



Middle Branch - AMD Abatement Project

Project Background:

Project Name: Middle Branch

Project Number: AMD 18(0888)101.1

Problem Area: 0888

Municipality: Leidy Township

County: Clinton

Topographic Map: Renovo West

Latitude/Longitude: 41° 20' 42" N, 77° 52' 00" W

Receiving Stream: Middle Branch

Project Goals:

The goal of this project was to abate the pollutant acid mine drainage that flows into Middle Branch, which is a tributary to Twomile Run, which flows into Kettle Creek. Most of the area surrounding the site features trout stocked fisheries with good water quality, but a mile long section of Middle Branch is classified as a “kill zone” where no aquatic life can survive. Through the installation of a passive treatment system, the Department of Environmental Protection’s Bureau of Abandoned Mines, in conjunction with the Kettle Creek Watershed Group and the Department of Forestry, hoped to improve the water quality to the point where Middle Branch can again support aquatic life without pollution.



Project Information:

The project first came to the attention of the BAMR by means of the Kettle Creek Watershed Association in 1995 through their efforts to stop the pollution of streams in their area. After BAMR designed the project, it was approved through Ten Percent Set Aside funding and construction went underway in 2000. The construction for the project wrapped up in 2001 at a cost of about \$325,000.

**Project Design Information:**

The projects features a collection pond, two vertical flow alkalinity producing ponds, a settling pond, an aerobic wetland, and two limestone treatment beds. The limestone treatment beds include the Pyrolusite microbiological system that allows microorganisms to feed on the pollutants of AMD. The site is surrounded by a limestone diversion ditch to prevent pollutant water from escaping.

Project Description:

The AMD flows from an abandoned underground mine and from former surface strip mines and is diverted through collection ditches and into a collection pond. The water then goes into a series of Successive Alkalinity Producing Ponds that help decrease acidity and raise the pH levels. These ponds also feature a vertical flow system that allows metals to settle out. The water then flows from the SAPS to a settling pond where any more sedimentation that remains necessary can occur. From there, the water is put through an aerobic wetland, the surface area of which has vegetation which promotes oxidation. The water is then drained into one of two limestone treatment beds that include microorganisms that thrive in AMD conditions. This lowers levels of Manganese and further reduces acidity. Finally, the fully treated water is released back into Middle Branch, where it can flow, now with lessened pollution, into Twomile Run.

**Property Owner Information:**

The treatment site is on a stretch of forest land owned by the Pennsylvania Department of Forestry.

Directions to Site:



Start – 286 Industrial Park Road, Ebensburg

- Turn **left** at Mini Mall Road 0.3 mi
- Turn **right** at US-22 20.0 mi
- Take **exit** for I-99 N 32.7 mi
- Take **exit 61** for US-322 W toward Port Matilda 0.3 mi
- Turn **right** at N High St/US-322 0.5 mi
- Turn **left** at US-220 – Continue to follow US-220 18.3 mi
- Turn **left** to merge onto I-80 E 20.2 mi
- Take **exit 178** for US-220 toward Lock Haven 0.4 mi
- Turn **left** at US-220 7.1 mi
- Take the PA-120W **exit** toward Lock Haven 0.2 mi
- Turn **left** at PA-120/Paul Mack Rd 0.9 mi
- Turn **left** at PA-120/E Water St 33.4 mi
- Turn **right** at Dry Run Rd 2.0 mi
- Turn **left** at Robbins Rd 1.1 mi

Continue on Middle Branch Rd for approximately one mile until reaching access road.

Data:











