

Estimated Environmental Benefits

Based upon the water quality data provided by the Pennsylvania Department of Environmental Protection, the table below provides the estimated amount of pollutants (pollutant loading) expected to be removed upon successful installation of the passive treatment systems for each of the five defined priority discharges. If all five discharges are effectively treated, the combined impact will be the neutralization of 116,000 lbs/yr or 58 tons per year of acidity and the removal of nearly 24,000 lbs/year (12 tons/year) of metals that will no longer enter Montour Run and the associated tributaries namely the North Fork, South Fork, and Milk Run. The substantial improvement in water quality should result in an improvement to the ecological health and biodiversity of the watershed.

In addition, with alkalinity-generating components proposed for MKR3, NFMU9, and NFMU5, the final effluent is expected to contain about 70 mg/l of excess alkalinity (estimate: >150 lbs/day; >50,000 lbs/yr) which will provide buffering capacity to the receiving stream, limiting the impact of, or treating, any other degraded downstream mine discharges. (For MP2 and MP6, passive components that generate alkalinity are not proposed, as the discharges appear to have sufficient alkalinity for metal precipitation.)

Discharge	Pollutant Loading Projected to be Removed by Passive Systems							
	Acidity		Iron		Manganese		Aluminum	
	(lbs/yr)	(T/yr)	(lbs/yr)	(T/yr)	(lbs/yr)	(T/yr)	(lbs/yr)	(T/yr)
MKR3	72,200	36	500	<1	500	<1	6,900	4
NFMU9	18,900	10	2,700	1	1,500	1	1,400	1
MP2	NA	NA	2,200	1	500	<1	NA	NA
NFMU5	24,300	11	700	<1	600	<1	2,500	1
MP6	3,900	2	2,000	1	1,000	1	200	<1
Total	119,300	59	8,100	4	4,100	2	11,000	6

Loadings rounded; total metals and acidity loadings from measured laboratory concentrations; (See Water Monitoring Summary Table.)

Based on the Conceptual Site Plans, an estimated total of 114,000 SF (2 ½ acres) of naturally-functioning wetlands with high plant species diversity are also proposed for treatment and to create wildlife habitat.

- MKR3: 10,000 SF
- NFMU9: 15,000 SF
- MP2: 55,000 SF
- NFMU5: 12,000 SF
- MP6: 22,000 SF