

CHAPTER III

COAL MINING

EARLY ECONOMIC HISTORY (10)

The economic history of Fayette County, Pennsylvania, is primarily the story of the coking industry. Historians generally agree that Isaac Meason constructed the first iron mill in Fayette County in 1817. He and an Englishman named Nichols first experimented with coke making, producing a poor quality coke in ricks from Redstone Coal. The Meason site was later abandoned, and Nichols moved to Connellsville and went to work for Lester L. Norton, operating his iron furnace. Nichols continued his experimentation into coke production by designing a 12 ft. beehive oven made of stone.

In 1833 the experimental oven was charged with coal from the Plummer Mine on the east bank of the Youghiogheny River and finally produced a coke of good quality, as evidenced by the fact that he had to immediately augment coke production by making it in ricks.

By 1836, F. H. Oliphant was making high quality coke in ricks at Fairchance, Pennsylvania, from blue lump ore. In 1841 three partners, McCormick, Campbell and Taylor, planned to make coke and ship it to the foundaries in Cincinnati. They began their journey in the spring of 1842 carrying 1,600 bushels of coke on barges to Cincinnati; however, they encountered great difficulty in selling the unknown fuel. They returned to Connellsville greatly discouraged. Later, when the foundry men in Cincinnati began to use Fayette County coke, they found it a superior fuel and sent a delegation to Connellsville to persuade the partnership to resupply them, but had no success, for the partners refused all offers.

The coke ovens built by McCormick, Campbell and Taylor were leased by James and Sample Cochran who, a year later, took 12,000 bushels of coke to Cincinnati. In later years their venture became known as the Fayette Works and in 1860 they enlarged their operation to 30 ovens.

By 1857 Stewart Strickler had 80 beehive coke ovens in operation and was one of the first shippers of coke to Pittsburgh on the newly completed Pittsburgh and Connellsville Railroad.

By 1860, the number of mines and coke ovens in Fayette County began to increase rapidly. The county's economic expansion continued until the panic of 1873 which stopped economic growth until 1879. In 1880, 7,221 ovens produced 2,206,000 tons of coke. By 1890, the number of ovens doubled to 15,865 producing 6,464,000 tons of coke. The year of peak production was 1907. The coking industry in Fayette County steadily declined after 1907, along with mining. At present, no coking and little mining, compared to the peak years, is done within the county.

The Uniontown Syncline, the largest structural feature in Fayette County, defines the site of the coal producing area known as the Connellsville Region. The southern portion of the Connellsville Region has been named by others as the Klondike Region, which is usually defined by the coal fields of German, Manallen and parts of Georges, Nicholson and South Union Townships (see Figure 8). The name Klondike is reported to have been given to the area because of the rapid development of the field in 1899 resembling the development of the Klondike District of the Alaskan gold field.

The majority of mining in the Connellsville region occurred prior to 1937, and a summary of some of the statistics of the industry through 1937 are presented as an indication of the vast quantities of Pittsburgh Coal mined mostly from the Uniontown Syncline:

<u>CONNELLSVILLE REGION</u>		
<u>Year</u>	<u>Number of Coke Ovens</u>	<u>Pittsburgh Coal Used in Coke Manufacturing (tons)</u>
1880	7,221	3,367,856
1890	15,865	9,748,449
1900	20,981	14,946,659
1910	24,481	17,205,615
1920	19,245	10,743,658
1930	7,393	409,482
1937	2,893	1,335,627
<u>LOWER CONNELLSVILLE REGION (KLONDIKE REGION)</u>		
1900	2,033	579,928
1910	14,850	12,130,425
1920	15,146	7,592,690
1930	6,236	1,637,712
1937	3,001	1,659,105

The above statistics are abstracted from the Geology of Fayette County, Pennsylvania Geological Survey. The survey, published in 1940, indicates there are 14 coal seams in Fayette County which are locally mineable and more than 20 others which are classified as not mineable. The importance of the Pittsburgh Coal seam has so overshadowed the other coal seams in the county that they are practically unmined. With the exhaustion of the Pittsburgh Coal, these thinner coal beds will gradually assume importance.

METHODS OF MINING

The first major development of the Klondike coal field (or Southern Connellsville Region) was reported in 1899 when 6,000 acres were leased. It was reported that the site was selected because the coal could be

worked from a slope without sinking shafts (10). The inclination of the slope entry and the level of the vein was such that the water was free draining, eliminating the cost of pumping.

The second phase was the shaft mine which necessitated extensive underground pumping. At one pumping station (circa 1900) 10 to 12 times as many tons of water were pumped out of the mine as tons of coal produced. By 1961, the Pittsburgh Coal was almost depleted. It was reported the last mines operating in the field were pumping 25 million gallons of water a day to the surface (13). The majority of underground mines in the Uniontown Syncline were owned by the H. C. Frick Coal Company (now United States Steel Corporation), according to WPA Coal Maps (circa 1936). These maps also indicate a lack of barrier pillars between the various mines and, therefore, it is possible that most of the mines are interconnected and provide a continuous channel for water flowing throughout the Uniontown Syncline.

The Pennsylvania Geologic Survey (10) indicated numerous underground shaft openings were constructed in the Uniontown Syncline area. These shaft openings were plotted on a 7-1/2 minute quadrangle map of the project area and field checked for conditions. Field reconnaissance revealed that the shafts were either completely backfilled or capped with concrete. Most were backfilled. United States Steel Corporation was contacted in May, 1975 (13) to obtain data concerning mine water pumping, barrier pillars, and percentage of coal in place from their various mines. This data revealed that, due to common ownership, barrier pillars were not usually left between mines. Two areas of coal in place, one south of Uniontown and the other between Uniontown and Connellsville, may exist. Pumping of the Pittsburgh seam mines ceased with the closing of the Redstone Mine in May, 1961.

DESCRIPTION OF COAL SEAMS

Nine major coal seams are found within the watershed. Figure 8 illustrates township boundaries used in the following discussion. Other locations may be found on the Project Area Map in the inside rear pocket.

WAYNESBURG

The Waynesburg Coal has a canoe-shaped outcrop and lies within the Uniontown Syncline between Uniontown and Connellsville. It is stratigraphically the highest mineable coal within the study area. The coal was mined extensively in Redstone, Luzerne, Menallen and German Townships during World War II and several years thereafter. In Jefferson and Washington Townships the coal bed is mineable in the area between Little Redstone and Redstone Creeks. It is between 24 and 72 inches thick and contains numerous clay partings (10).

In the Uniontown Syncline area the coal is a double-benched bed and varies in thickness from 24 to 54 in. It outcrops through Dungaree, North and South Union and north-central Georges Townships near the basin axis. This seam has been opened at several places near Uniontown and in Dungaree Township for custom coal uses.

SEWICKLEY

The Sewickley Coal is persistent throughout the study area and is an important commercial coal in the southwest portion of the study area where it is locally called the "5 foot" seam. In the area of South and North Union, Georges and southern German Townships, the coal averages 60 in. thick. Even though the ash and sulfur content is high, commercial mines have extensively exploited the seam in this area. Northward between Uniontown and Connellsville the seam is split into three sections Upper, Middle and Lower Sewickley Coals, with the Lower Sewickley being more persistent than the others. It has been commercially mined along the eastern outcrop as far north as the Youghiogheny River. The Sewickley Coal is presently the second most mined seam in the study area. It has been extensively strip mined along its southern and eastern outcrops. The mineable Sewickley seam is located in the Uniontown Syncline Basin with most mining in the Uniontown-Fairchance area. The high sulfur content (3.0% average) hasn't appeared to hinder mining of this seam (10).

REDSTONE

The Redstone Coal lies beneath the Uniontown Syncline basin and has been mined on a small scale in the Oliphant-Brownfield area south of Uniontown. The seam thickness is less than 42 in. with an average thickness of approximately 24 in. The average sulfur content of 1.7% will probably lead to extraction of this coal at a later date.

PITTSBURGH

The Pittsburgh Coal seam has been extensively deep mined, and consequently there are very limited areas of coal left that are economically mineable. As shown on the Uniontown Syncline Map in the inside rear cover, the only mine operating is the Mt. Braddock Mine and continuous pumping operations are required. The other Pittsburgh coal reserves are completely flooded, and no mining method has been designed to remove the coal economically. The contour strip mining of the outcrop has resulted in some additional tonnage. The low sulfur content (1.7%) and high B.T.U. quality of the Pittsburgh Coal made it ideal for coking. Mine drainage from this seam produces approximately 99% of the acid mine drainage in the study area and usually has a low pH, and high sulfates and iron.

BAKERSTOWN

The Bakerstown Coal is presently of questionable importance to the coal industry. It is from 20 to 36 inches in thickness and outcrops on the Fayette Anticline near the Youghiogheny River. Along Redstone Creek in Menallen and North Union Townships, the bed is between 30 and 36 in. thick and appears to consist of clean coal. This bed is worked mostly for custom coal, but is reported to have been commercially mined near Waltersburg (10).

UPPER FREEPORT

The Upper Freeport Coal is 3 to 4 feet thick and is persistent where it hasn't been disturbed by the Mahoning sandstone. It is commonly divided into two benches by several inches of fire clay. Several exposures of this seam along the headwaters of Redstone Creek show this coal as unusually thick, between 8 and 9 ft., but south of this area the Upper Freeport seam is not observed. Pyrite balls and shale streaks are common in most localities (10).

LOWER FREEPORT

The Lower Freeport Coal is a thin persistent bed 35 to 75 ft. below the Upper Freeport. It varies greatly in thickness and is mineable only in portions of the study area; namely, Bullskin, Connellsville, and northern Dunbar Townships. In other areas the seam is less than 15 in. thick (10).

LOWER KITTANNING

The Lower Kittanning Coal seam appears as a persistent bed approximately 105 ft. generally below the Upper Freeport seam. It varies from 18 to 30 in. thick and is free of partings. It is located in the eastern portions of North and South Union Townships (10).

BROOKVILLE

The Brookville Coal is probably persistent through both North and South Union Townships, although this coal was not observed along the outcrop of the Allegheny Formation north of Coolspring. South of Coolspring Hollow the seam is unusually thick, between 5 and 8 ft. Other than this area, the seam occurs only as a smut parting. No foreseeable mining of this seam is anticipated (10).

ACTIVE MINES

At the time of the study, eight strip mines and one deep mine were operative.

DEEP MINES

The only deep mining operation in the study area is the Mt. Braddock Mine in the Pittsburgh seam operated by United States Steel Corporation. This mine is located along the eastern flank of the Uniontown Syncline. The mine water is pumped into two settling ponds and then drains into Gist Run. The life expectancy of this mine is approximately five years.

STRIP MINES

A total of eight strip mines were active during the sampling period. No pollution sources were located during the field reconnaissance that were related to any of the eight strip mines; however, one strip mine in Bute Run was observed to be restricting stream flow. Permit information is presented in Appendix C.

POTENTIAL STRIP MINING

The Pittsburgh, Sewickley, and Waynesburg Coal seams within the project area have the potential to be important sources for future strip mining. The Pittsburgh Coal seam average thickness is approximately 7 ft., but has been extensively mined. The only remaining coal would be in support pillars and outcrop coal. It is estimated that on the average about 2,500 tons per acre of Pittsburgh Coal could potentially be excavated from the abandoned mine complex.

The Sewickley seam is located approximately 150 ft. above the Pittsburgh and outcrops primarily south of Uniontown. The seam averages 2 ft. in thickness.

The Waynesburg seam is the uppermost seam in the project area, lying approximately 380 ft. above the Pittsburgh seam. Its outcrop extends from the Youghiogheny River to south of Uniontown. The seam thickness is estimated at 4 ft.