

Environmental, Social, and Economic Consequences of the Boom-and-Bust

Anthracite Coal Industry in Shamokin, PA

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THE SLEEPY TOWN OF SHAMOKIN

Driving into the town of Shamokin, Pennsylvania, one cannot help but be discouraged by the state of disrepair of the homes, the businesses, and even the sidewalks. Chipped paint hangs from the facades of once respectable homes. An old brick church with large stained glass windows displays a dirty and faded sign for “All Tan: Easy, Convenient Tanning.” Posters declaring “For Sale by Owner” litter the windows of the narrow row houses. Shamokin Creek now runs sickening orange-tinged water under bridges, staining the soil on the surrounding riverbank. These descriptions may lead to the ponderance of how a town like this came to be, situated in the jagged topography of Central Pennsylvania. This question can be answered most completely in one word: anthracite. From even before the time of its incorporation in 1864 until today, Shamokin, PA has experienced dramatic changes in its society, economic status, and environmental conditions. The reshaping of the town has been largely a result of the opening and later closing of the Bear Valley Strip Mine, and Shamokin residents' reactions to the changes they experienced. This phenomenon, however, is not unique to Shamokin. Residents of hundreds of other American mining towns endured a similar hardship, often resulting in the abandonment of the town altogether. This paper will examine the history of Shamokin and quantify the import and impact of anthracite on its people.

THE ANTHRACITE REGION

Isaac Tomlinson, an early resident of the area, is regarded as the first person to use anthracite coal from what would later become the city of Shamokin. Shamokin anthracite fueled his smith shop starting in 1810, when he used anthracite as a replacement after running out of his usual stock of

bituminous coal.¹ Anthracite coal is composed of nearly pure carbon, with less sulfur and ash content than bituminous coal,² found elsewhere in Pennsylvania (*Figure 1*³). Both varieties of coal are formed from the heat and pressure associated with the burial of dead, organic swamp material. Anthracite coal is simply a further lithified version of bituminous coal. This allows anthracite to burn hotter, longer, and cleaner than other coals.⁴ Shamokin's Bear Valley was one location of the Mammoth Vein, an anthracite seam that in some places was up to 124 feet thick.⁵ In the 1800s, deep miners in Bear Valley began digging tunnels into the Vein, hoping to earn their living in the laborious coal mining industry.⁶ This coal from Shamokin was first taken to market in 1814.⁷

THE MOVEMENT OF COAL

Before anthracite coal could become a major contender in the marketplace, miners in the Anthracite Region had to create a way to transport their product to potential customers. Although the just over 500 acres of Shamokin⁸ were not laid out as a town until March 1, 1835,⁹ the earliest main road passing through the future city was King's Highway, completed by April of 1770 by the Provincial Council.¹⁰ The Council's reasoning was to "afford the most advantageous route for carrying on a trade with the Northern and Western Indians, and [to] likewise be the means of bringing all the produce of the rich lands lying on and near these extensive navigable waters at a cheap rate to the city of Philadelphia."

¹ Clifton E. Rodgers & Associates (1.3)

² MacGaffey, Janet (4)

³ "The Life and Times of Eckley Miners' Village."

⁴ MacGaffey, Janet (4)

⁵ Marsh (9)

⁶ Marsh (10)

⁷ Bell, Herbert C.

⁸ Clifton E. Rodgers & Associates (2.1)

⁹ Hall

¹⁰ Northumberland County Historical Society Proceedings, Volume 5 (97)

¹¹ Though the Council may not have been referring to anthracite in this instance, their road certainly provided a trail by which many travelled when settling in Shamokin, setting the stage for later mining in the area.

The earliest known railroad in Northumberland County, of which Shamokin is a part, is the Danville and Pottsville Railroad, chartered on April 8, 1826. Though its original path wove through Shamokin, financial restrictions caused a change of course, rerouting the rail through Sunbury.¹² This diversion clearly shows what little clout anthracite had at this early stage in its mining history. That same year marked the first of Shamokin's regular coal shipments to market.¹³ Not too long after, in 1838, the same railroad expanded into Shamokin,¹⁴ being used primarily for the delivery of anthracite to Sunbury, where it was further transported to markets in Philadelphia by canal boat.¹⁵ Then, from 1842 to 1853, the Danville and Pottsville Railroad shut down. This caused a huge economic burden on Shamokin industry, most of which relied on their products being transported to distant markets by train. Fortunately, when the railways reopened, Shamokin was able to bounce back and industry began to grow to even greater heights.¹⁶ This incident, however, foreshadowed circumstances that lie ahead, in which Shamokin's industries and location left it vulnerable to economic decline.

THE EXPANSION OF INDUSTRY

As anthracite continued to grow in popularity and demand, companies formed both inside and outside of Shamokin, hoping to turn a profit. In 1840 the Shamokin Coal Company was organized, led

¹¹ Northumberland County Historical Society Proceedings, Volume 5 (99)

¹² Northumberland County Historical Society, Volume 5 (162-163)

¹³ Northumberland County Historical Society, Volume 6 (151)

¹⁴ Clifton E. Rodgers & Associates (1.1)

¹⁵ Northumberland County Historical Society, Volume 5 (164-165)

¹⁶ Clifton E. Rodgers & Associates (1.1)

by John C. Boyd (Shamokin's founder) and capitalist dollars from Philadelphia.¹⁷ Around the same time, the Shamokin Coal & Iron Company built an anthracite-fueled furnace for manufacturing iron, in part meant to supplement the town's income during low-yield coal seasons.¹⁸ As more jobs began to appear in the region, so did people. Between 1840 and 1870, the population of the Anthracite Region quadrupled.¹⁹ As people continued to flock to the area, businesses kept following. In Shamokin alone, J.B. Zimmerman Carriage Works employed skilled mechanics, Eagle Run Brewery produced 6,000 barrels of beer per year, the Shamokin Planing Mill and the West End Planing Mill employed mill workers, and various powder, flour, and hosiery mills, as well as a soap factory were established.²⁰ From the Reading Railroad grew the Reading Coal company, which recognized its parent industry's importance to mining operations. By 1900, railroad companies controlled 95% of total anthracite production, including Reading Coal's purchase of Bear Valley.²¹ The Reading Railroad also formed, in 1871, the Philadelphia & Reading Coal & Iron company, which purchased over 70,000 acres of coal-bearing land in Northumberland County.²²

THE CREATION OF "HOME"

People migrating to Shamokin brought more than just industry to the area. Shamokin quickly became a diverse and intricate cultural web as well. Between 1870 and 1910, Pennsylvania lagged behind only New York as the state with the most new immigrants.²³ This was in part due to the need for both skilled and unskilled laborers in mines across the state. Many laborers were of European descent,

¹⁷ Northumberland County Historical Society, Volume 6 (154)

¹⁸ Northumberland County Historical Society, Volume 6 (159)

¹⁹ Murphy (62)

²⁰ Northumberland County Historical Society, Volume 6 (160-161)

²¹ Marsh (10)

²² Northumberland County Historical Society, Volume 6 (157)

²³ MacGaffey (7)

including English, Welsh, Irish, Italian, Polish, Lithuanian, and German immigrants. These settlers were of a wide variety of religions, including Roman Catholics, Methodists, Presbyterians, Baptists, Lutherans, and Jews.²⁴ The first church in Shamokin was St. Edward's Catholic Church, formed in 1839.²⁵ Many more followed. But even before the construction of the first church was the creation of the first school in the area, the fourth building in Shamokin.²⁶ Other public facilities followed, including a full school district, a post office, a community building, a fire department and a police department, all created before the turn of the 20th century.²⁷ As more public spaces became available, Shamokin began to grow as a community. This sentiment continued to tie many citizens together, creating a sense of hometown loyalty that persists even today. In addition to public services, private ventures grew as well. Shamokin was at one time the most populous and largest trading center for 60 miles, with a downtown commerce area of 35 blocks.²⁸

THE ANTHRACITE BOOM

During the first half of the 1900s, anthracite coal was America's most commonly used fuel for home heating.²⁹ It was also popularly used for high heat production in manufacturing plants and by craftsmen.³⁰ At the height of Shamokin's anthracite production in 1917, approximately 100 million tons of coal were mined, nearly all from deep (underground) mining.³¹ This was over twice the annual tonnage mined just under 30 years earlier.³² Nonetheless, even as early as 1870, anthracite coal was the

²⁴ Hall

²⁵ Northumberland County Historical Society, Volume 6 (165)

²⁶ Northumberland County Historical Society, Volume 6 (162-163)

²⁷ Clifton E. Rodgers & Associates (1.1)

²⁸ Hall

²⁹ "Anthracite Overview"

³⁰ Hastie

³¹ Marsh (10)

³² Northumberland County Historical Society, Volume 6 (150)

leading fuel on the market in Pennsylvania.³³ To quell this demand, more and more workers were hired in mining towns across the area. In 1920, around 1 million people lived in the Anthracite Region, with about 15% of them working in the mines.³⁴ In tiny Shamokin alone, the 1920 population was 21,204 persons.³⁵ Despite the hard work of Anthracite residents, the majority of the profit made in the coal mines was re-invested in New York City and Philadelphia, not central Pennsylvania.³⁶ This was largely due to many mines' ownership by big city capitalists, like J.P. Morgan,³⁷ and railroad companies. Even so, Shamokin in 1934 was the largest, most populous, richest, and most active community in Northumberland County.³⁸ As late as the 1930s, residents were calling anthracite "one of nature's greatest miracles."³⁹

THE ANTHRACITE BUST

For the first time since 1890, the census of 1930 showed Shamokin with a decline in population. Over the next three decades, population decreased in growing percentages.⁴⁰ From 1950 to 1960, mining jobs in Northumberland County declined an astonishing 65.5%.⁴¹ This accompanied a large decrease in the population of people age 55 and younger during the same time period.⁴² In part, this departure from anthracite was due to the pickup of the oil industry⁴³ in the early 1900s with the discovery of large domestic oil fields.⁴⁴ Another important factor was the cost of producing anthracite,

³³ Murphy(63)

³⁴ Murphy (78)

³⁵ Clifton E. Rodgers & Associates (1.1)

³⁶ Murphy (166)

³⁷ MacGaffey (8)

³⁸ Northumberland County Historical Society, Volume 6 (145)

³⁹ Northumberland County historical Society, Volume 6 (150)

⁴⁰ Clifton E. Rodgers & Associates (3.1)

⁴¹ Clifton E. Rodgers & Associates (4.6)

⁴² Clifton E. Rodgers & Associates (3.4-3.5)

⁴³ Hall

⁴⁴ Wall

which was three times higher than the cost of mining bituminous coal. This was due in part to the geologic structure of the Anthracite Region, which contains violent folding, pinching out of coal layers, and excessive faulting, which may cut off access to a vein.⁴⁵ Bear Valley was briefly strip mined (open-pit mined) in the late 1940s, but was then abandoned again by 1948.⁴⁶ By 1987, only 2% of the workforce in Northumberland County were miners.⁴⁷

As mines and factories closed and people moved away, Shamokin lost much of what had once made it great. Between 1950 and 1960, Shamokin's retail sales to non-residents rose only 2.3%, compared to a 13.2% increase in nearby Sunbury and an 8.7% increase in Bloomsburg.⁴⁸ By 1987, Shamokin had the lowest per capita income in the state of Pennsylvania, excluding three college towns.⁴⁹ As a result of the high population density Shamokin once had and its shortage of relatively flat land, residential plots are small and compact.⁵⁰ Street after street, narrow row houses with a small front porch and no lawn can be seen. As of 1950, 86.2% of homes were built before 1919, when anthracite was king.⁵¹

ENVIRONMENTAL EFFECTS OF MINING

In Bear Valley today, more than half of the basin has been excavated or buried due to strip mining.⁵² This method of mining leads to low pH and elevated metal concentrations in groundwater due

⁴⁵ Marsh (9)

⁴⁶ Marsh (10)

⁴⁷ Marsh (11)

⁴⁸ Clifton E. Rodgers & Associates (10.1)

⁴⁹ Marsh(10)

⁵⁰ Clifton E. Rodgers & Associates (5.3)

⁵¹ Clifton E. Rodgers & Associates (5.15)

⁵² Marsh (10)

to exposure of minerals previously in an anoxic environment. It can also create conditions of increased sedimentation and can exaggerate water flow due to removal of vegetation, causing increased soil erosion. The difference in sediment removed from watersheds containing mining can be 1000 times greater than for non-mined watersheds. In effect, the increase of sediment in streams reduces light penetration, changes water temperature, buries sources of food for fish, and increases potential for flooding.⁵³ Mining can also emit saltwater, due to contact with chloride or sulfate, and cause acid mine drainage (AMD)⁵⁴, as in Shamokin Creek (*Figure 2*). AMD is created by the slow deterioration of rock remaining in abandoned mines.⁵⁵ AMD occurs due to standard oxidation of sulphides occurring in mine rocks when exposed to air or water.⁵⁶ This may kill aquatic life due to a “smothering” effect and a lack of oxygen. Associated low pH may also kill fish by damaging their gills.⁵⁷ In addition, despite the extended construction to augment the mining industry, as recently as 1964 no sewage treatment plant existed, meaning sewage was dumped directly into the relatively small Shamokin Creek.⁵⁸ The combination of these pollutants forces today’s residents of Shamokin to import clean water from neighboring valleys, a high cost burden to those already struggling.⁵⁹

SHAMOKIN TODAY

Today, Shamokin is a small, worn-out town struggling to regain its economy, its environment, and its identity. Without anthracite, Shamokin wouldn’t have thrived in the way that it did. Without anthracite, Shamokin wouldn’t have the same river pollution, large numbers of vacant homes and buildings, or miles of crumbling railroad tracks. Anthracite was by far the greatest singular foundation

⁵³ Hester (112-113)

⁵⁴ Hester(122-123)

⁵⁵ Bell, F. G. (395)

⁵⁶ Bell, F. G. (390-391)

⁵⁷ Hester (123-124)

⁵⁸ Clifton E. Rodgers & Associates (6.15)

⁵⁹ Trop, Jeff

upon which Shamokin was built, and without anthracite, Shamokin failed to stay economically significant. As Shamokin gets smaller and gloomier, one must look to the future and hope for a redemption of the little American mining town, once home to settlers with big dreams and strong work ethics.

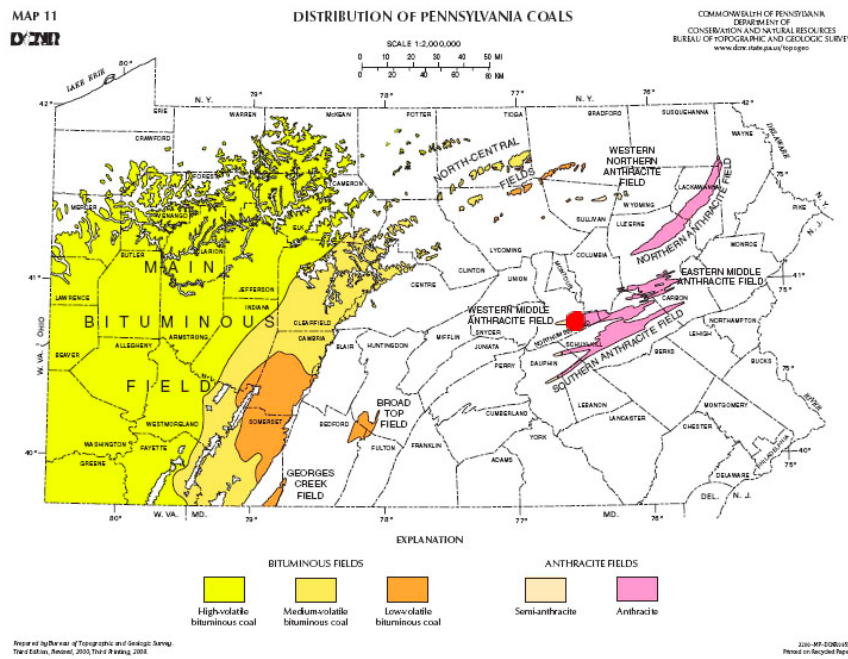


Figure 1: Pennsylvania state map overlaid with locations of coal fields. Shamokin is represented by the red dot.

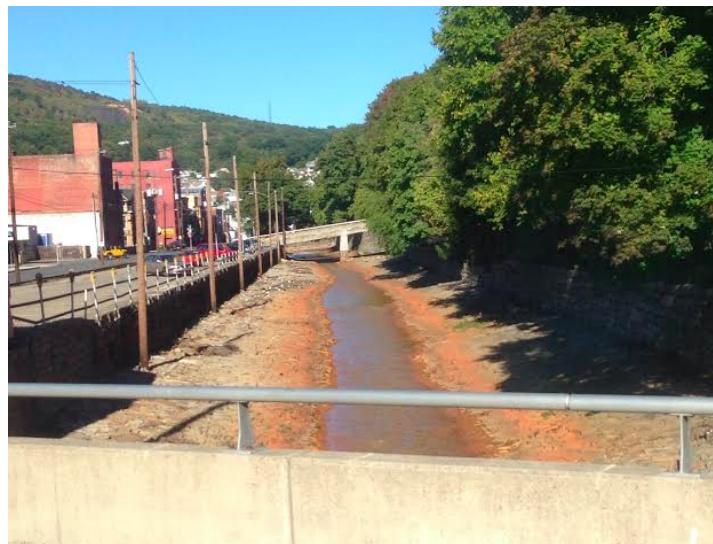


Figure 2: View of acid mine drainage (AMD) in Shamokin Creek, Shamokin, PA.

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