



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Active and Abandoned Mine Operations

LANCASHIRE NO. 15 AMD TREATMENT PLANT
Abandoned Mine Reclamation Project
Contract No. AMD 11(0821)101.1

Bureau of Abandoned Mine Reclamation
286 Industrial Park Road
Ebensburg, PA 15931-4119

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ACTIVE AND ABANDONED MINE OPERATIONS
BUREAU OF ABANDONED MINE RECLAMATION**

**LANCASHIRE NO. 15 AMD TREATMENT PLANT
ABANDONED MINE RECLAMATION PROJECT
CONTRACT NO. AMD 11(0821)101.1**

FACT SHEET

Location: The project site is located in Barr Township, Cambria County. From the US-22 and US-219 interchange that is located just west of the Borough of Ebensburg, travel 7.5 miles north on US-219 to the end of the limited access highway segment of US-219. At the end of the exit ramp of US-219, turn left onto US-219 (Plank Road) and travel approximately 4 miles north to the intersection of Oak Street within the Borough of Carrolltown and turn left. After traveling 0.3 miles northwest, Oak Street changes name to Deveaux Street. Travel an additional 3.6 miles northwest along Deveaux Street towards the Village of Watkins. Once in Watkins, Deveaux Street changes name to Oil Tank Hill Road. After traveling 1 mile northwest along Oil Tank Hill Road, turn left onto Patterson Road. Travel 0.4 miles west along Patterson Road and turn right onto the driveway that leads to the site.

Watershed: West Branch Susquehanna River, Warm Water Fishes (WWF)

Official Start Date: October 30, 2009

Contract Completion Date: June 17, 2012

Contractor: HRI, Inc.

Property Owners:

Clean Streams Foundation Inc. 520 West Short Street Lexington, KY 40507-1252	Barr Township Box 45 Nicktown, PA 15762
Thomas and Mary Louise Markovich 41 Club Lane Levittown, NY 11756	James M. Bassett 995 Deveaux Street Elmora, PA 15737
Donald J., Arlene C., and Dennis D. Farabaugh 703 Ridge Road Nicktown, PA 15762	Michael L. and Pamela C. Paronish 472 Oil Tank Hill Road Northern Cambria, PA 15714

Pennsylvania Electric Company
5404 Evans Road
Erie, PA 16558

Project Cost: \$12,887,517.42 (Final Amount), \$11,124,555 (Bid Amount)

Project Area: 22.4 Acres

Purpose: The purpose of this project was to build the automated, cost-effective, and highly operational Lancashire No. 15 Acid Mine Drainage (AMD) Treatment Plant that replaced the antiquated, cost-prohibitive and inefficient Duman AMD Treatment Plant that was operational from 1970 to 2011. The resultant of the plant's operation has restored over 30 miles of the West Branch Susquehanna River and has reduced the annual operations costs to treat AMD for the Commonwealth of Pennsylvania. To view additional information, please access the following video internet link: [Lancashire Video](#) .

Description: Under normal conditions, the Lancashire No. 15 AMD Treatment Plant continuously pumps, treats and discharges between 4,000 to 5,000 gallons per minute (GPM) of treated AMD. The treatment plant is designed to operate up to a maximum 7,000 GPM discharge rate. Since the Lancashire No. 15 AMD Treatment Plant was completed and operational in November 2011, it has safely pumped and treated on average up to 6.2 million gallons per day (MGD) of treated AMD, which cumulates over 14 billion gallons of treated AMD from years 2011 through 2017 and counting. The AMD is generated from the Lancashire No. 15 Mine, which is a 6,600-acre abandoned underground coal mine. Additionally, 30 more abandoned underground coal mines are hydrogeologically connected into the Lancashire No. 15 underground coal mine pool complex. Therefore, over 14,000 acres (22 square miles) of abandoned underground coal mine pool AMD that would dangerously build up and discharge untreated is: being safely maintained through controlled pumping, treated and discharged by the Lancashire No. 15 AMD Treatment Plant into the West Branch Susquehanna River. The real time effluent pH and discharge flow rate are continuously illustrated at the following website: <http://www.cleanstreams.net/status>. Additionally, over 20 acres of mine refuse and red dog were removed from the treatment plant's footprint to accommodate the construction of the plant's polishing pond, access road, building, and water treatment tanks. Originally, the treatment plant utilized a hydrated lime slurry chemical system to treat the influent net acidic AMD during plant start up in 2011. The result of the constant AMD pumping withdrawal rate changed the influent AMD from net acidic to net alkaline AMD in 2013. Therefore, modifications were performed during the fall of 2013 to replace the hydrated lime slurry chemical system to a 50 percent hydrogen peroxide chemical treatment system. The use of 50 percent

hydrogen peroxide has been resulting in the annual cost saving of over \$212,500 per year since 2013. The abandoned mine features are located within Problem Area 0821 (PA 0821), which is referenced within the Barnesboro 7.5 Minute USGS Quadrangle Map. The AMD that is being treated is a direct result of underground mining done by the Barnes and Tucker Coal Company which ended in 1969. The abandoned mine feature meets the Office of Surface Mining's (OSM's) Priority 3 criteria.

Funding:

Pennsylvania's Abandoned Mine Land Grant for AMD Abatement and Treatment Set Aside and Pennsylvania Growing Greener 2 (GG2) Bond Issued in 2005.

Project Management:

Bureau of Abandoned Mine Reclamation
Cambria District Office
814.472.1800

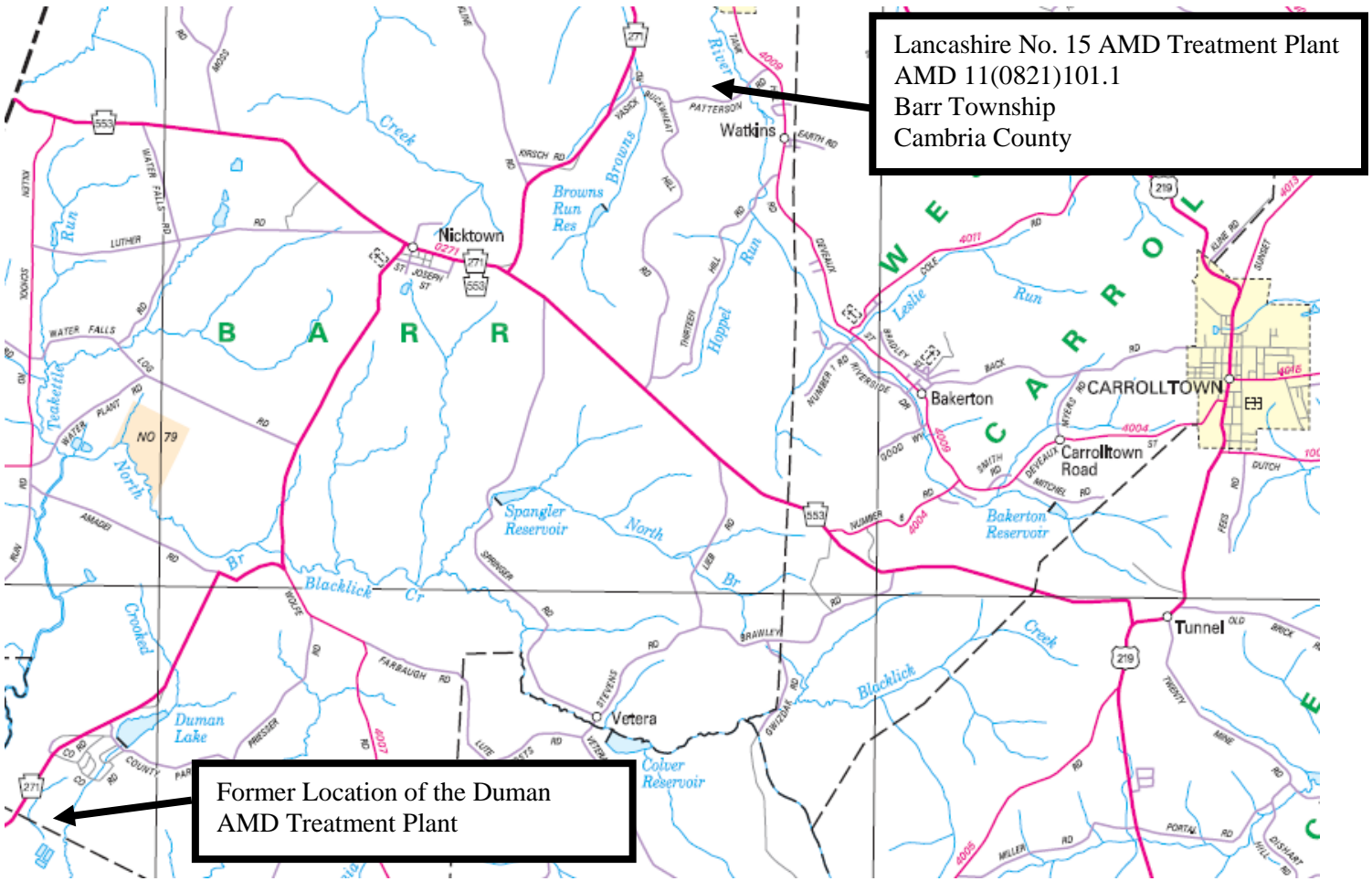
Accomplishments:

PRIORITY	AMLF #	AMLF KEYWORD	MEASUREMENTS						QUANTITY	UNIT
			ACRES	HEIGHT	LENGTH	COUNT	VOL.	FLOW		
3	0821-01	GO	12.5	-	-	-	-	-	12.5	ACRES
3	0821-03	GO	8.0	-	-	-	-	-	8.0	ACRES
3	0821-04	WA	-	-	-	-	-	7,000	7,000	GAL/MIN

AMLF = Abandoned Mine Lane Feature
 GO = Gob
 WA = Water Area
 GAL/MIN = Gallon per Minutes

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Location Map



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Pre-Construction



LANCASHIRE NO. 15 AMD TREATMENT PLANT CONTRACT NO. AMD 11(0821)101.1

During Construction



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During Construction



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Post-Construction



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Post-Construction

