Boswell North - AMD Abatement Project

Project Background:
Project Name: Boswell North (Quemahoning Creek)
Project Number: AMD 56(1489)101.1
Problem Area: 1489
Municipality: Boswell Borough and Jenner Township
County: Somerset
Topographic Map: Boswell
Latitude/Longitude: 40° 09’ 20” N, 79° 02’ 35” W
Receiving Stream: Beaverdam Creek

Project Goals:
The goals of the project were to abate the pollutant mine drainage from the Dunlap and Gonder discharges which stemmed from an abandoned underground mine owned by the Consolidated Coal Company. These alkaline discharges were found to be the worst in the Quemahoning Creek Watershed in term of Iron pollution. Between 200-1000 lbs of Iron were loaded into the stream each day from these flows. This water flows directly into Beaverdam Creek, which leads into Quemahoning Creek, a very important cold water fishery for the area. It was also a necessity to make the site safe and secure, as to not allow for any accidents or injuries to people using the area for recreational purposes.

Project Information:
The mine drainage was first documented in July 1997 by the Department of Environmental Protection during an aquatic survey of the Quemahoning Creek Watershed. The discharge also caught the attention of the Somerset Conservation District, who sought the remediation of the abandoned mine site and its pollutant flow. The project went into development in the DEP’s Bureau of Abandoned Mine Reclamation in the late 1990s, but unexpectedly high bids from contractors, among other issues, held up construction until 2004. The project would eventually wrap up in early 2005 at a grand total of $584,788.44.

Project Design Information:
The design of the project centered around enhancing the previously existing wetland system and diverting the flow of Beaverdam Creek to avoid the mine discharge as much as possible. The wetlands that formed as a result of surface mining at the site were transformed into aerobic wetlands to assist in treating the pollutant flows. The retention time of these wetland ponds was increased by recontouring the site and constructing

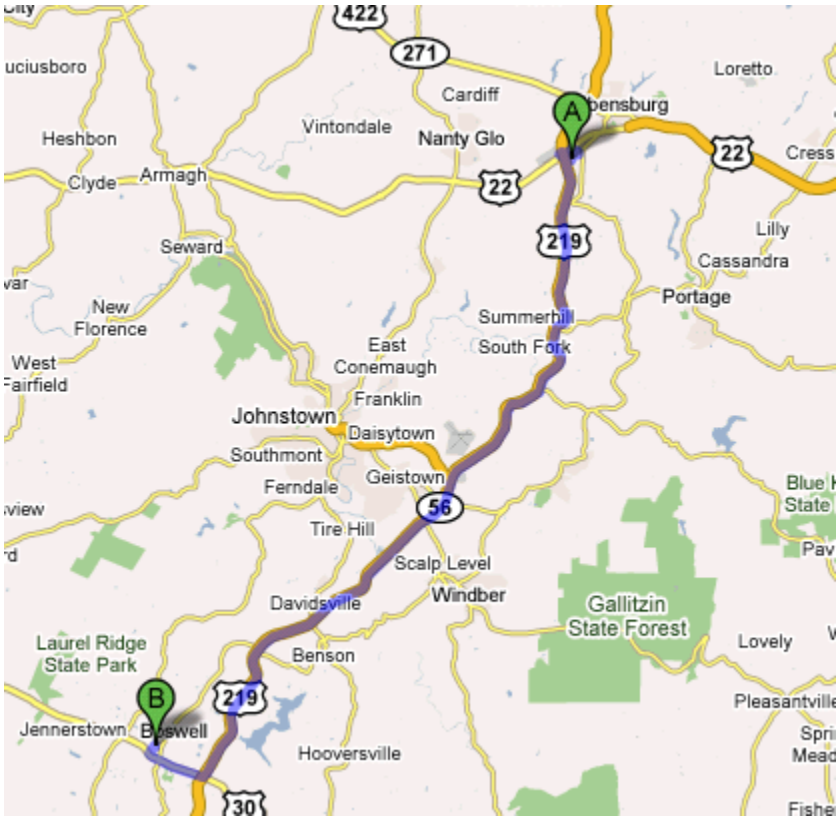
berms. The additional retention time allows for more settling to occur, so more of the metallic content of the water is removed. The relocation of Beaverdam Creek allows for the unaffected part of the stream to avoid the pollutant discharge all together, meaning that less water will have to undergo treatment. Following construction, a fence with a locked gate was installed around the site to prevent trespassing while still allowing personnel to collect water samples to monitor the system.

Project Description:
Two pollutant alkaline discharges emanate from an abandoned deep mine which was operated by the Consolidated Coal Company until 1946. The water flowed into Beaverdam Creek and into a series of wetland ponds which were in place due to surface mining on the site. Once the project was completed, the discharges flowed into the newly enhanced aerobic wetland for treatment, while being diverted away from Beaverdam Creek. The polluted water is treated mainly for Iron content before being released back into Beaverdam Creek, where it then flows on to Quemahoning Creek.

Property Owner Information:
The property on which the site was built is owned by the following; Frank Black, Jr. of Bethesda, MD; Penn Sota, Inc. of Johnstown, PA; Boswell Lumber Company of Boswell, PA; and the Baltimore & Ohio Railraod, based out of Jacksonville, FL.

Conclusions and Recommendations:
The main goal of this system was to abate the amount of Iron being put into the creek at this site. It was once the heaviest pollutant site for Iron in the Quemahoning Creek Watershed. Since the inception of the site, Iron levels have been decreased from an average of 22.6 mg/L to 1.23 mg/L. The large of a reduction in Iron content shows that the treatment system has been successful up to this point. A possible suggestion for improving the site would be for more complete monitoring to be done on the water quality. Since the site has been up and running, only one point has been sampled regularly; and that is the final system effluent. In order to keep tabs on the system, it would be prudent to at least monitor the influent water to keep track of the amount of Iron and other, possibly new, pollutants being put into the treatment system.

Directions to Site:



Start – 286 Industrial Park Road, Ebensburg

- Turn **left** at Mini Mall Road	0.3 mi
- Turn **left** at US-22	0.4 mi
- Take the **ramp** onto US-219 S	29.4 mi
- Take the US-30 **exit** towards Boswell	0.3 mi
- Turn **right** at US-30	2.2 mi
- Turn **right** at Black Hills Road/SR-4023	0.5 mi

The site is on the right, about a half mile up Black Hills Road.

Data:

- This is an alkaline flow, so no pH/acidity data is necessary. Also, metals other than Iron are not prevalent.

- The charts below show pre-construction data vs. post-construction effluent data. The final system effluent is the only point at the site that has been regularly monitored after construction.