

THE EARLY HISTORY OF THE PITTSBURGH COAL BED¹

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DURING the 179 years in which it has been mined, there has been produced from the Pittsburgh Coal Bed in the four states of Maryland, Pennsylvania, West Virginia, and Ohio a greater value, at mine prices, than has ever been yielded by any single mineral deposit in the world's history.² While this honor may be temporarily surrendered to the Witwatersrand gold reef for a few years, it will undoubtedly finally rest with the Pittsburgh bed because of its tremendous unmined reserves. This fact, together with the lack of a connected history of the coal bed's development, is the reason for the preparation of this article.

Until very recently the first recorded discovery of coal in the Appalachian field has been considered to be that by John Peter Salley on Coal River, in present southern West Virginia in 1742.³ The Fry and Jefferson map, prepared in 1749 and dated 1751, shows coal on the north side of the Potomac River, near the Savage River in the Cumberland region. Thomas Walker and Christopher Gist found coal in Kentucky in 1750-51, and Lewis Evans in 1754 mentioned a coal mine on the Muskingum River in Ohio as having been on fire in 1748 and at the same time made the first references to coal in Pennsylvania—on East Sandy Creek near Franklin and along the Kiskiminetas River.⁴ Curiously enough, none of these references was to openings on the great Pittsburgh seam which covers 5,729 square miles in area. A map in the

¹ Presented at a luncheon meeting of the Historical Society of Western Pennsylvania at the Roosevelt Hotel, Pittsburgh, on December 1, 1938. *Ed.*

² George H. Ashley, "Production and Reserves of the Pittsburgh Coal Bed," in American Institute of Mining and Metallurgical Engineers, *Transactions*, 130: 56 (1938).

³ William M. Darlington, ed., *Christopher Gist's Journals*, 254 (Pittsburgh, 1893).

⁴ Thomas Walker, "Journal of an Exploration of Kentucky in 1750," in J. Stoddard Johnston, *First Exploration of Kentucky* (Filson Club, *Publications*, no. 13—Louisville, 1898); Darlington, *Gist's Journals*, 61, 133; Louis Evans, *Geographical, Historical, Political and Mechanical Essays. The First, Containing an Analysis of a General Map of the Middle British Colonies in America*, 28, 32 (Philadelphia, 1755).

Darlington Collection of the University of Pittsburgh, of the northern neck of Virginia, made between 1736 and 1746, prior to the Fry and Jefferson map, also shows "coal mines" in two places on the north side of the Potomac River, just above the mouth of the Savage River, where the Potomac breaks through the Cumberland, or Georges Creek, coal field—the eastern edge of the Pittsburgh bed; and the original field notes and a map made to accompany them show that this record was made in the late fall of 1736.⁵ These, therefore, are the earliest recorded openings in the great Appalachian field. It cannot be determined that these openings were on the Pittsburgh bed, but as the bed has a thickness as high as eighteen feet in that area, and is exposed in the very steep slopes, it may be that these openings were in the Pittsburgh bed, although it is more probable that they were in the Freeport coal seams.

It is strange that no record has been left of openings in this coal seam in the western end of our state in spite of its great thickness and many miles of outcrop. That such keen observers as fur traders and early settlers did not see it in streams, or upturned trees, or where Braddock's road crossed the outcrop is unbelievable, but it has been impossible to find any such references either in published records or in the unpublished manuscripts available in our American collections. Possibly these men were so busy with their own occupations that the sight of such a mineral made no impression on them.

On an old map of the Northwest Territory, probably made in 1753, but with this information as of 1750, a note is printed along the north side of the Conemaugh River, above its junction with the Loyalhanna, showing "sea coal here."⁶ From its position, and the fact that the early saltmakers used coal from the hillsides just back of their plants, it is probable that this was one of the Freeport beds.

A young Quaker trader, James Kenny, has left one of the first known

⁵ The map is entitled, "A Plan of the Upper Part of the Potomack River Called Cohongorooto Survey'd in the Year 1736, Benj. Winslow," and is in the Enoch Pratt Free Library, Baltimore. The original field notes that were on file in Richmond, Virginia, were destroyed during the Civil War; no copy can be found in the Colonial Office records in the British Public Record Office, London.

⁶ A manuscript map without title, author, or date in the map division of the Library of Congress, listed there as a "Map of the Northeast Territory, about 1753." Additional information about it is being sought. Probably Lewis Evans' information about coal on the Kiskiminetas was derived from this map.

references to Pittsburgh coal in this area. On his way to Pittsburgh he stayed with Christopher Gist and on April 25, 1759, left there and "Proceed'd today to a Bottom upon Redstone Creek" where he "found some pieces of Stone Coal that burns well."⁷ This was at about where the present Smock is located. Just a few days before Colonel Hugh Mercer had reported to Colonel Bouquet that he had found excellent coal and limestone within a mile of the Monongahela, almost opposite Pittsburgh.⁸ Mercer's interest was due to his thought that "Tarr may be made here, and one of the soldiers; understanding the method, it shall be attempted immediatly." His medical knowledge must have prompted this remark, as very little was known about coal tar at that time. His soldier apparently knew less than he thought, because in Mercer's next letter, about six weeks later, he stated that he had been unable to find pine trees out of which to make tar; and some weeks later he requisitioned twenty barrels of tar from headquarters in Philadelphia and stated that his need was urgent. In the acknowledgment and acceptance of the order he was advised to find a Virginian who could make the product on account of difficulty of transport. Tar was evidently a war munition of great importance!

The opening mentioned by Mercer was on Saw Mill Run, about one and one-quarter miles from the river, on the south slope of Coal Hill. On March 5, 1761, John Langdale, one of the traders in Pittsburgh, wrote a long letter to Colonel Bouquet in answer to one accusing him of selling liquor to the Indians. After making his explanations, he added a few comments of his own, "as he understood that Col. Bouquet is shortly to leave this Command." The last one was "that thou would please to give an order to ye collier to admit ye provincial servants to dig Coals in the Shat which is already opened which we shall surely be deprived of by Capt. Clapham when Col. Bouquets Back is turned."

James Kenny, who made a journey to Philadelphia after this occurrence, visited this opening in May, 1761, and took coal from it in Oc-

⁷ James Kenny, "Journal to Y^e Westward, 1758-59," in the *Pennsylvania Magazine of History and Biography*, 37:418 (1913).

⁸ Lily Lee Nixon, "Colonel James Burd in the Campaign of 1759," *ante*, 18:120 (June, 1935). This, and the succeeding letters of Colonel Bouquet referred to are unpublished, but photostatic copies are in the Library of Congress and transcripts or photographic copies in the Historical Society of Western Pennsylvania.

tober of that year.⁹ John Bartram, the distinguished botanist, accompanied Kenny to Pittsburgh on this trip, and on September 16, 1761, they both visited this opening. Bartram was a keen observer and recorder and would hardly have allowed such an occurrence to pass without notice; an investigation has revealed that he had written an account of his journey to the western end of the state and had sent it to his friend, Peter Collinson, in London for publication. That it contained matter of interest to Pittsburghers is shown by the following remarks from unpublished letters of Collinson to Bartram. On June 11, 1762, he wrote, "By thy Description *Pitts Burgh* must be a Delightful Situation both for Health Convenience & Trade—No Doubt but our people will Avail themselves of these Advantages when the Country grows populus, & Wood Scarce & Dear, Coal may be of infinite Service to Supply that Difficiency." Later in the year, on December 10, he said, "I have in my former letters Acknowledged the receipt of thy Journal which is A lasting fund of Entertainment to Mee and My [ch?] these long Evenings."¹⁰

What became of this journal is unknown; no one now in this country has ever heard of it; it was never published; and the curator of manuscripts in the British Museum advised that he could find no trace of it in any of the English collections.

A statement by Hutchins that Ward's Pit was on the side of Coal Hill facing the fort is possibly an error, as it seems improbable that Bartram and Kenny would have passed such an opening on their way to the one on Saw Mill Run without mentioning it. It is shown, however, on a map of Fort Pitt dated 1761, possibly made in the latter part of the year.¹¹

Coal was used from this opening for some years. In 1763, during the Indian siege, Captain Ecuyer noted in his journal that during eight days in August no enemy appeared and that the garrison was engaged

⁹James Kenny, "Journal... 1761-1763," in the *Pennsylvania Magazine of History and Biography*, 37:6, 20, 25 (1913).

¹⁰Bartram Papers, 3:24, 38 (Manuscript division, Historical Society of Pennsylvania, Philadelphia).

¹¹"Plan of Fort Pitt and Parts Adjacent," by B. Raber, in Archer B. Hulbert, ed., *The Crown Collection of Photographs of American Maps [in the British Museum]*, vol. 2, no. 25 (1904-08).

in reaping the crops, plowing, and getting in coal. In October he led a party of sixty soldiers "over the Monongahela to get coals."¹²

The Penns had heard of the existence of coal at the forks of the Ohio, for early in 1769 John Penn directed the surveyor general "to cause to be surveyed for our use the quantity of Five Thousand acres of Land about Pittsburgh to include the Fort and the Cole Mine opposite or nearly opposite the Fort on the opposite side of the River."¹³ This patent on the Manor of Pittsburgh included Coal Hill, which was laid out in lots in 1784. Arthur Lee, while in Pittsburgh in December, 1784, made the statement that the Penns had "lotted out the face of the hill at thirty pounds a lot, to dig coal as far in as the perpendicular falling from the summit of the bank,"¹⁴ and this statement has been widely quoted as indicating the beginning of coal mining in Pittsburgh. Where Lee obtained the information is not known; the Penn correspondence does not mention it, and a diligent search failed to uncover any reference whatever to coal in any deeds to property on Coal Hill for at least forty years after his visit. The early sales were at the price stated, for fee simple conveyances.

There were several other visitors before 1780 who mentioned coal around Pittsburgh. There is also an early reference to coal near Ligonier in 1767, and of course Washington used it at Stewart's Crossing in 1770.¹⁵ The orders issued by General William Irvine from Fort Pitt on December 12, 1781, indicate that there had been difficulty in securing enough coal for use, because after stating the arrangements he was making for obtaining fuel, he added "the general flatters himself there will be no more cause of complaint for want of these articles [of fuel]. If the troops should hereafter suffer, he hopes they will attribute it to the real cause (indolence), which he will not charge them with without good evidence."¹⁶

¹² Mary C. Darlington, ed., *Fort Pitt and Letters from the Frontier*, 108, 110 (Pittsburgh, 1892).

¹³ Warrant, in the Land Office Bureau, Pennsylvania Department of Internal Affairs.

¹⁴ Richard H. Lee, Jr., *Life of Arthur Lee*, 2: 385 (Boston, 1829).

¹⁵ George D. Albert, ed., *History of the County of Westmoreland, Pennsylvania*, 37, note 5 (Philadelphia, 1882); George Washington, *Writings*, 2: 288 (edited by Worthington C. Ford—New York and London, 1889).

¹⁶ Consul W. Butterfield, ed., *Washington-Irvine Correspondence*, 86n. (Madison, Wis., 1882).

In 1783 Samuel Gustaf Hermelin, a Swedish engineer, was sent by his government to report upon the iron situation in the new nation. His *Report about the Mines in the United States of America*, available only since 1931, is a carefully written document, full of accounts of the iron industry east of the mountains with costs of manufacture, and rates of wages. He was evidently well advised, because he mentions the use of anthracite by blacksmiths, and then says: "Coal mines have also been worked for several years near Pittsburg," and that "great supplies of iron ore are available at the Ohio Falls and, further to the west, at Coney Creek, a part of the Green River, where there is also coal."¹⁷

Late in 1787, or early in 1788, Johann David Schoepf, a German, visited Pittsburgh and commented very favorably on the coal opened along Coal Hill and the ease with which it could be dug and rolled down to the edge of the river into boats lying ready for it. He predicted that "these coals will even form a considerable article of export." Colonel John May, in 1788, climbed Coal Hill, looked across the river into the fort, and remarked on the abundance of "good sea-coal, which they call here stone coal."¹⁸

There must have been a number of openings along Coal Hill by 1788; for early in 1789 a large keelboat, laden with coal, coming down the Monongahela above Pittsburgh, was sunk and four persons were drowned.¹⁹

The leaders of the community, at least, were becoming coal conscious about this time. In the advertisements of a sale of lots at the mouth of the Loyalhanna in June, 1788, attention was called to the abundance of stone-coal near the place and to the fact that this location would probably be on the main road from Philadelphia to Pittsburgh and near the head of navigation on the Conemaugh. In May, 1789, a brickyard was rented on the south side where "pit coal may be raised near the works."²⁰

In 1790, Alexander Hamilton wrote his famous report on "Manu-

¹⁷ Samuel G. Hermelin, *Report about the Mines in the United States of America, 1783*, 45 (translated by Amandus Johnson—Philadelphia, 1931).

¹⁸ Johann D. Schoepf, *Travels in the Confederation, 1783-1784*, 1:252, 253 (Philadelphia, 1911); John May, *Journal and Letters . . . Relative to Two Journeys to the Ohio Country in 1788 and '89*, 51 (Cincinnati, 1873).

¹⁹ *Pittsburgh Gazette*, February 7, 1789.

²⁰ *Pittsburgh Gazette*, June 1, 1788; May 2, 1789.

factures," and devoted a few paragraphs to "Fossil Coal," which show his view of its future importance:

This, as an important instrument of manufactures, may, without impropriety, be mentioned among the subjects of this report.

A copious supply of it would be of great consequence to the iron branch. As an article of household fuel, also, it is an interesting production; the utility of which must increase in proportion to the decrease of wood, by the progress of settlement and cultivation. And its importance to navigation, as an immense article of transportation coastwise, is signally exemplified in Great-Britain.

It is known, that there are several coal mines in Virginia, now worked; and appearances of their existence are familiar in a number of places.

The expediency of a bounty on all this species of coal of home production, and of premiums on the opening of new mines, under certain qualifications, appears to be worthy of particular examination. The great importance of the article will amply justify a reasonable expense in this way, if it shall appear to be necessary to, and shall be thought likely to answer, the end.²¹

Tench Coxe, of Philadelphia, an early economist and a United States Treasury official, in 1794 recognized the advantage of a supply of coal:

The plenty of pit-coal in Pennsylvania will very soon give it an immense advantage over all the interior country north and east of it, in which, though colder than Pennsylvania, it is not known, that there is one coal mine open, or that there is any considerable appearance of that invaluable fossil. Wood and timber are very much decreased in the principal part of New-England and in New-Jersey, but is abundant in Maine and Vermont, and in many parts of New York. . . .

So many of the necessary and convenient arts and trades depend upon the plenty and cheapness of fuel, that it appears proper to take notice of this article. . . . Of this useful fossil, Providence has given us very great quantities, in our middle and western country. . . . so as to be found in the greatest plenty at Pittsburgh, where the Allegheny and Youghiogheny unite, and form the head of the Ohio. . . .

All our coal has hitherto been accidentally found on the surface of the earth, or discovered in the digging of common cellars or wells: so that when our wood-fuel shall become scarce, and the European methods of boring shall be skilfully pursued, there can be no doubt of our finding it in many other places. At present, the ballasting of ships from coal countries abroad, and the coal mines in Virginia, which lie convenient to ship-navigation, occasion a good deal of coal to be brought to the Philadelphia market. From this great abundance and variety of fuel, it results, that Pennsylvania, and the United States in general, are well suited to all manufactories which are effected by

²¹ Alexander Hamilton, *Official Reports on Publick Credit, a National Bank, Manufactures, and a Mint*, 249 (Philadelphia, 1821).

fire, such as furnaces, founderies, forges, glasshouses, breweries, distilleries, steelworks, smith's shops, and all other manufactories in metal, soap-boiling, chandlers' shops, pot ash works, sugar and other refineries, &c. &c.²²

In 1796 the French government sent Victor Collot, an engineer, to America to make a survey of the Ohio and Mississippi rivers, possibly with a view to military operations from Louisiana. He was a keen observer and left a map of Pittsburgh, which shows the second actual locations of the workings along Coal Hill, but about a quarter of a mile upstream from the one of 1761. He was much impressed with the tremendous possibilities of the Ohio Valley and made the following comments about Pittsburgh:

This town, when the Indian frontier is thrown back, and the roads are rendered practicable, will certainly become one of the first inland cities of the United States. . . .

A rich vein of coal is found on the summit of one of the mountains which bounds the Ohio on the left. The quality of this coal is equal to the best kind in England; the mine is open, and the coal so cheap, and forming such excellent fuel, that although the inhabitants live in the midst of forests, they prefer it to their best wood. It costs less than four-pence sterling a bushel.

It is remarkable, that notwithstanding the difficulty and high price of he carriage of merchandise, this town has made little effort to establish manufactures, even for articles of the first necessity; these are still drawn from Philadelphia or Baltimore, and obtained at exorbitant prices.²³

Coal was opened in Washington, Pennsylvania, in 1781; in Canonsburg in 1786, where purchasers of the first plan of lots were given the right to take coal for "their own use forever gratis"; and along the Youghiogeny in 1796.²⁴

In 1800 John Bernard, an Englishman, visited Pittsburgh and was impressed by the difference in its appearance from that of other towns seen: "On approaching Pittsburgh we were struck with a peculiarity

²² Tench Coxe, *A View of the United States of America, in a Series of Papers, Written at Various Times, between the Years 1787 and 1794*, prefatory note, p. 10; text, p. 70, 71 (Philadelphia, 1794).

²³ Victor Collot, *A Journey in North America, Containing a Survey of the Countries Watered by the Mississippi, Ohio, Missouri, and Other Affluents*, 1: 38, 39 (Firenze, 1924).

²⁴ Howard N. Eavenson, "The Pittsburgh Coal Bed, Its Early History and Development," in American Institute of Mining and Metallurgical Engineers, *Transactions*, 130: 12, 14 (1938); Earle R. Forrest, *History of Washington County, Pennsylvania*, 1: 546 (Chicago, 1926).

nowhere else to be observed in the States; a cloud of smoke hung over it in an exceedingly clear sky, recalling to me many choking recollections of London. Instead of wood they here use coal, mines of which are plentiful in the neighborhood."²⁵ This is the third early reference to the smoke over the town—evidently the sobriquet "The Smoky City" was early earned.

Many of the early chronicles list 1803 as the date of the first export of coal from the area in the brig "Louisiana," which was built at Pittsburgh and sailed with a load of coal to Philadelphia, where the cargo brought 37½¢ a bushel. Investigation reveals that the "Louisiana" sailed from Pittsburgh on March 31, 1804, in ballast.²⁶ She evidently stopped at Marietta, as she was afterwards called the "Louisiana of Marietta," and probably changed captains; she had a long wait for high water at the falls of the Ohio, and finally passed there early in July, or late in June. She left New Orleans bound for Liverpool and en route put in at Norfolk, Virginia, on September 8, with only three seamen fit for duty, and arrived in Liverpool late in October. She arrived at New York from Liverpool on December 15, bound for Philadelphia, which she reached about a week later. It is certain that no cargo of coal would have been carried to Philadelphia by such a route.²⁷

In 1809 a Philadelphia merchant, Joshua Gilpin, spent several months in western Pennsylvania and commented keenly on the presence of both iron and coal and the possibility of development of manufactures there. He mentioned the first mines in the Connellsville region, about one and one-half miles below the town, where boats were loaded in the Youghiogheny. Of Pittsburgh he said, "The last circumstance in favor of manufactures of this country is the existence of mineral substances in such abundance, and to be acquired with a degree [of] ease unrivalled perhaps in any other country," and he said that coal was delivered to the houses at 5¢ a bushel, or \$1.25 a ton.²⁸

²⁵ John Bernard, *Retrospections of America, 1797-1811*, 182 (New York, 1887).

²⁶ *Tree of Liberty* (Pittsburgh), April 7, 1804.

²⁷ Shipping news in *Aurora* (Philadelphia) and in *United States Gazette* (Philadelphia), September, December, 1804.

²⁸ Joshua Gilpin, "Journal of a Tour from Philadelphia thro the Western Counties of Pennsylvania in the Months of September and October, 1809," in the *Pennsylvania Magazine of History and Biography*, 51:184 (1927); 52:49 (1928).

Prior to 1809 most of the coal mined had been used for domestic purposes, or by blacksmiths, brickyards, and glassworks, but in that year the first boiler and steam engines were installed and the use of coal rapidly increased, especially after the first steamboat was built in 1811. The early workers were not hampered by any short days, as the *Navigator* of 1811 says that at Pittsburgh "the ear is occupied with the mixed sounds of the implements of industry from 5 o'clock in the morning till 9 at night."²⁹ The first steam mills were put in operation at Marietta, Steubenville, and Cincinnati during 1812.

In the neighboring counties to the east, coal was known around Ligonier as early as 1767, and was advertised for sale in 1803,³⁰ all in the Pittsburgh seam. In a sale of an iron property along the Kiskiminetas in 1797 the abundance of stone coal was noted;³¹ and it was worked along that stream for the saltworks as early as 1814, although in both these cases the coal was probably in the Freeport seam. In Fayette County, as already noted, coal was opened along the Youghiogheny River very early and was mined at Connellsville at least as early as 1809. The best description the writer has seen of the great coking coal seam in that basin is that in an advertisement in the *Pittsburgh Mercury*, February 15, 1817, of a property near Connellsville: "On the premises is a Coal Bank, of large magnitude, containing the best quality of coal in the western country; good either for smiths or the grate. The drift is sufficiently deep for a common Pennsylvania road waggon, with its bed on, to drive in." This description held good for nearly a century after the advertisement was inserted.

Until about 1830 most of the iron used around Pittsburgh was brought to the city from Center, Armstrong, Cambria, and Fayette counties, where iron ore and charcoal were plentiful, and many localities in the state were better situated than Pittsburgh so far as raw material was concerned. What coke was then used—and it was very little—was made in open ricks; the earliest reference to it in this vicinity so far found is in an advertisement of sale of the "Plumpsok" [Plum-

²⁹ Zadok Cramer, *The Navigator; Containing Directions for Navigating the Monongahela, Allegheny, Ohio, and Mississippi Rivers*, 69 (seventh edition, Pittsburgh, 1811).

³⁰ *Pittsburgh Gazette*, August 12, 1803.

³¹ *Pittsburgh Gazette*, December 2, 1797.

sock] Iron Works, nine miles from Brownsville and the same distance from Connellsville, in May, 1818. In describing the process it says, "Stone coal is the only fuel used in making it, an inexhaustible pit of which is within one hundred yards of the forge. Three men with a horse and cart are sufficient to raise, coke and haul to the forge all the coal necessary for keeping the works in full operation."³²

Little was done about making coke until about 1841, when the first ovens were built in the Connellsville region. Progress was slow thereafter, and in 1849 there was not a single coke furnace operating in Pennsylvania. With the completion of the Baltimore and Ohio Railroad to Turtle Creek in 1857 and the successful use of Connellsville coke in the Clinton furnace in 1859, the use of coke in blast furnaces received its real start, and gave this district the lead in making pig iron that it has since maintained. In 1880, when the first accurate figures were collected, 82.6% of all the coal coked in the United States came from the Pittsburgh bed, and until 1929 this percentage was never as low as 41%, even with the immense growth of the iron industry in other parts of the country.

It was fortunate for this district, and for the industry, that the early experiments with coke in ironmaking happened to be made with Connellsville coal, where the Pittsburgh bed was at its best and where it could be coked more easily than could any other coal in this country. It is remarkable that a small area in northern West Virginia, southwestern Pennsylvania, and eastern Ohio consumes such a large part of the coal used for coke in this country, and it shows better than anything else the tremendous part this section has played, and is still playing, in the iron industry of the United States. The years have disproved the old saying that the ore goes to the fuel, as many other factors are involved, but it will be many years before the coking coal of the Pittsburgh bed is displaced from its dominating position in the cokemaking and blast-furnace industries.

Production from the Pittsburgh bed began in western Pennsylvania in 1759; in Ohio about 1795; in what is now West Virginia about 1800; and in Maryland about 1804. In all the early references to coal

³² *Pittsburgh Gazette*, June 5, 1818.

production in this country in papers and magazines prior to about 1850, anthracite is meant, and the few references to bituminous coal are to that produced near Richmond, Virginia—the presence of the tremendous deposits in and west of the “endless mountains” was ignored entirely, and it was as if the production around Pittsburgh was in another country. As a matter of fact the annual production of bituminous coal, all from the Pittsburgh bed, was greater than that of anthracite until about 1840. Owing to the more rapid extension of canals and railroads in the east, anthracite forged ahead then and maintained its lead until about 1870, when the production of bituminous coal passed it and has been larger ever since.

In spite of the relative importance of coal production around Pittsburgh in the early days it is not mentioned in any of the accounts of products of the place or lists of industries until about 1837; even coal operators are not listed in the directories prior to that time. The early navigators never listed any coal mines along the banks of the river or near the towns until later than 1840, and there is very little information anywhere giving production data.

In closing this brief account of the early history of the Pittsburgh coal bed, with a few glimpses of the part its development has played in the growth of the entire section which it underlies, a statement of its relative position in our national economy compared with that of more publicized natural products may be interesting. In 1935, the last year for which data are available, the mine value of the product of the Pittsburgh coal bed alone was more than that of all the gold produced in the United States, at its inflated value; just under four times the value of all the silver; more than fifty per cent greater than the value of iron ore; and more than twice that of copper. The Pittsburgh coal bed alone, that year—and it has been nearly the same for many years—had a mine value of slightly more than one-third of that of all the metals produced in the United States, as they came from the mine.