in the permit.

#### **Rule 2.04.6 Geology Description**

**No adequacy issues noted.** In the permit document, Maps 5, 6, 6a (sheets 1 - 16), 7, 18, and 19 depict the geology at the New Elk Mine. The information required by this rule is discussed in permit section 2.04.5 comprising permit pages 2.04-8a through 2.04-16, sections 2.04.6 and 2.04.7 of the permit document, as well as Map 5, Regional Geology Map 6 Surface and Bedrock Geology and Map 8, Regional Hydrology.

The above referenced rules are adequately addressed in the permit.

#### **Rule 2.04.7 Hydrology Description Surface Water**

**No adequacy issues noted.** The information required by this rule is discussed in permit section 2.04.7 comprising permit pages 2.04-25 through 2.04-33, of the permit document, as well as Map 8, Regional Hydrology and Exhibits 8, 10. Water Rights are addressed in Table 10C, spring and seeps are addressed in Tables 11 and 12 of the permit document. Annual Hydrology Reports provide information on ongoing water quality monitoring.

The above referenced rules are adequately addressed in the permit.

#### **Rule 2.05.3(4) Mine Facilities Ponds**

The information required by this rule is discussed in permit section 2.05.3 comprising permit pages 2.05-20 through 2.05-35, Exhibit 19 comprises some SedCad documentation, Exhibit 20 and 21, Ditches are described on Table 20, Culverts on Table 21 and Ponds on Table 23 of the permit document, as well as Maps 12, 13, 13A and 14. Figure 3 provides emergency and spillway and embankment designs. Drainage and Sediment Control information are displayed on Exhibit 7. Exhibit 19 provides calculations for sediment pond designs.

There are five sediment ponds at New Elk. DRMS is unable to locate engineer certified as built drawings and SedCad model runs for all ponds and containments. Text descriptions of SedCad models do not replace the actual model runs. Also pond naming convention is inconsistent throughout the permit, sometimes ponds are referenced 004 and other times 004A

DRMS was able to locate As Built designs as follows:

AS Builts		SedCad
Ponds	RDA containments	
001	#1	#005
004	#2	
008	RDA SE	
	RDA SW	
	RDA N	

**Adequacy issues noted**

- 1. Please either indicate to DRMS where these figures are in the permit document or, submit revised pages of the engineer certified drawings for ponds missing as built drawings.*
- 2. Please either indicate to DRMS SedCad models are located in the permit document or, submit revised pages of SedCad models for ponds and containments missing SedCad models.*
- 3. Please comment to DRMS assuring that the current drainage plan within the current permit area is up to date or provide revised pages updating the drainage plan.*

**Rule 2.05.6(3) Protection of Hydrological Balance**

**No adequacy issues noted.** The information required by this rule is discussed on pages 2.05-71 through 47.1, Maps 13, 23, and 26, Tables 12, 26, 27, 73 – 77, Figures 10-22, 42, 58A-Z, and 58AA-AP and Exhibit 18 (2018), Exhibit 29 (2005), Exhibit 30 (2001) and Exhibit 31 (2001).

The above referenced rules are adequately addressed in the permit.

**Rule 4.05.2 Water Quality Standards**

The information required by this rule is discussed throughout permit section 2.05.3. Sediment ponds and water conveyance structures are in place and some are modeled as per permit section 2.05.3. Exhibit 10 comprises the Water Quality Analysis, Exhibit 22 comprises the NPDES Permit. It appears that the direct discharge to the Purgatoire meets effluent standards at this time. Please continue to diligently monitor any direct discharge to the Purgatoire River. Design of the refuse disposal area Permit pages 2.05-43 through 2.05-50. This area should also be consistently monitored for water quality standards.

Permit section 2.05 pages 74 through 77 describes water within the mine workings. DRMS finds that this has not been updated since 2016.

**Adequacy issues noted**

- 4. Please comment to DRMS that the description of water within the mine workings remains representative of the current situation. If the situation has changed in any way please update with revised pages.*

**Rule 4.05.3 Diversions and Conveyance of Overland Flow (less than 1sq mile watershed)**

Maps 13 and 14 Sediment and surface water control plan, Culvert table Table 19a indicates no watersheds of less than one square mile exist on the permit.

**Adequacy issues noted**

5. *Please verify with DRMS any watersheds of less than one square mile within the permit.*
6. *Please indicate where in the permit how any less than one square mile address the provisions of the above mentioned rule.*
7. *Please indicate where in the permit temporary diversions address the above mentioned rule.*

**Rule 4.05.4 Stream Channel Diversions and Reconstruction**

During a previous permit term the operator submitted design details for the permanent diversion of the Middle Fork of the Purgatoire River. This diversion was necessary to accommodate coal storage and preparation plant operations. The Division approved this permanent diversion and the operator completed the approximately 580-foot diversion in the spring and early summer of 1985. This decision is based on a finding that the proposed diversion meets the requirements of 4.05.18 and 4.05.4; applicable local, State, and Federal statutes and regulations; and that the diversion is designed to safeguard public safety and to minimize adverse impacts to the hydrologic balance (4.05.4(1) and (4)).

The Division has found that this diversion will not diminish downstream water rights and meets the requirements of Rule 4.05.4(3). Exhibit 21 of the PAP (Supporting Information for Permanent Diversion) contains the pertinent design information.

DRMS was unable to locate either a modeled SedCad run for this diversion or an engineer certified design for the diversion.

**Adequacy issues noted**

8. *Please either guide DRMS to information as required by the above mentioned rule or provide these above referenced documents as revised pages.*

**Rule 4.05.5 Sediment Control**

**No adequacy issues noted.** Drainage and Sediment Control are displayed on Maps 13 and 14 discussed in section 2.05 of the permit document.

The above referenced rules are adequately addressed in the permit.

**Rule 4.05.6 Ponds**

The information required by this rule is discussed in section 2.05 of the permit document on pages 2.05-20 through 2.05-35. Figure 3 illustrates Embankments Cross Sections, Surface water control is illustrated on Maps 13 and 14, Table 23 summarizes pond dimensions.

**Adequacy issues noted.**

***Please see adequacy questions related to this Rule (4.05.6) as addressed above for Rule 2.05.3.4.***

9. *DRMS was unable to locate Figure 3 and Figure 5 associated with Pond 001. It appears to DRMS that Figure 5 is in Exhibit 19, Results of Annual Pond Survey, associated with the Wyoming Coal Co. 1987. Is this correct? If not please provide both Figures, 3 and 5 as revised pages or guide DRMS to where these figures may be located.*

Pond 006A appears to discharge to the Purgatoire River as per Wyoming Fuel Co 1987 document. This document illustrates Pond 006, 007 and references Pond 006A and appears to be Figure 5 and Exhibit 19. This Pond terminology appears inconsistent, as does the naming convention of the document; Exhibit 19 Results of Annual Pond Survey, and Figure 5.

10. *Please clean up the table of contents to detail pond related items in Exhibit 19 by Pond name and associated figures and submit as revised pages.*  
11. *Ponds are referred to by various names, for example Pond 005A or Pond 005. Please decide on a consistent naming convention and utilize it throughout the permit.*

#### **Rule 4.05.7 Discharge Structures**

**No adequacy issues noted.** Drainage and Sediment Control are displayed on Maps 13 and 14 discussed in section 2.05 of the permit document.

The above referenced rules are adequately addressed in the permit.

#### **Rule 4.05.9 Impoundments**

***Please see adequacy items related to this rule as addressed above for rule 2.05.3.4***

12. *Pond inspections for 2023 do not appear to have been submitted. Please submit pond inspections for 2023.*

#### **Rule 4.05.13 Surface Water Monitoring**

The information required by this rule is described in Section 2.05 pages 104 through 110 of the permit document. This section includes monitoring frequency on Table 27 and a water quality parameter list on Table 28 (4.05.13(1)). Annual Hydrology information comprises Exhibit 12, and Exhibit 22 is the NPDES Permit with monitoring stations depicted on Map 8.

The Division granted small area exemptions (SAEs) in certain areas from use of sediment ponds due to the limited size of these areas and due to the fact that ponds and/or treatment facilities are not necessary for the drainage in these specific areas to meet the effluent limitations.

**DRMS October Adequacy issues noted.**

13. *Discharge monitoring reports appear to be past due for the months April through July of 2023. Please provide the required reports as revised pages.*

**Rule 4.24 Alluvial Valley Floors (AVF's)**

**No Adequacy issues noted.** The information required by this rule is described in Section 2.05 pages 111 through 112 of the permit document. AVF's are shown on Map 20 and described in Exhibit 8. Impacts of retreat mining on AVF's are discussed in section 2.05 page 74.

The Division has determined that two alluvial valley floors exist within the affected or adjacent area, both located in the Purgatoire River Valley. For these two AVFs, the Division has made the findings of no impact as per the RN7 findings and Rules:

- 4.24.3(1)
- 4.24.3(3)
- 2.06.8(5)(a)(ii)
- 2.06.8(5)(a)(iii)
- 4.24.3(4)(a) and 2.06.8(5)(b)(i)(A).

Furthermore, NECC has committed to conduct mining and reclamation operations that will preserve the essential hydrologic functions of alluvial valley floors outside the permit area and to reestablish the essential hydrologic functions of alluvial valley floors within the affected area throughout the mining and reclamation process (4.24.2).

An environmental monitoring system has been installed, maintained, and operated by the permittee on all alluvial valley floors during mining and reclamation operations and will continue until all bonds are released in accordance with Rule 3. A hydrologic monitoring program included as part of the approved permit monitors both surface water and alluvial groundwater in the two alluvial valley floors, Stonewall Valley AVF and Picketwire Valley AVF (4.24.4).

The above referenced rules are adequately addressed in the permit.