STATE OF COLORADO

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Review AHR Seneca IIW WY2022

1 message

Reilley - DNR, Robin <robin.reilley@state.co.us> Mon, Jan 8, 2024 at 11:13 AM
To: "Kawcak, Miranda" <MKawcak@peabodyenergy.com>, Robin Reilley - DNR <robin.reilley@state.co.us>

Good Morning Miranda,

Please find DRMS's review of the 2022 Seneca IIW Annual Hydrology Report. I'm available to clarify any questions or concerns.

Thank you

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Review of Annual Hydrology Report

Mine: Seneca IIW Mine
Permit No: C1982057
Report Year: 2021
Date Received: 10 May 2023

Date Reviewed: January 2024
Reviewed By: R. Reilley
Submitted By: Seneca Property, LLC

Water Year 2021 October through 2022 September

Requirement	Requirement citation	Comment
1. Filing frequency of hydrology report	CDRMS regulation 4.05.13(4)(c)	The Annual hydrology Report is required to be submitted yearly.
2. Timely filing of hydrology report	CDRMS regulation 4.05.13(4)(c)	The Annual hydrology Report is required to be submitted by 28 February and was received by the Division on 10 May 2023 via electronic submittal.
3. Filing frequency of NPDES Discharge Monitoring Reports	NPDES permit CO-0000221	Filling is monthly, and reports were not consistently relayed to DRMS in a timely manner.
4. Timely filing of Discharge Monitoring Reports	NPDES permit CO-0000221	Filling is monthly, and reports were not consistently relayed to DRMS in a timely manner.
5. Filing frequency of pond reports	CDRMS regulation 4.05.9(17)	The sediment ponds associated with C 1982057 include 05, 06, 09, 015, 016 and 017. Quarterly pond inspections were conducted in the appropriate quarter.
6. Timely filing of pond reports	CDRMS regulation 4.05.9(17)	Quarterly pond inspection reports were not submitted and received by the Division within an appropriate time frame.
7. Content of pond reports	CDRMS regulation 4.05.9(15)	Content appeared adequate.
8. Sampling frequency of NPDES outfalls	NPDES permit CO-0000221	It appears that frequency for sampling was complied with.
9. Parameters to be sampled for NPDES reporting	NPDES permit CO-0000221	All required parameters were sampled.
10. NPDES discharge limitations	NPDES permit CO-0000221	The Seneca Mine discharged from Ponds 05, 06, 015, 016, and 017 during the water year. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.

Requirement	Requirement Citation	Comment
11. Basic Standards for Surface Water	CWQCC regulations 31.1.11	Only sites WSD5, WSSF3, WSH7 and WSHFFl downstream of the Seneca IIW site have their waters used for irrigation. Two native springs discharged above the 5gpm flow rate where sampling would be indicated during water year 2022. None of the Agricultural Use Standards were exceeded at the native or spoil springs. Pre mining manganese baseline values exceeded the 0.2 mg/l standard.
12. Instream Numeric Standards	CWQCC regulation 33.0	15 monitoring sites exist within the Sage Creek, and Hubberson Gulch/Dry Creek basins: WSD5, WSH7, WHSF1, WSH9, WSPG7, WSPG46, WSPG47, WSPG50 (native springs); NPDES 5, NPDES 6, NPDES 15, NPDES 16, NPDES 17 are within Hubberson Gulch/Dry Creek Basin as are Spoil Springs 1-5. NPDES 9, WSSF3, and NPDES 15 are located within Sage Creek basin. The receiving stream standard for Sage Creek is on Segment 13e of the Yampa River basin and, on Segment 13d of the Yampa River basin for Hubberson Gulch/ Dry Creek basin. The stream standards for Sage Creek and Dry Creek are based on aquatic life standards. Seneca II Ws' NPDES discharge limitations are based on constituents in Senecas' effluent likely to cause an exceedance of Segment 3e and 3d's numeric standards. Appendix D of the 2022 report compares standards to water quality collected from NPDES points and stream sites in the Hubberson Gulch/ Dry Creek Basin. The iron standard (total recoverable) was exceeded in the Dry Creek watershed. The exceedances were compliant with the Yampa aquatic life standard. Iron exceedances are likely the result of high suspended solids. The chronic aquatic life manganese standard was exceeded but appeared to be an anomaly. Premining samples also exhibited elevated manganese and total recoverable iron values. Stream points were within all agricultural use standards and Segment 13d aquatic life standards. In the Sage Creek watershed there were no exceedences on the aquatic life standards. A high level mercury test with a method detection limit of 0.2 ug/l for streams was run. All high level test values this water year were less than the detection limit.

Requirement	Requirement citation	Comment
13. Sampling frequency at surface water	Tab 15, Table 1 of CDRMS mining permit C1982057	The report indicates that all frequencies were met.
14. Parameters to be sampled at surface water sites	Tab 15, Table 2 CDRMS mining permit C1982057	Parameters to be sampled are conductivity (umhos/cm), pH (units), temperature (C), total recoverable iron (mg/l), dissolved manganese (mg/l), total mercury (ug/l), dissolved nitrate (mg/l), dissolved nitrite (mg/l), total ammonia (mg/I), dissolved selenium (ug/l), dissolved sulfate (mg/l), total sulfide (mg/l), total suspended solids (mg/I) and total dissolved solids (mg/l). All required parameters were analyzed.
15. Sampling frequency of ground water monitoring wells	Tab 15, Appendix 15-3a, Table 1 of CDRMS mining permit C1982057	Ground water samples are collected from WHAL7-2, WOV14, WOV17, WOV25, WW14, WW 1 7, WW25, WSAL14, WSOV25, WSC25, WWCOV25, WWC25, WWCU25 and, DCAL02 on an annual basis.
16. Interim Narrative Standard for Ground Water	CWQCC regulation 41	As per permit section Appendix 3b, and TR63 it was determined that bedrock groundwater points of compliance are unwarranted at the Seneca IIW Mine. 14 wells are monitored for groundwater quality. Well WHAL 7-2 monitors Hubberson Gulch alluvium downstream of NPDES outfalls, 06, 16 and 17. Well DACL02 serves as the Seneca IIW Mine's Dry Creek Alluvial ground water point of compliance. Ambient values for site DACL02 met all the Reg. 41 standards during the 2022 water year. The manganese agricultural use standard (0.2 mg/l) was not exceeded. Based on CWCC Reg. 41, the standard of 0.2 mg/l, applies to plants grown in acidic soils (<6.0 pH). In alkaline soils, as found throughout the Yoast and Seneca IIW region, the EPA standard would be 10 mg/l. The maximum manganese value observed at any well site was 2.2 mg/l. Pre mining manganese values often exceeded the standard.
17. Parameters to be analyzed in ground water samples	Tab 15, Appendix 15-3a, Table 3 of CDRMS mining permit C1982057	Parameters sampled comprise conductivity (umhos/cm), pH (units), temperature (C), dissolved fluoride (mg/I), dissolved iron (mg/I), dissolved manganese (mg/I), dissolved nitrate (mg/I), dissolved nitrite (mg/l), dissolved selenium (ug/l), dissolved sulfate (mg/l) and total dissolved solids (mg/l). At measured sites all parameters were met.
18. Basic Standards for Ground Water	CWQCC regulations 41.4 and 41.5	Seneca IIW Mine did not generate significant amounts of leachates in 2022. Agricultural ground water standards were not exceeded this water year at the Seneca IIW mine.

Requirement	Requirement Citation	Comment
19. Restoration of ground water recharge to approximate pre-mining rate	CDRMS regulation 4.05.12(3)	For the 2022 water year, it appears that water levels at all wells fell within their historic ranges. All alluvial wells displayed seasonal water level fluctuations in response to periods of precipitation recharge. Wells WSC25 and WWC17 were not monitored in 2022. Monitoring will resume for the 2023 water year. Spoil springs (totaling five) may reduce groundwater recharge by diverting groundwater flow to surface flow.
20. Prevention of adverse impacts to ground water systems outside permit area	CDRMS regulation 4.05.11(1)	Compliance with the Basic Standards for ground water 9item 18), indicates the permittee is preventing adverse impacts to ground water quality outside the permit area. Monitoring data indicate the permittee is preventing impacts to water quantity outside the permit area. Hydrology reports indicate that water level at all wells are within historic ranges. All alluvial wells showed seasonal water level fluctuations in response to periods of precipitation or, lack thereof. Overburden and coal well water levels are fluctuating in response to precipitation recharge and ground water flow from the reclaimed mine pits.
21. Prevention of impacts to ground water that adversely impact post-mining land use	CDRMS regulation 4.05.11(2)	As discussed in item 20 above, no material damage has occurred.
22. Minimize disturbance to hydrologic balance within and adjacent to the permit area	CDRMS regulation 4.05.1(1)	The disturbance to the hydrologic balance within and adjacent to the permit area caused by mining and reclamation at the Seneca IIW Mine is the minimum that can be expected from a reclaimed surface mine at this location. The operators' use of best management practices indicates minimization of disturbance to the hydrologic balance.
23. Adequacy of surface water monitoring program	CDRMS regulation 4.05 .13(2)	The current surface water monitoring program continues to adequately address the protection of the hydrologic balance.

Requirement	**Requirement Citation**	**Comment**
24. Adequacy of surface water monitoring program	CDRMS regulation 4.05 .13(2)	The current surface water monitoring program continues to adequately address the protection of the hydrologic balance.

25. Prevention of material damage to the hydrologic balance outside the permit area	CDRMS regulation 4.05.1(1)	**Surface Water:** A prediction was made that increases in TDS would be observed at various stream sites during the irrigation season (June-September). Predicted TDS values trended lower with the exception of an exceeded at site (WSSF3, 1650 mg/l). The predicted value was 626 mg/l. In general TDS concentrations remained within the Seneca IIW predictions and within the historical range for the 2022 Water Year. **Ground Water:** In TAB 17 of the PAP, predictions were made as to the expected TDS increases to be observed at various monitoring wells. Predicted TDS values were exceeded at two of the seven wells WOV 17, 44100 mg/l, and WW14, 46100 mg/l. The predicted value was 4295 and 2630 mg/l, respectively. In general TDS concentrations remained within the Seneca IIW predictions and within the historical range. **Spoil Springs:** TDS values for springs are presented in Appendix E of the AHR. Agricultural Use standards were not exceeded. No material damage has occurred, as discussed in item 20, above. Agricultural Use surface and ground water standards were, in general, within compliance except for previously mentioned excursions. Baseline information shows several parameter concentrations in excess of both irrigation and livestock standards.
26. Agreement of observed hydrologic impacts with probable hydrologic consequences projected in the permit	CDRMS regulation 2.05.6(3) and requirement to keep current, CDRMS regulation 2.03.3(1)	No local or regional impacts were identified in the AHR. This observation is consistent with the PHC.