

HISTORY OF COAL MINING  
IN ILLINOIS

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## COAL

### Early History

Although most historical records date the discovery of coal with its being found by European explorers in the 1600s, Indians knew of coal's existence and mined it as much as 500 years previous to the white man's coming.

Between the 13th to 17th centuries the Hopi Indians mined Cretaceous coals in the Jeddito Valley of Arizona. They mined the coal using a primitive stripping technique as evidenced by the waste piles found in the area. It is estimated that the daily output of coal averaged 450 pounds which was good considering the primitiveness of the tools. Total production for the whole Jeddito Valley over the period probably exceeded 100,000 tons. Over 90 percent of the coal was used as fuel to heat their homes with the rest being used for firing pottery (247, p. ix, 18).

Documentation of the first discovery of coal in America by Europeans is unclear and contradictory. According to Eavenson, a Jesuit missionary is reported to have recorded that he saw the Algonquins "making fire with coal from the earth" as early as 1660 (16, p. 43). On the other hand, Allen claims that although the Indians valued "cannel" coal as a raw material from which to fashion charms and ornaments, there is no evidence that they ever used it as a fuel (77, p. 135). Soady (220) reports that Father Hennepin located coal deposits near the present town of Ottawa in 1668, but most references prefer to credit Father Marquette and Louis Joliet with the first discovery of coal in America in 1673 (72; p. 452; 16, p. 43; 77, p. 135; 17). Joliet's map of 1674 indicates the location of "Charbon de terre" (coal) near the present city of Utica. La Salle in his letter to Frontenac (1680) referring to the Illinois River says: "... There are Coal-Pits on that River."

Father Louis Hennepin, a Recollect priest, accompanied La Salle's expedition to the "Illinois country" in 1680 as chaplain. On a map he later produced to accompany the narrative on his journey, "a New Discovery of a Large Country in America" which was published in 1689 he located a "cole mine" on the Illinois River above Fort Crevecoeur (present-day Peoria). (16, p. 44; 17; 72, p. 452).

Coal was used for fuel during the following century by the soldiers stationed at Fort Clark which was located on the banks of Kickapoo Creek; the coal was mined along the outcrops in small ravines about 10 to 14 feet below the surface. (72, p. 458).

Colonel William Boyd discovered bituminous coal in the "Richmond Basin" near Richmond, Virginia in 1701, but actual mining did not take place here until sometime after 1720. During the Revolutionary War the Richmond Basin was an important coal mining area (242, p. 727).

Coal mining spread to other areas in the ensuing years. Bituminous coal was mined near Pittsburgh, Pennsylvania as early as 1760 to serve the needs of the resident garrison at Fort Pitt. Coal was discovered in Ohio in 1755, but not mined there until 1838 (242, p. 727). Z. M. Pike found coal on the banks of the Osage River in Missouri in 1807 and early settlers opened numerous small mines to serve local needs (242, p. 860). Coal was first dug in Indiana at Fulton in Perry County in 1811; it was taken aboard the steamer Orleans by Robert Fulton on its first trip down the Ohio River. Production for local consumption continued until 1837 when the first commercial coal mining in the state was carried out by the American Cannel Coal Company at Cannelton in Perry County (242, p. 836). Coal was first mined in Kentucky along the Cumberland River in 1827; sizable production soon occurred to meet the demands of the local salt works and iron furnaces located along the rivers (242, p. 849).



In 1720 Father Charlevoix, traveling down the Illinois River from its junction with the Kankakee River, speaks of a water fall called la Charbonnerie, "because they find many coals in its environs." This locale was in what is now La Salle County (63, p. 199). Another early mention of coal in Illinois was made by Patrick Kennedy in his journal describing an expedition undertaken in the year 1773 from Kaskaskias Village in the Illinois Country in search of a copper mine. The entry for August 6, 1773 reads in part as follows:

"At sun-set we passed a river called Michilimackinac (Mackinaw River in Tazewell County). Finding some pieces of coal, I was induced to walk up the river a few miles, though not far enough to reach a coal mine. In many places I also found clinkers, which inclined me to think that a coal mine, not far distant, was on fire, and I have since heard there was." (16, p. 45).

The Monks of La Trappe who maintained an early settlement in Madison County are credited with first discovering the coals in the bluffs along the Mississippi River. Coal was discovered in 1807 in the bluffs located about a mile northeast of the Cahokia Mound. Their blacksmiths were attracted to a spot where "the earth at the foot of a tree that had been struck by lightning was burning." On digging a little below the surface, they discovered a vein of coal. They are credited with being the first Europeans to actually mine coal in Illinois (63, p. 199; 169, p. 15).

Production of coal on a "commercial" basis began in 1809 or 1810 when William Boone shipped coal from Jackson County down the Mississippi River by barge to New Orleans (220; 77, p. 136). The coal was extracted by means of a drift tunnel into the coal seam which was exposed in the high eastern bank of the Big Muddy River near the present town of Murphysboro (77, p. 136). Mining continued here for many years and in 1822 the Jackson County Coal Company was formed to expand the mining on a commercial basis



(77, p. 136).

It appears that one of the important early uses for coal was as a fuel for blacksmiths. Coal at High Prairie about 6 to 7 miles south of Belleville was discovered at an early date (pre-1825) and was put to use by the blacksmiths, Smith and Small, in their shops (158). Joshua Hughes, a blacksmith in Centerville (St. Clair Co.), began in 1830 to take coal from a hillside about one-half mile east of town for his own use (255, p. 16). In 1832 Pittman and Barlow, blacksmiths, of Farmington in Fulton County successfully dug coal in Salem Township of Knox County for use in their own forges (70, p. 953). Coal for use by local blacksmiths was also mined near the village of Elmwood (Peoria County) as early as 1838 (71, p. 590).

The first "regular" coal mine to be developed in St. Clair was open in 1825 by William Fowler and he found a ready market for it in the city as fuel. The mine was located south of the town of Belleville "in the bluff where Richland Creek strikes the high lands, and makes a sharp curve to the left..." (158).

According to some sources, coal was being sold in the St. Louis market at an even earlier date. Conger reports that the first shipment of coal from Peoria to St. Louis took place in 1821 (72, p. 458). Soady reports that the St. Louis market was being served by coal mined out of the bluffs of St. Clair county as early as 1823 (220).

The bulkiness of coal made its transportation a problem. The obvious answer was a railroad. The honor as to which road deserves the credit for being the first is still open to debate. According to Allen, a railroad was built in 1833 to carry coal from Belleville (St. Clair Co.) to the Mississippi River (77, p. 137). This railroad was followed shortly by a second line which was built at Murphysboro (Jackson Co.) carried coal from

the mine to a point just below Fishtrap Shoal, a mile or so downstream. This line allowed the mine to continue shipments when low water would not allow barges to pass upstream over the shoals (77, p. 137). The "Murphysboro" road consisted of wooden rails with covering straps of iron nailed on them. The motive power was provided by a mule and the entire train crew consisted of one man, Valentine Taylor (77, p. 137).

On the other hand, Corr claims that the first railroad to haul coal in America was a narrow gauge line from Illinoistown (now East St. Louis) to the Bluffs near Centerville Station which was built by Gov. Reynolds in 1832 (157). Others claim that this line was not built until 1837. Norton (63, p. 199-200) reports the episode as follows:

"The first railroad in Illinois was a coal road. It was built by Governor John Reynolds in 1837 and ran from what is now East St. Louis to the bluffs near the line of Madison and St. Clair, but lying within the latter county. The Governor owned a large tract of land on the bluffs in which coal had been discovered. He was anxious to get it to market and for that purpose built a crude railroad across the marsh to the river, six miles distant. Piles had to be driven on which the wooden rails were laid. For a while horse power was used. Later, iron rails were obtained from Pittsburg. On their arrival holes were punched in them by blacksmiths and spikes made to fasten them to the ties. This was the pioneer railroad in the Mississippi valley ....."

In 1841 this early railroad was reorganized and chartered as the St. Clair Railroad Coal Company (156). There is some evidence to indicate that possibly the "Gov. Reynolds" line and the "St. Clair" line were two different operations. The Belleville Advocate of November 26, 1846 reported that the name of the company incorporated in 1841 was the St. Clair Railroad Company (no coal). Its charter authorized the company "to construct a Railroad from the Bluffs, in St. Clair County, to the Mississippi River, and may extend the road where it strikes the Bluffs in a northwardly direction,



along the base of the Bluffs, to the great western mail route from Vincennes to St. Louis (U. S. 50 ?), and in a southerly direction one mile." (165).

Production records for coal mined in Illinois begin in 1833 when 6,000 tons were reported as produced (18, p. 15; 157). Production expanded rapidly in the next few years, and by 1840 totaled 16,967 tons. This tonnage was produced by 152 employees working mines in 19 counties (see Fig. C-1). Eighty-five percent of the production came from just four counties - St. Clair, Madison, Sangamon, and Scott - which are indicated by diagonal line pattern.

Although northern Illinois was settled later than the south, there was coal exploration taking place there at an early date. For example, coal was discovered in Bureau County "outcropping from the banks of Coal Creek" in Mineral Township in 1834. Three years later during the initial excavations of the Illinois-Michigan Canal a large vein of coal was discovered "just a few miles below Ottawa." (72, p. 452-453). Also in 1837 several boat-loads of coal mined in Rock Island county were shipped north from Milan to Galena to fire the lead furnaces (172, p. 102). Coal was being mined and hauled by wagon from mines one to three miles outside of Peoria to serve the market for fuel there as early as 1837. At that time it sold for twelve cents per bushel (72, p. 458).

The importance of water transport to the early coal industry is reflected by the early centers of production were accessible to the state's waterways -- the Big and Little Vermillion Rivers (La Salle Co.), Illinois River (Peoria and Tazewell Cos.), Spoon River and Sangamon River (Military Tract), Rock River (Rock Island Co.), Big Muddy River (Jackson Co.), and the Mississippi River (Madison and St. Clair Cos.) (3, p. 7). The opening of the Illinois and Michigan Canal in 1848 and the rapid growth of Chicago



Blue color indicates counties producing coal in 1840; diagonal lines indicate production in excess of 1000 tons.

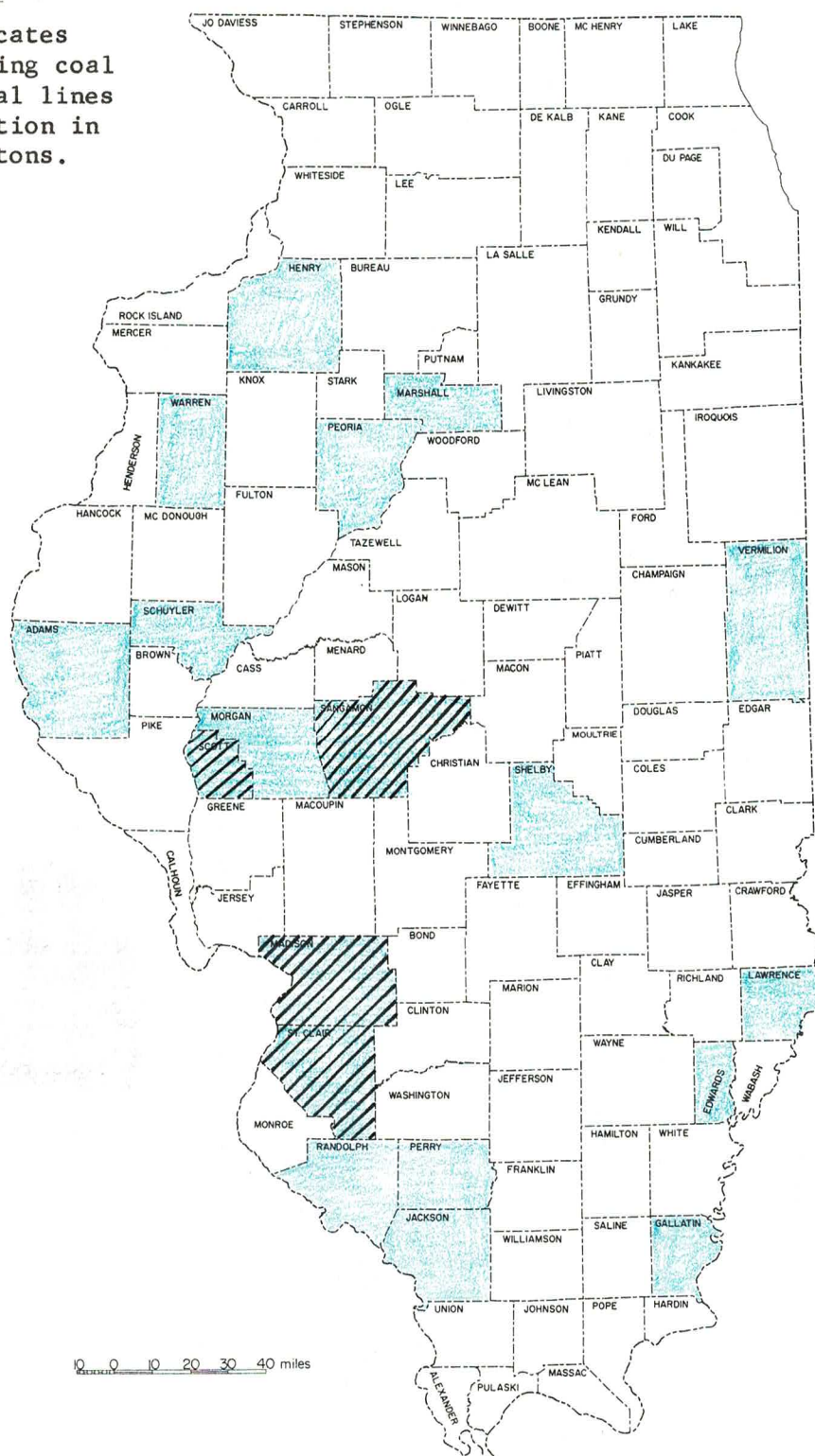


Fig. C-1 - Coal Production, by County, for the year 1840.

during the 1850s were to have a profound effect on the coal trade. Because of the canal, La Salle County was in an excellent position to profit from the growing market in Chicago. Peoria also shared in this growth; between January 1850 and March 1851, 4,349 boat loads of coal (147,866 bushels) were sent from Peoria to Chicago via the canal (72, p. 458).

Steam boats gradually converted to using coal instead of wood as fuel. As a result, coal was mined for many years in the vicinity of Pleasant View (Schuyler County) to supply steamboats at Frederick on the Illinois River (72, p. 454). In 1842 a St. Louis company opened a mine at Kingston Mines in Peoria County for the purpose of coaling river steamers then plying the Illinois River. Prior to quitting business in 1875, the company shipped a considerable quantity of coal to Chicago (244, p. 390).

Unfortunately for the canal, the railroads were developed shortly afterwards and eventually took over most of the coal trade. Despite this competition the coal traffic on the Illinois and Michigan Canal during the period 1850-1865 totaled 192,975 tons (72, p. 455).

The rapid expansion in the Illinois coal industry about the time of the Civil War led to the usual stock promotions in mining companies which were sure to yield a handsome return to the investor or so said the promoters. An interesting example of one such promotion is to be found in the prospectus for the Empire Coal Company which was published in 1865 (208). It pointed out that since Chicago was importing almost \$3 million worth of wood and coal, there was ample incentive to develop Illinois's own coal fields. It was pointed out that new boilers which were capable of successfully burning Illinois coal had been recently developed. The company proposed to purchase the "Marshfield" mines in Livingston County, which were located 1 mile west of Fairbury and 9 miles east of Chenoa. The prospectus then proceeded to

extoll the virtues of the coal found here as follows:

"... As to the quality of these coals, it is simply necessary to state that it is the only coal in the State that has been successfully coked in the rude way usual at mines, thus provided its superiority in this respect for smelting purposes. It is contemplated to erect at once, ovens of sufficient capacity to coke fifty tons of coal per day for the Chicago market...."

"....It is acknowledged by those who have carefully examined the coal from the five feet three inch vein, there is scarcely a trace of sulfur found in it....." (208, p. 9).

Although the promoters were extactic<sup>58</sup> about its possibilities, it appears that they were a bit too optimistic. So far as can be determined, no coke ovens were ever erected here.

#### The Role of the Railroads

The development of the coal industry in Illinois was intimately connected with the development of the railroads. The railroads provided a means of transportation adequate for moving coal in bulk from mines to distant markets. Prior to this development, most of the production occurred at or near the consuming centers or adjacent to rivers where barge transport was available. Secondly, the railroads were, for a number of decades, the principal market for coal.

Although the first practical, American locomotive to successfully burn coal, the "York", was built by Phineas Davis in 1831 (333, p. 350), commercial coal-fired locomotives did not make their impact in Illinois until much later. In 1854 the Galena and Chicago Union Railroad commenced experiments with engines to burn soft coal rather than wood, but they did not have much success. However, by 1857 the Chicago, Burlington & Quincy Railroad and the Illinois Central Railroad were able to announce to their respective stockholders that they had successfully used coal as engine fuel in their locomotives (3, p. 30). Coal-fired locomotives rapidly became the



prime market for Illinois coal.

Between 1837 and 1855 railroad track mileage in Illinois increased from 6 to 887 miles; during the following year of 1856 the state's track mileage almost tripled, reaching 2,235 miles (18, p. 16). Expansion of the rail system continued and by 1882 (the first year for Annual Coal Reports) it had reached 8,541 miles (18, p. 17). New railroads were built to open various coal deposits for development and exploitation. The Illinois Central R. R. opened up La Salle and Vermilion Counties; the Chicago, Burlington & Quincy R. R. - Stark and Knox Counties; Alton & Chicago R. R. - Will County; Chicago & Rock R. R. - Bureau and Grundy Counties; Great Western R. R. - Vermilion County (3, p. 17). The Illinois Central R. R. with an eye towards generating freight traffic was instrumental in the development of coal mining in the vicinities of Du Quoin and St. Johns in Perry County (3, p. 11). The first railroad shipping mine in Illinois was established in 1854 when L. Ashley and Brothers sank a slope mine at St. Johns (258, p. 143).

Coal mining in western Illinois also had its effect on the development of railroads. In 1881 the Fulton County Extension Railway Company was incorporated. Its purpose was to build a line from Lewistown to the Mississippi River. Later it became known as the Fulton County Narrow Gauge and was mainly used to carry coal from the Fulton County mines. In 1894 the Galesburg, Etherly, and Eastern Railroad was incorporated with the intention of opening up the coal lands in Copley and Victoria Townships. The road ran from Wataga where it connected with the Chicago, Burlington, and Quincy Railroad to the town of Etherly. After running into financial troubles, it was abandoned until 1898 when it was reorganized as the Galesburg and Great Eastern Railroad (70, p. 650-651).

The Status of the Industry in 1880

By 1880 the Illinois coal industry was already well developed. The railroad network was extensive and substantial trade in coal was taking place between the coal fields and the major consuming centers in St. Louis and Chicago. Prior to this time statistics on the industry are rather sparse. Fortunately, the Tenth Census of the United States taken in 1880 includes a special report on the mining industries. From this report it is possible to glean the following information on the coal industry of Illinois:

Number of mines -	590
Production -	6,089,514 tons
Value -	\$8,739,755
Average value -	\$1.44 per ton
Number of employees -	16,301 (including 1,031 boys)
Number of horses used -	426
Number of mules used -	1,078
Number of producing counties -	46
(224, p. 642-43)	

Figure C-2 indicates the general features of the marketing patterns of Illinois for coal in 1880. In particular, it shows the location of mines "serving the steamboat trade," of mines selling in the St. Louis market, and of mines selling in the Chicago market.

The rapid expansion of the coal industry in Illinois is reflected in the following statistics:

	<u># of "Establishments"</u>
1870	322
1880	590
1882	704

(246, p. 7)

By the 1880s the industry had come along way from the primitive, relatively shallow operations of the earlier period. The depth of shafts in the state had increased markedly; in 1882 the location and depth of

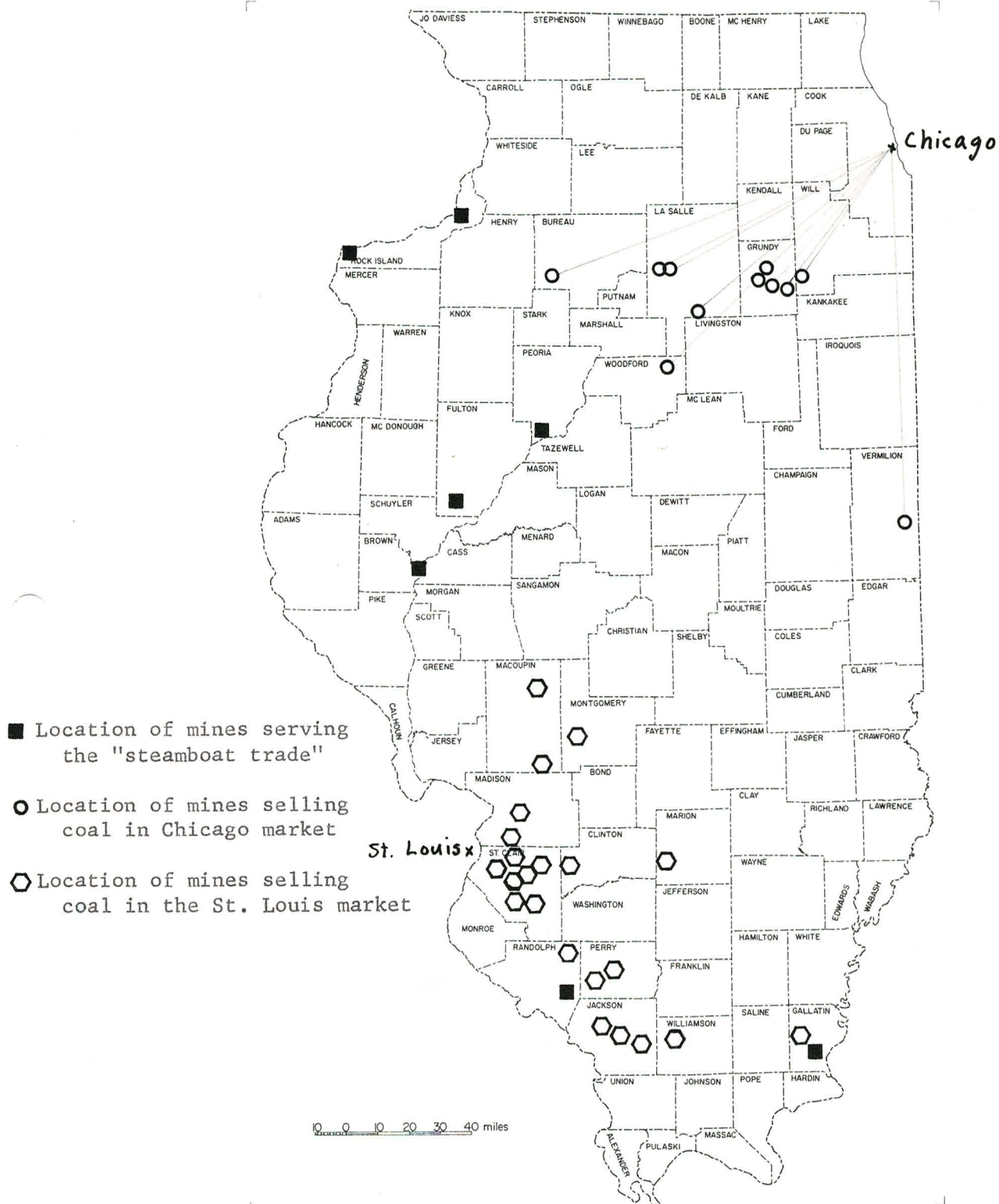


Fig. C-2- Coal Marketing Patterns in Illinois in 1880 (224, p. 868-880)



"deep" mines was as follows:

Mattoon	-	904 feet
Pana	-	714 feet
Sandoval	-	600+ feet
Decatur	-	600+ feet
Minonk	-	552 feet
Centralia	-	539 feet
La Salle	-	535 feet
Bloomington	-	513 feet (246, p. 10)

#### Regional Patterns in Coal Mining, 1882-1968

Figure C-3 shows the counties where commercial coal production has occurred since 1882 and also indicates the cumulative production (1882-1968). Despite the fact that over 70 counties in Illinois have produced coal at one time or another, the bulk of the production has been concentrated in a relatively few counties. The thirteen counties which have cumulatively produced over 100 million tons each have accounted for 81 percent of the total. These counties are concentrated in an arc in southwestern part of the state. This general pattern developed early and has persisted, with some modification, to the present.

Figure C-4 shows the distribution of coal output by counties in Illinois for the year 1882; the most notable feature about this map is that it indicates the high level of activity in the northeastern counties of La Salle, Grundy, Will, and Livingston. These counties developed early because they were close to the Chicago market, were served by the Illinois and Michigan Canal, and were among the earliest counties to have good rail networks. This enabled them to prosper despite the fact their coals were thinner and generally of lower quality than elsewhere in the state. Only La Salle County had become a "millionaire" - i.e. producing more than 1 million tons annually by 1882.

1882-1968 Production

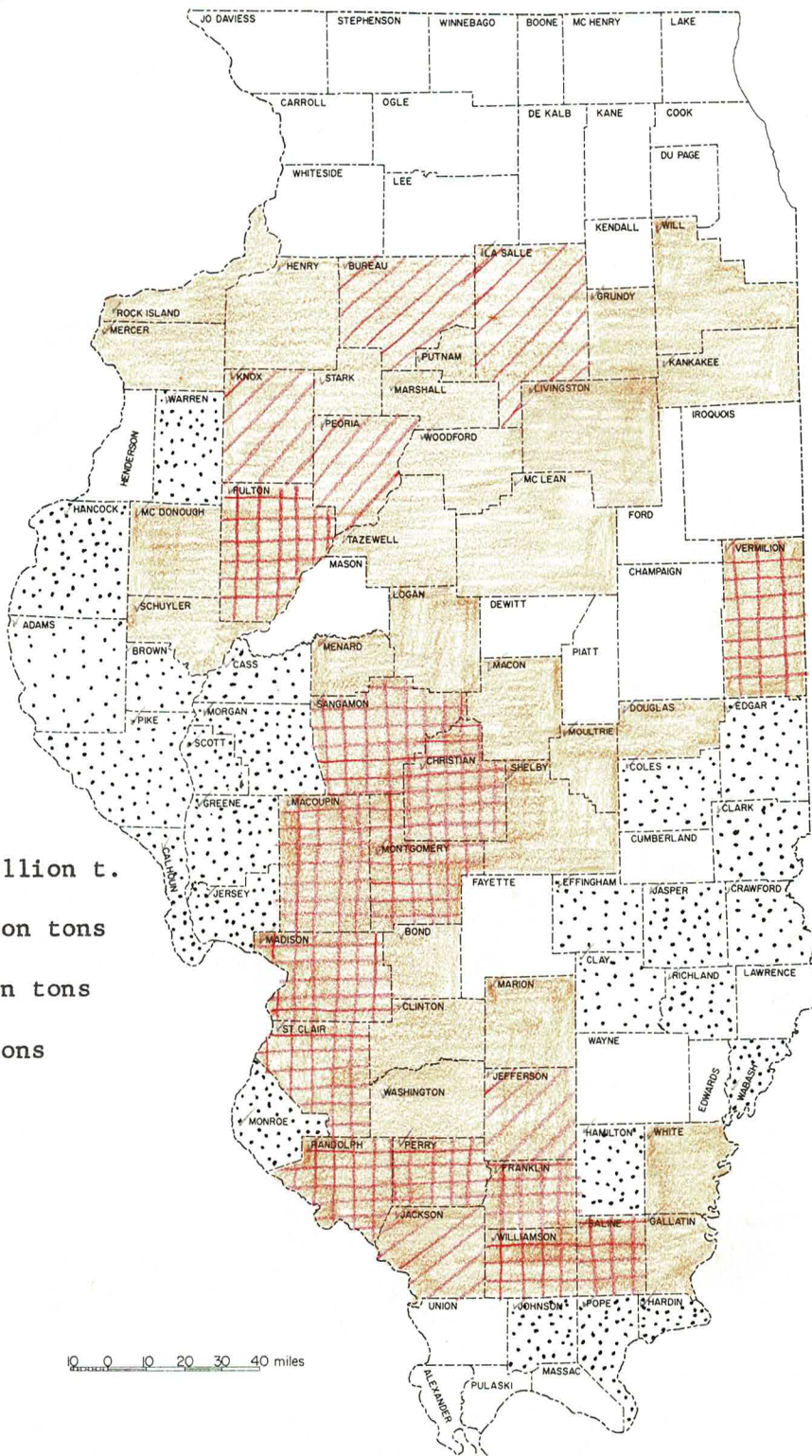
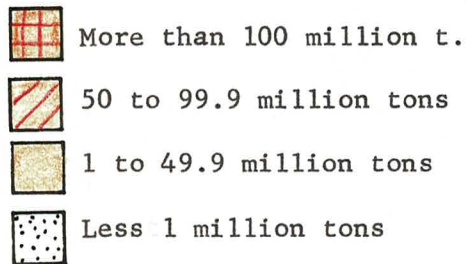


Fig. C-3 - Cumulative Coal Production in Illinois, by counties.

Source: I.S.G.S. Circ. 447, Mineral Production in 1968, Table 8.



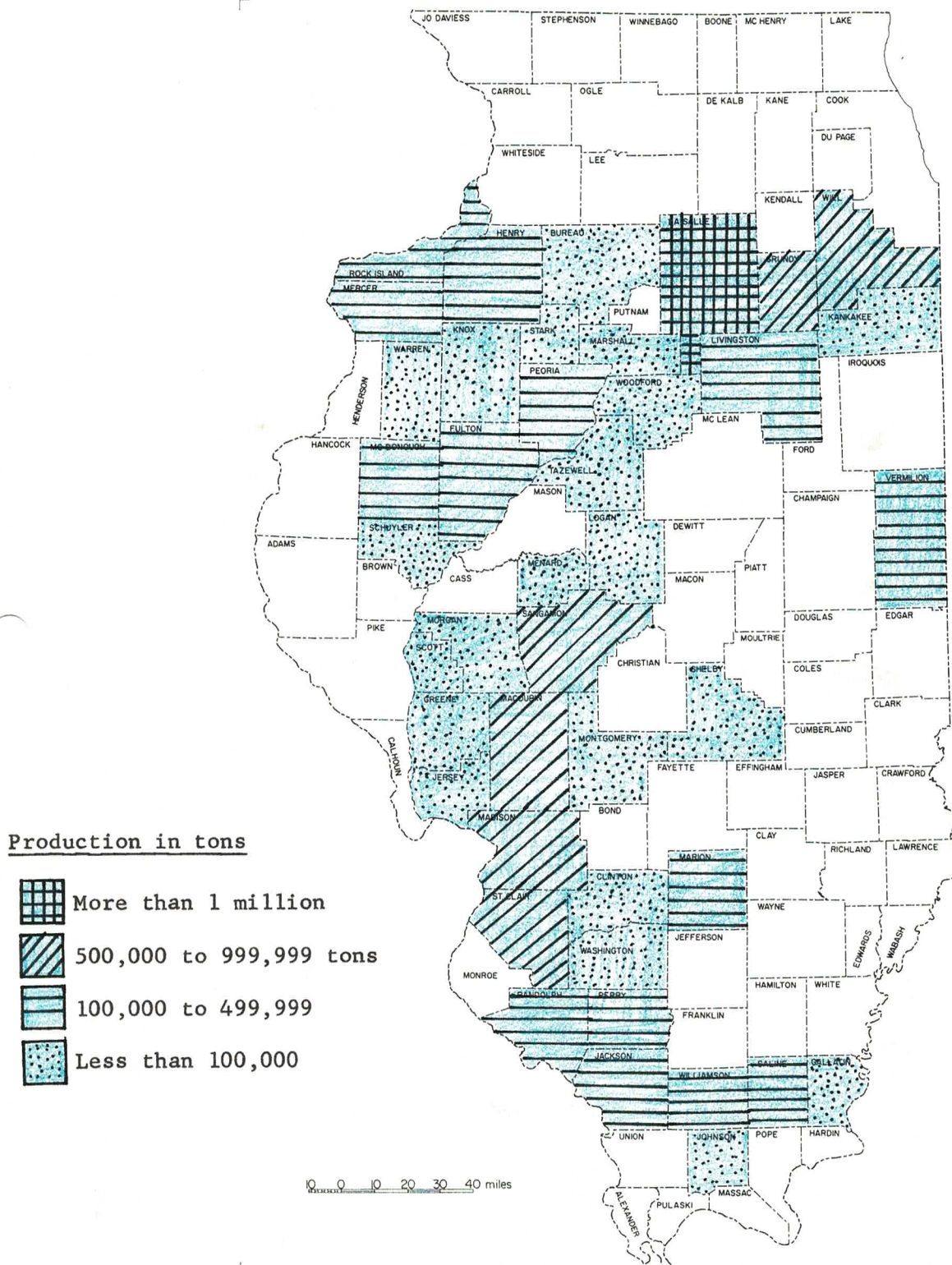


Fig. C-4 - Coal Production in Illinois in 1882, by Counties.



Although the total Illinois coal production grew rapidly during the late 1800s, the average size of mine remained small by today's standards. In 1890 there were only four mines in the state which produced more than 200,000 tons annually and only 25 mines which produced more than 100,000 tons, but less than 200,000 tons (244, p. 283).

The next 18 years were a period of rapid development; Illinois' coal production rose from 9,115,061 tons in 1882 to 25,153,929 tons in 1900 for an increase of 176 percent. By 1900 the number of counties producing coal had grown to 52; of which nine were now producing in excess of 1 million tons per year as shown in Figure C-5. A number of counties declined in production; the most prominent being Will County which dropped from 649,400 tons in 1882 to 50,932 tons in 1900.

The coal industry continued to prosper. It reached an all-time high of 89,979,469 tons in 1918 during World War I (Fig. C-6). There were numerous shifts in the locus of production during this period as production shifted towards the west and south as can be seen in Fig. C-7. In 1900 18.4 percent of Illinois' coal output came from the "thin-vein longwall district" in the northern part of the state adjacent to the Chicago market. This district declined as thicker veins in the southern counties were developed. As a result, by 1925 the northern district's share had declined to less than 2.5 percent of the total. The greater output per man that could be realized in the thick seams was the reason for the shift in Illinois tonnage from the north to the south. The main shift took place between 1900 and 1918 (202, p. 184, 185).

Grundy County declined sharply while Putnam County became a producer (for the first time) of sizable magnitude. Peoria and Fulton Counties also became "millionaires." The old "coal belt" running south from Sangamon

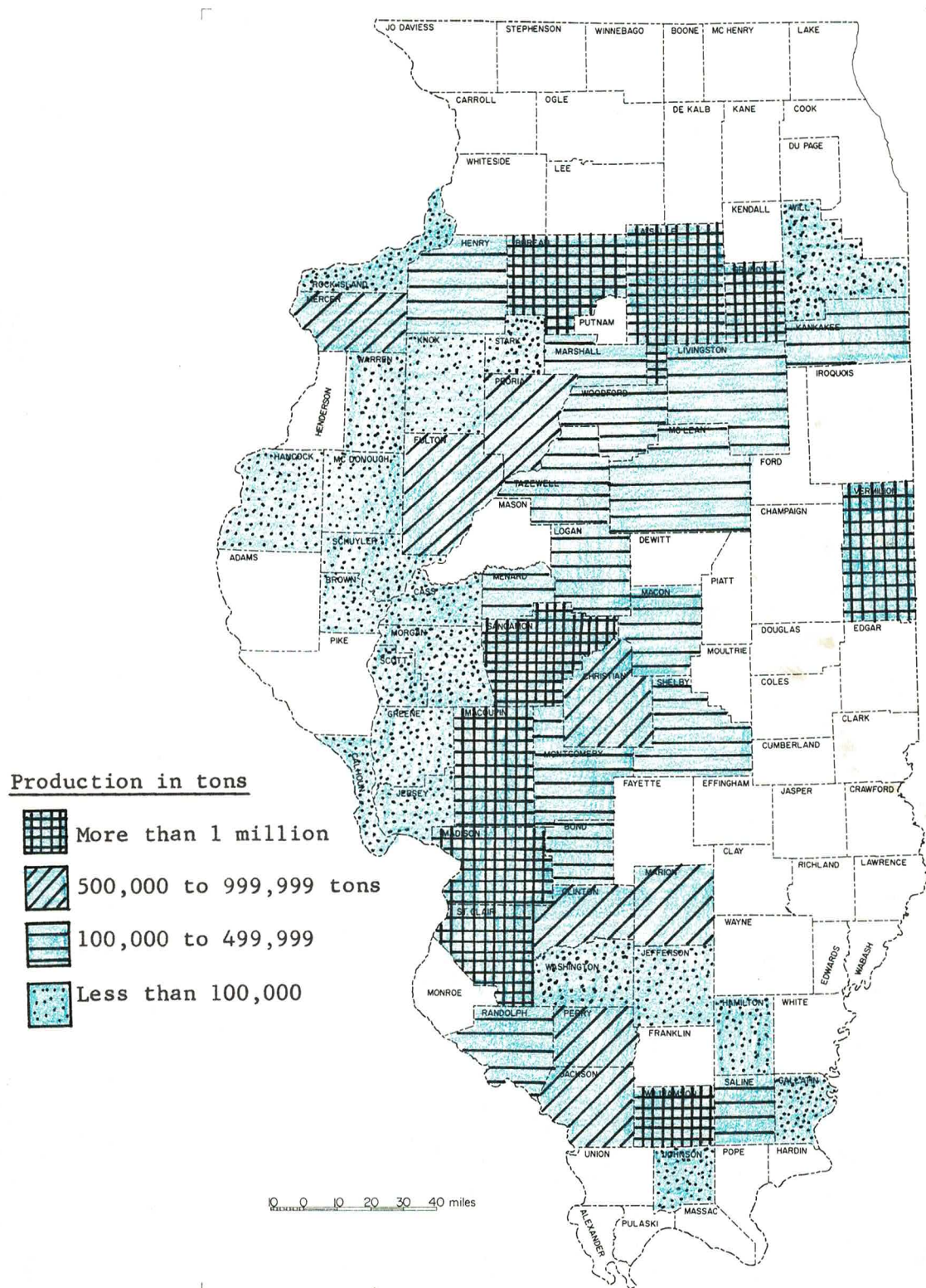
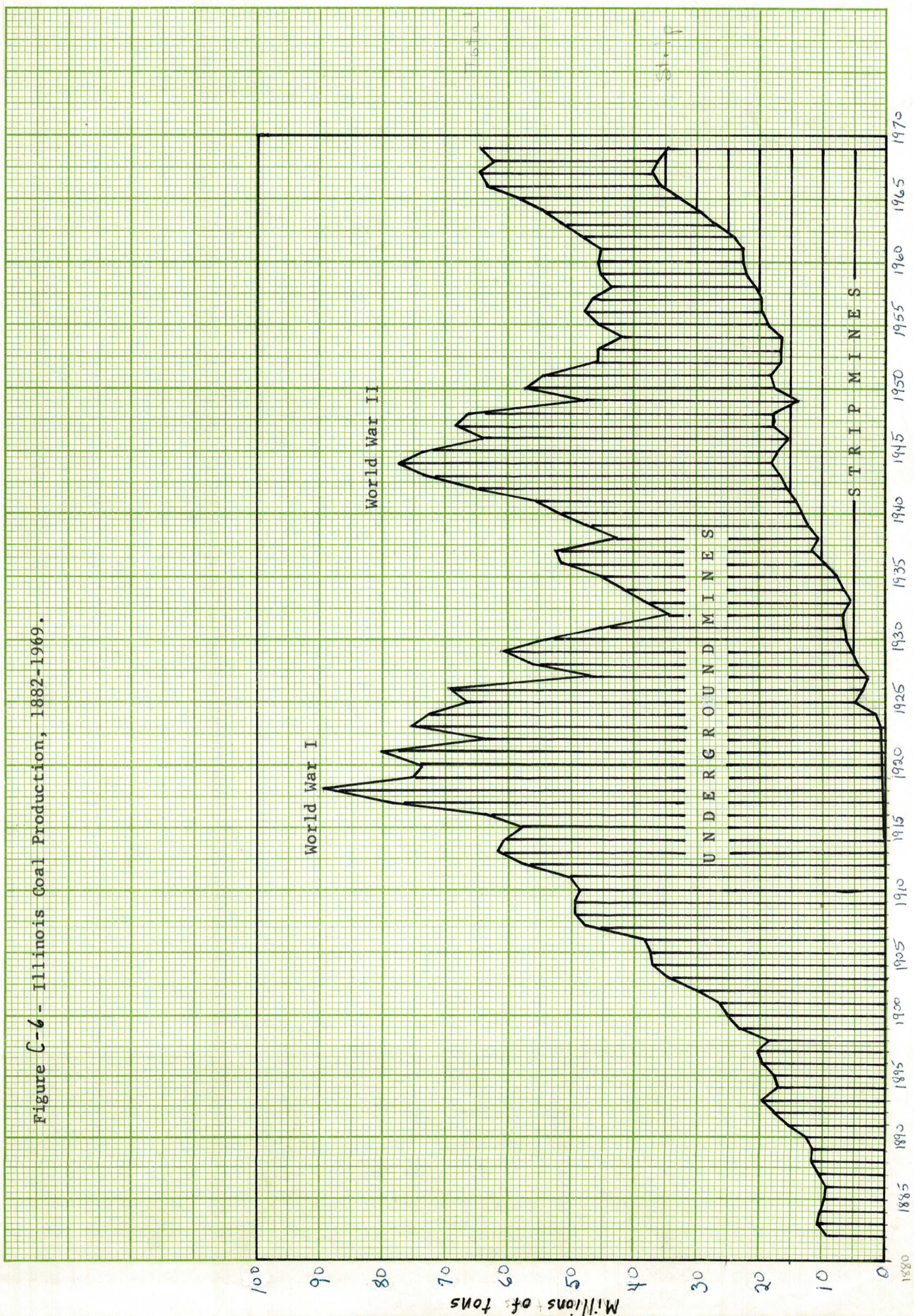


Fig. C-5 - Coal Production in Illinois in 1900, by Counties.



Illinois Coal Production Total & Strip

Figure C-6 - Illinois Coal Production, 1882-1969.



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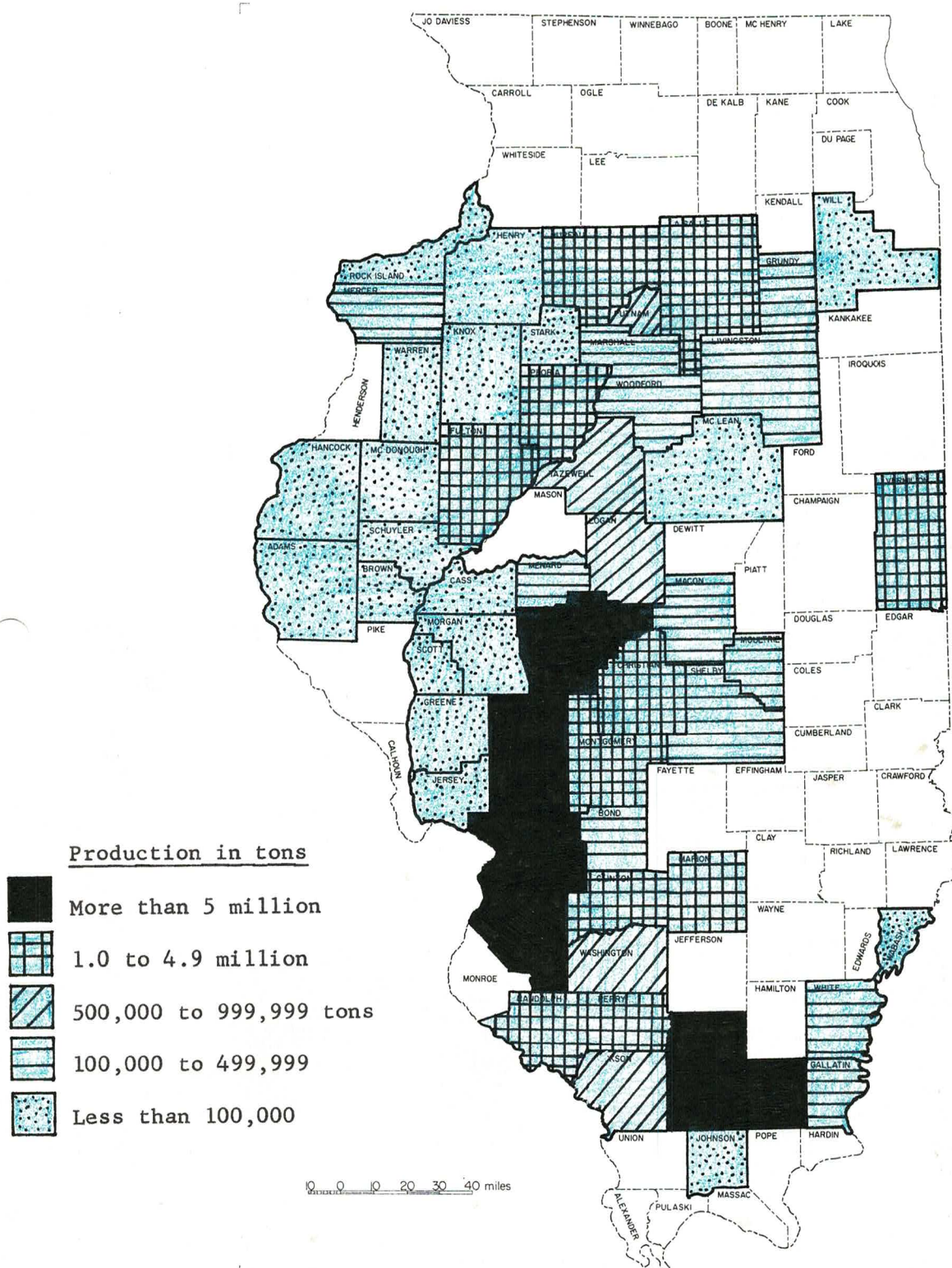


Fig. C-7 - Coal Production in Illinois in 1918, by Counties.

County to St. Clair County became extremely productive with four counties each producing over 5 million tons annually. To the east of them a belt of "millionaire" counties developed. The real change occurred in extreme southern Illinois. Williamson County moved into the 5 million tons plus category. However, the most spectacular growth occurred in Franklin County which produced no coal in 1900 and 12,007,397 tons in 1918. Saline County went from 148,060 tons in 1900 to 5,635,231 tons in 1918. The reasons for this shift to southern Illinois coals are three-fold (1) thicker coal beds (2) better quality and (3) improved rail access.

Although total coal production peaked in 1918, it was not until 1923 that total employment peaked at 103,576 persons. Coal production remained at a reasonable level during the 1920s. However, the "Great Depression" which began in 1929 hurt the Illinois coal industry greatly as production fell sharply. Strangely enough, the number of mines in operation increased during this period, reaching a peak of 1,350 mines in 1935. This phenomena can be explained by examining the role of "local" mines. Until 1969, the Illinois Department of Mines and Minerals classified all mines as being either "shipping" or "local." A "shipping" mine is any mine which ships its product by rail, while a "local" mine is one where the product is shipped by truck or barge. Generally speaking, the "local" mines tended to be small-scale operations, which sold their product to local markets. These local mines can be opened with little capital and be operated on an intermittent basis. Table C-1 and Fig. C-8 show the trends in the importance of local mines in the Illinois coal industry between 1885 and 1968. Although local mines constituted the bulk of the mines in Illinois as late as 1955, they have never accounted for more than 10 percent of the total production since 1885. During the Depression many men were out of work. In

Table - C-1

TRENDS IN IMPORTANCE OF LOCAL MINES IN ILLINOIS COAL INDUSTRY  
(1900-1968)

Year	# of Local mines	Local mines as % of total mines	Production from local mines	Local mine production as % of total
1885	469	60.3	1,661,219	17.0
1890	609	75.1	977,583	7.7
1895	555	65.8	1,156,974	6.5
1900	597	64.9	1,096,993	4.4
1905	593	59.9	1,226,831	3.3
1910	491	55.7	1,492,652	3.1
1915	499	64.1	1,429,138	2.5
1920	565	60.2	1,511,043	2.0
1925	655	71.7	1,179,796	1.8
1930	754	80.3	2,038,508	3.8
1935	1,168	86.5	3,602,864	8.0
1940	754	84.4	5,210,796	10.2
1945	221	58.2	3,124,629	4.3
1950	201	57.4	2,925,385	5.1
1955	113	57.1	1,830,826	4.0
1960	64	45.1	2,117,250	4.6
1965	34	35.1	2,780,350	4.8
1968	221	30.4	4,472,405	7.2

Source: Coal Report, Department of Mines and Minerals.

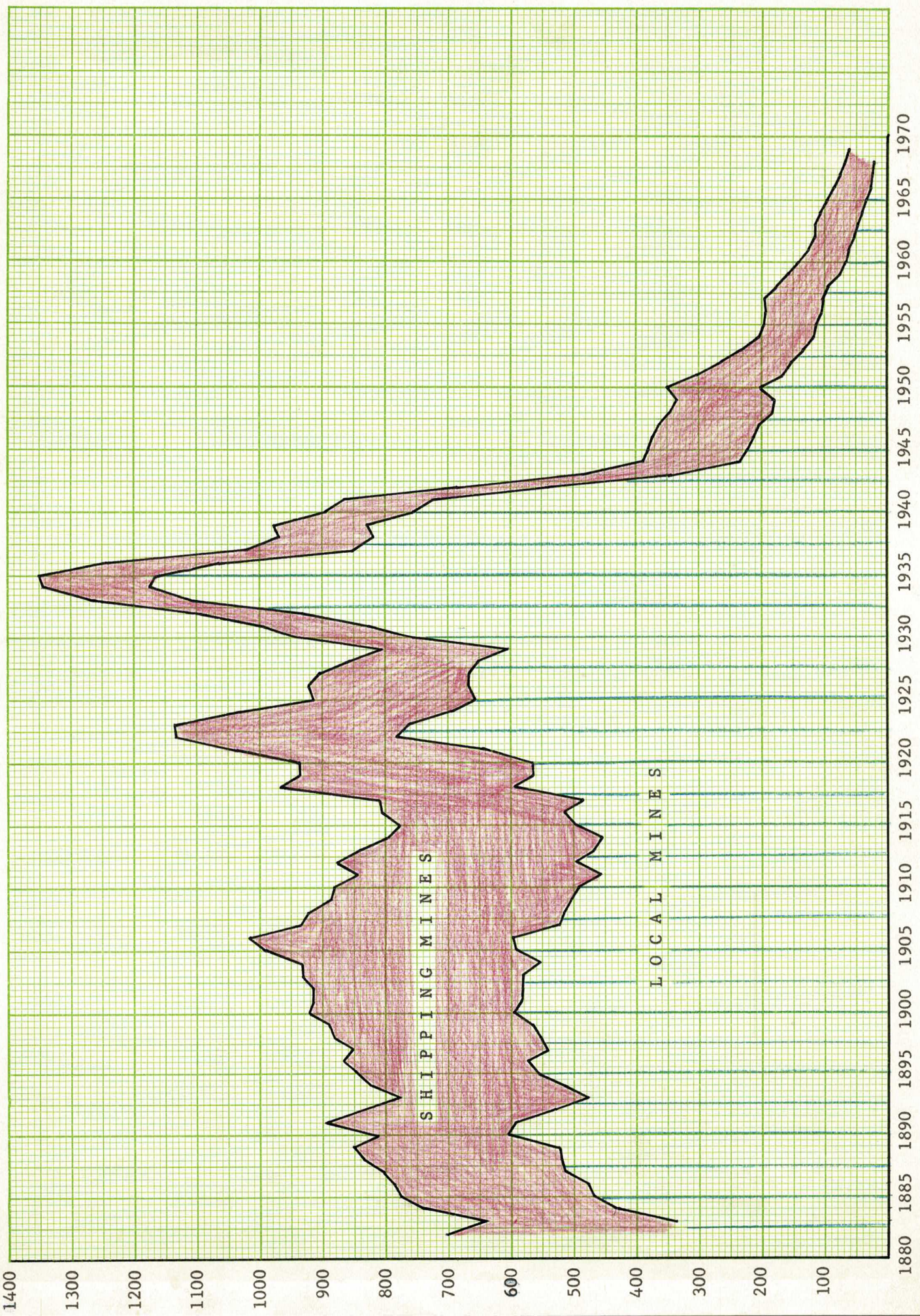


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Figure C-8 - Number of operating coal mines in Illinois, 1882- 1968.

# of  
Mines





order to earn money many men operated "dog hole" mines using little equipment and producing for the nearby markets. The extent of this phenomena is indicated by the large number of counties producing in the "less than 100,000 tons" range in 1935 (Fig. C-9). Most counties declined in production between 1918 and 1935; Will County was a notable exception showing a sizable increase.

The advent of World War II brought the coal industry out of its depressed state. The wartime demands for coal pushed production in 1944 to its highest point, 77,400,031 tons, since 1918. After the war, the coal industry went into decline. Railroads, formerly a major consumer of coal, converted their locomotives to fuel oil and electricity. Natural gas, fuel oil, and electricity replaced coal in home heating market to a very large degree. Coal production continued to decline as demand fell, until reaching a bottom of 41,775,752 tons in 1954. Figure C-10 shows the coal production patterns in 1952. From this it can be seen that the process of contraction had set in; the number of producing counties had declined to 38 and the number of mines to less than one-fifth of its 1935 peak. Christian and Fulton Counties had emerged as "major" coal producers (more than 5 million tons annually).

During the 1950s and 1960s the coal industry in Illinois made a remarkable comeback. Production rose from 41,775,752 tons in 1954 to 64,832,584 tons in 1969. Although more coal was being produced, it was coming from fewer counties and less mines. By 1969, five counties (Fig. C-11), each producing 5 million tons or more, accounted for 54 percent of the total production. The number of mines had declined to 62 and they were generally concentrated in a relatively few areas(see Fig. C-12).





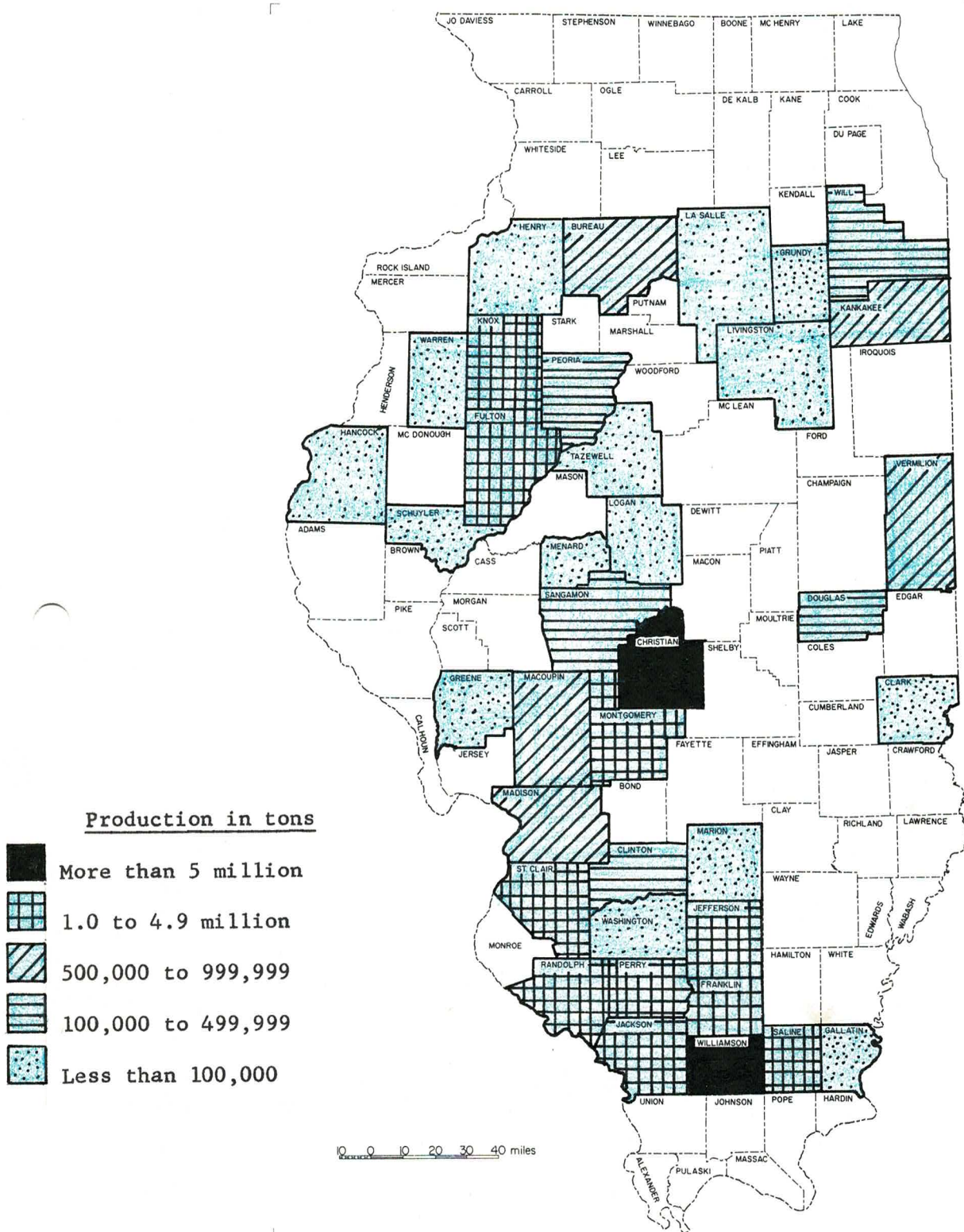


Figure C-10 - Coal Production in Illinois in 1954, by counties.

### Development of Underground Coal Mining Technology

The technology of coal mining has progressed a great deal since man first began to dig coal out of the ground centuries ago. The vast quantities of material handled by today's industry would not be possible without the technological innovations which have been perfected and put in widespread use.

The modern coal industry traces its roots back to Europe and especially to Great Britain. As early as the 14th century coal was mined by means of shafts and tunnels. However, until the late 1800s, the shovel and pick were the primary tools used (202, p. 9). Steam was probably the first mechanical power used in mines. It has been used for over 200 years in pumping excess water from mines. In 1780 steam power was first used for hoisting and for rope haulage units underground in 1812 (202, p. 11).

In 1877 the first really successful cutting machine in the United States was developed by J. W. Harrison. It was called a "puncher" and was air-driven. The first "breast" machine, a contemporary of the "puncher," was placed on the market in 1876. Originally the machine consisted of a revolving bar on the front of a cutter frame. In 1894 three manufacturers brought out chain-driven "breast" machines which almost immediately drove the bar-type machine off the market (202, p. 14).

The use of explosives for blasting rock and breaking coal loose dates only from the seventeenth century. Prior to 1890 when power drills were first introduced, all shot holes were drilled by hand (202, p. 10). The use of gunpowder as an explosive for blasting coal was introduced in Europe during the seventeenth century, but methods of use remained clumsy and dangerous until the development of the safety fuse in 1840. The next great advance was the invention of dynamite in 1867 which has been especially

adapted and modified over the years to meet special needs in the coal mines (202, p. 23).

The "Cardox" system, a method of dislodging coal by use of liquid carbon dioxide charged into hollow steel shells, was invented by Helmholtz, Farrell, and Crawford. The shell was pushed to the end of a drill hole and then electrically detonated. The slow heaving action of the carbon dioxide gas is employed as the blasting force. "Cardox" first underwent an operating test in Illinois in 1926 and since then has been used successfully in many coal fields. "Airdox," a similar system using air instead of carbon dioxide, was introduced in 1933. Ammonium nitrate explosives were put into use during the 1950s (18, p. 61; 202, p. 24).

As late as 1880 haulage of coal within the mines was performed chiefly by animals. Although primitive methods like hand-pushed wheelbarrows and dog-drawn carts have been used, mules early became the chief source of animal power in Illinois mines. Horses, and ponies were used to a lesser extent (202, p. 24). Figure C-13 indicates the number of animals in use in Illinois mines between 1918 and 1966, when they were finally phased out. "Peak" usage of 5,370 animals occurred in 1919. Rope haulage replaced mules for mainline haulage about 1870 in a number of mines. About the same time steam locomotives were introduced, followed by compressed-air locomotives in 1875, by electric locomotives in 1887 and 1888, by gasoline-power locomotives in 1898, and finally the storage-battery locomotive about the turn of the century (202, p. 25-26). The first electric locomotive to be placed in service in Illinois was the SPERRY. It was installed in the Mine No. 3 of the C. W. & V. Coal Company at Streator in the year 1888. The original locomotive had eight driving wheels and a 30 HP motor; it was replaced after a few months by an 8-ton unit with eight driving wheels on two bogey trucks.


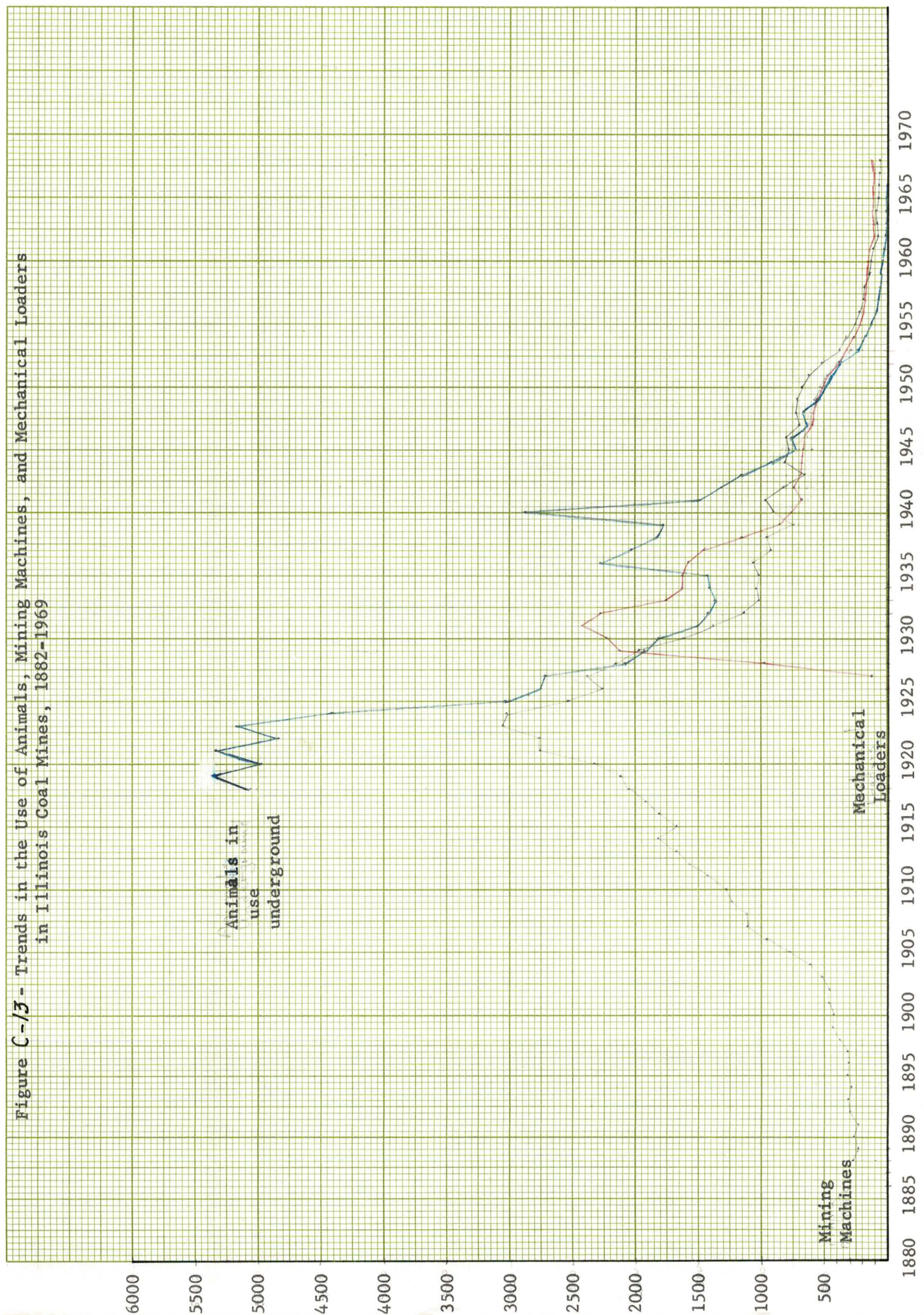




Figure C-13 - Trends in the Use of Animals, Mining Machines, and Mechanical Loaders  
in Illinois Coal Mines, 1882-1969



II - 30

28



The spread in the use of locomotives was slow; twelve years later in 1900, there were still only seven mines using locomotives. At the same time there were 27 mines using cable haulage, 512 mines used horse or mule haulage and 374 mines hauled coal by hand (18, p. 54). After 1900 things changed rapidly, and by 1925 less than 2 percent of the underground shipping-mine tonnage came from mines where haulage was performed exclusively by animals.

It was only logical that the next operation to be mechanized was the loading of the coal. As was true with many other pieces of early coal mining equipment, the first loading machine was imported from England and then had to be adapted to meet American conditions. The first loading machine used in the United States, the so-called "Stanley Header," was brought over in 1888. It was designed to break down the coal as well as to load it. The loading device did not operate properly and the coal had to be loaded by hand (202, p. 114). The machine was installed in the Bennett Mine at Lebanon in St. Clair County (18, p. 56).

The first mobile loader to be placed on the market was the "Hamilton." The first machine of this type was installed in the Dewmaine Mine of the St. Louis and Big Muddy Coal Company in 1903. "Sweep-chains" were used to dig out and pick up the coal. The machine is reported to have been able to mine an average of 150 tons per day (18, p. 56). Although research and development continued to be carried out, the use of mechanical loaders did not expand very rapidly. As late as 1923 only 0.3 percent of the underground coal production was mechanically loaded (202, p. 115).

The Jeffrey Company acquired the patents on the "Morgan" and "Hamilton" machines and by 1913 had started to manufacture loading equipment (202, p. 115). In 1914 a Jeffrey entry driver was put in use in the No. 9 Mine of Old Ben Coal Company in West Frankfort; five years later three more machines

were in use at Valier Coal Company in Franklin County (18, p. 57).

For all practical purposes, the commercial application of mechanical loaders in the bituminous coal mines of the United States may be dated from 1922, the year the first Joy loader, invented by Joseph F. Joy, appeared on the market (202, p. 115). During the 1920s the numbers and types of loading machines in use in Illinois coal mines increased greatly. Among the types of equipment which were used were: Myers-Whaley shovels, Clarkson loader, "Conway Rock Loader," "Shovel loader," "Wilson Chainloader," Goodman Power Shovel, "Shortwal loaders," and Sullivan Loader (18, p. 57). One of the factors which restricted the use of mechanical loaders was opposition by the labor unions. This conflict began to be resolved in 1924 when the management of the Orient No. 2 Mine signed the first loading machine wage contract with the United Mine Workers (UMW). In 1928 state-wide mechanical loading agreements were signed between miners and mine operators in Illinois and large scale use of pit car loaders began (18, p. 57). The percentage of Illinois coal mechanically loaded rose from 3.9 percent in 1927 to 50.8 percent in 1930 to 90.7 percent in 1940. At present virtually all Illinois coal is mechanically loaded (18, p. 58).

Pit-car loaders are the simplest of the mechanical-loading devices. They consist of elevating conveyors with the upper end high enough to load the coal into the mine car while the lower end rests near enough to the floor to make shoveling easy. The pit-car loader was developed in response to competitive conditions in Illinois and Indiana which required a labor- and cost-saving device which could be easily and widely adapted to the room and pillar mining method. The economic conditions which were conducive to the development and utilization of pit-car loaders were largely confined to the coal fields of Illinois-Indiana area. By the time other high-tonnage



areas felt the economic squeeze of high labor rates, other types of loaders had been perfected. This helps to explain the rapid increase and subsequent decline in use of pit-car loaders. This type of loader cannot be used efficiently in thin seams and is awkward to maneuver in closely-timbered mine areas. In 1938 over three-fifths of the pit-car loaders in use were concentrated in Illinois. The development of the high-powered mobile loaders soon reduced the advantages of the pit-car loader and it was rapidly phased out (202, p. 119-120).

The use of mobile loaders is limited by such factors as thin seams and poor roof and floor conditions. Southern Illinois, where the seams were thick and relatively level and clean and thus permits timbering open enough to allow adequate movement, was well suited to mobile loaders (202, p. 136). The percentage of mechanical loading is highest in those counties with the thickest seams, i.e. Christian, Franklin, Jackson, Macoupin, and Montgomery (202, p. 150).

#### Development of Strip Mining Technology

Originally all coal in Illinois was mined by means of slope or drift mines, i.e. by following the seam in horizontal direction in from a hillside outcrop. As the technology of shaft sinking was perfected, shaft mines grew in importance and permitted the extraction of deeper coals. However, one of the disadvantages of underground mining of coal is that you normally can only recover one half of the coal because pillars must be left to support the roof. As a result, at some early date miners began to experiment with "stripping" off the overlying rock and then digging out the coal. The major problem was that the excavation equipment then available was not sufficiently developed to be able to handle large tonnages of overburden economically. Although coal was stripped on a limited basis at a number of

places in Illinois during the nineteenth century, it was not until 1911 that the Department of Mines and Minerals indicates that Vermilion County produced significant (45,153 tons) amounts of coal by strip mining on a commercial basis. Vermilion remained the sole "commercial strip" producer for twelve years until Perry County became a regular "strip miner" in 1923. The 1920s saw a rapid expansion in the number and extent of strip mines in Illinois (Fig. C-14). The areas of development may be characterized as follows: (1) the "arc" of counties in Southern Illinois peripheral to the edge of the coal basin (Gallatin → St. Clair) and (2) "Northern Illinois" peripheral counties. The 1930s saw a further expansion in strip mining activities, predominantly in Western Illinois, but also including scattered interior basin counties (such as Shelby and Richland) and "fill-ins" in the area developed during the 1920s. Since 1940 only five new, but relatively unimportant, counties have been added.

Although Vermilion County is usually credited with being the site of the "first" strip mining in Illinois, there are earlier reports of "stripping" of coal in at least two other places. In 1849 or 1850 one Jacob Darst began "stripping" coal in Kickapoo Township near the present-day town of Pottstown. He continued this activity for some five years (71, p. 601). In 1858 a coal seam on the land owned by one J. Stouching near Colchester in McDonough County was opened and worked by "stripping." Two feet of gray shale were removed to mine 18 to 20 inches of coal (116, p. 633).

Strip mining in Vermilion County about 1860 when Michael Kelly opened a plow and scraper operation on the North Fork of the Vermilion River (125, p. 375-376). Stripping spread to Hungry Hollow in the Grape Creek area when Henry Cramer opened a "strip bank" there in 1865 (113, p. 422). The real beginning of the strip mining industry in Illinois is usually dated

Date of First Strip Mining Activity

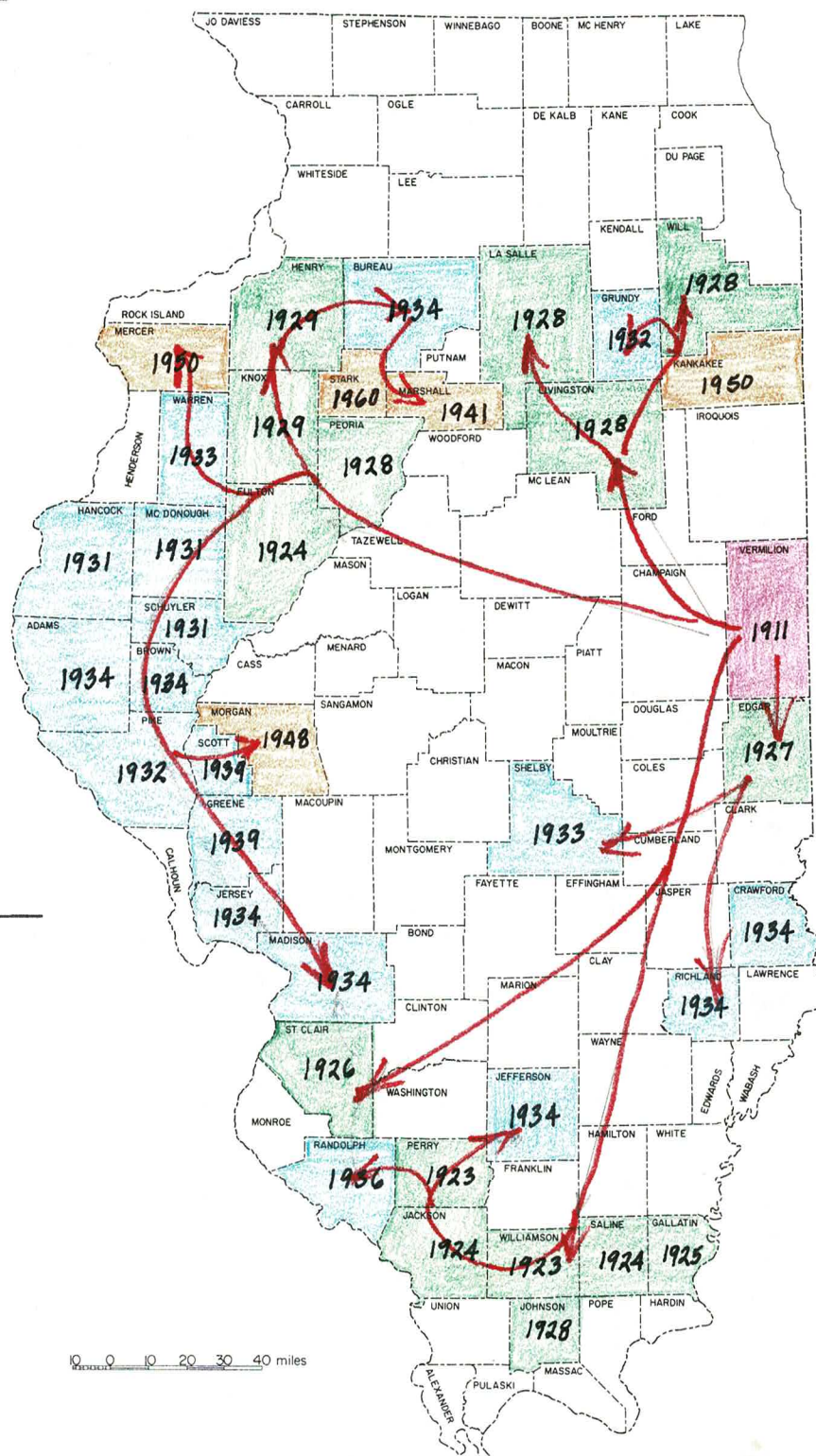


Fig. C-14 - Spread of Strip Mining in Illinois.

Source: 1954 Coal Report of the Dept. of Mines and Minerals, p. 31-34.



1866 when William Kirkland, Hugh Blankeney, Mr. Graves (Groves?) and Mr. Lafferty opened an "extensive" stripping operation. The overburden was removed by horsedrawn plows and scrapers and hauled away in wheelbarrows and carts (35, p. 2).

Real progress in stripping had to await the development of an adequate power shovel for moving overburden. In 1835, William S. Otis, 23 year-old American, developed a new type of excavating machine — a power shovel; he was granted a patent on such a machine on February 24, 1839. The design was so good that it remained the standard in the excavating industry as late as 1893 and with some major changes continued to be built until 1930 (221, p. 115).

The first attempt at adapting a power shovel to the stripping of bituminous coal began in 1877 when Hodges and Armil put an Otis-type shovel to work on a property near Pittsburg, Kansas. However, the 8 to 12 feet of overburden over the three-foot coal seam proved to be too much for the shovel's range and the operation was soon abandoned (221, p. 115). The second attempt at using a power shovel for coal stripping occurred in 1885 near Danville, Illinois. Consolidated Coal of St. Louis contracted with Messrs. Wright and Wallace of Lafayette, Indiana, to strip the coal on a piece of their property in the "Mission-field area" using a steam power excavator. To do the job they converted a wooden dredge by removing the hull and putting the machine on wheels. This bulky, awkward machine had to be moved with a block and tackle which was a slow process. The boom was 50 feet long, allowing for 35 feet of overburden to be handled while uncovering 6 feet of coal. With this machine Wright and Wallace were able to produce 400 tons per day (259, p. 91; 35, p. 3).

During the next three years, two more machines similar to the first were put to work. Each of them carried a  $1\frac{1}{2}$  yard dipper bucket. In 1888 Consolidated Coal Company took over the machines from Wright and Wallace and operated them for several years before abandoning them as worn out (35, p. 3). The Mission-field did not remain dormant long as the Butler Brothers, William and Henry, took over the contract with Consolidated Coal in 1890. They took a new tack by employing drag lines instead of power shovels to remove overburden. The three drag lines which they used had buckets with capacities of  $\frac{3}{4}$ ,  $\frac{7}{8}$ , and 1 cubic yard, respectively. These machines were strange looking and primitive by today's standards. Although they were self-propelled, their 80-foot booms did not rotate like modern drag lines. In order to dig with them, the buckets were pulled across the pit until full. The buckets were then run out to the end of the boom where they were dumped (35, p. 3).

On the basis of their initial success, the Butler Brothers decided to invest some \$30,000 in a "monster machine" with a 135-foot horizontal boom supported by a 60-foot gantry frame. The extreme weight of this experimental machine caused problems in supporting the highwall and it had to be abandoned after only two years of use (259, p. 92).

In 1903 a Mr. Donovan and associates purchased a "Schenable dragline" which was mounted on a revolving platform thus permitting it to swing in a complete circle. This machine was operated for 14 months before being abandoned (259, p. 93).

The next stage in the development of stripping equipment occurred in 1904 when George W. Prutsman began to use a shovel-stacker combination which had been invented by George E. Turner. Prutsman had a contract to strip coal for the Consumers Company of Danville. The machine which was built in



Bellefontaine, Ohio had a 2-yard dipper on a 35-foot boom which dumped the material into a hopper which, in turn, fed a conveyor. The system did not work out very well and was finally abandoned in 1913 (35, p. 4; 259, p. 93).

Up through 1911 expansion in the strip mining of bituminous coal was quite slow because of low profits, the poor quality of the coal produced, and the lack of durable excavating machines. Grant Holmes and W. G. Hartschorn conceived of a new type of machine which was to revolutionize the industry; they designed a steam-powered, self-propelled drag line with a completely revolving cab which was capable of supporting a 65-foot boom with 40-foot stick carrying a  $3\frac{1}{2}$  yard bucket (221, p. 115). The machine, built by Marion Shovel Co., became known as the "Marion 250" and was not only the largest machine in the world at that time, but also the "first true coal stripping shovel." The machine was mounted on railroad tracks and possessed leveling jacks on each corner (221, p. 115; 35, p. 5). The first direct loading of coal from the strip pits to railroad cars took place in 1913 at the New Enterprise Coal Company in Williamson County (259, p. 94).

Track-mounted machines lacked the degree of mobility which was desirable. Therefore, in 1925 Bucyrus-Erie introduced a crawler-mounted stripping machine which circumvented many of the limitations of the earlier track-mounted machines (35, p. 8). Northern Illinois Coal Company put one of these machines with a 12-yard bucket into operation in 1928 (35, p. 8).

During these early years of stripping shovel development, only a limited use was made of the dragline. However, by the end of the 1920s it had become obvious that large draglines could be used to advantage in coal stripping, particularly in Indiana and Illinois where the overburden was deeper than in Kentucky and Missouri (35, p. 9).

In order to increase the material handling capacity of the shovels, larger buckets were installed. Northern Illinois Coal Company installed a 17-yard dipper in 1934; Fairview Collieries in Canton, Illinois began using a shovel with a 36-yard bucket in 1941 (35, p. 10, 11). The era of the "super shovels" began in January 1956 when the 60-yard "Marion 5760" began service digging overburden at Hanna Coal Company's Georgetown No. 10 Mine near Cadiz, Ohio. The following year a Marion 5760 with a 70-yard dipper went into operation at Peabody Coal Co.'s "River King" Mine at Freeburg, Illinois. Dragline size also moved up and by that time the top bucket size had increased to 35-yard (221, p. 118).

In 1959 Peabody Coal Co. purchased a shovel from Bucyrus-Erie with a 115-yard bucket (35, p. 15). The economies of scale and high-tonnage demands on strip mines continued to push the equipment size up. In 1965 the world's largest power shovel, a Marion 6,360 with a 180-yard bucket, began to operate digging overburden at Southwestern Illinois Coal Co.'s "Captain" Mine at Percy, Illinois (221, p. 119).

As of early 1970 there were 30 shovels in operation in Illinois strip coal mines; the largest one had a 180 yard bucket and was in operation at the "Captain Mine" of the Southwestern Illinois Coal Company in Perry County. In addition there were 39 draglines being used in overburden removal in Illinois strip coal mines in 1970. The largest dragline had a 85 cubic-yard bucket and was operated by Peabody Coal Company at their Elm Mine in Peoria County (249).

A new concept in materials handling was introduced to the Illinois coal industry in 1944 when the so-called "Kolbe Wheel" was first placed in operation at United Electric Coal Company's "Cuba" Mine in Fulton County. This excavator, designed by Frank Kolbe, long-time President of United



Electric, consisted of a large revolving wheel on the end of a boom. The wheel was encircled by buckets which permitted a continuous digging action. The dug material is then transported by a series of movable conveyor belts. This machine had an output of 1,000 cubic yards per hour which was five times the capacity of the Marion 360 dragline on whose base it was mounted. However, despite the apparent advantages of such a piece of equipment, it took another ten years of research and development to perfect the machine (221, p. 119; 35, p. 12).

The first production model of the wheel, the Bucyrus - Erie Model A-309 (Wheel W-1) went into service in the summer of 1944. A second machine was finally placed in service in August of 1948 at the "Buckheart" mine, after numerous, delays. In 1951 the decision was made to build a third wheel excavator at the "Fidelity Mine," at Du Quoin, Illinois. After incorporating a "radical change" in the design of the wheel, the new machine went into service in August, 1955(248, p. 67-68, 74, 81-82).

In 1957 it was decided to build the W-4 Wheel and to place into service at the Cuba Mine where it would replace the original W-1 Wheel which "had been operating for years beyond its range - depth capability." This machine went into service in January 1959 and has produced at the rate of 900,000 to 1,000,000 cubic yards per month (248, p. 84, 86).

Truax-Traer Coal Company put a B-E Model 954WX wheel into service in its "Fiatt" Mine in 1954. This was followed by Peabody Coal Company who installed a B-E 1054 WX wheel at its mine at Freeburg in 1960. In 1965 Truax-Traer Coal Company put a McDowell-Wellman/Lauchhammer machine into production at one of its lignite mines in North Dakota. The toughness of the overburden in most parts of Illinois has militated against the wider acceptance of wheel excavators here. If drilled and blasted materials are

involved, large draglines have the advantage over wheels (248, p. 86, 88).

As of 1970 there were 10 wheel excavators in use in Illinois coal fields. One is at Southwestern Illinois Coal Corporation's "Streamline Mine" in Randolph County; there are three at Truax-Traer's "Norris Mine" in Fulton County (this includes the original wheel machine that was put in operation back in the 1940s at the United Electric Coal Company's "Cuba Mine"). Peabody Coal Company operates two wheels - one at their "Northern Illinois Mine" and one at their "Elm Mine" in Peoria County. United Electric Coal Companies have four wheels -- one at their "Fidelity Mine" in Perry County, two at their "Buckhart Mine" in Fulton County and one at the "Banner Mine" in Peoria County. The wheel at the "Banner Mine" was not in use in 1970 because it was not needed due to the exceptionally low overburden (249).

The largest wheel excavator in the state is the Krupp wheel made in West Germany for use at Peabody's "Northern Illinois Mine". This wheel had 14 buckets of two yards capacity each. It has a rated capacity of 3,500 yards per hour (249). However, because of problems related to the uneven hardness of the glacial overburden in the area, the company has had problems in achieving the rated capacity of output.

There are 53 coal-loading shovels operating in the state. Their function is to load the coal exposed by the draglines and wheel excavators into large off-the-road haulers for transport to the preparation plants. The largest of these shovels has a 16-yard bucket on it (249).

"How large existing types of stripping machines will become in the future depends to a large extent on economics, rather than on equipment design" (221, p. 127).



### Development of Coal Preparation Technology

Prior to the mechanization of coal mining operations, what little cleaning of coal that was carried out consisted of hand sorting. However, as mechanization increased, more and more coal came to be sold by graded sizes and the consumers demanded better quality and more uniformity of product. The demand for cleaned and sized coal was met by installing preparation plants near the mines since such processing could not be carried out underground. Mechanization of mining has, in general, reduced cost, whereas the mechanization of coal preparation has increased cost. This latter factor, increased cost, explains why much coal remains uncleaned even today. However, the increasingly stringent air pollution ordinances are likely to force all companies to clean their coal before sale in order to reduce the ash and sulfur content of the coal. It has been estimated that as late as 1927 only 5 percent of the coal produced in the United States was mechanically cleaned; by 1963 this percentage had increased to 63 percent (335, p. 126). One of the serious disadvantages of strip mining in its early days was the poor quality of the product. The shipment of weathered, outcrop coal or coal containing rust and mud, created a great prejudice against strip coal. Coal preparation was essential before strip coal could compete on the market with underground coal (202, p. 94-95). Modern preparation plants crush, screen, and clean the coal. Cleaning is achieved by washing, heavy media separation, cycloning, and air separation methods.

Transportation

Prior to the 1930s railroads and barges were the prime means of coal transport. However, a number of factors changed during this decade which lead to an increased role for trucks. The technical improvements in trucks, the rapid spread of good roads in Illinois and adjoining states, and the reasonably close proximity to a large consuming market all contributed

towards making truck haulage economically feasible. In addition, the high rate of unemployment and low level of business activity made truck operators "hungry" for business. Therefore, they were willing to take on business at exceedingly low rates, often barely sufficient to cover expenses. Although the economic radius of truck shipment is less than that for rail shipment, within their limited sphere trucks were able to make a sizable inroad into the railroad's traditional market by offering lower rates (202, p. 225).

### County Histories

Now that we have examined the overall development of the coal industry in Illinois, we shall examine the historical development of a number of the coal-producing counties.

#### Bureau County

Coal was discovered quite early in Bureau County - on Rocky Run in Indiantown Township in 1834 and on Negro Creek at Seatonville in 1836 (263, p. 135, 136). The first important mining of coal took place at Sheffield where the Sheffield Mining and Transportation Company began operations in 1852. The company was responsible for laying out the town and giving it its name. The village and the company were named for Joseph E. Sheffield, of New Haven, Connecticut, who was one of the original owners. The company did a substantial business here for around fifty years; it sold most of its output to the Chicago and Rock Island Railroad for fuel (246, p. 14; 251, p. 123).

During the 1860s the first coal mine was sunk in Spring Valley an area later to become a major mining center. In 1877 two coal mines were opened east of the town of Princeton. A year later the Seaton Brothers sank the first coal mine at a location which later became known as Seatonville;



the mine was operated under the name of the Negro Creek Coal Company. In 1888 the company was sold to the Chicago, Wilmington, and Vermillion Company which, in turn, sold out to the Spring Valley Coal Company in 1902. The mine was finally closed in 1913 (263, p. 134-136).

Between 1889 and 1924 a coal mine was in operation at Ladd; it was first operated by the White Breast Coal Company and then later by the Third Vein Coal Company (263, p. 145). Because of the coal mines developed at Cherry, Ladd, Seatonville, Ottville, Coal Hollow, and Spring Valley, the Chicago, Milwaukee and St. Paul Railroad constructed a special branch line for the specific purpose of hauling coal from these mines to market (263, p. 131). One of the worst mine disasters in Illinois's history occurred on November 13, 1909 at the "Cherry Mine"; 259 lives were lost (263, p. 148).

Underground mining gradually gave way to strip mining in Bureau County. Despite a resurgence in production during the time that modern strip mining was carried out, Bureau County never regained the prominence it once had in the industry.

#### Coles County

The first and only attempt at coal mining in Coles County occurred in 1882 when a shaft was sunk near Mattoon. This shaft was sunk to a depth of 904 feet in order to reach the No. 2 coal; it was the deepest mine in the state at that time. The coal which was 3 feet, 6 inches in thickness, was initially mined successfully by the long-wall method. However, the operators soon had to cope with severe water problems and with competition from other mines working thicker coal seams. Despite having invested over \$100,000 in the operation, the company was forced to abandon the mine on January 14, 1888, and the facilities were sold off (244, p. 413; 246, p. 10). This mine produced a total of only 198,932 tons during the six years of its

operation.

### Franklin County

Because of the deepness of the coals in this county, many early promoters thought that no good coal existed here. About 1894 W. H. Hart and Walter W. Williams of Benton reportedly began to develop a coal mine at West Frankfort. In 1904 the "Hart-Williams mine" was sold to the Deering Coal Company and became known as the "No. 18 mine" (279, p. 112). Apparently, the output of this mine was strictly local and/or quite small as the Annual Coal Reports make no mention of it.

W. P. Halliday, an early promoter and mine operator, discovered coal in Six Mile Township but "kept it a secret until his death." It was reported that he had intended to buy a large tract of land there. In 1901 Joseph Leiter purchased 8,000 acres of coal land in Six Mile and Denning Townships. On this land he developed "one of the largest and best equipped mines in the state at that time." The seam on his tract averaged about 11 feet and the coal was of a superior quality. Mr. Leiter built a town near the mine which he called Zeigler in honor of his father's middle name. The Ziegler No. 1 mine went into production in 1904 and is considered to have been the first commercial mine in the county (279, p. 117, 149-150).

The fantastic scope of the coal deposits in Franklin County was quickly realized. In short order such major companies as Bell & Zoller, Old Ben Coal Corp., and Chicago, Wilmington & Franklin Coal Company entered the field in a big way. Within a decade Franklin County went from no production to number one ranking in the state, a rank which it has retained for most of the years since then. Its cumulative production of some 540 million tons is approximately 40 percent larger than Williamson, the second biggest producing county.



Fulton County

The original notes of Major Long's survey of the Military Tract, which was made in 1815, indicated that there was "a bountiful supply of some coal in Fulton County." However, the first settlers who came to the county apparently were unaware of the coal's existence. It was not until about two years after the first settlement was made that the coal was re-discovered. It was found by "old Mr. Gardiner" who settled in 1823 at Gardiner's Prairie, about ten miles south of Lewistown. One day while he was out digging stone for a fireplace to be built in his newly-erected cabin, he found a coal bank at the foot of the bluffs east of what was then known as "Isabel Church." He took a load of the coal to Lewistown where it was enthusiastically received by the residents. The "Gardiner bank" supplied all the people south of Spoon River and Havanna with all the coal they wanted free of charge. All a person had to do was come and dig it out and haul it away. Mr. Eastman Call who operated a blacksmith shop at Havanna was one of the earliest users of the coal. The next coal bank in the county to be discovered was found on Big Creek, three miles south of Lewistown (281, p. 752, 753).

Some years later "cannel coal" was found in abundance in Union Township, near Avon. Worthen reported that in 1859 ten retorts were in use near Avon for the distillation of oil from the cannel coal; the retorts were producing at the rate of 300-500 gallons per day. The discovery of natural crude oil in Pennsylvania in 1859 put an end to these operations (72, p. 454).

Shortly after the Chicago, Burlington, & Quincy Railroad was built into the County in 1862, commercial coal mines were opened at Canton and St. David. In 1867 a huge lump of coal from the David Williams mine at St. David was put on exhibition at the Paris Exposition. Coal mining in Fulton

County spread with the extension of railroad service. By 1908 mines were in operation at Astoria, Joshua, Deerfield, Breeds, and Marietta (281, p. 753).

### Gallatin County

Gallatin County, because of its shallow coals and easy accessibility to the Ohio River, was a center of early coal mining activity. In 1854 G. Eschol Sellers became president of the Saline Coal and Manufacturing Company. He moved from Sellers Landing (Hardin County) on the Ohio River to Bowlesville (Gallatin County). Sellers lived in Bowlesville for a number of years and operated the "Bowlesville mines." A narrow gauge railroad was built and operated between Bowlesville and Shawneetown to haul the coal. Sellers had a personal coach for use on this line (77, P. 148-49).

Joseph Bowles purchased land about Coal (Gold?) Hill in 1854; he, in partnership with Dr. Talbot and Thomas Logston, formed the Western Mining Company. Later, Talbot and Logston sold out their interests in the company to persons from Louisville, Kentucky. Little coal was ever actually mined and the property was allowed to be sold for taxes; Bowles bought the properties and began to operate them alone. When the Civil War broke out, much of the normal coal supply from Kentucky was cut off. As a result, the "Bowlesville mines" became an important source of coal for the Federal gunboats on the lower Ohio and Mississippi Rivers and for the naval yards at Cairo and Mound City (Pulaski and Alexander Counties). During this period of great demand, coal prices were driven to high levels. "Slack" coal sold for 10 cents per bushel and "lump" coal for 25 cents per bushel. It is reported that as many as nine steamboats at a time were seen waiting in the Saline River to load coal (77, p. 338-340).

When the Civil War ended, the Kentucky coal mines were reopened and other better sources of supply came on the market. As a result, the mines



at Bowlesville were no longer competitive and they ceased operations sometime before 1885. After the closing of the shaft mines, Mike Carney and Bonena Hansha operated a small-scale slope mine there for a few years (77, p. 338-340).

The narrow gauge railway from Bowlesville to the loading tippie on the Ohio was abandoned. At the peak of its prosperity the town had a population of 350 persons. There was a large brick hotel and nine brick homes for the "operators, officials, and foremen of the mines." The brick were home-made, indicating that they probably were made locally (77, p. 340).

"People who want to visit Bowlesville should cross the railway track at the north side of the high school grounds in 'new' Shawneetown, go one mile south around the east end of Gold Hill, turn west along the south side of the hill. Two and a half miles beyond this point and just before reaching a school and a church on the right side of the east-west road, another gravel road leads one-fourth mile south to Bowlesville..." (77, p. 338).

#### Grundy County

In 1858 some miners opened a cooperative shaft coal mine on land belonging to N. Cotton in Braceville Township. However, it never was much of a success because of problems with water and lack of sufficient capital to run the mine (269, p. 346).

In 1862 the townspeople of Gardner became interested in developing the coal beds which they thought underlay their town. By public subscription they raised money to finance a test drilling program to prove out the deposits; the testing proved to be successful. The following year they raised the sum of \$2,000 as an inducement to James Congdon and William H. Odell to begin mining. Under the terms of the agreement, they were to be allowed to mine the coal for 7 years free of charge afterwards they were to pay a royalty of 6 cents per ton on all coal produced. In 1864 work was

begun on the mine, but was interrupted when the shaft collapsed. Ownership of the mine changed several times over the next few years. Between 1867 and 1872 the mine was operated by Aaron K. Stiles who also manufactured brick from the fire clay associated with the coal. Gardner Coal Company took over from Mr. Stiles in 1872, but it did not keep the mine very long before selling out to the Chicago, Wilmington & Vermilion Coal Company which continued to operate it until 1874. A second early attempt to mine coal at Gardner occurred in 1865 when the "Joint Stock Coal Mining Company of Gardner" was formed. It sank a shaft southwest of town, but struck water at a depth of 40 to 50 feet; the enterprise was soon abandoned (269, p. 278-279).

In the 1880s the Chicago, Milwaukee, and St. Paul Railroad Company purchased a large tract of coal lands near Braceville. They established mines to supply their own large needs for railroad fuel as well as selling coal on the open market. The company operated three shafts which in 1882 accounted for 40 percent of the county's total production (246, p. 22).

### Henry County

Coal production in this county began at a very early date; the Census of 1840 revealed that 90 tons of coal were produced here in that year (18, p. 16). Coal was discovered quite near the surface at Cleveland as well as outcropping in the bed of the Rock River. For many years it was mined and stripped very extensively, but over a limited area until the deposits were depleted. There was a serious water problem involved in mining in this area (246, p. 26). Little is known about the details of these early operations.

However, by 1860 the industry had become well established. In 1867 53,000 tons of coal were produced in Kewanee Township alone where the Platt Coal Mining Company was the largest operator. In 1869 the Lathrop Coal Mining Company was organized at Kewanee with a capitalization of \$400,000.



Mr. Galloway, one of the operators, is reported to have been responsible for having first persuaded the railroads to burn coal (264, p. 160).

Galva was also a center of coal mining activity; peak activity in this area occurred between 1880 and 1890. As was the case in many of the early mining districts, foreign miners played an important part in the coal industry. Between 1860 and 1900 a sizable percentage of the population of Henry County were connected with coal mining; most of the miners were immigrants from England, Wales, Ireland, Sweden, and Italy (264, p. 151).

Production in Henry County remained between 100,000 and 200,000 tons per annum until about 1911, then it declined sharply. The industry remained at a fairly low level for a number of years. Then in 1928 the Midland Electric Coal Corp. began to operate a large strip mine near Atkinson. This mine was later run by Peabody Coal Company until its closure in 1964 (264, p. 152). With the opening of the "Atkinson" mine, production increased substantially and remained so until the late 1950s.

#### Jackson County

Coal was mined in this county as early as 1810; it was conveyed by flat boats down the Big Muddy River to the Mississippi River where it moved as far as New Orleans in some cases (246, p. 30). This is considered by many to have been the first "commercial" mining of coal in Illinois. Little was done in the way of mining in this area for about 25 years, so far as it known. In 1835 the Illinois State Legislature granted a charter to a company "for the purpose of mining and shipping coal in Jackson County." However, poor navigation on the Big Muddy River hampered these early attempts at mining (257, p. 85).

It was not until 1866 that large-scale mining began in the county; and "Eastern company," composed principally of men connected with the Delaware

& Hudson Canal Company purchased several thousand acres of land in the Big Muddy district and began mining operations. In order to provide adequate transportation to move the coal, a railroad line was built from Grand Tower to Carbondale where it connected with the Illinois Central Railroad. Shaft mines were established in the Big Muddy district (257, p. 85).

In 1868 the superior quality of the lower portion of the seam in this field attracted the attention of iron manufacturers who built blast furnaces at Grand Tower. The "Big Muddy coal" was so low in sulfur that it could be used in smelting in its raw state. A large coke plant was established at Mr. Carbon, based on this coal (246, p. 30). By 1882 coal production in Jackson County had increased to over 400,000 tons; by 1900 it was over 800,000 tons.

Strip mining was established in Jackson County when William Hartshorn, an early pioneer in Illinois strip mining, came from Danville to Elkhaville in 1921. He established the Black Servant Coal Company which began production in 1924. Before it was abandoned in 1936 it produced over 4 million tons. To cope with large acreage, deeper cover, and a limestone overburden, Hartshorn ordered two 8-yard Marion shovels for his operation (326, p. 9).

Production continued to increase, reaching 1 million tons for the first time in 1921; peak production of 3.03 million tons was achieved in 1944. After the war production remained around a million tons a year until 1965. Since then it had declined sharply and production will probably cease within a year or so.

#### Knox County

In 1850 E. F. Ranney opened a coal mine in section 23 of Sparta Township; this mine is considered to have been the first in Knox County. As early as 1854 H. H. May was also operating a mine in this township. Between



1850 and 1870 Sparta township was the leader in production owing to its proximity to the main line of the C. B. & Q. Railroad. Scores of mines were opened, worked out, and abandoned in that township during its heyday (283, p. 31).

About the time of the Civil War coal was being mined in the southern part of Maquon township. One of the oldest mines here was on the David Master's farm and was run by a man named Lopeman. During the early years considerable mining of coal also took place in Copley township on a periodic basis. Two of the oldest mines here were located on the farms of James McGovern and Charles Morgan. It is assumed that most of these early operations were slope (or drift) mines. The earliest shaft mine in the county is thought to have been the one operated by Messrs. Camp and Powell near Oneida (283, p. 31-32).

By around 1870 coal mining was being carried on extensively throughout the county with mines in nearly every township. Most of these failed within a short time either because "of inability to cope with the water, or because of the imperfections of the veins and the abundance of the clay intrusions." (283, p. 32).

For years during the early days there was a great deal of "stripping" of coal from creek bottoms where the overburden was quite shallow. Even with the primitive tools and equipment then available, this was still a profitable operation. This method had to be abandoned by 1900 with the exhaustion of "accessible supply" (283, p. 32). Knox County continued to produce at a very modest level - less than 100,000 tons per annum - for a number of decades.

Not until the birth of the "modern" strip mining industry in Illinois did Knox County again regain a position of importance in the coal industry. During the late 1920s production increased markedly as strip production grew.

By 1942 its production had exceeded a million tons per year and today it is one of the major strip coal producing counties in Illinois. All underground production has ceased.

### La Salle County

Around 1850 residents of Unionville (La Salle Co.) began to mine coal for domestic use; coal was taken out of strippings along the river bottoms (7, p. 7). The rich coal deposits here attracted the interests of the railroad companies who were desirous of generating steam coal traffic into Chicago. In 1861 the Ottawa, Oswego and Fox River Railroad built into Unionville from the north, providing a direct link to Chicago. This road later became part of the C. B. & Q. R. R. Competition was keen and the "Paducha Road" was soon built in from the south and the Chicago, Pekin & Southwestern R. R. also completed a connection with the town. These roads later became part of the Wabash-N. & W. and Santa Fe R. R. systems, respectively (7, p. 11). In 1866 the Vermillion Coal Company opened the first shipping mine in the area (7, p. 19). Unionville was renamed Streator in 1868 in honor of Dr. W. L. Streator, a Cleveland, Ohio Physician, who was president of the Vermillion Coal Company (7, p. 5). The new mines attracted experienced English, Welsh, and Scottish coal miners to their work forces. The company's first mine, "Old Slope," was later supplemented by production from Mine No. 1 and Mine No. 2. Mine No. 3 was opened on the south edge of town in 1873. The "Peanut Mine" which had been operated by Knapp and Howland was flooded out in 1878 when the waters of Coal Run Creek burst into the workings. Although 100 miners were trapped underground, all but one were finally rescued (7, p. 11).

Acme Coal Company opened a slope mine on the Vermilion River in Streator in 1882. This mine eventually produced during its existence 2.8 million tons of coal (7, p. 20,21). Mine No. 2 of the Vermilion Coal Company



was abandoned in 1887 after a powder blast destroyed the workings (7, p. 11). Colonel Ralph Plumb who was active in the local clay products industry developed the "Pekin" mine northeast of town in 1889 (7, p. 11). By 1893 coal was "king" in Streator and the industry employed more than 3,000 men in the many mines active in the area (7, p. 11). Production from Streator mines in that year totaled 620,285 tons.

The La Salle-Peru-Oglesby area was the other center of coal production in La Salle County. In 1856 the La Salle County Coal Company sank a shaft and became the first enterprise to systematically mine coal in La Salle County (3, p. 13). This mine was followed by the La Salle County Coal Company, No. 1 (1865), La Salle County Coal Company, "Union" Mine (1871) and the Cahill.

By 1881 La Salle County had become the number one producer of coal, surpassing St. Clair County for the first time in 40 years. Production was centered in two areas - La Salle and Streator (3, p. 41).

#### Macoupin County

Although coal was discovered and mined from the bluffs along Hodge's Creek to supply the local demands in the years following early settlement, it was not until the late 1860s that large-scale commercial mining of coal began in Macoupin County (280, p. 400).

The "first" coal mine in Macoupin County is reported to have been opened in 1867 by the Girard Coal Company (252, p. 151). The company sank a shaft in 1869-1870 which struck a 7-foot seam of coal at a depth of 350 feet (280, p. 369). During the same year the Weer Brothers sank the "Weer Coal Shaft" which was later operated by the Carlinville in 1869; the shaft intersected a 6½- to 7-foot thick bed of coal. Coal from this mine was sold to the railroads as well as to domestic consumers both locally and in

adjacent towns. During the same year the South Shaft Coal Mine was sunk to a depth of 230 feet at Carlinville; the mine was owned and operated by Bartles & Son (278, p. 86).

The first coal shaft at the town of Virden was sunk in 1869 by the Virden Coal Company. Virden soon became the principal coal producing area in Macoupin County, a position which it retained until 1911 (252, p. 151; 280, p. 374). The first shaft mine at Staunton was sunk in 1871 and a second shaft was developed in 1876. These mines were owned and operated by Henry Voge through his Staunton Coal Company (278, p. 125).

In 1872 coal was sent from Virden to Jacksonville over the newly completed Jacksonville and Southeastern Railway. The following year J. Bennyworth opened a coal mine at Nilwood (280, p. 374, 377). By 1900 coal mining had spread to Mt. Clare, Wilsonville, Eagerville, Sawyerville, and Gillespie (252, p. 151).

The Chicago & Northwestern Railroad Company invested in "captive mines" in Macoupin County and by 1911 they were operating "three of the largest mines in the world" (280, p. 388). In 1910 the railroad established shops in Gillespie to make and service coal cars (252, p. 151).

#### McDonough County

The Mormons from Nauvoo are credited with being the first people to systematically mine coal in McDonough County and to use it for fuel. As early as 1844 they were observed mining coal in Colchester, "though for a long time most people thought their mine was a cache for goods stolen, it was insisted, from the areas surrounding Nauvoo" (275, p. 129). Although many attempts were made to mine coal all over the county, the most successful operations were conducted in and around the towns of Colchester and Tennessee.

As early as 1853 a coal seam was opened on land then owned by Mr.



Lowrey and located about 1 mile south of Colchester; the coal found here was quite thin, being only 18 to 24 inches thick. About the same time coal was being dug on Mr. Thompson's place which was located some  $7\frac{1}{2}$  miles southeast of Colchester in Bethel Township. A few years later in 1858 coal beds were worked by stripping a thin coal from the bed of a small creek located on the land owned by J. Stouching, approximately 10 miles south-southeast of Colchester on the county line (116, p. 633).

In 1853 James Roberts began small-scale mining of coal near Colchester. With the impending completion of a new railroad line and the possibility of selling more coal to the railroad, Roberts decided to expand his operations. By 1855 when the road was completed as far as Camp Point, he was ready to go out and solicit business. Using a dozen teams of horses and wagons, he hauled the coal overland to the station at Camp Point where it was taken on the train for fuel and for transshipment to Quincy for sale for domestic use. (282, p. 618).

About 1855 a partnership was formed under the name of Roberts & Company. Later this was changed to Roberts & Brothers, then Morris & Roberts, then Morris & Company, then back to Roberts & Company, and then Morris & Spencer. In 1873 the company was finally dissolved and its partners formed two separate organizations, the Colchester Coal Company and the Quincy Coal Company (282, p. 618, 621).

The Colchester Coal Company was organized in September of 1873 with Henry Roberts acting as manager. In 1877 James Roberts retired from the company and the company name was changed to H. Roberts & Brother. Two years later they leased their mine to A. Newland for five years. At the expiration of the lease, James Roberts again became active in the company. In 1885 they incorporated as a joint stock company with a capital stock of \$20,000 (282, p. 621).

The Quincy Coal Company was mainly financed and owned by Boston capitalists with lesser shares held by "Quincy men." They operated five shafts in the Colchester area which employed between 200 and 300 men. Their principal market was Quincy and a regular train of 12 to 24 cars was run from the mines to that city each day (282, p. 619-620).

Mr. William Egerton was born in England in 1814 and began to work in the coal mines of his native country when he was seven years old. After many years of experience in the mines, Egerton immigrated to America in 1842. After having worked in Wisconsin, Missouri, Ohio, Maryland, Pennsylvania, and California, he came back to the Midwest and settled in Colchester in 1856. Shortly thereafter he became a partner in the St. Louis Coal Company; in 1879 Egerton bought out the interests of his partners becoming sole owner of the company. By 1885 he had three shafts in operation which produced 1,300 bushels per day with a labor force of 60 men (282, p. 619).

Abraham Newland, Jr., a native of Evenwood County Durham, England, first came to Colchester in the winter of 1856-57 when the coal mines were being opened up. He became involved with coal mining and remained so until he left to enlist in the 124th Illinois Infantry in 1862. After serving during the Civil War, he was discharged in August of 1865 and returned to Colchester. In April, 1879, he leased a coal mine from the H. Roberts & Company which he ran until 1884. In addition to the mine which he leased, Mr. Newland became involved in another mine of his own. In 1883 he commenced to sink a shaft for coal about a half mile east of the village of Tennessee. The completed shaft was 80 feet deep, but the actively mined seam was only at a depth of 33 feet and 27 inches thick. During the year of 1884, nearly 300 car loads of coal were shipped from the Newland mine. The normal work crew numbered about 40 men (282, p. 570-572).

About 1862 the firm of Dunham & Humphrey found coal at Prairie City



at a depth of 52 feet in the process of drilling a water well for their mill. Although the coal was only 22 inches thick, they decided to attempt to mine it anyhow. The effort was not successful and after a few months of mining the shaft was abandoned. The shaft lay unused until 1875 when Peter McCann took possession of it and mined coal here for about one year. McCann sold out to Charles Millet who, in turn, operated the mine for a year before abandoning it. After giving up the old shaft, Millet sank a new shaft close to the old one. He used the new shaft for six years, mining between 24,000 and 25,000 bushels of coal annually (282, p. 776).

On April 5, 1882 Millet began to sink a third shaft which when completed was used as an air shaft. While in the process of sinking the shaft, a group of "experts" visited the area. The "experts" after boring to considerable depths claimed that they had struck a 43-inch thick coal bed. Mr. Millet took in two partners about this time and they had formed the firm of Millet, Emery & Stearns. With their combined resources, they decided to sink a deep shaft in hopes of being able to exploit the deeper and thicker coal bed which the "experts" claimed to have found. They sank a 7' by 14' shaft to a depth of 166½ feet, only to find that the "experts" information was worthless. They drilled another 40 feet in an attempt to locate the elusive coal bed, but only found clay. The total cost of the operation was

In May of 1883 Edward Hart purchased shares held by Messrs. Emery and Stearns and the new firm of Millet and Hart was formed. The firm invested in improvements in the mine and thus increased its capacity to 500 bushels per day. The hoisting apparatus was operated by horse power (282, p. 777).

Louis Atkinson opened a coal bank in 1881 in section 6 of Colchester Township; the land had been leased from one William Neece. During the winter of 1884-85 about 400 tons of coal were mined here. Atkinson employed from

2 to 10 men, paying them 5 cents per bushel. Since he sold the coal at 7 cents per bushel, he was making a nice profit on the operation (282, p. 621).

In the fall of 1882 John E. Dunham sank a shaft at Prairie City and struck a 2-foot bed of coal at a depth of 52 feet. He employed 8 men, to mine coal which was sold in Prairie City and "general market" (282, p. 777).

Mining, as carried on in the early days in McDonough County, was very primitive compared with today's operations. The first mines were simple affairs with holes dug out of hills or banks. When the miners had gone as deeply into the hill as was feasible, they abandoned the mine and opened another. Later the miners began to use shaft mines in order to be able to exploit the deeper coals (275, p. 130).

The miners were normally paid for how much coal they were able to dig and bring to the surface. To aid them in their mining, Colchester miners often possessed a dog which they hitched to a small cart which ran on tracks. These dog-powered carts were used to haul the coal to the central depositorty. Colchester thus claimed the distinction for many years of having the largest concentration of dogs in the county and a goodly proportion of the city's revenue was derived from dog taxes (275, p. 130).

#### Madison and St. Clair Counties

These two counties, lying across the Mississippi River from St. Louis, were the locus of very early coal mining in Illinois. As early as 1807 the monks who settled near the Cahokia Mounds were utilizing the coal from the bluffs along the American Bottoms ( ). Blacksmiths made limited use of the coal from the earliest days of settlement. In 1825 William Fowler opened a "regular coal mine" near Belleville and soon found a ready market for his output (158, p. 1). In 1830 Joshua Hughes, a blacksmith of Center-ville (St. Clair Co.), began taking out coal from a hill side near the town (255, p. 16). Two years later the first railroad to haul coal was built



from Illinoistown (now East St. Louis) to the Bluffs near Centerville Station (157, p. 8).

In 1836 the town of "Pittsburg" was established in the bluff, "in the extreme eastern portion of Cahokia precinct, in section 3". At one time it had a population of upwards of 200 persons, mostly coal miners. Coal was obtained by drifting into the bluff at places where the coal cropped out on the surface (255, p. 20). The mines were abandoned around 1910 after the coal beds were depleted.

The first coal to be mined in Madison County was produced in 1840 when drift mines were opened on Mill Creek near Alton by N. Scharf, Joseph Hall, and Richard Whyers. The coal was mined and hauled to the levee in Alton where it was sold to steamboat operators and to private consumers in the city. Subsequently, the "Coal Branch" mines were opened at "Greenwood" or "Buck Inn" by Messrs. John Applewhite, Thomas Hall, John Rutledge, and others. In 1850 the No. 6 Coal seam was found cropping out on the Wood River, three miles north of Fosterburg, and mines were opened there on Z. B. Job's land. Coal was hauled out to what is now the town of Godfrey, where the newly completed railroad ended. This coal was supposed to supply the new railroad, but it could not compete with the nearer "Coal Branch" product, and the mines were soon abandoned (63, p. 200).

Up until about 1850 coal mines were mostly of the drift type; the miners simply dug into the side of the hill where coal outcropped. The primitiveness of the excavation and shaft-sinking technology made "shaft mines" infeasible prior to this time. In 1851 the Gartside Coal Company sank its first shaft mine at Alma (St. Clair Co.) and the International Coal Company opened a shaft mine at O'Fallon (258, p. 143; 255, p. 36). The International Coal Company's mine continued to be operated for 87 years

until abandoned in 1938; for years it was the oldest continuously operating mine in the state. In 1852 the first shaft mine was sunk in Belleville (109, p. 740).

Coal was first mined at Edwardsville about 1851 when Richard Cartledge began to exploit the No. 6 Coal. Subsequently, Frank Sherman, John Gaffney, the Wolf Brothers, and Henry Voge also sunk shafts here. About 1852 a Boston company opened two slope mines on the Wood River, two miles north of Bethalto. As a result of the large number of miners employed, a town was laid out and miners' houses built. The coal was carried to Bethalto on a spur track of the Alton and Terre Haute Railroad, thence by rail to the Mississippi River where the coal was loaded on barges for transport to St. Louis. These mines were abandoned during the Civil War, owing to a scarcity of miners and labor troubles (63, p. 200).

The Village of Caseyville was plotted by the Illinois Coal Company in 1849. The town was named for Zedoc Casey, a former Lieutenant-Governor of Illinois and former Congressman, who was one of the owners of the firm. The company began operations with drift (slope) mines. The initial wagon haulage was replaced by rail after the line was extended to Caseyville in 1851 (161, p. 100).

Another important center of coal production was Collinsville where Peter Wonderly opened the first coal mine in 1859. During the same year Joseph Yoch opened a mine on the "old Breeze farm" which was located  $2\frac{1}{2}$  miles west of Belleville (255, p. 39). Since wood was plentiful and cheap, there was little local market for coal at this time. However, later on teamsters carried coal from here to St. Jacob, Troy, Highland, and Pocahantas on their return trips from St. Louis. The "Van Court Mines" were opened east of O'Fallon in 1863; the shaft was 207 feet deep (255, p. 39).



The coal deposits of St. Clair County, situated in one of the oldest settled areas in Illinois, were exploited quite early. The county's proximity to the St. Louis metropolitan area, a huge potential market for coal, attracted "unlimited capital" for the development of mines as well as competitive rail lines. By 1882 there were 76 mines in operation there which were served by five highly competitive railroad companies, all of which were highly dependent coal hauling revenues. As compared with mines in other coal fields in Illinois, the mines in St. Clair County are more numerous, but generally smaller, both in the amount of invested capital and in capacity (246, p. 26).

In 1863 two Welchmen from Belleville, John Maull and David Williams, opened the Abbey No. 1 Mine "at the foot of St. Clair Avenue." The Abbey No. 2 Mine was opened in 1873 near Caseyville by George Savits: two years later, the Abbey No. 3 Mine was opened near the depot in Collinsville by Reed & Strain. In 1876 Elijah J. Crandall moved to Collinsville and purchased the Abbey No. 3 Mine. Later he added the Abbey No. 1, the Abbey No. 2, and the "Lawrence" mine to his Abbey Coal Company. The company prospered and by 1886 it employed 400 to 500 men. During this year Crandall sold out and left the United States. The "Abbey" mines were purchased by Jay Gould's Consolidated Coal Company. Gould had hoped to corner the coal market in Illinois and force western competition railroads to buy Illinois coal at his prices or pay ruinous freight charges on his Union Pacific Railroad for eastern coal. Although he finally controlled 90 percent of the Illinois coal property, Gould failed to achieve his purposes and his holdings were later reduced (169, p. 54-59).

In addition to the "Abbey" mines, Consolidated Coal Company, of St. Louis, purchased a number of other mines in the greater St. Louis area

which cumulatively employed over 4,000 men and whose output was about 3,000,000 tons annually. The wage scale was fixed at 50 cents per ton which is said to have been an improvement over the old wage scale (159, p. 8).

An important figure in the development of the coal and zinc smelting industries of the East St. Louis area was Dr. Octavius Lumaghi. Dr. Lumaghi, born in Milan, Italy, was a graduate of the University of Milan and of the University of Paris. After the failure of the Italian independence movement in which he was involved, he immigrated to the United States and settled in St. Louis. In 1869 when the new Vandalia Railroad opened up a line which ran past his farm near Collinsville, it became feasible to mine coal there. The "Lumaghi" Mine began to operate after a 175-foot shaft was sunk on the farm. Later, additional mines were opened by Dr. Lumaghi. The Lumaghi No. 2 mine opened in 1899 and the Lumaghi No. 3 opened in 1904. The Lumaghi No. 4 mine was opened in 1950 and continued to operate until 1964 (169, p. 54-55).

The "Confidence Coal Mine" was sunk in 1870 by Seybt, Bandelier and Company; later it was leased to Bartlett Coal Company which gave up its lease in 1873. The mine prospered and at one time was the largest operation in Collinsville. It finally closed down in 1887 (169, p. 56, 59).

Other early mines which operated in Madison and St. Clair Counties were: Wolf Brothers Coal Mine (Edwardsville - 1879), Tunstell & Holmes (in section 10, Madison Co. - 1868), Schramek Coal Mine (1879), Brookside Coal Company (Troy - 1880), and the Collinsville Coal and Mining Company (c.1862) (79, p. 334, 443, 458).

All of the early coal mining was done by means of drift or shaft mining. It was not until 1912 that consideration was given to the possibilities of stripping the coal here. Mr. L. E. Fischer, formerly superintendent



of the Illinois Traction Company, purchased 132 acres of land near Millstadt from one Barbara Keller with the intention of beginning to strip mine coal there during the summer of 1912 (162, p. 1). Apparently, this plan fell through as the records of the Department of Mines and Minerals do not show any strip production from St. Clair County until 1926. In 1924 the "Wolf Strip Mine" was opened on the Freeburg-New Athens Road. The largest Marion shovel then in existence was placed in operation there. The shovel weighed 400 tons, had a beam of 90 feet, a bucket which could be raised to 47 feet, and a daily capacity of 1,000 tons (163).

#### Mercer County

Coal production in this county began at an early date; its location adjacent to the "Quad Cities" market put it in a good competitive position. Production jumped from 14,040 tons in 1870 to 79,531 tons in 1880. With the depletion of its reserves in Rock Island County, the Coal Valley Mining Company developed new mines in Mercer County. The company invested heavily in its operations here; it built its own railroad line from the mines to Rock Island, a distance of 26 miles. It operated a shaft and slope mine which were highly mechanized for the time. They used steam power and coal cutting machines. In addition to Coal Valley Mining Company there were some 22 other mines in operation, but they were mostly small operations, serving the local market (246, p. 58, 69).

Production in the county grew steadily for twenty years, reaching a peak of 648,070 tons in 1902. Afterwards, it declined, but still remained at a substantial level until the early 1920s. Since then it has never been very important and, in fact, for part of the time no production at all has been reported for the county.

Peoria County

As early as 1817 surveyors found coal in the county, but no attempts were made to exploit the resource until later. In 1832 the first coal bank was opened in Hollis Township; this was followed by developments in Elmwood Township around 1835 to 1838 when small-scale drift and strip "mines" were opened here (71, p. 590; 265, p. 24).

One of the oldest, important water-shipping mines in the state was opened in 1842 at Kingston Mines by a St. Louis company with a view of coaling their many river steamers which were then plying the Illinois River. This company also shipped considerable amounts of coal to the Chicago market by barge until discontinuing the business in 1875. After being idle for a number of years, the mine was re-opened in the late 1880s by the J. M. Walters & Company. The company leased a line of small steamers and barges by which they carried the coal to Chicago on the northbound trip and brought salt, lumber, and other freight on the return trip south down on the river. By such a scheme they were able to undercut the rates on coal charged by the railroads (244, p. 390).

Another early venture in coal mining occurred in Kickapoo Township near the present town of Pottstown about 1849 or 1850. At that time one Jacob Darst began "stripping" coal here and continued to do so for some five years. Frederick Ruprecht and John Woolenscraft purchased some of his "bluff land" from Darst about 1850 and began drift mining (71, p. 601).

A distilling industry was began in Peoria in 1840 as a means of using up surplus corn. By 1844 the distilleries had switched over to using coal as their fuel. By 1864 there were 12 distilleries in Peoria plus several more in adjacent areas which collectively consumed 5,250 bushels of coal per day (72, p. 458).



In 1853 the Illinois Legislature granted a charter to the Peoria Gas-Light and Coke Company to enter into the business of manufacturing gas from coal. Ironically, even though Peoria lies in the heart of a coal-producing region, the company imported two car-loads of coal per day from Pennsylvania because "the coal from the local mines is too strongly impregnated with sulfur to be profitably used in the manufacture of gas" (71, p. 544).

Originally the coal mined around Elmwood Township was used only by the county blacksmith. Later some coal stoves were put in use in the area and one James Lee began to mine coal on a small-scale to meet these local demands. In 1866 Lee, in partnership with W. E. Phelps, formed James Lee & Company to carry out "systematic" mining of the coal. In 1870 Lee retired from the business and W. J. Phelps and W. E. Phelps formed the Elmwood Coal Company to carry on the business (71, p. 590).

The first shaft mine in Peoria County was sunk in 1867 (265, p. 24). However, drift mines continued to be the dominant type of mine for many years. Coal was exposed along the bluffs of the Illinois River and its tributary streams, making drifting an easy operation. Although the rapidly growing Peoria offered a good local market for the coal, the county's access to the Illinois River and numerous railroads radiating out from the town of Peoria gave it access to more distant markets as well. An indication of the magnitude of these early operations can be gained by noting that in 1882 Edward Kramm's mine at Kramm's Station produced 316,000 tons, believed to be the largest output of any single mine for that year (246, p. 62).

About 1890 a "syndicate of eastern capitalists" formed a company, the Illinois Coal and Coke Company, with headquarters in Peoria. The company bought out the mines at Wolcott, Mapleton, Orchard Mines, and Hanna

City plus over 6,000 acres of coal land in the vicinity. They are reported to have carried out tests on the coking properties of the coal with the intention of erecting a "large number of coke ovens" at Wolcott, if the tests proved successful. Apparently, the tests were not satisfactory as no record of coke ovens being built can be found (245, p. 35).

A technological breakthrough occurred in Peoria County about this time when Issac Wantling & Son erected a coal crusher at their mine near Pottstown. Crushing coal to uniform sizes for better handling and utilization is standard practice nowadays, but was quite innovative in 1890. After installing the crusher, the company had no trouble selling their coal to the area to crush their coal for them in order to improve its salability (245, p. 37).

#### Perry County

The coals in Perry County were not exploited until relatively late because of their depth and lack of adequate transport prior to the arrival of the railroads. The first mine to be opened in the county was the Bibby Coal Company's mine at Pinckneyville in 1853. This mine changed ownership many times, but continued to operate until 1939 when finally abandoned by its last owner, the H. E. Presswood Coal Company (273, p. 58; 18, p. 85).

In 1856 the Ashley Brothers laid out the town of St. Johns and established a large coal mine there. In 1867 W. P. Halliday of Cairo purchased all of the stock in the mine from the Ashleys. Three years later Halliday attempted to start a new mine here; while drilling for coal he struck salt water which flowed at the rate of 100 to 150 gallons per minute. He decided to exploit the salt and eventually was producing 150 barrels of salt per day here (273, p. 22).

Coal mining has left its imprint on Perry County in several places.



For example, the towns of Alladin and Beacoup were named for the coal companies which first located there (273, p. 26, 28).

Perry County is locale for an interesting anecdote relating to the early coal mining industry. This episode was discovered in an early Pinckneyville newspaper by the workers of the Writers' Program of the Works Project Administration in the State of Illinois (81).

"The flooding of a mine near Pinckneyville in 1880 caused a temporary phenomenon in the nature of a true geyser, probably the only occurrence of this kind in the recorded history of Illinois. An account of this event is given in a Pinckneyville newspaper of the time.

"Flood waters on Beaucoup Crk had covered a tract of land above the coal mine of Bernard Blume. A break in the roof of a part of the mine suddenly admitted the flood water in great volume, 'for a short time almost diverting the current of the swollen creek, carrying away whole section of rail fence which stood near the bank of the creek, many of the rails as well as other timber and drift wood being caught in the maelstrom and whirled down the capacious throat of the gaping crevasse.'

"The sudden inrush of the water 'compressed the air in an extraordinary degree, and the rebound was such that the descending flood was forced back as in the action of a geyser, and for several minutes' time heaved skyward in vast quantities to the height of at least 100 feet.' The upheaval of water, dirt, and drift was succeeded by a few minutes of quiet, during which the floods again poured down the funnel. The air was again compressed and again the geyser-like reaction occurred, higher than before. This process was twice more repeated before the mine had been entirely flooded."

"All but one of the miners escaped before the break in the roof occurred. The Blume mine remained flooded for nearly 39 years. In 1918 the body of Joseph Neising, which had been preserved by the mineral-laden water, was finally recovered. It lay face down on the floor of his room and conditions indicated that he had his working place in order. A sack of tobacco and a small clay pipe, with a 'heel' of tobacco tightly tamped in it was found in the pockets."

Perry County was a sizable producer as early as 1880, but increased its output substantially shortly after 1900 with the opening of a number of new, deep mines at Pinckneyville, Craig, Tamaroa, Du Quoin, and Coulterville.

In 1919 Perry County became the second county to have commercial strip mining when the Scott-Smith Coal Company began operations at Du Quoin. Since then it has remained a major producer of coal.

#### Rock Island County

"The importance of Rock Island County as a manufacturing center is largely due to the extent and accessibility of its coal deposits." (246, p. 69). Thus, did an early report describe the coal industry in this county. The earliest record of coal being exploited in Rock Island occurred in 1836 when a boat load of the fuel was shipped up the Mississippi River to the lead furnaces in Jo Daviess County (255, p. 23). At that time coal for the lead furnaces was being brought in all the way from St. Louis. In order to minimize the cost of transportation it was proposed that ore be barged down the Mississippi to the city of Rock Island where it could be smelted using local coals. However, apparently nothing ever came of this plan (255, p. 22).

For many years during the late 1800s coal was so abundant and cheap in this area that it was a competitive rival of the "famous water power of its rivers in the economical production of power for its many mills and manufactories". The earliest mines in the county were located at Carbon Cliff. Although they were abandoned many years before 1882, in their day they were considered "important and profitable works." (246, p. 69). Numerous "country banks" without rail connections continued to operate for many years producing considerable quantities of coal for the general market when economic conditions were favorable.

The northernmost mines in the state were operated at Rapids City. These mines and the ones at Hampton, a few miles south, began to produce about 1872. By 1882 they had a combined capacity of about 100 cars per day.



However, since these deposits were quite limited in scope, they were soon depleted (246, p. 69).

The next area to be developed was Coal Valley, located on the south side of the Rock River, where extensive operations were carried out for many years. The principal operator here for many years was the Coal Valley Mining Company. However, the company depleted its reserves here and was forced to shift its operations to Mercer County. By 1882 the only substantial producer left in Coal Valley was The Black Diamond Coal Company. This company had its own narrow gauge railroad between its mines and the city of Moline (246, p. 69).

After its early flush of poroduction in the 1870s and 1880s, Rock Island County declined as a producer and finally ceased production all together in 1948.

#### Sangamon County

Coal was discovered quite early in Clear Lake Township and for many years small-scale surface "strip" mining of coal was carried out by the early settlers. In 1865 Mr. P. L. Howlett, owner and operator of the Riverton Alcohol Works in Riverton, became convinced that there were large reserves of high quality coal at depth below the surface. Therefore, he employed experienced men from the oil fields of Pennsylvania to do test boring. They drilled a 200-foot hole a few feet from Howlett's distillery and struck a 6-foot bed of coal. In order to verify the results, they moved the rig over near the railroad tracks and drilled a second hole with the same results. In the spring of 1866 Howlett sank a shaft and began to mine coal here which was of a "superior" quality. This was, as can best be determined, the first attempt at mining coal in Sangamon County (65, p. 854).

From this humble beginning the coal industry in Sangamon County

quickly grew to quite sizable proportions. Most of the mines were located in and around Springfield, the largest city and principal market in the county. In 1871 the West End Coal Company (became Panther Creek Coal Company No. 4 in 1927) opened up in Springfield, followed by the Springfield Co-op Coal Company in 1875. In 1878 the Auburn & Alton Coal Company opened a mine in Auburn. Throughout the 1880s and 1890s more deep (200 feet or more) coal mines opened up in Sangamon County. In 1891 the Chicago, Wilmington & Vermilion Coal Company expanded its operations into southern Illinois by opening a mine at Thayer, south of Springfield (268, p. 64). Production grew rapidly and, as a result, the county became the leading producer in Illinois during the period 1893-1902. Although it eventually lost out to the newly developed mines in Williamson and Franklin Counties, it continued to be a major producer through 1930 when it still ranked fourth in production (18, p. 21, 88).

#### Stark County

Coal was first "mined" in Stark County about 1854 or 1855 when early settlers took small amounts of it from outcrops along the banks of Jack Creek and "Jug Run". "A little later" David and William Howard opened a mine  $2\frac{1}{2}$  miles north of the town of Wyoming "not far from the Spoon River." In 1857 James Fraser, an English immigrant, who had previously worked in the Newcastle (England) mines, formed a partnership with Thomas Tunsall to establish a coal mine in section 14 of Toulon Township. By 1861 John McLaughlin was operating a successful coal mine at "Foster coal bank" located some  $2\frac{1}{2}$  miles west of Bradford. Shortly after the close of the Civil War the Lathrop Coal Company opened a mine in Stark County which for many years was the largest in the county (267, p. 188).



### Vermilion County

Vermilion County has played an important role in the history of coal mining in Illinois because (1) it was an early producer of coal, (2) it has produced over 100 million tons cumulatively, and (3) it was the pioneer in strip mine development.

If La Salle had explored the Wabash River and its main tributary, the Vermillion River, instead of the Illinois River territory, it is possible that the locale of the first discovery of coal in the United States might have been Vermilion County. The earliest mining was carried out by drifting in the hill sides along the banks of the Vermilion River. It is not clear when coal was first mined here, but the Census Report of 1840 indicates that 3 men produced 114 tons of coal in Vermilion County during that year (18, p. 16).

In 1853 one W. Caruthers (Carithers?) and a Mr. Ball began to mine coal in the county, but their operation only lasted one year (266, p. 83). About the same time William Kirkland opened drift mines "east of the Wabash Railway bridge, south of Danville". Dudley Lacock owned considerable coal lands west of Danville, but he did little mining on them before moving to Livingston County in 1854. In February of 1855 Ward H. Lamon and partners were issued a charter by the Illinois General Assembly which gave them permission to mine coal in Vermilion County; they organized the Danville Coal Mining Company, but it never operated (266, p. 83; 125, p. 375).

"Extensive" mining was first carried out about 1860 by Chandler and Dolan and subsequently, by Peter R. Lonard just east of the tracks (near Third Street in South Danville (266, p. 83). As early as 1860 Michael Kelly began an extensive strip mining business on the North Fork in Vermilion County. About the same time stripping coal along the bluffs of the North

Fork was being carried out by Charles Dobins, William Shaw and B. Bense (125, p. 375).

It is reported that the first strip bank in Hungry Hollow was opened by Henry Cramer in 1865. A short time later, William Van Kirk, a neighbor of the Cramers, opened another bank nearby and the two became "friendly business rivals." Their strip banks were so close together that they could call out to each other. Customers drove their teams and wagons to the strip banks and loaded the coal directly on the wagon. For one dollar the customer could take all the coal he could pile in the wagon bed (113, p. 422).

The year 1866 was a momentous one as it marks what is generally credited as the "true" beginning of the coal industry in Vermilion County and the "real" beginning of the strip mining of coal in the United States and possibly in the world. New mines were opened up on Grape Creek by William Kirkland, Hugh Blankeney, Mr. Graves, and Mr. Lafferty. Mr. J. S. Morin was placed in charge of the "Kirkland" mines northwest of Tilton. When production was limited due to a scarcity of skilled miners, Kirkland imported two carloads of men from Belgium. The overburden was removed by means of horse-drawn scrapers. In order to meet the further need for labor, a whole shipload of Belgians were imported to work in the mines. The coal was sold principally to the Illinois Railway Company which had tracks laid to the mines (125, p. 376).

A C. Daniels sank the shaft for the first underground mine in the county; it was owned by the Ellsworth Coal Company which sank three other shafts in the period between 1870 and 1872 (266, p. 84). One of the shafts burned by accident while a second one was burned down by strikers who were later caught, prosecuted, and sent to prison in 1874. The company's properties were later taken over by the Consolidated Coal Company (125, p. 376).



In 1875 Michael Kelly left his strip mine on the North Fork and bought coal lands in the "Grape Creek" field (125, p. 376). He began a plow and scraper operation in Hungry Hollow where stripping was done in the summer and the coal was taken out during the winter (35, p. 2). Kelly soon was supplying a "considerable quantity" of coal to the market and for railroad fuel to the local Chicago & Eastern Illinois Railroad.

A major breakthrough occurred when Kelly discovered a second vein of coal, the No. 6, some 90 feet below the previously mined, No. 7, coal. The No. 6 coal was of better quality and thicker than the No. 7 coal. The Pawnee Coal Company was organized in 1888 by Paul W. McKay and Mr. Hutchinson; they began extensive operations in the Grape Creek area. Later the Himrod Coal Company was organized by Bernard and Charles Himrod; the company took over the properties of the old Pawnee Coal Company. (125, p. 376).

By 1890 Vermilion County's coal industry was booming; there were some 64 mines active in the county. In 1897 and 1899 Vermilion was the leading coal-producing county in Illinois, with over 4,000 men employed in its mines (266, p. 84).

In 1892 Mr. J. G. Hammond who had been operating the "Economy" mine located west of Danville on the line of the Peoria and Eastern Railway ran into trouble financially on account of labor and other troubles. Hammond sent to Iowa for two of his friends, William G. and John G. Hartshorn, and asked them to come and help him run the mine. The Hartshorns were talented managers and succeeded in making the mine a paying proposition within a few years. In 1903 the Hartshorn Brothers, together with Mr. J. A. Barnard (general manager of the Big Four Railroad Company), organized the Electric Coal Company which successfully developed the "Electric" mine. The ill-fated Missionfield mine, site of early attempts at large-scale strip mining, was

purchased by the Hartshorns who managed to make a paying deal out of it as well. (125, p. 377).

About 1900 the South Westville Coal Company was organized by Mr. Gerety and the company soon had a large mine in operation south of the village of Westville. In 1903 Michael Kelly bought out the Himroad Coal Company and became the largest individual coal operator in the state. Two years later Kelly sold out his mines to the "McKinley syndicate" for \$3 million. About this time the Dering Coal Company was organized by J. K. Dering and R. R. Hammond to take over the South Westville Coal Company's mines. The Little Vermilion Coal Company was formed by L. T. Dickerson in 1907 and within a short time they were a major producer in the district (125, p. 377).

The year 1908 marked a major change in the coal industry of Vermilion County as Illinois Steel Company (now United States Steel Corporation) entered the field in a big way. Through a subsidiary company known as Bunsen Coal Company of Pittsburgh, Pennsylvania, it bought several thousands acres of coal land near Westville, Georgetown, and Catlin. Bunsen also took over the "Kelly properties" from the McKinley syndicate and the Little Vermilion Coal Company. As a result, by 1910 the coal industry in the county was mainly in the hands of only three operators - the Bunsen Coal Company and the Dering Coal Company in the south field and the Hartshorn Brothers in the west field (125, p. 377).

Production in the county declined during the depression; in 1932 United Electric Coal Company left the district because it couldn't obtain more stripping land. The industry revived during the 1940s when Ayrshire Collieries Corp. opened the Harmatton mine, but the county has never equalled its previous high level of production (266, p. 85). Underground operations declined in importance after 1911 as modern strip mining techniques were



perfected. Vermilion County was the "father" of strip mining, being the locus of the earliest efforts in this area in the state.

### Washington County

At a spot on the Kaskaskia River known as "Coal Stone ford" in Covington Township there was a natural outcrop of coal. Early pioneers are reported to have mined this coal on a small scale when the river was at a low stage. The earliest attempt at systematic mining of coal occurred near the town of DuBois in the extreme southeast corner of the county. In 1865 the G. W. Brown & Company sank a shaft over 300 feet to tap a 6-foot coal seam. "...The shaft went down during the days of Lincoln, so narrow that the mine mules had to be set on their haunches to make the trip...The mine was never modernized. Miners operated with open-flame lamps on their caps, used pick and shovel methods to mine coal. A serious cave-in finally closed the mine." (272, p. 72). Between 1865 and 1961, the year when it was closed, the mine at DuBois changed owners four times; the last owner (operator) was the Bois Coal Company which took over in 1934. At the time of its closure, it was the oldest continuously operated mine in the State of Illinois (272, p. 70).

Nashville was the sight of another early coal mine. In 1880 Charles Hortman opened a mine here which operated for many years under various operators. About 1881 an attempt was made to mine coal at Okawville and although a good vein of coal was found, the mine had to be abandoned due to the excess of water underground.

In 1909 Centralia Coal Company's No. 5 mine was opened at Wamac. This mine became a sizable producer and operated almost continuously until its abandonment in 1949. This mine made history in 1947 when it became the site of a major disaster; 111 men lost their lives in the explosions which wracked the mine on the afternoon of March 26, 1947 (272, p. 70).

In 1921 the Venedy Coal Company was organized by the Adolph Brockschmidt family in conjunction with Ed Petri, William Bergmann, and Herman Maschoff. The mine, located near the town of Venedy (?), was taken over by the Scanlan Brothers in 1946 who continued to operate it until its closure in 1969 (272, p. 70-71).

#### Will County

The coal measures in Illinois extend into the extreme southwest corner of Will County at a point which makes them the deposits closest to the huge Chicago market. As a result, they had a special locational advantage in the early days which compensated to a certain extent their lower quality (246, p. 98).

In 1864 William Henneby of Wilmington discovered coal at a depth of 65 feet while digging a water well on the Thomas Byron farm. Coal mining began that winter (268, p. 57). J. D. Bennett, M. B. Kilbourn, and C. L. Whitcomb organized a company in 1866 to begin mining coal in Braidwood. Later on they sold out to the Chicago and Wilmington Coal Company after they had gotten into financial difficulties. The Chicago and Wilmington Coal Company was backed by capitalists from Boston. It bought up a number of independent mines in the district and eventually operated some 18 mines which were designated by the letters "A" through "R". In 1871 the company merged with the Vermilion Coal Company of Streator, Illinois (LaSalle County) form the Chicago, Wilmington & Vermilion Coal Company with assets of \$2 million (268, p. 63, 64).

Coal production at Braidwood reached a peak in 1872. During the 1880s production declined as major operators began to shift their operations to other locations. The Chicago, Wilmington & Vermilion Coal Company ceased operations in Will County all together by 1900 (268, p. 58, 64). However, many small "gin" mines continued to operate here as one and two man



operations — i.e. "dog hole mines." There was a high rate of failure among these operations because of inadequate financing. Murphy, Linskey & Kasher Coal Company was organized in 1900 by local capital to operate the mines abandoned when the big companies left. It operated four mines known as "The Shamrocks" for 16 years (268, p. 64).

#### Williamson County

Although outcropping coal beds in the area of Stone Coal Fork of the Saline River were worked very early by the pioneers who had learned from the Indians that this "stone" gave better heat than wood, the development of a modern mining industry did not come until much later when the deeper and more valuable coal beds were exploited (277, p. 92, 217).

Laban Carter came to Illinois in 1863 after serving with a Tennessee regiment in the Federal Army. He bought 100 acres of land in Carterville Township during the fall of 1864 and began to develop it as a farm. Upon discovering coal on the land in 1869, he set about to exploit the resource. For years coal was taken out in small quantities from the outcrop on the Carter farm, but lack of adequate transport restricted output. All this changed when in 1872 the Carbondale and Shawneetown Railroad reached the town of Marion. About this time E. A. Hitchcock and O. L. Garrison sank a shaft near Carterville from which coal was shipped to their glass factory located south of St. Louis at Crystal City, Missouri, where it was used as fuel. Their mine later became known as the "Crystal City Plate Glass Company mine". When it became time to name the town, Laban Carter suggested McNeill in honor of the land's owner, but Mr. McNeill said that the name didn't sound well applied to a town. He suggested Carterville, in honor of his friend and neighbor, and it was accepted (277, p. 82, 130; 271, p. 3).

Sometime in the 1870s A. C. Bryden, manager of Carterville Coal and

Coke Company, opened the "Dodd shaft" and the "Laflin slope" near Carterville. In 1881 John Adam Young opened a local mine in Williamson County at an unknown location. This was followed by Carterville Coal Company's "Barr shaft" on the farm of Elijah Peterson which was opened in 1888 (271, p. 3). Brush Junction was named for Samuel T. Brush, general manager of the St. Louis and Big Muddy Coal Company which was organized in 1889. The company's first mine was the "Dawes shaft" (277, p. 74).

In 1896 the Scott Wilson Coal Company opened the "Prosperity shaft" and built a modern washing plant at the mine. The company was later taken over by the New Ohio Washed Coal Company (271, p. 3). A number of other mines opened in the last decade of the century - "Crab Orchard" mine in 1896, the "Sunnyside" mine in 1899, and the "Chicago and Big Muddy" mine in 1900 (277, p. 224; 41). The village of Clifford was named for Clifford Garrison, son of O. L. Garrison, the president of the Big Muddy Coal and Iron Company. This company was the successor to the company which had carried out early coal mining in Jackson County as well as operating iron furnaces at Grand Tower. During the early days of Williamson County they had operated a mine at Fredonia. In 1902 the company sank a shaft at the present site of the town of Clifford and began producing and shipping coal the following year. The Consolidated Coal Company of St. Louis bought the "Clifford mine" along with other properties of the Big Muddy Company in 1920 (277, p. 91-92).

Colp Coal Company began operations in 1901 and the town of the same name soon grew up around the mine. In 1904 the Illinois Central Railroad built a spur track from Brush Junction to serve the Colp mine (277, p. 93). In May of 1902 P. H. ("Pat") Holland struck coal in a shaft near Johnston City and thus began the development of the important Johnstron City field. The greater part of this field was developed by Mr. Holland and his partner,



James Duggan. In 1920 the Old Ben Corporation took over a number of the important mines in this field from Holland and Duggan (277, p. 163).

Weaver Coal and Coke Company sank a shaft in section 1 of Blairsville Township in 1902; the town of "Weaver" eventually grew up around the mine here. The main financial backer for the company was John W. Gates who had made a fortune selling and manufacturing barbed wire. The "Weaver" mine was soon abandoned due to various construction problems. In 1904 Colonel W. P. Rend of Chicago acquired the company's assets and managed to make a go of the operation. In 1921 the Old Ben Coal Corp. purchased the "Rend" properties at Weaver and continued to operate it as Old Ben No. 20 until 1927 (277, p. 228).

Mr. Herbert H. Taylor began in the coal business at Fordville in 1909 when he sank the "Taylor No. 1" and "Taylor No. 2" shafts there. "Energy" was the tradename which Mr. Taylor used in marketing his coal in order to distinguish it from other coals. It was decided that to ship "Energy" coal from the town of Energy added emphasis to the name. Thus Fordville was officially changed to Energy in 1913 (277, p. 121).

"Commercial" strip mining in Williamson County began in 1913 when The New Enterprise Coal Company was established by A. B. McLaren of Marion and Dr. F. C. Honnold of Chicago. This operation lasted only until 1918, and apparently never produced very much as records do not credit the county with strip production until 1923. The early strip mine operations were so small that the operators could select those areas where the overburden was only clay and shale which could be easily removed. However, as they expanded their operations, it became necessary to cope with solid rock overburden (326, p. 1, 3).

In the fall of 1922 Lee Van Hoose began to strip coal at the old

"Laban Carter Mine" in Cartersville using a Page dragline. This represented the first effort to strip coal with a dragline and a production record was achieved that was not broken for many years (326, p. 7).



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