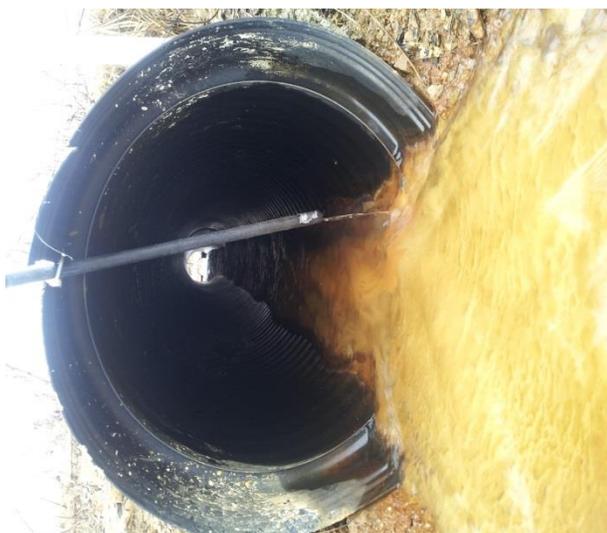


We think AMD and most think the A is strictly for acid. Well there is alkaline mine drainage too. Siderite is an iron carbonate mineral which contains no sulfur and produces fluffy ferrous iron flocculates, non-armoring, like that of pyrite in acidic drainage. This fluff is an eyesore but washes away readily, unlike the armoring ferric type whose armoring is aided by bacteria. The pH in the first picture was 6.14. After shaking (oxidizing) the pH quickly rose to 6.60.



The next two pictures show active treatment; different coal seams with much more pyrite. The pH is 2.7 pretreatment. Extremely caustic sodium hydroxide is being added to raise the pH at the top of the culvert. The last picture shows the reaction having occurred inside the culvert hence the blue green water discoloration. That is the ferrous iron. The pH was 7.40 when tested but differs with flow. Sodium hydroxide runs about \$1.50 a gallon. Thousands of gallons are being used just at this one site.



All pictures are within the same watershed and are headwater brook trout streams.

[Glenn Nelson](#)

WV Save Our Streams Coordinator