Review: Annual Hydrology Repor

Mine: **Williams Fork Mines** **Date of review:**
Permit No.: **C1981044** **DRMS reviewer**

Report Year: **2021 Calendar Year**
Submitted by: **Moffat County Mining (MCM)**
Date received by Division: **5 May 2022**

Requirement	Citation	Com
1. Hydrology Report filing frequency t	CDRMS regulation 4.05.13(4)(c)	Section 2.05.6 of the permit req by March 30th each year. The D AHR on 5 May 2022 and the an February 2022.
2. Timely filing of hydrology report	March 30, Section 2.05.6 of the permit.	Extension of submittal dates we and granted by DRMS.
3. Filing frequency of NPDES Discharge Monitoring Reports	NPDES permit CO-0034142	***Throughout 2021 filing frequency***
4. Timely filing of Discharge Monitoring Reports	NPDES permit CO-0034142	***Inadequate, at a minimum a corre discharge is required*** All filing da met. The Division received Q1 December of 2021.
5. NPDES outfall sampling frequency	NPDES permit CO-0034142	Two gaging stations one each or for Rivers WF1 and WF2 measu discharge points are regularly m outfalls on the Williams Fork Riv and one spring (1SP). It appears for sampling was complied with that flows sporadically during sp June. Table 20 indicates water year m The spring was sampled on a bi sampling occurred as required fo

7. NPDES discharge limitations	NPDES permit CO-0034142	TDS concentrations appeared co recoverable iron showing a sligh ranges. Seasonal discharge occurred at from any on site sediment pond records received by DRMS. The mine water discharge points well (003 or 5D and 024 or 9P3 discharge in 2021 and no active 2013. No near future discharges The Williams Fork River points monitored for filed parameters c Based on a Memorandum of Un Division of Reclamation, Minin Quality Control Division (WQC CDPS permit conditions.
8. Basic Standards for Surface Water	CWQCC Regulation 31; Antidegradation standard Reg 38.1	The receiving waters (Segment Protected".
9. Instream Numeric Standards	CWQCC Regulations 31 and 37	The Williams Fork Mines are lo Lower Yampa/Green River Sub River Basin. CWQCC lists num in its regulation 37. The permit Williams Fork River at a site up well as downstream from the mi Data over time from the upstrea Fork River naturally exceeds the occasionally the lead and manga Comparisons of the upstream ar mining and reclamation operatio do not cause the exceedances.
		The WF1 and WF2 sites were m

11. Parameters sampled at surface water sites	Exhibit 29 CDRMS mining permit C-1981-044	All required parameters were sa
12. Prevention of impacts to surface water that adversely impact the post mining land use	CDRMS regulation 4.05.1(2)	Surface water features in the pe Williams Fork and Yampa Rive of rangeland/wildlife, pasturela to use water for watering of wil reclamation operations at the W appear to have impaired surface
13. Pond Report filing frequency	CDRMS regulation 4.05.9(17)	***All filing dates were not met.*** DR two pond inspection report.
14. Timely filing of pond reports	CDRMS regulation 4.05. 9(17)	***Inadequate, at a minimum a note required.***
15. Pond report content	CDRMS regulation 4.05. 9(17)	The sediment ponds associated 2021 comprise 5P1, 5P2, 5P3 (c 9AP2 (019); 9AP3 (020; 9AP4 (O24); 904 (014); 9P5 (017), 9 HRP1A, HRP1B (004); SHP1 ((009). Recently reclaimed outfa (outfall 003), wastewater (023) monitored is spring 1SP (022). is adequate. There was no reco ponds in 2021.
16. Interim Narrative Standard for Ground Water	CWQCC regulation 41.5.C.6	Not reviewed
17. Sampling frequency	Table 1; Exhibit	Three aquifers exist beneath the (No 5 Mine well), Middle Sands 83-02, 83-03), and Twenty Mile 9 Mine well). The groundwater monitoring we required frequency; quarterly fo and annually for the full suite o Groundwater well, the No. 5 Mi

18. Parameters to be analyzed in groundwater samples	Table 1; Exhibit 29 of CDRMS mining permit C-1981-044	DRMS notes that analytes were 1B of the AHR indicates annual No. 5 Mine Well, was measured been sampled for analytes since shut off.
19. Basic Standards for Ground Water	CWQCC regulations 41.4 and 41.5	The Division compared the 202 well with the Basic Standards o Baseline Water data tables prov Williams Fork Mine permit. Regarding the Middle and Trou elevated conductivity were reco does not indicate mine related i well TR-4; conductivity, sodiu concentrations were lower than with baseline levels and are bel recorded at the site. The pH lev water standards and within base Well TR-7a is within the expect Well TR-7a data indicates the pa are within their baseline water q this well were above and below within the baseline levels. Well 81-01 sulfate, manganese above the baseline water quality above the basic standards of gro chloride concentrations were ab below the basic standards for gr also above the baseline water qu concentrations were high. Regarding the Twenty Mile San 259 and the 9 Mine Well are wi consistent with baseline water q Conductivity in these two wells

19. Basic Standards for Ground Water	CWQCC regulations 41.4 and 41.5	Well AVF-5 exhibited sulfate c standards for groundwater and v 2020 Manganese concentrations measured in AVF-5. In 2021 th UG/L. Only manganese was fo standard for groundwater. How also above the standard. Well A historic concentration ranges. T impact on alluvial water quality MCM did not provide an expl concentrations observed in the v cause of the elevated concentrat ***Additional analysis may be wa*** ***to determine if they are mine re*** Section 4.05.13(1) of the Regula establishment of one or more gr compliance (wells), for an opera negatively impact ground water ground water points of complian for this site. However, the Midd the Williams Fork alluvium (we TR-7a is within the expected be leachate, should the mine discha The AVF-5 well is within the ex leachate, should the mine discha River alluvium. Both wells mee compliance point as per qualific 4.05.13(1)(b) of the Rules. Monitoring data from both wells not caused an exceedance of the Water. According to section 2.0 Williams Fork Alluvium; dissol manganese and sulfate often exc standards naturally. Monitoring manganese levels in AVF-5 ofte limit.

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		Water levels for well 259 were AHR, however no explicit men apparent in the data for well 259
21. Prevention of adverse impacts to ground water systems outside the permit area	CDRMS regulation 4.05.11	Comparisons with the Basic Sta baseline water data are discusse believes that no significant impa the groundwater system as a res
22. Impacts to ground water that adversely impact the post mining land use within the permit area	CDRMS regulations 4.05.1(2) and 4.05.11	The post mining land uses comp pastureland. See items 19, 20, a
23. Minimization of disturbance to the hydrologic balance within and adjacent to the permit area	CDRMS regulation 4.05.1(1)	MCM reports that no significant impacts were noted during groun for 2021.
24. Prevention of material damage to the hydrologic balance outside the permit area	CDRMS regulation 4.05.1(1)	Comparisons with the Basic Sta baseline water data are discusse believes that no significant impa on the groundwater system as a
25. Agreement of observed hydrologic impacts with PHC projected in permit	CDRMS regulation 2.05.6(3)	Section 2.05.6 of the permit disc consequences of the mining ope Mines. This section primarily di trends from the 80's and early 9 discussed are very general and p no significant impact on the hyd that no significant, unpredicted, during hydrologic monitoring fo